CANADIAN OCCIDENTAL PETROLEUM LIMITED MINERALS

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LOG 110: 0205 ED.
ACTIONS
Claim Sheet §2 L/4E
Claim Sheet 82 L/4E Lat.: 50°13'N Long.: 119°38'W

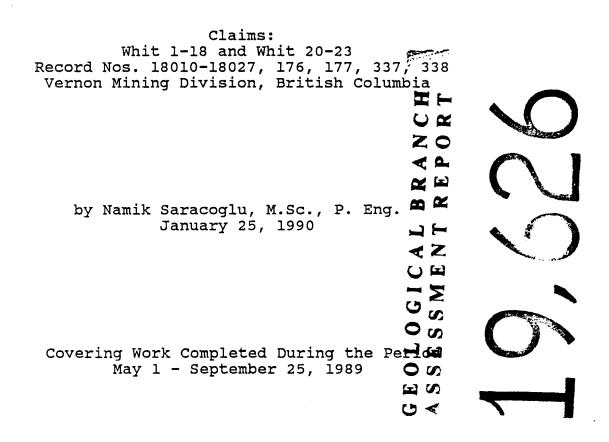


TABLE OF CONTENTS

<u>Page</u>

SUMMA	RY
INTRO	$DUCTION. \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots 5$
LOCAT	ION AND ACCESS 7 OUS WORK 7
PREVI	OUS WORK
Pre	vious Work by Others
Dre	vious Work by Canadian Occidental Petroleum Ltd 10
Air	COMPLETED
T.in.	e Cutting (Grid "A" and Grid "B")
C.C.C.	und Geophysical Surveys (Grid "A" and Grid "B") 13
GIU	logical Mapping (Grid "A")
Geo	chemical Surveys (Grid "A")
Geo	$\begin{array}{c} \text{ATION.} \\ \text{ATION.} \\$
VEGET.	ATION
	GY
	MIC GEOLOGY
	GEOCHEMISTRY
Int	roduction
Sam	pling Procedures
Lab	oratory Procedures
Sta	tistical Treatment of Results
Dis	cussion of Results
ROCK	GEOCHEMISTRY
CONCL	USIONS
RECOM	MENDATIONS
REFER	ENCES
APPEN	DICES
TT.	Itemized Cost Statement
TTT.	Claim Data
TV	Claim Data
<u> </u>	
TABLE	S
<u> </u>	Table of Formations19Statistical Data for Gold in "B" Soils25
2.	Statistical Data for Gold In "B" Solis
3.	Statistical Data for Copper in "B" Soils 29
	Statistical Data for Lead in "B" Soils 32
5.	Statistical Data for Molybdenum in "B" Soils 35
	Anomalous Levels
7.	Details and Au-Cu-Pb-Mo Values of
	Rock Chip Samples
FIGUR	ES
1.000	Location of WHIT Claims
2.	Topographical Location Map.
3.	Gold in "B" Soils
3. 4.	Gold in "B" Soils
4. E	Lead in "B" Soils
5.	Molvbdenum in "B" Soils
6.	Molybdenum in "B" Soils

TABLE OF CONTENTS CONT.

PLANS ACCOMPANYING REPORT

- 1. WHIT CLAIMS Locations of GRID "A" and GRID "B".
- 2.
- GRID "A" Geology and Rock Geochemistry GRID "A" "B"-Horizon Soil Geochemistry, 3. Sample Locations and Values for
- Au, Cu, Pb, Mo GRID "A" "B"-Horizon Soil Geochemistry, 4. Au, Cu, Pb, Mo contours
- GRID "A" Compilation 5.

SUMMARY

The Whit claims are recorded on Claim Sheet 82L/4E in the Vernon Mining Division, British Columbia. They are located 11.5 km west of Okanagan Lake.

The property was originally staked in 1974 to investigate a strong copper - zinc - molybdenum anomaly in stream sediments. Additional claims were staked in 1976 and 1977 to investigate the probable source area of stream sediments with anomalous uranium concentrations.

Geological and geochemical surveys were completed by Canadian Occidental Petroleum Ltd. over the property during 1975 - 1977. Zinc, molybdenum and uranium anomalies were established and follow-up exploration work was recommended.

On March 31, 1981, Canadian Occidental Petroleum Ltd. filed the Whit claims (Whit 1-18, Whit 20-23) under the Uranium Moratorium which was in effect between 1980 and February 27, 1987.

In 1988, the interest in the WHIT property was, once again revived with the discovery of gold mineralization by Huntington Resources Inc. in a shear zone in the Brett property as this zone was situated along the strike extension of a fault zone which affects in the WHIT property Tertiary volcanics and a latite porphyry intrusion displaying the evidence of intense hydrothermal activity.

In order to check the probability of an epithermal type gold deposit also being present in this favourable geological setting, extensive geochemical work was completed

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during 1988 by analyzing for gold and 32 elements all B-horizon soil, rock and stream sediment sample pulps from geochemical surveys completed by Canadian Occidental Petroleum Ltd. during 1975 - 1977. The results of this work indicated the presence of a number of gold anomalies in the zone of alteration along the fault-controlled tributary stream, with the most important anomaly extending for 1770 m in a zone paralleling, and some 200 m east of, the fault. Coincidental Mo, Pb, Zn, Cd, Mn anomalies were found in this zone.

1989 exploration program was designed to locate favourable shear/fault structures in the WHIT claims and test their potential for gold mineralization through geological, geophysical and geochemical surveys. The field work was completed during the period May 1st and September 25th 1989.

A total of 104 km of airborne magnetic and VLF-EM surveys was completed over the WHIT property. The results suggested that the WHIT property is largely underlain by intrusive rocks with volcanics underlying smaller areas in the west, southeast and northeast parts of the property. A major VLF conductor was located along the stream bed in the western claims with its offset continuation in the southeast corner of the property. The follow-up ground surveys were centered around this structure, with Grid "A" covering the area around the stream bed and Grid "B" covering the interpreted offset continuation of this structure. A total

- 2 -

of 23.0 km of line cutting was completed in Grid "A" and 6.5 km in Grid "B". Ground geophysical work consisted of 19.2 km of magnetic, 15.7 km of VLF-EM and 6.1 km of Induced Polarization (IP) surveys in Grid "A" and 5.8 km magnetic and VLF-EM surveys in Grid "B". The geophysical data indicated three major rock groups in Grid "A". A few VLF-EM anomalies were located. However, the major structure along the stream bed did not produce any VLF response. IP anomalies were located mostly on pyrite-bearing volcanic rocks. With the exception of an isolated, strong IP anomaly, IP responses over the intrusive rocks were weak. In Grid "B", the geophysical data indicated the presence of intrusive and volcanic rocks and two strong structures, one of which corresponding to the offset continuation of the major fault structure.

Geological mapping and geochemical B-horizon soil sampling were carried out only in Grid "A", along lines 100 m apart. A total of 16.7 km of mapping was completed at a scale of 1:2500. B-horizon soil samples were taken along the survey lines routinely at an interval of 50 m. However, in areas with previous geochemical anomalies or anomalous VLF-EM and IP responses this interval was reduced to 25 m. A total of 400 soil samples was collected, corresponding to a sample density 4.5 times greater than for the previous geochemical surveys. Samples were analyzed for Au, Cu, Pb and Mo for a total of 1740 determinations.

Geological mapping suggested that a pre-Tertiary

- 3 -

granitic intrusion and overlying Eocene volcanics are in fault contact with a younger latite porphyry along the stream. The latter is strongly altered by hydrothermal solutions which were also enriched in certain metals. Geochemical survey failed to outline areas with significant gold mineralization. Molybdenum and lead anomalies are found in large areas on latite porphyry and in smaller areas on pre-Tertiary intrusion. As also proven by previous geochemical surveys, they are related to molybdenum mineralization in these rocks. Copper anomalies are restricted to volcanic rocks. They are related to a higher copper background of these rocks.

The deposition of epithermal - type gold mineralization requires the presence of hydrothermal solutions, a conduit for these solutions to travel and a host rock to trap the mineralization in the solutions. Although the source rock (latite porphyry with intense hydrothermal activity) and the conduit are found in Grid "A", the host rock (fractured tuffaceous volcanics) was largely removed by erosion.

The result of the exploration work to date suggest that chances of locating these three conditions together in Grid "B" are much better.

Follow-up exploration work, in the form of diamond drill-testing, should be first carried out in Grid "B". Attempts should be made to obtain information on the results of any previous diamond drilling in the southend of Grid "A" where volcanics with pyrite appear to be in fault contact with latite porphyry.

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INTRODUCTION

The original WHIT (1-18) claims were staked in October 1974 to investigate a strong copper - zinc - molybdenum anomaly detected in a tributary of Whiteman Creek. Additional claims were staked in October 1975 (Whit 19), in November 1976 (Whit 20, 21) and in May 1977 (Whit 22, 23) to investigate the probable source area of anomalous uranium concentrations detected during the 1975 field season in a creek draining the northeast corner of the original group of claims.

Geological mapping and geochemical surveys completed during 1975 - 1977 established areas anomalous in zinc, molybdenum and uranium. In 1980, a moratorium was imposed by the British Columbia Government on uranium exploration in the province (B.C. Regulation 154/80). On March 31, 1981, Canadian Occidental Petroleum Ltd. filed the Whit claims (1-18 and 20-23) under the B.C. Uranium Moratorium, thus postponing all follow-up exploration activities in this property.

On February 27, 1987, the British Columbia Government repealed the Uranium Moratorium Regulation (Order in Council No.335).

In 1988, gold mineralization was discovered by Huntington Resources Inc. in a shear zone in the Brett property in the Whiteman Creek area. This shear zone is situated along the northwest strike extension of a zone of strong faulting and alteration in the eastern part of the Whit property, at a distance of about 3 km. The interest in the WHIT property was once again revived.

Exploration work to evaluate the gold potential of the property started in 1988 in the form of geochemical analyses of all B-horizon soil, stream and rock sample pulps from previous surveys for gold and 32 elements. Promising gold anomalies, coinciding with enrichment in other metals, were located in the area of the hydrothermally - altered formations along the major fault. The follow-up exploration work continued in 1989, with airborne geophysical surveys covering the WHIT property and ground geophysical, geochemical and geological surveys in two selected areas (Grid "A" and Grid "B") within the property.

The results of the airborne and ground geophysical surveys were presented in separate reports, also submitted as assessment reports. The present report describes the geology and the B-horizon soil geochemistry of Grid "A" and discusses the recommended follow-up work.

LOCATION AND ACCESS

The WHIT claims are recorded on Claim Sheet 82L/4E in the Vernon Mining Division, British Columbia. They are located 11.5 km west of Okanagan Lake, on the south side of Whiteman Creek. Co-ordinates = Lat. 50⁰13'N and Long. 119⁰38'W (Figure 1).

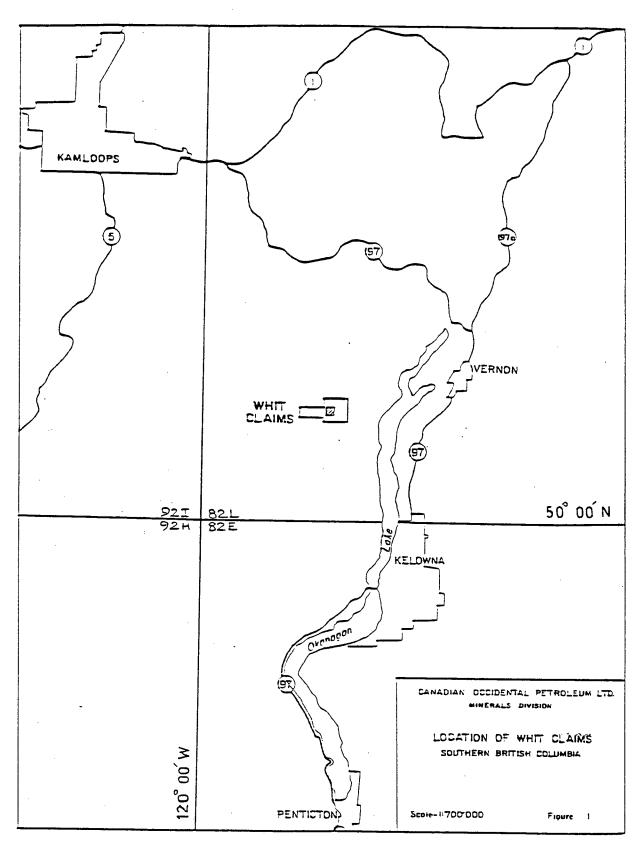
Grid "A" extends along a northwest trending stream in the western claims. This stream is a tributary of Whiteman Creek. Grid "B" covers a small area in the southwest corner of the property (Figure 2).

Grid "A" and Grid "B" are accessible by the "South Fork" and "Martin Lake" logging roads which branch off the all-weather "Whiteman Main" logging road. The latter joins Hw. 18 (Westside Road) at Whiteman. The distance by road between Hw. 18 and Grid "A" and Grid "B" is about 19.0 km. An old, overgrown bush road branching off the "Whiteman Main" provides access to the northwest corner of Grid "A".

PREVIOUS WORK

Previous Work by Others

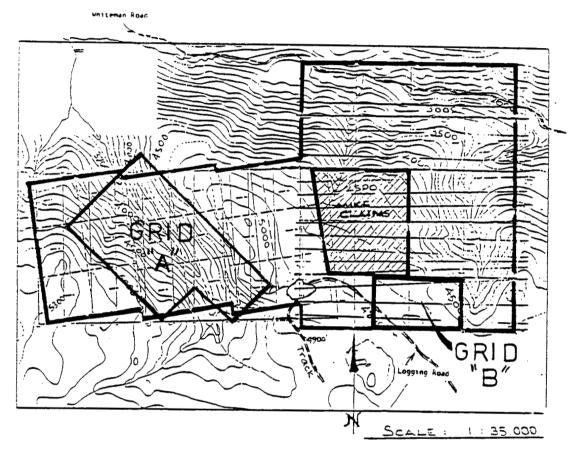
Old claim posts found in Grid "A" suggest that the immediate area was staked in the past by Cominco Ltd. (1970) and Kennco (Western) Exploration Ltd. (1973). A number of bush roads and "Kennecott" soil sample bags found in Grid "A suggest that extensive exploration work was completed in this area in the past. Although no actual drill sites were located, there are indices to suggest that some drilling



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- 8 -



13.5 km to hwy.18 (Westside Ro. and Whitemar

WHIT CLAIMS GRIDS "A" & B"

TOPOGRAPHICAL LOCATION MAP

FIGURE 2

took place in this area, particularly in the northeast and southern parts of Grid "A".

No indications of previous work were found in Grid "B". Previous Work by Canadian Occidental Petroleum Ltd.

The original WHIT (1-18) claims were staked in October 1974 to investigate a Cu-Zn-Mo stream sediment anomaly detected in a tributary of Whiteman Creek. A geological and geochemical survey was completed in July, 1975 and an assessment report was filed (Macdonald 1975).

To follow-up anomalous uranium concentrations found in a stream draining the northeast parts of WHIT (1-18) claims, WHIT 19, WHIT (20,21) and WHIT (22,23) claims were staked in October 1975, November 1976 and May 1977, respectively. Geological and geochemical surveys were completed in the new claims and the results were described in two assessment reports (Macdonald 1976 and 1977).

Following the discovery of gold mineralization in 1988 in the Brett property in the immediate vicinity of the WHIT claims, an attempt was made to evaluate their gold potential by analyzing sample pulps from the previous geochemical surveys for gold and multi-elements. Interpretation of the results was given in an assessment report (Saracoglu 1988).

WORK COMPLETED

Airborne Geophysical Surveys

An airborne magnetic and VLF-EM survey was carried out during May 1-2, 1989 over the WHIT property by Western Geophysical Aero Data Ltd. of Richmond, B.C.

A technical description of the survey and the results are included in a report by the survey company (Woods 1989).

The survey results were interpreted and a report was produced by Excalibur International Consultants Ltd. of Mississauga, Ontario (Jagodits 1989 a).

Excalibur's Interpretation Map suggests that a large portion of the WHIT claims is underlain by intrusive rocks with volcanic rocks occupying smaller areas in the west, northeast and southeast parts of the property. A major VLF conductor was located along the stream bed in the western claims confirming that the stream follows a major fault. This structure appears to have been offset to the east along nearly east-west faulting before continuing in the southeast corner of the property. A number of VLF conductors with varying strike directions are found throughout the WHIT claims.

Line Cutting (Grid "A" and Grid "B")

Grid "A" straddles a prominent fault valley. The bearing of the baseline and tie lines is 135[°] and the one for the survey lines is 45[°]. The survey lines are 100m apart. The lines were picketed at an interval of 12.5m. The line cutting was completed by ANDY DUPRAS EXPLORATION LIMITED of 555 Wade Avenue East, Penticton B.C., V2A 1V2, between May 21, 1989 and June 16, 1989. The following personnel was involved in the job:

A. Dupras - Andy Dupras Exploration Ltd.

- G. Whatley " " " "
- P. Whatley " " ".

A total of 23.0 horizontal km of cutting was involved. A total of 70 man-days was needed to complete the job, corresponding to an average of about 0.33 km per man-day. Steep terrain, abundant loose scree and talus, large trees and abundant deadfall account for the low average.

Grid "B" was established in the southeast parts of the WHIT claims. The bearing of the baseline and tie lines is 360° while the survey lines, 100m apart, were cut on a bearing of 90°. All lines were picketed at an interval of 25m.

The line cutting was completed by Peter E. Walcott and Assoc. Ltd., 605 Rutland Court, Coquitlam, B.C., V3J 3T8, between September 8 and 25, 1989. The following personnel was employed on this job:

R.	Summerfield	-	(Sept.	8-13)	P.E.	Walcott	&	Assoc.	Ltd
P.	Charlie	-	(Sept	8-13)	"	"	11	"	11
в.	Deakin	-	(Sept	13-25)	"	11	11	"	11
v.	Deakin	-	(Sept	13-25)	18	"	**	11	11

A total of 6.5 km of cutting was involved. A total of 38 man-days was needed to complete the job, corresponding to an average of only 0.17 km per man-day. An abnormally abundant deadfall and a very thick forest greatly impeded the work progress.

Ground Geophysical Surveys (Grid "A" and Grid "B")

Ground geophysical surveys in Grid "A" and Grid "B" were completed by Peter E. Walcott and Assoc. Ltd., 605 Rutland Court, Coquitlam, B.C., V3J 3T8.

A total of 19.2 km of magnetic, 15.7 km of VLF-EM and 6.1 km of Induced Polarization surveying were completed in Grid "A" between June 12th and July 3rd, 1989.

5.8 km of magnetic and VLF-EM surveying was completed in Grid "B" during September 24-25, 1989.

The ground geophysical data from Grid "A" and Grid "B" were interpreted and the results were presented in a report by Excalibur International Consultants Ltd., 10 Hurontario Street, Mississauga, Ontario, L5G 3G7 (Jagodits 1989 b).

The geophysical data indicate the presence of 3 major groups of rock formations in Grid "A".

The main fault controlling the stream in Grid "A" did not produce VLF anomalies. VLF responses are in general weak with two strongest responses indicating structures subparallel to the main fault.

Besides strong IP responses on pyrite-rich volcanics, one strong IP anomaly was also located in an area which appears to be underlain by altered latite porphyry.

In Grid "B", the magnetic data indicate the presence of two distinct groups of rocks, intrusives and volcanics.

VLF-EM data succeeded in locating a north-northwest striking fault which could correspond to the offset continuation of the major structure in Grid "A". A stronger, nearly north-south striking VLF-EM conductor in the eastern parts of the grid appears to describe another fault structure. <u>Geological Mapping (Grid "A")</u>

16.7 km of geological mapping was completed in Grid "A" by N. Saracoglu of Canadian Occidental Petroleum Ltd. between August 2nd and 10th, 1989.

Geochemical Survey (Grid "A")

400 "B"-horizon soil and 35 rock samples were collected in Grid "A" in 8 days during August 2nd and 10th, 1980 by N. Saracoglu of Canadian Occidental Petroleum Ltd. and B. Bennion of Peter Walcott and Assoc. Ltd. Hence an average of 25 soil and about 2 rock samples were collected per man-day.

All samples were analyzed for Au, Cu, Pb and Mo, for a total of 1740 determinations.

VEGETATION

Grid "A" and Grid "B" are below the tree line, with maximum elevation at 5050 ft. (1540 m) in Grid "A" and 4850 ft. (1480 m) in Grid "B".

Grid "A" is characterized by a prominent northwest-trending valley. The southwest-facing slope of this valley is largely covered with barren talus and thinly-forested (pine and birch) "scree". Devil's club and

- 14 -

cedar are abundant along the stream bed at the bottom of the valley.

The rest of Grid "A" and Grid "B" are covered with a mature forest of large white spruce and pine.

Deadfall is very abundant in both grids and particularly in Grid "B" where it greatly impeded the line cutting.

PHYSIOGRAPHY

The property is situated on the south slope of the Whiteman Creek Valley in the dissected Interior Plateau.

While the topography is relatively gentle in Grid "B", the relief is high in Grid "A", with elevations ranging from 3670 ft. (1120 m) at the stream bed at the north end of the grid to 5050 ft. (1540 m) at its southeastern and western sections.

Regional glaciation, with a general southeasterly advance direction in the immediate area, has deposited a regular cover of till. Grid "B" is devoid of rock exposure. Outcrops are sporadic in Grid "A" where they generally form isolated cliffs on both flanks of the valley. Such cliffs are more abundant along the northeast flank.

GEOLOGY

<u>Regional Geology</u>

The regional geological interpretation (Jones 1959) available during the original geological mapping by Canadian Occidental Petroleum Ltd. (Macdonald 1975 and 1977) has been largely modified by the later interpretation shown on Revised Preliminary Map 37 (Church 1980).

This map infers that the stream (a tributary of Whiteman Creek) in Grid "A" occupies a northwest trending fault zone. Formations to the southwest of the fault consist of a "pre-Tertiary granitic intrusion" ("Okanagan Batholith") overlain by Eocene volcanics with a gentle, westerly dip. A stock of "syenite and monzonite" ("Whiteman Creek Stock"), which intrudes the above granite and volcanics in the immediate area, is inferred to be in fault contact with these formations along the tributary stream in Grid "A".

Geology of Grid "A" (Plan #2)

Introduction

Geological mapping was completed only in Grid "A", along survey lines 100 m apart, at a scale of 1:2,500 (Plan #2).

Lithology

Three distinct geological units were recognized in Grid "A". The oldest of these, <u>Unit 1</u>, is related to "pre-Tertiary, mainly granitic intrusion" mapped in this area by Church ("Okanagan Batholith"). It occupies the northern half of the map area in the southwest side of the stream. Outcrops of this unit are small and rare. They consist essentially of medium grained, grey granodiorite and coarse grained, equigranular pink syenite. Occasionally, with the increase of quartz, the rock becomes more granitic.

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Unit 2 as a whole includes Eocene volcanics which overly pre-Tertiary granitic intrusion ("Okanagan Batholith") in the south-west side of the stream. The Eccene volcanic cover in this area appears to be more extensive than shown on Preliminary Map 37 by Church. The contact between the older intrusion and the overlying volcanics is not exposed. Four sub-units were recognized in Unit 2. Sub-unit 2a is the most extensive of these formations in this grid. This is an aphanitic, massive and mostly black to dark green basalt. Occasional hairline fractures are observed with abundant pyrite on fractures. Finely disseminated pyrite is also common in these rocks, particularly in the northwest corner of the grid where intense hematization is observed on joint surfaces. Locally the rock displays a moderate chloritic alteration. Evidence of a weak saussuritization was also observed on certain outcrops. This sub-unit is typically strongly magnetic. Sub-Unit 2b is a medium to dark grey andesitic flow with porphyritic phases. The rock is generally fine grained and massive and grades into basalt. Local chlorite alteration and saussuritization were observed. Very finely disseminated pyrite and limonitic fractures were found in some outcrops. This sub-unit forms a distinct, discontinuous flow within more basaltic volcanics in the northwestern part of Grid "A". Sub-Unit 2c is a very fine grained, medium grey rhyolite. It is found as a continuous band occurring at the bottom of the volcanic package. The

- 17 -

rock is often fractured with pyrite in certain fractures. <u>Sub-Unit 2d</u> is a white, fine-grained, rhyolitic tuff with scattered clasts of quartz (pyroclastics). Only one outcrop of this sub-unit was found in the northwest corner of the grid, below the rhyolites. They probably represent the first stage of the vulcanism in this area.

Unit 3, the youngest of the three main geological units in this area, this unit consists of an altered latite porphyry occurring in the northeastern half of the grid, west of the tributary stream.

The rock is altered at varying intensity, alteration becoming more intense and pervasive as the stream is approached.

In relatively fresh specimens, K-feldspar and plagioclase phenocrysts (averaging about 7 mm) and biotite (20% between the three) can be observed in a very fine grained matrix consisting of quartz and feldspar (80%). Abundant miarolitic vugs, coated with very fine crystals of quartz, were found in all exposures. This rock is related to "Eocene Syenite and Monzonite" ("Whiteman Creek Stock") shown on Revised Preliminary Map 37 by Church. It probably represents a high-level phase of these intrusive rocks. Table 1

TABLE OF FORMATIONS

Eocene:

3 - Latite porphyry ("Whiteman Creek Stock")

2 - Volcanics

2a: aphamitic basalt

2b: andesite, locally porphyritic

2c: rhyolite

2d: pyroclastics

pre-Tertiary:

1 - Granodiorite-Syenite-granite ("Okanagan Batholith")
<u>Structure</u>

The most prominent structural feature in Grid "A" is the fault zone which trends in a north westerly direction and which controls the tributary stream valley with its steep slopes. The field mapping and geophysical surveys suggest that the fault post-dates the intrusion of the latite porphyry (Unit 3). It is also possible that it initially formed during the intrusion of this unit and continued to be active after the intrusion.

Pre-Tertiary intrusives and Eocene volcanics in the southwestern half of the grid appear to be in fault contact with the younger intrusion of latite porphyry along this structure. The lack of volcanic rocks to the east of this fault suggests that the latite porphyry was thrown upwards.

Due to a limited number of outcrops with well developed joints no statistical study could be done on the predominant joint directions. Of the few measured, the majority ranged between 120° and 136°, roughly parallel to the tributary stream and the fault zone along it. The second most common joint direction was nearly east-west.

Alteration

The most intensely altered rock unit is the latite porphyry (Unit 3). The rock is altered more or less intensely throughout the map area. An extensive zone of bleaching, clay alteration, quartz flooding, limonite and jarosite development is located along the fault zone, suggesting intense hydrothermal activity along this zone. The intensity of the alteration diminishes to the east although even the most easterly outcrops expose significant saussuritization and chloritic and hematitic alteration.

Pre-Tertiary intrusive rocks to the west of the fault show only a slight to moderate alteration. In volcanic rocks only spotty epidote and chlorite were observed, probably related to deuteric alteration during the original vulcanism.

ECONOMIC GEOLOGY

No base metal and uranium minerals and no visible gold were found in Grid "A".

SOIL GEOCHEMISTRY

Introduction

Grid "A" straddles a deep gorge formed by the tributary of Whiteman Creek. The southwest-facing slope is extensively covered with loose talus and sparsely forested

~ 20 -

scree over a latite porphyry suboutcrop. As a result, soils on this slope are poorly developed and silty. On the heavily forested northeast-facing slope, soils consist of well developed podzols.

Sampling Procedures

Together with a favourable fault zone, a well-defined zone of multi-element anomalies, found as a result of "B"-horizon soil geochemistry completed in 1988 (Saracoglu 1988), was instrumental in deciding on the location of Grid "A".

In order to obtain geochemical data comparable to the 1988 data, B-horizon soils were sampled also during the 1989 program.

Soil sampling was conducted along lines 100 m apart. As a rule, B-horizon soil samples were taken at intervals of 50 m. These were, however, reduced to 25 m over the IP and VLF-EM anomalies found by the recent ground geophysical surveys and the zone of multi-element geochemical anomalies found as a result of the 1988 work. A total of 400 samples were collected. This represents a sampling density which is, in the average 4.5 times greater than for the previous sampling.

In well developed podzols, the B-horizon starts at 3 to 12 cm from surface. Its thickness varies from 25 cm to more than 60 cm.

-21-

Where possible, soil samples were taken from the "B" horizon, from an average depth of 25 cm. Otherwise the mineral soil below the humus was collected.

Soil samples were stored in heavy-duty, high wet-strength Kraft envelopes and sent to Chemex Labs Ltd. in Vancouver.

Laboratory Procedures

Samples were dried and sieved at -80 mesh. About 30 percent of the samples, all collected from the southwest facing slope with poor soil development, required ring pulverization to approximately -100 mesh.

Sample pulps were then analyzed for Au, Cu, Pb and Mo.

Gold analyses were carried out using Fire Assay-Neutron Activation Analysis (FA-NAA) method.

In this method, a 10-gram sample is fused in litharge, carbonate and silicious flux. The resulting lead button containing any gold in the sample is cupelled in a muffle furnace to produce a precious metals bead.

Sample beads, plus standard and blank beads are irradiated in thermal neutron flux. The gamma emissions of the irradiated beads are counted utilizing a Ge(Li) detector and quantified for gold. The detection limit for a 10 gram sample is 1 ppb.

To analyze for Cu, Pb and Mo, 0.5 g of pulp is digested in 5 ml of a 3:2 mixture of 70% HClO4 and concentrated HNO3, for 2 1/2 hours at 200[°]C. The final volume is adjusted to 25 ml with demineralized water. This solution is then analyzed for Cu, Pb and Mo using a Tectron Mk V-VI atomic absorption spectrometer.

The detection limit for all three elements was 1 ppm. Statistical Treatment of Results

To determine anomalous levels, the analytical values for each element were grouped into fixed ranges (Tables 2 to 5). Histograms were constructed to illustrate the frequency distribution for each range of values. The values higher than those in the normal population were eliminated from further statistical treatment. Using only the normal population, the cumulative frequency and cumulative percent of each range of values were calculated and "Cumulative Frequency Distribution Graphs" were constructed for each element (Figures 3 to 6).

As the number of rock samples was not adequate for meaningful results, rock analyses values were not included in this statistical work.

The value corresponding to the 50% level on the cumulative frequency graphs represents the mean of the normal population and is accepted as the "background" value. The values corresponding to 84% and 97% levels are accepted as cutoffs for "possible" and "probable" anomalies, respectively.

Discussion of Results

Soil sample locations and analytical results are shown on Plan #3 and outlines of "possible" and "probable" anomalies for each element are illustrated on Plan #4. A

Gold (Table 2, Figure 3)

Histogram of frequency distribution for gold shows a lognormal pattern of distribution due to a predominance of gold values below or within the detection limit.

Cutoffs for "possible" and "probable" anomalies, determined from the cumulative frequency graph, are 2 ppb and 5 ppb. The highest gold concentration found in the "B"-horizon soils was 72 ppb.

"Probable" gold anomalies are found on all three rock units. With one exception, they are all one-line and, predominantly one-station anomalies, erratically distributed throughout the grid. Eighteen such anomalies were outlined in the grid. Only three of them coincide with anomalies for one or two other elements.

On <u>Unit 1</u>, only three isolated, very small anomalous areas are located at the northwest end of the grid. Gold concentrations are hardly above the cutoff, only one of the values being 6 ppb. There are no coincidental anomalies.

On Unit 2, probable gold anomalies are found in 6 areas, all smaller than 65 m x 150 m in extent. With the exception of one anomaly on andesitic volcanics, they are all situated over the basalts in the northwest and southwest corners of the grid. Only two of the anomalies in the northwest corner coincide with moderate copper anomalies. The anomalies are all of low intensity with gold

<u>Table 2</u>

STATISTICAL DATA FOR AU IN "B" SOILS

(388 samples in the normal population)

<u>Au (ppb)</u>	Frequency	Cumulative Frequency	Cumulative Frequency
0 - 1	291	291	75.0
- 2	41	332	85.6
- 3	23	355	91.5
- 4	20	375	96.6
- 5	9	384	99.0
- б	2	386	99.5
- 7	2	388	100.0

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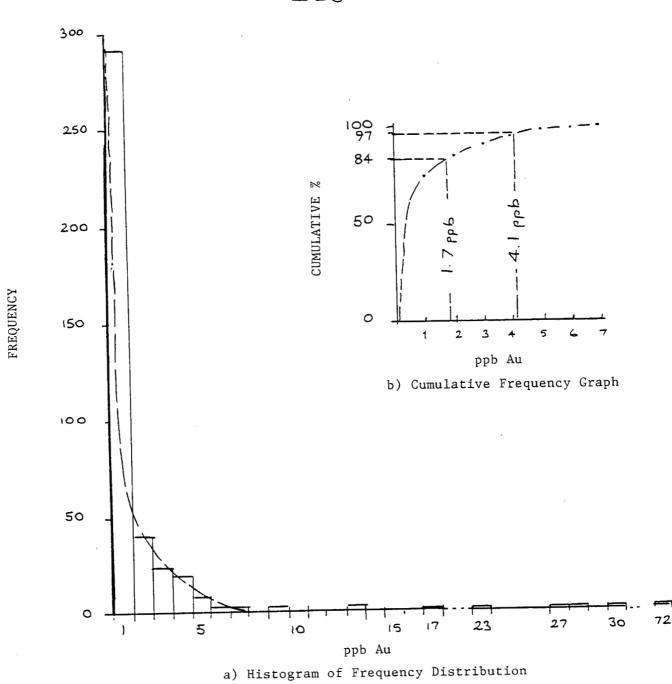


FIGURE 3 - GOLD IN "B" SOILS

_ 26 _

concentrations ranging between 5 ppb and 30 ppb. Abundant disseminated pyrite in outcrops of basalt in the northern parts of the grid and, where available, IP data suggest that the anomalies are related to local pyrite concentrations and a higher gold background of the basalts.

Nine erratic anomalies, seven of which defined by anomalous concentrations in only one station and, thus, of very limited area, are found on latite porphyry (Unit 3), along the northeastern half of the grid. Only one of the anomalies, on the northeast corner of the grid continues over two lines over about 180 m to define a strike direction which is parallel to the main fault zone. This anomaly could represent a sulphide enrichment in a shear zone in latite porphyry. VLF-EM data do not, however, show enhanced current gathering characteristics in this area. Like the small one-station anomalies mentioned above, this anomaly is also of very low intensity, with anomalous gold values of 5 ppb and 13 ppb. The highest gold concentration for the grid, 72 ppb, was obtained at station 7+50E on Line 3+00N. The anomaly is, again, isolated and restricted to a small area of about 50 m x 100 m. Pyrite was found in an outcrop in the vicinity of the anomaly. A specimen from this outcrop returned the highest gold value for the latite porphyry specimens analyzed (8 ppb).

Although not found extensively in surface specimens in Grid A, disseminated and fracture-filling sulphides were found in several places in latite porphyry elsewhere in the WHIT property. IP survey results also suggest the presence of sulphides with local concentrations, e.g. the IP anomaly centered at station 5+25E on Line 4+00S.

These low-intensity gold anomalies appear to derive from sulphide minerals associated with intense hydrothermal activity in latite porphyry.

Copper (Table 3, Figure 4)

Statistically-determined level of probable anomalies is 85 ppm. Very few results were above the normal population with only one value of 245 ppm (about 3 times the anomalous level) and another one of 340 ppm (4 times the anomalous level).

No copper anomalies are found on latite porphyry (<u>Unit 3</u>). They are mostly confined to the volcanics (<u>Unit 2</u>) between Lines 2+00N and 12+00N. In only one case a very small lead anomaly coincides with the anomalous copper value. Two copper anomalies at the northwest corner of the grid have coincidental gold anomalies.

Copper anomalies are most likely due to a high copper back-ground in the volcanics coupled with local disseminated and fracture-filling pyrite.

An isolated, low-intensity copper anomaly, with no coincidental anomalies for other metals, is also found on one line on pre-Tertiary intrusion (<u>Unit 1</u>), in the north-central part of the grid. Soil sample results over this intrusion suggest that background copper values in this intrusion are higher than in latite porphyry and the above

<u>Table 3</u>

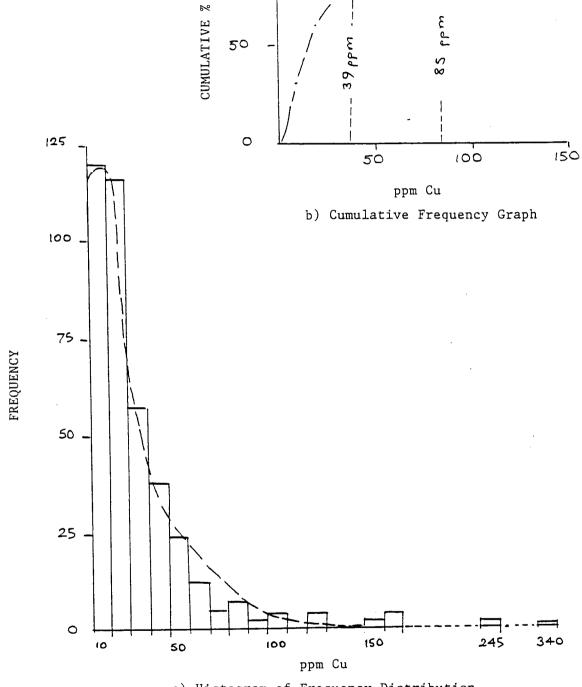
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STATISTICAL DATA FOR CU IN "B" SOILS

(392 samples in the normal population)

<u>Cu (ppm)</u>	Frequency	Cumulative Frequency	Cumulative Frequency
0 - 10	120	120	30.6
- 20	116	236	60.2
- 30	57	293	74.7
- 40	38	331	84.4
- 50	24	355	90.6
- 60	12	367	93.6
- 70	5	372	94.9
- 80	7	379	96.7
- 90	3	382	97.4
- 100	4	386	98.5
- 110	-	386	98.5
- 120	4	390	99.5
- 130	1	391	99.7
- 140	1	392	100.0

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a) Histogram of Frequency Distribution

FIGURE 4 - COPPER IN "B" SOILS

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- 30 -

anomaly could reflect a local sulphide enrichment in this rock.

Lead (Table 4, Figure 5)

Statistically-determined level of probable anomalies is 145 ppm. Like for copper, only a few values are above the normal population and only three values are relatively high, the highest value being 360 ppm, or about 2.5 times the anomalous level.

Lead anomalies are practically entirely confined to the latite porphyry and the pre-Tertiary intrusion.

On latite porphyry (Unit 3) the only zinc anomalies of any significant dimensions occur in the northeast corner of the grid, between lines 7+00N and 12+00N. They cover an area of approximately 100 m x 500 m, striking roughly parallel to the major fault. Lead anomalies are perfectly coincidental with molybdenum anomalies. A two-line gold anomaly is also situated within this anomalous area.

Lead anomalies here are most likely related to sulphide minerals associated with intense hydrothermal activity in latite porphyry. Three low-intensity lead anomalies are found on the pre-Tertiary intrusion (<u>Unit 1</u>) in the northwest quadrant of the grid. Two of these show a total or partial coincidence with a molybdenum anomaly.

All these low-intensity lead anomalies could also be related to sulphide mineralization associated with hydrothermal activity in latite porphyry or a local mineralization in granitic intrusion.

- 31 -

<u>Table 4</u>

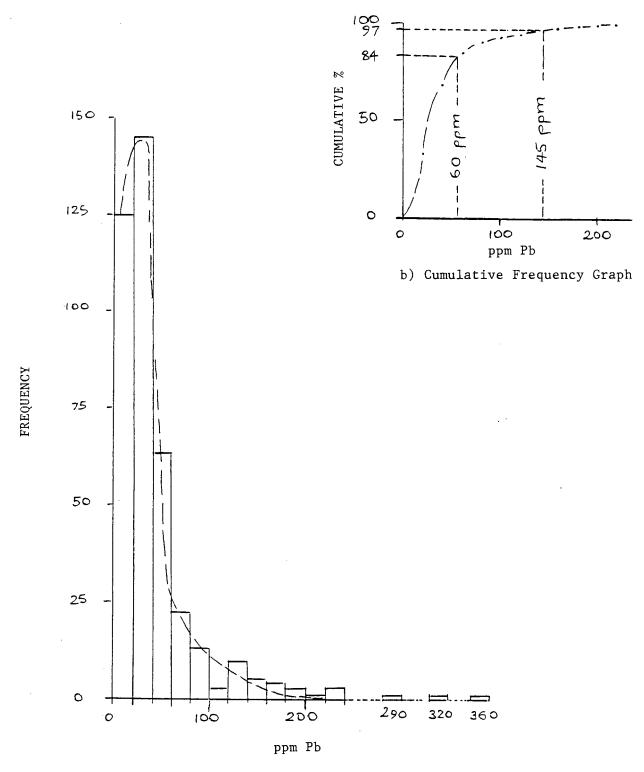
STATISTICAL DATA FOR Pb IN "B" SOILS

(394 samples in the normal population)

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<u>Pb (ppm)</u>	Frequency	Cumulative Frequency	Cumulative Frequency
0 - 20	125	125	31.7
- 40	145	270	68.5
- 60	63	333	84.5
- 80	22	355	90.1
- 100	13	368	93.4
- 120	3	371	94.2
- 140	10	381	96.7
- 160	5	386	98.0
- 180	4	390	99.0
- 200	3	393	99.7
- 220	l	394	100.0

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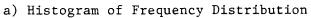


FIGURE 5 - LEAD IN "B" SOILS

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Molybdenum (Table 5, Figure 6)

Statistically-determined level of probable anomalies is 14 ppm.

Molybdenum anomalies occur exclusively over latite porphyry (<u>Unit 3</u>) and pre-Tertiary intrusion (<u>Unit 1</u>).

On <u>Unit 3</u> the most extensive molybdenum anomaly occurs within the previously described lead anomaly in the northwest parts of the grid and like the latter appears to be related to mineralization associated with intense hydrothermal activity in this area. The trend of coincidental lead - molybdenum - gold anomalies suggests a local enrichment along a shear zone parallel to the major fault, although, as mentioned earlier, the geophysical data do not support this eventuality.

A molybdenum anomaly extends between Lines 7+00N and 11+00N at about 4+00E on pre-Tertiary intrusion (<u>Unit 1</u>). It partially overlaps one copper and two lead anomalies. Two rock samples within this anomalous zone contain very low molybdenum concentrations (2 ppm and 3 ppm). The area is generally devoid of outcrop. The anomaly is possibly caused by molybdenum mineralization in the intrusives.

Five other areas on intrusive rocks, with limited dimensions contain anomalous molybdenum concentrations, generally without coincidental anomalies for other metals. They are possibly caused by erratic molybdenum mineralization in these rocks.

-34 -

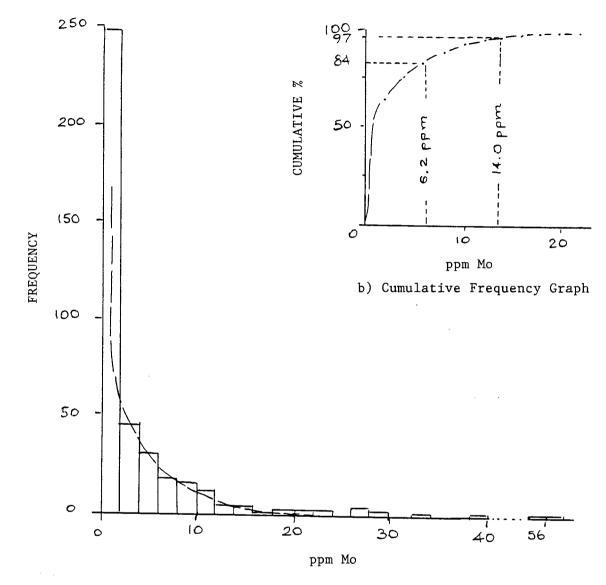
Table 5

STATISTICAL DATA FOR MO IN "B" SOILS

(388 samples in the normal population)

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¹ ۳۹ <u>۰ م</u> یند.	<u>Mo (ppm)</u>	Frequency	Cumulative Frequency	Cumulative Frequency
	0 - 2	249	249	64.2
	- 4	45	294	75.8
	- 6	31	325	83.8
	- 8	18	343	88.4
	- 10	16	359	92.5
	- 12	12	371	95.6
	- 14	6	377	97.2
	- 16	6	383	98.7
	- 18	l	384	99.0
	- 20	2	386	99.5
	- 22	2	388	100.0



a) Histogram of Frequency Distribution

FIGURE 6 - MOLYBDENUM IN "B" SOILS

ANOMALOUS LEVELS

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	Possibly <u>Anomalous</u>	Probably <u>Anomalous</u>
Au	2 ppb	5 ppb
Cu	39 ppm	85 ppm
Pb	60 ppm	145 ppm
Мо	7 ppm	14 ppm

ROCK GEOCHEMISTRY

An attempt was made to determine the background metal contents of various rock types found in the Grid by analyzing rock specimens for various elements.

Due to the scarcity of outcrops, the number of representative samples was not adequate to carry out a meaningful statistical study.

A total of 35 rock-chip samples was collected. They were analyzed by Chemex Labs Ltd. in Vancouver, after pulverizing to approximately -140 mesh, for Au, Cu, Pb and Mo, using the same analytical techniques as for the soil samples.

The locations of the rock samples and the analytical results are included in Table 7 and illustrated on Plan #2. The results indicate the following average values for the number of samples in each Unit:

(Range of Values) and Average Values

Unit	No. of <u>Samples</u>	Au (dqq)	Cu (mqq)	Pb (mqq)	0M (mqq)
l	2	(2-4) 3	(9-10) 10	(18-19) 19	(2-3) 3
2a	16	(<1-9) 4	(20 - 264) 66	(9-64) 23	(<1-2) <1
2b	2	(<1-3) 2	(31-143) 87	(6-14) 10	(<1-1) <1
2c	4	(<1-7) 3	(7-35) 8	(6-21) 15	(all <1) <1
3	11	(<1-8)	(5-13) 8	(20-139) 60	(<1-5) 1.5

Despite its shorcomings the above tabulation shows that Molybdenum characterizes the intrusive rocks while the

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DETAILS AND Au, Cu, Mo, Pb VALUES OF ROCK CHIP SAMPLES

Sample No.	<u>Location</u>	Roc <u>Typ</u>		Au (ppb)	Cu (ppm)	Mo (ppm)	Pb (ppm)
25,601	L05+00S/06+13E	3	Strongly bleached	<1	13	<1	135
25,602	L02+00S/08+00E	3	Fresh to partially bleached	6	6	<1	139
25,603	L03+00S/07+13E	3	Strongly bleached	3	5	<1	66
25,604	L00+00/07+70E	3	Strongly bleached	8	11	5	73
25,605	L00+00/02+75E	2a	Hematite on fractures	9	20	<1	53
25,606	L00+00/02+60E	2a	Minor chlorite and hematite on fractures	6	86	<1	32
25,607	L00+00/01+80E	2a	Calcite-filled hairline fractures	4	50	<1	32
25,608	L01+00S/02+50E	2a	Slight epidote, chlorite hematite on joints	6	31	<1	18
25,609	L01+00S/07+26E	3	Moderate to strongly bleached	<1	12	2	46
25,610	L02+00N/07+89E	3	Moderately bleached Disseminated sulphides	8	6	<1	42
25,611	L02+00N/04+50E	2a	Finely disseminated Py	4	53	<1	19
25,612	L02+00N/03+62E	2a	Traces of disseminated Py	1	51	<1	19
25,613	L02+00N/00+03E	2a	Epidote, disseminated Py	1	20	<1	9
25,614	L01+00N/02+12E	2a	Moderate epidote some hematite on fractures	3	32	<1	64
25,615	L01+00N/02+65E	2a	Blocky. Hairline fractures	<1	42	<1	12

<u>Location</u>			Au (ppb)	Cu (ppm)	Mo (ppm)	Pb (ppm)
L04+00N/07+50E	3	Moderately bleached	<1	9	2	42
L04+00N/00+28E	2a	Moderate epidote Pyrite as dissemination	<1	67	<1	9
L03+00N/02+75E	2a	Finely disseminated Py Hematite on fractures	4	51	<1	28
L02+00S/07+00E	3	Strongly bleached, silicified	<1	6	1	20
L08+00N/08+25E	3	Moderately bleached Heavy hematite	<1	8	2	34
L08+00N/04+25E	1	Fine to medium grained, grey granodiorite. Equigranular. Fresh	4	9	2	18
L08+00N/02+75E	2C	Fine grained. Moderate epidote	4	35	<1	14
L07+00N/02+23E	2a	Slight epidote Hematite on fractures	2	78	2	9
L07+00N/03+13E	1	Medium grained, grey syenite fresh	2	10	3	19
L07+00N/07+45E	3	Well bleached Trachitic appearance	3	, 6	1	28
L05+00N/01+88E	2a	Slight chlorite	2	264	<1	13
L05+00N/01+15E	2a	Traces of disseminated Py	4	70	<1	11
L06+00N/01+88E	2b	Medium grained, slightly porphyritic, abundant pyrite Hematite on fractures	<1	143	1	14
L06+00N/02+18E	2c	Porphyritic. Fresh	4	14	<1	21
L06+00N/02+39E	2c	Fine grained, abundant pyrite Hematite on fractures	7	22	<1	20
	L04+00N/07+50E L04+00N/00+28E L03+00N/02+75E L02+00S/07+00E L08+00N/08+25E L08+00N/04+25E L08+00N/02+75E L07+00N/02+75E L07+00N/02+23E L07+00N/03+13E L07+00N/01+15E L05+00N/01+15E L05+00N/01+15E L06+00N/02+18E	Location Typ L04+00N/07+50E 3 L04+00N/00+28E 2a L03+00N/02+75E 2a L02+00S/07+00E 3 L08+00N/08+25E 3 L08+00N/02+75E 2a L07+00N/02+75E 2a L07+00N/02+75E 2a L07+00N/02+75E 3 L07+00N/03+13E 1 L05+00N/01+88E 2a L05+00N/01+88E 2a L06+00N/02+18E 2b	L04+00N/07+50E 3 Moderately bleached L04+00N/00+28E 2a Moderate epidote Pyrite as dissemination L03+00N/02+75E 2a Finely disseminated Py Hematite on fractures L02+00S/07+00E 3 Strongly bleached, silicified L08+00N/08+25E 3 Moderately bleached Heavy hematite L08+00N/04+25E 1 Fine to medium grained, grey granodiorite. Equigranular. Fresh L08+00N/02+75E 2c Fine grained. Moderate epidote L07+00N/02+23E 2a Slight epidote Hematite on fractures L07+00N/03+13E 1 Medium grained, grey syenite fresh L07+00N/07+45E 3 Well bleached Trachitic appearance L05+00N/01+15E 2a Traces of disseminated Py L06+00N/01+18E 2b Medium grained, slightly porphyritic, abundant pyrite Hematite on fractures L06+00N/02+18E 2c Fine grained, abundant pyrite	LocationType Description(ppb)L04+00N/07+50E3Moderately bleached<1	LocationTypeDescription(ppb)(ppm)L04+00N/07+50E3Moderately bleached<1	LocationType Description(ppb)(ppm)(ppm)L04+00N/07+50E3Moderately bleached<1

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Sample <u>No.</u>	Location	Rос <u>Тур</u>	· · ·	Au (ppb)	Cu (ppm)	Mo (ppm)	Pb (ppm)
25,631	L10+00N/01+31E	2C	Slight hematite on joints	<1	7	<1	6
25,632	L09+00N/00+50E	2b	Porphyritic andesite	3	31	<1	6
25,633	585m NW of L12+00N/02+50E along the road	2a	Abundant disseminated Py Strong hematite on fractures	7	27	<1	22
25,634	L11+00N/00+80E	2a	Abundant disseminated Py Hematite on fractures	4	107	<1	12
25,635	L12+00N/08+42E	3	Bleached, some hematite	2	6	<1	25

background copper values are much higher in the volcanic rocks. No distinct variation exists in gold background values and lead is significantly enriched in latite porphyry.

CONCLUSIONS

Geological mapping completed in Grid "A" confirmed the presence of three major rock groups inferred by the ground geophysical survey results. There is a general agreement between the geological and geological interpretations on the approximate outlines of these three groups. However, geological mapping suggests that Eocene Volcanics do not extend east of the stream in the southeast corner of the grid, as shown in the ground geophysical interpretation. A higher background magnetite content in latite porphyry in this area could explain this disagreement. Airborne geophysical survey results also support that volcanic formations lack in this area.

The evidence of a northwest-striking major fault along the tributary stream in Grid "A" was provided by the airborne VLF-EM survey results. Ground VLF-EM survey failed to confirm it. Geological mapping in Grid "A", previous work by Canadian Occidental Petroleum Ltd. in the WHIT property and regional mapping by other workers strongly support, however, the existence of this major structure in Grid "A". Airborne and ground geophysical surveys indicate also that, after a 1.5 km easterly displacement along a nearly east-west trending fault, this major structure continues southeasterly in Grid "B" where these surveys also located a second major fault/shear zone.

In Grid "A", a pre-Tertiary intrusion and overlying Eocene volcanics are in fault contact with a younger latite porphyry along the tributary stream. The Eocene volcanic cover is largely removed by subsequent erosion along the stream.

The latite porphyry is strongly altered and shows throughout the grid the evidence of intense hydrothermal activity. As suggested by the current geochemical work, hydrothermal solutions also contained higher concentrations for various metals.

The major focus for the 1989 exploration work was gold mineralization. This work failed to outline areas with significant gold mineralization. Low-intensity gold anomalies were found in areas with limited dimensions, equally spread over intrusives and volcanics and apparently related to locally enhanced abundances of sulphides often giving rise to induced polarization (IP) anomalies. One such strong but isolated IP anomaly in the south end of the grid is overlain by a very small, isolated gold anomaly of very low intensity (9 ppb). Strong and moderate IP anomalies on volcanic rocks, near their contact with the intrusives, delineate extensive zones of barren sulphide mineralization without gold concentrations. VLF-EM/soil geochemical data do not show mineralized shear/fault structures. Geochemical survey results suggest the presence

- 43 -

of moderate molybdenum anomalies with coincidental lead anomalies in extensive areas over the intrusive rocks in the northwest part of the grid suggesting enriched molybdenum mineralization in these rocks. This, however, is not a new finding. It was also documented by the previous work by Canadian Occidental Petroleum Ltd.

Three major ingredients are recognized in the formation of epithermal gold deposits: 1°) source rock with gold-bearing solutions, 2°) conduit, plumbing system, 3°) host rock, trapping system. Although the presence of 1°) and 2°) was documented, the third ingredient, tuffaceous volcanic rocks cut by faults, is missing in Grid "A". Only at the very southeast end of the grid such rocks might be present in fault contact with latite porphyry. No geochemical anomalies were, however, found in this area.

Airborne and ground geophysical surveys suggest that there is a much better chance of locating all three ingredients in Grid "B".

RECOMMENDATIONS

Any follow-up exploration work in WHIT claims should be conducted first in Grid "B". It is recommended that all available data for this area be compiled to select drill targets. Both structures in this grid should be drill tested with one or two holes each, at a vertical depth of 150 to 200 m. Attempts should be made to obtain information on the results of any previous drilling which could have been completed in the southwest end of Grid "A".

The results of this initial work should then guide the future work in this property.



Respectfully submitted,

NAMIK SARACOGLU, M.Sc, P.Eng.

Toronto, January 25, 1990

REFERENCES

- CHURCH, B.N. 1980. Geology of the Terrace Mountain Tertiary Outlier. B.C. Ministry of Energy, Mines and Petroleum Resources Revised Preliminary Map 37.
- JAGODITS, F.L. 1989 a. The Interpretation of Airborne Magnetic and VLF-EM Survey, WHIT Claims, Whiteman Creek Area, Vernon Mining Division, B.C. NTS 82L/4E. Report for Canadian Occidental Petroleum Ltd. (Filed as Assessment Report).
- ----- 1989 b. Ground Geophysical Surveys, WHIT Claims, Whiteman Creek Area, Vernon Mining Division, B.C. - Report for Canadian Occidental Petroleum Ltd. (Filed as Assessment Report).
- JONES, A.C. 1957. Vernon Map Area. G.S.C. Memoir 296.
- MACDONALD, C.C. 1975. Geology and Geochemistry of the WHIT Claim Group, Vernon Mining Divisioon, British Columbia (Filed as Assessment Report).
- ----- 1976. Geochemistry of WHIT 19 Claim, Vernon Mining Division, British Columbia (Filed as Assessment Report).
- ----- 1977. Geology and Geochemistry of the WHIT (1-23) Claims, Vernon Mining Division, British Columbia. (Filed as Assessment Report).
- SARACOGLU, N. 1988. Gold and Multielement Geochemistry of the WHIT (1-18 and 20-23) Claims, Vernon Mining Division, British Columbia (Filed as Assessment Report).
- WOODS, D.V. 1989. Technical Description of an Airborne Magnetic and VLF-EM Survey, WHIT Claims, Whiteman Creek Area, Vernon, B.C. (Filed as Assessment Report).

APPENDIX I

ITEMIZED COST STATEMENT

I.	Airborne Geophysical Surveys:	\$ 7,908.7 5
-	Airborne surveys by Western Geophysical Aero Data Ltd. consisting of 104 km of magnetic and VLF-EM survey. All inclusive cost =	\$ _6,320.00
-	Interpretation of the data by F. Jagodits of Excalibur International =	\$ <u>1,588.75</u>
II.	Line Cutting:	\$ 24,610.00
·	GRID A: By Andy Dupras Explorations Ltd 23 km (horizontally projected length) Cost calculated on the basis of the actual length cut along topography: 28.0km @ \$475.00/km =	\$ 13,600.00
	GRID B: By Peter E. Walcott & Assoc. Ltd. 6.5km (The job was done on an "at cost" basis. Due to an abnormal abundance of deadfall and thick forest, it was completed in 38 man-days). =	\$ <u>11,010.00</u>
III.	Geochemical Survey (Only GRID "A")	\$ 10,198.50
	Sample Collection (400 B-Soil and 35 rock chip samples collected during August 2 - 10, 1989. Pro-rated wages + supllies + room and board and transportation) =	\$ _2,200.00
	<u>Analyses</u> (by Chemex Labs Ltd.) including preparation: 400 soil and 35 rock-samples analyzed for Au - Cu - Mo - Pb =	\$ _5,831.50
	Interpretation and presentation of the geochemical data (prorated) =	\$ <u>2,167.00</u>

IV.	Ground Geophysical Surveys		\$	35,411.24
-	Field Work by Peter E. Walcott and Assoc. Ltd. GRID A: 19.2 km of VLF/magnetic surveys and 6.2 km of IP surveys =	\$ <u>26,708.00</u>	<u>)</u>	
	GRID B: 5.8 km of VLF magnetic surveys (@ 210/km) =	\$ _1,218.00	<u>)</u>	
-	Interpretation and presentation of the data for both Grid A and Grid B. by F. Jagodits of Excalibur Ltd.	\$ _7,485.24	Ł	
v.	Geological Mapping (Only Grid A)		\$	2,265.00
	<u>Field Work</u> : One man during August 8 - 10 pro-rated salary, room and board, transportation =	\$ _1,000.00	2	
	Interpretation and Presentation of the data (prorated)=	\$ _1,265.00	<u>)</u>	

TOTAL COSTS

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\$ 80,393.49

APPENDIX II

STATEMENT OF QUALIFICATIONS

I, Namik Saracoglu, of 16 Emery Circle, Etobicoke, Ontario, M9P 2G6, state that:

- I hold a B.Sc. (Geological and Mineralogical Sciences) and a M.Sc (Geological Engineering) degree obtained from the University of Geneva, Switzerland in 1958 and 1962.
- I have practiced my profession for twenty -seven years. I have been employed by Canadian Occidental Petroleum Ltd. for seventeen years.
- 3) I am a Registered Professional Engineer in the Province of Ontario.
- 4) I am a member of the Canadian Institute of Mining and Metallurgy and Prospectors and Developers Association of Canada and a fellow of the Geological Association of Canada.
- 5) I have planned and was in charge of the exploration program completed in 1989.
- I carried out the geological mapping and supervised the geochemical sampling in Grid "A".
- I have analyzed the data and prepared the interpretative work described in this report.



NAMIK SARACOGLU, P.Eng

APPENDIX III

CLAIM DATA

<u>Claim</u>	Name	Record No.	No. of <u>Units</u>	Current <u>Expiry Date</u>
WHIT	l	18010	1	11/05/90
"	2	18011	l	11/05/89
11	3	18012	1	11/05/90
**	4	18013	l	11/05/89
"	5	18014	l	11/05/89
**	6	18015	l	11/05/89
Ħ	7	18016	l	11/05/89
"	8	18017	l	11/05/90
	9	18018	l	11/05/90
Ħ	10	18019	l	11/05/90
"	11	18020	l	11/05/90
11	12	18021	l	11/05/90
11	13	18022	l	11/05/89
	14	18023	l	11/05/89
**	15	18024	l	11/05/89
Ħ	16	18025	l	11/05/89
11	17	18026	l	11/05/89
Ħ	18	18027	l	11/05/90
*1	20	176	4	11/08/89
Ħ	21	177	6	11/08/89
**	22	337	4	06/10/90
H	23	338	2	06/10/90

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APPENDIX IV

CERTIFICATES OF ANALYSES

BY

CHEMEX LABS LTD. - Vancouver, B.C.



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Analytical Chemists * Geocliemists * Registered Assayers 450 MATHESON BLVD . E . UNIT 54, MISSISSAUGA. ONTARIO, CANADA 1.4Z-1R5 PHONE (416) 890-0310

CANADIAN OCCIDENTAL PETROLEUM LTD. MINERALS P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONTO, ON M5H 3Y2

ANALYTICAL PROCEDURES

A8923348

L. Ň ŧ

Comments:

CERTIFICATE A8923348

DETECTION UPPFR CHEMEX NUMBER LIMIT LIMIT CODE SAMPLES DESCRIPTION METHOD 10000 FA-NAA ł Au ppb: Fuse 10 g sample 101 200 10000 Cu ppm: HNO3-aqua regia digest AAS 1 2 200 1000 Mo ppm: HNO3-aqua regia digest AAS 1 3 200 10000 AAS-BKGD CORR 1 Pb ppm: HNO3-aqua regia digest 4 200

CANADIAN OCCIDENTAL PETROLEUM LTD. MINERALS PROJECT : WHIT P 0 # : MSO-6142

Samples submitted to our lab in Vancouver. BC. This report was printed on 24-AUG-89.

SAMPLE PREPARATION

CHEMEX	NUMBER	
CODE	SAMPLES	DESCRIPTION
201	139	Dry, sieve -80 mesh; soil, sed.
203	30	Dry, sieve -35 mesh and ring
217	3.1	Geochem:Ring only.no crush/split
F	;	
1		

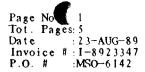




Analytical Chemists * Geochemists * Registered Assayers 450 MATHESON BLVD., E., UNIT 54, MISSISSAUGA. ONTARIO; CANADA L4Z-IR5

PHONE (416) 890-0310

TC ANADIAN OCCIDENTAL PETROLEUM LTD. MINERALS r.o. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONTO, ON M5H 3Y2 Project : WHIT Comments:



SAMPLE DESCRIPTION	PREP CODE	Аи NAA рръ	Cu ppm	Mo ppm	Рь ррт		-					
001 002 003 004 005	201 201 201 201 201		11 2 50 6 4	< 1	2 2 6 4 1 8 1 6 2 4							
006 007 008 009 010	201	- <		1 5 1 0 6	6 4							
011 012 013 014 015	201 201 201 201 201		4	10 40 7	6 5 2 0	m						
016 017 018 019 020	201 201 201 201 201 201		i 5 i 10 i 11	< 1 1 2								53 -
021 022 023 024 025	203 201 201 201 201		8	276	2 3 3 7 4 2							
026 027 028 029 030	201	-	i ii	2888	34							
031 032 033 034 035	217 - 201 - 201 - 201 - 201 - 201 -	- < - < < - < <	1 4 1 24	1 4 1	2 5 3 4 1 1							
036 037 038 039 040	201 217 201 201 201			1	2 8 2 6 2 1 1 9 2 1		+		+ · · · · · · · · ·			
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450 MATHESON BLVD . E . UNIT 54, MISSISSAUGA. ONTARIO, CANADA L4Z-IR5 PHONE (416) 890-0310

ANADIAN OCCIDENTAL PEIROLEUM LTD. MINERALS 2.0. BOX 201, SCOTIA PLAZA 17 3910 - 40 KING ST. W. TORONTO, ON M5H 3Y2 Project : WHIT Comments:

Page No. 2 Tot. Pages: 5 Date : 2 3-AUG-8 9 Invoice # : I-8923347 P.O. # :MSO-6142

SAMPLE DESCRIPTION	PRE COD	Аи NAA рръ	Cu ppm	Мю ppm	Рь ppm							
041 042 043 044 045	201 201 217 201 201	 < 1 < 1 < 1 < 1 < 1 < 1 < 1	4 5 4 11 7	1	1 8 3 2 2 8 2 6 1 8							
046 047 048 049 050	201 201 201 201 201 201	<pre>< 1 2 < 1 1 1 5</pre>	7 14 10 10 9	7 1 < 1								
051 052 053 054 055	203 203 217 201 217	 - 3 2 < 1 < 1 5	57	5 4 3 4 1 3	1929							1
056 057 058 059 060	217 217 201 217 201 217 201	 < 1 < 1 2 < 1 < 1	8 5 39 11 15	8	2 5 3 0 2 5							Ŭ4 -
061 062 063 064 065	217 201 201 201 201 201	4 3 1 1 3 1 1	36 21 5 4	2 9 7 4 2 2	3 4							
066 067 068 069 070	201 217 201 217 201 217 201	 2 < 1 2 8 < 1 < 1 < 1	1 1 5 4 4 4	4 2 3 3 4 2 3 4 1 2 3 4 1 3 3 1 3 3 1 3 3 1 3 1 3 1 3 1 3 1	34 31 22 19 12							
071 072 073 074 075	217 201 217 201 201 201	< 1 < 1 7 4 < 1	4 4 32 56 36	2 1 9 3 3 1 2	1 3 2 1 4 8 7 0 4 2	·						
076 077 078 079 080	201 201 201 201 201 201	 <pre></pre>	45 19 19 18 42	2 < 1 1 < 1 2	1 5 8 1 1 1 0 2 0							
	·	 					CE	RTIFICATION :	Sai	Bichs	ler	-



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450 MATHESON BLVD., E., UNIT 54, MISSISSAUGA, ONTARIO, CANADA L4Z-1R5

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'ANADIAN OCCIDENTAL PETROLEUM LTD. MINERALS T 2.0. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONIO, ON M5H 3Y2 Project : WHIT Comments:

Page Nd . 3 Tot. Pages: 5 Date : 2 3-AUG-8 9 Invoice # : I-8923347 P.O. # MSO-6142

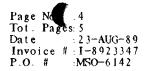
SAMPLE DESCRIPTION	PREP CODE	Аи NAA рръ	Cu ppm	Mo ppm	РЪ ppm					
081 082 083 084 085	217 201 201 201 201		1 25 1 29 1 30 1 22 1 19	 	1 2 2 3 2 3 1 8 1 5					
086 087 088 089 090	201		2 0 7 3 4 2 4 3 9	<pre>< 1 2 < 1 1 1 1</pre>	2 0 3 6 2 3 4 7 4 0	-				
091 092 093 094 095	217 201 201 201 201		54 5 30	2 < 1 < 1 < 1 1	8 1 7 9 1 2 1 9 1 5					
096 097 098 099 100	201 201 201 201 201		4 2	3 4 4 4 2	3 0 2 4 3 3 3 8 2 3	 ·	· · _ ·		-	
101 102 103 104 105	217 201 203 201 203 203	$\begin{array}{c c} & 4\\ < & 1\\ & 1\\ & 1\\ \end{array}$	6 6 7 1 2 5	< 1 < 1 < 1 < 1 < 1	2 2 1 6 2 2 5 0 3 3					
106 107 108 109 110	217 201 201 201 201		15	< 1 1 2 1 1	1 8 9 6 5 8 1 6 2 0	 				
111 112 113 114 115	203 201 217 201 201 201	<pre>< i < 1 < 1 < 1 < 1 < 1</pre>	4 4 5 5 5 5	2 1 < 1 1	27 14 30 21 25					
116 117 118 119 120	201 201 217 201 201 201	<pre>< 1 < 1</pre>	5 11 5 9 4	$\begin{array}{c} < 1 \\ 1 \\ 2 \\ < 1 \\ \end{array}$	2 1 2 4 4 7 5 1 1 4	 				
	······		I			 CERT	IFICATION :	tart	Buchl	ا





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TC CANADIAN OCCIDENTAL PETROLEUM LTD. MINERALS 2.0. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONTO, ON M5H 3Y2 Project : WHIT Comments:



SAMPLE DESCRIPTION	PREI CODI	Аи NAA рръ	Cu ppm	Mo ppm	Рь ppm				
1 2 1 1 2 2 1 2 3 1 2 4 1 2 5	201 201 203 201 217		5 5 2 2 2 5	< 1 < 1 3 3 4	2 9				
1 2 6 1 2 7 1 2 8 1 2 9 1 3 0	201 203 203 203 203 201	 2 < 1 < 1 < 1 < 1 < 1	1 2 0 1 6 0 3 7 1 9 1 1	12 5 < 1 < 1 < 1	1524	 			
1 3 1 1 3 2 1 3 3 1 3 4 1 3 5	201 201 201 203 201	 <pre></pre>		< 1 < 1 < 1 2 1	2 4 2 2				
1 36 1 37 1 38 1 39 1 40	201 201 201 201 201 201	< 1 < 1 4 3			1 4 1 2 1 1 1 6 1 7				
141 142 143 144 145	201 203 201 201 201 201	 1 2 2 3 4 5 6	3 3 1 7 1 5		2 0 2 1 1 5 2 1 1 4	 		-	
146 147 148 149 150	201 203 203 201 201	17 3 < 1 < 1 < 1	39 62 28 20 7		13 14 16 19 16	 	······································		
151 152 153 154 155	201 201 201 201 201 201	<pre>< 1 << 1</pre>	2 6 3 2 4 4 3	14 9 1 2 < 1	54 42 14 26 20	 			
156 157 158 159 160	201 201 203 201 201	4 < 1 < 1 4 3		1 1 4 7 8	31 50 145 70 38	 			



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ANADIAH CCCIDENTAL PETROLEUM LTD. MINERALS P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONIO, ON M5H 3Y2 Project : WHIT Comments:

Page No . 5 Tot. Pages: 5 Date : 2 3-AUG-8 9 Invoice # : I-8923347 P.O. # MSO-6142

CERTIFICATE OF ANALYSIS A8923347

SAMPLE DESCRIPTION	PREP CODE	Ац NAA ррб	Cu ppm	Мю ppm	РЪ ppm				
161 162 163 164 165	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1 5 1 4 1 5	2 2 1 2 1 1	4 1 2 6 1 6 2 4 3 1				
166 167 168 169 170	203 217 217 217 217 217		4 8 3 17	$\begin{vmatrix} & 1 \\ & 1 \\ & 1 \\ & 1 \\ & -1 \\ & < 1 \end{vmatrix}$	47 79 98 30 25				
171 172 173 174 175	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			2 3 3 4 1	3 4 2 5 4 8 3 2 2 5				1
176 177 178 179 180	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1 15 1 120 1 47	1 2 5 (1 (1	2 4 2 7 3 2 2 3 2 1				57 -
181 182 183 184 185	201 - 203 - 203 - 217 - 203 -		1 49 1 41 1 55	- 1 - 1 1	1 8 2 0 1 6 1 2 1 3				
186 187 188 189 190	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1 37 1 36 1 34		1 4 1 2 1 2 1 4 1 5				
191 192 193 194 195	203 - 203 - 201 - 201 - 201 -		1 2 0 1 1 5 1 7 2 1 1 3	2 1 1 1 2	1 6 1 8 1 0 1 5 2 0				
196 197 198 199 200	203 - 203 - 203 - 201 - 201 -	- <	1 71 1 50 1 21	1 5 2 < 1 2	2 3 4 0 1 6 1 0 1 1				

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ANADIAN OCCIDENTAL PEIROLEUM LID. MINERALS P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. 11 TORONIO, ON M5H 3Y2 Project : WHIT Comments:

Page No 1 Tot. Pages: 5 Date : 24-AUG-89 Invoice # : 1-8923348 P.O. # :MSO-6142

CERTIFICATE OF ANALYSIS A8923348

CERTIFICATION :

SAMPLE DESCRIPTION	PREP CODE	Ли НАА рръ	Cu ppm	Mo ppm	Рь ppm	
201 202 203 204 205	201 201 201 201 201		9 2 1 1 7 4 1 7 1 1	1 7 6	3 0 8 3 5 3 7 3 0	
206 207 208 209 210	201 201 201 201 201	< 1 2 4 2 1	3 5 1 2 1 0	2 8 3 1	2 6 1 2 7 2 9 0 4 5 3 6	
2 1 2 2 2 3 2 4 2 5	201 201 201 201 201 201	7 2 5 2 < 1 < 1	9 13 15 9 4	5	3 9 4 8 3 6 6 3 1 2	1
216 217 218 219 220	201 201 201 201 203	< 1 3 1 3 2 4	27	15	1 9 7 6 1 8 0 1 5 0 1 3 0	581
2 2 1 2 2 2 2 2 3 2 2 4 2 2 5	217 201 201 201 201 201	2 2 1 1 4	1 7 1 2 1 1 1 0 1 6 0	<pre></pre>	4 0 3 6 4 8 4 1 3 7	
226 227 228 229 230	201 201 201 201 201 201 201	<pre> 2 3 4 1 5 1 5 1 5 1 5 1 5 1 5 5 5 5 5 5 5 5</pre>		7 1 2 2 3 2 7	81 29 44 163 123	
231 232 233 234 235	201 201 201 201 201 217	< 1 2 < 1 1 3	7 29 40 31 57	9 2 1 1 2	30 70 27 12 10	
2 36 2 37 2 38 2 39 2 40	201 217 203 201 201	< 1 4 3 < 1	31 71 90 116 84	< 1 2 1 < 1 1	6 45 11 18 15	

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450 MATHESON BUVD . E . UNIT 54, MISSISSAUGA. ONTARIO, CANADA 1.4Z-1R5 PHONE (415) 890-0310

ANADIAN OCCIDENTAL PEIROLEUM LTD. MINERALS P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST W. ЪĽ TORONTO, ON M5H 3Y2 Project : WHIT Comments:

Page No. 2 Fot Pages: 5 Date : 24-AUG-89 Invoice # : I-8923348 P.O. # :MSO-6142

SAMPLE DESCRIPTION	PREP CODE	Ац NAA рръ		Mo Pb ppm ppi		1					:	
2 4 1 2 4 2 2 4 3 2 4 4 2 4 5	217 201 201 201 217	<pre> 2 2 3 3 4 1 3 4 1 3 4 1 3 4 1 4 1 4 1 4 1 4</pre>	6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5	< 1 1 5 5	1 9 2 1 2 8 1 6 1 4							
246 247 248 249 250	203 201 201 201 201 201 201		3 4 3 4 2 6	15 28 55 4 5	30 44 75 30 147							
251 252 253 254 255	201 201 203 201 201 217		1 2 1 5 1 5 1 0 9	< 1	5 4 4 2 4 2 3 6 5 7						-	İ
256 257 258 259 260	217 217 201 217 217		2 3 1 9	1 2 6 9 2 0	1 3 0 4 8 1 6 0 8 5 1 9 0							- 65
261 262 263 264 265	203 203 203 201 201		1 8 9 5	3 4 1 0 3 2	4 5 5 4 7 9 2 4 2 4			+				
266 267 268 269 270	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		14 4 4	$< 1 \\ 4 \\ 4 \\ < 1 \\ < 1 \\ = 1$	2 5 1 3 0 5 8 2 6 1 8						1	
271 272 273 274 275	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		2 7 1 6	1 5 8 5 5	30 47 49 30 48	-						
276 277 278 279 280	201 201 201 201 201 201 201		17 21 13 16 24	1 7 < 1 < 1 < 1 < 1	45 39 14 16 16							
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Analytical Chemists * Geochemists * Registered Assayers 450 MATHESON BLVD . F., UNIT 54, MISSISSAUGA. ONTARIO, CANADA 14Z-1R5

PHONE (416) 890-0310

To N. NADIAN OCCIDENTAL PETROLEUM UID. MINERALS P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONTO, ON M5H 3Y2 Project : WHIT Comments:

Page No. Tot. Pages: 5 24-AUG-89 Date Invoice # : I-8923348 P.O. # :MSO=6142

CERTIFICATE OF ANALYSIS A8923348

SAMPLE DESCRIPTION	PREP CODE	Аи NAA ppb	Cu ppm	Mo ppm	Pb ppm					
2 8 1 2 8 2 2 8 3 2 8 4 2 8 5	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	V V V V	2 0 4 3 2 9 2 9 4 6	< 1					-	
2 8 6 2 8 7 2 8 8 2 8 9 2 9 0	201 201 201 201 201	- V V V V	4 4 2 5 2 8 5 1 2 5	< 1	1 6 1 2 1 6 1 8 1 3				-	
291 292 293 294 295	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	- <	7 6 9 2 1 4 2 3 1 1 6	< 15	13 29				- - - -	1
296 297 298 299 300	201 201 201 201 201 201	< < < < < < < < < < < < < < < < < < <	2 7 9 1 4 7 1 4 5 2 1 0 0 1 6 6	< 1 < 1 5					:	60 -
301 302 303 304 305	201 201 201 201 201 201 201	1	1 5 1 5 1 2 0 1 1 1 2 1	< 1 7	4 4 2 0			1 - - -		
306 307 308 309 310	201 201 201 201 201 201 201 201		2 6 1 5 1 4 1 4 1 9	2	76 29 21 17 28					
311 312 313 314 315	201 217 217 217 217 217 203			$ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $	41 38				·	
316 317 318 319 320	201 217 201 217 201 201 201 201	<	1 55 1 100 1 19 4 47 1 28	$\left \begin{array}{c} 1 \\ < 1 \\ \end{array} \right $	1 8 1 0 1 7 2 4 1 6	 				
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Analytical Chemists * Geochemists * Registered Assayers 450 MATHESON BLVD E., UNIT 54, MISSISSAUGA, ONTARIO, CANADA 14Z-1R5 PHONE (415) 890-0310

To NANADIAN OCCIDENTAL PEIROLEUM UID. MINERALS P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST W. TORONTO. ON M5H 3Y2 Project : WHIT Comments:

Page No. Tot. Pages: 5 Date 24-AUG-89 Invoice # : I-8923348 P.O # :MSO-6142

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SAMPLE DESCRIPTION	PREP CODE	Ац МАА ррб	Cu ppm	Mo ppin	Рь ppm				;		
3 2 1 3 2 2 3 2 3 3 2 3 3 2 4 3 2 5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 4 1 4 < 1 2	2 4 5 1 2 5 3 4 1 3 2 0	5	50 20 48 29 126					1	
3 2 6 3 2 7 3 2 8 3 2 9 3 3 0	201 201 201 201 201 201 201 201		1.5	2	60 57						
3 3 1 3 3 2 3 3 3 3 3 4 3 3 5	201 201 201 201 201 201	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	58 18 5	1 1 1 1 1 1 1 1 1 1	1 3 7 4 1 4 2 4 3 3 6 0			:			
3 3 6 3 3 7 3 3 8 3 3 9 3 4 0	217 203 201 201 201	2 4 1 < 1	2 6 2 1 3 6 1 2 7	. 5	3 2 0 6 5 5 3 4 6 2 2						:
3 4 1 3 4 2 3 4 3 3 4 4 3 4 5	203 201 201 217 201		1 6 1 3 1 4 7 1 3	3 9 8 2 2	1 3 0 8 0 1 0 0						
346 347 348 349 350	201 201 201 217 201	< 1 < 1 < 1 < 1 5	24 15 19 49 13	1 2 5 3	41 56 90 68						
351 352 353 354 355	201 201 203 201 203 203	< 1 2 6 4	2 3 3 3 1 9 1 6	15 4 2	2 2 5 5 1 2 8						
356 357 358 359 360	217 201 201 203 201		2 7 1 1 2 3 2 9 3 5	22	2 4					:	
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Page No Tot. Pages: 5 Date : 24-AUG-89 Invoice # : I-8923348 P.O. # :MSO=6142

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CERTIFICATE OF ANALYSIS A8923348

SAMPLE DESCRIPTION	PREP CODE	Аи NAA ррb	Cu ppm	Mo ppin	Рb ppm						
361 362 363 364 365	2 1 7 2 0 3 2 1 7 2 0 1 2 1 7	1 30 3 1 < 1		2 1 2	30 31 14 17 14	- - - -		· · ·		:	
366 367 368 369 370	201 217 201 203 217	1 1 2 1 3	2 5	1	49 37 45 39 84	1					
371 372 373 374 375	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	10 10 5	$\langle 1 \\ 1 \\ \langle 1 \rangle$	2 2 2 0 2 1 7 0						1
376 377 378 379 380	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1 7 < 1 2 < 1	1 5 2 0 1 5	1 0 1 7 1 0 1 2	90 130 190	-					0 N 1
381 382 383 384 385	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		8	3						:	
386 387 388 389 390	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		14 14 11	2 2 5 5	160 90					; ;	
391 392 393 394 395	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		1 0 1 6 1 2	$ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $	4 1 6 0 3 0 1 9 2 1	;				1	
396 397 398 399 400	217 217 201 217 203 				8 1 7 1 5 6	· · · ·					
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PHONE (416) 890-0310

CANADIAN OCCIDENTAL PETROLEUM LTD. MINERAL P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONTO, ON M5H 3Y2

A8923340

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Comments:

CERTIFICATE A8923349

ANALYTICAL PROCEDURES

CANADIAN OCCIDENTAL PETROLEUM ITD MINFRALS PROJECT : WHIT	CHFMFX CODF	NUMBER SAMPLES	DESCRIPTION	метног	DETECTION FIMIT	UPPFR I IMUT
P O # : MSO-6142 Samples submitted to our lab in Vancouver. BC. This report was printed on 28-AUG-89.	2	35 35	Au ppb: Fuse 10 g sample Cu ppm: HNO3-aqua regia digest Mo ppm: HNO3-aqua regia digest Pb ppm: HNO3-aqua regia digest	FA-NAA AAS AAS AAS-BKGD CORR	1 1 1	10000 10000 10000 10000
SAMPLE PREPARATION						

	NUMBER SAMPI ES			DESCRIPTION	
205	3 5	Rock	Geochem:	Crush.split.ring	



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CANADIAN OCCIDENTAL PETROLEUM LTD. MINERAL P.O. BOX 201, SCOTIA PLAZA 3910 - 40 KING ST. W. TORONTO, ON M5H 3Y2 Comments:

A8923340

CERTIFICATE A8923349

ANALYTICAL PROCEDURES

PROJECT P O # Samples	: WF : M5 submi	11T 30-614; .tted 1	PETROLEUM ITD 2 to our lab in Va inted on 28-AUG-	ncouver, BC	1	NUMBER SAMPLES 3 5 3 5 3 5 3 5 3 5	Au Cu Mo	ppm: ppm:	DESCRIPTIO Fuse 10 g sample HNO3-aqua regia HNO3-aqua regia HNO3-aqua regia	digest digest	METHOD FA-NAA AAS AAS AAS-BKGD	CORR	DETECTION LIMIT I I I I I	UPPER 1 IMLT 1 0000 1 0000 1 0000 1 0000
ł	SAM	PLE	PREPARA	TION			:							
	NUMBEI SAMPLE	1	DFSCRIPT	ION			•							
205	3 5	Rock	Geochem: Crush.spli	t.ring										
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