SHAG CLAIMS

'79-#288-#7382

Golden Mining Division

N.T.S. 82J/11 & 12

D. Bending March 1979

7382

Work Performed on the Shaq Claims

Claim	Record No.	Recorded
Shag 1	158	Aug. 29, 1977
2	159	"
3	160	"
4	161	"
5	162	"
6	163	"
7	164	"
8	165	"

Latitude: 50°38' N; Longitude: 115°30' W.

Operator: Rio Tinto Canadian Exploration Limited

SUMMARY

The 1978 field programme on the Shag Claims, consisting of geological mapping, prospecting, and partial coverage by a soil sampling survey, revealed seven small zinc showings along two favourable zones and demonstrated a stratigraphic control to the mineralization. Soil anomalies appear to indicate more extensive zinc and lead occurrences than those exposed.

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1. INTRODUCTION

In 1977 Rio Tinto Canadian Exploration Limited sponsored the Graf Lead-Zinc Reconnaissance Programme in the southern Rocky Mountains. One result of this work was the discovery of several small lead-zinc showings in the Middle Cambrian Cathedral Formation near a carbonate-shale facies front. These showings, named the C-3 and C-4, and the associated stream silt anomalies, led to the staking of the Shag Claim Group. The 1978 field programme outlined in this report was an evaluation of these occurrences, the claims, and the surrounding area by 1:10,000 scale geological mapping, prospecting, and soil sampling.

2. LOCATION AND ACCESS (DWG. L6526)

The claims are located near $50^{\circ}38'N$, $115^{\circ}30'E$, in the Albert River drainage about 35 km east of Radium. The lower areas are accessible via logging roads, about 65 km from Canal Flats and 60 km from Radium. Higher elevations and the southern parts of the claim group are best approached by helicopter, available through Okanagan Helicopters in Cranbrook and Golden, and Bow Helicopters in Fairmont.

3. PREVIOUS WORK

Previous work is summarized in the report on the 1977 programme by Graf. The 1977 programme provided a stratigraphic framework through regional mapping on 1:50,000 scale of Cambrian Formation boundaries that were refined by the 1978 study. Published government surveys have not covered the area of interest but a regional study is reported to be in press. Numerous companies have explored the Cathedral Formation in recent years.

4. DESCRIPTION OF CLAIMS

Eight claim blocks consisting of 127 claims were staked in 1977 (DWG. L 8634).

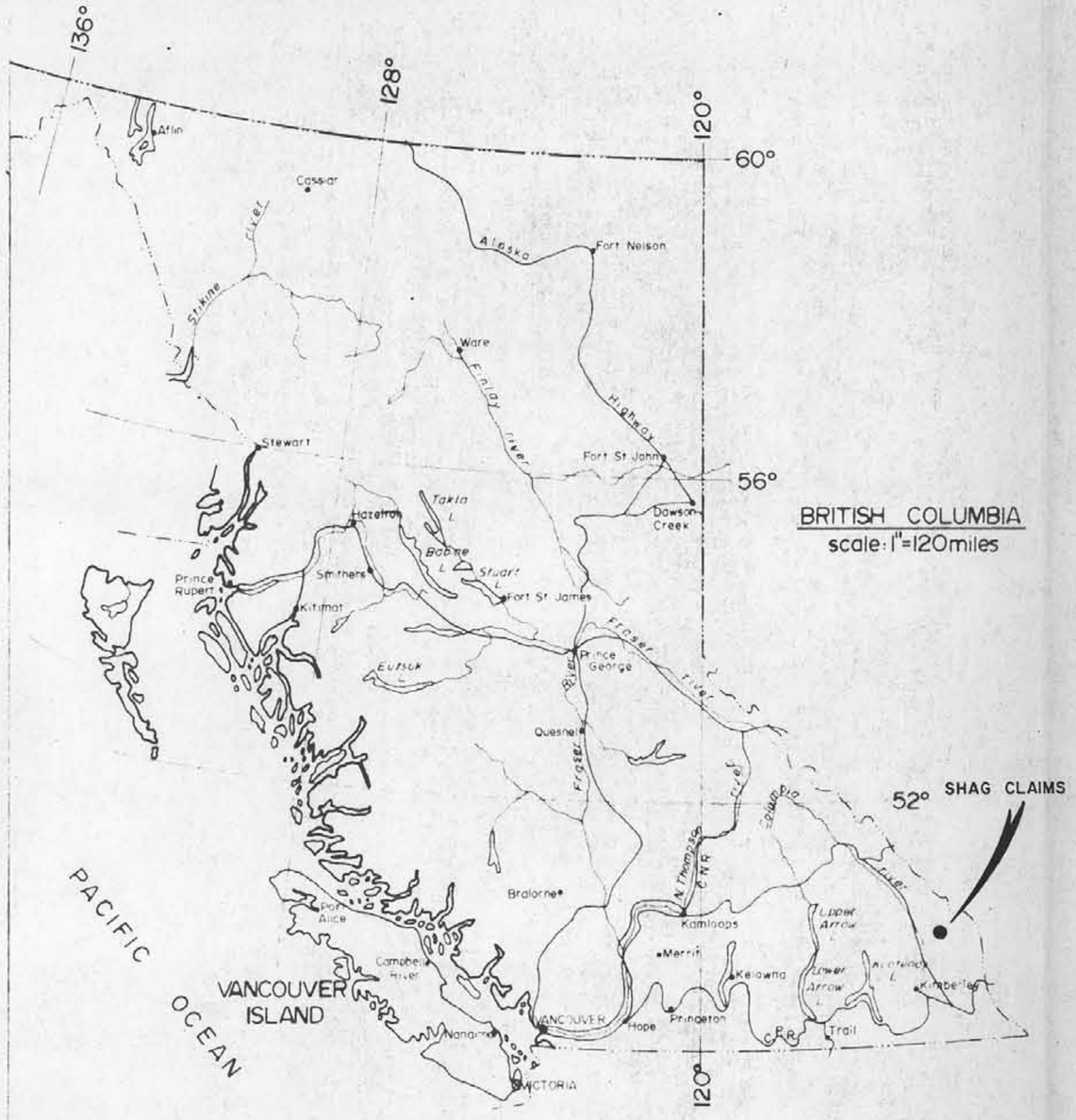
Claim Name	No. of Units	Record No.	Recording Date
Shag 1	20	158	Aug. 29, 1977
2	12	159	"
3	20	160	"
4	20	161	"
5	12	162	"
6	18	163	"
7	15	164	"
8	10	165	"

5. 1978 FIELD PROGRAMME

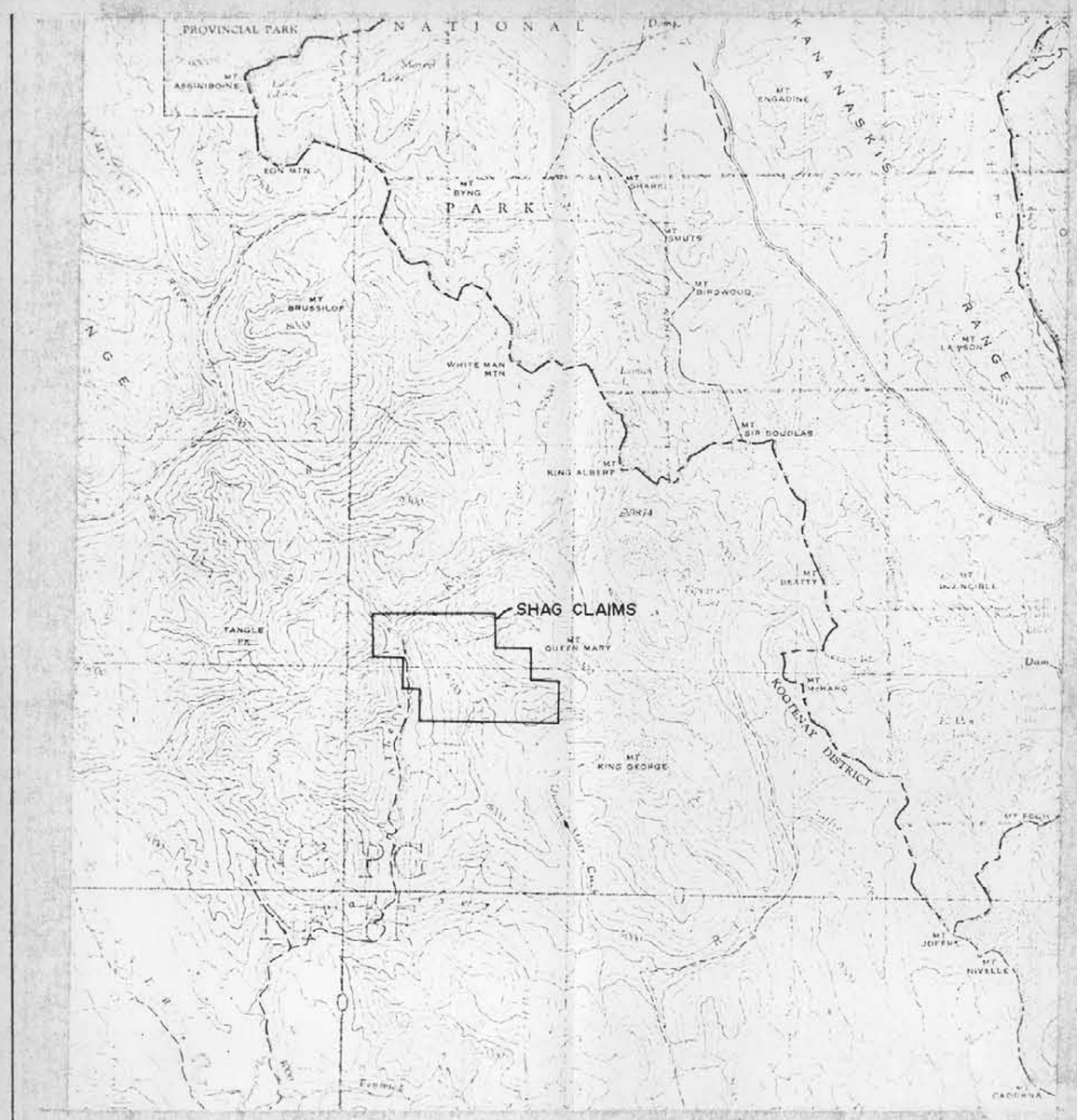
The 1978 field programme in the Shag area consisted of 1:10,000 scale geological mapping, prospecting, and B-horizon soil sampling covering areas of interest where topography permitted. A five-man crew, of which the writer was party chief, worked from camps on the property for six weeks during June and July 1978. The programme was supervised by R. V. Longe. Snow persisted at higher elevations into late July and posed a logistical problem and avalanche hazard during the early weeks of the project.

Two camps were established, each for three weeks, one at the Albert River near the north end of the claim block, the other beside Shag Creek in the centre of the claim block.

Three diamond drill holes totalling 159.5 m were drilled in September.



BRITISH COLUMBIA
scale: 1"=120miles



SCALE 1: 250,000

RIO TINTO CANADIAN EXPLORATION LTD

SHAG CLAIMS

LOCATION MAP

NOV. 1978 | R.V.L. | DWG L-6526

6. GEOLOGY

The geology of the Shag claims is displayed at 1:10,000 scale in DWG. 8633, in diagramatic section in Figure 1, and in longitudinal section, DWG. G 7424.

6.1 Regional Geology

The major formations in the area of interest are the Middle Cambrian Cathedral carbonates, laterally equivalent Chancellor Group shales and limestones, and the Upper Cambrian McKay Group shales. These are mapped according to definitions outlined in the 1977 study. The showings are hosted by dolostones of the Cathedral Formation within 1 km of the north-south trending Chancellor facies front.

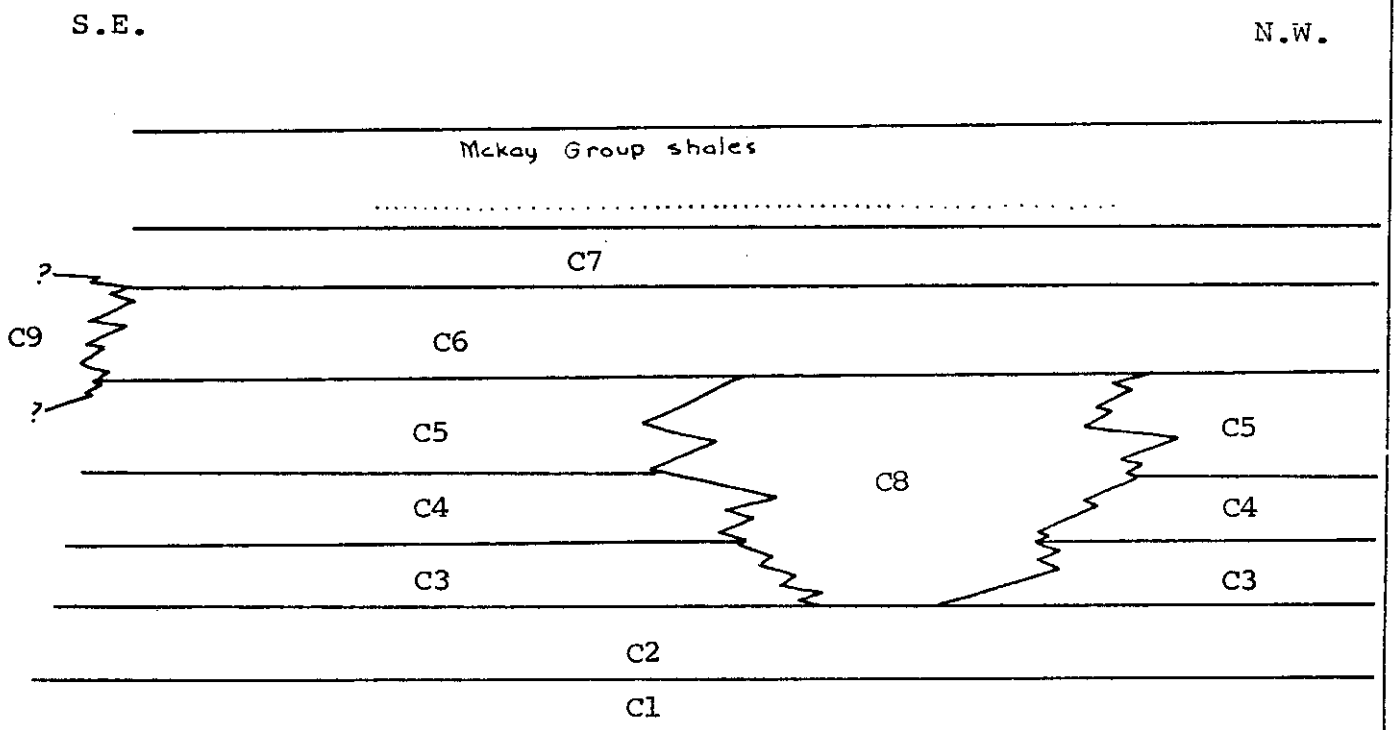
The rich Monarch-Kicking Horse deposits are hosted by the Cathedral Formation 50 km north, in Yoho National Park, in a similar position with respect to the facies front but lower in the section. They represent a clearly different style of mineralization but demonstrate the availability of metals and potential for concentration in this belt.

6.2 Geology of the Shag Claims

To facilitate interpretations and improve stratigraphic control on the mineralized zones, the Cathedral Formation was subdivided into nine mappable units on the basis of a combination of depositional and diagenetic features. Overall stratigraphic relationships are shown idealized in Figure 1.

6.2.1 Stratigraphy

Albert River Dolostone (Cl): Base of the exposed section. Pale grey variably crystalline massive dolostone.



Summary of Stratigraphic Relationships on Shaq Claims

Figure 1

Thin Limestone (C2): Limestone and dolostone facies equivalents with dolomitic facies dominating northeastward away from the facies front. Approximate unit thickness about 50m. The lower contact of the limestones is very porous with modern caves. The limestone is dark grey, finely crystalline, uniformly bedded, subtidal lime mudstone, and the dolostone is pale creamy-grey, sucrosic, uniform and massive.

BM Host Dolostone (C3): A generally uniform cyclic intertidal dolostone; mostly light grey, variably (mostly fine) crystalline, burrowed, laminated birdseye textured or intraclastic dolomite mudstone; 120-130m of generally uniform cyclic intertidal dolostone. Burrowed, delicate laminae, stylolites, and intraclastic zones are common. The upper contact is marked by a pronounced transgression. This is reflected in a change from pale, finely crystalline dolostone through dark grey, burrowed and birdseye textured rocks (with some sedimentary boundinage and slump textures) to dark bioclastic packstone limestones.

This transgression, especially the lower parts of the dark birdseyed beds and packstones, hosts the BM type mineralization. It is the first of a series of minor fluctuations in water depth that mark the boundary between the BM Host Dolostone and the Dividing Limestone.

Dividing Limestone (C4): 20-30m of diverse, usually recessive limestones, and shaly limestones; more massive beds are burrowed and may be notably silty. This unit displays more tectonism than rocks above and below.

Second Dolostone (C5): Is about a 40m generally intertidal to supratidal dominantly sucrosic dolostone. It has been observed to display a consistent general pattern where mapped in detail.

The base is a gradational transition marked by a sequence shallowing upward from massive and bedded limestones through intercalated finely crystalline, grey dolostone and burrowed dolomitic limestone (occasionally oncolitic) to a more uniform sequence of dolostones that

show striking cyclicity (1-2m cycles) in places. Cross-cutting recrystallization fronts disrupt the cyclic pattern in some areas, allowing uniform pale sucrosic dolostones to lie closely along strike with a cyclic sequence of dark birdseye textured, pseudobreccia, and pale sucrosic dolostones.

These lateral variations occasionally prevent conclusive subdivision of this unit from the more widespread cyclic dolostone suite.

This generally cyclic sequence is overlain by uniformly light creamy tan-to-grey sucrosic dolostone with occasional interbeds of darker dolostone. This package represents a shallower intertidal environment.

Overlying this dolostone package is a supratidal facies with light creamy grey-to-tan locally rust-stained sucrosic to coarsely crystalline dolostone with occasional pods of psuedobreccia, zebroid textures, and vuggy, heavily recrystallized zones that may contain masses of rusty, weathering, ferroan dolomite. Near the upper contact calcite-filled open spaces and small breccia pods may be prominent. Bedding is usually massive.

The uppermost contact zone hosts the C-4, Pieces, Redbed, Crackle, Rush, and Christmas showings and appears to be associated with lead and zinc soil anomalies unrelated to known lead-zinc occurrences.

Cliff and Step Limestone (C6): A sequence of limestones and shaly limestones that varies from 100m to about 160m in thickness. This variability in thickness indicates that some parts are laterally equivalent to the upper parts of the Second Dolostone.

Top Dolostone (C7): 300-100m of sucrosic to coarsely crystalline pale tan creamy grey dolostone. The lower contact zone is a transition from a dark grey quartz crystalline limestone through a zone of oncolites and burrow mottled dolomitic limestone to a gradually paler sucrosic dolostone. The upper parts of the package are characterized by breccias cemented by ferroan dolomite, zebroid beds and lenses, coarsely recrystallized pockets and white calcite masses.

Cyclic Dolostone (C8): In places a prominantly cyclic dolostone with dark algal and pale sucrosic textures occupies up to 250m of section and appears to abut on the more widespread and uniform units. This represents a locally emergent part of a low "arch" that persisted when minor fluctuations in water depth caused pronounced variations in lithology. This has probably been accentuated by reflux. This shows a lateral equivalence to the Second Dolostone, Dividing Limestone and the upper parts of the BM Host Dolostone that renders mapping of these contacts ambiguous in places.

Eastern Transgressive Dolostone (C9): Along the southeast side of the property, the Cliff and Step Limestone Unit shows a laterally equivalent irregular facies change to a pale crystalline dolostone not readily distinguishable from the supratidal facies above it. This posed a problem of mapping that was solved arbitrarily by projecting idealized contacts. Further work in Queen Mary Creek will probably show this is a localized phenomenon, and the C-4 horizon will be mappable.

At the top of the Cathedral Formation as mapped, a prominant red marker bed has been observed from Queen Mary Creek to Mount Brussilov. This is more extensive than the Arctomys Formation as previously mapped by Graf (1977) but is equivalent. It is a rust-coloured unit, usually shaly, 2-3m thick, that contains lenses of a sparry crystalline limestone (apparently an algal packstone) with iron oxide cement.

6.2.2 Structural Geology

Structural geology of the Shag Claims is characterized by three styles of response to compression and a monoclinal flexure along the Chancellor-Cathedral facies front.

Chancellor and McKay shales and carbonates are cleaved, isoclinally folded, and internally thrust faulted, with deformation especially complex near contacts with the more competent Cathedral carbonates. Deformation within the Cathedral Formation is dominated by a monoclinal

flexure that strikes parallel to the facies front in all the areas mapped. Within this context, styles of deformation vary considerably and are influenced by rock type and position in the section relative to heavily tectonized McKay Group rocks. The Cliff and Step Limestone, the uppermost limestone unit, is characterized in places by small s-folds, overturned folds, and small thrusts indicating compressive forces perpendicular to the N-S trending facies front. These areas are characterized by white quartz veins and calcite tension gashes. The competent dolostone units bounding this limestone are almost completely undisturbed apart from pervasive fracturing. A more subtle contrast can be noted in other limestone units lower in the section, with gently folded limestones bounded by relatively unyielding massive dolostones.

Steep N-S trending oblique normal faults of small displacement (one has been mapped with about 25m of throw; most are only 1-3m if measurable) can be observed in several locations near the Shag Claims.

Large scale thrusts are not generally apparent in the Cathedral although a thrust with hundreds of meters of throw can be observed in isoclinally folded Cliff and Step Limestone and Top Dolostone along the east flank of Mount Soderholm five km north of the claims. Small scale bedding plane slips are pervasive in the upper limestone units.

The influence of stucture on mineralization is unclear. Fractures appear to have influenced C-3 and BM Extension mineralization.

6.3 Geology of the Mount Soderholm Area

The geology of the adjoining Mount Soderholm area, on strike to the Northwest of the Shag claims, is very similar to that of the claims and is considered favourable. The stratigraphic framework defined for the claims has been extended North beyond the Cross River, with special emphasis on the Chancellor-Cathedral facies front, the monoclinal deformed zone, and the favourable "C-4 horizon". Intensive prospecting in the more accessible parts of these favourable trends has not revealed Pb-Zn mineralization but indications are that showings do exist in the area.

A 1977 stream silt from Miller Creek (Graf 1977) is anomalous in Zn at 128 ppm. The Graf party (Chris Graf, personal communication) reported finding a piece of ZnS mineralized float along a logging road in the same drainage. No source has been discovered.

In this area, the Cathedral Formation is bounded by a strong monoclinal flexure and deformed zone with several generations of smaller folds and shears near the Chancellor facies front. Tectonic crackle breccias in this zone are cemented with sparry dolomite and calcite in a variety of country rocks that in some cases appear to be highly favourable hosts. This probably contains some sphalerite bearing crackle breccias analogous to the C-3 showing.

Geochemical follow-up work has not indicated metal anomalies along presumed favourable horizons north of Miller Pass. Reconnaissance work during 1977 showed only background metal values.

6.4 Geology of Queen Mary Creek (south of Shag claims)

Two man-days of preliminary mapping and prospecting in the Queen Mary Creek area in response to the slightly anomalous stream silt (see Graf report) indicated that the known favourable "C-4 horizon" crops out in only limited areas. The anomaly could not be related to exposed mineralization. Resampling of the anomalous area failed to duplicate previous results. Crackle breccias cemented with white sparry dolomite were observed here but contain no sulphides.

Most of Queen Mary Creek is bounded by the Eastern Transgressive Dolostone and higher units. Both low metal values in stream silts and a stratigraphic position higher in the section than known mineralization indicate that the area is not promising. Relatively little is known about the west flank of this valley south of the anomalous area.

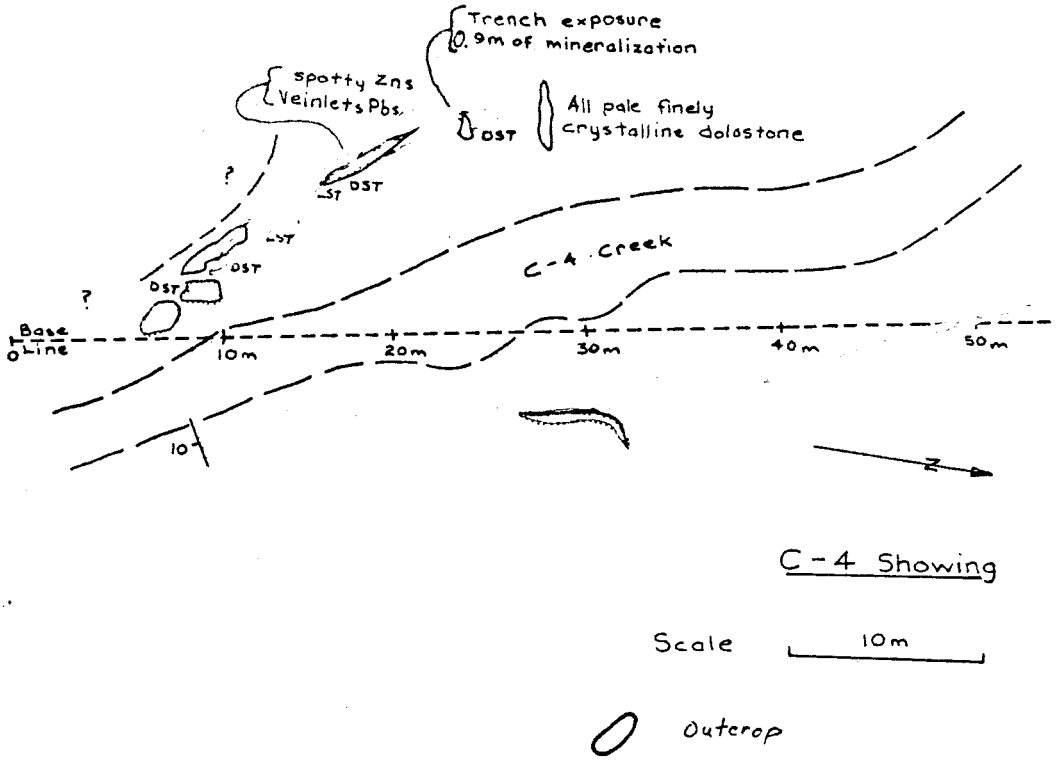
7. MINERALIZATION

Nine occurrences (DWG G8633) of zinc and lead sulphides have been observed on the claims. Two of these, the C-3 and C-4 showings, were discovered by the Graf crew in 1977.

7.1 The "C-4" showing has been evaluated by means of five short trenches, four of which exposed mineralization in place. Distribution of mineralization and lithologies are shown in plan sketch Figure 2. Exposures on the sides of C-4 Creek show parts of a sphalerite-bearing lens with a maximum thickness of about one meter and a maximum width of three meters. It occurs in a creamy grey sucrosic to finely crystalline dolostone within one meter of the interfingering contact between the Cliff and Step Limestone and the Second Dolostone.

The best grades of lead and zinc occur in the west bank, over a thickness of about 0.5 meters, exposed in a trench one meter wide. Visual estimates are about 8% zinc, 3% lead over this thickness. Trenches three and five meters along strike to the south show very weak mineralization. A trench three meters to the north shows only an unmineralized pale grey finely crystalline pyritic dolostone.

Most lead and zinc sulphides observed are present in a diffuse zone within 0.4 meters of a red-stained greasy textured clay-rich seam about 3 cm thick that sometimes contains small augen-like pods of reddish sphalerite. Mineralization is of three basic habits. The most widespread and abundant is pale yellow, orange, green and red sphalerite in equant millimetre-sized anhedra (a texture often interpreted as replacement) that occurs in a bed subjacent to the clay-rich marker. Veinlets and 1-2 cm sized spotty replacements of galena occur irregularly within the same zone. Three pods of breccia occur with sphalerite, galena, and dolomite cement. The largest of these is an irregular body 0.3 meters in diameter in the best trench on the west bank. Two smaller pods, 0.1 and 0.2 meters in diameter, occur in the same



Geology of C4 Showing

Figure 2

favourable bed in the east bank. Several slabs of talus contain a style of sphalerite that has no precise counterpart in the trenches. This is irregularly banded recrystallized yellow and pale green sphalerite that comprises up to 65% of a band 20-30 cm thick in a pale sucrosic dolostone. The source of this float remains uncertain. In color and grade it is similar to some exposed over a comparable thickness in the best trench on the west bank, although the textures are different. This raises the possibility of another mineralized lens with no expression in the trenches.

Pronounced lateral and vertical facies changes appear to have influenced the distribution of sulphides here. The host rock is laminated sucrosic to finely crystalline dolostone; barren rocks adjacent on strike are paler, burrowed and more noticeably pyritic. Footwall rocks are uniform creamy sucrosic dolostones. The stratigraphic hanging wall is a gradation into limestone.

This limestone/dolostone contact, referred to as "C-4 horizon", is host in a similar manner to the Christmas, Pieces, Redbed, Crackle and Rush occurrences and geochemical anomalies that have no exposed source. The Christmas showing is unique but the other occurrences are very similar in habit and vary only in size and grade and have been grouped as "Redbed Type."

7.2 The "Christmas" sphalerite occurs about two meters below the limestone/dolostone contact above Lower Shag Creek. It consists of a band 20 cm thick, two meters long, with spotty replacements of reddish sphalerite and minor amounts of white sparry dolomite in a pseudobreccia texture. Below this, in several large talus blocks, is a sharply defined 30 cm bed of pseudobreccia with about 55% sucrosic apple green sphalerite replacing the relic pseudobreccia template. Exposure is fairly complete except for one section of stream buried in rubble. This appears to be the source of this float. Stream cuts nearby along strike are completely exposed and show that the mineralization is not laterally continuous but analogies drawn between the texture of the green talus and other examples of Mississippi Valley type mineralization; e.g., in Daniel's Harbour, Nfld., make this an important occurrence.

78-1

Overburden

Transition to Unit Cs4L

Unit Cs3p
Dolomitic limestone, pyritic Finely laminated muddstone with interbedded wackestone and grainstone.

Pyritic

Interbedded dolomitic wackestones and mudstones traces ZnS.

ZnS

ZnS Birdseye-textured Dolomitic packstones and wackestone ZnS occurs disseminated, in spotty replacements and in fractures.

ZnS

Dolostone - dark grey with white dolomite

ZnS Birdseye textured

ZnS Heavily Burrowed Slumped texture.

ZnS. Key Facies: Bioclastic Footwall Rock

ZnS light grey finely crystalline dolostone - some Zns in fractures.

Zns in Birdseys in a Birdseyed grey dolostone.

light grey finely crystalline sometimes sucrosic dolostone.

Percentages

metres	Pb	Zn	Cd
13.1-13.4	0.60	0.69	tr.
16.2-16.6	–	1.47	tr.
19.5-19.7	–	0.07	–
19.7-20.2	–	3.95	0.01
22.0-22.2	–	0.12	–

0 1 2 3 4 5
Metres

Length 61.0 metres

FIG 3

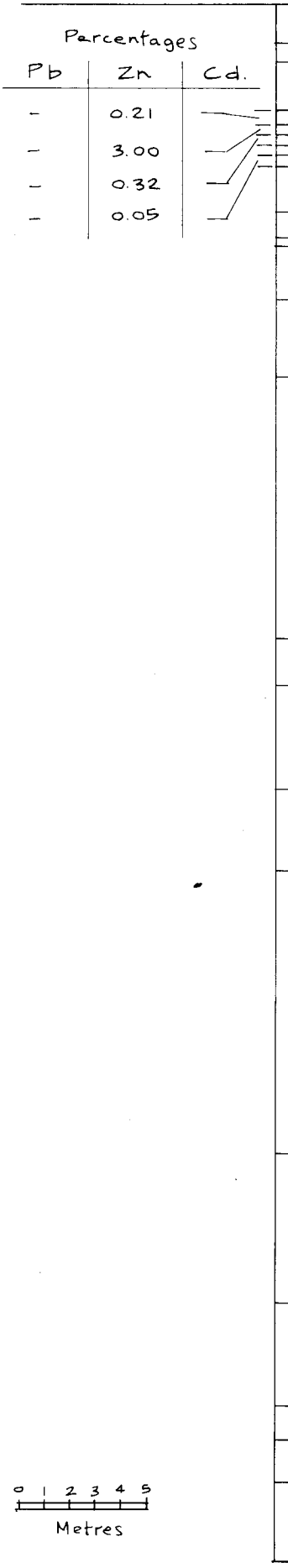
RIO TINTO CANADIAN EXPLORATION LTD.

SHAG CLAIMS

DDH 78-1

D. B.	FEB. 1979	DWG.D-6548

78-2



metres	Percentages Pb	Zn	Cd.
4.2 – 4.7	–	0.21	
4.7 – 5.0	–	3.00	
5.0 – 5.3	–	0.32	
5.9 – 6.2	–	0.05	

overburden

tr. ZnS Pale grey Finely crystaline dolostone

Dolostone: Birdseye textured and laminated with ZnS as dissemination and replacement

ZnS
ZnS
ZnS

Footwall Bioclastic grainstone interbedded with heavily burrowed dolostone

Dolostone: grey and light grey; burrowing decreases downward

Unit $Cs3_D$

Creamy Finely crystalline dolostone, locally sucrosic, with some burrowed intervals.

0 1 2 3 4 5
Metres

Length 61.3 metres

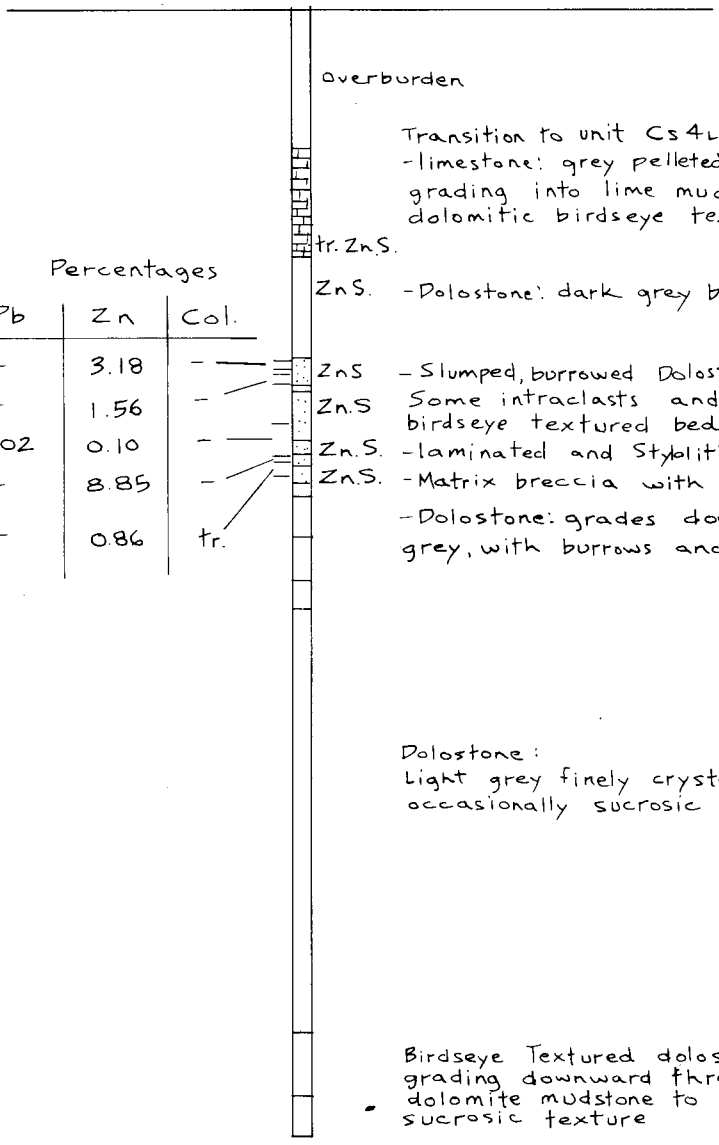
SHAC - DRILL HOLE 78-2

Scale 1:250

FIG. 4

RIO TINTO CANADIAN EXPLORATION LTD.		
SHAG CLAIMS		
DDH 78-2		
D. B.	FEB. 1979	DWG. D-6547

78-3



Overburden

Transition to unit Cs4L from Cs3D
-limestone: grey pelleted/intraclastic packstone grading into lime mudstone, then a dolomitic birdseye textured dolostone

tr. ZnS.

ZnS. -Dolostone: dark grey birdseye textured

Percentages

metres	Pb	Zn	Col.		
11.6 - 11.9	-	3.18	-	ZnS	-Slumped, burrowed Dolostone with replacements of ZnS.
12.0 - 12.4	-	1.56	-	Zn.S	Some intraclasts and interlaminated birdseye textured beds
13.7 - 14.8	0.02	0.10	-	Zn.S.	-laminated and Stylolitic dolomitic mudstone
14.8 - 15.0	-	8.85	-	Zn.S.	-Matrix breccia with Zns
15.0 - 15.4	-	0.86	tr.		-Dolostone: grades down to light grey from grey, with burrows and birdseyes.

Dolostone:
Light grey finely crystalline occasionally sucrosic

Birdseye Textured dolostone grading downward through burrowed dolomite mudstone to uniform pale sucrosic texture

Length 37.2 metres.

0 1 2 3 4 5
Metres

FIG. 5

RIO TINTO CANADIAN EXPLORATION LTD.		
SHAG CLAIMS		
DDH 78-3		
D. B.	FEB. 1979	DWG. D-6546

7.3 The "Pieces" is float that has been determined to be locally derived using a THM kit on the associated soil anomaly. It is dark grey finely crystalline dolostone with up to 50% coarsely crystalline reddish orange sphalerite cementing breccia pods to 30 cm across and replacing the host in an irregular fashion. Overall grade in three pieces of talus less than 0.5 meters across is about 10% zinc. The host bed is well exposed five meters north along strike and is not mineralized. This occurrence has no expression in grid soil geochemistry and is not considered to be of consequence.

7.4 The "Redbed" showing is about 150m north along strike from Pieces. Here mineralization is exposed for about 30m in the form of a lens of dark grey finely crystalline dolostone with some relic clastic and birdseye textures that are irregularly replaced by reddish-orange equant millimeter-sized sphalerite and irregular anhedra of galena to 3 cm. One lens about 30 cm thick and three meters long is almost pure sulphide and grades up to 2.8% lead, 11.1% zinc, and 4 oz. silver per ton. Most is about 10% sulphide (dominantly sphalerite). Maximum thickness is one meter, and average is 0.6 meters. Small amounts of dolomite and sphalerite-cemented crackle breccia are a minor accessory feature. The south end is buried and soil geochemistry indicates a continuation.

This type of mineralization is attractive because of high grade but small thickness and discontinuity of the richest parts render significant amounts unlikely.

The other showings of this type are small occurrences similar to the more weakly mineralized parts of the Redbed.

The "Crackle" occurrence is about one meter thick, trenched to expose about three meters along strike, and contains about 5% sphalerite of the same irregular replacement habit with a crackle breccia overprint. The "Rush" occurrence is about 0.7 meters thick, exposed in two outcrops five meters apart, with about 10% sphalerite and 3% galena.

All C-4 horizon showings studied in detail display stratigraphic control reflected by marked lateral and vertical facies changes that are analogous to those described at C-4. The relationship is presumably a combination of chemistry and permeability as influenced by primary facies.

7.5 The BM showing is the largest mineralized exposure on the property. Distribution of lithologies is shown in plan map(DWG G6527).Discontinuous outcrops extending over 90 meters along strike contain sphalerite as disseminations, spotty replacements and fracture fillings in distorted, burrowed, and birdseye-textured beds of a facies transition from an intertidal dolostone to a subtidal limestone. This is near the upper contact of the BM Host Dolostone Unit. Stratigraphic thickness in outcrop appears to be about three meters. Overall grade for this thickness is about 2% zinc. Two distorted and burrowed zones about 0.4 meters thick contain most of the mineralization. Three diamond drill holes, placed as shown inDWG G6527 to test the grade and continuity of the mineralization, intersected the zinc-bearing rocks where anticipated, but grade and thickness in all three holes were lower than anticipated on the basis of the outcrops. See section 9 for results of drill programme.

The stratigraphic setting is demonstrably the most important influence on sphalerite distribution here. The host is a special dolostone facies, bounded roughly below by a recrystallized bioclastic packstone of uncertain origin, characterized by a cyclic interval with heavily burrowed and distorted beds 0.2-0.3 meters thick interbedded with laminated birdseye textured slightly darker dolostones. This grades upward through birdseye-textured rocks to a limestone with many shaly laminae and stylolitic residues, burrowing, and lenses of algal packstones.

Minor amounts of sphalerite are present with white sparry dolomite in crackle breccias below the mineralized zone, and a grey, finely crystalline dolostone with birdseye hosts 1-2% sphalerite over about one foot as spotty replacements, about four meters below the main mineralization.

A possible analog to this is present in the "BM Extension." Here, a talus-slope occurs with blocks of pale, finely sucrosic dolostones with some fractures filled with coarsely crystalline, reddish sphalerite and white, sparry dolomite. The main source of this talus is buried by barren talus from above but local derivation can be demonstrated. At the top of this talus core is a grey, finely crystalline, laminated and birdseye textured dolostone with minor spotty replacements of sphalerite in the birdseyes. Hydrozincite wash on some barren rocks at this level indicates that some mineralization exists up slope. The distribution of soil sample anomalies in zinc tends to support speculation that these are part of a footwall type of mineralization and poorly exposed upper parts of the transgressive sequence are mineralized in the BM style. The observation that the footwall mineralization and geochemical expression of this showing are better than that of the BM showing offers some encouragement about the changes of significant blind occurrences along this horizon.

7.6 The Box occurrence is a sphalerite-bearing zone about 150m north of the current claim block boundary on the flank of Citadel Peak. It occurs slightly lower in the section but within the same general lithologic unit as the BM, the BM Host Dolostone. Scattered 10-20 cm sized pockets of gossan, hydrozincite-bearing boxworks, with occasional fresh sphalerite and rare, reddish sphalerite fracture fillings occur over about three meters of stratigraphic thickness and 31m along strike, with overall zinc values less than 1%.

7.7 The C-3 showing occurs in a dolomitic envelope in the Thin Limestone. It was described in the 1977 report and no significant new data were revealed this season. The grade and volume of mineralized float and hydrozincite wash and the lack of correspondence to that observed in place indicated that this may be an expression of a significant occurrence. Follow-up in this locality will be very difficult, due to the location of the showing at the base of about 2000 feet of vertical cliffs.

8. GEOCHEMISTRY

Sporadic outcrop and anomalous values in stream silts indicated that soil sampling could be a useful tool in this terrain. Five hundred fifty-five B horizon soil samples were taken during June and July of 1978 in the 100 x 50m grid pattern shown in DWG GC8628-8632. Grid configuration was determined by topography and geology. Careful prospecting and stream silt data supported the expectation that rocks overlying the lower parts of the Cliff and Step Limestone would not be productive and did not warrant this intensive coverage. Anomaly patterns of the completed soil grid confirmed this.

Sample analyses for lead and zinc are given in Appendix 1. Lead values vary from 1 ppm to 2600 ppm. Calculated background is 25ppm and anomaly levels established at 75 ppm. The lead isopleth plot, DWG GC 8631, shows distribution of high values. The third contour above background is anomalous. Several anomalies can be related to known C-4 horizon showings, some to probably blind occurrences of the same type. One prominant anomaly at 1000S, 600W, over 300 meters long has not been related to known mineralization. The observation that BM horizon showings have no lead signature is possibly significant.

Soil zinc values vary from 4.0 ppm to 5300 ppm, with calculated background at 78ppm and anomaly levels at 400 ppm. The zinc isopleth plot (DWG GC8632) suggests that most of the highly anomalous areas can be related to either C-4 or BM horizons or downhill dispersion from this type of occurrence. Most of the anomalies are not related to known showings. Only the Redbed type and BM extensions showings can be related to significant zinc soil anomalies. C-4, Pieces and Christmas have no anomalous soil signature.

9. DRILL PROGRAMME

Incomplete exposure in the BM showing and the nature of the sulphide occurrences at the BM extension indicated that the habit, true thickness, grade, and proximal extensions of the showings should be tested by a preliminary drilling programme. Three short holes, totalling 159.5 metres, with positions shown in DWG. G-6527 were drilled with Hydrowink equipment during the week of September 21, 1978. The generalized geology and distribution of mineralization in these holes are given in Figures 3, 4 and 5.

The consistent habit and stratigraphic setting of the sphalerite are clearly demonstrated in all intersections. An apparent increase in grade and thickness to the North is not considered significant.

The best intersection is in hole 78-1 which contained an assayed interval of 3.95% Zn over 0.5 metres. A selected sample of 20 centimetres with 8.85% Zn represents the best grade.

10. DISCUSSION

Field work during 1978 has produced seven of nine lead-zinc showings on the Shag Claims and clarified ideas on their mode of occurrence. All showings except C-3 show pronounced stratigraphic control and textures that indicate a diagenetic age of emplacement preceding occlusion of primary porosity by carbonate cements. The most obvious common feature of these occurrences is their proximity to pronounced stratigraphic boundaries which indicates increase of water depth through a change from intertidal or supratidal dolostones to subtidal lime mudstones and packstones. Less obvious features, such as burrowing and probable algal textures, appear to bear a relationship to sulphide distribution as well. All of these features are indications of pronounced changes in primary porosity and oxidation condition in a diagenetic environment.

On a larger scale, proximity to the Chancellor-Cathedral facies front is an important factor due to the patterns of facies development along the platform margin and the probable source of the mineralizing fluids in the shale basin. An important factor in the picture is the distribution of the favourable deepening sequences with respect to the Cyclic Dolostone unit, a special facies representing an arch and a focus for fluid movement that does not extend below the BM Host Dolostone (which is also the lowest focus for mineralization). The relationship between arch structures and Mississippi Valley-type deposits is well documented in other areas and spatial relations, including the proximity of all known showings to this distinctive feature, tend to support this analogy.

Contacts like those observed to be mineralized occur below and along strike from the cluster of showings with no indications of mineralization. The localization of this exceptional cyclic sequence within the Shag Claims area may be the reason for this.

11. CONCLUSIONS

Lead-zinc mineralization in the Shag Claims shows the potential for concentration to economic grades in small, discontinuous showings along the C-4 horizon and lower grades in larger occurrences in the BM association. Several blind C-4 horizon targets remain to be tested but the lensoid nature of all showings of this type indicates they are unlikely to produce significant tonnages. The BM type of mineralization shows a continuity and predictability that could lend itself well to extraction and the size and magnitude of zinc soil signatures near the BM extension offer some encouragement, but neither grade nor thickness of known showings approach economic proportions. Other indications of possibly significant lead-zinc, notably a large lead soil anomaly and the C-3 showing, will be difficult to test effectively unless current work in these areas offers some support.

These can be defined as stratigraphically controlled replacements rather than Mississippi Valley type deposits and as such are not of a type that is likely to yield economic tonnages. Overprinting of crackle breccias with minor amounts of open space may offer an exception to this in some localities, but significant occurrences of this type have yet to be found.

The most attractive target remaining for evaluation is the large lead soil anomaly southwest of Shag Creek. Work to date indicates that this will be difficult to assess.

12. RECOMMENDATIONS

It is recommended that:

(1) Prospecting of the soil anomalies of the BM extension, the C-4 horizon anomaly above it, and the lead anomaly southwest of lower Shag Creek, be carried out for evaluation as possible drilling targets.

(2) If further drilling is carried out on the property, three 30 m deep holes should be placed along trend from the C-4 showing to evaluate the possibility of stacked lenses.

(3) If the BM extension is drilled, holes should be placed in a pattern between the extent of the soil anomaly and a point 60m 290° from 78-2 to test a possible variation in grade and thickness with distance from the Cyclic Dolostone contact. Adequate testing of this system will require at least 600m of drilling in ten holes. Presently available data does not warrant such a programme.

(4) If current follow-up work is productive, the area containing the BM, Redbed, lead anomaly, and Christmas showing should be remapped on 1:5,000 scale to clarify facies relationships with respect to the postulated arch structure here. Time and conditions prevented adequate consideration of this important area and re-evaluation should precede any further work.

(5) Without further encouragement in the form of significant new discoveries in the current follow-up programme, no further work should be done.

David A Bending

David A. Bending

March 1979

13. REFERENCES

GRAF 1977

Graf Lead-Zinc Reconnaissance, Southern Rocky Mountains.

Riocanex Report.

APPENDIX I

7382

Riocanex

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To BENDER

At CANAL FLATS

Date Reported 19 July '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 m.h

Extraction HNO_3-HCl

Sample Wt. 0.6 g , Volume 12 ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		142	142					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

Report No. 78-48

Page 1 of 5

Copy I (Office)

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7834001		22	550						
2	002		19	510						
3	003		17	470						
4	004		17	660						
5	005		31	112						
6	006		41	215						
7	007		22	102						
8	008		21	132						
9	009		38	205						
10	010		48	730						
1	011		650	4300						
2	~~STD~~		30	250						
3	012		27	54						
4	013		16	55						
5	014		18	205						
6	015		12	75						
7	016		28	68						
8	017		27	66						
9	018		16	40						
20	019		16	56						
1	020		17	42						
2	~~BLANK~~		NIL	NIL						
3	021		19	106						
4	022		16	70						
5	023		17	68						
6	024		17	106						
7	025		16	56						
8	026		12	80						
9	027		9	36						
30	028		16	38						
1	029		12	64						
2	030		11	16						
3	031		19	48						
4	032		20	50						
5	033		22	46						
6	034		14	44						
7	035		15	220						
8	036		18	32						
9	037		22	42						
40	7834 038		17	42						

REPORT Nº. 78-48

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7834039		15	36						
2	040		18	20						
3	041		27	46						
4	042		18	58						
5	043		22	72						
6	044		15	32						
7	045		45	138						
8	046		40	62						
9	047		21	5300						
50	048		22	116						
1	049		18	38						
2	050		18	34						
~~3~~	~~STD Z~~		~~[illegible]~~	~~[illegible]~~						
4	051		16	38						
5	052		19	34						
6	053		15	32						
7	054		22	38						
8	055		19	35						
9	058		16	46						
60	059		16	40						
1	060		11	48						
2	061		16	64						
~~3~~	~~BLANK~~		~~[illegible]~~	~~[illegible]~~						
4	062		17	265						
5	063		29	325						
6	064		32	1030						
7	065		15	260						
8	066		15	46						
9	067		12	74						
70	068		16	56						
1	069		7	20						
2	070		18	36						
3	071		13	24						
4	072		14	32						
5	073		18	38						
6	074		20	40						
7	075		11	30						
8	076		18	104						
9	077		16	78						
80	7834078		10	64						

REPORT Nº. 78-48

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7834079		17	52						
2	080		15	32						
3	081		23	66						
4	082		14	75						
5	083		27	345						
6	084		21	3400						
7	085		11	24						
8	086		13	48						
9	087		16	235						
90	088		15	34						
1	089		25	28						
2	090		27	40						
3	091		17	46						
~~4~~	~~STD 3~~		~~7~~	~~58~~						
5	092		18	42						
6	093		14	30						
7	094		13	34						
8	095		15	36						
9	096		18	40						
100	097		21	138						
1	098		17	22						
2	099		16	54						
3	100		18	40						
~~4~~	~~BLANK~~		~~20~~	~~20~~						
5	101		16	44						
6	102		18	40						
7	104		16	34						
8	105		17	42						
9	106		17	26						
110	107		18	16						
1	108		14	30						
2	110		21	22						
3	111		23	160						
4	112		23	62						
5	113		32	70						
6	114		21	52						
7	115		17	40						
8	116		16	46						
9	117		20	52						
120	7834118		24	60						

REPORT Nº. 78-48

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
12	7834119		23	60						
2	120		23	60						
3	121		18	34						
4	122		20	30						
5	123		23	60						
6	124		13	62						
7	125		15	22						
8	126		17	45						
9	127		18	24						
130	128		18	70						
1	129		15	68						
2	130		24	72						
3	131		15	48						
4	132		47	590						
5	~~STD~~		~~27~~	~~960~~						
6	133		13	46						
7	134		15	24						
8	135		15	36						
9	136		10	34						
140	137		14	28						
1	138		10	4						
2	139		21	44						
3	140		16	44						
4	141		15	25						
5	~~BLANK~~		~~ND~~	~~ND~~						
6	142		13	28						
7	143		16	40						
8	144		19	38						
9	145		16	88						
150	7834146		11	34						
~~1~~	~~7834008~~		~~17~~	~~128~~						
2	022		16	~~45~~						
3	031		24	60						
4	040		10	20						
5	053		14	28						
6	074		21	38						
7	089		24	28						
8	106		18	26						
9	125		16	24						
160	7834142		14	28						

REPORT Nº. 78-48

Riocanex

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To BENDING

At CHIBAL PLATS

Date Reported 12 Jul, '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 mesh

Extraction HNO_3-HCl

Sample Wt. 0.6 g , Volume _____ ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		142	142					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

Report No. 78-51

Page 1 of 5

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7834147		12	28						
2	148		16	25						
3	149		16	18						
4	150		15	26						
5	151		14	44						
6	152		22	38						
7	153		13	38						
8	154		11	24						
9	155		18	52						
10	156		18	56						
1	157		21	50						
~~2~~	~~STD Z~~		~~[illegible]~~	~~[illegible]~~						
3	158		15	38						
4	159		17	46						
5	160		15	205						
6	161		6	12						
7	162		12	20						
8	163		11	32						
9	164		10	38						
20	165		17	102						
1	166		12	55						
2	~~BLANK~~		~~[illegible]~~	~~[illegible]~~						
3	167		18	145						
4	168		12	64						
5	169		20	46						
6	170		14	36						
7	171		14	28						
8	172		16	26						
9	174		13	20						
30	175		16	16						
1	176		16	16						
2	177		11	24						
3	179		15	35						
4	180		15	34						
5	181		11	18						
6	183		14	105						
7	184		15	38						
8	185		14	32						
9	186		15	53						
40	7834188		16	125						

REPORT Nº. 78-51

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7834189		18	45						
2	190		22	48						
3	191		17	61						
4	192		18	86						
5	193		11	36						
6	194		28	36						
7	195		15	46						
8	196		11	55						
9	197		16	82						
50	198		11	48						
1	199		10	58						
2	200		17	56						
~~3~~	~~STD 3~~		~~5~~	~~60~~						
4	201		12	58						
5	202		17	64						
6	203		15	55						
7	204		14	44						
8	208		22	130						
9	209		15	82						
60	210		13	66						
1	211		14	62						
2	212		13	65						
~~3~~	~~BLANK~~		~~10~~	~~40~~						
4	213		15	78						
5	214		20	66						
6	215		22	64						
7	216		24	40						
8	217		11	26						
9	218		10	32						
70	219		18	38						
1	220		15	58						
2	221		12	65						
3	222		12	75						
4	223		16	46						
5	224		14	54						
6	225		24	42						
7	226		22	34						
8	227		25	54						
9	232 ~~STD~~		30	116						
80	7834233		20	35						

REPORT Nº. 78-51

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
91	7834234		16	110						
2	235		21	78						
3	236		17	35						
4	237		18	58						
5	238		20	50						
6	239		22	36						
7	240		16	22						
8	241		11	15						
9	242		18	28						
100	243		18	30						
1	244		11	14						
2	245		22	172						
3	246		20	65						
4	~~STD 1~~		~~50~~	~~730~~						
5	247		20	35						
6	248		20	40						
7	249		14	56						
8	250		8	26						
9	251		14	34						
110	252		17	36						
1	253		15	18						
2	254		18	28						
3	255		15	20						
4	BLANK		~~11~~	~~11~~						
5	256		16	44						
6	257		19	40						
7	258		17	54						
8	259		18	68						
9	260		18	80						
120	261		16	58						
1	262		11	58						
2	263		20	112						
3	264		20	78						
4	265		15	75						
5	266		12	48						
6	267		15	32						
7	268		7	28						
8	270		17	56						
9	271		30	80						
130	7834272		20	75						

REPORT Nº. 78-51

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7834273		26	45						
2	274		31	36						
3	275		9	28						
4	276		15	42						
5	277		17	32						
6	278		17	34						
7	279		15	10						
8	280		26	52						
9	281		28	36						
130	282		29	36						
1	283		24	34						
2	284		10	18						
3	285		21	33						
4	287		22	48						
~~5~~	~~STD Z~~		~~570~~	~~550~~						
6	288		18	40						
7	289		22	36						
8	290		19	70						
9	291		16	24						
140	292		18	58						
1	293		19	73						
2	294		25	25						
3	295		21	44						
4	296		14	30						
~~5~~	~~BLANK~~		~~ND~~	~~ND~~						
6	297		23	48						
7	298		18	45						
8	299		20	32						
9	300		15	24						
150	7834301		23	38						
~~1~~	~~7834150~~		~~16~~	~~44~~						
2	171		13	28						
3	191		18	54						
4	199		11	48						
5	217		12	26						
6	244		1	14						
7	258		17	72						
8	268		7	26						
9	280		26	50						
160	7834295		21	44						

REPORT Nº. 79-51

Riocanex

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To READING

At CANOE FLATS

Date Reported 19 July '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 Mesh

Extraction HNO_3 - HCl

Sample Wt. 0.6 g , Volume 12 ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [x] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		142	142					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

Report No. 78-52

Page 1 of 5

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7834302		18	24						
2	303		14	20						
3	304		14	62						
4	305		12	38						
5	306		34	26						
6	307		24	36						
7	309		22	58						
8	310		12	38						
9	311		45	215						
10	312		12	35						
1	313		20	32						
~~2~~	~~STD 3~~		~~5~~	~~60~~						
3	315		18	36						
4	316		180	320						
5	317		52	200						
6	318		23	76						
7	328		62	530						
8	329		71	1130						
9	332		63	1430						
20	333		12	50						
1	334		41	250						
~~2~~	~~BLANK~~		~~ND~~	~~ND~~						
3	335		32	240						
4	336		42	1130						
5	337		20	144						
6	338		12	40						
7	339		21	58						
8	343		8	134						
9	344		25	64						
30	345		14	75						
1	346		32	325						
2	347		34	~~170~~	520					
3	348		2	64						
4	349		12	44						
5	350		18	36						
6	351		22	48						
7	352		34	510						
8	354		2	20						
9	355		62	200						
40	7834357		12	215						

REPORT Nº. 78-52

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7834358		18	360						
2	359		40	850						
3	360		150	2.500						
4	361		18	52						
5	362		18	35						
6	363		24	52						
7	364		28	88						
8	366		22	140						
9	367		21	116						
50	369		21	142						
1	370		18	28						
2	371		41	290						
~~3~~	STD 1		22	210						
4	376		108	120						
5	377		126	540						
6	378		62	355						
7	379		62	340						
8	381		45	480						
9	382		15	145						
60	383		31	125						
1	388		16	36						
2	389		11	35						
~~3~~	BLANK		~~nil~~	~~nil~~						
4	390		10	65						
5	393		16	72						
6	394		31	215						
7	400		20	62						
8	401		22	32						
9	402		26	45						
70	404		20	32						
1	405		47	105						
2	406		31	125						
3	407		72	475						
4	408		28	50						
5	409		12	52						
6	410		12	24						
7	411		12	65						
8	412		20	38						
9	413		27	52						
80	7834414		26	46						

REPORT Nº. 78-52

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
91	7834415		31	60						
2	416		31	52						
3	417		40	55						
4	418		50	45						
5	419		27	66						
6	420		27	33						
7	421		22	38						
8	422		16	30						
9	423		23	22						
90	424		26	46						
1	425		23	32						
2	426		25	64						
3	427		12	26						
~~4~~	~~STD Z~~		~~170~~	~~275~~						
5	428		27	65						
6	429		37	74						
7	430		24	38						
8	431		28	52						
9	432		27	36						
100	433		17	15						
1	434		26	358						
2	435		25	16						
3	437		28	335						
~~4~~	~~BLANK~~		~~<2~~	~~<2~~						
5	438		20	125						
6	439		24	210						
7	441		20	20						
8	442		33	35						
9	443		34	320						
110	444		30	225						
1	445		36	178						
2	446		23	126						
3	448		15	32						
4	449		17	46						
5	450		36	74						
6	451		20	142						
7	452		20	30						
8	453		31	34						
9	454		31	230						
120	7834455		28	74						

REPORT Nº. 79-52

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7834456		25	50						
2	457		23	145						
3	458		17	50						
4	460		24	115						
5	461		22	78						
6	462		24	26						
7	463		13	46						
8	464		20	145						
9	465		33	58						
130	466		37	45						
1	467		54	26						
2	468		15	36						
3	469		35	125						
4	470		17	62						
~~5~~	~~STD 3~~		~~[illegible]~~	~~[illegible]~~						
6	471		14	28						
7	472		17	38						
8	473		15	48						
9	475 ~~474~~		21	75						
140	476		24	68						
1	477		27	55						
2	478		33	44						
3	480		24	44						
4	481		20	54						
~~5~~	~~BLANK~~		~~[illegible]~~	~~[illegible]~~						
6	482		30	35						
7	483		33	74						
8	484		22	55						
9	485		20	84						
150	7834486		44	88						
~~1~~	~~7834304~~		~~13~~	~~[illegible]~~						
8	348		2	[illegible]						
3	359		32	810						
4	381		15	540						
5	406		31	200						
6	428		27	65						
7	439		24	910						
8	448		14	35						
9	462		24	24						
160	7834477		29	66						

REPORT Nº. 78-52

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Riocanex

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To D. BONDAR

At CANAL FLATS

Date Reported 25 July '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 mesh

Extraction HNO_3 - HCl

Sample Wt. 0.6 g , Volume 12 ml

Analytical Method A.A

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		76	76					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

Report No. 78-53

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7834487		26	56						
2	489		21	40						
3	490		20	122						
4	491		21	76						
5	492		25T	76						
6	493		24	82						
7	494		11	660						
8	495		22	56						
9	496		21	28						
10	497		18	215T						
1	498		22	36						
~~2~~	~~STD~~		~~22~~	~~260~~						
3	499		22	42						
4	500		21	120						
5	501		23	125T						
6	502		28	95T						
7	503		27	36						
8	504		43	36						
9	505		22	375T						
20	506		28	1080						
1	507		23	115						
~~2~~	~~BLANK~~		~~NA~~	~~NA~~						
3	508		28	38						
4	509		28	32						
5	510		32	28						
6	511		22	30						
7	512		35T	104						
8	513		625T	150						
9	514		53	135T						
30	515		25T	68						
1	516		78	220						
2	517		35T	720						
3	518		34	146						
4	519		42	130						
5	520		21	34						
6	521		43	46						
7	522		35T	48						
8	523		24	60						
9	524		15T	70						
40	7834525		15T	54						

REPORT Nº. 78-53

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7834526		20	100						
2	527		21	245						
3	528		28	106						
4	529		14	28						
5	530		32	62						
6	531		52	102						
7	532		27	60						
8	533		19	18						
9	534		18	16						
50	535		34	56						
1	536		15	185						
2	537		17	220						
~~3~~	~~STD Z~~		~~275~~	~~250~~						
4	538		30	36						
5	539		19	830						
6	540		21	270						
7	541		22	430						
8	542		21	640						
9	543		26	165						
60	544		26	78						
1	545		36	44						
2	546		31	46						
~~3~~	~~BLANK~~		~~ND~~	~~ND~~						
4	547		36	150						
5	548		47	102						
6	549		21	28						
7	550		24	390						
8	551		20	325						
9	553 ~~554~~		28	75						
70	554		21	135						
1	555		31	435						
2	556		24	80						
3	557		26	100						
4	558		17	62						
5	559		24	62						
6	7834 560		52	42						
7	7832 847		22	360						
8	848		16	620						
9	849		8	285						
80	7832850		9	240						

REPORT Nº. 78-53

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7832 851		9	340						
2	852		37	145						
3	853		39	135						
4	854		46	275						
5	855		41	235						
6	856		43	260						
7	857		44	135						
8	858		48	124						
9	859		13	215						
90	860		16	205						
1	861		10	26						
2	862		27	275						
3	863		6	26						
~~4~~	~~STD 3~~		~~5~~	~~176~~						
5	864		11	42						
6	7832 865		10	34						
7	7833878		17	36						
8	879		11	46						
9	880		23	34						
100	881		33	52						
1	7833907		18	56						
~~2~~	~~7834413~~		~~23~~	~~75~~						
3	501		23	165						
4	BLANK		ND	ND						
5	508		30	32						
6	523		23	56						
7	529		13	22						
8	539		20	330						
9	7834546		31	42						
110	7832 849		9	265						
1	7832 956		42	270						
2	7832 965		2	22						
3										
4										
5										
6										
7										
8										
9										
120										

REPORT Nº. 78-53

Riocanex

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RM

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To Bewley

At Cmlf Lab

Date Reported 31 July '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 mesh

Extraction HNO3 - HCl.

Sample Wt. 0.6 g , Volume 12 ml

Analytical Method A.A.

Analyst(s) G.F.D.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		145	145					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

Report No. 78-61

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7834754		19	56						
2	755		16	78						
3	756		11	66						
4	757		17	40						
5	758		16	45						
6	759		20	64						
7	760		16	42						
8	761		16	76						
9	763		18	28						
10	764		14	75						
1	765		13	30						
~~2~~	~~STD 2~~		~~170~~	~~275~~						
3	766		18	62						
4	767		16	68						
5	768		20	60						
6	769		18	58						
7	770		17	50						
8	771		16	78						
9	772		14	52						
20	773		13	78						
1	774		17	36						
~~2~~	~~BLANK~~		~~ND~~	~~ND~~						
3	775		19	55						
4	776		13	25						
5	777		16	66						
6	778		22	76						
7	779		13	30						
8	780		13	36						
9	781		19	152						
30	782		16	56						
1	783		5	14						
2	784		15	42						
3	785		13	44						
4	786		24	64						
5	787		15	70						
6	788		13	68						
7	789		16	36						
8	790		20	76						
9	791		18	44						
40	7834792		16	70						

REPORT Nº. 79-61

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7834793		19	34	✓					
✓ 2	796		16	66	✓					
✓ 3	797		17	82	✓					
✓ 4	798		17	86	✓					
✓ 5	799		15	88	✓					
✓ 6	800		16	72	✓					
✓ 7	801		17	92	✓					
✓ 8	802		19	68	✓					
✓ 9	803		18	48	✓					
✓ 50	804		15	34	✓					
✓ 1	805		13	16	✓					
✓ 2	806		9	22	✓					
3	~~STD 3~~		~~5~~	~~58~~						
✓ 4	807		14	15	✓					
✓ 5	808		14	20	✓					
✓ 6	809		15	22	✓					
✓ 7	810		15	30	✓					
✓ 8	811		18	22	✓					
✓ 9	812		17	32	✓					
✓ 60	814		13	42	✓					
✓ 1	816		20	30	✓					
✓ 2	817		12	14	✓					
3	~~BLANK~~		~~ND~~	~~ND~~						
✓ 4	819		14	48	✓					
✓ 5	820		17	42	✓					
✓ 6	821		27	58	✓					
✓ 7	822		13	70	✓					
✓ 8	823		13	74	✓					
✓ 9	824		58	32	✓					
✓ 70	825		8	40	✓					
✓ 1	826		12	54	✓					
✓ 2	827		30	90	✓					
✓ 3	828		16	66	✓					
✓ 4	829		26	66	✓					
✓ 5	830		18	44	✓					
✓ 6	831		18	54	✓					
✓ 7	832		16	56	✓					
✓ 8	833		14	46	✓					
✓ 9	834		14	26	✓					
✓ 80	7834835		15	22	✓					

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7834836		11	18						
2	837		17	26						
3	838		8	12						
4	839		11	12						
5	840		21	16						
6	841		17	38						
7	842		24	20						
8	844		10	12						
9	845		24	18						
90	847		16	18						
1	848		22	26						
2	849		14	16						
3	850		12	18						
~~4~~	~~STD~~		~~27~~	~~740~~						
5	851		13	24						
6	852		14	36						
7	853		16	62						
8	854		10	50						
9	855		17	60						
100	856		16	50						
1	857		11	62						
2	858		18	62						
3	859		31	64						
~~4~~	~~BLANK~~		~~NIL~~	~~NIL~~						
5	860		13	44						
6	861		16	50						
7	862		14	26						
8	864		15	64						
9	866		14	82						
110	867		14	380						
1	868		15	145						
2	869		14	68						
3	870		16	66						
4	871		16	82						
5	872		16	82						
6	873		18	[illegible]	74					
7	874		18	56						
8	875		17	50						
9	876		16	42						
120	7834877		22	145						

REPORT Nº. 78-61

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7834878		22	45	✓					
2	879		16	50	✓					
3	880		19	86	✓					
4	881		18	110	✓					
5	882		15	130	✓					
6	883		15	80	✓					
7	884		16	100	✓					
8	885		14	50	✓					
9	886		15	64	✓					
130	887		18	66	✓					
1	888		12	24	✓					
2	889		10	42	✓					
3	890		10	34						
4	893		34	215						
~~5~~	~~STD 7~~		~~36~~	~~76~~						
6	894		23	46						
7	895		17	52						
8	896		41	170						
9	897		16	78						
140	898		16	84						
1	899		14	64						
2	900		13	68						
3	901		11	62						
4	902		23	66						
~~5~~	~~BLANK~~		~~NIL~~	~~NIL~~						
6	7834903		16	68						
7	7839567		15	70						
8	571		18	58						
9	572		13	64						
150	573		18	105						
1	574		13	60						
2	7839576		12	66						
~~3~~	~~7834773~~		~~14~~	~~66~~						
4	785		13	58						
5	800		16	60						
6	824		63	30						
7	951		13	22						
8	869		13	70						
9	886		14	60						
160	7834900		13	68						

REPORT Nº. 78-61

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Rii

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To PENDING

At CANAL FLATS

Date Reported 31 July '78

Acct. No. 8652

Project Name THAG

Size Fraction -80 mesh

Extraction HNO_3-HCl

Sample Wt. 0.6 g , Volume 12 ml

Analytical Method A.A

Analyst(s) E.E.P.

DISTRIBUTION

- [x] Log Normal
- [x] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		143	143					
Mean, $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments: _____

Report No. 78-60

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7834561		25	76	✓					
✓ 2	562		7	20	-					
3	564		21	130	-					
4	565		30	330	-					
5	566		38	64	-					
✓ 6	567		20	56	-					
7	568		71	335	-					
8	569		23	115	-					
9	570		68	1430						
10	571		17	155	-					
1	572		142	1200	-					
~~2~~	~~STD~~		~~37~~	~~750~~						
3	573		52	250	-					
4	574		21	136	-					
5	575		27	86	-					
6	576		35	32	-					
7	577		22	3200	-					
8	578		23	1330						
9	579		17	135	-					
20	580		21	138	-					
1	581		20	510	-					
~~2~~	~~BLANK~~		~~20~~	~~30~~						
3	582		158	500	-					
4	583		18	74	-					
5	584		145	120	-					
6	585		136	1300	-					
7	586		23	415	-					
✓ 8	587		30	340	-					
9	588		22	255	-					
30.	589		42	115	-					
1	590		32	225	✓					
2	591		43	1200	-					
3	592		27	1750	✓					
4	593		25	1450	-					
5	594		34	20	-					
6	595		33	1400	-					
7	596		31	1600	✓					
8	597		47	330	-					
9	598		57	172	-					
40	7834599		22	365	✓					

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7834600		15	205	-					
2	601		17	410	-					
3	602		15	130	-					
4	603		16	200	-					
5	604		17	3100	-					
6	606		34	2000	-					
7	607		38	170	-					
8	609		14	104	-					
9	609		23	102	-					
50	610		16	54	-					
1	611		27	38	-					
2	612		14	43	-					
3	~~STD 3~~		~~570~~	~~470~~						
4	613		54	2500	-					
5	614		36	2200	-					
6	615		14	165	-					
7	616		32	2350	-					
8	617		23	4600	-					
9	621		55	2400	-					
60	622		23	240	-					
1	623		52	450	-					
2	624		46	340	-					
3	~~BLANK~~		~~20~~	~~50~~						
4	625		1	16	-					
5	626		16	235	-					
6	627		25	245	-					
7	628		16	800	-					
8	629		14	440	-					
9	630		12	112	-					
70	631		11	46	-					
1	632		12	38	-					
2	633		14	43	-					
3	634		15	146	-					
4	635		15	62	-					
5	636		15	170	-					
6	637		18	120	-					
7	638		13	1350	-					
8	639		8	50	-					
9	640		11	36	-					
80	7834641		16	65	-					

REPORT Nº. 78-60

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7834642		13	40	✓					
2	643		11	34	✓					
3	644		16	78	✓					
4	645		15	32	✓					
5	646		15	60	✓					
6	647		14	70	✓					
7	648		12	58	✓					
8	649		12	36	✓					
9	650		10	64	✓					
90	651		68	14	✓					
1	652		2	12	✓					
2	653		18	54	✓					
3	654		15	30	✓					
~~4~~	~~STD 3~~		~~5~~	~~[illegible]~~						
5	655		15	30	✓					
6	656		20	26	✓					
7	657		10	30	✓					
8	658		2	26	✓					
9	659		13	64	✓					
100	661		14	24	✓					
1	662		12	38	✓					
2	665		22	150	✓					
3	666		28	165	✓					
~~4~~	~~BLANK~~		~~2~~	~~20~~						
5	667		22	500	✓					
6	670		12	110	✓					
7	671		22	2200	✓					
8	672		2	1150	✓					
9	673		12	75	✓					
110	674		43	[illegible]	✓	1450				
1	675		16	60	✓					
2	676		20	58	✓					
3	678		12	52	✓					
4	679		26	235	✓					
5	680		3	14	✓					
6	681		17	205	✓					
7	682		20	56	✓					
8	684		16	~~[illegible]~~		72	✓			
9	685		12	~~[illegible]~~		425	✓			
120	7834687		13	[illegible]		72	✓			

REPORT Nº. 78-60

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7834688		7	66						
2	689		13	62						
3	690		20	54						
4	691		25	64						
5	694		17	30						
6	695		13	70						
7	696		24	164						
8	697		20	450						
9	698		20	365						
130	699		17	106						
1	700		40	110						
2	701		28	335						
3	703		21	[illegible]	>2000					
4	704		17	72						
~~5~~	~~STD 1~~		~~25~~	~~230~~						
6	705		15	74						
7	706		20	86						
8	741		21	22						
9	742		43	25						
140	743		18	34						
1	744		10	22						
2	745		20	35						
3	746		15	28						
4	747		15	18						
~~5~~	BLANK		~~20~~	~~41~~						
6	748		10	10						
7	749		15	40						
8	750		15	13						
9	751		15	48						
150	752		21	18						
1	7834753		23	50						
2	7834570		68	(1300)	[illegible]					
~~3~~	~~592~~		~~22~~	~~155~~						
4	602		18	122						
5	613		42	2400						
6	630		14	134						
7	643		12	32						
8	666		~~28~~	~~450~~	450					
9	697		17	745						
160	7834748		11	10						

REPORT Nº. 78-60

Riocanex

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To D. BENDING

At Canal Flats

Date Reported 11 Aug '78

Acct. No. 8652

Project Name SHAG.

Size Fraction -80 mesh

Extraction HNO_3-HCl.

Sample Wt. 0.6 g , Volume 12 ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		142	142					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

Report No. 78-70

Page 1 of 5

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº	SAMPLE Nº (NMBR)		Pb	Zn						COMMENTS
1	7834710		20	46						
2	711		22	44						
3	712		17	48						
4	713		21	45						
5	714		25	65						
6	715		28	90						
7	716		19	66						
8	718		57	60						
9	719		24	700						
10	720		33	46						
1	724		15	66						
2	STD 5		6	55						
3	725		11	56						
4	726		41	132						
5	727		23	56						
6	728		35	150						
7	729		26	84						
8	730		21	48						
9	731		22	52						
20	732		28	460						
1	733		44	150						
2	BLANK		ND	ND						
3	734		35	235						
4	735		24	26						
5	736		36	54						
6	739		26	64						
7	904		27	40						
8	905		24	52						
9	907		31	76						
30	908		14	36						
1	910		17	68						
2	911		14	76						
3	912		30	58						
4	913		19	60						
5	914		22	54						
6	915		42	50						
7	916		30	48						
8	917		25	48						
9	918		56	28						
40	7834919		27	30						

REPORT Nº. 78-70

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7834920		22	66						
2	921		17	34						
3	922		18	42						
4	923		19	38						
5	924		25	66						
6	926		36	128						
7	927		27	112						
8	928		17	48						
9	929		22	50						
50	930		27	44						
1	931		23	38						
2	933		45	44						
3	STD 1		21	730						
4	934		29	42						
5	935		20	46						
6	936		24	38						
7	937		20	25						
8	938		15	36						
9	939		21	68						
60	940		18	66						
1	941		22	48						
2	942		22	58						
3	BLANK		NP	NP						
4	943		7	28						
5	944		11	34						
6	945		10	58						
7	946		16	54						
8	947		29	60						
9	948		20	56						
70	949		23	102						
1	950		15	56						
2	951		16	34						
3	952		21	44						
4	953		28	56						
5	954		38	72						
6	955		31	50						
7	956		30	42						
8	957		20	14						
9	958		20	35						
80	7834959		31	45						

REPORT Nº. 78-70

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7834737		29	122						
2	738		8	65						
3	961		19	40						
4	962		27	70						
5	963		26	96						
6	964		9	60						
7	965		21	44						
8	966		20	52						
9	967		32	56						
90	968		10	55						
1	970		14	45						
2	971		33	56						
3	972		35	68						
~~4~~	~~STD 2~~		~~330~~	~~315~~						
5	973		32	76						
6	974		21	44						
7	975		12	26						
8	976		15	40						
9	977		24	36						
100	978		24	46						
1	979		25	40						
2	980		24	60						
3	981		22	58						
~~4~~	~~BLANK~~		ND	ND						
5	982		14	48						
6	983		26	58						
7	984		30	22						
8	985		14	46						
9	986		32	74						
110	987		17	32						
1	988		19	22						
2	989		21	44						
3	990		22	32						
4	991		14	14						
5	992		14	25						
6	993		16	40						
7	994		18	52						
8	995		14	36						
9	996		16	56						
120	7834997		22	64						

REPORT Nº. 78-70

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7834998		17	60						
2	7834999		16	80						
3	7835000		25	148						
4	001		16	66						
5	002		10	78						
6	003		23	70						
7	004		16	72						
8	005		22	88						
9	006		17	46						
130	007		14	55						
1	009		16	42						
2	010		16	52						
3	011		23	45						
4	012		20	44						
~~5~~	~~STD 3~~		~~6~~	~~60~~						
6	013		26	48						
7	014		25	60						
8	015		18	52						
9	016		19	70						
140	017		22	78						
1	018		14	44						
2	019		14	44						
3	020		12	38						
4	021		12	66						
~~5~~	~~BLANK~~		~~ND~~	~~ND~~						
6	022		19	54						
7	023		30	32						
8	024		19	46						
9	025		12	62						
150	7835027		16	46						
~~1~~	~~7834718~~		~~57~~	~~60~~						
2	734		32	245						
3	915		43	48						
4	936		24	38						
5	949		24	104						
6	963		25	38						
7	981		23	58						
8	7834992		14	26						
9	7835006		18	46						
160	7835023		29	32						

REPORT Nº. 78-70

Riocanex

RECEIVED
AUG 14 1978

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [✓] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To D. Bentley

At CANAL FLATS

Date Reported 11 Aug '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 mesh

Extraction HNO_3 - HCl

Sample Wt. 0.6 g, Volume 12 ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		142	142					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments: _____

Report No. 78-71

Page 1 of 5

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7835028		18	48						
2	029		12	46						
3	030		22	108						
4	031		18	50						
5	032		20	50						
6	033		22	60						
7	034		22	58						
8	035		14	76						
9	036		19	90						
10	038		18	65						
1	039		19	46						
~~2~~	~~STD 1~~		~~29~~	~~175~~						
3	040		20	36						
4	041		18	20						
5	042		15	26						
6	043		13	34						
7	044		15	36						
8	047		13	64						
9	048		12	56						
20	049		14	74						
1	050		15	86						
2	BLANK		ND	ND						
3	051		17	56						
4	052 ~~053~~		18	102						
5	053		26	60						
6	054		20	92						
7	055		17	68						
8	056		13	108						
9	057		17	104						
30	058		17	100						
1	059		18	68						
2	060		22	42						
3	061		24	150						
4	062		19	38						
5	063		20	54						
6	064		36	36						
7	066		18	40						
8	067		18	56						
9	068		16	48						
40	7835069		19	38						

REPORT Nº. 78-71

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7835070		20	36						
2	071		18	28						
3	072		25	44						
4	073		1	12						
5	074		20	35						
6	075		17	38						
7	076		17	38						
8	077		4	8						
9	078		17	34						
50	079		18	56						
1	081		20	54						
2	082		21	76						
~~3~~	~~STD~~		~~370~~	~~235~~						
4	083		6	26						
5	084		16	42						
6	085		18	60						
7	086		15	50						
8	087		18	48						
9	088		20	38						
60	089		16	20						
1	091		23	46						
2	092		17	42						
~~3~~	~~BLANK~~		~~Nil~~	~~Nil~~						
4	093		16	54						
5	094		92	34						
6	095		20	78						
7	096		30	60						
8	097		19	16						
9	098		21	40						
70	099		19	38						
1	100		13	38						
2	101		17	34						
3	102		17	42						
4	103		20	44						
5	104		15	36						
6	105		17	35						
7	106		18	46						
8	107		12	54						
9	108		20	135						
80	7835110		10	54						

REPORT Nº. 78-71

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7835111		13	25						
2	112		15	46						
3	113		14	46						
4	114		10	36						
5	115		31	66						
6	116		27	20						
7	117		55	82						
8	118		101	126						
9	119		23	26						
90	120		31	40						
1	121		8	15						
2	122		8	20						
3	123		27	45						
4	~~STD 3~~		~~6~~	~~55~~						
5	124		22	54						
6	125		32	16						
7	126		13	38						
8	127		20	54						
9	128		16	50						
100	129		13	34						
1	130		10	34						
2	133		22	116						
3	134		11	18						
4	~~BLANK~~		~~NIL~~	~~NIL~~						
5	135		25	34						
6	136		35	18						
7	137		60	24						
8	138		42	40						
9	139		13	25						
110	140		12	30						
1	141		17	32						
2	142		15	30						
3	143		16	36						
4	146		13	36						
5	147		25	42						
6	148		22	40						
7	149		18	35						
8	150		18	24						
9	151		25	28						
120	7835152		19	46						

REPORT Nº. 78-71

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7835153		46	175						
2	154		28	38						
3	155		12	30						
4	156		8	10						
5	157		6	12						
6	158		13	20						
7	159		15	86						
8	160		18	1300						
9	161		16	52						
130	162		16	48						
1	163		18	46						
2	164		12	36						
3	165		25	68						
4	166		23	56						
~~5~~	~~STD~~		~~29~~	~~770~~						
6	167		24	72						
7	168		29	134						
8	169		24	148						
9	170		14	35						
140	171		15	15						
1	173		7	12						
2	174		11	18						
3	175		31	36						
4	176		25	55						
~~5~~	~~BLANK~~		~~10~~	~~110~~						
6	177		22	36						
7	179		22	34						
8	180		12	28						
9	181		27	35						
150	7835182		31	35						
~~1~~	~~7835033~~		~~22~~	~~58~~						
2	047		14	60						
3	062		20	35						
4	077		4	8						
5	098		22	38						
6	117		22	24						
7	138		41	40						
8	150		17	24						
~~9~~	160		18	1250						
160	7835175		31	36						

REPORT Nº. 78-71

Riocanex

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AUG 14 1978

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To D. BENDER

At CANAL FLATS

Date Reported 11 Aug '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 mesh

Extraction HNO_3 - HCl

Sample Wt. 0.6 g, Volume 12 ml

Analytical Method A.A

Analyst(s) E.F.P

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		142	142					
Mean. $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

Report No. 18-73

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7935187		21	20						
2	188		17	14						
3	189		12	12						
4	190		34	44						
5	191		23	78						
6	192		23	52						
7	193		23	104						
8	194		35	260						
9	195		28	285						
10	196		20	970						
1	197		28	55						
2	~~STD~~		~~370~~	~~260~~						
3	198		24	122						
4	199		19	28						
5	204		12	48						
6	205		10	48						
7	206		10	38						
8	207		12	145						
9	208		11	60						
20	209		34	44						
1	210		26	32						
2	~~BLANK~~		~~Nil~~	~~Nil~~						
3	211		24	22						
4	212		26	32						
5	213		22	26						
6	214		152	50						
7	215		260	74						
8	216	71	~~29~~	30						
9	217	29	~~32~~	35						
30	218	32	~~32~~	32						
1	219	32	~~20~~	25						
2	220	20	~~8~~	34						
3	221	7	~~26~~	12						
4	222	36	~~18~~	63						
5	223	16	~~14~~	30						
6	224	11	~~12~~	22 ~~52~~						
7	225	12	~~5~~	28						
8	226	5	~~6~~	20						
9	227	6	~~11~~	42						
40	7935228	11		34						

REPORT Nº. 78-73

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7835229		15	50						
2	230		31	74						
3	231		8	60						
4	232		42	52						
5	233		36	56						
6	234		29	66						
7	235		9	66						
8	236		33	50						
9	237		30	62						
50	238		35	62						
1	240		32	70						
2	241		21	32						
~~3~~	~~STD 3~~		~~5~~	~~58~~						
4	242		17	40						
5	243		22	28						
6	244		26	35						
7	245 ~~STD~~		23	30						
8	246		8	12						
9	248		28	34						
60	249		14	14						
1	250		14	18						
2	253		19	34						
~~3~~	~~BLANK~~		~~NIL~~	~~NIL~~						
4	254		21	46						
5	255		18	46						
6	256		20	42						
7	257		23	26						
8	258		18	32						
9	259		18	40						
70	260		26	38						
1	266		24	42						
2	267		24	90						
3	268		19	58						
4	269		22	44						
5	270		27	38						
6	271		20	44						
7	272		23	38						
8	273		28	36						
9	278		18	50						
80	7835279		17	40						

REPORT Nº. 78-73

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7835280		20	44						
2	281		18	44						
3	282		16	42						
4	283		22	38						
5	284		18	56						
6	285		18	34						
7	286		35	36						
8	291		22	80						
9	292		24	56						
90	293		31	94						
1	294		49	72						
2	295		23	42						
3	297		18	32						
4	STD		28	170						
5	298		28	104						
6	299		21	28						
7	304		27	52						
8	305		22	52						
9	306		25	46						
100	307		28	38						
1	308		31	42						
2	309		22	38						
3	310		17	35						
4	BLANK		ND	ND						
5	311		25	32						
6	312		23	36						
7	313		22	56						
8	317		22	60						
9	318		24	62						
110	319		27	108						
1	320		28	76						
2	321		17	52						
3	322		24	48						
4	323		31	26						
5	324		12	28						
6	325		29	66						
7	326		19	32						
8	327		61	60						
9	328		1150	325						
120	7835329		178	60						

REPORT Nº. 78-73

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7835330		87	54						
2	331		110	36						
3	332		68	30						
4	333		64	54						
5	334		21	26						
6	335		15	20						
7	336		18	36						
8	337		12	22						
9	338		14	40						
130	339		12	18						
1	340		19	44						
2	341		17	56						
3	342		15	38						
4	343		17	58						
5	~~STD 2~~		~~370~~	~~255~~						
6	344		41	40						
7	345		12	8						
8	346		22	40						
9	347		13	60						
140	348		53	68						
1	349		27	28						
2	350		21	48						
3	353		32	58						
4	354		26	44						
5	~~BLANK~~		~~ND~~	~~ND~~						
6	357		17	38						
7	359		35	32						
8	360		21	28						
9	376		24	56						
150	7835377		23	132						
	~~7835380~~		~~33~~	~~42~~						
2	206		10	38						
3	227		7	40						
4	236		33	50						
5	257		24	34						
6	285		20	32						
7	295		23	40						
8	324		12	26						
9	336		18	36						
160	7835353		33	60						

REPORT Nº. 78-73

Riocanex

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To BENDING

At CANAL FLATS.

Date Reported 20 May '78

Acct. No. 8652

Project Name SHAG

Size Fraction -80 mesh

Extraction HNO_3-HCl

Sample Wt. 0.6 g, Volume 12 ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		58	58					
Mean, $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments: _____

Report No. 78-81

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7835605		23	82						
2	606		39	185						
3	607		28	76						
4	608		37	130						
5	613		20	64						
6	614		23	76						
7	615		11	38						
8	620		25	36						
9	621		7	12						
10	622		28	98						
1	624		32	60						
2	~~STD~~		~~29~~	~~130~~						
3	625		23	76						
4	626		32	66						
5	629		32	42						
6	630		24	52						
7	631		18	26						
8	632		16	24						
9	633		36	58						
20	634		32	72						
1	635		21	40						
2	~~BLANK~~		~~Nil~~	~~Nil~~						
3	636		21	42						
4	637		19	56						
5	638		18	52						
6	640		22	46						
7	641		22	45						
8	642		19	54						
9	643		39	110						
30	644		29	94						
1	645		4	12						
2	646		42	100						
3	647		25	35						
4	648		19	50						
5	649		25	50						
6	650		13	26						
7	652		22	50						
8	653		25	60						
9	654		19	76						
40	7835655		17	52						

REPORT Nº. 78-81

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
41	7835656		36	55						
2	658		18	38						
3	659		17	30						
4	660		20	42						
5	661		21	46						
6	663		19	46						
7	664		20	44						
8	665		18	52						
9	666		12	24						
50	667		21	46						
1	668		22	48						
2	670		16	24						
3	~~STD 3~~		~~350~~	~~2 [illegible]~~						
4	671		20	35						
5	672		24	36						
6	673		16	36						
7	675 ~~[illegible]~~		20	28						
8	676		10	18						
9	7835677		24	50						
60	7839607		13	48						
1	7839620		15	30						
2	~~7835613~~		~~2~~	~~36~~						
3	626		32	60						
4	636		20	40						
5	647		23	35						
6	658		18	36						
7	7835667		20	48						
8	7839607		14	45						
9										
70										
1										
2										
3										
4										
5										
6										
7										
8										
9										
80										

REPORT Nº. 79-81

Riocanex

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- [x] Soil &/or Stream Sediments
- [ ] Rock
- [ ] Water
- [ ] _____
- [ ] _____

Results Sent To BENDENG.

At CANTL FLATS.

Date Reported 20 Aug '78

Acct. No. 8652

Project Name SHAG.

Size Fraction -80 M.sh

Extraction HNO_3-HCl.

Sample Wt. 0.6 g, Volume 12 ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

- [ ] Log Normal
- [ ] Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Pb	Zn					
No. of Samples		142	142					
Mean, $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments: _____

Report No. 78-~~7~~80

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
1	7835379		22	42						
2	381		29	36						
3	382		33	44						
4	403		22	44						
5	404		14	25						
6	405		20	38						
7	408		11	20						
8	430		18	38						
9	432		22	34						
10	433		41	38						
1	434		42	52						
2	~~STD~~		~~4~~	~~60~~						
3	435		35	42						
4	436		30	34						
5	457		21	48						
6	458		29	45						
7	460		33	36						
8	461		35	28						
9	462		27	20						
20	463		20	45						
1	464		25	48						
2	~~BLANK~~		~~ND~~	~~ND~~						
3	465		23	65						
4	466		33	20						
5	468		8	12						
6	469		32	48						
7	470		75	145						
8	471		36	36						
9	472		18	32						
30	473		10	26						
1	475		11	54						
2	476		48	45						
3	477		75	92						
4	478		65	55						
5	479		21	36						
6	480		41	52						
7	481		46	42						
8	482		240	64						
9	483		165	58						
40	7835484		146	52						

REPORT Nº. 78-80

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)	Pb	Zn	COMMENTS
41	7835485	60	36	
2	486	124	155	
3	487	35	38	
4	488	39	54	
5	489	33	52	
6	490	17	42	
7	491	23	24	
8	492	24	22	
9	493	31	70	
50	494	22	62	
1	495	20	108	
2	496	30	48	
3	~~STD~~	~~29~~	~~350~~	~~STD~~
4	497	18	56	
5	498	36	62	
6	499	30	52	
7	500	81	114	
8	501	87	74	
9	502	71	33	
60	503	125	66	
1	504	26	20	
2	505	122	48	
3	~~BLANK~~	~~NIL~~	~~NIL~~	~~BLANK~~
4	506	101	56	
5	507	220	82	
6	508	230	38	
7	509	2300	242	
8	510	270	32	
9	511	23	42	
70	512	42	52	
1	513	21	46	
2	514	6	22	
3	515	23	42	
4	516	22	72	
5	517	23	34	
6	518	4	20	
7	519	16	14	
8	520	25	54	
9	521	19	54	
80	7835522	13	40	

REPORT Nº. 78-90

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
81	7835523		19	98						
2	524		21	108						
3	525		27	72						
4	527		22	26						
5	528		32	46						
6	529		36	54						
7	530		35	28						
8	531		78	74						
9	532		39	50						
90	533		42	54						
1	534		12	18						
2	535		31	70						
3	536		43	78						
4	~~STD~~		~~350~~	~~330~~						
5	537		54	145						
6	538		91	126						
7	539		115	75						
8	540		28	28						
9	541		44	58						
100	542		35	56						
1	543		31	45						
2	544		40	52						
3	545		21	56						
4	~~BLANK~~		~~10~~	~~10~~						
5	546		19	60						
6	547		25	44						
7	548		25	64						
8	549		18	56						
9	551		10	40						
110	552		15	76						
1	553		11	62						
2	555		28	45						
3	556		36	45						
4	557		37	48						
5	558		31	22						
6	559		18	25						
7	560		24	26						
8	561		32	36						
9	562		39	50						
120	7835563		35	78						

REPORT Nº. 78-80

RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Pb	Zn						COMMENTS
121	7835564		37	45						
2	565		29	46						
3	566		59	34						
4	568		18	24						
5	569		11	18						
6	570		23	48						
7	571		17	40						
8	572		36	46						
9	573		19	58						
130	574		13	22						
1	~~576~~		35	98						
2	577		24	76						
3	578		21	80						
4	579		18	40						
5	~~STD 3~~		~~5~~	~~53~~						
6	580		24	44						
7	583		71	60						
8	584		22	50						
9	585		33	36						
140	586		23	40						
1	587		56	72						
2	588		46	58						
3	589		42	58						
4	595		10	62						
5	~~BLANK~~		~~ND~~	~~ND~~						
6	596		22	45						
7	597		12	34						
8	602		24	52						
9	603		24	66						
150	7835604		18	36						
1	~~7835432~~		~~22~~	~~34~~						
2	465		22	66						
3	495		59	35						
4	497		20	52						
5	511		20	40						
6	522		12	40						
7	540		26	26						
8	553		11	56						
9	568		18	24						
160	7835603		26	72						

REPORT Nº. 78-80

Riocanex

) B.C. Slag.

File

RECEIVED

AUG 2 8 1978

Rio Tinto Canadian Exploration Limited

LABORATORY REPORT

SAMPLE TYPE (✓)

- ☐ Soil &/or Stream Sediments
- ☑ Rock
- ☐ Water
- ☐ _____
- ☐ _____

Results Sent To C. SPENCE

At OFFICE

Date Reported 28 Aug '78

Acct. No. 8652

Project Name _____

Size Fraction Reverse to -100 mesh

Extraction HNO_3-HCl

Sample Wt. 1.0 g, Volume 12 ml

Analytical Method A.A.

Analyst(s) E.F.P.

DISTRIBUTION

☒ Log Normal

☐ Normal

STATISTICAL SUMMARY

(Value for $\bar{x}$ and σ in ppm)

Element		Hg	Cd	Pb	Zn			
No. of Samples		7	7	7	7			
Mean, $\bar{x}$								
Std. Dev. σ								
$\bar{x} + 2\sigma$								

Comments : _____

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Report No. 78-94

Page 1 of 2

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RIO TINTO CANADIAN EXPLORATION LIMITED

LABORATORY REPORT

PARTS PER MILLION

LAB Nº.	SAMPLE Nº. (NMBR)		Ag	Cd	Pb	Zn				COMMENTS
1	7839699		8.0	339	1520	230000				
2	700		1.0	79	15	60,000				
3	MP-1		56.5	506	18,900	165,000				
4	701		58.0	503	75	306,000				
5	702		117.5	155	280,000	111,000				
6	703		8.2	1050	920	484,000				
7	704		3.5	84	260	56,500				
8	BLANK		ND	ND	ND	ND				
9	7839705		34.0	70	195,000	50,600				
10	7839699		3.5	342	1540	228,000				
1	702		118.5	154	277,000	112,000				
2	7839705		33.5	71	197,000	51,700				
3										
4										
5										
6										
7										
8										
9										
20										
1										
2										
3										
4										
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7										
8										
9										
30										
1										
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5										
6										
7										
8										
9										
40										

REPORT Nº. 78-94

APPENDIX II

DRILL LOGS

7382

RM → JH.

To: Rio Tinto Canadian Explorations

PAGE No. 1

REPORT No A28 - 744

DATE: ~~October 18, 1978~~

BONDAR-CLEGG & COMPANY LTD.

Suite 615 - 555 Burrard Street
Vancouver, B.C.

CERTIFICATE OF ASSAY

Samples submitted: October 13, 1978
Results completed: October 18, 1978

Project: 8652

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

MARKED		GOLD		SILVER	Pb	Zn	Cd		Metrage	Footage		TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
C 302001					0.60	0.69	<0.01		13.1-13.4	42.9-43.8		
C 302002					-	1.47	<0.01		16.2-16.6	53.2-54.4		
C 302004					-	0.07	-		19.5-19.7	63.9-64.7		
C 302005					-	3.95	0.01		19.7-20.2	64.7-66.4		
C 302006	78.1				-	0.12	-		22.0-22.2	72.3-73.0		
C 302007					-	0.21	-		4.2-4.7	13.7-15.4		
C 302008					-	3.00	-		4.7-5.0	15.4-16.3		
C 302009					-	0.32	-		5.0-5.3	16.3-17.4		
C 302010	78.2				-	0.05	-		5.9-6.2	19.5-20.4		
C 302011					-	3.18	-		11.6-11.9	38.0-39.0		
C 302012					-	1.56	-		12.0-12.4	39.3-40.8		
C 302013					-	8.85	-		14.8-15.0	48.4-49.3		
C 302014					-	0.86	<0.01		15.0-15.4	49.3-50.5		
C 302015	78.3				0.02	0.10	-		13.7-14.8	44.9-48.4		

7382

Registered Assayer, Province of British Columbia

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

LOCATION :

HOLE NO : 78-1

AZIMUTH :

PROPERTY : Shag

DIP : 90°

LENGTH : 200'

ELEVATION :

Claim No.:

STARTED : Sept. 19, 1978

CORE SIZE : BQ

DATE LOGGED : Sept. 23/78

SECTION :

COMPLETED : Sept. 20, 1978

DIP TESTS :

LOGGED BY : D. Bending

PURPOSE : Testing BM Mineralization

CONTRACTOR: Cdn. Longyear

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE N°	FOOTAGE from	FOOTAGE to	LENGTH
0	2.4	Overburden				
2.4	9.9	Dolomitic limestone: mudstone with interbeds wackestone and grainstone: medium and dark grey, finely laminated, with 2-3% pyrite as disseminations in lenses or recrystallized blebs, especially along granular/fine mud boundaries - darker laminae less calcareous; noticeable clay content - same shear and pull a part of more competent carbonate sub-layers				
9.9	11.5	Dolostone: bioclastic/intraclastic grainstone: grey and dark grey; occasional shaley laminae, stylolites and lensoid beds - portions more uniform and dolomitic				
11.5	12.1	Dolostone: interbedded intraclastic grainstone and dark grey finely cyrstalline mudstone				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-1

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH	Pb	Zn	Cd			
		- occasional millimetre laminations of dark grey shale										
12.1	12.6	Dolomitic limestone: gradation from pelleted grainstone through heavily burrowed dark grey and grey, occasionally birdseyed dolomitic lime mudstone to dark grey laminated pelleted lime mudstone with occasional shaley partings - ZnS = 1% finely disseminated in lower centimetre of laminated subunit; also minor pyrite										
12.6	13.1	Dolostone: grey and medium to dark grey burrowed, birdseye-textured grading to uniform, finely crystallized, grey: - traces pyrite; occasionally stylolitic partings - finely disseminated pale ZnS (=1%)										
13.1	13.3	Dolostone: grey, finely crystalline, mud-cracked with dark grey shaley infill and light yellow, very finely crystalline ZnS Note: 12.3 - 13.3 M. removed from field	302001	13.1m	13.4m	.3	.60	.69	< .01			
13.3	14.5	Dolostone: medium and dark grey; delicately laminated, finely crystalline - occasional dessication cracks - ZnS (about 1%) as minor spotty replacement										

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-1

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH	Pb	Zn	Cd
14.5	15.9	Dolostone: medium to dark grey laminated birseyed to irregular birdseyed, with traces pale ZnS in some birdseyes - gradational to a coarser spotted texture							
15.9	17.4	Dolostone: dark grey, with white sparry dolomite blebs - ZnS in dolomite blebs and fractures, as well as disseminated in the matrix locally Note: 16.2 - 16.6 M. removed from field	302002	16.2m	16.6m	.4m	-	1.47	< .01
17.4	18.0	Dolostone: dark grey, laminated, birdseyed, intraclastic; gradational to burrowed birdseyed							
18.0	19.5	Dolostone: gradational - platy (3 x 20 millimetres) intraclastic wackestone to heavily burrowed mudstone (? soft sedimentary boudinage) (Note: 19.2 - 19.5 metres removed from field)							
19.5	20.3	Key Facies: transition from ? boudinaged rock as above to "amphipora-like" birdseye dolostone, cryptic Note: entire section removed from field	302004	19.5m	19.7m	.2m	-	.07	-
			302005	19.7m	20.2m	.5m	-	3.95	.01
20.3	21.9	Dolostone: medium to light grey, vaguely birdseyed, intracla[illegible]finely crystalline,							

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-1

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH	Pb	Zn	Cd			
		stylolitic - grades to dolostone with fewer birdseyes, more vaguely defined subrounded, platy, intraclasts and similar disjointed laminae - burrowing prominent in lower most section - trace ZnS as spotty replacement (single 5 millimetre diameter grain)										
21.9	23.3	Dolostone: light grey, finely crystalline, prominent burrows, steep irregular fractures filled with white sparry dolomite and red ZnS (about 2%) - upper part notably stylolitic, while lower is extensively burrowed - contact is pyritic mudseam 1.5 centimetres thick Note: sample removed from field	302006	22.0	22.2m	.2m	-	.12	-			
23.3	26.3	Dolostone: medium to light grey, finely crystalline to sucrosic, irregularly laminated birdseyed - very similar to unit above; fewer birdseyes than unit below; slightly darker, slightly mineralized with typical footwall suite style: irregular splotches with birdseyes										
26.3	26.7	Dolostone: grey, indistinctly banded, finely crystalline - ZnS (about 2-3%) in spotty birdseye-like replacements - single centimentre-thick vein fill of white										

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-1

PAGE Nº: 5

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
		sparry dolomite with trace pyrite				
26.7	43.9	Dolostone: light grey, finely crystalline to sucrosic; burrowed; with 2-4 centimetre thick, slightly darker, birdseyed beds - stylolites; white sparry dolomite veins - thin lenses with very fine microcrystalline pyrite and several thin shaley/pyritic partings				
43.9	44.7	Dolostone mudstone: medium and dark grey; laminated and irregularly birdseyed; ? algal - contacts gradational and defined by colour change				
44.7	61.0	Dolostone: mudstone/micrite: light grey finely crystalline to sucrosic - uniform except for: (a) pervasive burrowing 45.7-46.6 metres (b) birdseyes 44.7-45.7 metres, 48.8-49.1, 53.6-54.9 metres (c) stylolites and close spaced primary laminae 46.6-46.8 metres, 55.7-56.1 metres, 51.0-57.3 metres, 60.6-61.0 metres (d) green to brown-grey, shaley, pyritic interbeds as at 58.8: 3 cm., 55.2: 1 centimetre 55.7: 1 centimetre (e) scattered disseminations and veinlets of pyrite				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

LOCATION :

HOLE NO : 78-2

AZIMUTH :

PROPERTY : Shag Claims

DIP : 90°

LENGTH : 201'

ELEVATION :

Claim No.:

STARTED : Sept. 22/78

CORE SIZE : BQ

DATE LOGGED : Sept. 23/78

SECTION :

COMPLETED : Sept. 23/78

DIP TESTS :

LOGGED BY : D. Bending

PURPOSE : Preliminary Test BM Mineralization

CONTRACTOR: Canadian Langyear

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH	Pb	Zn	Cd			
0'	1.5'	Overburden										
1.5	2.2	Dolostone: medium pale grey, finely crystalline; burrowed, steep, irregular, wispy and lensoid dark streaks (≥10% of rock); trace pyrite and disseminated ZnS in darker areas										
2.2	4.1	Dolostone: (birdseye, mudstone to algal mudstone); dark grey, finely crystalline birdseyes; occasional steep white sparry dolomite filled fractures (1 to 5 millimetres thick)										
4.1	4.7	Dolostone mudstone: dark grey, finely crystalline, with birdseyes; some lenses of fine dark laminae. ZnS as spotty replacements in and around birdseyes (=2%) and as fine disseminations (=2%) - single centimetre thick white sparry dolomite cemented fracture	302007	4.2m	4.7m	.5m	-	.21	-			

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-2

PAGE Nº: 2

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH	Pb	Zn	Cd			
4.7	5.1	Dolostone: medium to dark grey, finely crystalline delicately laminated, fractured with occasional birdseyes; ZnS as finely crystalline pinkish disseminations and as cement in fractures. Total ZnS: 5-7%	302008	4.7m	5.0m	.3m	-	3.00	-			
5.1	5.5	Footwall grainstone: cryptic textured (4.0 - 5.5 metres removed from field)	302009	5.0m	5.3m	.3m	-	.32	-			
5.5	5.9	Dolostone: grey, mottled, ? burrowed or slumped, slightly pyritic										
5.9	6.3	Dolostone: footwall suite: cryptic rock, stylolitic, recrystallized	302010	5.9m	6.2m	.3m	-	.05	-			
6.3	8.1	Dolostone: light grey, finely crystalline to sucrosic, irregularly laminated, occasional stylolites; millimetre to centimetre-sized white sparry dolomite fractures										
8.1	9.1	Dolostone: grey, finely crystalline to sucrosic, stylolitic with some delicate dark laminae; burrowing increases downward										
9.1	9.5	Dolostone: medium to light grey, mottled, burrowed, finely crystalline to sucrosic with increased clay downward; stylolites abundant										

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-2

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
9.5	11.6	Dolostone: light grey, vaguely mottled, finely crystalline with poorly defined relic laminae; occasional birdseye-like spots				
11.6	14.5	Dolostone: light grey, uniformly burrowed, finely crystalline; sparse light birdseye-like spots, and white sparry dolomite pockets, some with very finely crystalline pyrite - some stylolites; pyrite also as millimetre sized veinlets - black shaley partings to several centimetres in thickness				
14.5	25.0	Dolostone: mudstone: light grey, sucrosic to finely crystalline; stylolitic; pyrite wisps and shaley partings; occasional pale spots and burrows; relic rip-up clasts (15.5-16.5) M. - grey, porcellaneous for 30 centimetres at (18.0) metres				
25.0	26.8	Dolostone, mudstone: light grey to grey; finely crystalline to sucrosic; occasional stylolites and spots of paler more pronounced recrystallization				
26.8	30.9	Dolostone, mudstone/micrite and intramicrite: pale grey; finely crystalline to sucrosic, locally burrowed and stylolitic; some relic rip-up clasts				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-2

PAGE Nº: 4

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
30.9	31.9	Dolostone, mudstone: medium to dark grey, finely crystalline; clay-rich seams; most highly disturbed, resembling slump while other parts show distinct birdseyes + algal textures - lower contact gradational, by a colour change to a pale diffusely birdseyed dolostone				
31.9	34.1	Dolostone: light grey, sucrosic, texture from: diffuse birdseye-like at 32' M. to burrowed mottled at 33.5 M. Spotty re-crystallization yields some light spots. Occasional pyrite.				
34.1	45.3	Dolostone: pale grey, uniform, vaguely cyclic - rock in general light grey, sucrosic to finely crystalline dolostone; every 1½ to 2 metres is a .3 M. band of diffuse birdseyes followed by a vaguely laminated sequence of very fine and sucrosic dolostones (on a millimetre scale) with some rip up clasts - several thin grey-green pyritic mud seams				
45.3	51.1	As above but cyclicity less apparent, fewer birdseyes and rip ups; burrowing more evident as are stylolites - grey-green, entimetre thick pyritic mud seam 5 M., 49.1 '				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-2

PAGE Nº: 5

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
		- recrystallized pyrite patch at 50.4 M (3-4 masses, 6-8 M. across) plus minor wispy pyrite - local laminations very uniform; occasional rip-ups; these features distinguish this unit from that below				
51.1	55.2	Dolostone: grey and light grey, finely crystalline to sucrosic; isolated centres of recrystallization produce granular texture (sub-millimetre scale); some burrows, birdseyes, pyrite spots, stylolites - in the lower portion is a white sparry dolomite mass along a steep stylolite, and bounded by a stylolite below to yield a 1-1.5 centimetre by 5-7 centimetre vein or lens-like patch				
55.2	56.4	Dolostone: pale grey, finely crystalline, with wispy, slightly darker delicate laminae; occasional rip-up clasts to 2 x 10 millimetres - towards lower boundary marked increase in burrowing				
56.4	58.1	Dolostone: light grey, finely crystalline to sucrosic, heavily burrowed, stylolitic; numerous isolated recrystallized spots give burrows pronounced colour differences - lower border transitional to a more uniform rock with stylolites				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-2

PAGE Nº: 6

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
58.1	61.3	Dolostone, mudstone to wackestone: light grey, finely crystalline to sucrosic, stylolitic, fine pyrite seams and masses, diffuse darker grey laminae dolomite veins 197-198 crackle breccia with white sparry dolomite cement and some spotty void fillings				
61.3		END OF HOLE				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

LOCATION :

HOLE NO : 78-3

AZIMUTH :

PROPERTY : Shag Property

DIP : 90°

LENGTH :

ELEVATION :

Claim No.:

STARTED : September 24/78

CORE SIZE : BQ

DATE LOGGED : Sept. 24/78

SECTION :

COMPLETED : Setember 24/78

DIP TESTS :

LOGGED BY : D. Bending

PURPOSE : Test mineralization of BM area

CONTRACTOR: Cdn. Longyear

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
0	4.7	Overburden				
4.7	6.9	Limestone, grey, pelleted/intraclastic grainstone interlayered & with thin beds dark grey lime mudstone. (Pyritic) - millimetre wide veins white sparry dolomite				
6.9	8.2	Lime mudstone, dark grey to grey, burrowed transitional to dolostone, dark grey, birdseyed. - traces ZnS, pale, disseminated at 7.0 M. - fractures filled with white sparry dolomite - birdseyes more prominent as composition becomes more dolomitic; compares with 12.1 - 12.6 M. in 78-1				
8.2	11.6	Dolostone; dark grey, laminated and birdseyed, algal - 8.5-8.8 M: 1% ZnS, red, in stylolites & spotty replacements in dark laminae				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-3

PAGE Nº: 2

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH	Pb	Zn	Cd			
		- 36-37 core badly broken; no ZnS observed in this interval										
		- grades from grey burrow mottled intraclastic dolostone with sparry dolomite spots (to 2 x 8 millimetres) to dark grey finely crystalline birdseyes										
		- lower contact marked by a sharp colour change										
Note:	11.6-	19.2M of 78-3 removed to Vancouver September, 1978										
11.6	12.2	Dolostone: dark grey, mottled, ? burrowed or boudin-like soft sediment deformation	302011	11.6m	11.9m	.3m	-	3.18	-			
		- ? cemented and replaced by about 8% ZnS, yellow and red, with some granular white sparry dolomite										
12.2	12.5	Dolostone: grey, finely crystalline; birdseyed with red ZnS as spotty replacements	302012	12.0m	12.4m	.4m	-	1.56	-			
		- prominent vein fill of red-orange ZnS at lower contact, where ZnS associated with a muddy seam										
12.5	12.6	Dolostone: light grey intraclasts in dark grey matrix with disseminated ZnS to 10%										
12.6	14.3	Dolostone: light grey, finely crystalline, burrowed to birdseyed										
		- stylolitic; traces ZnS										

R.A.M.L. 269

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-3

PAGE Nº: 3

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH	Pb	Zn	Cd
14.3	14.7	Dolostone: grey, finely crystalline irregularly laminated and stylolitic with yellow and orange ZnS as fracture fill and ocasionally spotty replacements; total ZnS 1 - 2%	302015	13.7m	14.8m	1.1m	.02	.10	-
14.7	15.1	Dolostone: matrix breccia: black shaley matrix with lensoid clasts; red and orange ZnS replacing clasts and matrix, grades to 15% ZnS - lower border of mineralized zone is pyritic shale seam one centimetre thick	302013	14.8m	15.0m	.2m	-	8.85	-
15.1	15.7	Dolostone: breccia as above, grey, finely crystalline, grading down into a crackle breccia-like rock cemented (relic texture) with pyrite, white sparry dolomite and sphalerite - total ZnS about 5%	302014	15.0m	15.4m	.4m	-	.86	< .01
15.7	16.0	Dolostone: medium, light grey, laminated with white sparry dolomite and ZnS cemented crackle breccia; ZnS to 2% - laminations may be vague, white							
16.0	17.4	Dolostone: medium to light grey, finely crystalline with white sparry dolomite cemented fractures, stylolites, trace disseminated pyrite							

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-3

PAGE Nº: 4

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
17.4	18.9	Dolostone: medium to light grey, finely crystalline, with spots of white sparry dolomite, burrows, dolomite filled fractures				
18.9	19.8	Dolostone: grey, finely crystalline, vaguely birdseyed; stylolitic; spots of ZnS trace pyrite; total ZnS to 1%				
19.8	33.8	Dolostone: light grey, medium finely crystalline, locally birdseyed, stylolitic; trace pyrite especially in thin shaley partings as at 27.1 metres - white sparry dolomite cemented crackle and local rubble breccia with centimetre sized vugs - vague relic burrowing and intraclasts locally - burrowing increases downward and birdseyes are more common; at a sharp stylolitic boundary colour changes to medium dark grey				
33.8	36.0	Dolostone: transition from a dark grey predominantly stylolitic dolostone to birdseye dolostone through a paler rock to a medium to light grey birdseye dolostone - lower boundary is where burrowing has disrupted birdseyes and texture is generally uniform except for stylolites				

RIO TINTO CANADIAN EXPLORATION LIMITED

DIAMOND DRILL RECORD

HOLE Nº: 78-3

PAGE Nº: 5

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE Nº	FOOTAGE from	FOOTAGE to	LENGTH
36.0	37.2	Dolostone: pale grey, sucrosic, with cryptic mottles; minor white sparry dolomite veining				
37.2		END OF HOLE				

R.A.M.L 269

APPENDIX III

ASSAY REPORTS

7382

To: Rio Tinto Canadian Explorations

REPORT No A28 - 744

PAGE No. 1

DATE: October 18, 1978

BONDAR-CLEGG & COMPANY LTD.

Suite 615 - 555 Burrard Street
Vancouver, B.C.

CERTIFICATE OF ASSAY

Samples submitted: October 13, 1978
Results completed: October 18, 1978

Project; 8652

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

MARKED	GOLD		SILVER	Pb	Zn	Cd					TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
C 302001				0.60	0.69	<0.01					
C 302002				-	1.47	<0.01					
C 302004				-	0.07	-					
C 302005				-	3.95	0.01					
C 302006				-	0.12	-					
C 302007				-	0.21	-					
C 302008				-	3.00	-					
C 302009				-	0.32	-					
C 302010				-	0.05	-					
C 302011				-	3.18	-					
C 302012				-	1.56	-					
C 302013				-	8.85	-					
C 302014				-	0.86	<0.01					
C 302015				0.02	0.10	-					

Registered Assayer, Province of British Columbia

Appendix IV

STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

D. A. G. Bending

Academic

1976	B.Sc., Geology	University of Oregon
1977 to present	M.Sc. Programme	University of Toronto

Practical

1976-1977	Gulf Resources and Chemical Mine and Exploration Geologist Kellog, Idaho
1978 (summer)	Rio Tinto Canadian Exploration Ltd. Party Chief on Exploration for Mississippi Valley-type Lead and Zinc occurrences, S.E. British Columbia.

STATEMENT OF QUALIFICATIONS

R. V. Longe

ACADEMIC

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

PRACTICAL

1969-present	Rio Tinto Canadian Exploration Ltd. Vancouver BC Geologist involved in various aspects of mineral exploration in B.C., Yukon, and Alaska.
1967 (summer)	Amax Exploration Geological mapping of Cuichon Batholith, B. C.
1965-1966 (summers)	Selco Exploration Ltd., 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
1962-1963	Consolidated African Selection Trust Ltd., Mine Geologist, Akwatia, Ghana
1961	Serra Leone Selection Trust Ltd., Geologist, reserve development department Yangema Mine, Sierra Leone

Appendix V

SUPERVISOR'S STATEMENT

SUPERVISOR'S STATEMENT

This is to certify that the 1978 programme of geological mapping, geochemical sampling, and diamond drilling on the Shag Claims described in this report by D. Bending was carried out under my direction.

R. V. Longe, November 1978

Appendix VI

COST STATEMENTS

COST STATEMENT
SHAG CLAIMS
DIAMOND DRILLING
SEPTEMBER 18 - 26, 1978

SALARIES & WAGES		
2 Men, 18 - 26 Sept., 18 Man Days @ $48/Man Day		$ 816.00
BENEFITS @ 25% of Salary & Wages		204.00
RIOCANEX CAMP EQUIPMENT		
18 Man Days @ $3/Man Day		54.00
HELICOPTER		
Bow, Bell 206B 18 - 25 Sept.		
13.2 Hrs @ $315/Hr	$4,158.00	
Fuel 10.4 Hrs @ $25/Hr	260.00	4,418.00
RENTAL TRUCK		
Tilden, 3/4 T 4WD PU 15-26 Sept., 11 Days @$38.75/Day		426.20
FOOD & ACCOMMODATION 18 Man Days @ $15/Day		270.00
DIAMOND DRILLING CONTRACT		
Longyear Canada 18-25 Sept. 159.5 m @ $96.91 m		15,457.00
FUEL		818.00
REPORT PREPARATION		800.00
TOTAL		$23,263.20

COST STATEMENT

B.C. SHAG CLAIMS

12 JUNE - 14 AUGUST 1978

GEOLOGICAL, GEOCHEMICAL

CONTRACTED LINE CUTTING (12 - 27 June)		
Semco, 8 km @ $916/km		$7,331
SALARIES & WAGES (5 men, 42 days, 19 June - 30 July)		
210 Man Days @ $36/Man Day		7,602
BENEFITS @ 25% of Salaries & Wages		1,901
RIOCANEX CAMP EQUIPMENT, 210 Man Days @$3/Man Day		630
HELICOPTER, Okanagan Bell 206, 22.7 hrs @/$362/Hr		8,215
TRUCK, Redhawk 4WD Crew Cab, 42 Days @$25/Day		1,050
FOOD & ACCOMMODATION, 210 Man Days @$11/Man Day		2,310
SUPPLIES		1,323
FUEL		143
REPORT PREPARATION		883
GEOCHEMICAL ANALYSIS		
Riocanex Lab		
1436 Soils for Pb, Zn @$2.85	$4,093	
7 Rocks for Ag, Cd, Pb, Zn @$5.50	39	
Geochemical Supplies	540	
Shipment of Samples via P.W.A.	89	4,761
TOTAL		$36,149

APPENDIX VII

7382

APPENDIX VIII

7382

INTER-OFFICE MEMORANDUM

File No.

To: R.V. Longe

Date November 8, 1978

From: J.L. Hardy

Subject: Shag claims; textural study of case selected for assay.

MINERALIZATION

Most of the sphalerite is present as dark brown to red to pale yellow anhedral disseminations within the host dolostones. Minor amounts of red-brown anhedral sphalerite are associated with white sparry dolomite in veins and small vugs. Pyrite may or may not be present with the sphalerite, but is common alone as fine disseminations in the surrounding carbonates. No galena is visible.

Best grades in the 3 holes are: (A) 78.3: 0.3 m, 3.18% Zn (11.6-11.9 m); 0.2 m, 8.85% Zn (14.8-15.0 m) (B) 78.2: 0.3 M, 3.00% Zn (4.7-5.0 m) (C) 78.1: .5 m, 3.95% Zn (19.7-20.2 m)

SEDIMENTARY FACIES

While the mineralization is not wholly controlled by the sedimentary facies of the host carbonates, it is for the most part restricted to variably bioturbated, or less often poorly and broadly banded dolostones. There is a marked contrast in colour and crystal size/granularity between burrows and host, and between the various bands. This implies a difference in initial permeability/porosity which may have served to focus the flow of mineralizing fluids into the more porous media. Sphalerite is typically present in the coarsest phase. Differences in initial chemistry may also have favoured precipitation in such sites. In the drill core examined, all sediments are of high subtidal to intertidal to low supratidal origin. Bioturbation is the dominant texture, though variable in intensity, and often with a component suggesting soft sediment deformation. Burrowing is controlled primarily by local water depths and by hypersalinity. Evidence for ephemeral evaporites is found in the sparse pockets of matrix breccias composed of angular, homogeneous, apparently corroded fragments suggesting contemporaneous sulphate dissolution. Local relief on the depositional surface is suggested by lag deposits, storm layers, and probable tidal channel deposits. Facies changes in such shallow water environments would be rapidly gradational and irregular. Even with detailed mapping there is no way to anticipate the direction of continuity of a given facies and hence mineralization.

All holes penetrate closely similar lithologies. However, hole 78.3 is possibly of higher energy than 78.2 and 78.1, and hole 78.2 may be of somewhat higher energy than 78.1, based on consideration of relative amounts of carbonate mud and intraclasts preserved.

INTER-OFFICE MEMORANDUM

File No.

To: R.V. Longe

Date November 8, 1978

From: J.L. Hardy

Subject: Shag claims; textural study of case selected for assay.

PROGNOSIS

Sphalerite observed in the selected drill core was for the most part of replacement origin, confined to a bioturbated dolostone facies. Lesser amounts of sphalerite are present in veins and vugs associated with white sparry dolomite. Beyond this there is little evidence for infill of open space. The mineralization thus does not resemble that of Mississippi Valley type, rather showing some affinity for manto-type deposits. At Shag, however, the controlling facies is erratic in nature and distribution, so the potential for large manto-type deposits in the classic sense is not good.

SHAG 7
SHAG 8
SHAG 1
SHAG 2
SHAG 3
SHAG 4
SHAG 5
SHAG 6
78-1
78-2
78-3
Mount
Queen Mary
9800
8200
8000
7700
7500
7000
6500
6000
5500
5000
4500
4000
River
Albert
01
02
03
04
05
06
07
08
09
10
N.T.S 82 J/11, 12
7382
SCALE 1:10,000
200 100 0 200 400 600 800 METERS
■ · · · · · Legal Corner Post
●78-1 Hole drilled in 1978
MOUNT SODERHOLM
ALBERT RIVER
QUEEN MARY CREEK
RIO TINTO CANADIAN EXPLORATION LIMITED
SHAG CLAIMS - ALBERT RIVER
LOCATION OF CLAIMS & DRILL HOLES
NOV. 78
D.B. / y.m.
DWG. C - 8634

7382

LEGEND

M	Mckay Group Shales
A	Arctomys Formation
C	Cathedral Formation
C_7	Top Dolostone
C_6	Cliff Step Limestone
C_5	Second Dolostone
C_{4L}, C_{4D}	Dividing Limestone, Dolostone equivalent
C_{3D}, C_{3L}	BM Host Dolostone, Limestone equivalent
C_2	Thin Limestone
C_1	Albert River Dolostone
C_9	Eastern Transgressive Dolostone
C_8	Cyclic Dolostone
Ch	Chancellor Formation (Shale equivalent to Cathedral Formation)

— — — Geological contact inferred

——— Geological contact observed.

⚒ Showing

MOUNT SODERHOLM
ALBERT RIVER
QUEEN MARY CREEK

N.T.S 82 J 11, 12

SCALE 1:10,000

200 100 0 200 400 600 800 Metres

RIO TINTO CANADIAN EXPLORATION LIMITED

SHAG CLAIMS

GEOLOGY
ALBERT RIVER SHEET

D.B. / s.g.	MAR. 1979	DWG. G - 8633

78-3

78-1

20

26
Siliceous dolostone

23

Lower Limit of ZnS is exposed here where the contact between the brecciated cycle and the fw wall grainstone

21
barren finely crystalline grey dst.

inferred

steep

Fault

Lower Limit of observed mineralization

mineralized talus - top is not exposed

traces pyrite
spotty SiO_2

Shag Creek (approximate, early July)

Stabilized Talus

20
flaggy dst
traces pyrite

78-2

7382

N

LEGEND

Outcrop

Outcrop with sphalerite

78-2 Drill hole

N.T.S. 82 J / 11, 12

SCALE 1 : 500

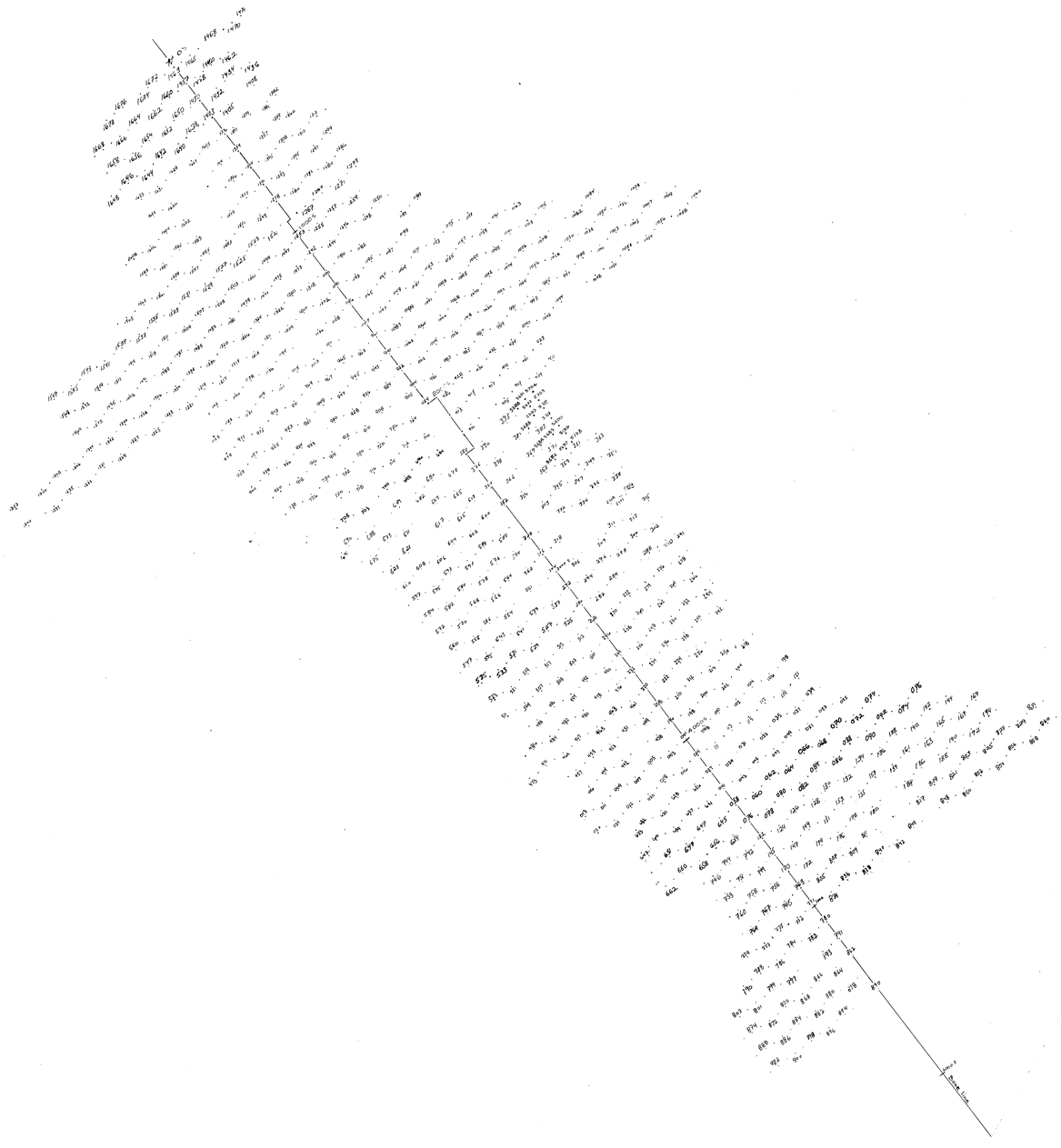
10 5 0 10 20 30 40 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

SHAG CLAIMS

GEOLOGY OF B.M. SHOWING
& LOCATIONS OF DRILL HOLES

D. B.	NOV. 1978	DWG. G - 6527



LEGEND

560 — Sample No. (preceded by 7835)

N.T.S. 82J/11,12

METRES
0 200 400 600 800 1000

RIO TINTO CANADIAN EXPLORATION LIMITED

SHAG CLAIMS

SAMPLE LOCATIONS

D. B. | NOV. 1978 | DWG. GC - 8628

7382

7382

LEGEND

83 – ppm Pb

N.T.S 82J/11, 12

METRES
0 200 400 600 800 1000

RIO TINTO CANADIAN EXPLORATION LIMITED

SHAG CLAIMS

SOIL SAMPLE RESULTS - LEAD

D. B. | NOV. 1978 | DWG. GC - 8629

LEGEND

152 – ppm Zn

N

N.T.S 82 J / 11, 12

METRES
0 200 400 600 800 1000

7382

RIO TINTO CANADIAN EXPLORATION LIMITED		
SHAG CLAIMS		
SOIL SAMPLE RESULTS – ZINC		
D. B.	NOV. 1978	DWG. GC - 8630

7382

LEGEND

150 ppm Pb
125 ppm Pb
100 ppm Pb

N.T.S 82 J / 11, 12

METRES
0 200 400 600 800 1000

RIO TINTO CANADIAN EXPLORATION LIMITED

SHAG CLAIMS

SOIL SAMPLE RESULTS :
LEAD ISOPLETHS

D. B. | NOV. 1978 | DWG. GC - 8631

7382

LEGEND

1000 ppm Zn
800 ppm Zn
600 ppm Zn
400 ppm Zn

Zinc & Lead occurrences

N.T.S 82J/11,12

METRES
0 200 400 600 800 1000

RIO TINTO CANADIAN EXPLORATION LIMITED

SHAG CLAIMS

SOIL SAMPLE RESULTS :
ZINC ISOPLETHS

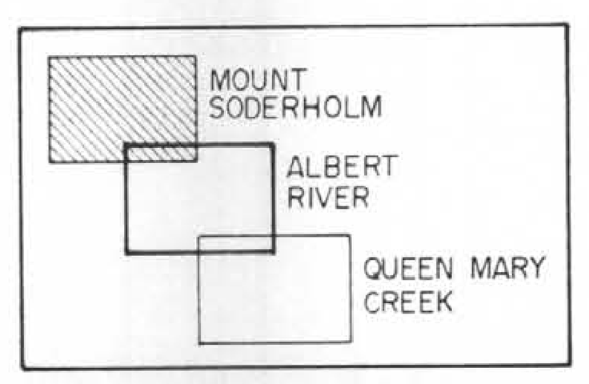
D. B. | NOV. 1978 | DWG. GC - 8632

Ch	Chancellor Formation (Shale equivalent to Cathedral Formation)	
M	Mckay Group Shales	
A	Arctomys Formation	
C	Cathedral Formation	

LEGEND

C_7	Top Dolostone		
C_6	Cliff Step Limestone	C_9	Eastern Transgressive Dolostone
C_5	Second Dolostone		
C_{4L}, C_{4D}	Dividing Limestone, Dolostone equivalent	C_8	Cyclic Dolostone
C_{3D}, C_{3L}	BM Host Dolostone, Limestone equivalent		
C_2	Thin Limestone		
C_1	Albert River Dolostone		

Note: This map has not been re-drafted and remains in field form



N.T.S. 82 J/11, 12

SCALE 1 : 10,000

200 100 0 200 400 600 800 Metres

RIO TINTO CANADIAN EXPLORATION LIMITED

SHAG CLAIMS

GEOLOGY

MOUNT SODERHOLM SHEET

D. B.	FEB. 1979	DWG. G - 8662