GEOLOGICAL AND GEOPHYSICAL REPORT
ON THE OX 2 CLAIM GROUP

Situated 8 km east of Port Renfrew, Vancouver Island
Victoria M.D., British Columbia

N.T.S. 92C/9W & E
Lat. 48°34'N
Long.124°17'W

OWNER: M. Tavela
OPERATORS: M. Tavela and Cominco Ltd.
AUTHOR: M. Tavela

Vancouver, B.C. August 5, 1982

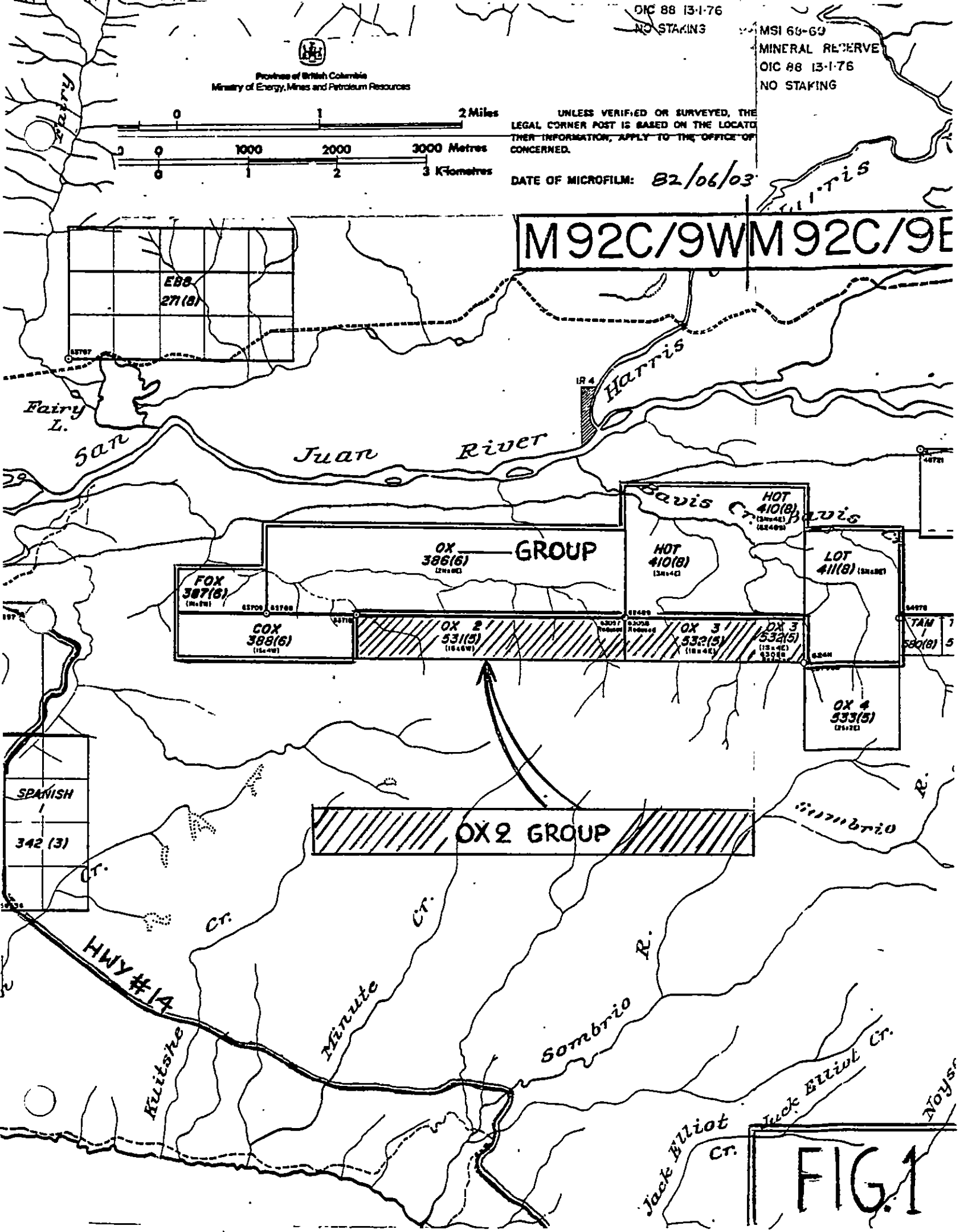
OIC 88 13-1-76
NO STAKING
MSI 68-69
MINERAL RESERVE
OIC 88 13-1-76
NO STAKING
Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
0 1 2 Miles
0 1000 2000 3000 Metres
0 1 2 3 Kilometres
UNLESS VERIFIED OR SURVEYED, THE
LEGAL CORNER POST IS BASED ON THE LOCATO
THER INFORMATION, APPLY TO THE OFFICE OF
CONCERNED.
DATE OF MICROFILM: 82/06/03
M92C/9W
M92C/9E
EBB
271(8)
Fairy L.
San Juan River
Harris
IR 4
Davis Cr.
HOT 410(8)
OX 386(6) GROUP
HOT 410(8)
LOT 411(8)
FOX 387(6)
COX 388(6)
OX 2 531(5)
OX 3 532(5)
OX 3 533(5)
OX 4 533(5)
TAM 580(8)
SPANISH 342 (3)
OX2 GROUP
Sombrio
HWY #14
Kutsine Cr.
Minute Cr.
Sombrio R.
Jack Elliot Cr.
FIG. 1

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FIG. 1	Location and Claim Map			Foll. Title Page
FIG. 2	A & D	Geology	1:5000, 1:1000	Pocket
	B, C & D	Magnetics	1:2500, 1:1000	Pocket

INTRODUCTION

GENERAL

This report is a sequel to the assessment report '81 - #1041 - #9807 describing the work on OX 1 Group which surrounds the present OX 2 Group on the west, north and east. (Fig. 1)

The site is accessible by automobile from the Victoria-Port Renfrew Highway No. 14, along the Mosquito Creek logging main line (ML in Fig. 2A).

PROPERTY DEFINITION

OX 1 Group has locked-in gold in pyrite/arsenopyrite disseminations occurring in albitite/diorite rocks and their country rocks of shales, greywackes and volcaniclastics. The formation strikes E-W and dips 90°-60°N. A plutonic clan appears as peniconcordant dykes.

The sedimentary/plutonic assembly extends to the OX 2 Group border where a 4-30 cm wide vertical and perpendicular quartz vein with VG is seen (Au in Fig. A,D). This, together with the geological possibilities and active magnetics, led to additional staking and work and, as it progressed, to two common problems of the area in general:

- the exact nature of the dykes.
- the nature and origin of one variety of the country rock called the "calc-silicate unit" in 1981's report.

My present interpretation, based on this detail and on two years of previous studies, is:

- a hypabyssic expression of a batholith occurs in shallow depth and the dykes connect and originate there.
- the calc-silicate unit is a greenschist similar to Kuroko/Besshi, submarine volcaniclastic in its origin, and that one of its basic conduits is exposed here.

These identifications open new avenues in the field of exploration.

SUMMARY OF WORK

Geological Survey: Scale 1:5000 and 1:2500
7 claim unit areas = 175 ha.

Magnetometer Survey: Scale 1:5000 and 1:2500
Length 5350 m, spacing 50 and 10 m; survey points 668.

Petrography: 5 thin sections.

Cominco Limited supplied the magnetometer; reading of the thin sections is by J. A. McLeod of Cominco, results of which show a remarkable lucidity and interpretive power, and which were done without the influence of field observations (see Page 6).

GEOLOGICAL REPORT

Interpretation of the magnetic survey is intrisic to this section and is therefore included here. The Geophysical Report (see Page 9) records only the instruments used and the operational performance.

References are made to Figure 2 maps and profiles (A, B, C and D) and to the topographic indexing points, Nos.1 to 12. Petrography is shown on Pages 6 to 8 (Petrographic Study-J.A. McLeod-Cominco) amd the 3-digit sample numbers used in this study are also used in this geological section and in A and D (Fig. 2).

THE PLUTONIC CLAN

To the common varieties of albitite and diorite, described in 1981, a highly altered felsite is added (252), which is a variety of the more prevalent fresh, pale pink felsite.

These three varieties form a single panel; changing from one to the other along and across the strike. Felsite prevails in walls, roofs and narrow dykes; coarser, sometimes graphic sericitized and carbonatized albities and diorites

in the middle of the thicker dykes. Gold shows a preference for the latter. As well as the seemingly deuteric alteration, pyrite and/or arsenopyrite are pervasive.

The exposures of this panel have been traced over 8 km in length. The individually (0.5-40 m wide) dyke-appearing rocks form a swarm parallel to the strike with a combined width of 0.7 to 1.2 km. A transverse section of it (A 9-7-6) initially gives an impression of a cutting dyke, but on further examination one received a different picture.

Mosquito Creek runs through a canyon with country rock walls southward from Point 7. On the level bottom (for present purposes) albitite appears intermittently for 300 m ending at the quartz vein and penetrating to the surface of the shales only once immediately north of the road. Here, the bottom albitite is a continuation of an east-west trending albitite. Further north, after a gap 240 m wide, albitite appears intermittently for 120 m. Clearly the 300 m at Mosquito Creek is not a dyke but represents a roof section with traditional cusps of a batholith; hence the intermittency.

The intrusion has occurred close to the mature folding stage of the country rock: the narrower the dyke, the smoother the contact; conversely thick dykes have large shale inclusions and penetration is often gently angled. In general, the country rock has cooperated with the penetration; there are no breccias nor cutting features. The gold vein in question is the sole notable exception, with a few minor true dykes marked with boundaries on Figure 2-A.

The magnetic surveys of 1981 and 1982 (totalling 42 km; of which 5 km pertain to OX 2 in 1982), show, at several locations, fingerprints of high frequency and low amplitude. One such locale is C 11-6-12; 3-4 and 3-4. In detail (Fig. 2-B) its complexity is meaningless and therefore it has been circled. Some exposures here are coarse, pale and gneissic, contrasting with the adjoining shales. Petrography (233) indicates thermal metamorphism, part of which is the magnetite buildup (see Page 8).

The extensive profiling across intrusives on OX 1 indicates no such patterns but rather smooth magnetics. Similar disturbed patterns are nevertheless common. Four such patterns are within 75-160 m from intrusives, with geochemical gold nearby or right on the anomaly. This is also truly clear here due to several albitite/felsite outcrops in a variety of positions.

The albitite/felsite has proven itself to be a cool mate with little heat and gold-producing properties. It is clearly

not responsible for these magnetic patterns. Instead, a different parent from the same source is suggested; the micro-diorite such as is exposed in the joint LCP of OX and FOX claims and containing disseminated arsenopyrite and carbonates and gold up to 0.1 oz/t in extended grab samples.

The magnetically detectable heat centers, the long roof section at Mosquito Creek, and the existence of deep-seated rocks such as the diorite and the graphic albitite (versus the often felsite-dominated dykes), are all explained more clearly if a 'not so' problematic pluton close to the surface is added to the exploration model.

THE ORIGIN OF THE GREENSCHIST

On the OX 1-2 boundary area the schists are interbedded with minor volcanics and cherts. Further to the north the relationship is reversed and shale appears as lenses in greenish clastic rocks distinctly different from the shales and their cohorts.

The green rock is made up of three varieties: a pale, muddy and soft rock with sericite and other low grade phyllosilicates; a seemingly massive dark green fine-grained rock and a coarse grained and coarsely banded variety of the same. Magnetite is pervasive up to compact lenses, sometimes with a few base metal sulphides, occasionally with geochemical gold and silver. However, widespread gold values are lacking versus the plutonic territory. The petrographic report, nos. 182 and 194, tells the rest in detail.

A volcanic origin has long been suspected: basic necks appear on EBB claim, on the opposite slope of the throw (Fig.1) and described in Assessment Report '80-#568-#8278. However, abundant glaciation with included basics within transport distance has played its trick: in the OX 1-2 area such float accumulations have been suspected but abandoned.

In Points 9 and 10 within the confluence of the creeks which otherwise run in canyons, appears a level oval ground filled solely with such rocks. Their size runs from large to massive, up to room-size dimensions - smaller ones rounded, larger ones angular. Four varieties are common and often appear in the same float: gabbro, dolerite, basalt and an oriented schlieren variety of the admixture of the three former. Blasted

trenching under the largest reveals more of the same rock versus the prevalent till. A basaltic variety is described in sample report no. 086.

A magnetic detail, profiled in D, shows that intensity is low,close to the regional average of 56,000 gammas, and even. When the probe is brought into contact, the reading increases only in the order of 10 gammas; in spite of high iron content the magnetite content is almost nil. This suggests that consolidation has not occurred in the atmospheric surface, but rather in oxygen-free conditions, such as under water. A deep-seated origin is ruled out by the abundance of basaltic variety. The thin section no. 086 describes this and assigns the name spilite to it. Many mineralogical varieties of the same composition, side by side, make the rock into a small neck.

From similar but less well-exposed float concentrations at least two fringing the green belt can be considered similar, and accordingly, without much imagination, the basic schist can be identified as a follower of the Kuroko/Beshi progenitors.

This particular pipe at OX 1-2 has, according to the form and size of the float distribution, topography and magnetics, an outcrop area of 100 x 50 m. The prevalent schlieren direction in larger floats indicates a southerly extension. These pipes have been vertical and contemporaneous with sedimentation. They should presently appear perpendicularly to the strike and dip. If so, this pipe is below the gold-bearing quartz, below the gneissic rock, and there in contact with the plutonic rock.

Memorandum
For Use Within The Company Only

Cominco

To Senior Geologist, West.Dist. (DL Cooke) Date 3 June 1982
(Use Title if Possible)

From Geologist, E.R.L. (JA McLeod) File No.
(Use Title if Possible)

Subject PETROGRAPHIC STUDY Reference Job V82:141R

Four rocks collected by Matti Tavela were submitted to the laboratory for petrographic description. Each was thin sectioned and studied in transmitted light. The samples in question bear the following numbers:

Lab No.	Field No.
R82:3706	086
R82:3707	182
R82:3708	194
R82:3709	252

Petrographic Descriptions: 086

Sample R82:3706 is estimated to have contained the following mineralogical mode:

Glass:	~65%
Plagioclase:	~20%
Pyroxene:	~15%

The plagioclase grains are now only ghosts, having been altered completely to carbonate, clay and chlorite. The outlines are still euhedral and may reach 2mm in maximum dimension. Euhedral to subhedral mafics are variably altered from nearly fresh to those completely replaced by chlorite. They are believed to be clinopyroxenes. They may reach 1.0mm in maximum size but average 0.5mm. The feldspar and pyroxene crystals are set in a devitrified, altered glass now thought to be palagonite. Chlorite, carbonate and zoisite are present in fractures, shears and patches throughout the section. Opaques are developed as fine grained granular iron ore and as turbid, dusty appearing leucoxene.

The rock is believed to have been a spilitic basalt.

Sample R82:3707 is estimated to contain the following mineralogical mode: 182

Quartz:	~25%
Plagioclase:	~10
Calcite:	~10%
Epidote:	~20%
L coxene:	~10%
Biotite:	~5%
Chlorite:	~10%
Tremolite:	3-5%
Opaques:	5-7%

Signed

The rock is thinly laminated (tenth's of a mm) and mineralogically segregated. The lamination and mineralogical segregation are thought to be the result of original bedding control.

Concentrations of granular, very fine grained (c. 0.05mm) epidote contain thin trails of continuous to discontinuous rutile/leucoxene and form distinct layers. These particular layers demonstrate micro-deformation with thin section scale slumping and compression of beds. Another distinctive layer is comprised of coarser grained quartz ± plagioclase ± calcite and forms lenses and discontinuous seams to a few mm in length. The maximum grain size in this layer is 0.5mm. Quartz also occurs (+ feldspar) as silt to clay sized, imbricated grains cemented by chlorite in laminae to a few mm thick. Biotite and chlorite concentrations are noted developed parallel to the lamination (foliation) plane. Euhedral opaques averaging 0.5mm in size are developed throughout the rock and prove to be magnetite.

The rock is a schist and is believed to represent upper greenschist-lowest amphibolite facies metamorphism.

The original rock is thought to have been a water lain sediment of basic volcanic detritus.

194

Sample R82:3708 is mineralogically similar to the previous sample. Although, it too is a laminated schist, it has suffered more intense, larger scale deformation and a quartz seam several mm wide cross-cuts the layering or schistosity at an acute angle.

This is a deformed, fractured, quartz replaced version of R82:3707.

Sample R82:3709 in thin section is seen to consist of the following mineralogical mode:

252

Felsite:	~70%
Plagioclase:	~10%
Sericite:	~18%
Tourmaline:	Tr.
Apatite:	Tr.
Opaques:	1-2%

The groundmass (a recrystallized felsite?) consists of sutured quartz and albite grains in the 0.1mm size range. About 50% of these groundmass grains are quartz. Also present in the groundmass are sheaves and clusters of fine grained (0.25mm) sericite. Broken or fragmental crystals of albite-oligoclase plagioclase range from 0.5 to 1.5mm in size. Very fine grained tourmaline and granular apatite are occasionally noted. The tourmaline tends to occur interstitial to plagioclase crystals. Opaques (arsenopyrite) are disseminated and limonites stain the rock a light brown.

Memo to: Senior Geologist/West.Dist./(DLC)
3 June 1982

page-3

The rock is believed to be a metasomatically altered dacitic extrusive or intruded dyke/sill. It is also possible that the rock is a metasomatized albitite but it cannot be termed an albitite due to the abundance of quartz.

All four rocks were submitted for Au by geochemical methods and all report <10ppb.

I hope this is of some help. Please call if there are any queries.

Regards.

J.A. McLeod

Cominco

Memorandum
For Use Within The Company Only

To	Project Geologist, West.Dist. (RJN)	Date	8 September 1981	
From	E.R.L. Manager, (JF Harris) (Use Title if Possible)	File No.	Lab No.	Field No.
Subject	PETROGRAPHIC EXAMINATION - BC Prosp. (Use Title if Possible)	Contact Reference	Job V81:598R	233

233

The specimen T.1 submitted on your work request of July 16 is identified as an altered grey wacke.

Thin section examination shows it to be a poorly sorted fragmental rock. Some large elongate fragments of chert and abundant crystals and angular aggregates of plagioclase and K-spar are set in a matrix of chloritic siltstone. Brown biotite forms wisps and and patches and locally attains good crystal form, possibly suggesting the effect of thermal metamorphism. Minor opaque oxides occur within the chloritic areas.

The origin of the rock can only be guessed at from laboratory examination. It may be an arkosic conglomerate or perhaps has volcaniclastic affinities.

GEOPHYSICAL REPORT

The instrument was the same as used in the 1981 survey: Sintrex Proton Magnetometer, model M-P-2/1980 with nominal ±1 gamma resolution. The survey used the previously established base station and method of controlling buried iron objects and magnetic storms ('81-#1041-#9807, p.36).

In the detail survey, particular emphasis was placed on the elimination of storm effects, but effects of micropulsations and diurnal variations remain. Nevertheless, since the survey was designed to cover several consecutive days, it is believed that the picture now obtained is a true one, particularly for the basic pipe, which really is the only feature requiring the utmost performance.

The magnetic fingerprint picture of the combined OX 1-2 area is now quite clear: the magnetic survey can be used to advantage as applied, except if basic pipes are to be traced in less clear conditions such as those at hand, a local control station within the grid is mandatory. This occurred in the confluence of the two creeks in this survey, but as it happened, the same picture was obtained due to the exposed geology and the calm ~~weather~~ days, the latter a coincidence.

STATEMENT OF COSTS

* Note: for Cominco's support commercial rates have been applied,

M. Tavela, P.Eng.	Oct. 11,12, 1981 = 2 days April 7-10, 1982 = 4 days Total = 6 days @ $300/day (incl.support)	$1,800
Magnetometer Rental for one week		150
5 Thin Sections and Report @ $50/section		250
Reporting (typing, drafting, reproduction)		110
	TOTAL	$2,310

BALANCE FROM P.A. ACCOUNT #9835

STATEMENT OF QUALIFICATIONS

I, Matti Tavela, hereby state that:

1. I am a Prospector, a citizen of Canada and reside at #1, 2230 Harrison Drive, Vancouver, in the Province of British Columbia.

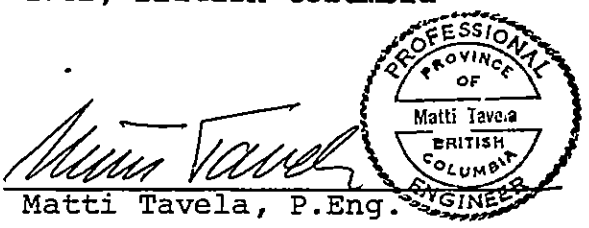
2. I have a M.Sc. degree in Chemistry and a Ph.D. degree in Geology from the University of Helsinki, Finland. I have practiced these professions since 1947.

3. My Canadian experience is: 1961-62 Geologist/ Geochemist for Selco Inc.; 1970-72 Geochemist for Kennco Explorations, (Canada) Limited; 1973 Project Manager for Brinco Limited; 1975-78 Vice President of Compass Exploration Limited; 1979-present as independent.

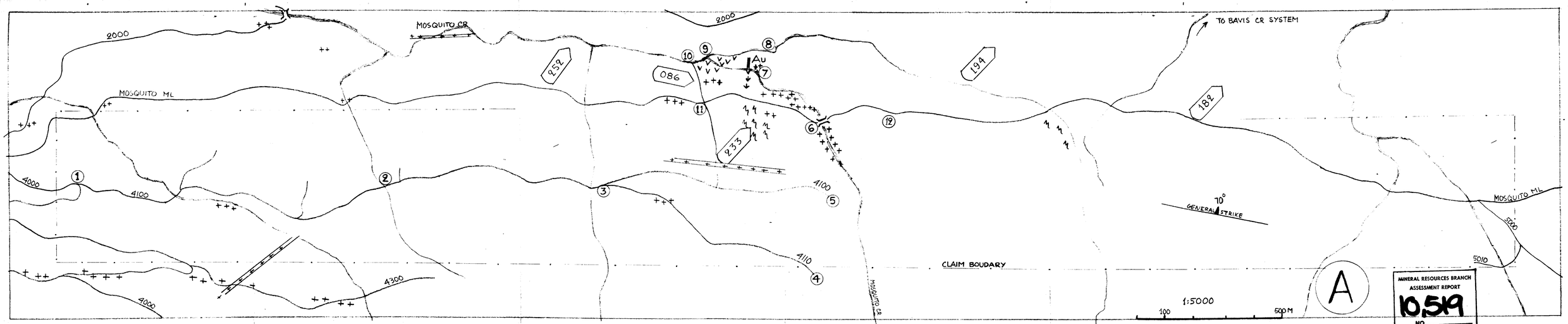
4. My foreign experience has been in Scandinavia, the Far East, NE Africa, Cental and West South America, and California.

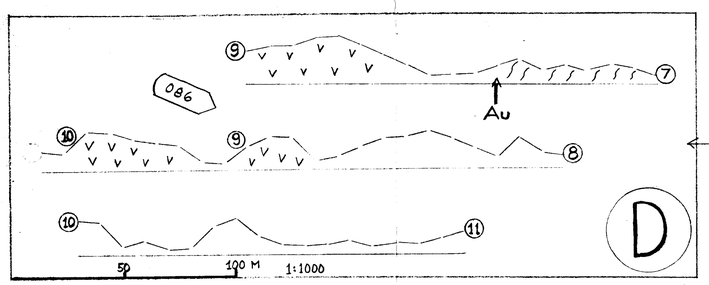
5. I am a Registered Professional Engineer in B.C., Registered Geologist in the State of California, and Licenced Mining Surveyor in Finland.

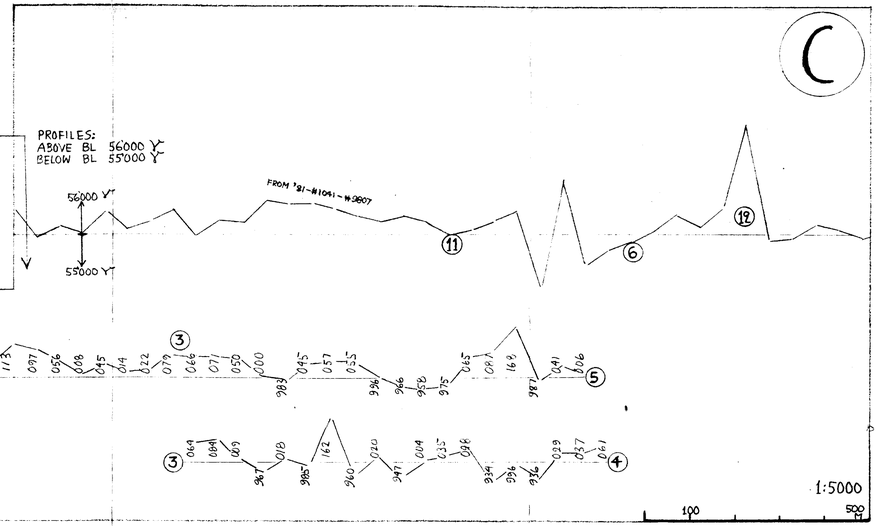
Signed: August 5, 1982, Vancouver, British Columbia

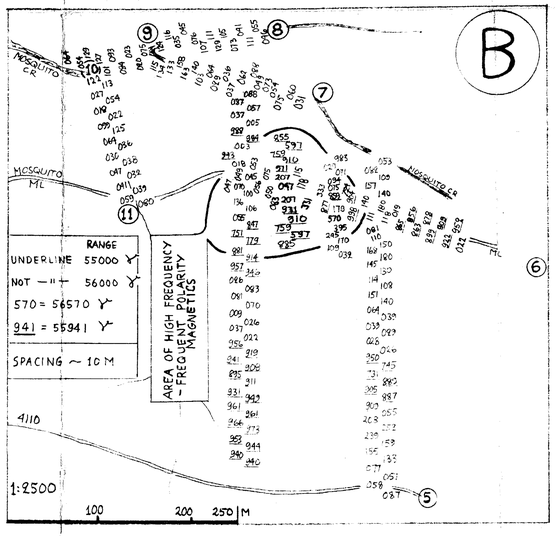


Matti Tavela, P.Eng.









GEOLOGY & MAGNETICS

OX2 GROUP (OX2 & 3 CLAIMS)

VICTORIA M.D., B.C., M92C/9W&E

(A) (D) GEOLOGY
- + + + + + ALBITITE/DIORITE CLAN
- V V V V V BASIC CLAN
- BLANK SHALES, GRAYWACKES, VOLCANICLASTICS
- M M M GNEISSIC

(B) MAGNETIC DETAIL
LOCATIONS & NUMERICALS

(D) PROFILES WITH GEOLOGY

(C) MAGNETIC LOCAL PROFILES
NUMERICALS WITH REF. POINTS

PETROGRAPHIC 233 SAMPLE
FIELD #

82.08.05
Matti Tavola

BASE: BCFP's TRANSIT MAP 1:5000

(7) REFERENCE POINT

(6) REFERES ALSO TO REPORT '81-#1041-#9807

FIG. 2