

Submitted by: T.D. Lewis  
November 1, 1978

N I F T Y   D E P O S I T

LOCATION: NTS 93D/9W

LAT. 52°35' / LONG. 126°25'

The Nifty Property is located on the east side of the Noosgulch River, approximately 35 kilometres northeast of Bella Coola, B.C. Access to the property is gained by a 15 minute helicopter flight from Firvale, situated on the Bella Coola River.

OWNER: United Minerals Limited

OPERATOR: Pan Ocean Oil Limited

DESCRIPTION:

(1) Introduction

The Nifty Deposit has been optioned by Pan Ocean Oil Limited to explore for barite and sulphide horizons within a volcano-sedimentary pile of interbedded fine-grained to lapillituff and tuffaceous siltstones. Five diamond drill holes were recently drilled by Pan Ocean on the east side of the Noosgulch River, but failed to intersect economic sulphide occurrences.

Interest in the property stems from galena-sphalerite pods within felsic tuffs. In 1977, the property was mapped on a scale of 1:1000 by J.R. Woodcock, and further exploration was warranted to explore the extent of the sulphide mineralization.

During the first week of July, the author, accompanied by Al Rivard, visited the property. At this time, the drilling was complete, and the core had been logged and stored in core racks by two Pan Ocean geologists, R. Bailes and G. McArthur. Information presented in this report was largely supplied by these geologists, plus information gathered from core logged in DDH 78-2, and outcrop examination.

## (2) General Geology

The volcano-sedimentary pile which hosts the Nifty Deposit are of Middle Jurassic Age or older (Baer, A.J., G.S.C.(?), 1962-4). Subsequent to deposition, the area has been tilted eastward at  $55^{\circ}$  and the rocks strike  $115^{\circ}$ . Intruding all rock types are late stage porphyritic mafic dykes.

Deposition of the volcanic debris occurred within a subaqueous environment. Rapid phase changes within the stratigraphic section suggests a distal, pulsating volcanic source. Textural and compositional changes within the section suggest three main stages of deposition:

Upper Unit - dominantly interbedded fine andesitic tuffs and bedded siltstones. Thickness of this unit estimated at 50-60 metres.

"Ore-Bearing" Unit - dominantly felsic lapillituff with thin, interbedded andesite lapillituff, and siltstone. In addition, jasper breccias, and barite horizons occur in this unit. Coarser fragments, and an increase in felsic fragments are characteristic of this unit. Approximate thickness estimated at 40-50 metres.

Lower Unit - dominantly altered, fine tuffs in a matrix of bleached grit, with ellipsoidal chlorite and epidote spots. Unknown thickness.

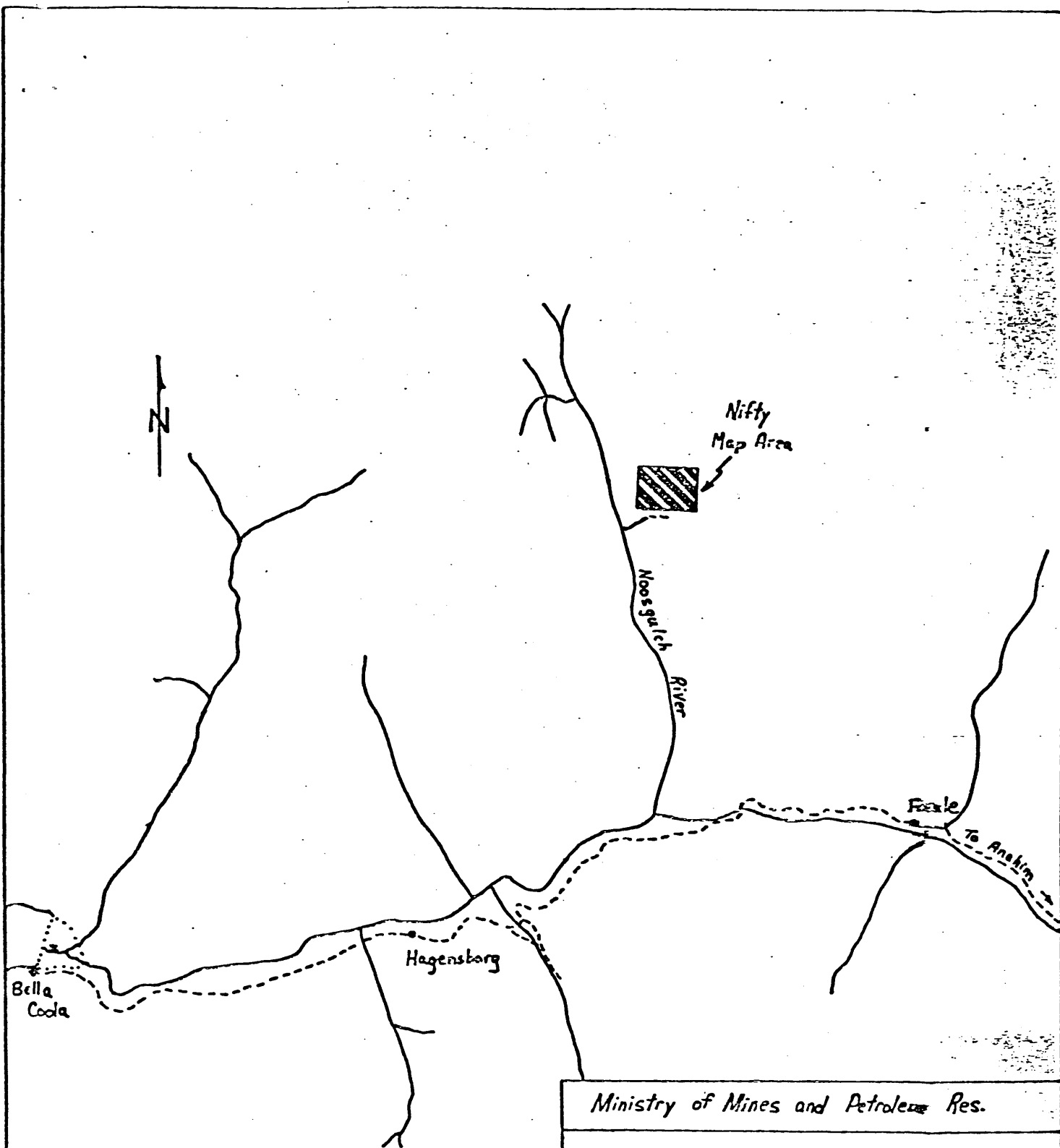
Two main types of sulphide mineralization were noted on the Nifty property. Firstly, massive pods of dominantly galena, sphalerite and minor pyrite occur within a felsic lapillituff. Felsic fragments are incorporated within the pod, and stratification of the sulphides is evident. Secondly, disseminated pyrite forms part of the matrix for the felsic tuff.

## (3) Geochemistry

Rock samples from the Nifty Property were analysed in the Ministry of Mines and Petroleum Resources laboratory in Victoria, B.C. Samples taken within the "ore zone" were assayed for gold and silver by fire assay. Lead, copper and zinc for these samples were assayed using atomic absorption (see Table 1).

In addition, semi-quantitative spectrographic analysis<sup>1</sup> (see Table 2) of the samples, plus determination of refractive indices<sup>1</sup> was done to determine rock types. Field description, refractive indices, and resulting rock types are presented in Table 3.

<sup>1</sup>For information concerning refractive indices and rock types (see Geology, Exploration and Mining in B.C., 1971, page 150).



Ministry of Mines and Petroleum Res.

Location Map of Nifty Property

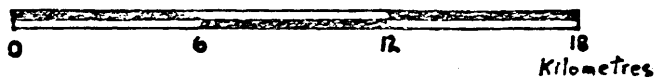
BELLA COOLA, B.C.

DRAWN BY:  
T.D. LEWIS

DATE:  
SEP., 1978

FIGURE: #1

SCALE:  
1:250,000





DEPARTMENT OF MINES AND PETROLEUM RESOURCES  
VICTORIA

SAMPLE RECEIVED FROM..... E. W. GROVE (A. Rivard/T. Lewis)

ADDRESS..... Geological Division

LABORATORY No.	SUBMITTER'S MARK	LABORATORY REPORT				
		ppm <u>Au</u>	ppm <u>Ag</u>	Z <u>Cu</u>	Z <u>Pb</u>	Z <u>Zn</u>
19741M	78 NR- 2	<1	12	0.018	0.066	0.081
19742M*	78 NR- 3	<1	84	0.010	0.080	0.23
19743M*	78 NR- 4	<1	232	0.010	0.49	1.37
19744M	78 NR- 5	<1	141	0.022	31.70	8.80
19745M	78 NR- 6	<1	30	0.015	0.15	0.090
19746M*	78 NR-1210					
19747M*	78 NR-1211					
19748M*	78 NR-1212					
19749M*	78 NR-1215	<1	<10	0.005	0.003	0.005
19750M*	78 NR-1217	<1	<10	0.012	0.009	0.007
19751M*	78 NR-1220	<1	<10	0.003	0.004	0.005
19752M*	78 NR-1227	<1	<10	0.009	0.002	0.002
19753M*	78 NR-1230	<1	<10	0.007	0.002	0.006
19754M*	78 NR-1231	<1	<10	0.007	0.001	0.004

NOTE: \*RI and Quartz to follow.

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED  
FOR PROMOTIONAL OR ADVERTISING PURPOSES.

DATE..... August 16, 1978.....

*A. G. J.*  
CHIEF ANALYST AND ASSAYER

DEPARTMENT OF MINES AND PETROLEUM RESOURCES  
VICTORIASAMPLE RECEIVED FROM E. W. GROVE (A. Rivard/T. Lewis) Page 2ADDRESS Geological Division

## SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSIS

Laboratory No.	19748M	19749M	19750M	19751M	19752M	19753M	19754M
Submitter's No.	78 NR-1212	78 NR-1215	78 NR-1217	78 NR-1220	78 NR-1227	78 NR-1230	78 NR-1231
Si	>10.0	>10.0	>10.0	>10.0	>10.0	>10.0	>10.0
Mn	0.12	0.15	0.12	0.06	0.1	0.15	0.1
Al	10.0	9.0	9.0	>15.0	7.5	>10.0	9.0
Mg	0.7	0.6	0.5	0.5	0.4	0.75	0.6
Pb	-	T	T	T	T	T	T
Ca	1.0	2.5	1.5	1.0	1.0	3.0	1.5
Fe	4.5	5.0	5.5	8.0	5.0	6.0	5.0
V	0.01	0.01	0.01	0.02	T	0.01	T
Cu	T	T	0.015	T	0.01	0.01	T
Ag	-	-	-	-	-	-	-
Zn	-	N.D.	N.D.	T+	N.D.	N.D.	N.B.
Na	1.0	>2.0	>2.0	>2.0	>2.0	>3.0	>2.0
K	>3.0	1.25	1.25	>4.0	1.25	1.25	1.35
Ti	0.3	0.2	0.2	0.45	0.1	0.25	0.15
Zr	0.01	T	T	T	T	T	T
Ni	T	T	T	T	T	T	T
Co	T	T	T	T	T	T	T
Sr	T	0.02	0.02	T	T	T	T
Cr	T	T	T	T	T	T	T
Ba	0.1	0.15	0.15	0.1	0.03	0.025	0.05
Traces:	Ga, Mo, Y, Yb	Ga	Ga, Mo, Y, Yb, Sc	Ga, Y, Yb, Sc	Ga, Mo	Ga, Mo, Y, Yb, Sc	Ga, Mo, Y, Yb, Sc

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED  
FOR PROMOTIONAL OR ADVERTISING PURPOSES.DATE August 16, 1978

T A B L E 3

SAMPLE NUMBER	DESCRIPTION
78 NR-2	Grab sample of monolithologic, felsic breccia, containing yellowish to light brown, subrounded to subangular felsic fragments up to 3 mm across. Dominantly pyrite mineralization within the matrix. Sample taken from main showing area.
78 NR-3	Grab sample of barite taken within a trench at Station 18.
78 NR-4	Grab sample of banded, felsic, fine-grained chert schistose siltstone(?) taken at Station 16.
78 NR-5.	Grab sample taken at main showing of a 1 metre square pod of massive sulphide within a felsic lapillituff.
78 NR-6	Grab sample of jasper breccia with felsic fragments within a dominantly pyritic matrix.
78 NR-1210 <i>refractive index 1.498</i>	Grab sample taken from DDH 78-1, 23.49 metres from the collar. Rock is a quartz-plagioclase porphyritic dyke. Thought to be equivalent to Unit 15 (see Figure 2). <i>Implies rock type is rhyolite.</i>
78 NR-1211 <i>refractive index 1.578</i>	Grab sample taken from DDH 78-1, 84.49 metres from the collar. Rock is an andesitic dyke. <i>Implies rock type is andesitic basalt.</i>
78 NR-1212 <i>refractive index 1.522</i>	Grab sample taken from DDH 78-1, 142.44 metres from the collar. Rock is a crystal-ashdust tuff with chloritic spots. Thought to be equivalent to Unit 2(??). <i>Implies rock is a rhyodacite.</i>
78 NR-1215	<i>refractive index 1.530 - Implies rock is a rhyodacite.</i>
78 NR-1217 <i>refractive index 1.530</i>	Grab sample taken from DDH 78-3, 43.01 metres from the collar. Rock is a grey andesitic dust tuff. <i>Implies rock is a rhyodacite.</i>
78 NR-1220 <i>refractive index 1.598</i>	Grab sample taken from DDH 78-3, 147.62 metres from the collar. Rock is lower, hematitic ash tuff. <i>Implies rock type is andesitic basalt.</i>
78 NR-1227 <i>refractive index 1.506</i>	Grab sample taken from DDH 78-2, 54.6 metres from the collar. Rock is a bedded, light to pale green, felsic dust tuff (possibly siltstone). This rock is thought to be equivalent to Unit 14. <i>Implies rock type is rhyolite.</i>
78 NR-1230	<i>refractive index 1.542 - Implies rock type is andesite.</i>
78 NR-1231 <i>refractive index 1.514</i>	Grab sample taken from DDH 78-2, 73.20 metres from the collar. Rock is a coarse lapillituff. <i>Implies rock type is rhyolite.</i>



DEPARTMENT OF MINES AND PETROLEUM RESOURCES  
VICTORIA

SAMPLE RECEIVED FROM..... E. W. GROVE (Rivard/Lewis)

ADDRESS..... Geological Division

LABORATORY No.	SUBMITTER'S MARK	LABORATORY REPORT	
		$\pm 0.002$	
		<u>RI (%)</u>	<u>QUARTZ (%)</u>
19742M	78 NR- 3	<i>mainly barite *</i>	<2
19743M	78 NR- 4	<i>barite rich</i> 1.646	16.5 $\pm$ 3
19746M	78 NR-1210	<i>acid rhyolite</i> 1.498	59 $\pm$ 4
19747M	78 NR-1211	<i>basaltic andesite</i> 1.578	30 $\pm$ 4
19748M	78 NR-1212	<i>rhyolite</i> 1.522	45.5 $\pm$ 2
19749M	78 NR-1215	" " 1.530	48.5 $\pm$ 2
19750M	78 NR-1217	<i>basalt</i> 1.530	44 $\pm$ 2
19751M	78 NR-1220	<i>basalt</i> 1.598	20 $\pm$ 1
19752M	78 NR-1227	<i>rhyolite</i> 1.506	58 $\pm$ 3
19753M	78 NR-1230	<i>andesite</i> 1.542	37 $\pm$ 3
19754M	78 NR-1231	<i>rhyolite</i> 1.514	46 $\pm$ 2

*see GEM-1978 p 150*

\*No fusion beads obtained.

This is a further report.

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED  
FOR PROMOTIONAL OR ADVERTISING PURPOSES.

DATE..... October 10, 1978

*W. A. Johnson*  
CHIEF ANALYST AND ASSAYER.