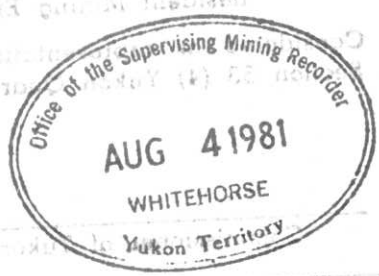
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

GEOLOGY AND GEOCHEMISTRY

OF THE

LICK CLAIM GROUP



CLAIM SHEET NO. 105B/2

Lat.: 60°03'N
Long.: 130°45'W

Claims:

LICK 1 - 8
11 - 16
23 - 28
40 - 55

WATSON LAKE MINING DISTRICT
YUKON TERRITORY

090865

by:

M. J. Crandall, B. Sc.

Work completed June and August 1980

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 4,800.00

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Ruth Debicki Oct 1/81

Commissioner of Yukon Territory

Too

INDIAN and NORTHERN AFFAIRS

TRANSMITTAL FORM

M.R. File No. _____
S.M.R. File No. _____
Date Fwd. 28 July 81

FROM: Mining Recorder at ... WATSON LAKE .....

TO: Supervising Mining Recorder at Whitehorse, Y.T.

Office of the Supervising Mining Recorder
AUG 4 1981
WHITEHORSE
Yukon Territory

FOR ACTION ARE:

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

☐ RENEWAL APPL'N PLACER LEASE to PROSPECT: Name: Lease No. .....

☐ AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name. Lease No .....

☐ 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: Lick 40-55. Claim sheet no. 105-B-2.
Type of report: Geological, Geochemical, Geophysical
Submitted by: Canadian Occidental Petroleum Ltd
Cls. work performed on: Lick 40-55
$ Req. for ren. application $4,800

J.M. Edelmen
Signature

REPLY ACTION: Date Ret.

090865

090865

_____
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
1981 JUL 27
MINING RECORDER
WATSON LAKE, Y.T.
I.A. & N.D.

OFFICE DATE STAMP

I (Name) Roger H. Wallis Occupation Chief Geologist

(Postal Address) 311-215 Carlingview Dr., Rexdale, Ont. M9W 5X8

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)

LICK 40-55 YA56254-YA56269

situated at 60°03'N, 130°45'W Claim Sheet No. 105B/2

in the Watson Lake Mining District, to the value of at least 5,633.00

dollars, since the 12th day of August 19 80,

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).

LICK 40-55 YA56254-YA56269

Each claim to be renewed for a period of three (3) 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.)

Geological survey, geochemical survey, geophysical survey.
See report by M.J. Crandall, B.Sc.
See accompanying Statement of Expenditures.

Sworn before me at Toronto, ONTARIO

this 8th day of July 19 81

Notary Public

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.

Applicant.

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SUMMARY

The LICK Claims are located at 130°45'W, 60°03'N within N.T.S. map sheet 105B/2, Yukon Territory and comprise 20 claims within the Watson Lake Mining District.

The claims were staked on June 26, 1979 to cover a stream sediment with high values of U (144 ppm) and Ag (1.2 ppm) detected during the Geological Survey of Canada - Uranium Reconnaissance Program, the data of which were released as Open File Report 563 on Jun3 15, 1979. On July 12, 1979, Canadian Oxy conducted its first reconnaissance geology-geochemistry survey of the property. A subsequent detailed survey was carried out between June 15, 1980 and June 18, 1980. A follow-up survey was conducted on June 30, 1980 and between August 22 and August 27, 1980. Sixteen claims (LICK 40 - 55) to the west and south were staked on August 9, 1980 to cover a soil anomaly delineated during the initial detailed survey.

The LICK Claims are underlain by Jurassic-Cretaceous quartz-monzonite which intrude Devonian-Mississippian biotite-chlorite schist and quartz-feldspar gneiss. The quartz-monzonite is cut by chloritized and locally kaolinized shear zones and is highly jointed and fractured nearer the shears. The biotite-chlorite schist occurs as a discrete unit and as screens and xenoliths within the younger quartz-monzonite. The quartz-feldspar gneiss is gradational into the biotite-chlorite schist and occurs mainly in the south-west corner. Quartz veins cut the intrusive along shear zones, some of which are mineralized with galena and pyrite.

A total of 39 rock, 1 heavy mineral, 4 stream sediment and 381 soil samples were collected and analyzed for Cu, Zn, Ag and a number of other elements. The number of determinations totalled 1287. In addition, 210 radiometric readings were taken over the property.

Of the rock values obtained, four of the quartz monzonite samples contain significant amounts of Pb and one assayed at 0.63%. Two of these samples contain abnormally high Zn (220 and 520 ppm), one of which also contains 5.4 ppm Ag. Mineralized quartz vein samples contain up to 1.16% Pb, 495 ppm Zn and high Ag (up to 16.0). One of these samples also contains 160 ppb Au. The metasediments (schists; gneisses) do not contain significant amounts of Pb, Zn or Ag.

Stream sedi ments and soils have localized Pb-Zn-Ag anomalies in the northeastern sector of the property (LICK 27, 28, 15, 16 claims) covering an area of about 1200 m x 400 m. Values of up to 1250 ppm Zn, 940 ppm Pb and 1.8 ppm Ag are contained in the soils. The underlying geology includes a galena-pyrite mineralized quartz vein within a zone of sheared quartz monzonite. The extensiveness of this soil anomaly suggests a possible multi-vein system in this area.

A Pb-Zn-Ag soil anomaly trending north over the northwest portion of the property (LICK 52 and 53 claims) covers an area of 800 m x 200 m. Silver values are locally anomalous (up to 3.0 ppm) and are coincident with high Pb (up to 230 ppm) and Zn (Up to 590 ppm).

Another large area (1200 m x 400 m) covering LICK 44, 46 and 48 claims are anomalous in Pb. Zn, Ag in the soils and stream sediments. Ag values range up to 2.6 ppm in soils with up to 680 ppm Pb and 1250 ppm Zn. Stream sediemtns (from Sacks, 1979) are also anomalous in Pb (260 ppm), Zn (400 ppm) and Ag (1.2 ppm).

The sources of these anomalies in soils and stream sediments are probably related to vein0type mineralization which may or may not be related to the shear zones within the quartz monzonite and/or the intrusive contact.

Recommendations include digging soil pits across the soil anomalies to possibly delineate an underlying source or to determine whether the anomalies are extensive due to transportation from glacial movement.

Systematic soil sampling on chained picketed grids are suggested to cover all open ended anomalies. Detail prospecting, rock sampling and geological mapping is recommended for the entire property especially in the areas of known mineralization, soil anomalies and along the intrusive contact. A heavy mineral sample from the stream draining the northeastern anomalous valley to complete this survey.

I. INTRODUCTION

The LICK Claims were staked on June 26, 1979 to cover a stream sediment with high values of Ag and U, outlined by the Geological Survey of Canada. Uranium Reconnaissance Program data released in Open File 563 on June 15, 1979. On July 12, 1979 Canadian Occidental conducted a reconnaissance geology-geochemistry survey over the LICK Claims. The results of that survey were reported by Sacks (1979). The first phase follow-up incorporating detail geological mapping, soil heavy mineral and stream sediment geochemical surveys were carried out by Canadian Occidental personnel in June of 1980. The LICK 40 - 55 Mineral Claims were staked on August 9, 1980 to cover soil Pb-Zn-Ag anomalies in the south and western areas adjacent to the original LICK Claims. Subsequent detail geological mapping, soil geochemical and radiometric surveys were completed in August 1980. This report describes results of the 1980 geochemical and geological surveys.

II. LOCATION AND ACCESS

The LICK Claims are located at approximately 130°45'W, 60°03'N within N.T.S. map sheet 105B/2, Yukon Territory (Figure 1). The claim group comprises 36 individual claims covering an area of approximately 9 km^2 and lies within the Watson Lake Mining District (Figure 2).

The claims lie approximately 4.8 km (3 mi) south of km 1144 (mile 715) on the Alaska Highway. The settlement of Rancheria is located approximately 9.6 km (6 mi) northeast of the claims at km 1136 (mile 710 on the Alaska Highway (Figure 1). Rancheria contains a motel, restaurant and service station.

Access to the claims is by helicopter, either from Rancheria or from Pine Lake Airstrip, located 6 km north of km 1156 (mile 722.5) on the Alaska Highway. The Pine Lake Airstrip is an all weather, dirt and gravel emergency

FIGURE 1: Location and Access of LICK Claims
N.T.S. 105 B
Scale: 1:250,000

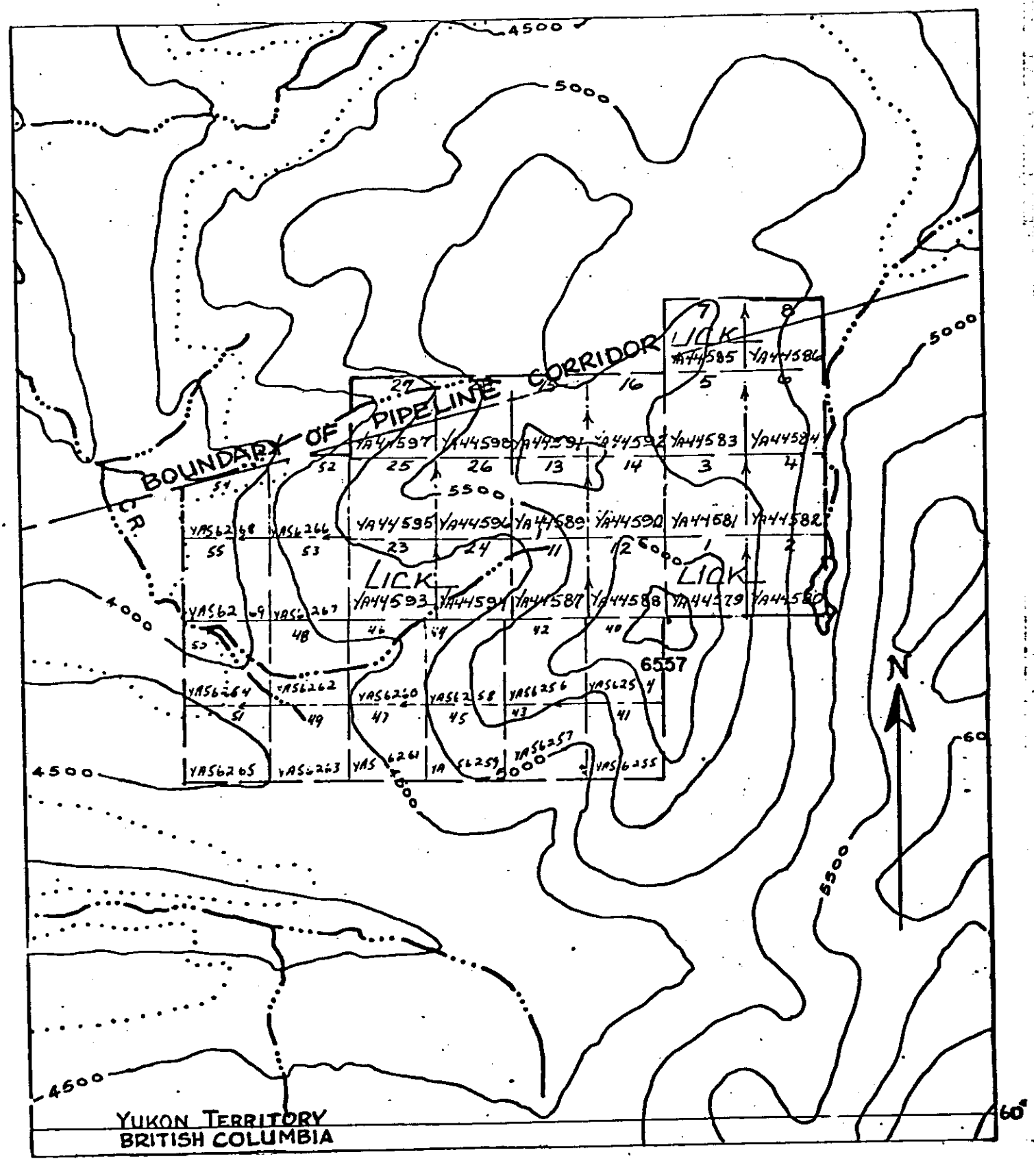


FIGURE 2: Sketch Showing LICK Mineral Claims
105B/2
Scale: ½ mile = 1 inch

airstrip 6000 ft (1830 m) long. The airstrip is easily accessible from the Alaska Highway and offers several fine camping spots. No facilities for aircraft are available. The airstrip was built in 1942 by the U. S. Army Corps. of Engineers to service construction of the Alaska Highway.

III. PHYSIOGRAPHY AND VEGETATION

Relief over the LICK Claims is 718 m (2358 ft) between elevations of 199 m (6558 ft) and 1281 m (4200 ft) above sea level. The western parts of the claim group consist of 20^{o} to 30^{o} west dipping, grass and talus covered slopes while the eastern area consists of steep, east-facing cirques and scattered cliffs. The entire claim group lies above the treeline. Vegetation consists of tundra flora (grass humps, Labrador Tea, etc.).

IV. PREVIOUS WORK

No evidence of exploration work prior to 1979 was noted. The entire area has been surveyed by the Geodetic Survey of Canada and a geodetic survey marker is located on the southern claim boundary at an elevation of 6558 ft (1999 m) above sea level.

The Wolf Lake map sheet was geologically mapped by Geological Survey of Canada during the period 1951 to 1959 (Poole et al., 1960). In 1978 the Geological Survey of Canada conducted a stream sediment sampling survey as part of the Geological Survey of Canada - Uranium Reconnaissance Program coverage of the southern Yukon. Data was released as Open File Report 563 on June 15, 1979, and the LICK claims were staked to cover a stream sediment with high values of U (144 ppm) and Ag (1.2 ppm).

On July 12, 1979, a reconnaissance geology - geochemistry survey was headed by E. J. Sacks of Canadian Oxy (Sacks, 1979). Heavy mineral samples from this survey contain high values of Ag (2.4 ppm), Zn (270 - 300 ppm), Pb (46 - 200 ppm), Mo (2 - 6 ppm), Cu (40 - 78 ppm), W (75 ppm) and U (71 ppm).

Also, the stream sediments are high in Pb (38 - 260 ppm) and Zn (116 - 680 ppm).

V. CLAIM STATUS

The work carried out on the LICK claims in 1980 has not been applied for assessment credit to date. For requests made for work done in 1979, the claim status is as follows:

Claim Name	No. of Units	Tags	Date Staked	Date Recorded	Expiry Date
LICK 1- 8	8	YA44579-44586	June 26, 1979	July 6, 1979	October 6, 1983
11 16	6	YA44587-44592	June 26, 1979	July 6, 1979	October 6, 1983
23-28	6	YA44593-44598	June 26, 1979	July 6, 1979	October 6, 1983
40-55	16	YA56254-56269	August 9, 1980	August 12, 1980	August 12, 1981

VI. WORK COMPLETED - 1980

6.1 Claim Staking

The LICK 40 - 55 Claims were staked by C. Scott and A. Jarvis of Canadian Occidental on August 9, 1980. A total of 16 units, covering an area of 3 km^2 were staked adjoining the original LICK Claim Group. Anniversary date is August 12th.

6.2 Geological Mapping

R. H. Wallis, C. F. Gleeson (Consultant), R. M. Kuehnbaum and G. Tetu visited the LICK Claims for 1/6 day on an inspection/geological evaluation trip on June 4, 1980. Detailed geological mapping and prospecting was conducted by T. E. Burns, M. J. Crandall and G. Tetu between June 15 to June 18, 1980. One June 24, 1980, the property was inspected by C.F. Gleeson, C. Hartley, T. Warner and T. E. Burns.

T. E. Burns returned to the property on July 2, 1980 for follow-up mapping and rock sampling.

On August 22 and 25, 1980, M. J. Crandall mapped and prospected the northern part of the LICK Claims. A total of 11.7 man days of work were completed.

Map bases used for 1980 surveys were 1:5,000 blow-ups from 1:50,000 N.T.S. map sheet 105B/2; 1:95,800 scale air photos obtained from E. M. R. series A-11412-264 to 266 and A12245-40 to 42 were used for ground coverage and additional control was established from 1:5000 (approximately) air phot blow-ups of A11412-265.

6.3 Geochemistry

A total of 1 heavy mineral, 4 stream sediment and 381 soil samples were collected over the LICK claims by R. Hauseux, B. McNeill, C. Scott and M. J. Crandall. In addition, T. E. Burns, M. J. Crandall and G. Tetu collected 39 rock samples during the mapping surveys. A total of 27.7 man days of work were performed. All samples were sent to Chemex Labs Ltd., North Vancouver, B. C. for geochemical analysis. Analytical results are listed in Appendix I. Details of geochemical samples are listed in Table 1.

6.4 Radiometrics

Radiometric readings were taken at most soil sample sites in conjunction with the geochemical survey carried out in August 1980. A total of 210 readings were taken at ground level using URTEC model UG-130 scintillometers at TC_1, at 10 seconds channel. Results are plotted on Plan 6.

TABLE 1

6.5 Summary of Work Completed - 1980

Type of Work	Man Days Worked	No. of Samples	No. of Readings	Cu	Mo	Pb	Zn	Ag	Au	Sn	W	U	Th	No. of Determinations
Geological Mapping	11.7													
Geochemistry	16.0													
i) Rock		39				39	39	39	6					123
ii) Heavy Mineral		1		1	1	1	1	1		1	1	1	1	9
iii) Stream Sediment		4				4	4	4						12
iv) Soil		381				381	381	381						1143
Radiometrics			210											
Tagging/Staking	(6.5)													
TOTAL	27.7	425		1	1	425	425	425	6	1	1	1	1	1287

Helicopter Hours: Bell 206-B - 13.6 hours

6.6 Names and Addresses of Personnel

Dr. R. H. Wallis Canadian Occidental Petroleum Ltd. Minerals Division Ste. 311 - 215 Carlingview Drive Rexdale, Ontario M9W 5X8	Chief Geologist
R. M. Keuhnbaum, M. Sc. Same address as above	Project Supervisor
G. Tetu, B.Sc. Same address as above	Project Geologist
T. E. Burns, B. Sc. Same address as above	Geologist
C. Hartley, B. Sc. Same address as above	Geologist
M. J. Crandall, B. Sc. Same address as above	Senior Assistant
R. Hauseux Same address as above	Junior Assistant
A. Jarvis Same address as above	Junior Assistant
B. McNeill Same address as above	Junior Assistant
C. Scott Same address as above	Junior Assistant
Dr. C. F. Gleeson C. F. Gleeson and Associates 764 Belfast Road Ottawa, Ontario K1G 0Z5	Consulting Geochemist

VII. GEOLOGY

7.1 General Geology

Mapping by Poole et al (1960) shows the LICK Claims to be underlain by Jurassic - Cretaceous, biotite-quartz monzonite and granodiorite of the Cassiar Batholith (Unit 15a of Poole). To the west of the claims, the northwesterly trending Garlick Fault has brought the Cassiar Batholith into juxtaposition with a westerly dipping, Devonian - Mississippian greenstone, chlorite schist and quartzite assemblage with slate, argillite and chert (Unit 7 of Poole et al., 1960).

Mapping by Canadian Occidental personnel shows the claims to be underlain primarily by locally sheared, foliated biotite-muscovite quartz monzonite and by large roof pendants (?) of biotite-quartz-feldspar schist and gneiss (foliated semi-pelite, meta psammite and meta arkose). Some quartzite and carbonate rocks were found in float but were not found in outcrop.

7.2 Table of Formations (Plan 2)

JURRASIC-CRETACEOUS

Cassiar Batholith

2 Biotite-muscovite-quartz monzonite

DEVONIAN-MISSISSIPPIAN (?)

Metasedimentary Rocks

1b Biotite-chlorite-quartz-feldspar schist

1a Quartz-feldspar gneiss

7.3 Description of Rock Units (Plan 2)

Descriptions of rock samples collected during the mapping survey are listed in Appendix II and may be located by referring to Plan 2.

1. Unit 1a Quartz-feldspar-biotite-(± muscovite) gneiss

This unit is confined to the southwest portion of the property.

The rock consists of a dark grey, fine to medium-grained quartz-biotite-plagioclase-Kfeldspar assemblage. Plagioclase dominates over K-feldspar except at the contact with the quartz-monzonite where K-feldspar grains are larger and more abundant. The foliation varies in intensity based on the percentage of biotite and plagioclase. Mineral segregation is minimal and is not restricted to a particular part of the unit.

2. Unit 1b Biotite-chlorite-quartz-feldspar schist

This unit occurs in the northwest and west central portion of the claim and also as xenoliths within the quartz-monzonite.

The rock consists of a dark grey to black, fine to medium-grained, well-foliated to schistose biotite-chlorite-quartz-feldspar assemblage. The foliation is defined by the parallel alignment of biotite and chlorite. Chlorite has formed as the alteration product of biotite. The feldspar content varies depending on the proximity to the quartz-monzonite contact. A phyllitic section was observed in talus in the west central section of the property; it grades into a coarser-grained schist towards the east. Small red garnets up to 2 mm were observed in two talus samples taken from the eastern portion of the unit, close to the quartz-monzonite contact.

Four well-rounded carbonate boulders, the largest being approximately 0.5 m in diameter, were found in talus on the north slope of the northwest cirque.

3. Unit 2 Foliated biotite-muscovite-quartz-monzonite

The largest area of rxposure is in the central north to northeast

This unit comprises a medium to coarse grained slightly foliated, generally massive intrusive rock consisting of K-feldspar (20-50%), plagioclase (20-30%), quartz (10-30%), biotite (1-30%) and muscovite (5-10%). The grain size near the contact is generally medium, grading into medium to coarse grained intrusive outwards. The change in grain size is slight but t he distribution of grain size variants is highly variable over short sections, especially near the contact. The biotite content is highest near the contact - possibly due to assimilation of the country rock - and descreases outwards.

The contact with the biotite-chlorite-quartz-feldspar schist consists of numerous interfingerings along the schistosity accompanied by xenoliths up to 6 m in length. Near the contact the quartz monzonite is slightly foliated due to the alignment of micas and/or feldspar laths.

Several shear zones cut the intrusive quartz-monzonite; some of these contain abundant limonite and chlorite. The rock is highly granulated resulting in feldspar clasts contained in a fine-grained groundmass of feldspar, quartz and biotite.

7.4 Structure

Two prominent shear zones were noted: one in a north-central saddle within the quartz-monzonite, approximately 5 m wide trending at 059°; the other trending across the south-central ridge on 156° in biotite-chlorite schist. Another possible smaller zone was noted in a saddle in the central portion of the property.

Abundant jointing was noted across the property and was especially prominent within the quartz-monzonite. Jointing within the

quartz-monzonite can be resolved into sets trending 060°-090°/60°-80°S and 150°-180°/70°-80°E, jointing within the biotite-chlorite schist trends 030°-060°/30°-35° and 150°-180°/70°-90°E. The 150°-180° trend is parallel to sub-parallel to the shears in the southern portion of the property. Foliation in the southwest part of claims strikes at 150°-180° and from 000°-030° in the central portion. Foliation within talus boulders of biotite schist in the northwest portion is cut by a crenulation cleavage.

7.5 Metamorphism

The biotite-chlorite-quartz-feldspar schist is likely a pelitic and semi-pelitic assemblage that had been regionally metamorphosed prior to intrusion of the quartz monzonite.

Metamorphism within the quartz-monzonite appears to be largely cataclastic within and near the shear zones.

7.6 Alteration

The most intense alteration is confined to the shear zones cutting both the biotite-chlorite schist and quartz monzonite. Within the shears and near the schist-quartz monzonite contact, biotite and muscovite are largely replaced by chlorite and limonite. Alteration within the sheared monzonite consists largely of chloritization of biotite and kaolinization of K-feldspar.

7.7 Economic Geology (Plan 1)

A small showing of galena occurs with disseminated pyrite in a quartz vein within the sheared quartz monzonite in the north-eastern cirque. The mineralized zone is about 4 cm wide x 30 cm long and a hand specimen (80WA21450R) from the zone contains 1.16% Pb, as well as high Zn (495 ppm) and Ag (15.0 ppm). Small lenses of pyrite (1 cm × 0.3 cm)

also occur in the surrounding quartz monzonite. Sample 80CA21451R from one pyrite zone contains 5.4 ppm Ag. The weathered surface of the outcrop is extremely limonitized extending up the shear zone for about 10 meters.

A small lends of fracture lined galena and pyrite mineralization was found in the northeast saddle; a hand speciment of this material contains high Zn (220 ppm) and Pb (100 ppm). This could be a continuation of the mineralized shear zone on strike to this showing or just a small individual showing. Other limonitized zones are located along the ridge but were not examined due to their inaccessibility. Local anomalous Pb $\pm$ Zn $\pm$ Ag in soils and stream sediments implies more mineralization than found here; the economic significance, however, is not known.

In the northwest corner of the property, a few carbonate boulders were found in talus material (Section 7.3.2). Although not outcrops of limestone was located, there may be potential of skarn mineralization in the vicinity of the quartz monzonite contact.

Minor amounts of pyrite were noted in the south-central and south-west corner of the property with the majority being found in the biotite-chlorite schists as disseminated cubes along schistosity planes and fracture surfaces. Less abundant but coarser-grained pyrite was also noted in float boulders of some shear zones.

VIII. GEOCHEMISTRY

8.1 Statistical Treatment of Data

For soil geochemistry results, histograms were constructed for each metal 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 calculated (see Figures 7 to 12, Tables 9 to 11 Appendix IV). Data are summarized in Table 3.

Because of the small population of heavy mineral and stream sediment samples, 'anomalous' values were determined by comparing 1980 data with the data of Sacks (1979) for a compilation of all heavy mineral and stream sediment samples taken during the 1979 Canadian Oxy follow-up survey. Sacks' 'probably anomalous' (97th percentile) figures are considered 'anomalous' values for the LICK 1980 data. Data are summarized in Table 3.

For rock geochemistry results, histograms were constructed for each metal and free-hand, arbitrary best-fit curve drawn through the normal population. However, because the population of rocks was small and the histogram was compiled from diversified rock types, anomalous and probable anomalous levels were arbitrarily chosen for the best interpretation of the data. These levels were chosen above where the''best-fit' curve intersects the data (see Figures 5 and 6, Tables 6 to 8). Data are summarized in Table 3.

TABLE 3

Mean, Probably Anomalous and Anomalous Levels -

Rocks, Heavy Minerals, Stream Sediments, Soils

A. Rocks

	Pb	Zn	Ag (ppm)
Mean	5	50	0.1
Probably Anomalous	30-200	100-200	0.4-1.0
Anomalous	>200	>200	>1.0
Range	2 ppm-1.16%	8-520	0.1-16.0

B. Heavy Minerals

	Cu	Pb	Zn	Ag	Mo	Sn	W	U	Th	(ppm)
Probably anomalous (Sacks, 1979)	165	280	440	0.95	8.5	300	160	120	1200	
Range (1980)	68	196	230	0.1	7	5	10	41	140	

C. Stream Sediments

	Pb	Zn	Ag (ppm)
Probably anomalous (Sacks, 1979)	59	320	1.0
Range (1980)	82-290	176-550	0.8-2.0

D. Soils

	Pb	Zn	Ag (ppm)
Mean	20	80	0.1
Probably anomalous	65-70	170-180	0.7-1.0
Anomalous	>70	>180	>1.0
Range	2-940	14-1250	0.1-3.0

Note: All values in ppm.

As a check on laboratory reproducibility, replicates were taken by making a random split of every 30th soil sample. This procedure checks the total reproducibility involved for lab techniques and only applies when samples have been homogenized. A summary of the reproducibility is available in Table 4.

For the most part, the reproducibility for this suite of replicates is within the following acceptable limits:

Pb and Zn:	1-10 ppm	= 30%
	10-50 ppm	= 20%
	>50 ppm	= 10%
Ag:	0.2 ppm	= 100%
	0.3-0.5 ppm	= 50¢
	>0.5 ppm	= 30%

Samples in excess of these limits are marked by an asterick (*) in Table 4 and could be a result of sample inhomogeneity and/or lack of laboratory precision. The latter, however, is suspected since samples were not homogenized prior to extraction of the replicate sample.

TABLE 4

Summary of Reproducibility of Samples

Sample No.	Value Pb	Value Zn	Value Ag	Mean Pb	Mean Zn	Mean Ag	Difference from Mean Pb	Difference from Mean Zn	Difference from Mean Ag	% Difference from Mean Pb	% Difference from Mean Zn	% Difference from Mean Ag
80WA 21000	68	112	0.1									
				69	112	0.1	1	0	0	1.5	0	0
21013	70	112	0.1									
21001	58	144	0.1									
				56	140	0.1	2	4	0	4.0	3.0	0
21068	54	136	0.1									
21002	58	136	0.1									
				57	142	0.1	1	6	0	2.0	1.0	0
21069	56	148	0.1									
21003	126	270	1.8									
				125	265	1.6	1	5	0.2	1.0	2.0	12.5
21092	124	260	1.4									
21004	48	132	0.4									
				45	130	0.2	3	2	0.2	7.0	2.0	100
21139	42	128	0.1									
21005	18	70	0.1									
				15	70	0.1	3	0	0	20	0	0
21159	12	70	0.1									
21006	10	54	0.1									
				11	58	0.1	1	4	0	9	7	0
21198	12	62	0.1									
21455	14	92	0.1									
				14	90	0.2	0	2	0.1	0	2	50
21230	14	88	0.3									
21456	36	132	0.1									
				37	131	0.1	1	1	0	3	1	0
21261	38	130	0.1									
21457	112	76	0.1									
				62	77	0.1	50	1	0	65*	1	0
21295	12	78	0.1									
21458	26	54	0.1									
				28	60	0.1	2	6	0	7	10	0
21337	30	66	0.1									
21459	14	78	0.1									
				20	85	0.1	6	7	0	30*	8	0
21263	26	92	0.1									
21460	108	184	0.1									
				115	202	0.2	7	18	0.1	6	9	50
21405	122	220	0.3									

8.2 Rock Geochmistry (Plan 1)

A total of 39 rock samples were collected and sent for geochemical analysis for Pb, Zn, Ag and some Au (Table 1). Histograms were compiled for Pb, Zn and Ag and are shown in figures 5 and 6 (Appendix IV).

The mean values for each rock type are listed in Table 5. Because of the small sample populations for some elements, the results are not always meaningful. The values for each rock type are presented in Appendix IIA and rock descriptions and analysis are listed numerically in Appendix II. Highest mean values for Pb occur in quartz monzonite (20 ppm), biotite-schist (25 ppm) and quartzite (74 ppm). Means for Zn are highest in biotite schists (78 ppm) and biotite gneiss (70 ppm). For Ag the highest mean value (0.9 ppm) is in quartz veins followed by quartzite (0.8 ppm) and quartz monzonite (0.2 ppm). Mineralized veins and quartz monzonite contain the highest values for Pb, Zn, Ag and Au but were not used in determining the mean values as they are unrepresentative of the typical rock type.

TABLE 5

rock unit	No. of Samples	Mean Values Pb	Zn	Ag	Au
QZMN	15	20	48	0.2	
BSCH	6	16	78	0.1	
BGNS	7	25	70	0.1	
QTZT	4	74	31	0.8	<10(1)
QV	2	16	30	0.9	<10(1)

Note: All values in ppm except Au which is in ppb

(1) No. of samples analyzed if not the same as column 2

1. Quartz Monzonite

The biotite-muscovite quartz monzonite contains from 10 ppm to

48 ppm Pb, 8 to 95 ppm Zn and 0.1 to 0.8 ppm Ag.

The highest values are from pyritic, limonitized, sheared, intensely foliated and fractured samples. The highest value (0.63% Pb) is from sample 80WA 21172R from the central east saddle. In addition, high Zn (110 ppm), Ag (3.4 ppm) and some Au (60 ppb) accompany this limonite stained quartz monzonite. The two other high Pb values (100 and 160 ppm) were obtained from samples 21448R and 21451R in the vicinity of the northeast (mineralized) shear zone. One of these samples, 80WA 21448R, contains minor galena and pyrite along fracture surfaces. In addition, this sample contains high Zn (220 ppm). Sample 80WA 21451R also contains abnormally high Zn (520 ppm) and Ag (5.4 ppm). Small pods of pyrite measuring 1 cm x 3 mm occur in this rock. located within the shear zone.

The two high Zn values (220 and 520 ppm) in samples 80WA 214484 and 21451R (respectively) have been commented on above. High Ag (5.4 ppm) in sample 80WA 21451R from the shear zone was also discussed briefly.

2. Quartz veins

The quartz vein samples contain from 28 ppm to 1.16% Pb, 20 to 495 ppm Zn, 1.8 to 16.0 ppm Ag and from <10 to 160 ppb Au.

All four samples contain high Ag values (1.8 to 16.0 ppm). The highest value (16.0 ppm Ag) in sample 80WA 21449 also contained high Pb content (205 ppm) and Zn (140 ppm). Another sample, 80WA 21450, containing 15.0 ppm Ag was accompanied by abnormally high Pb (1.16%) and Zn (495 ppm). Both samples are hosted by sheared quartz monzonite and contain disseminated pyrite. Sample 80WA 21450R also contains galena. One float sample (80WA 21166R) contains 2.8 ppm Ag and anomalous Pb (225 ppm).

3. Metasedimentary Rocks

In general, the metasediments contain low values for Pb (2 to 66 ppm), Zn (14 to 142 ppm) and Ag (0.1 to 0.4 ppm).

Two of the twenty metasedimentary rocks have in excess of 100 ppm Zn. The highest of these (142 ppm Zn) in sample (80WA 21442R) contains minor pyrite and small pods of quartz monzonite (contact zone) and accompanies the highest Pb content (66 ppm) of the metasedimentary rocks. Another high Zn (118 ppm) occurs in sample 80WA 21188R, a slightly altered biotite-chlorite schist. A metasediment/intrusive contact is nearby. Ag values in these rocks are very low (0.1 to 0.4 ppm). One sample, 80WA 21170R, a pyrite-bearing quartzite in float, contains 0.4 ppm Ag.

8.3 Heavy Mineral Geochemistry (Plan 1 and 7)

One heavy mineral sample was obtained from the stream draining the extreme southern area. This sample was analyzed for Cu, Mo, Pb, Zn, Ag, U, Th, Sn and W. None of the elements is anomalous; however, some of the values obtained are significantly higher than those obtained in 1979 from the northeast part of the property. In the southern area contents of Pb (196 ppm), Cu (68 ppm), U (41 ppm), Th (140 ppm) and W (10 ppm) are greater than from the northern drainage system (Pb, 46 ppm; Cu, 40 ppm; U, 7.5 ppm; Th, 39 ppm and; W, 1 ppm). These results favour the southern area for further work.

Values obtained from the central claims (1979) are high but similar to those of the 1980 sample (220 ppm Pb, 300 ppm Zn, 78 ppm Cu, 2.4 ppm Ag, 71 ppm U, 140 ppm Th and 75 ppm W). The similarity in results suggest the central to southern area as the favourable region for mineralization. The metasediment/intrusive contact cuts this area. Shears are present but no mineralization was noted.

The northeastern area, where mineralization has been found within shear zones, has not been heavy mineral sampled. Consequently, a comparison of mineralized zones to heavy mineral content can not be made.

8.4 Stream Sediment Geochemistry

A total of four stream sediment samples were collected from the northeast stream and the southern stream draining the claim group and analyzed for Pb, Zn and Ag. The two samples from the northeast stream are highly anomalous in Pb-Zn-Ag. The high values of Pb (88-290 ppm) and Zn (370-550 ppm) are within the range the stream sediments contain on the northwestern streams taken in 1979 (Sacks, 1979). However, the Ag values (1.4 to 2.0 ppm) in samples from the eastern side are higher than in those taken in 1979 from both the northwestern and central streams (0.1 to 1.2 ppm).

Stream sediments in the southern stream are anomalous in Pb (82-152 ppm) and Ag (1.2 ppm). Zn content (176 to 275 ppm) is within the same range as values obtained in 1979 from the central stream (116 to 400 ppm).

The northeastern area is underlain by quartz monzonite and metasedimentary rocks. Source for the anomalous Pb-Zn-Ag in sediments is probably due to galena bearing quartz veins such as in 80WA 12450R containing 1.16% Pb, 495 ppm Zn and 15.0 ppm Ag.

8.5 Soil Geochemistry (Plans 3, 4, 5)

A total of 381 soil samples were obtained over the claim group. Most samples were taken at 125 m intervals along contours at the base of outcrops and talus shopes and across valleys. Two picketed baselines, in the northwestern valley, was sampled at 125 m x 125 m intervals over a 600 m x 800 m area. The other baseline, located across the talus slope in

the southern part of the property was sampled at 250 m x 125 m over a 1000m by 1300 m area.

The main central valley is a broad and gently rolling area covered by moss and grass vegetation. A soil pit was sampled at the site of a soil sample (80WA 21017) with high Pb (148 ppm) and Zn (275 ppm) values. The cross-section of the pit (Figure 3) shows little soil profile development; the C horizon is within 5-8 cm of the surface which is covered by a thin vegetation layer. The element distribution within the profile (figure 4) shows the best sampling for Pb-Zn-Ag to be 8 - 10 cm below the surface, and as much as possible this was the depth sampled. High Zn values (280 ppm) in the upper 5 cm may be due to its concentration in the moss and roots. The Ag values from the pit (0.6 to 1.2 ppm) are significantly higher than in the original soil sample, 21017 (0.1 ppm Ag). The poor reproducibility of this Ag content is probably due to errors in field techniques and analysis.

Histograms and cumulative frequency diagrams used to determine mean, probably anomalous and anomalous values for Cu, Zn and Ag are given in Figures 7 through 11, Tables 9 - 11 (Appendix IV). Individual metal distributions are outlined on Plans 2, 3 and 4.

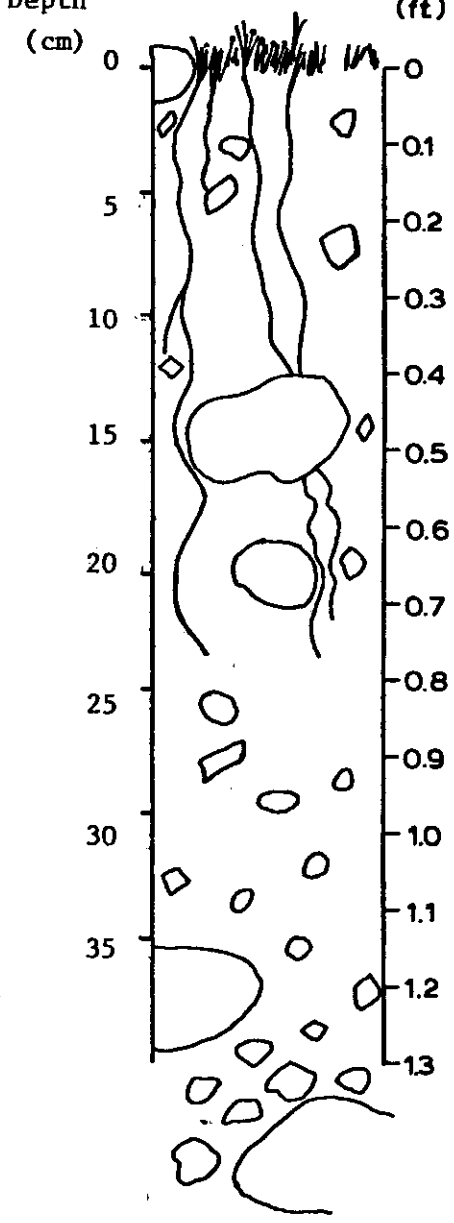
Area A

A Pb-Zn anomaly with coincident Ag highs lies in the northeastern cirque extending up and along the bordering ridge which includes the northern part of LICK Claims 27 and 28, 15 and 16. This anomaly, outlined by the 60 ppm Pb contour is about 1200 m long and varies in width from 200 meters to 800 meters; it is open to the north-northeast. The east-west anomalous area has northeast trends. Pb values (13 samples) vary from 66 to 940 ppm. High Zn values at 11 of these stations range from 178 to 1250 ppm; there are four high Ag values (1.0 to 2.5 ppm).

FIGURE 3

PROJECT WATSU - LICK CLAIMS
SOIL PIT 1
at sample site 21017

Talus slope. Moss cover. Moderate relief. Well-drained, constant sandy composition.



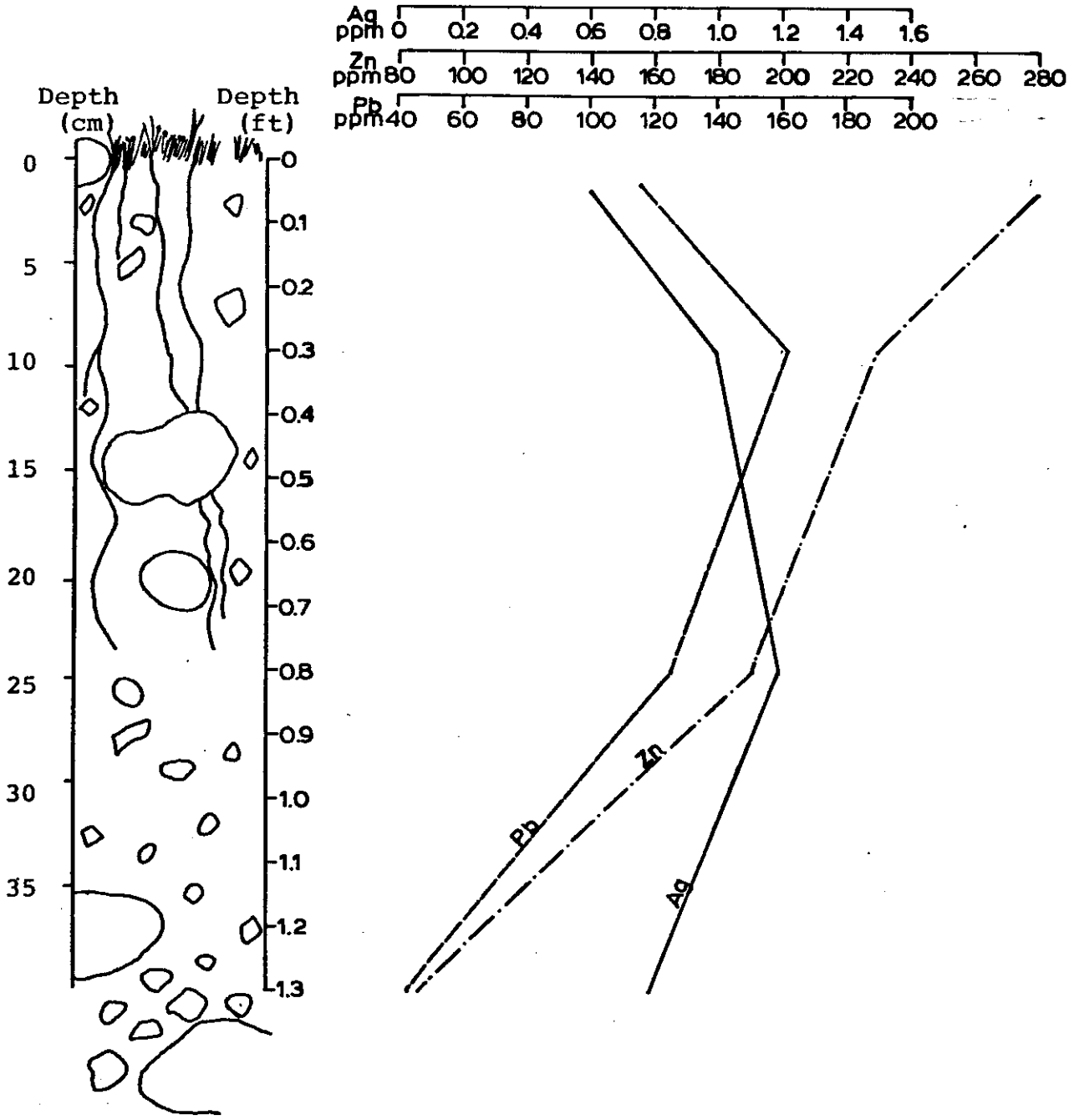
Sample Number	Description	Scint Reading (cps)
80WA 21441	moss, dirt, pebbles	240
80WA 21440	brown, sandy, pebbles	257
80WA 21439	brown, sandy, pebbles	254
80WA 21438	brown, sandy, pebbles	256

FIGURE 4

PROJECT WATSU - LICK CLAIMS

SOIL PIT 1

Element Distribution within Soil Profile for Pb, Zn, Ag.



4

The anomaly is underlain by quartz monzonite and metasedimentary rocks. The contact of these two units crosses the anomaly which approximately parallels the trend of the contact. The source of the anomaly is probably structurally controlled vein mineralization in shear zones. A galena occurrence (80CA 21450R) located at the border of the anomaly contains 1.16% Pb, 495 ppm Zn and 15.0 ppm Ag. Other rocks within the anomalous zone (80WA 21449R, a sheared quartz monzonite with quartz veining; 21451R, a sheared quartz monzonite) contain high Pb (160-205 ppm), Zn (140-520 ppm) and Ag (5.4-16.0 ppm). A quartz vein sample in float (80WA 21449R) also contains 160 ppb Au. To evaluate the economic significance of these anomalies will require additional geological work and prospecting.

Area B

This north to northwesterly trending Pb-Zn-Ag anomaly is located south of L0 + 00 and extends into the central valley for 800 m; it is open to the south. The width of the anomaly varies from 100 m to 400 m, including all of LICK 52 claim and the eastern half of LICK 53 claim. The seventeen Pb values range from 64 to 230 ppm, twelve of which are also high in Zn (166 to 590 ppm) and eight high in Ag (0.8 - 3.0 ppm). The geological setting is quite similar to that of Area A. The metasediment/intrusive contact crosses the anomaly; however, no mineralization or evidence of shearing has been found. Additional prospecting is required to evaluate this zone.

Area C

This is a Pb-Zn-Ag anomaly located on LICK 44, 46, 48 claims extending eastwards for some 1200 m, it is open to the east. The anomaly averages 400 m wide and in one place a lobe, marked by the 60 ppm Pb contour extends south for another 400 m into LICK 45 claim; the lobe is included in Area D.

The seventeen Pb values vary from 64 to 680 ppm, coinciding with 13 high values of Zn (160 - 1250 ppm) and 8 Ag values ranging from 0.8 to 1.8 ppm. The metasediments underlying the anomaly are predominantly a biotite gneiss which has been locally sheared and altered. The intrusive/metasediment contact is to the south and more or less parallels the anomaly. A sample of quartzite in float (100 m north of the anomaly) contains high Pb (225 ppm) and Ag (2.6 ppm).

Area D

This zinc anomaly is located in the southern sector of LICK 45 claim. Three values for Zn range from 190 to 280 ppm, the anomaly trends north-east measuring 400 m x 100 m. In the northeast corner of the anomaly two of the samples contain anomalous Pb (84 to 104 ppm). Foliated quartz monzonite underlies the anomalous area and the intrusive/metasediment contact lies north of this area. The source of the anomalies is not known but may be structurally controlled mineralization, related to veins and/or shear zones in the vicinity of the contact.

Area E1 - E2

These consist of five weakly anomalous Pb values (62 to 240 ppm) in soils trending north-south through LICK 47 and 49 claims. In places (E1 and E2) single station Zn highs (200, 220 and 260 ppm) occur in the anomalous Pb zones. Area E1 overlaps with high Ag values (0.7 to 1.5 ppm) as well as above normal scintillometer readings (240 to 370 cps); the anomaly is open to the south. The geology of E1 and E2 is similar to that of area D and area C. The metasediment/intrusive contact lies near the two anomalous areas. The sources of the anomalies could be structurally controlled shears and/or quartz vein systems in the vicinity of the contact.

Area F

This is a soil anomaly located across the boundary of LICK 14 and 16

claims. Three values of Pb (70 - 140 ppm) are coincident with anomalous Zn (160 - 235 ppm) and Ag (0.8 - 1.6 ppm); it is open to the east. The geology is similar to that of Area A; the metasediment/intrusive contact crosses the soil anomaly. A sample of heavily limonitized quartz monzonite, (21172R) 500 m south of this anomaly near the contact contains 0.63% Pb, 110 ppm Zn, 3.4 ppm Ag and 60 ppb Au. The sources of these anomalies is possibly related to the intrusive contact and/or vein mineralization.

IX. RADIOMETRICS

Scintillometer readings and contours are shown on Plan 5. Histogram and cumulative frequency diagrams are given in Figures 13 and 14, Table 12 (Appendix IV). Readings over the property range from 71 cps up to 370 cps. Readings over the metasediments range from 71 to 299 cps and over the quartz monzonite readings are somewhat higher (130 to 370 cps). An area of high radiometric response (240 to 370 cps) over quartz monzonite in the south part of the property in part coincides with geochemical soil anomaly E1. Similarly, response over Area F and part of Area A are higher than normal (280 to 350 cps). These local 'highs' are likely due to underlying felsic intrusive rocks. In the central valley, radiometric response is lower (145 to 175 cps) than in the southern or northeastern areas. The western side of the property also has low radio metric response (71 to 176 cps) probably due to a combination of glacial overburden and underlying metasedimentary rocks.

X. CONCLUSIONS

1. The LICK Claims are underlain by Devonian-Mississippian biotite-chlorite schist and quartz-feldspar gneiss cut by Jurassic-Cretaceous foliated biotite-muscov-te quartz monzonite. The quartz

monzonite is cut by chloritized and kaolinized shear zones which are highly jointed and fractured near the shears. Quartz veining occurs within shears, some of which contain galena and abundant pyrite mineralization. The biotite-chlorite schist occurs as a discrete unit and as screens and xenoliths within the quartz monzonite. The quartz-feldspar gneiss is gradational into the biotite-chlorite schist; it is locally sheared and occurs mainly in the south-west sector of the property.

2. Galena-pyrite mineralization found in a quartz vein within a shear zone contains significant amount of Pb (1.16%), Zn (495 ppm) and Ag (15.0 ppm). Another mineralized quartz vein in float (80WA 214495) contains high Pb (205 ppm), Zn (140 ppm), Ag (16.0 ppm) and Au (160 ppb). Foliated quartz monzonite with lenses of pyrite (80WA 21451R) also has high values of Pb (160 ppm), Zn (520 ppm) and Ag (5.4 ppm).

A sample of limonitized quartz monzonite (80WA 21172R) located at the intrusive/metasediment contact contains 0.63% Pb and is accompanied by above normal Zn values (110 ppm), anomalous Ag (3.4 ppm) and Au (60 ppb). One quartzite sample in float (80WA 21166R) contains anomalous Pb (225 ppm) and Ag (2.6 ppm). This leads to suggest that mineralized quartz veins and quartz monzonite within shear zones and along the contact are the source of Pb-Zn-Ag soil anomalies, the economic significance of which has not been determined.

3. Sediments from streams in the northeastern portion of the property are very anomalous in Zn (370 and 550 ppm), Ag (1.4 and 2.0 ppm) and in some Pb (88 and 290 ppm). East-west trending Pb-Zn-Ag soil anomalies (Areas A, F) underlie quartz monzonite in contact with metasediments which are locally cut by mineralized quartz veins. The metals have been dispersed in part, through glacial movement in the western direction as well as through groundwater leaching of the sulphides. The amount of dispersion from the mineralized quartz vein has not been considered but

further investigation is required here. It appears from the geography and extent of the anomaly (Area A) that the metals are derived from a larger sulphide system than exposed, such as a multivein system.

4. Soils in the central valley are locally anomalous in Pb-Zn-Ag (Areas B, C). In Area (B) extending 800 m x 200 m has Ag values ranging from 0.8 to 3.0 ppm and is accompanied by high An (215 - 590 ppm) and Pb (64 to 230 ppm. Another zone (Area C), measuring 1200 m x 400 m has Ag content varying from 0.8 to 1.8 ppm. Here, coincident Zn values are anomalous (215 - 1250 ppm) as well as high Pb (64 to 680 ppm). High, but not anomalous values for Cu, Mo, Pb, Zn, Ag, W and U in heavy mineral samples are present in the streams draining this valley. Sediments are anomalous in Pb, Zn and Ag (Sacks, 1979). The strong east-west trend (Area C) and north-northwest trend (Area B) of the soil anomalies suggest two directions of structurally controlled mineralization such as possible vein and/or shear systems.

5. Soil, heavy mineral, stream sediment and rock geochemical anomalies indicate adequate coverage of the 1979 G.S.C.-U.R.P. Ag-U high values which led to the initial staking of the claims. The area north of the claim group was originally intended for staking by Canadian Occidental but is restricted as part of the Alaska Highway Gas Pipeline Corridor.

XI. RECOMMENDATIONS

1. A series of soil pits should be dug and sampled near the mineralized vein (LICK 28 claim) to determine the intensity of dispersion caused by mineralization. Pits dug across the soil anomaly may help to determine whether multi-vein systems occur.

   Detailed soil pits should also be sampled to cover different physiographical settings within all anomalous areas.

2. Chained picketed grids at close intervals of 60 m to 125 m should be established over the anomalous areas and systematic soil sampling, prospecting and rock sampling carried out. Detail geological mapping is required in these areas.

3. Detail prospecting, rock sampling and geological mapping along the metasediment/intrusive contact should be done. Channel trenching of mineralized veins is also recommended.

4. A heavy mineral concentrate should be acquired from the stream draining the northeastern portion of the claims and geochemically analyzed for Cu, Mo, Pb, Zn, Ag, Au, U, Th, Sn and W. A mineralogical examination should also be made of this sample in an attempt to identify minerals of economic significance.

   Note: A portion of the sample must be retained in the field to complete the mineralogical study.

5. At this stage of exploration, geophysics (e.g. VLF-EM) is not warranted since mineralization appears to confined to relatively rugged terrain. Once a mineralized system, if any, is identified, test geophysics could be carried out.

6. An inquiry should be made regarding the mineral rights and release of ground removed from staking as part of the Alaska Highway Gas Pipeline Corridor.

Respectfully Submitted,

M.J. Crandall, B.Sc.

Toronto, Ontario

References

Poole, W., Roddick, J. and Green, L. (1960): Geology of Wolf Lake, Yukon Territory; G.S.C. Map 10-1960, Preliminary Series

G.S.C. (1979): Regional Stream Sediment Reconnaissance Data - Wolf Lake, Y.T.; G.S.C. O.F.R. 563.

Sacks, E.J., (1979): Geology and geochemistry of the LICK Claim Group. Claim sheet 105B/2 Watson Lake Mining District, Y.T.

APPENDIX I

ANALYTICAL RESULTS

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53789

INVOICE NO. 36595

RECEIVED June 22/80

ANALYSED June 30/80

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

SOILS

ATTN: LICK CLAIM WATSU CC. Watson Lake, Yukon

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	
Watsu-21000	68	112	0.1	
21001	58	144	0.1	
21002	58	136	0.1	CONTROL SAMPLES
21003	126	270	1.8	
21004	48	132	0.4	
21010	66	128	0.1	
21011	30	54	0.1	
21012	22	106	0.1	
21013	70	112	0.1	
21014	38	72	0.2	
21015	680	1250	1.4	
21016	64	102	1.0	
21017	148	275	0.1	
21018	96	148	1.8	
21019	245	380	1.0	
21020	190	275	1.6	
21021	48	106	0.1	
21022	196	174	0.2	
21023	38	160	0.1	
21024	68	215	0.8	
21025	400	895	1.4	
21026	142	435	0.1	
21027	560	1200	1.4	
21028	184	425	0.6	
21029	190	335	0.4	
21030	136	250	0.1	
21031	18	72	0.1	
21032	28	46	0.1	
21033	12	52	0.2	
21034	18	180	0.1	
21035	14	76	0.6	
21036	10	48	0.1	
21037	14	84	0.1	
21038	16	100	0.1	
21039	18	88	0.1	
21040	28	126	0.1	
21041	32	90	0.1	
21042	66	160	0.1	
21043	24	92	0.1	
Watsu-21044	240	335	1.4	

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53790

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

SOILS

INVOICE NO. 36595

RECEIVED June 22/80

ANALYSED June 30/80

ATTN: LICK CLAIM WATSU CC. Watson Lake, Yukon

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag
Watsu-21045	335	995	0.4
21046	940	1250	1.0
21047	22	245	0.1
21048	16	72	0.1
21049	26	64	0.1
21050	20	80	0.1
21051	20	98	0.1
21052	88	172	0.1
21053	8	14	0.4
21054	18	74	0.1
21055	10	48	0.1
21056	12	70	0.1
21057	10	52	0.1
21058	22	60	0.1
21059	8	34	0.4
21067	32	118	0.1
21068	54	136	0.1
21069	56	148	0.1
21070	106	240	0.1
21071	38	180	0.1
21072	22	84	0.1
21073	58	192	0.1
21074	26	102	0.1
21075	24	74	0.4
21076	68	146	0.1
21077	44	138	0.4
21078	42	70	0.6
21079	100	102	1.2
21080	18	94	0.2
21081	14	62	0.1
21082	16	148	3.0
21083	82	150	0.4
21084	34	102	0.1
21085	26	94	0.1
21086	40	114	0.1
21087	54	126	0.1
21088	152	245	0.1
21089	104	300	0.1
21090	84	172	0.1
Watsu-21091	92	174	0.1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53791
INVOICE NO. 36595
RECEIVED June 22/80
ANALYSED June 30/80

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

SOILS

ATTN: LICK CLAIM, WATSU CC. Watson Lake, Yukon

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag
Watsu-21092	124	260	1.4
21093	144	215	1.8
21094	142	275	0.8
21095	92	170	0.2
21096	30	92	0.1
21097	22	84	0.1
21098	22	82	0.1
21099	32	100	0.1
21100	34	92	0.1
21101	48	138	0.1
21102	26	74	0.1
21103	88	196	0.2
21104	80	186	0.1
21105	48	120	0.1
21106	42	128	0.1
21107	36	96	0.1
21108	78	164	0.1
21109	12	52	0.4
21110	36	88	0.1
21111	84	220	0.1
21112	26	96	0.1
21113	24	178	0.1
21114	22	86	0.1
21115	22	72	0.1
21116	40	74	0.1
21117	68	106	0.1
21118	48	134	0.1
21119	38	108	0.1
21120	44	110	0.1
21121	52	134	0.1
21122	50	128	0.1
21123	94	174	0.1
21124	38	102	0.1
21125	30	100	0.1
21126	26	92	0.1
21127	28	84	0.1
21128	50	134	0.1
21129	230	435	2.0
21130	22	78	0.6
Watsu-21131	34	76	0.1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53792
INVOICE NO. 36595
RECEIVED June 22/80
ANALYSED June 30/80

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8 SOILS

ATTN: LICK CLAIM, WATSU CC. Watson Lake, Yukon

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag
Watsu-21132	14	72	0.1
21133	16	74	0.1
21134	12	46	0.1
21135	22	84	0.1
21136	12	72	0.1
21137	34	166	0.1
21138	52	132	0.1
21139	42	128	0.1
21140	18	82	0.1
21141	36	94	0.1
21142	140	235	1.6
21143	38	112	0.2
21144	54	176	0.2
21145	18	62	0.1
21146	14	114	0.1
21147	26	76	0.1
21148	10	46	0.1
21149	30	84	0.1
21150	38	118	0.1
21151	16	84	0.1
21152	72	102	0.1
21153	14	54	0.1
21154	72	100	0.2
21155	40	116	0.1
Watsu-21156	32	92	0.1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 54161

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
Ste. 311 - 215 Carlingview Dr.
Rexdale, Ont. M9W 5X8

INVOICE NO. 36838

RECEIVED July 4/80

ATTN: Watsu-Lick Soils

SOILS

ANALYSED July 11/80

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	
Prefix 80-WA				
21005	18	70	0.1	CONTROL SAMPLES
21006	10	54	0.1	
21157	16	20	0.1	
21158	16	42	0.1	
21159	12	70	0.1	
21160	12	58	0.1	
21161	8	70	0.1	
21162	12	70	0.1	
21163	12	66	0.1	
21164	14	72	0.1	
21165	16	94	0.1	
21185	18	76	0.1	
21191	20	44	0.1	
21192	26	52	0.1	
21193	26	96	0.1	
21194	20	54	0.1	
21195	34	110	0.1	
21196	38	100	0.1	
21197	42	104	0.1	
21198	12	62	0.1	
21199	32	78	0.1	
21200	94	114	0.1	

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

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

C : Canadian Occidental Petroleum Ltd.,
Minerals Division
Ste. 311-215 Carlingview Dr.,
Rexdale Cntario
M9W 5X8

CERT. # : A8010301-001-A
INVOICE # : 38691
DATE : 12-SEP-80

WATSU-LICK SOILS

SOILS

Sample description	Pb ppm	Zn ppm	Ag ppm	
80WA 21201	72	152	0.5	--
80WA 21202	34	102	0.3	--
80WA 21203	24	82	0.4	--
80WA 21204	32	108	0.5	--
80WA 21205	12	92	0.1	--
80WA 21206	6	60	0.1	--
80WA 21207	14	66	0.1	--
80WA 21208	20	60	0.9	--
80WA 21209	8	46	0.2	--
80WA 21210	14	54	0.1	--
80WA 21211	8	68	0.2	--
80WA 21212	28	132	0.3	--
80WA 21213	26	102	0.5	--
80WA 21214	68	220	0.4	--
80WA 21215	132	166	0.4	--
80WA 21216	200	250	0.8	--
80WA 21217	98	300	0.2	--
80WA 21218	200	590	0.6	--
80WA 21219	104	230	0.1	--
80WA 21220	72	126	0.3	--
80WA 21221	38	138	0.2	--
80WA 21222	28	146	0.1	--
80WA 21223	18	110	0.3	--
80WA 21224	22	265	0.3	--
80WA 21225	22	70	0.1	--
80WA 21226	6	38	0.1	--
80WA 21227	28	124	0.1	--
80WA 21228	42	174	0.3	--
80WA 21229	22	144	0.2	--
80WA 21230	14	88	0.3	--
80WA 21231	14	104	0.3	--
80WA 21232	10	84	0.1	--
80WA 21233	8	88	0.1	--
80WA 21234	6	36	0.2	--
80WA 21235	4	50	0.1	--
80WA 21236	6	64	0.2	--
80WA 21237	134	144	0.3	--
80WA 21238	18	60	0.3	--
80WA 21239	62	156	0.2	--
80WA 21240	26	106	0.1	--

Certified by Hart Biddle

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

CERTIFICATE OF ANALYSIS

C : Canadian Occidental Petroleum Ltd.,
Minerals Division
Ste. 311-215 Carlingview Dr.,
Rexdale Ontario
M9W 5X8

CERT. # : A8010301-002-A
INVOICE # : 38691
DATE : 12-SEP-80

WATSU-LICK SOILS

SOILS

Sample description	Pb ppm	Zn ppm	Ag ppm	
80WA 21241	14	90	0.2	--
80WA 21242	26	136	0.2	--
80WA 21243	52	110	0.1	--
80WA 21244	10	50	0.1	--
80WA 21245	22	82	0.2	--
80WA 21246	22	86	0.1	--
80WA 21247	22	128	0.2	--
80WA 21248	52	152	0.2	--
80WA 21249	20	72	0.1	--
80WA 21250	24	68	1.5	--
80WA 21251	38	74	0.1	--
80WA 21252	22	62	0.1	--
80 21253	12	76	0.3	--
80WA 21254	14	112	0.8	--
80WA 21255	62	128	0.9	--
80WA 21256	84	76	0.1	--
80WA 21257	28	70	0.1	--
80WA 21258	22	64	0.1	--
80WA 21259	56	102	0.1	--
80WA 21260	42	116	0.1	--
80WA 21261	38	130	0.1	--
80WA 21262	28	70	0.1	--
80WA 21263	26	92	0.1	--
80WA 21264	20	74	0.1	--
80WA 21265	30	92	0.1	--
80WA 21266	22	54	0.3	--
80WA 21267	30	98	0.2	--
80WA 21268	12	58	0.1	--
80WA 21269	20	225	0.1	--
80WA 21270	16	70	0.1	--
80WA 21271	16	84	0.1	--
80WA 21272	28	122	0.1	--
80WA 21273	30	124	0.1	--
80WA 21274	12	64	0.1	--
80WA 21275	8	56	0.1	--
80WA 21276	10	58	0.1	--
80WA 21277	14	64	0.2	--
80 21278	30	64	0.1	--
80WA 21279	104	280	0.6	--
80WA 21280	64	190	0.2	--

Certified by Hart Biddle .....

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

CERTIFICATE OF ANALYSIS

O : Canadian Occidental Petroleum Ltd.,
Minerals Division
Ste. 311-215 Carlingview Dr.,
Rexdale Ontario
M9W 5X8

CERT. # : A8010301-C03-A
INVOICE # : 38691
DATE : 12-SEP-80

WATSU-LICK SOILS

SOILS

Sample description	Pb ppm	Zn ppm	Ag ppm	
80WA 21281	22	60	0.1	--
80WA 21282	46	138	0.1	--
80WA 21283	72	178	0.1	--
80WA 21284	28	84	0.1	--
80WA 21285	16	46	0.1	--
80WA 21286	28	80	0.1	--
80WA 21287	240	260	0.1	--
80WA 21288	26	86	0.1	--
80WA 21289	68	220	0.7	--
80WA 21290	20	74	0.1	--
80WA 21291	14	80	0.1	--
80WA 21292	16	92	0.1	--
80WA 21293	12	70	0.1	--
80WA 21294	16	68	0.1	--
80WA 21295	12	78	0.1	--
80WA 21296	10	52	0.1	--
80WA 21297	12	76	0.2	--
80WA 21298	22	56	0.1	--
80WA 21299	12	70	0.1	--
80WA 21300	16	86	0.1	--
80WA 21301	16	82	0.1	--
80WA 21302	16	84	0.1	--
80WA 21303	8	42	0.3	--
80WA 21304	8	46	0.1	--
80WA 21305	30	106	0.1	--
80WA 21306	146	235	0.1	--
80WA 21307	14	58	0.1	--
80WA 21308	12	34	0.1	--
80WA 21309	20	82	0.1	--
80WA 21310	28	38	0.1	--
80WA 21311	64	146	0.1	--
80WA 21312	98	295	0.3	--
80WA 21313	46	142	0.5	--
80WA 21314	98	136	2.8	--
80WA 21315	32	106	0.1	--
80WA 21317	14	56	0.1	--
80WA 21318	12	70	0.1	--
80WA 21319	20	94	0.1	--
80WA 21320	16	64	0.1	--
80WA 21321	12	58	0.1	--

Certified by ...Hawk Biddle...

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

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CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

O : Canadian Occidental Petroleum Ltd.,
Minerals Division
Ste. 311-215 Carlingview Dr.,
Rexdale Ontario
M9W 5X8

CERT. # : A8C10301-0C4-A
INVOICE # : 38691
DATE : 12-SEP-8C

WATSU-LICK SOILS

SOILS

Sample description	Pb ppm	Zn ppm	Ag ppm	
80WA 21322	42	126	0.1	--
80WA 21323	10	54	0.1	--
80WA 21324	12	70	0.1	--
80WA 21325	14	70	0.1	--
80WA 21326	8	50	0.1	--
80WA 21327	14	64	0.3	--
80WA 21328	20	102	0.2	--
80WA 21329	14	52	0.1	--
80WA 21330	14	52	0.2	--
80WA 21331	16	70	0.1	--
80WA 21332	14	62	0.2	--
80WA 21333	16	58	0.2	--
80 21334	24	30	0.1	--
80WA 21335	8	32	0.1	--
80WA 21336	34	92	0.1	--
80WA 21337	30	66	0.1	--
80WA 21338	16	118	0.1	--
80WA 21339	20	44	0.1	--
80WA 21340	4	32	0.1	--
80WA 21341	10	58	0.2	--
80WA 21342	14	52	0.1	--
80WA 21343	20	48	0.1	--
80WA 21344	14	60	0.1	--
80WA 21345	28	86	0.2	--
80WA 21346	6	40	0.1	--
80WA 21347	16	50	0.1	--
80WA 21348	24	74	0.1	--
80WA 21349	10	40	0.1	--
80WA 21350	6	54	0.4	--
80WA 21351	4	40	0.1	--
80WA 21352	10	48	0.1	--
80WA 21353	8	46	0.1	--
80WA 21354	22	54	0.9	--
80WA 21355	48	140	0.2	--
80WA 21356	14	60	0.1	--
80WA 21357	26	126	0.1	--
80WA 21358	6	40	0.1	--
8C 21359	8	40	0.1	--
80WA 21360	6	48	0.1	--
80WA 21361	12	44	0.1	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by .H. Hank Biddle....

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

O : Canadian Occidental Petroleum Ltd.,
Minerals Division
Ste. 311-215 Carlingview Dr.,
Rexdale Ontario
M9W 5X8

CERT. # : A8010301-005-A
INVOICE # : 38691
DATE : 12-SEP-80

WATSU-LICK SOILS

SOILS

Sample description	Pb ppm	Zn ppm	Ag ppm	
80WA 21362	6	30	0.1	--
80WA 21363	12	86	0.1	--
80WA 21364	190	200	0.7	--
80WA 21365	14	48	0.1	--
80WA 21366	14	30	0.1	--
80WA 21367	30	106	0.1	--
80WA 21368	94	166	0.6	--
80WA 21369	16	78	0.1	--
80WA 21370	40	74	0.1	--
80WA 21371	22	38	1.2	--
80WA 21372	16	24	1.5	--
80WA 21373	42	56	1.1	--
80 21374	74	122	0.5	--
80WA 21375	62	88	0.1	--
80WA 21376	50	172	0.1	--
80WA 21377	42	112	0.7	--
80WA 21378	46	142	0.5	--
80WA 21379	60	114	0.1	--
80WA 21390	600	970	0.7	--
80WA 21391	24	76	0.1	--
80WA 21392	66	112	0.3	--
80WA 21393	26	74	0.1	--
80WA 21394	32	118	0.1	--
80WA 21395	34	80	0.1	--
80WA 21396	100	108	0.1	--
80WA 21397	80	70	0.1	--
80WA 21398	8	64	0.1	--
80WA 21399	92	182	0.1	--
80WA 21400	38	64	0.1	--
80WA 21401	56	68	0.1	--
80WA 21402	52	86	0.1	--
80WA 21403	152	305	0.1	--
80WA 21404	725	950	1.5	--
80WA 21405	122	220	0.3	--
80WA 21406	400	645	2.5	--
80WA 21407	10	26	0.1	--
80WA 21408	8	16	0.1	--
80 21409	18	74	0.1	--
80WA 21410	20	46	0.1	--
80WA 21411	2	30	0.1	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by Howard Biddle...

CHEMEX LABS LTD.

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

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CERTIFICATE OF ANALYSIS

D : Canadian Occidental Petroleum Ltd.,
Minerals Division
Ste. 311-215 Carlingview Dr.,
Rexdale Ontario
M9W 5X8

CERT. # : A8010301-006-A
INVOICE # : 38691
DATE : 12-SEP-80

WATSU-LICK SOILS

SOILS

Sample description	Pb ppm	Zn ppm	Ag ppm	
80WA 21412	14	74	0.1	--
80WA 21413	24	84	0.1	--
80WA 21414	70	160	1.2	--
80WA 21415	102	230	0.8	--
80WA 21416	32	90	0.5	--
80WA 21417	6	28	0.1	--
80WA 21418	38	126	0.1	--
80WA 21430	8	20	0.1	--
80WA 21431	20	60	0.4	--
80WA 21432	12	18	0.1	--
80WA 21433	14	54	0.2	--
80WA 21434	8	44	0.1	--
80WA 21435	12	66	0.7	--
80WA 21436	18	50	0.1	--
80WA 21437	34	128	0.4	--
80WA 21438	44	88	0.8	--
80WA 21439	126	192	1.2	--
80WA 21440	162	230	1.0	--
80WA 21441	116	280	0.6	--
80WA 21455	14	92	0.1	--
80WA 21456	36	132	0.1	--
80WA 21457	112	76	0.1	-- CONTROL
80WA 21458	26	54	0.1	-- SAMPLES
80WA 21459	14	78	0.1	--
80WA 21460	108	184	0.1	--
80WA 21419	8	42	0.2	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by Harry Bielle

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
Ste. 311-215 Carlingview Dr.,
Rexdale Ontario
M9W 5X3

CERT. # : A8010355-001-A
INVOICE # : 38773
DATE : 15-SEP-80

CASSI LICK-SOIL

Sample description	Pb ppm	Zn ppm	Ag ppm	
80WA 21315	24	96	0.5	--

Certified by Hans Bielz

CTA MEMBER CANADIAN TESTING ASSOCIATION

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

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• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53793

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

STREAM SEDIMENTS

INVOICE NO. 36595

RECEIVED June 22/80

ANALYSED June 30/80

ATTN: LICK CLAIM, WATSU CC. Watson Lake, Yukon

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag
Watsu-21186SS	152	275	0.8
21187	82	176	1.2
21188	290	550	2.0
Watsu-21189SS	88	370	1.4

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 54174

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont.M9W 5X8

INVOICE NO. 37709

RECEIVED July 4/80

ATTN: Watsu-Lick Heavy Minerals CC. Watson Lake, Y.T.

ANALYSED Aug. 12/80

SAMPLE NO. :	PPM Cu	PPM Mo	PPM Pb	PPM Zn	PPM U	PPM Ag	PPM Sn	PPM W	PPM Th
80WA21192	68	7	196	230	41	0.1	5	10	To follow

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

NORTHROCK ANALYSTS LTD.
4004 WESBROOK MALL
UNIVERSITY OF B.C. CAMPUS
VANCOUVER B.C. V6T 2A3
TELEPHONE (604) 224-2388

CERTIFICATE OF ANALYSIS — CERTIFICATE # A8001867

CLIENT : CAN OXY

ATTN. : WATSU-LICK H.M.

HEAVY MINERAL

SAMPLES RECEIVED : 14-AUG-80
ANALYSIS COMPLETED : 14-AUG-80
NUMBER OF SAMPLES : 1
CLIENT P.O. NUMBER : 54174-B
INVOICE NO. : 1405
37918

SAMPLE ID	TH PPM
80-WA-21192-HM	140.

CERTIFIED BY ...Hart Biddle.....

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 54171

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

INVOICE NO. 36927

RECEIVED July 4/80

ANALYSED July 15/80

ATTN: Watsu Lick ROCKS CC. Watson Lake, Y.T.

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag
21184R 80-WA	8	38	0.1
21185	6	8	0.2
21186	8	56	0.2
21187	4	36	0.2
21188	4	118	0.1
21189	8	78	0.1
21190	14	14	0.2
21191R 80-WA	20	68	0.2

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Biddle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0643
AREA CODE: 604
TELEX: 043-52597

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• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

CERTIFICATE NO. 69013

INVOICE NO. 37900

RECEIVED July 10/80

ANALYSED Aug. 15/80

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

ATTN: Watsu Lick Rocks

SAMPLE NO. :	oz/ton Au	Percent Pb	Percent Zn	oz/ton Ag	PPB Au
21166R WA-80	-0.003				
21181R WA-80	-0.003				
21182R WA-80	-0.003				
21172R WA-80		0.63	0.01	0.09	60

MEMBER CANADIAN TESTING ASSOCIATION

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 53899

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

INVOICE NO. 36773

RECEIVED June 25/80

ANALYSED July 10/80

ATTN: Project WATSU LICK CLAIM ROCKS CC. Whitehorse, Y.T.

SAMPLE NO. :	PPM Pb	PPM Zn	PPM Ag	PPB Au
21166R WA-80	225	20	2.6	-10
21167	16	75	0.2	
21168	8	60	0.1	
21169	4	50	0.1	
21170	56	50	0.4	
21171	4	80	0.2	
21172	+4000	110	3.4	
21173	52	60	0.1	
21174	58	65	0.1	
21175	16	35	0.1	
21176	14	60	0.1	
21177	8	70	0.1	
21178	4	90	0.1	
21179	22	20	0.1	
21180	6	80	0.1	
21181	10	40	0.1	-10
21182	48	95	0.1	-10
21183 WA-80	26	70	0.1	

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hank Biella

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
Ste. 311-215 Carlingview Dr.,
Rexdale Ontario
M9W 5X8

CERT. # : A8010353-001-A
INVOICE # : 38885
DATE : 18-SEP-80

WATSU LICK-ROCKS

Sample description	Pb ppm	Zn ppm	Ag ppm	Au -(AA) ppb
80WA 21442 R	66	142	0.2	--
80WA 21443 R	16	58	0.4	--
80WA 21444 R	18	72	0.2	--
80WA 21445 R	6	40	0.1	--
80WA 21446 R	8	34	0.1	--
80WA 21447 R	84	14	0.8	--
80WA 21448 R	100	220	0.2	--
80WA 21449 R	205	140	16.0	160
80WA 21450 R	>4000	495	15.0	30
80WA 21451 R	160	520	5.4	--
80WA 21452 R	28	26	1.8	<10
80WA 21453 R	8	22	0.2	--
80WA 21454 R	2	40	0.1	--

Certified by ..Hawk Biddle..

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 984-0221
AREA CODE: 604
TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

CERTIFICATE NO. 70183

INVOICE NO. 39211

RECEIVED Sept. 18/80

ANALYSED Sept. 26/80

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont. M9W 5X8

ATTN: WATSU-LICK ROCK

SAMPLE NO. :	% Pb	Orig. Cert. #A8016353-001
80WA 21450R	1.16	

CTA MEMBER CANADIAN TESTING ASSOCIATION

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

APPENDIX II

DESCRIPTIONS OF ROCK SAMPLES,

TRACE ELEMENT CONTENTS

ROCK DESCRIPTIONS

LICK CLAIM GROUP

80WA 21166R

- quartzite
- massive, gray-white quartzite with minor amounts (1-2%) of equant, well developed pyrite grains

Pb	Zn	Ag (ppm)	Au (ppb)
222	20	2.6	<10

80WA 21167R

- muscovite-biotite-quartz-feldspar gneiss
- fine to medium grained, slightly foliated, limonite-stained, muscovite-biotite-quartz feldspar gneiss.

Pb	Zn	Ag (ppm)
16	75	0.2

80WA 21168R

- biotite-quartz gneiss
- coarse grained massive biotite quartz gneiss
- irregular fracturing

Pb	Zn	Ag (ppm)
8	60	0.1

80WA 21169R

- quartz monzonite/biotite schist
- gradational contact sample of medium-grained, fresh quartz monzonite and well foliated biotite schist

Pb	Zn	Ag (ppm)
4	50	0.1

80WA 21170R (float)

- quartzite
- heavy gossan on weathered surface
- medium to fine grained quartzite with pyrite

Pb	Zn	Ag (ppm)
56	50	0.4

80WA 21171R

- biotite±muscovite quartz feldspar gneiss with pyrite. Gossan stained foliated band surround by coarse pegmatites

Pb	Zn	Ag	(ppm)
4	80	0.2	

80WA 21172R

- biotite-quartz monzonite
- heavily limonite stained on weathered surface
- main constituents are biotite-hornblende(?) feldspar, quartz, medium to fine grained

Pb	Zn	Ag	(ppm)	Au	(ppb)
0.63%	110	3.4		60	

80WA 21173R (float)

- biotite-schist
- slighly chloritized, well foliated biotite schist with minor amounts of quartz monzonite material, slightly kaolinized

Pb	Zn	Ag	(ppm)
52	60	0.1	

80WA 21174R (float)

- gneiss
- fractured and altered gneiss

Pb	Zn	Ag	(ppm)
58	65	0.1	

80WA 21175R (float)

- biotite quartz gneiss

Pb	Zn	Ag	(ppm)
16	35	0.1	

80WA 21176R (float)

- foliated quartz monzonite
- consists of 90% quartz monzonite material penetrating a well foliated, slightly chloritized biotite schist

80WA 21177R

- quartz monzonite/biotite schist
- similar to sample 21169R, contact of medium to coarse-grained, fresh, quartz monzonite and fine-grained poorly foliated biotite schist, occurs as alternating bands, minor K-spar megacrysts

Pb	Zn	Ag	
8	70	0.1	(ppb)

80WA 21178R

- biotite schist
- consists of very fine-grained, fresh biotite and quartz evenly distributed throughout, poorly laminated

Pb	Zn	Ag	
4	90	0.1	(ppm)

80WA 21179R

- quartz monzonite
- medium to coarse grained quartz monzonite
- no foliation
- minor manganese staining along fractures
- minor chlorite and sericite throughout

Pb	Zn	Ag	
22	20	0.1	(ppm)

80WA 21180R

- foliated quartz monzonite
- medium grained monzonite with a poor to moderate foliation of the mafic (mainly biotite/chlorite) minerals
- moderate alteration in the form of kaolinization, chloritization and manganese staining

Pb	Zn	Ag	
6	80	0.1	(ppm)

80WA 21181R
(float)

- foliated quartz monzonite
- contains abundant biotite which is slightly chloritic

Pb	Zn	Ag		Au	
10	40	0.1	(ppm)	<10	(ppb)

80WA 21182R
(float)

- foliated quartz monzonite
- highly fractured and altered vuggy
- chloritic stringers weathered out

Pb	Zn	Ag (ppm)	Au (ppb)
48	95	0.1	<10

80WA 21183R

- foliated quartz monzonite
- same as 21180R

Pb	Zn	Ag (ppm)
26	70	0.1

80WA 21184R

- foliated quartz monzonite
- slighly altered
- slight foliation

Pb	Zn	Ag (ppm)
8	38	0.1

80WA 21185R

- quartz monzonite
- leucocratric, fresh, massive

Pb	Zn	Ag (ppm)
6	8	0.2

80WA 21186R

- biotite chlorite schist
- well foliated

Pb	Zn	Ag (ppm)
8	56	0.2

80WA 21187R

- biotite-muscovite gneiss
- poorly defined gneissosity

Pb	Zn	Ag (ppm)
4	36	0.2

80WA 21188R

- biotite chlorite schist
- minor alteration

Pb	Zn	Ag	(ppm)
4	118	0.1	

80WA 21189R

- biotite schist
- highly altered

Pb	Zn	Ag	(ppm)
8	78	0.1	

80WA 21190R

- quartzite
- with limonitic staining, probably the result of shearing

Pb	Zn	Ag	(ppm)
14	14	0.2	

80WA 21191R

- sheared biotite schist
- highly altered and stained

Pb	Zn	Ag	(ppm)
20	68	0.2	

80WA 21442R

- biotite hornblende gneiss
- grey to whitish on weathered with minor limonite staining
- green on fresh surface
- medium grained equigranular with blotches of quartz monzonite up to 4 cm
- minor pyrite

Pb	Zn	Ag	(ppm)
66	142	0.2	

80WA 21443R
(float)

- quartz monzonite
- medium grained with ciotite, muscovite
- has limonitic lined pyrite pits
- small fractures are limonitic stained

Pb	Zn	Ag	(ppm)
16	58	0.4	

80WA 21444R
(float)

- biotite muscovite quartz monzonite
- medium grained
- small fractures are limonite-stained
- limonitized pyrite cubes

Pb	Zn	Ag	(ppm)
18	72	0.2	

80WA 21445R
(float)

- biotite muscovite quartz monzonite
- coarse grained
- slighly foliated
- dense
- fracture fillings lined with pyrite

Pb	Zn	Ag	(ppm)
6	40	0.1	

80WA 21446R
(float)

- fine grained grey quartzite with quartz veins (±2 - 5 mm) along bedding
- rusty weathering small euhedral black mineral?

Pb	Zn	Ag	(ppm)
8	34	0.1	

80WA 21447R
(float)

- quartz monzonite
- gossan stained medium crystalline
  extremely altered with epidote, limonite and pyrite
- slight foliation

Pb	Zn	Ag	(ppm)
84	14	0.8	

80WA 21448R

- biotite quartz monzonite (in sheared zone)
- thin, slightly limonitizied fractures with galena and pyrite

Pb	Zn	Ag	(ppm)
100	220	0.2	

80WA 21449R
(float)

- quartz vein in sheared quartz monzonite
- vein is lined with pyrite cubes
- surface is limonite stained
- vein is ± 2 cm wide

Pb	Zn	Ag (ppm)	Au (ppb)
205	140	16.0	160

80WA 21450R

- quartz vein in sheared quartz monzonite
- contains galena and disseminated pyrite
- zone is ± 15 cm wide
- galena showing ± 4 cm x 30 cm

Pb	Zn	Ag (ppm)	Au (ppb)
1.16%	495	15.0	30

80WA 21451R

- sheared quartz monzonite
- with limonite surface weathering
- small pods of pyrite 1 cm x .3 mm

Pb	Zn	Ag (ppm)
160	520	5.4

80WA 21452R
(float)

- bull quartz vein (in talus)
- limonite stained with fractures filled with massive pyrite

Pb	Zn	Ag (ppm)	Au (ppb)
28	26	1.8	<10

80WA 21453R

- foliated quartz monzonite biotite 10%, quartz 15 - 20%, K-spar 20%, plag 45%, muscovite 10%
- medium grained

Pb	Zn	Ag (ppm)
8	22	0.2

80WA 21454R
(float)

- fine grained dark grey quartzitic phyllite
- limonite stained on weathered surface and along fractures

Pb	Zn	Ag (ppm)
2	40	0.1

APPENDIX IIA

GEOCHEMICAL RESULTS

LISTED BY ROCK TYPE

Unit 1

Biotite Schist (BSCH)

Sample No.	Pb	Zn	Ag
80WA 21173R	52	60	0.1
21178	4	90	0.1
21186	8	56	0.2
21188	4	118	0.1
21189	8	78	0.1
21191	20	68	0.2
MEAN	16	78	0.1

Biotite Gneiss (BGNS)

Sample No.	Pb	Zn	Ag
80WA 21167	16	75	0.2
21168	8	60	0.1
21171	4	80	0.2
21174	58	65	0.1
21175	16	35	0.1
21187	4	36	0.2
21442	66	142	0.2
MEAN	25	70	0.1

Quartzite (ATZT)

Sample No.	Pb	Zn	Ag	Au
80WA 21166R	225	20	2.6	<10
21170	56	50	0.4	
21190	14	14	0.2	
21454	2	40	0.1	
MEAN	74	31	0.8	<10

Unit 2

Foliated biotite-muscovite quartz monzonite (QZMN)

Sample No.	Pb	Zn	Ag	Au
80WA 21169R	4	50	0.1	
21176	14	60	0.1	
21177	8	70	0.1	
21179	22	20	0.1	
21180	6	80	0.1	
21181	10	40	0.1	<10
21182	48	95	0.1	<10
21183	26	70	0.1	
21184	8	38	0.1	
21185	6	8	0.2	
21443	16	58	0.4	
21444	18	72	0.2	
21445	6	40	0.1	
21447	84	14	0.8	
21453	8	22	0.2	
MEAN	20	48	0.2	<20

Quartz vein (QV)

Sample No.	Pb	Zn	Ag	Au
80WA 21446R	8	34	0.1	
21452R	28	26	1.8	<10
MEAN	16	30	0.9	<10

Mineralized Rocks (not included in above MEAN values)

Sample No.	Type	Pb	Zn	Ag	Au
80WA 21172R	QZMN	0.63%	110	3.4	60
21448	QZMN	100	220	0.2	--
21449	QV	205	140	16.0	160
21450	QV	1.16%	495	15.0	30
21451	QZMN	160	520	5.4	--

APPENDIX III

SAMPLING AND LABORATORY PROCEDURES

I. SAMPLING PROCEDURES

A. Heavy Minerals

1. A sample site is selected which exhibits maximum sorting of stream bed material. Active (below water) or previously active (dry now but previously below water) sites may be chosen. Leading edges or sides of gravel bars with large boulders are most attractive. In practice, the ideal case is care and one chooses the best possible site.

2. Gravel and cobble material is shoveled into a large (18" to 24") gold pan into which ¼" holes have been drilled. The material is vigoursously shaken in still water so that - ¼" material masses the screen into a second, matching pan. Enough - ¼" material is collected to fill an 18" x 24" poly bad (usually one large pan or two smaller ones). The - ¼" material is returned to camp.

3. The - ¼" material is panned to achieve a concentrate of heavy minerals and aggregates containing heavy minerals. Approximately 80% of the original material (20 - 25 lbs) is discarded while a 1 - 2 lb. concentrate is obtained. The concentrate is sealed in a plastic or cloth bag (cloth is preferred as it allows the sample to dry, thus reducing shipping weight) and then sent to the laboratory for geochemical analysis.

B. Stream Sediment

1. A presently or previously active stream site is selected which exhibits minimum sorting i.e. quiet water, and accumulation of fine sandy and silty material. If the stream is too active, material can be obtained from bank-moss which acts as a trap, or by

digging out the lee of large boulders.

2. Three to four andfuls of material is collected and after squeezing to remove excess water is placed in high wet-strength, heavy duty, prenumbered kraft envelopes. The samples are dried in the field and then sent to the laboratory for geochemical analysis.

C. 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.

D. 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) Heavy Minerals

1. Samples dried and weighed.
2. Screen - 10 mesh material from sample and weigh; weigh and retain +10 mesh material left on screen.

3. Use -10 mesh fraction for heavy liquid separation.
4. Transfer -10 mesh (fine) fraction into a 1000 ml. separatory funnel containing 200 mls. of tetrabromoethane (S.G. 2.96).
5. Shake sample gently in heavy liquid. Particles of fines adhering to sides of the separtory funnel can be washed into the heavy liquid by slowly rotating the funnel at an oblique angle. The "heavies" (S.G. $>$ 2.96) will slowly settle to the bottom of the heavy liquid.
6. Drain the "heavies" into a small filter funnel. Drain excess heavy liquid and light materials into a separate filter funnel. Collect all heavy liquid into a waste receiving bottle.
7. Save light minerals (S.G. $<$ 2.96). Wash "heavies" fraction with methanol to remove residual tetrabromoethane. Use the same procedure on light minerals fraction. Dry both fractions and weigh. Retain the "lights" in a suitable sealed container. Save 0.5 gm of "heavies" in a plastic vial for visual examination.
8. Pulverize the remaining "heavies" in an agate mortar and pestle and homogenize before weighing for analyses.
9. Analyse the "heavies powder for appropriate elements. The number of elements analysed for is determined by the amount of "heavy" material obtained in separation.

ii) Stream Sediments

1. Samples are sorted and fried at 50^{o}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.
3. -80 mesh fraction material is weighed and analysed for appropriate elements.

iii) Soils

Same procedure as for stream sediments.

iv) 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, Molybdenum (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 ($HClO_4$-$HN)_3$) 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 Ag and Mo 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
Cu	No	A	324.7	1 ppm	71 ppm	± 3
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
Mo	No	N	313.3	1 ppm	25 ppm	± 1

A = Air acetylene flame

N = Nitrous oxide - actylene flame

ii) ppm Tin (Sn) (Atomic Absorption)

1. A 1.0 gm sample of -80 mesh soil or stream sediemtn, -200 mesh rock flour or pulverized "heavies" is scintered with ammonium iodide.
2. The resulting tin-iodide is leached with a dilute HCl - absorbic acid solution.
3. The TOPO complex is then extracted into MIBIC (Methyl isobutyl ketone) and analysed via atomic absorption.
4. Detection limit: 1 ppm Sn

iii) ppm Tungsten (W) (Colourimetric)

1. 0.5 gm of -80 mesh soil or stream sediemtn, -200 mesh rock flour or pulverized "heavies" is fused with potassium bisulfate and leached with HCl.
2. The reduced form of W is complexed with toluene 3, 4 dithiol and extracted into an organic phase.
3. The resulting colour is visually compared to similarly prepared standards. (Colourimetric method)
4. Detection limit: 2 ppm W

iv) ppb Gold (Au) (Atomic Absorption)

1. A 5 gm sample of -200 mesh rock flour or pulverized "heavies" os asjed at 800^{o}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

v) ppm Thorium (Th) (Neutron Activation)

1. 1 gm of -80 mesh soil or stream sediment, -200 mesh rock flour or pulverized "heavies" is weighed into a polyethelene vial and heat sealed.
2. Samples, along with standards, are then irradiated for sufficient periods to receive a neutron dose of 1-3 x 10^{10} to $10^{15}/cm^{2}$.
3. Following irradiation, samples are cooled for at least one week and thorium determined by the measurement of its characteristic gamma ray, using a semiconductor (Ge (Li)) detector.
4. Detection limit: 1 ppm Th

vi) Uranium (U) (Fluorimetry)

A) Uranium in soils, stream sediments, "heavies", rocks.

1. 1 gm of -80 mesh soil or stream sediment, - 200 mesh rock flour or pulverized "heavies" is digested with hot, $HClO_4$-HNO_3 to strong fumes of $HClO_4$ for approximately 2 hours.
2. The digest is diluted to volume and mixed.

3. An aliquot is extracted into MIBK with the acid of an aluminum nitrate-tetrapropyl ammonium hydroxide salting solution. (TPAN)
4. Uranium in the MIBK is determined by evaporating a portion of the MIBK in a platinum dish and fusing with a mixture of $Na2CO_3$-K_zCO_3-NaF.
5. The fluorescence of the fused flux is measured to determine the uranium content.
6. Detection limit: 0.5 ppm U

APPENDIX IV

FREQUENCY DISTRIBUTION TABLES

HISTOGRAMS

CUMULATIVE FREQUENCY CURVES

Table 6

Frequency Distribution for Lead in Rocks

Class Interval (ppm)	Frequency
0-10	17
11-20	7
21-30	3
31-40	0
41-50	1
51-60	3
61-70	1
71-80	0
81-90	1
91-100	1
101-150	0
151-200	1
>200	4
TOTAL	39

Values >200 = 205, 225 (ppm), 0.63%, 1.16%

Certificates: 53899, 54171, A8010353-001A

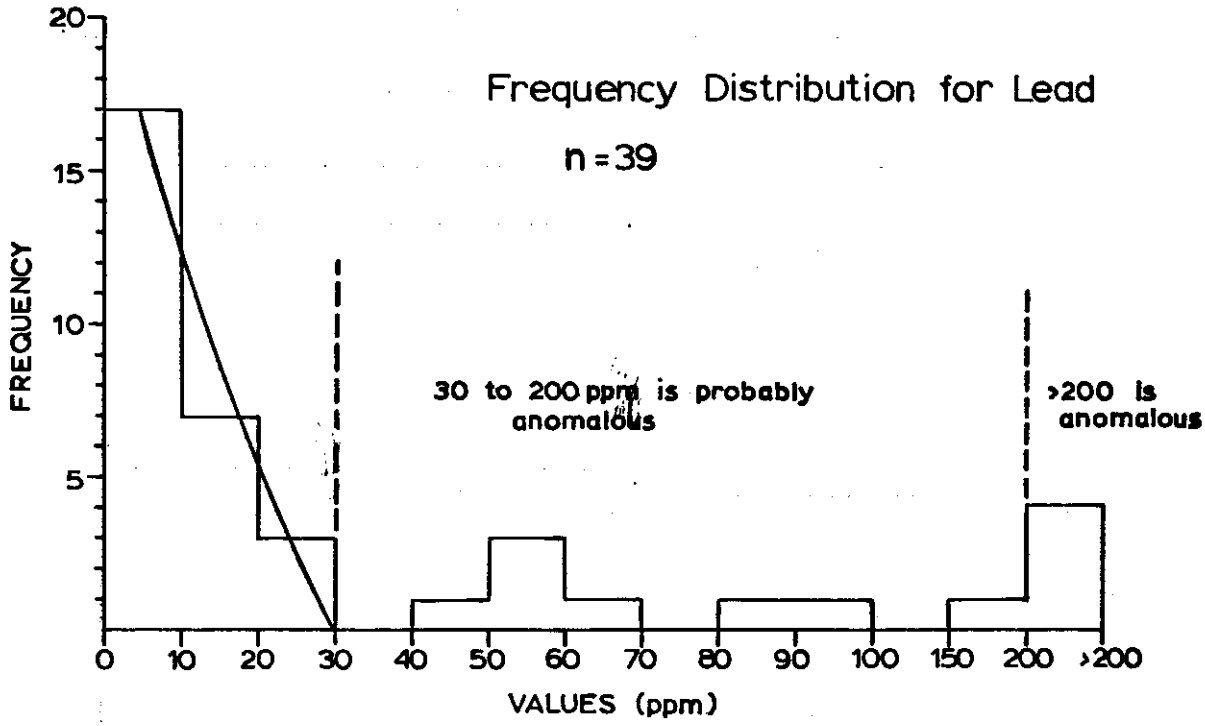
Table 7

Frequency Distribution for Zn in Rocks

Class Interval (ppm)	Frequency
0-20	5
21-40	9
41-60	7
61-80	9
81-100	2
101-120	2
121-140	1
141-160	1
161-180	0
181-200	0
>200	3

Certificates: 53899, A8010353-001-A, 54171

PROJECT WATSU - LICK CLAIMS
Rock Geochemistry



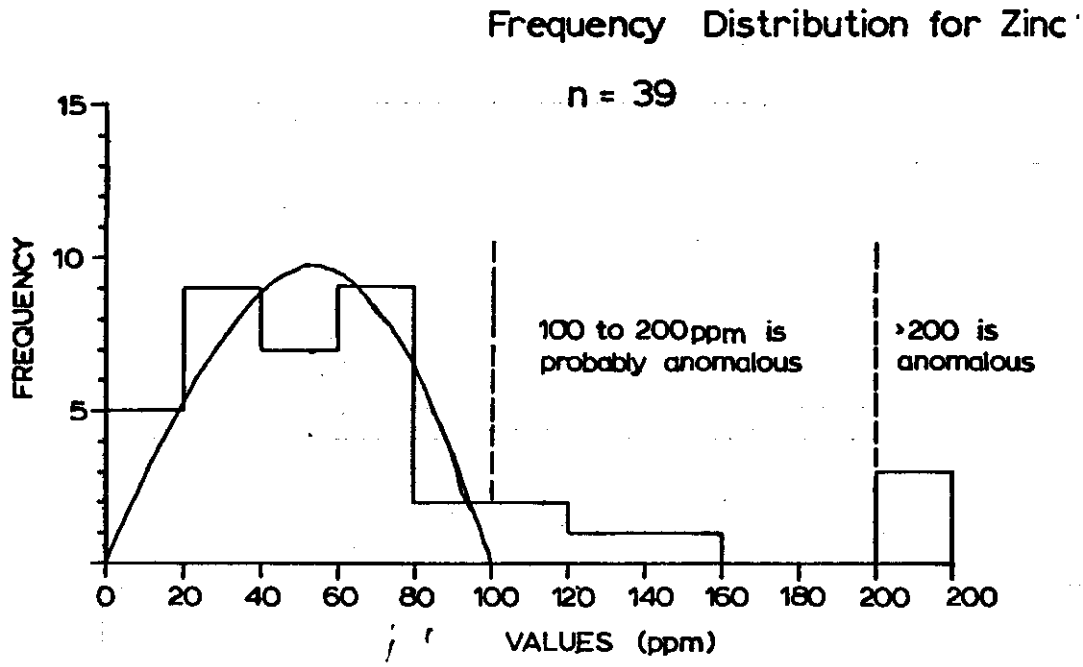


Figure: 5

Table 8

Frequency Distribution for Silver in Rocks

Interval (ppm)	Frequency
0-0.1	19
0.1-0.2	11
0.2-0.4	2
0.4-0.6	0
0.6-0.8	1
0.8-1.0	0
1.0-2.0	1
2.0-3.0	1
3.0-4.0	1
4.0-5.0	0
5.0-10.0	1
10.0-15.0	1
>15.0	1

Certificate 53899, A8010353-001-A, 54171

PROJECT WATSU - LICK CLAIMS

Rock Geochemistry

Frequency Distribution for Silver

n = 39

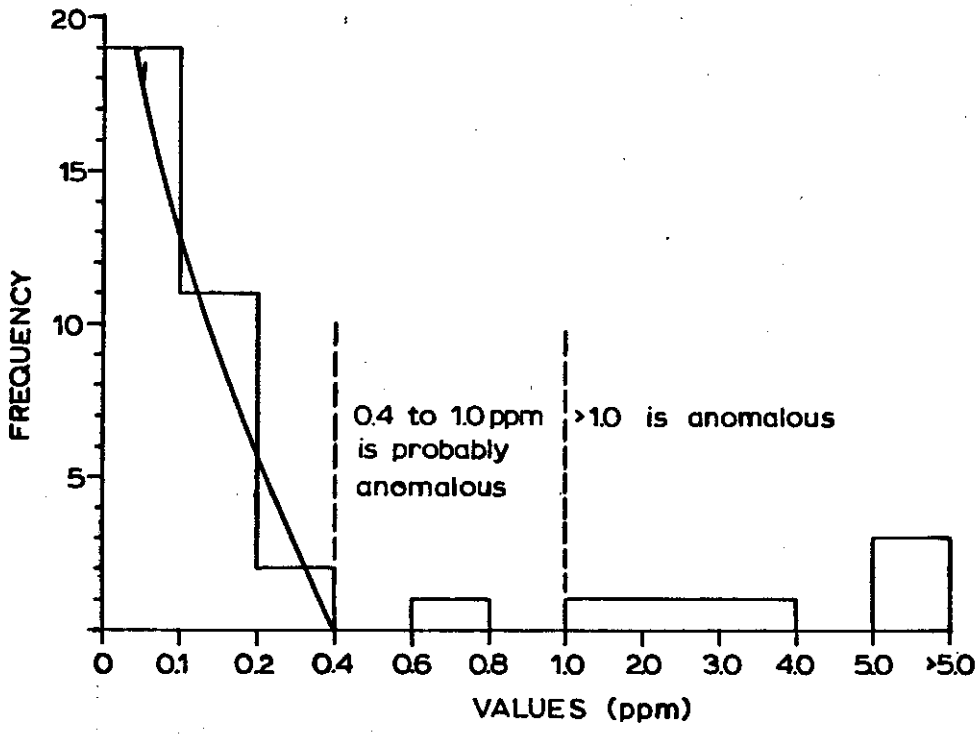


Figure: 6

Table 9

Frequency Distribution for Lead in Soils

Interval (ppm)	Freq.	Cum. Freq.	Cum.%
0-10	45	45	14.4
11-20	106	151	48.2
21-30	72	223	71.3
31-40	38	261	83.4
41-50	23	284	90.7
51-60	13	297	94.9
61-70	16	313	100.0
71-80	10		
81-90	6		
91-100	12		
101-110	5		
111-120	1		
121-130	3		
131-140	4		
141-150	5		
151-160	2		
161-170	1		
171-180	0		
181-190	4		
191-200	3		
200	12		
	381		

Values 200: 240, 600, 725, 400, 680, 245, 400, 560, 240, 335, 940, 230

Certificates: A8010301-001-A, -002-A, -004A, -005A, -006A, 53789, 53790, 53791, 53792, 54161, A8010355-001-A

PROJECT WATSU - LICK CLAIMS

Frequency Distribution for Lead in Soil (B horizon)

n = 381

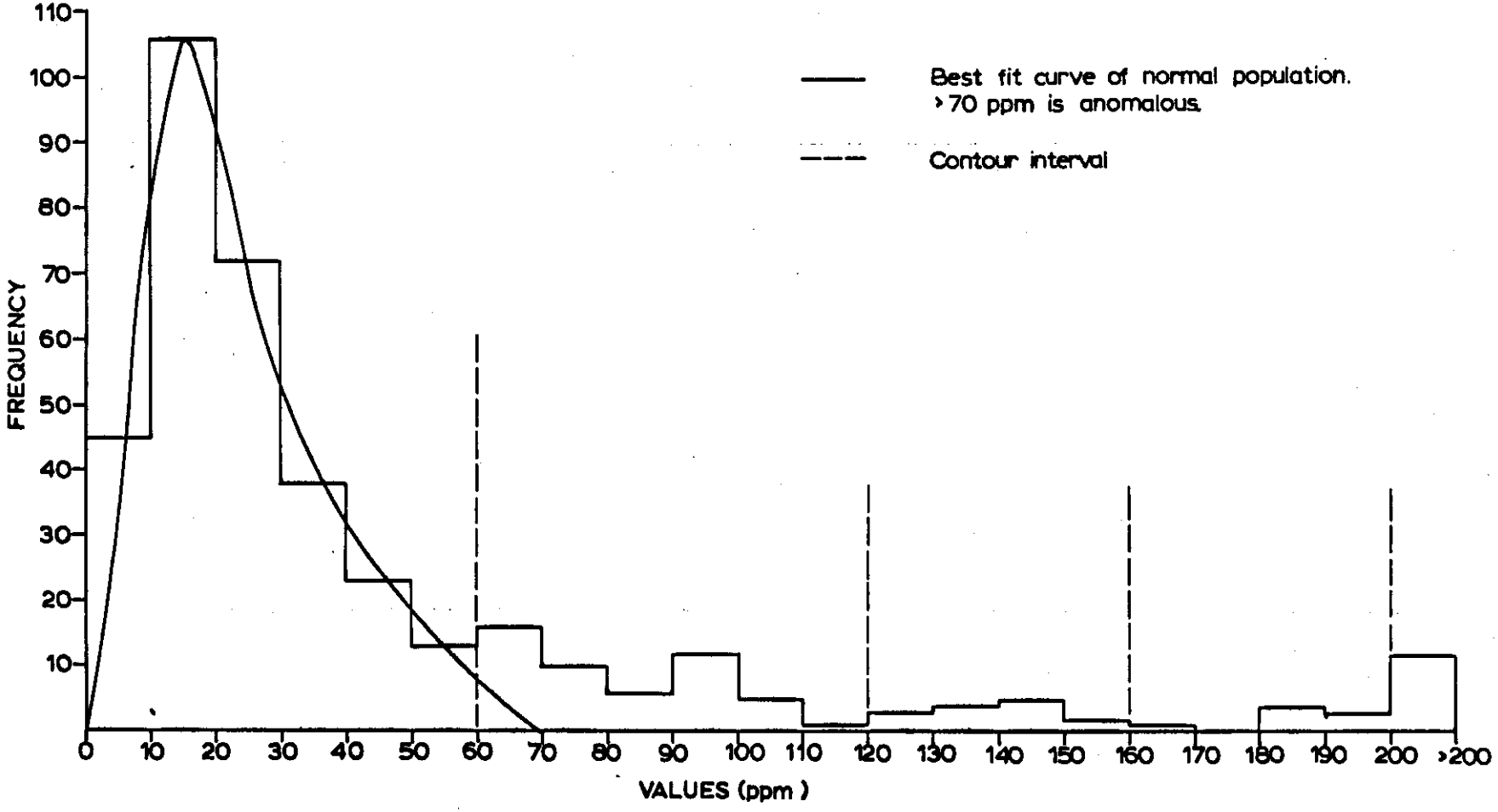


Figure 7

PROJECT WATSU - LICK CLAIMS

Cumulative Frequency Graph for Lead in Soils (B horizon)

n = 313

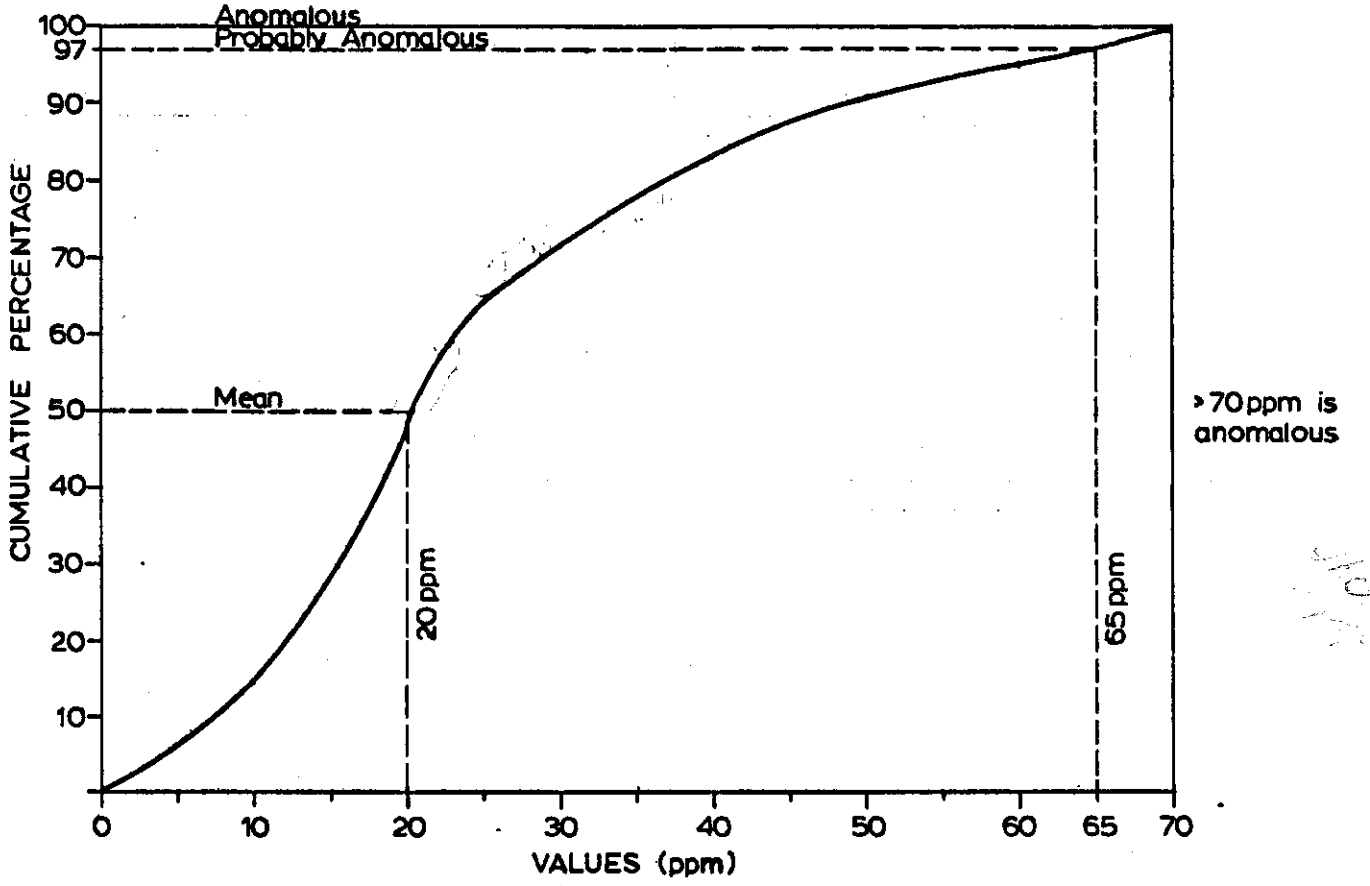


Figure 8

Table 10

Frequency Distribution for Zinc in Soils (B horizons)

Interval (ppm)	Freq.	Cum. Freq.	Cum.%
0-20	5	5	1.5
21-40	20	25	7.7
41-60	61	86	26.4
61-80	78	164	50.3
81-100	59	223	68.4
101-120	42	265	81.3
121-140	30	295	90.5
141-160	17	312	95.7
161-180	14	326	100.0
181-200	8		
201-220	6		
221-240	7		
241-260	6		
261-280	9		
281-300	3		
301-320	1		
321-340	2		
341-360	0		
361-380	1		
381-400	0		
401-450	3		
451-500	0		
>500	9		
	380		

Values: >500: 590, 970, 950, 645, 1250, 895, 1200, 995, 1250
Certificates: A8010301-001-A, -002-A, -003A, -004A, -005A, -006A, 53789, 53790, 53791, 53792, 54161, A8010355-001-A

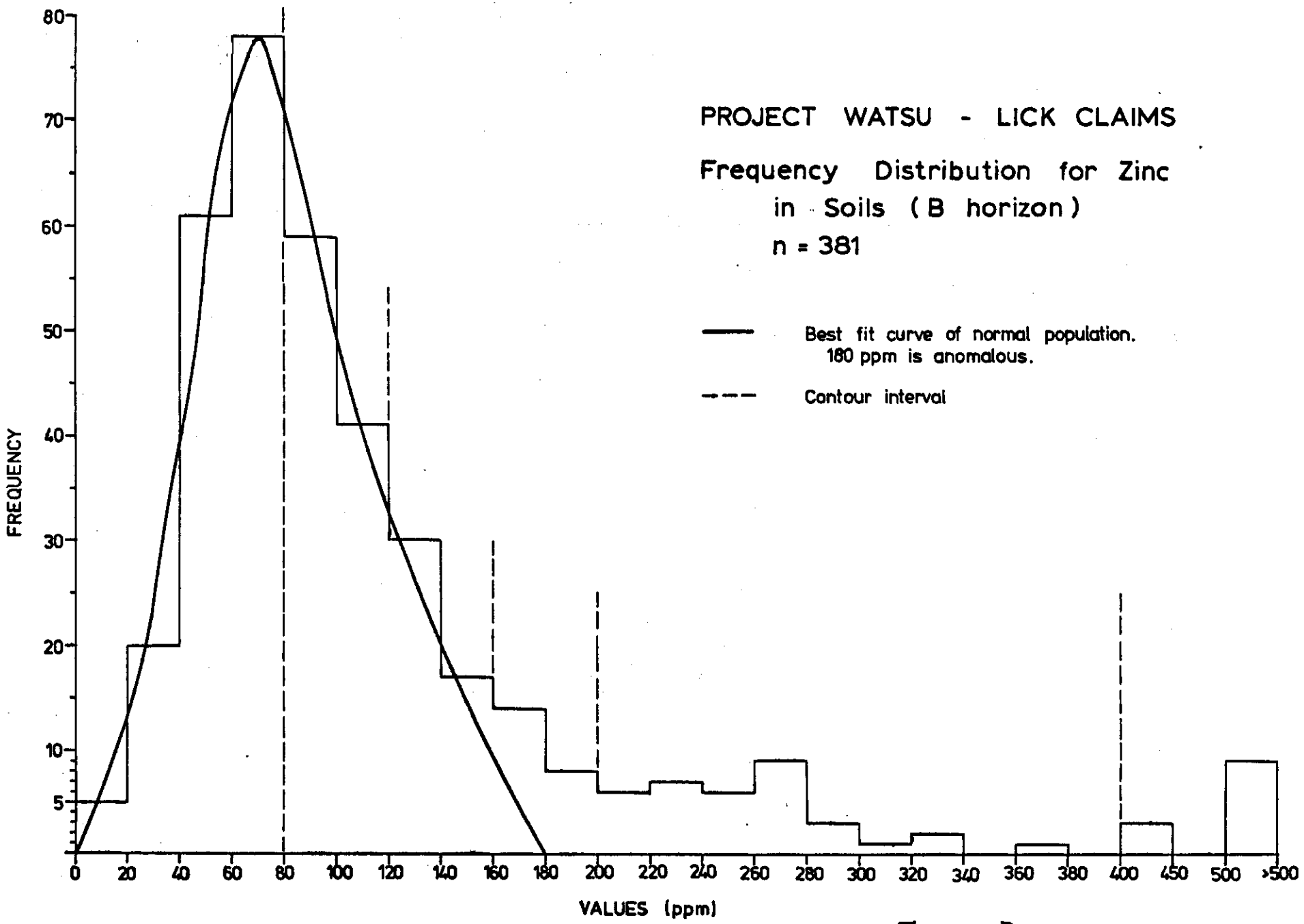

PROJECT WATSU - LICK CLAIMS
Frequency Distribution for Zinc in Soils (B horizon)
n = 381
Best fit curve of normal population.
180 ppm is anomalous.
Contour interval
FREQUENCY
80
70
60
50
40
30
20
10
5
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
380
400
450
500
>500
VALUES (ppm)

Figure 9

PROJECT WATSU - LICK CLAIMS

Cumulative Frequency Graph for Zinc in Soils (B horizon)

n = 326

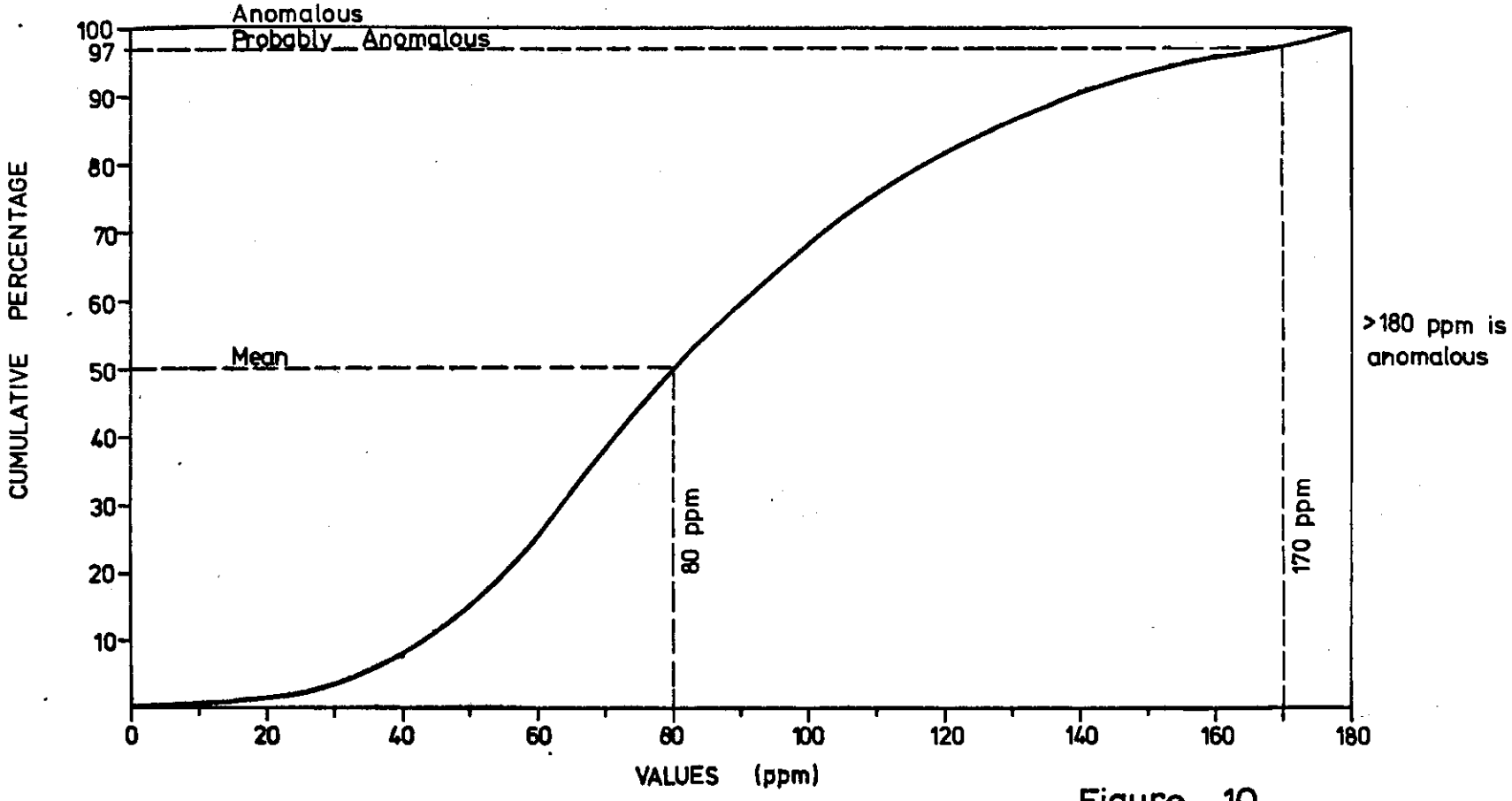


Figure 10

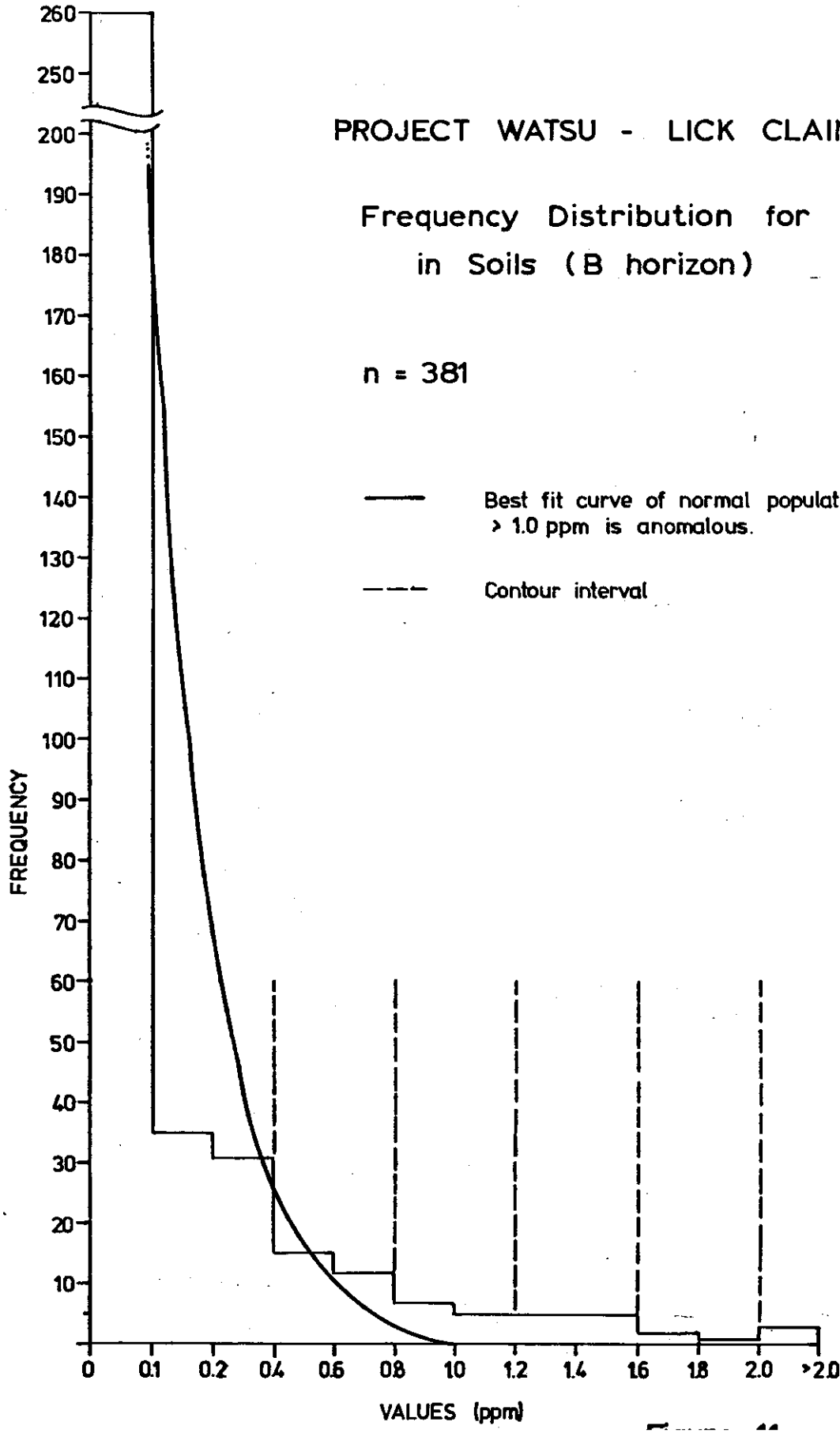
Table 11

Frequency Distribution for Silver in Soils (B Horizon)

Interval (ppm)	Freq.	Cum. Freq.	Cum.%
0-0.1	260	260	72.2
0.1-0.2	35	295	81.9
0.2-0.4	31	326	90.6
0.4-0.6	15	341	94.7
0.6-0.8	12	353	98.1
0.8-1.0	7	360	100.0
1.0-1.2	5		
1.2-1.4	5		
1.4-1.6	5		
1.6-1.8	2		
1.8-2.0	1		
2.0	3		
	381		

Values 2.0: 2.8, 2.5, 3.0

Certificates: A8010301-001-A, -002A, -003A, -004A, -005A -006A, 53789, 53790, 53791, 53792, 54161, A8010355-001-A


PROJECT WATSU - LICK CLAIMS
Frequency Distribution for Silver in Soils (B horizon)
n = 381
Best fit curve of normal population.
> 1.0 ppm is anomalous.
Contour interval
FREQUENCY
260
250
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
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
>2.0
VALUES (ppm)

PROJECT WATSU - LICK CLAIMS

Cumulative Frequency Graph for Silver in Soils (B horizon)

n = 360

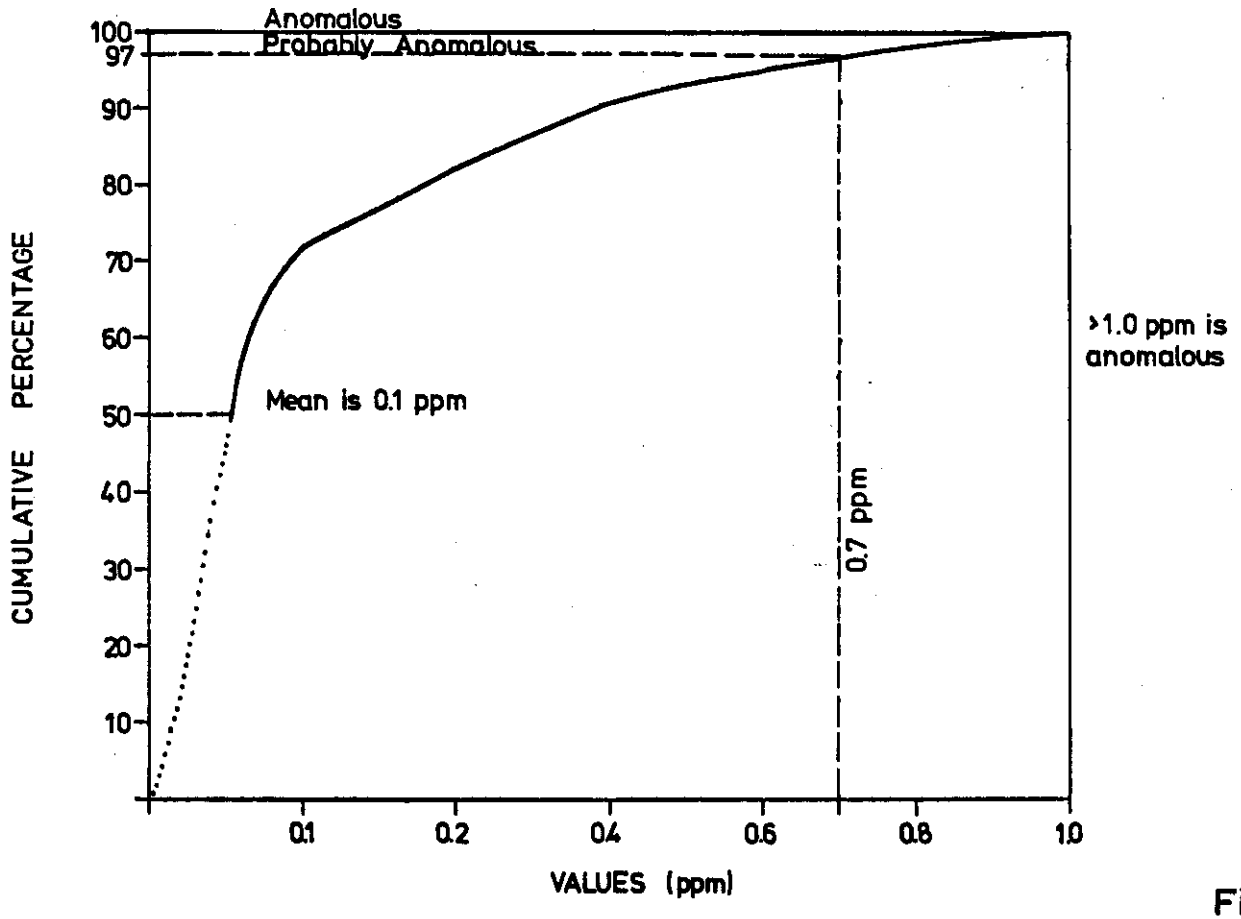


Figure 12

Table 12

Frequency Distribution for Scintillometer Readings

Interval (ppm)	Freq.	Cum. Freq.	Cum. %
0-60	0	0	0
61-80	2	2	1.0
81-100	7	9	4.4
101-120	10	19	9.3
121-140	17	36	17.7
141-160	21	57	27.9
161-180	25	82	40.2
181-200	25	107	52.5
201-220	35	142	69.6
221-240	34	176	86.3
241-260	21	187	91.7
261-280	11	198	97.1
281-300	6	204	100.0
301-320	3		
>320	3		

Values >320, 370, 335, 350

PROJECT WATSU - LICK CLAIMS

Frequency Distribution of Radiometric Readings

n = 210

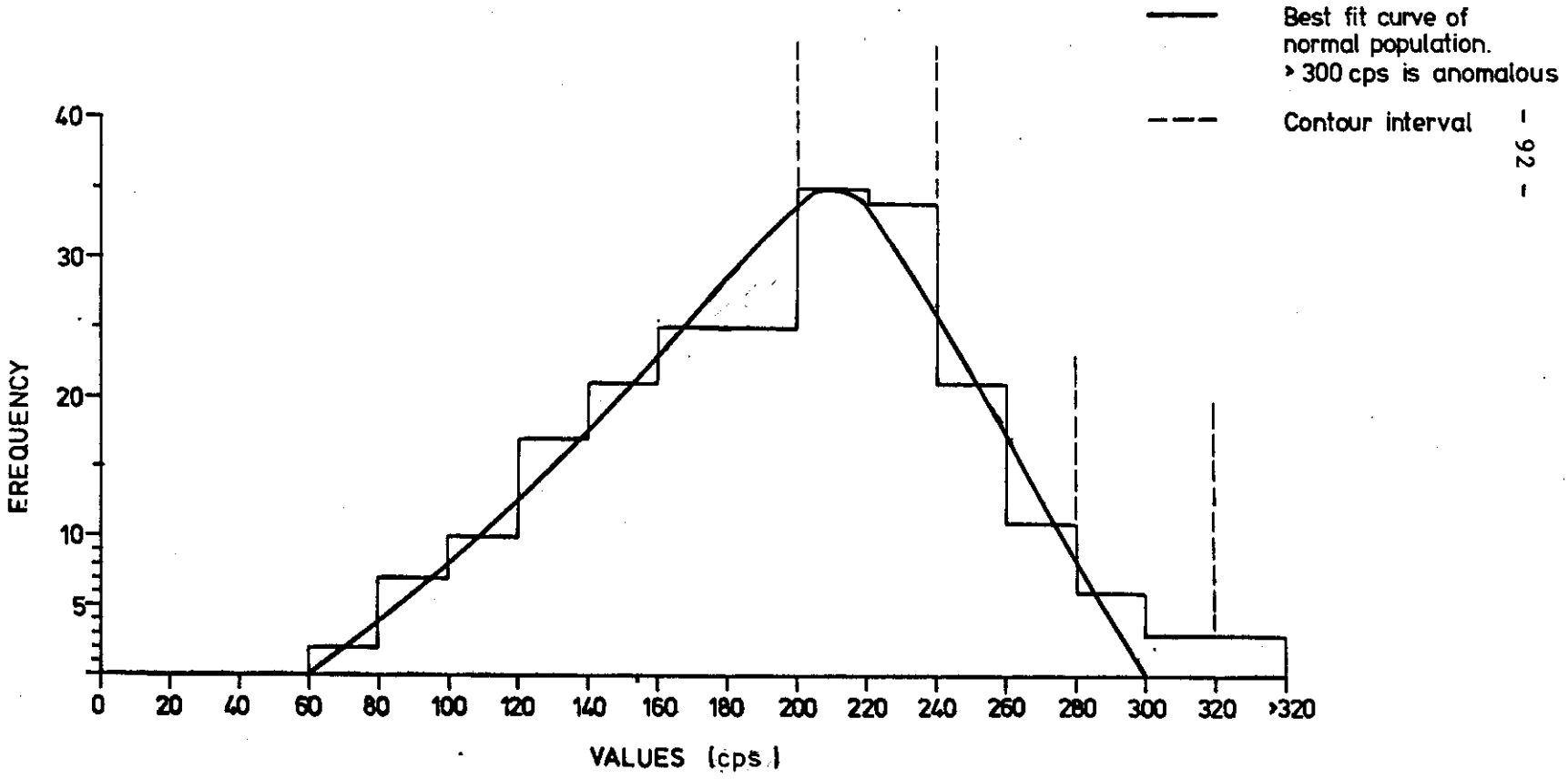


Figure 13

PROJECT WATSU - LICK CLAIMS

Cumulative Frequency of Radiometric Readings

n = 204

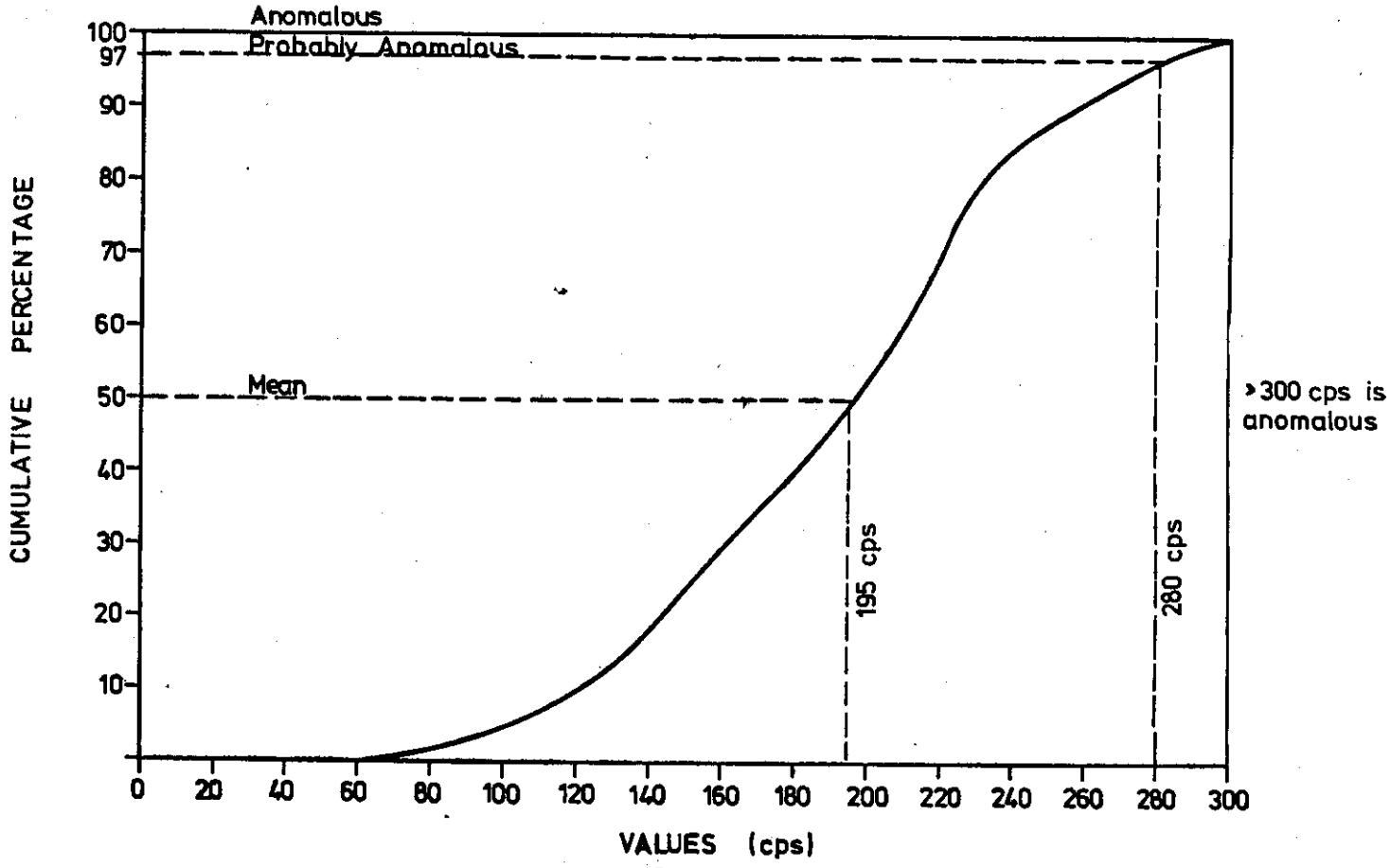
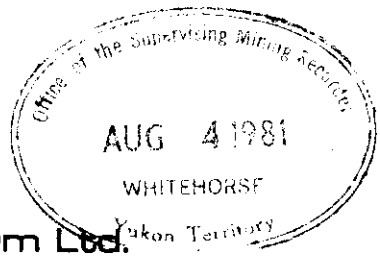
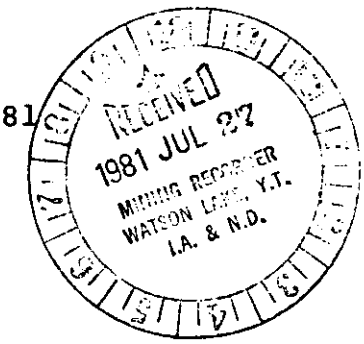


Figure 14





Canadian Occidental Petroleum Ltd.

July 8, 1981

Ms. Patti McLeod
Mining Recorder
Watson Lake Mining District
P.O. Box 39
Watson Lake, Yukon

Dear Ms. McLeod:

Re: LICK Mineral Claims
Record Nos. YA56254-YA56269

Thank you for advice on the above noted claims. The cost statement and Form C have been amended to reflect only work carried out in the anniversary year of the claims.

Since work on Lick 1-8, 11-16, 23-28 was not done in their anniversary year, it has not been included in the cost figures.

However, 11 man days of work, helicopter, geochem and other work which was done after August 12/80 on Lick 40-55 has been filed herein.

Since filing fees on the 16 claims amount to $240 (vs. $540 previously forwarded) please rebate us $300 in due course direct to our new office shown below.

Thank you.

Yours truly,

R.J. Evans
Administration Manager

RJE:er

Enclosures

New Address:

Canadian Occidental Petroleum Ltd.
Minerals Division
180 Attwell Drive - 4th Floor
Rexdale, Ontario M9W 6A9

Minerals Division - Suite 314 - 215 Carlingview Drive Rexdale Ontario M9W 5X8
(416) 675-2312 Telex 06-989493

COPY

PROJECT WATSU

Salaries & Benefits Costs - 1980

Claim Group	No. of Man-Days	@ $262/m.d.
B.C.		
ALLEN	9	$ 2,358
KAZ	10	2,620
NEED	37	9,694
PLATE 1-2	26.4	6,917
PLATE 3-4	16.2	4,245
RAN	48	12,576
SHAR 1-2	14	3,668
SHAR 10	4	1,048
SHAR 3, 4, 9, 11	9.7	2,541
SHAR 5-6	16	4,192
SHAR 7-8	37.7	9,877
##########		
YUKON		
GOAT 1-36	18.5	4,847
BORDER	5	1,310
BIG OX 1-72	54	14,148
CO	9	2,358
GOAT 37-84	25	6,550
ICE	13.1	3,432
LICK	27.7	7,257
MOX	33	8,646
OXY	10.8	2,830
PISA	13	3,406
SAL	19	4,978
TIER	16.8	4,401
WOX	26.8	7,022
NISU	12	3,144
BIG OX 73-76	2	524
TOTALS	511	$134,099

PROJECT WATSU

Scintillometer Rentals - 1980

Claim Group	No. of Man Days	@ $34.7/m.d.
B.C.		
ALLEN	9	$ 312
PLATE 1-2	26.4	916
PLATE 3-4	16.2	562
RAN	48	1,666
SHAR 1-2	14	486
SHAR 10	10	347
SHAR 5-6	16	555
SHAR 7-8	37.7	1,308
##########		
YUKON		
GOAT 1-36	18.5	642
BORDER	5	174
BIG OX 1-72	54	1,874
CO	9	312
GOAT 37-84	25	868
ICE	13.1	455
LICK	27.7	961
MOX	33	1,145
OXY	10.8	375
PISA	13	451
SAL	19	659
TIER	16.8	584
WOX	26.8	930
NISU	12	416
TOTALS	461	$16,004

COPY

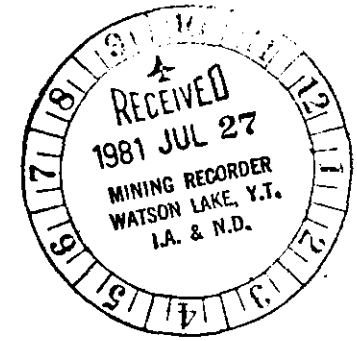
PROJECT WATSU

1980

Statement of Expenditures

Claims LICK 40-55

Record Numbers YA56254-YA56269



1) Salaries & Benefits		$ 2,882[1]
2) Helicopter flying - 4.1 hours @ $315/hour		1,292[2]
3) Scintillometer rentals (Urtec)		382[3]
4) Geochemical Analyses - (pro-rated)		565[4]
	Sub Total	$ 5,121
5) Administration @ 10%		512
	Total	$ 5,633

Notes:

[1] pro-rated on basis of 11 man-days worked on claims conducting geological/geochemical/geophysical surveys out of a total of 511 man-days spent on Project Watsu surveys (see attached breakdown on following sheet), unit cost @ $262/man-day.

Geology, Aug. 22, 25/80	2 man-days
Geochemistry/geophysics, Aug. 22, 24, 25-27/80	9 man-days
	11 man-days

[2] Helicopter flying completed by Northern Mountain Helicopters Inc., Prince George, B.C., unit cost @ $315/hr.

[3] Pro-rated on basis of 11 man-days worked on claims conducting geophysical surveys out of a total of 461 man-days spent on Project Watsu surveys (see attached breakdown on following sheet), unit cost @ $34.70/man-day.

[4] Geochemical analyses completed by Chemex Labs of Vancouver, B.C. Total of 1,256 samples taken on Lick Claims pro-rated on basis of 16 claims on Lick 40-55 out of a total of 36 Lick Claims.

Post 1 Claims 19 & 20
REMOVED FROM STAKING

YA 44585 YA 44586 YA 44597 YA 44598 YA 44591 YA 44592 YA 44583 YA44584
YA 56268 YA 56266 YA 44595 YA 44596 YA 44589 YA 44590 YA 44581 YA 44582
YA 56269 YA 56267 YA44593 YA 44594 YA 44587 YA44588 YA 44579 YA 44580
YA 56264 YA 56262 YA 56260 YA 56258 YA 56256 YA 56254
YA 56265 YA 56263 YA 56261 YA56259 YA 56257 YA56255

CARLICK CREEK

LEGEND

- Claim Post
- Claim Post (assumed location)
- Post 1 Claim Post (tagged)
- Claim Boundary (assumed location)

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
LICK CLAIMS

WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B

BASE MAP

TRUE MAGNETIC -N-

100 50 0 100 200 300 400
SCALE IN METRES

M.J.C./d.t. Dec.80

PLAN O

LCK-REVISED AUGUST 1980

090865

Garlick Fault (after Poole 1960 - approximate location)

A

A'

LEGEND

Symbols

- outcrop
- subcrop
- float
- attitude of bedding or contact; vertical, inclined
- attitude of foliation vertical, inclined
- attitude of joints or fractures; vertical, inclined
- geologic contact, known
- geologic contact, approximate
- shear or fracture zone
- qv quartz veining
- prop propylite
- py pyrite
- po pyrrhotite
- ga galena

JURASSIC-CRETACEOUS(?)

CASSIAR BATHOLITH

2 Foliated biotite-muscovite quartz monzonite, medium to coarse-grained, locally sheared and altered.

DEVONIAN-MISSISSIPPIAN(?)

Metasedimentary Rocks

1b Muscovite-chlorite-quartz-feldspar schist, fine-grained, moderate alteration, bolstered quartz.

1a Quartz-feldspar gneiss, variable grain size, minor mineral segregation.

Zn 43 / Pb 80 WA — Stream sediment location and values in ppm; WA sample no.

Th / U / W / Sn — Au / As / Mo / Zr / Cr — 80 WA — Heavy mineral location and values in ppm; WA sample no.

320 / 55 / 10 — Probably Anomalous Levels (after Sacks, 1979)

120 / 160 / 1200 / 300 / 44 / 28 / 0.95 / 8.5 / 105 — Probably Anomalous Levels (Sacks 1979)

Rock sample location and geochem values in ppm

Sample Number (ppb Au)

anomalous level

probably anomalous levels

cross-section

claim post and number

claim boundary (assumed)

TRUE / MAGNETIC — N

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
LICK CLAIMS

WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B

GEOLOGY, ROCK, STREAM SEDIMENT and HEAVY MINERAL GEOCHEMISTRY

100 50 0 100 200 300 400

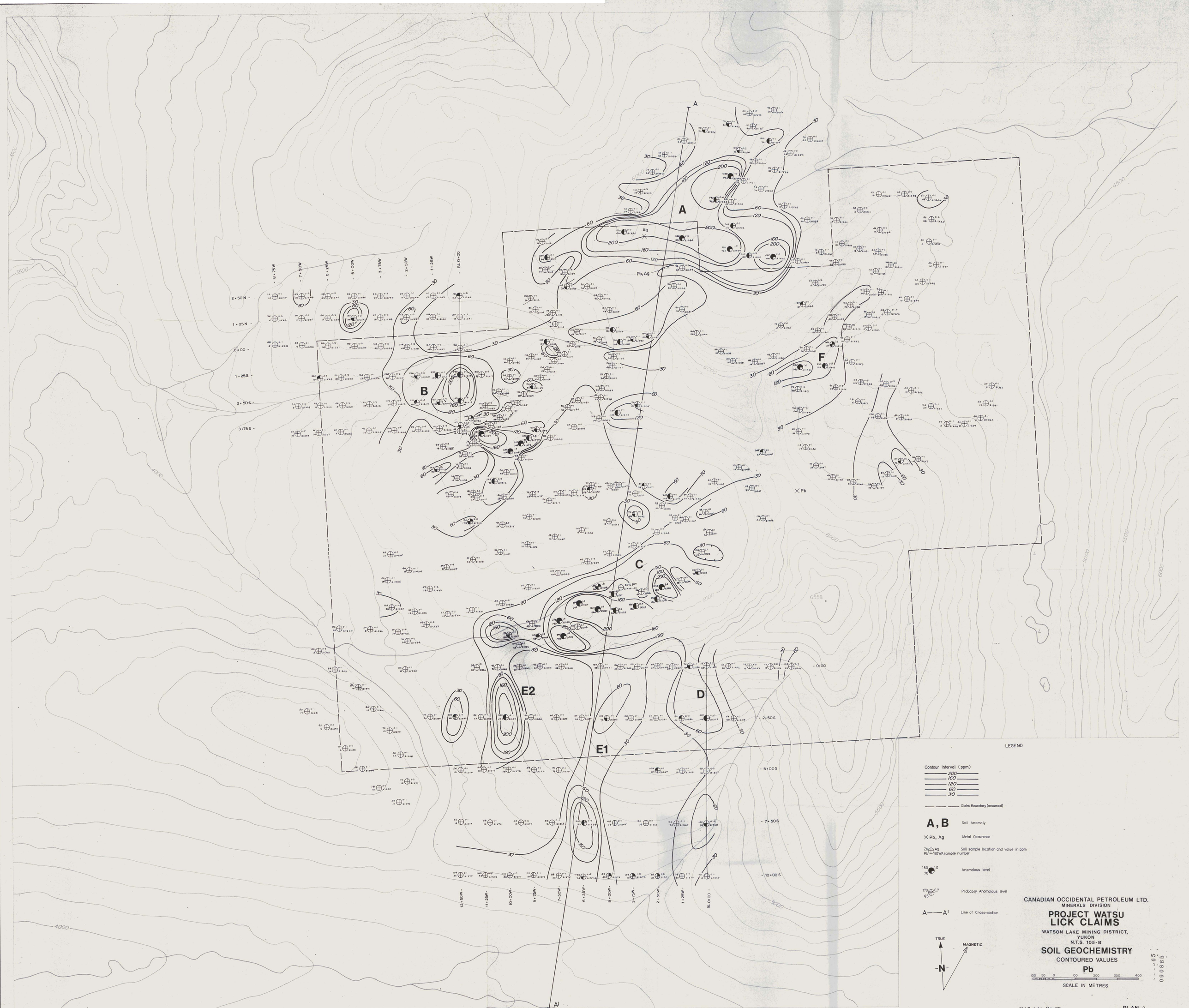
SCALE IN METRES

M.J.C./d.t. Dec 80

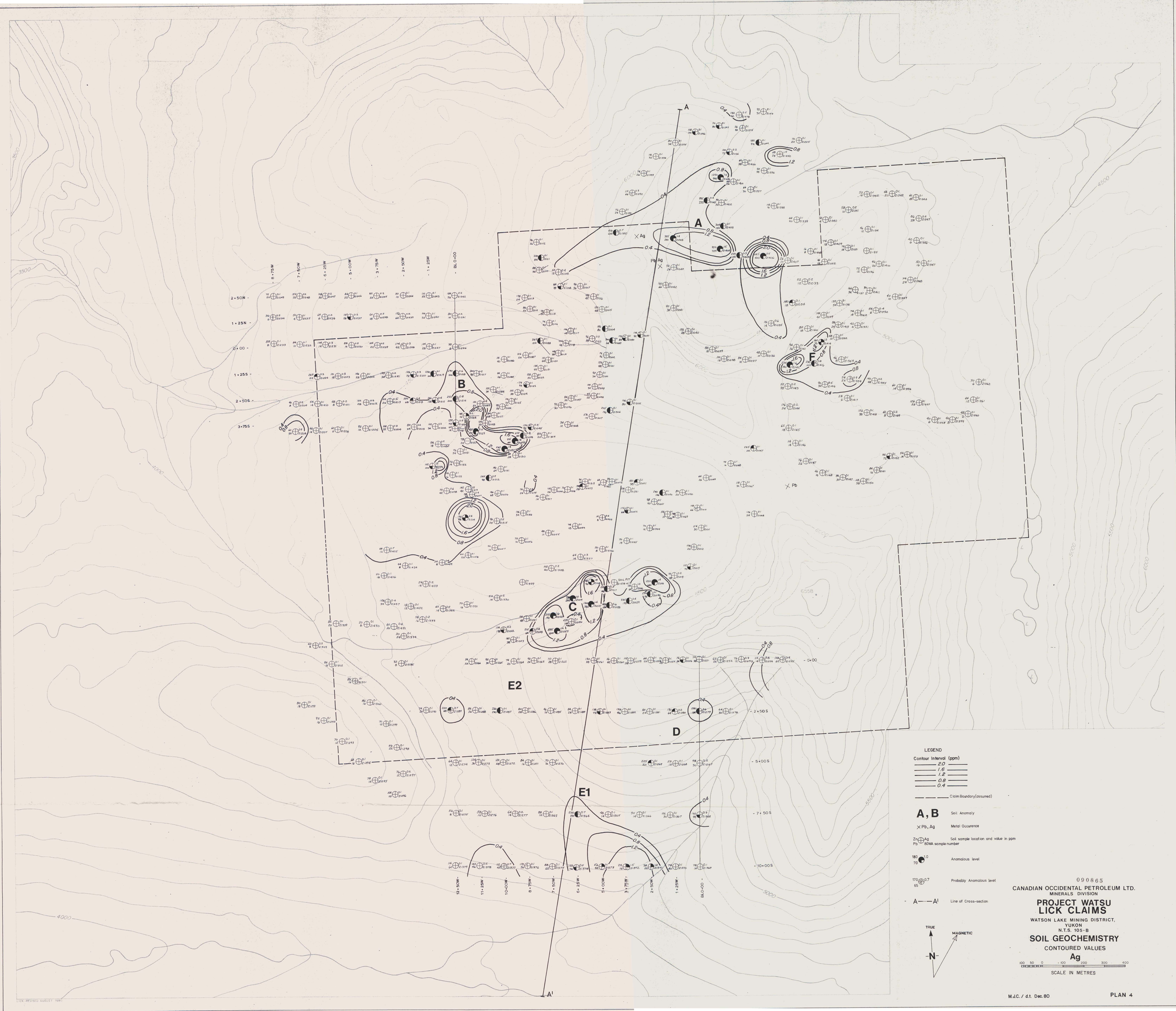
090865

PLAN I

LICK REVISED AUGUST 1980


A
Ag
Pb, Ag
B
C
D
E1
E2
F
SOIL PIT
×Pb
A1
12+50W
11+25W
10+00W
8+75W
7+50W
6+25W
5+00W
3+75W
2+50W
1+25W
BL 0+00
2+50N
1+25N
0+00
1+25S
2+50S
3+75S
0+00
2+50S
5+00S
7+50S
10+00S
6558
LEGEND
Contour Interval (ppm)
200
160
120
60
30
Claim Boundary (assumed)
A, B Soil Anomaly
× Pb, Ag Metal Occurence
Zn / Pb / Ag / 80WA sample number — Soil sample location and value in ppm
180 / 70 / 10 — Anomalous level
170 / 65 / 0.7 — Probably Anomalous level
A——A1 Line of Cross-section
TRUE
MAGNETIC
N
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
LICK CLAIMS
WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B
SOIL GEOCHEMISTRY
CONTOURED VALUES
Pb
100 50 0 100 200 300 400
SCALE IN METRES
090865
M.J.C. / d.t. Nov. 80
PLAN 2
LICK-REVISED AUGUST 1980

A
B
C
D
E1
E2
F
Ag
Pb, Ag
Pb
2+50N
1+25N
0+00
1+25S
2+50S
3+75S
- 0+00
- 2+50S
- 5+00S
- 7+50S
- 10+00S
12+50W
11+25W
10+00W
8+75W
7+50W
6+25W
5+00W
3+75W
2+50W
1+25W
BL 0+00
A'
LEGEND
Contour Interval (ppm)
400
200
160
120
80
Claim Boundary (assumed)
A, B Soil Anomaly
Pb, Ag Metal Occurance
Zn Ag Pb 80WA sample number Soil sample location and value in ppm
Anomalous level
Probably Anomalous level
A —— A' Line of Cross section
TRUE
MAGNETIC
N
090865
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
LICK CLAIMS
WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B
SOIL GEOCHEMISTRY
CONTOURED VALUES
Zn
100 50 0 100 200 300 400
SCALE IN METRES
M.J.C. / d.t. Dec. 80
PLAN 3



LEGEND

Contour Interval (ppm)

2.0
1.6
1.2
0.8
0.4

Claim Boundary (assumed)

A, B Soil Anomaly

× Pb, Ag Metal Occurence

Zn / Pb — Ag — 80WA sample number — Soil sample location and value in ppm

180 / 70 — 10 — Anomalous level

170 / 65 — 0.7 — Probably Anomalous level

A —— A' Line of Cross-section

TRUE — MAGNETIC — N

090865

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
LICK CLAIMS

WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B

SOIL GEOCHEMISTRY

CONTOURED VALUES

Ag

100 50 0 100 200 300 400
SCALE IN METRES

M.J.C. / d.t. Dec. 80

PLAN 4

LICK - REVISED AUGUST 1981

LEGEND

Contour Interval (cps)

320
280
240
180

Claim Boundary

location and value in cps

>300 anomalous level

280 probably anomalous

A,B Soil Anomaly

A—···—A' Line of Cross section

TRUE

MAGNETIC

-N-

090865

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
LICK CLAIMS

WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B

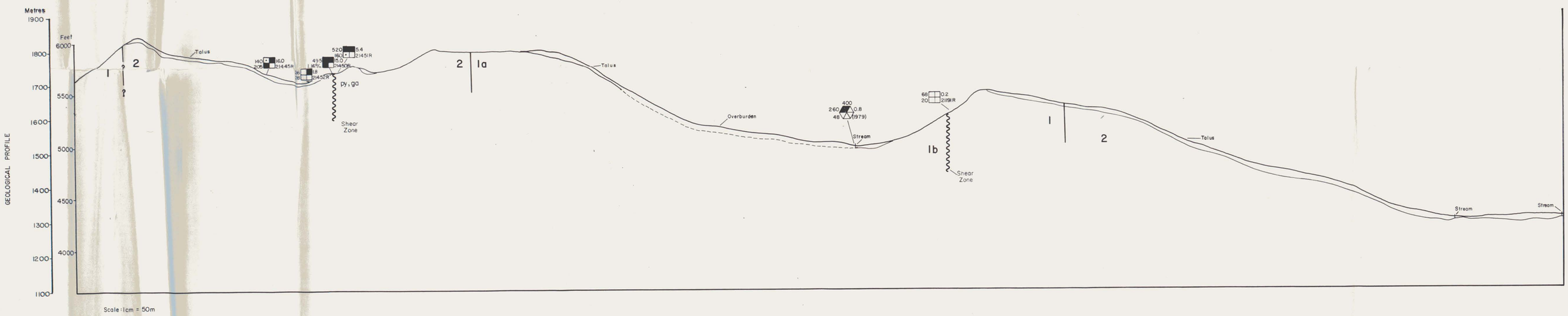
SCINTILLOMETER SURVEY
CONTOURED VALUES

100 50 0 100 200 300 400
SCALE IN METRES

M.J.C./d.t. Nov.80

PLAN 5

LICK REVISED AUGUST 1980



GEOLOGIC LEGEND

JURASSIC-CRETACEOUS(?)

CASSIAR BATHOLITH

2 Foliated biotite-muscovite quartz monzonite; medium to coarse-grained, locally sheared and altered.

DEVONIAN-MISSISSIPPIAN(?)

Metasedimentary Rocks

1b Biotite-chlorite-quartz-feldspar schist, fine-grained, moderate alteration, scattered garnets.

1a Quartz-feldspar gneiss, variable grain size, minor mineral segregation.

py pyrite
ga galena

Stream Sediment Geochemistry
Zn
Pb Ag (in ppm)
Cu
(1979)

Rock Geochemistry
Zn Ag (in ppm)
Pb Sample No.

Anomalous Levels
>200 >1.0 (in ppm)
>200

Probably Anomalous Levels
100 0.4 (in ppm)
30

A Soil Anomaly

320
59 1.0 Probably Anomalous Levels
54 (Sacks 1979)

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
LICK CLAIMS

WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B

GEOLOGICAL, GEOCHEMICAL AND RADIOMETRIC PROFILES A to A'

PLAN 6

M.J.C./a.h./Jan.1981

090865

Gatlick Fault (after Poole 1966 - approximate location)

A

A'

160 ppb Au
205 ppm Pb
140 ppm Zn
16.0 ppm Ag
py

1.18% Pb
495 ppm Zn
15.0 ppm Ag
py,go

160 ppm Pb
520 ppm Zn
5.4 ppm Ag

220 ppm Zn
100 ppm Pb
po

0.63% Pb
110 ppm Zn
3.4 ppm Ag
60 ppb Au

225 ppm Pb
2.6 ppm Ag

118 ppm Zn

Claimed and Picketed Baseline

2+50N
1+25N
0+00
1+25S
2+50S
3+75S
0+00
2+50S
5+00S
7+50S
10+00S

A
B
C
D
E1
E2
F

1
2

LEGEND

Symbols

- Claim boundary (approximate)
- x float
- 20 attitude of bedding or contact: vertical, inclined
- 20 attitude of foliation: vertical, inclined
- 20 attitude of joints or fractures: vertical, inclined
- geologic contact
- shear or fracture zone
- fault
- qv quartz veining
- peg pegmatite
- py pyrite
- po pyrrhotite
- ga galena

Contours - anomalous level

- Lead - 80 ppm
- Zinc - 150 ppm
- Silver - 0.8 ppm
- Radiometrics - 280 cps

A Soil Anomaly

A — A' Line of Cross-section

Rock:
- 1980 Cdn. Occ. Follow-up

Heavy Mineral Sample:
- 1979 Cdn. Occ. Recce. (see 1980 for symbology)
- 1980 Cdn. Occ. Follow-up

Stream Sediment Sample:
- 1979 G.S.C.-U.R.P.
- 1979 Cdn. Occ. Recce.
- 1980 Cdn. Occ. Follow-up

Soil Sample:
- 1980 Cdn. Occ. Follow-up (spot highs only)

320 / 55 — 10 Probably Anomalous Levels (Sacks, 1979)

Note: All values in ppm except Au which is in ppb

GEOLOGY:

JURASSIC-CRETACEOUS (?)
Cassiar Batholith

2 Foliated biotite-muscovite quartz monzonite, medium to coarse grained, locally sheared and altered.

DEVONIAN-MISSISSIPPIAN (?)
Metasedimentary Rocks

1 Biotite-chlorite-quartz-feldspar schist, moderate alteration and quartz-feldspar gneiss, with minor mineral segregation

TRUE N MAGNETIC

SCALE IN METRES 100 50 0 100 200 300 400

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
LICK CLAIMS

WATSON LAKE MINING DISTRICT,
YUKON
N.T.S. 105-B

COMPILATION MAP

M.J.C./m.j.c. Dec. 80 090865 PLAN 7

LICK-REVISED AUGUST 1980