

5842

PEN

FORSHAW OPTION  
1975 DRILL PROGRAM  
Wallace Creek, B. C.

Greenwood Mining Division

#5842  
PEN N.T.S. 82/E/2W

R.V. Longe April, 1976

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5842 MAP

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## S U M M A R Y

Geological mapping of the Forshaw claims in 1975 was followed by a short Induced Potential survey in the vicinity of an occurrence of sphalerite-pyrite which forms the main showing. Two diamond drill holes totalling 1,302 feet were directed at testing for a body of mineralization in limestone beneath the main showing. The drilling, which did not reach the base of the limestone, did not indicate significant quantities of economic minerals.

1. INTRODUCTION

Following a short mapping program and two line miles of Induced Potential survey across a showing of pyrrhotite-sphalerite in a fault zone south of Wallace Creek near Greenwood, a group of three claims belonging to Messrs. Forshaw and Luznar were optioned by Rio Tinto Canadian Exploration in October, 1975. This report describes the results of drilling two holes in the property in November 1975.

2. LOCATION DATA

The property lies in southern British Columbia five miles north west of the city of Greenwood, and on the south side of Wallace Creek.

N.T.S.

82/E/2

Latitude;Longitude

Location of original showing:

49°09' N ; 118°49'30" W

U.T.M.

Location of original showing:

3680000 E ; 5446550 N

Elevation

Elevation of original showing:

4500 feet above sea level



3. TOPOGRAPHY

Relief is moderate ranging from 3,000 to 5,000 feet. Much of the area has been logged recently and is covered by a network of usable roads. Elsewhere the forest varies from mature timber with open grass to scrub timber with dense undergrowth.

4. ACCESS

Access is by paved road north from Greenwood along Boundary Creek Valley, followed by gravel roads leading west from Boundary Creek. The shortest route, via Wallace Creek from the junction of Wallace Creek road with Boundary Creek road, requires the permission of a local farmer, Mr. Rolland Cox. Alternatively, the property may be approached via Windfall Creek.

5. CLAIMS

Three claims totalling 48 units are included in the Forshaw Option.

		<u>Due Date</u>
PEN CLAIM	20 Units	Sept. 22 1976
AB CLAIM	16 Units	Sept. 03 1976
JOE CLAIM	12 Units	Sept. 09 1976

For further details on the claims, see Figure 2 and Attachment No. 4.

## 6. OWNERSHIP

The claims are owned jointly by Mr. Jim Forshaw and Mr. Val Luznar both of Box 67, Greenwood, B. C. Rio Tinto Canadian Exploration Ltd. has a renewable option on the claims for the period October 1st, 1975 to September 31, 1976.

## 7. HISTORY OF PROPERTY AND PREVIOUS WORK

J. Forshaw located the main showing of sphalerite and pyrite in limestone in 1969 following a geochemical follow-up of a target he identified on an airborne magnetic map. The 36 "J" claims staked by Forshaw to cover this showing were optioned by the Orequest Syndicate (Pechiney, Home Oil, Granby) the same year. Orequest carried out geological mapping, geochemistry, a magnetometer survey and trenching during the summer of 1970 (B.C. Department of Mines Assessment Report 2925). In addition to the original 36 "J" claims located by Forshaw, Orequest staked a further 211 claims mostly on the south side of Wallace Creek. The option was later terminated and the claims returned to Forshaw. Rio Tinto examined the prospect in 1975 and carried out geological mapping, limited geochemical sampling, and a two-line I.P. survey. During this time Forshaw abandoned the "J" claims and staked the JOE, AB, and PEN claims, a group which covered most of the original "J" claims in addition to unstaked ground to the east. The JOE, AB, and PEN claims were optioned by Rio Tinto in October in 1975.

## 8. REGIONAL GEOLOGY

In the Greenwood area, metamorphic Permian volcanic rocks of the Knob Hill group form a basement for the Triassic Anarchist group which consists of:

- (1) Sharpstone conglomerate (a desert outwash deposit),
- (2) Brooklyn Limestone. This sequence of sediments is intruded by granitic batholiths of Cretaceous age. Tertiary dykes and sills are numerous and associated Tertiary volcanic rocks cover much of the area.

All significant base metal deposits in the Greenwood area occur at or near the base of the Brooklyn Limestone.

## 9. LOCAL GEOLOGY

Mapping in 1975 indicated the following rocks to be present on the claims.

- |   |   |   |
|---|---|---|
| <ol style="list-style-type: none"> <li>5) Tertiary dykes and volcanic rocks</li> <li>4) Cretaceous Granites</li> <li>3) Siltstones and Mudstones usually<br/>dolomitic or limey</li> <li>2) Limestone and dolomite</li> <li>1) Sharpstone conglomerate</li> </ol> | } | interbedded<br>and mixed<br>lithologies<br>of the Triassic<br>Anarchist Group |
|---|---|---|

At the main showing sphalerite and pyrite are seen in a near-vertical, north-striking, fault system cutting limestone of probable Brooklyn age. This limestone (the "Carbonate Pebble Conglomerate" shown in Figures 3 and 4) dips to the East and is overlain by siltstone (Unit 3 above). Elsewhere on the property the limestone can be shown to overlie Sharpstone (Unit 1 above). It was thought likely that the sulphide minerals in the fault zone were derived by remobilization from stratigraphically deeper levels in the limestone. Two lines of I.P. which showed two, conformable, chargeable bodies dipping to the east below the main showing added weight to this hypothesis.

The two holes drilled in November 1975 and described in this report indicated the chargeable bodies to be composed of very fine grained disseminations of pyrite and pyrrhotite in dolomitic siltstone.

The first hole bottomed at 496 feet in Sharpstone and the second indicated the Sharpstone to be a bed some 200 ft thick overlying an older sequence of limey siltstones and carbonates. The base of the Brooklyn formation was therefore not reached.

10.

## DRILL PROGRAM

The two holes, DDH 75-1 and 75-2 were drilled during the period November 2nd to November 18th by Allen Diamond Drilling Limited of Merrit, B. C. The core is stored in the basement of J. Forshaw's garage in Greenwood. DDH 75-1 was collared at 80 m E on Line 200 m N, dipped to the West at  $-45^{\circ}$  and was stopped at 496 feet. DDH 75-2 was collared at 50 m E on Line 200 m N, dipped to the West at  $-45^{\circ}$  and was stopped at 806 feet.

The rocks intersected in these two holes represent a mixture of three main lithologic types each representing a very different mode of deposition.

Type 1

The sedimentary breccia known as Sharpstone. When typically developed this rock is an unsorted jumble of angular clasts of chert or indurated quartzite. It is believed to have been formed as a desert outwash deposit derived from the Knob Hill formation of metamorphosed volcanic rocks and cherts;

Type 2

A massive white crystalline limestone, locally dolomitic. This Carbonate unit is believed to correlate with the Brooklyn Limestone of the Phoenix area;

Type 3

A Siltstone-Mudstone now represented by recrystallized quartz grains (siltstone) or by a mixture of biotite and quartz (mudstone).

Intimate mixing of these lithological types makes naming these rocks an arbitrary matter. The Sharpstone commonly acquires a matrix of limestone or dolomite and in some sections the clasts themselves consist predominantly of carbonate. Much of the Carbonate is made impure with a mixture of quartz and biotite (the Siltstone-Mudstone unit) and it contains in many places, clasts identical to those of the Sharpstone. The Siltstone-Mudstone unit is usually limey or dolomitic and often contains angular clasts similar to those in the Sharpstone but generally of finer grain size.

An example of a mixed lithology is the "Carbonate Pebble Conglomerate" which occurs in the pit and in both drill holes. This distinctive unit which serves as a good marker horizon (Figures 3 and 4) consists of clasts of limestone and chert in a matrix of limestone, dolomite or silica.

All the rocks have been subjected to regional or thermal metamorphism with the consequent development of skarn minerals. Chlorite and biotite are abundant, especially in the dolomitic variety of the siltstone-mudstone. Garnet occasionally occurs in the lime-rich rocks. Actinolite, tremolite, scapolite and idocrase have been identified in thin section. Locally, but only locally, these skarn minerals predominate over the primary minerals.

Pyrite and pyrrhotite are common in the sharpstone and in the siltstone-mudstone. Only the relatively pure limestone and thin quartzite beds are usually free of sulphide. Sulphides occur on fractures, as disseminations, as wisps or bands which may represent bedding (rare) and as clusters. In thin section the disseminated sulphide appears to occupy low pressure zones interstitial to the quartz grains.

Whether or not some or any of the sulphide and skarn minerals are due to hydrothermal processes is not clear. Much of the sulphide is not associated with skarn minerals and most of the associated minerals (mainly quartz) do not show evidence of hydrothermal alteration. The effects of hydrothermal alteration could have been destroyed by metamorphism.

In order to portray the lithology of the drill core graphically (Figure 3) it was necessary to assign a lithological symbol to each section of the core. The technique adopted has been to label each section of core with a capital letter representing its predominant lithology and with lower case letters describing its subordinate lithology. An alternative method would have been to classify each section of core according to the abundance or type of skarn minerals. This method was not chosen because it would not have been practicable without a large number of thin sections. Moreover the writer believes the primary lithology to be more significant. Also, the greatest development of skarn minerals appears to be in the dolomitic siltstone-mudstone an observation which, if true, reflects a control of skarn mineralization by primary lithology.

## 11. CONCLUSIONS

No significant quantity of economic minerals were intersected.

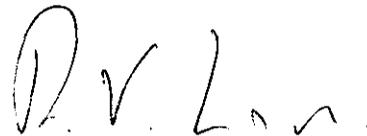
The base of the Brooklyn Limestone (where it overlies basal Sharpstone) was not intersected in the drilling.

Pyrite and pyrrhotite were common in the rocks intersected and were locally abundant.

The abundance and distribution of pyrite and pyrrhotite were sufficient to explain the two easterly dipping chargeable horizons identified in the I.P. survey.

The Brooklyn Limestone, or its impure equivalent in the Wallace Creek area, is in excess of 600 feet, - considerably more than expected.

The mode of sulphide emplacement is not clear. The writer thinks the most likely explanation is a primary emplacement of sulphides in the impure carbonates and sharpstone during sedimentation or diagenesis. Sulphides were then remobilized to a relatively minor extent by hydrothermal processes and by metamorphism.

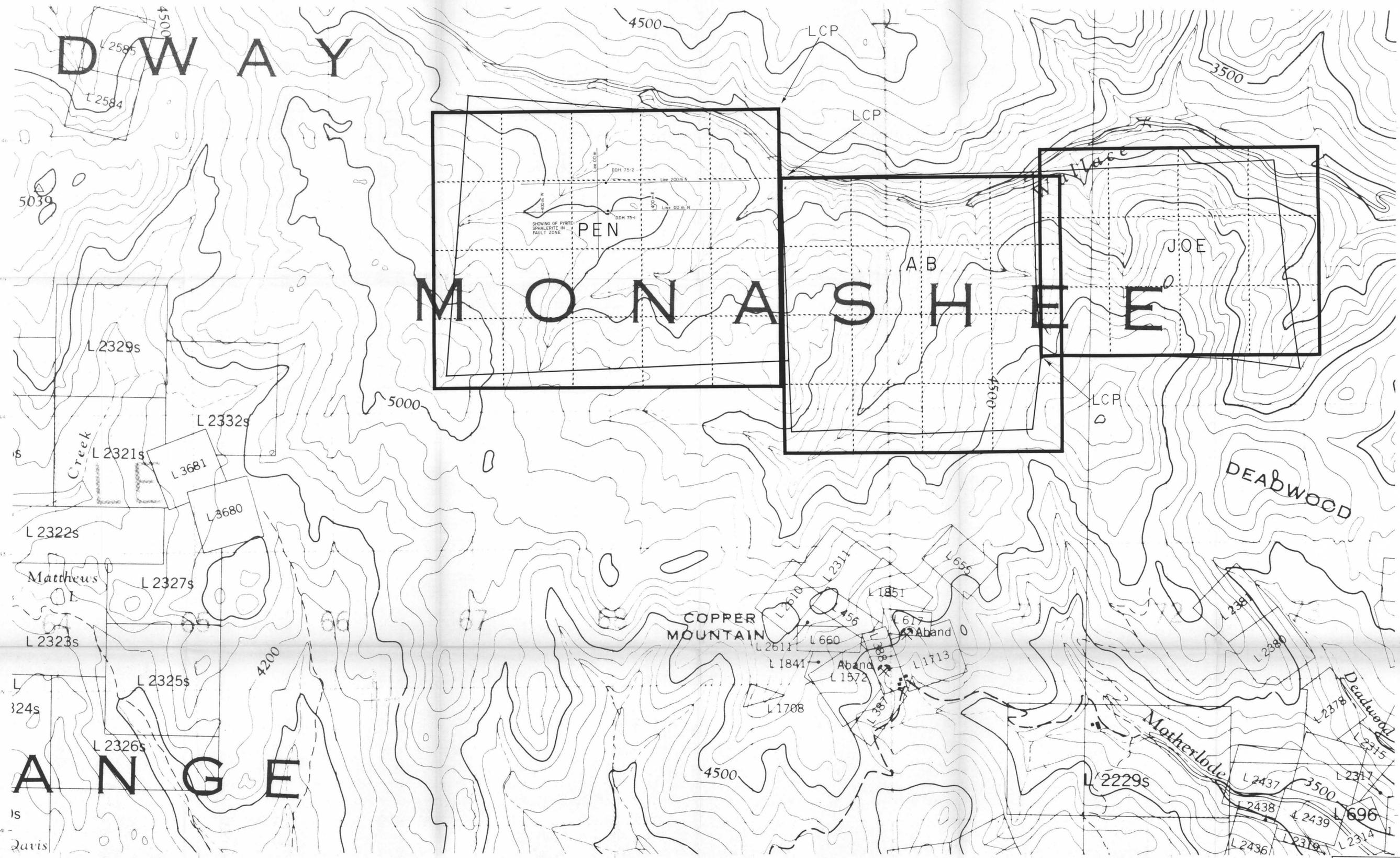


RVL:rl  
Vancouver Office  
April 22, 1976

R. V. Longe

ATTACHMENT #1

DRILL LOGS



5842 M-2 5842 M-2

Department of  
Mines and Petroleum Resources  
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NO. 5842 MAP 2

NTS 82-E-2  
RIO TINTO CANADIAN EXPLORATION LIMITED  
FORSHAW OPTION, 1975 DRILLING  
FORSHAW CLAIMS, 1975 DRILL SITES,  
I.P. GRID, & SITE OF ORIGINAL SHOWING  
RL / Altair APRIL 1976 DWG D-8425

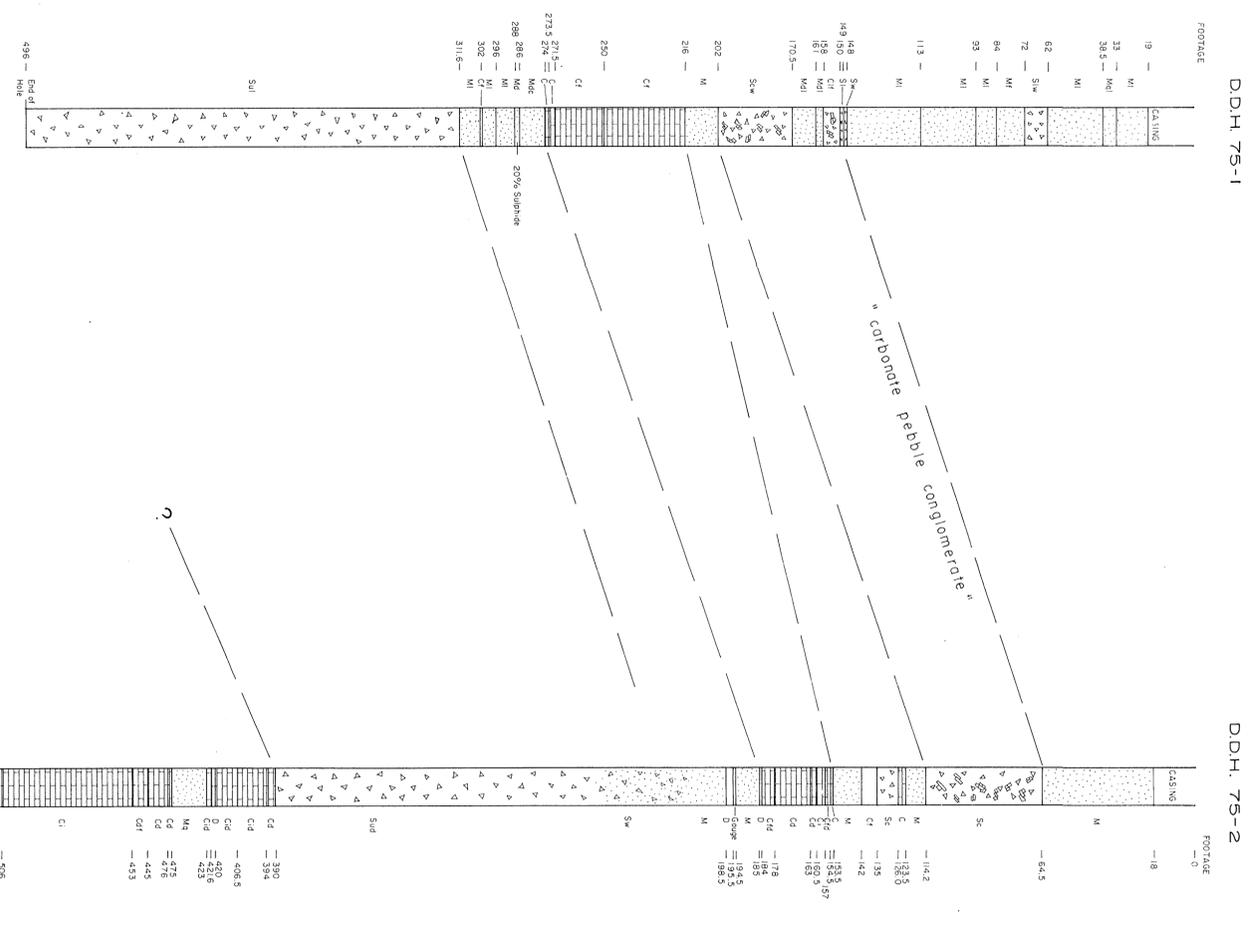
SCALE 1:10,000  
Metres 200 0 200 400 600 800 Metres

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5842 MAP 3

*R.V. Law*  
26 April 1976

Figure 3

RIO TINTO CANADIAN EXPLORATION LIMITED  
FORSHAW OPTION  
1975 DIAMOND DRILL PROGRAM  
DRILL SECTIONS  
RL / Altair    APRIL 1976    DWG. D. - 7383



**MAJOR LITHOLOGY**

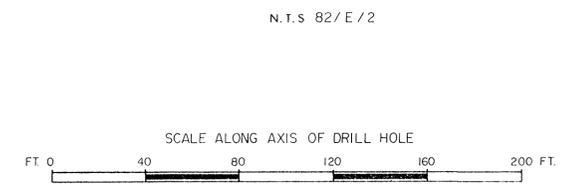
- M - Siltstone - Mudstone usually with at least trace dolomite
- C - Carbonates
- Cd - Dolomite
- S - Shalestone

**SUBORDINATE LITHOLOGY**

- d - Dolomite
- i - Impure (refers to carbonate)
- q - Quartzite
- l - Lime-rich
- f - With fragmental clasts
- w - Water-void (refers to shales)

NOTE: Horizontal dimensions not to scale.

5842 M-3



W.

E.

400 m W

300 m W

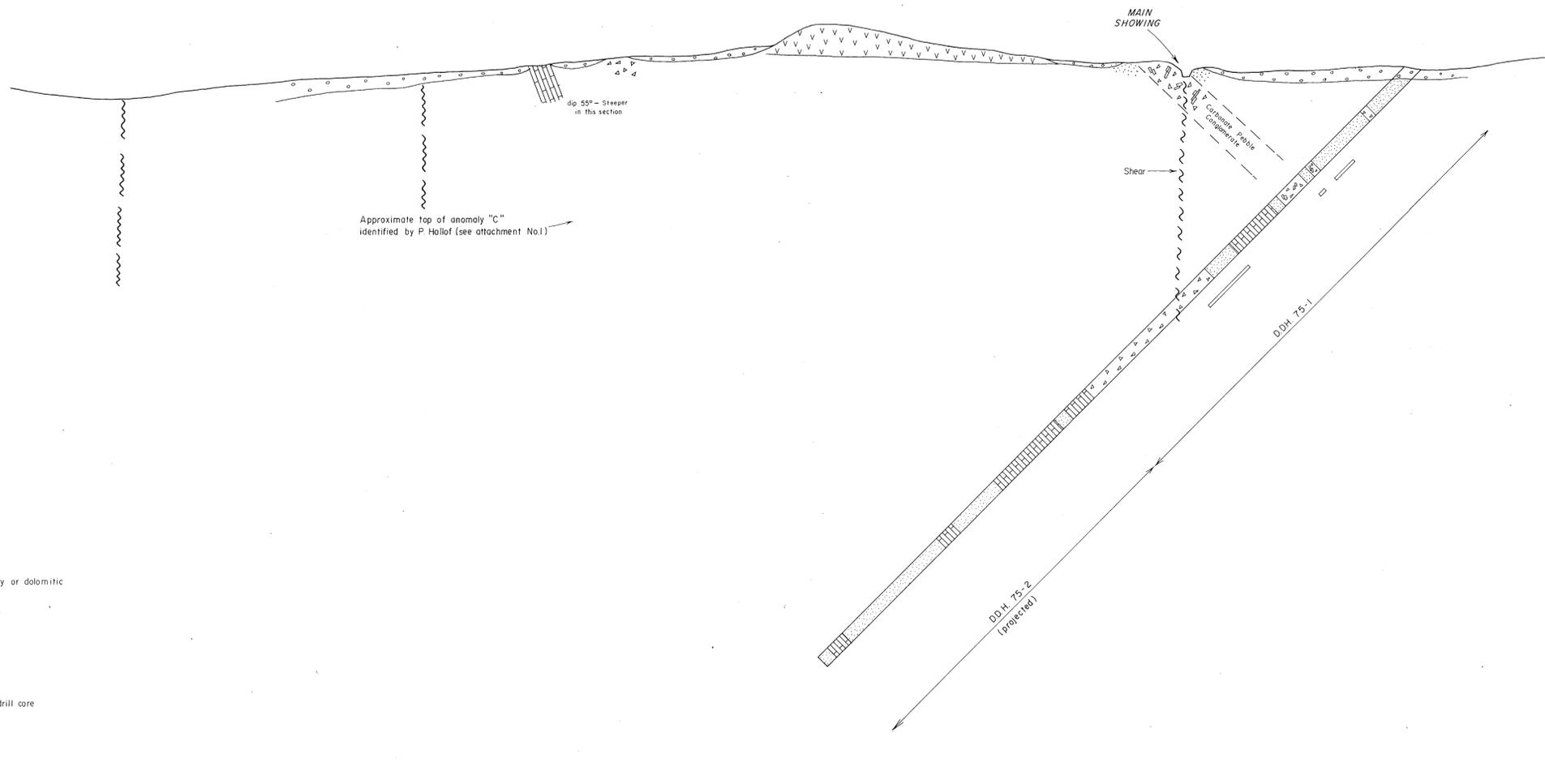
200 m W

100 m W

00

100 m E

Line 00 m N



LEGEND

- Overburden
- Tertiary volcanic rocks
- Siltstone - Mudstone, locally limy or dolomitic
- Carbonate Pebble Conglomerate
- Limestone and Dolomite
- Sharpstone
- > 3% Sulphide (py + po) in drill core
- Shear
- Fault (inferred)

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5842 M-4

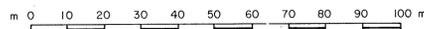
NOTE: Topography is approximate

FIGURE 10



N.T.S 82 E 2

SCALE 1:1000



RIO TINTO CANADIAN EXPLORATION LIMITED		
FORSHAW OPTION		
RELATIONSHIP OF DRILL SECTION TO OUTCROP (COMPOSITE SECTION ON LINE 00N)		
APRIL 1976	R.L. /alfair	DWG. D-7385

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

LOCATION: Line 00 m N; 80 m E

HOLE No DDH 75-1

AZIMUTH: 270°

PROPERTY: Forshaw Option

Drilling Contractor: H. Allen Diamond Drilling Ltd.

DIP: -45°

LENGTH: 496

ELEVATION: 4500 ft approx

CLAIM No:

PEN

UNIT #10

STARTED: NOV 2

CORE SIZE: BQ

DATE LOGGED: Nov 8 1975

SECTION:

relogged: March 12 1976

COMPLETED NOV 8

DIP TESTS: None

LOGGED BY:

R.V. Longe

PURPOSE: To intersect base of limestone unit though to be source of sphalerite in pit

*R.V. Longe*

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH	Au oz/T	Ag oz/T	Cu%	Zn%	Lithologic Symbols Used In Section (Figure 3)
from	to			from	to						
0	19	Casing	102	118	124.5		Tr	0.06	0.014	0.03	
			104	131	137.5		Tr	0.08	0.015	0.04	
19	33	Siltstone, dark grey limey, traces of ? sedimentary banding (90° to core), chlorite and pyrite on fractures	106	155.5	161.5		Tr	0.09	0.010	0.01	ML
			108	226	232.5		Tr	0.08	0.009	0.01	
			110	239	245.5		0.005	0.05	0.010	0.02	
			112	252.5	259		0.005	0.05	0.006	0.01	
33	38.5	Pale grey to pink, limey quartzite, blotchy, pink probably due to biotite, blotchiness to chlorite, hairline fractures filled with lime and chlorite	114	265.5	272		0.005	0.05	0.009	0.01	Mql
			116	278.5	285		0.005	0.06	0.009	0.01	
			117	285	288.25		0.02	0.12	0.048	0.01	
			118	288.25	291.5		0.01	0.04	0.008	Tr	
			119	291.5	298		Tr	0.03	0.010	Tr	
38.5	62	Siltstones, very chloritic, very limey, gray, blotchy, very irregular due to intermixing of original rock types, (lime, siltstone, mudstone) and to development of chlorite. Above grading over one foot into:	120	298	304.5		Tr	0.05	0.009	0.01	ML
			121	304.5	311		Tr	0.02	0.010	0.01	
			122	311	318		Tr	0.02	0.008	Tr	
			123	344.5	351		Tr	0.03	0.004	0.01	
			124	364	367.25		Tr	0.05	0.004	0.01	
			125	475.5	478.75		Tr	0.04	0.005	Tr	
			126	436	439.25		0.005	0.04	0.006	Tr	
62	72	Breccia, probably formed by turbidites, siliceous, angular clasts in chloritic and limey matrix. Clasts up to 5 cm.	127	416	419.25		Tr	0.02	0.008	Tr	Slw
			128	387	390.25		Tr	0.04	0.015	0.01	
			132	44	46		Tr	0.03	0.011	0.06	
			134	46	48		Tr	0.04	0.009	0.02	
72	84	Siltstone, banded, limey, chloritic gray to gray white, occasional clasts of angular chert									Mf

RIO TINTO CANADIAN EXPLORATION LIMITED  
DIAMOND DRILL RECORD

HOLE No:	DDH 75-1
PAGE No:	2

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH				Lithologic Symbols Used In Section
from	to			from	to					
84	93	Siltstone, gray, speckled, chloritic limey broken up with chlorite-filled fractures								Ml
93	113	Siltstone, gray, massive, fine grained very limey. Locally speckled with chlorite, sedimentary banding 80° to core. Chlorite filled fractures with pyrite 1%.								Ml
113	148	Siltstones, gray and pink fine grained blotchy, limey and dolomitic, speckled with chlorite and sulphide. Pyrrhotite disseminated and pyrite on fracture. Total sulphides 4%. Chlorite filled fractures								Ml
148	149	Sharpstone, water laid, chert clasts up to 1 cm in a chlorite-epidote matrix								Sw
149	150	White limestone matrix with 50% chert clasts grading into unit below:								Sl
150	158	Dirty limestone, gray to gray white, with chert clasts, white limestone clasts in a matrix of dirty limestone with chlorite, epidote, garnet and some calcite filled fractures. "Carbonate Pebble Conglomerate"								Clif
		157 - 157.5 Pyrite in fractures up to 3%								
158	161	Siltstone, pink, dolomitic and limey, with chlorite patches. Pyrite 3%. Chlorite on fractures.								Mdl
161	170.5	Gray, blotchy, slightly, limey,								Mdl

RIO TINTO CANADIAN EXPLORATION LIMITED  
DIAMOND DRILL RECORD

HOLE No:	DDH 75-1
PAGE No:	3

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH				Lithologic Symbols Used In Section (Figure 3)
from	to			from	to					
		dolomitic chlorite-rich siltstone with abundant chlorite mostly on fractures. 2% pyrite on fractures with chlorite.								
170.5	202	White carbonate considered as clasts and also lenses of dolomite (probably includes tremolite) with sharpstone clasts. Water sorted.								Scw
202	216	Siltstone, gray, banded and blotchy, limey, ? dolomitic with sharpstone clasts and chlorite speckling. Locally dolomitic lenses, garnet patches and chlorite on fractures.								M
216	250	White carbonate unit with clasts of dolomite and sharpstone in carbonate matrix, garnet clots. Trace sulphides.								Cf
250	271.5	Limestone, gray to dirty white with chlorite on fractures, locally with clasts of dolomite and chert.  Chlorite and fractures, very abundant in places, calcite as veinlets, rare.								Cf
271.5	273.5	Limestone, massive white crystalline								C
273.5	274	Siltstone, dirty white, limey or dolomitic, speckled with chlorite and sulphide 2%								Mld
274	275	Limestone, massive crystalline, white								C
275	286	Siltstone, interlayered, pale gray, fine grained, dolomitic or limey, speckled with								Mdc

RIO TINTO CANADIAN EXPLORATION LIMITED  
DIAMOND DRILL RECORD

HOLE No: DDH 75-1
PAGE No: 4

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH					Lithologic Symbols Used In Section (Figure 3)
from	to			from	to						
		chlorite interlayered with massive crystalline limestone.									
286	288	Siltstone, slightly dolomitic, chlorite rich with 20% sulphide, (5% pyrite the remainder Po). Thin section indicates skarn minerals to be more abundant than elsewhere. These include diopside, actinolite-tremolite, scapolite, garnet.									Md
288	296	Siltstone, gray, fine grained, limey with chlorite on fractures									Ml
296	311.6	Very fine grained pinkish (biotitic) slightly limey siltstone, locally banded with very fine grained sulphides									Ml
		302 - 302.5 sharpstone fragments in limey, epidote rich matrix									Cf
311.6	496	Sharpstone, water laid, very sulphide rich at the top (pyrite in matrix), clasts of chert up to 2 cm. Clasts generally not touching. Sulphide in matrix averages up to 1% but locally reaches 10%. Some patches pink with biotite. Some green with epidote. Most of matrix is limey. Chlorite on fractures (weak) and locally on clots.									Swl
		430 - 457 Shear zone, unmineralized. Core to shear 70°.									
496		End of Hole. Casing left.									

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

LOCATION: Line 200 m N ; 50 m E

HOLE No DDH 75-2

AZIMUTH: 270°

PROPERTY: FORSHAW OPTION

Drilling Contractor: H. Allen Diamond Drilling Ltd.

DIP: -45° LENGTH: 806 ELEVATION: 4,440 approx CLAIM No: PEN UNIT #10

STARTED: NOV 9 CORE SIZE: BQ DATE LOGGED: March 12/76 SECTION:

COMPLETED: DIP TESTS: LOGGED BY: R.V. Longe

PURPOSE: To intersect base of limestone unit thought to be source of sphalerite in pit

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH	Zn %			Lithologic Symbol Used In Section (Figure 3)
from	to			from	to					
0	18	Casing								
18	64.5	A very fine grained slightly dolomitic siltstone (blotchy, gray green to grey white, locally streaky or banded). 3-5% very fine grained sulphides (disseminated) mostly Po, moderately fractured, core angles 80°, some fractures have chlorite, some dolomite, ? some epidote. Grading into:	202026	415	420	5.0ft	0.15			M
			202027	425	430	5.0	0.05			
64.5	114.2	"Carbonate pebble conglomerate". A coarse grained, ? clastic with clasts of white, angular to rounded dolomite with some ? tremolite in a greenish gray matrix of silica with chlorite and minor red garnet. Lime filled fractures, minor. Clast size up to 2 cm. Core angles 80°. Enough chert clasts between footage 100 - 103 to make this a sharp-stone. Sulphides negligible.								Sc
114.2	119	Dolomitic siltstone highly fractured, chlorite rich, limey, as at top of hole.								M

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE No: DDH 75-2  
PAGE No: 2

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH				Lithologic Symbol Used In Section (Figure 3)
from	to			from	to					
119	120	Limestone, dirty white with epidote and garnet								C
120	123.5	Dolomitic siltstone, highly fractured, chlorite rich, limey								Mdl
123.5	126	Cherty siltstone, limey, gray, blotchy and banded								M
126	135	Limestone and dolomite as ? clasts in a chloritic siltstone matrix. Some sharpstone clasts								Sc
135	142	Limestone matrix, with very chloritic clasts, much fracturing, many chlorite-lined fractures sub parallel to core								CF
142	153.5	Very fine grained siltstone, gray, slightly dolomitic, chloritic with trace garnet and ? biotite. Some epidote.								M
153.5	154.5	Limestone, white with green (epidote) blotches								C
154.5	157	Dolomitic limestone to 157. Dolomitic limestone, white, as (? residual) fragments surrounded by pale green dolomite. Green probably due to epidote.								Cfd
157	160.5	Very chloritic limey rock, much fractured								Ci
160.5	163	Limey dolomite, blotchy with chlorite, biotite, plus ? garnet and with very								cd

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE No: DDH 75-2

PAGE No: 3

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH				Lithologic Symbol Used In Section (Figure 3)
from	to			from	to					
		chloritic patches.								
163	178	Gray to yellow very fine grained, banded (80° to core) limey dolomite with 1% pyrite Less banded at base								Cd
178	178.2	Quartz either vein or quartzite. Some quartz brecciated and filled with green dolomite.								Mg
178.2	184	Dolomitic rock with cherty fragments, some "clasts" are clasts, some are residuals left by chloritization of matrix								Cfd
184	185	Dyke, speckled, gray								D
185	194.5	Dolomitic siltstone, speckled gray with sharpstone fragments, pink zone, probably biotite, sulphide 2% (pyrrhotite plus pyrite), pyrite on fractures								M
194.5	195.5	Gouge								
195.5	198.5	Dyke, fine grained, gray with small phenocrysts of biotite								D
198.5	390	Slightly dolomitic siltstone, speckled and blotchy, grey or pink (biotite) with sharpstone clasts (mudstone might be a better term than siltstone) minor pyrrhotite plus pyrite. Grading very gradually too.: Water laid sharpstone with local graded bedding, clasts up to 3 cm, clasts not								M  Sw

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE NO: DDH 75-2  
PAGE NO: 4

FOOTAGE		DESCRIPTION	SAMPLE NO	FOOTAGE		LENGTH				Lithologic Symbol Used In Section (Figure 3)
from	to			from	to					
		touching, pyrite exceeds pyrrhotite, both less than 1% but locally up to 5%								
		Pyrrhotite in blobs next to clasts (? pressure shadow). At greater than 300 ft clasts are frequently very close together, matrix locally dolomitic, frequently chloritic and in some places pink with biotite.								Swd
390	394	Greenish gray, very fine grained dolomitic limestone								Cd
394	406.5	Pinkish ?biotitic matrix containing "clasts" of dolomite. Matrix has 2% sulphides. Might be termed biotized dolomite.								Cid
406.5	420	Gray, very fine grained, chloritic dolomite with some limestone ? remnants. Also lime filled fractures. Blotchy.								Cid
420	421.6	Dyke, fine grained, gray, speckled with biotite phenocrysts.								D
421.6	423	Gray blotchy dolomite with ? biotite matrix.								Cid
423	435	White quartzite with pink (? biotite) zones on fractures								Mq
435	436	Dolomite, gray, very fine grained								Cd
436	445	Dolomite, sheared chloritic, gray with black patches.								Cd

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE No: DDH 75-2

PAGE No: 5

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH				Lithologic Symbols Used In Section (figure 3)
from	to			from	to					
445	451	Dolomite, gray, blotchy with chlorite, biotite and epidote patches, sharpstone clasts towards base.								Cdf
451	506	Limestone, white, crystalline with lensoid patches of ? epidote ? biotite. Greenish gray colour, streaky with chlorite on cracks. These might represent muddy lenses within the limestone.								Ci
506	524	Limey dolomite, streaky, gray white								Cid
524	529	Dolomitic quartzite, fine grained, gray, chloritic								Ciq
529	539	Dark gray chlorite rich rock with pyrite on fractures								M
539	541	Gray quartzite								Mq
541	556	Dolomitic siltstone, banded and blotchy pink (? biotite) and gray. Biotization is sub parallel to core angle and is therefore possibly transgressive								M
556	586	Dolomitic siltstone, gray, chloritic and locally with biotite. Some ? remnant areas between biotite areas are limey								Md
586	588.5	Limestone, white crystalline speckled with chlorite								C
588.5	590	Limestone mixed up with chloritic rock								Ci

RIO TINTO CANADIAN EXPLORATION LIMITED  
DIAMOND DRILL RECORD

HOLE No: DDH 75-2  
PAGE No: 6

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH					Lithologic Symbol Used In Section (Fig. 3)
from	to			from	to						
590	594.5	Siltstone, blotchy dolomitic (pink) with limestone remnants									Md
594.5	599	Limestone, dirty white, speckled with chlorite and streaked with epidote									C
599	603	Limestone, streaky (90° core angle), gray to dark gray.									Ci
603	616	Siltstone, gray, streaky dolomitic with biotite patches									Md
616	616.5	Limestone, crystalline, dirty white									C
616.5	623	Siltstone, gray streaky, dolomitic with biotite patches									Md
623	626	Dark brown massive lamprophyre dyke with well chilled margin upper contact 70° to core, bottom contact irregular.									D
626	635.6	Siltstone, gray, streaky, dolomitic with biotite patches									Md
635.6	638	Gray, quartzite, grading into more dolomitic variety at base. Quartzite is blotchy with chlorite and with biotite blebs.									Mq
638	648	Quartzite, slightly dolomitic									Mqd
648	659	Siltstone, gray, limey and dolomitic, with biotite patches									Mdl

RIO TINTO CANADIAN EXPLORATION LIMITED  
DIAMOND DRILL RECORD

HOLE No:	DDH 75-2
PAGE No:	7

FOOTAGE		DESCRIPTION	SAMPLE No	FOOTAGE		LENGTH					Lithologic Symbol Used In Section (Figure 3)
from	to			from	to						
659	661	Dark grey limestone crackled with grains of white limestone.									C
661	664	Siltstone, grey, limey and dolomitic with biotite fractures									Mld
664	665	Quartzite, white									Mq
665	669	Quartzite, grey, blotchy with biotite in places, lime on hairline fractures									Mq
669	726	Siltstone, grey, slightly dolomitic, biotite streaks, epidote disseminations, streaky and blotchy									Md
726	728	Quartzite, white with faint blotches probably of biotite and epidote									Mq
728	749	Siltstone, gray and pink, dolomitic, chloritic and biotitic, calcite on fine fractures. (If distribution of biotite reflects a primary bulk composition, this section was mixed up, probably a slump sequence of mudstone and limestone.									Md
749	751	Blotchy quartzite									Mq
751	760.6	Quartzite, dolomitic, blotchy grey; and dolomitic biotitic mudstone, pink and irregular									Md
760.6	770	Limestone, dirty, pale grey, friable									Ci
770	784.5	Limestone, dirty white, gray, streaky									Ci



ATTACHMENT #2

ASSAY RESULTS



To: Rio Tinto Exploration

REPORT No 25 - 953

PAGE No. 1

**BONDAR-CLEGG & COMPANY LTD.**

DATE: December 30, 1975

615 - 555 Burrard Street  
Vancouver, B.C.  
V7X 1M3

**CERTIFICATE OF ASSAY**

Samples submitted: December 23, 1975

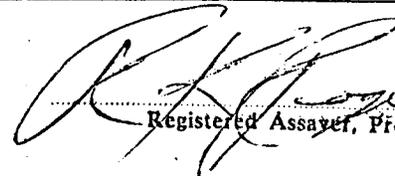
Results completed: December 30, 1975

PROJECT: 8620

I hereby certify that the following are the results of assays made by us upon the heren described 6022 samples.

MARKED	GOLD		SILVER	Zn							TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent		
202026				0.15							
202027				L0.05							

L denotes 'less than'

  
Registered Assayer, Province of British Columbia

ATTACHMENT #3

PETROGRAPHIC DESCRIPTION OF THIN SECTIONS

Three thin sections from a total of 25 prepared from the two drill holes described in this report were submitted to Dr. John Payne of Vancouver Petrographics for petrographic description. These three thin sections were selected because of their complex mineral assemblages. They represent rocks in which skarn mineralization was more than usually developed, and are not typical of the drill core as a whole.

Report for  
R.V.LONGE,  
RIO TINTO.

(3 samples, thin sections)  
75-1-228, -284, -287.5

(irregular zoned to banded skarn with typical assemblage garnet-diopside-(tremolite-actinolite)-pyrite-calcite-quartz with or without idocrase; replaced by or altered to calcite-scapolite; late calcite-K-feldspar veinlets; wollastonite present in banded skarn between garnet and calcite.)

John Payne,  
March, 1976.



# Vancouver Petrographics Ltd.

JAMES VINNELL, Manager  
JOHN G. PAYNE, Ph. D. Geologist

216 EAST 28TH AVENUE  
VANCOUVER, B.C. V5V 3M1

PHONE (604) 874-1650

Report for: R.V. Longe,  
Rio Tinto

Samples: 75-1-228, 75-1-284, 75-1-287.5 (thin sections only)

## Summary

The samples are of skarn, typically formed from a carbonate host near the contact of a high temperature plutonic intrusion. Some of the coarse grained calcite may be recrystallized host rock. Sample 75-1-228 shows strongly altered plagioclase crystals which also may be relict host material.

All other minerals are of metamorphic or metasomatic origin, they show a wide variety of textures and irregular to banded compositional zoning. Mineral grains are commonly intimately intergrown (especially garnet around pyrite), and poikilitic grains are common. Grain size ranges widely from less than 0.05 mm to 16 mm.

Two main ages of skarn formation may exist, with an earlier assemblage of garnet-idocrase-diopside-(tremolite-actinolite)-pyrite-calcite-quartz partly replaced by a later assemblage of calcite-scapolite-(tremolite-actinolite?). Veins of calcite-K-feldspar or calcite cut some samples.

Wollastonite? occurs in one sample of banded skarn between bands of calcite and garnet.

The sample shows a very variable texture and mineral composition. Garnet (20-25%) forms fine to coarse grains (up to 16 mm across), generally with interstitial quartz and lesser calcite. Garnet commonly shows euhedral outlines against quartz. Some garnet crystals are free of inclusions, others have abundant inclusions of pyroxene. Idocrase (15-20%) forms coarse, generally inclusion-free grains up to 6 mm across. Some crystals appear zoned. Idocrase commonly is adjacent to coarse garnet, and in places appears to have grown at the expense of garnet. Elsewhere an intimate intergrowth of the two minerals occurs along their borders.

Plagioclase forms in two modes: strongly altered plagioclase? occurs with coarse grained garnet and idocrase. It is sub to euhedral, and completely altered to sericite with lesser calcite (possibly also fine grained scapolite), and commonly has a rim of garnet. This variety occupies 2-3% of the rock. Fresh plagioclase (1%) occurs with tremolite-actinolite.

Diopside (10-15%) forms two main modes: as scattered subhedral to euhedral porphyroblasts in actinolite-tremolite (up to 2 mm across) and as much finer rounded grains intergrown with garnet.

Tremolite-Actinolite (25-30%) forms fine to coarse grained laths and columnar aggregates up to 2 mm long. It generally occurs in patches with diopside and minor plagioclase.

Calcite (10-15%) forms fine irregular grains interstitial to garnet and idocrase, a few scattered coarse grains, and one large patch of coarse grains (up to 1.5 mm).

Quartz (5-7%) is interstitial to garnet and less abundant interstitial to idocrase.

Opaque (pyrite)(1-2%) occurs with coarse grained garnet and idocrase as irregular grains.

Sphene is minor.

The rock is cut by late irregular veins of calcite-K-feldspar.

The rock can be divided into three main types of assemblage and texture with indefinite borders between them. These are

- 1) coarse grained garnet-idocrase with interstitial quartz, calcite, opaque, and strongly altered plagioclase
- 2) tremolite-actinolite with diopside porphyroblasts
- 3) coarse grained calcite

Sample 75-1-284 Zoned Skarn

The sample shows a banded texture defined by several zones of different texture and mineralogy. Boundaries between some zones are sharp while others are diffuse. The sample is described from one end to the other.

Zone 1 3 mm thick

The zone consists of coarse grained (0.3-1.0 mm) calcite with much finer grained (0.04-0.08 mm) diopside (1-2%). The border with zone 2 is sharp and irregular in outline.

Zone 2 4-5 mm thick

The zone consists of coarse grained, prismatic wollastonite? (0.3-2.0 mm) with interstitial calcite, diopside, and opaque, generally in irregular lenses. The mineral identified as wollastonite has the following properties:

biaxial negative, low 2V (30-40°), moderate relief, low to moderate birefringence, variable extinction on cleavage (cleavage is parallel to mineral elongation); extinction is nearly parallel in sections of low birefringence (grey), and near 45° for sections with high birefringence (yellow). This property is not described for wollastonite; however, no other mineral fits the other properties.

Zone 3 0.3-0.5 mm thick

The zone consists of garnet with minor interstitial calcite, diopside, and opaque. It is fine grained (0.04-0.08 mm) and has relatively sharp borders with adjacent zones.

Zone 4 remainder of section

This zone is variable in composition and texture, but no division into subzones parallel to Zones 1, 2, and 3 is possible. The composition is diopside (25-50%), garnet (10-20%), pyrite (10-15%), calcite (0-30%) scapolite (5-30%), quartz (0-10%), and tremolite-actinolite (0-15%). The wide ranges in mineral composition reflect the inhomogeneity of the zone. The rock consists of fine grained diopside, with irregular porphyroblasts of garnet commonly intergrown intimately with pyrite, with angular to cusped pyrite enclosed in coarse grained garnet. The pyrite grain size ranges from 0.02-0.10 mm for much of the mineral, up to 1 mm in some coarse zones. The pyroxene-garnet-pyrite assemblage appears to be replaced by calcite-scapolite which form coarse very poikilitic grains up to 1 mm across. Tremolite-actinolite is most abundant with scapolite near the far end of the section. Secondary biotite is common with scapolite, but forms less than 1% of the sample.

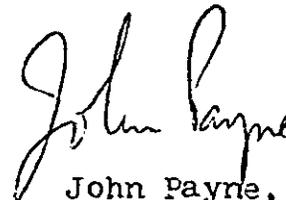
Sample 75-1-287.5 Skarn

The sample shows a variable mineralogy and texture which can be roughly divided into two compositional types which show an irregular spatial distribution.

A finer grained variety consists of garnet (15-20%), pyrite (10-15%) pyroxene (diopside) (30-35%), with interstitial quartz (7-10%), which is altered or replaced in zones by calcite (15-20%), actinolite-tremolite (5-7%), and scapolite (7-10%). The pyrite-garnet is intergrown as in sample 75-1-284. Diopside appears to be altered in part to fine grained medium green amphibole. Scapolite is very poikilitic. Grain size in this zone is mainly 0.015-0.3 mm.

The coarser grained zones consist of quartz (30-35%), pyrite (30-35%), and diopside (30-35%) with minor altered plagioclase (2-3%). They occupy 30-40% of the rock, and have a grain size range from 0.08-3.0 mm. Pyrite is commonly enclosed by rims of diopside against quartz.

The sample contains a small calcite veinlet.

  
John Payne,  
March, 1976

DESCRIPTION OF CLAIMSFORSHAW OPTION

The PEN mineral claim (Tag. No. 26066; Record No. 127) situated in the valley of Wallace Creek approximately 7 miles NW of the city of Greenwood in the Greenwood Mining Division consisting of 20 units  
(4 to the south and 5 to the west)  
located by J. Forshaw (Free Miners Licence No. 99047) on September 17, 1975.  
Due Date: September 22, 1976.

The AB mineral claim (Tag. No. 26067; Record No. 113) situated in the valley of Wallace Creek approximately 6 miles NW of the city of Greenwood in the Greenwood Mining Division consisting of 16 units  
(4 to the south and 4 to the east)  
located by V. Luznar (Free Miners Licence No. 95048) on August 9, 1975.  
Due Date: September 03, 1976

The JOE mineral claim (Tag. No. 26072; Record No. 119) situated south of Wallace Creek approximately 5 miles NW of the city of Greenwood in the Greenwood Mining Division consisting of 12 units  
(3 to the south and 4 to the east)  
located by J. Forshaw (Free Miners Licence No. 95047) on August 15, 1975.  
Due Date: September 09, 1976

COSTS STATEMENT - PEN, AB, and JOE (FORSHAW OPTION) CLAIMS  
DIAMOND DRILLING November 2 - 18, 1975

SALARIES AND WAGES

R. Longe	Nov 2-18	10 Days @ 69/Day	690.00	
J. McClintock	Nov 10-12	3 Days @ 42/Day	126.00	
T. Johnson	Nov 15-18	4 Days @ 73/Day	292.00	
C. Spence	Nov 2-18	4 Days @ 100/Day	400.00	1,508.00

EMPLOYEE BENEFITS

301.60  
1,809.60

DIAMOND DRILLING (H. Allen Diamond Drilling Ltd.) 19,214.95

CONSULTANT FEES & SUPPLIES (Vancouver Petrographics Ltd)

27 Thin Sections	121.25	
Petrographic Report on 3 Sections	81.00	
Messenger Service Deliveries	<u>10.00</u>	212.25

GEOCHEMICAL ASSAYS

(Fraser Laboratories Ltd.)  
Drill Core Samples, 22 for Cu, Zn, Au & Ag  
@ 11.50 each 253.00  
Rock Chip Samples for Cu, Au, Zn & Ag 11.50  
(Bondar-Clegg & Company Ltd)  
2 Zn Assays @ 5.50 each 11.00 275.00

ROAD ACCESS FEES (to Mr. Rolland Cox) 60.00

CORE STORAGE

Core Boxes 10 @ \$5.00 each	50.00	
Core Racks Construction & Repair	<u>60.50</u>	110.50

EQUIPMENT RENTAL

Budget Rent-A-Car G,C 4x4 (Nov 2-19)	460.70	
Avis Grenada (Nov 10-11)	<u>88.15</u>	548.85

FUEL

81.80

TAXICABS

15.00

AIR TRANSPORTATION (Fixed Wing)

Pacific Western Airlines		588.41
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FOOD AND ACCOMMODATION 510.04

SUPPLIES

95.97

REPORT PREPARATION

Blacklines (Dominion Blueprint)	18.42	
Drafting-Services (Altair Drafting Services)	52.35	
In-House Drafting	202.00	
Report Writing & Preparation	417.00	
Reproductions (Superior Reproductions)	<u>6.90</u>	696.67

T O T A L 24,219.54

STATEMENT OF QUALIFICATIONSR.V. LongeACADEMIC

1961	B.A.	Natural Sciences Tripos, (Geological Sciences)	Cambridge University
1965	M.Sc.	Geology	McGill University

PRACTICAL

1969 - 1976	Rio Tinto Canadian Exploration Ltd.	Vancouver, B.C.
	Geologist involved in various aspects of mineral exploration in B.C., Yukon, and Alaska.	
1967 (summer)	Amax Exploration	
	Geological mapping of Guichon Batholith, B.C.	
1965 - 1966 (summers)	Selco Exploration Limited,	
	Geological Mapping of Archean Greenstone belt south of James Bay, Ontario	
1964	West African Selection Trust	
	Diamond exploration in Ivory Coast and Mali, West Africa.	
1963 - 1962	Consolidated African Selection Trust Ltd.,	
	Mine Geologist, Akwatia, Ghana	
1961	Serra Leone Selection Trust Ltd.,	
	Geologist, reserve development department Yangema Mine, Sierra Leone	

ATTACHMENT 7

DIAMOND DRILLING CONTRACT

A G R E E M E N T

THIS A G R E E M E N T made this 28th day of October 1975.

BETWEEN : RIO TINTO CANADIAN EXPLORATION LTD.,  
615 - 555 Burrard Street,  
Vancouver, B. C. V7X 1M8  
(hereinafter referred to as the "COMPANY")

AND : H. ALLEN DIAMOND DRILLING LTD.  
Box 1397  
Merritt, B. C. V0K 2B0  
(hereinafter referred to as the "CONTRACTOR")

WHEREAS the COMPANY hereby request that the CONTRACTOR carry out certain surface diamond drilling and other services, on the COMPANY'S property, approximately 9 miles north-west of Greenwood, B.C.

AND WHEREAS the CONTRACTOR hereby agrees to perform said diamond drilling and other services requested, under the terms and conditions hereinafter contained.

1. SCOPE OF WORK

Work to consist of a series of drill holes drilled at locations specified by the COMPANY. Holes shall be drilled with BQ Wireline equipment providing a core approximately 1 7/16" in diameter, as far as is reasonably practical. A total minimum footage of 800 feet shall be drilled and may be extended beyond that amount by mutual consent.

2. COMMENCEMENT AND EXECUTION OF WORK

Work shall start on November 2nd 1975. The CONTRACTOR agrees to complete the work with due dispatch and to work no less than two 10 hour shifts per 24 hours, on a seven day per week basis or as near that schedule as can be maintained.

Contd ...

3. THE CONTRACTOR HEREBY COVENANTS AND AGREES:

- (a) To supply all necessary machinery and associated equipment including tractors and bulldozers, to complete the required drilling, and to provide transport and board for its men and equipment to and from the drill site;
- (b) That he shall use his best endeavour to complete all holes according to the wishes of the COMPANY, but should rock conditions prevent successful completion of the hole, the CONTRACTOR is not obliged to complete the same, but shall be paid for such incomplete holes at contract rates for the completed footage;
- (c) That drilling crews will follow good drilling practice and shall use due care and diligence as shall enable them to recover as high a percentage of core as the nature of the ground being drilled shall permit. All core shall be delivered to the COMPANY, in boxes provided by the CONTRACTOR at the drill sites;
- (d) That it shall be responsible for, and will pay promptly all costs and charges, incurred by itself for labor, machinery, tools, and supplies used in completing the work hereunder so that no lien or other such charge relative to the CONTRACTOR, may be registered against the COMPANY or the property;
- (e) To provide for the payment of Worker's Compensation Insurance for his employees employed on or in connection with the work covered by this agreement and/or their dependants in accordance with applicable law, and the CONTRACTOR agrees that the COMPANY will not make final settlement until the CONTRACTOR provides the COMPANY with a clearance from the Worker's Compensation Board that the CONTRACTOR is not in default on the date this agreement terminates;
- (f) To provide insurance as follows:
  - Comprehensive General Liability Insurance with limits of:
    - (i) Bodily injury \$200,000 per person and \$500,000 per occurrence,
    - (ii) Property damage \$200,000 per occurrence;
  - Comprehensive Automobile Liability Insurance with limits of:
    - (i) Bodily injury \$200,000 per person and \$500,000 per occurrence,
    - (ii) Property damage \$200,000 per occurrence;

- (g) To enforce at all times, strict discipline and maintain good order among its employees and shall not retain on the work any unfit person or anyone not skilled in the work assigned to him. Any employee who is objectionable or unsatisfactory to the COMPANY shall be removed from the work and replaced by an employee satisfactory to the COMPANY;
- (h) To keep its drill sites free from waste and rubbish, and at the completion of his work he shall leave the drill sites in a clean condition;
- (i) That the CONTRACTOR or its personnel shall not divulge any information concerning drilling results or permit access to, or examination of the drill core by any person not specifically authorized by the COMPANY;
- (j) That the CONTRACTOR shall not be held liable for any loss or damage suffered by reason of any cause beyond its active control such as riots, strikes, lockouts, Acts of God, or failure of transportation;
- (k) Under the foregoing terms and conditions, the CONTRACTOR does not guarantee to drill any hole to any specified depth. The CONTRACTOR will however, expend every reasonable effort to complete all holes to the satisfaction of the COMPANY.

RE 401 0000

CONTRACTOR 100 0000

4. THE COMPANY HEREBY COVENANTS AND AGREES to pay the CONTRACTOR for footage drilled and other services performed as follows:

- (a) Drilling from 0 to 600 ft. from collar;  
BQ Size at \$13.75 per foot.
- (b) Drilling from 600 ft. to 1,000 ft. from collar  
BQ size at \$ <sup>14A</sup> 13.75 per ft.
- (c) The following operations to be included in the cost per foot drilled and not to result in cost to the COMPANY except in the circumstances specified:
  - i Mobilization and demobilization;
  - ii Setting up on the first hole and removing equipment from the last hole;
  - iii Overburden penetration;
  - iv The first 8 hours of moving between holes;

- v Water supply, provided distance is less than 1500 feet and elevation less than 200 feet between source and drill site. COMPANY will pay cost of supplying water over these limits;
  - vi Cementing operations;
  - vii Casing operations;
  - viii Supplies: Cement, Mud, Wooden Core Boxes.
- (d) Use of the CONTRACTOR'S caterpillar tractor will be paid for by the COMPANY at a rate of \$12 per hour;
  - (e) The COMPANY will pay for a second bulldozer or tractor, if required, at cost;
  - (f) The COMPANY will pay for moving costs in excess of 8 hours per move at a rate of \$20 per hour;
  - (g) The COMPANY will pay for non-recoverable items left in the hole at cost;
  - (h) The COMPANY will pay for delays required by or caused by COMPANY at the rate of \$20.00 per hour.
  - (i) Should cavities, loose or caving ground or excessive water flows be encountered in a hole so that further drilling in that hole is deemed impracticable, that hole may by mutual consent, be abandoned, and the CONTRACTOR be paid at rates so specified herein for all footage completed in that hole. However, should the COMPANY request that further work be carried out in the hole beyond this point, then the CONTRACTOR shall continue work in the hole but such continuing work shall be at COST rates.

IN WITNESS WHEREOF THE COMPANY and the CONTRACTOR set their hands this 28th day of Oct., A.D. 1975.

RIO TINTO CANADIAN EXPLORATION LIMITED

*Carl D. Zenger*  
 \_\_\_\_\_

H. ALLEN DIAMOND DRILLING LIMITED

*Ken Allen*  
 \_\_\_\_\_

/r1



H. ALLEN DIAMOND DRILLING LTD.

DEC 83 1975

TELEPHONE 378-4494

P.O. BOX 1397  
MERRITT, B.C.  
VOK 2B0.

Invoice No. 238.

November 27/75

To: Rio Rinto Canadian Exploration Limited,  
615 - 555 Burrard St.,  
Vancouver, B.C. V7X 1M8.

In Account with:

H. Allen Diamond Drilling Ltd.,  
Box 1397,  
Merritt, B.C. VOK 2B0.

This invoice is for diamond drilling at Greenwood, B.C.

Hole No. 1 drilling from 0 to 496 ft. -  
496 @ \$13.75 per ft..... \$ 6,820.00

Casing and shoe left in Hole No. 1.- 17 ft. casing.

1 length 5 ft. B.W. casing @ \$33.00 each..... \$ 33.00  
6 lengths 2 ft. B.W. casing @ \$18.43 each..... \$ 110.58  
1 B.W. casing shoe..... \$ 141.00

Hole No. 2 drilling from 0 to 806 ft. -  
806 ft. @ \$13.75 per ft..... \$11,082.50

Casing and shoe left in Hole No. 2.- 18 ft. casing.

9 lengths 2 ft. B.W. casing @ \$18.43 each..... \$ 165.87  
1 B.W. casing shoe..... \$ 141.00

Testing time - 1 Acid test - 1 hour per test.

1 driller hour @ \$9.00 per hour..... \$ 9.00  
1 helper hour @ \$8.00 per hour..... \$ 8.00

Excessive moving cost Nov. 3 - 8 hrs. @ \$17.00 per hr.. \$ 136.00

Standby time:

waiting on engineer to phone main office -  
Excessive moving cost Nov. 3 - 8 hrs. @ \$17.00 per hr.

4 hours - 4 man crew..... \$ 36.00  
8 driller hours @ \$9.00 per hour..... \$ 72.00  
8 helper hours @ \$8.00 per hour..... \$ 64.00  
36 tractor hours @ \$12.00 per hour..... \$ 432.00  
\$19,214.95

Contractor's Representative      Company's Representative

*Herb Allen*      *[Signature]*

MERRITT CANADIAN EXPLORATION LIMITED VANCOUVER OFFICE	
MAIL DESK	
EXTNS. CHK'D	h. A. F.
PRICES O.K.	
DISTRIBUTION	
ACCOUNT No.	AMOUNT
8620-44	19,214.95
PAID APPROVED <i>[Signature]</i>	