

4692

Geological and Geochemical Survey

TRI Claims

Redfern Lake Area, B.C.

Liard Mining Division

Department of	
Mines and Technical Resources	
ASSESSMENT REPORT	
NO. 4692	MAP

H. Salat
Calgary, Alberta
October 16, 1973

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INTRODUCTION

1. General

Aquitaine Company of Canada Ltd. is the sole owner of one hundred and ten (110) claims, staked in fall 1972, after the discovery of some mineralized indications. Therefore, in late spring 1973, after most of the snow had melted, the Company sent a crew of three prospectors and a geologist into the area to map the geology, prospect and take stream sediment samples.

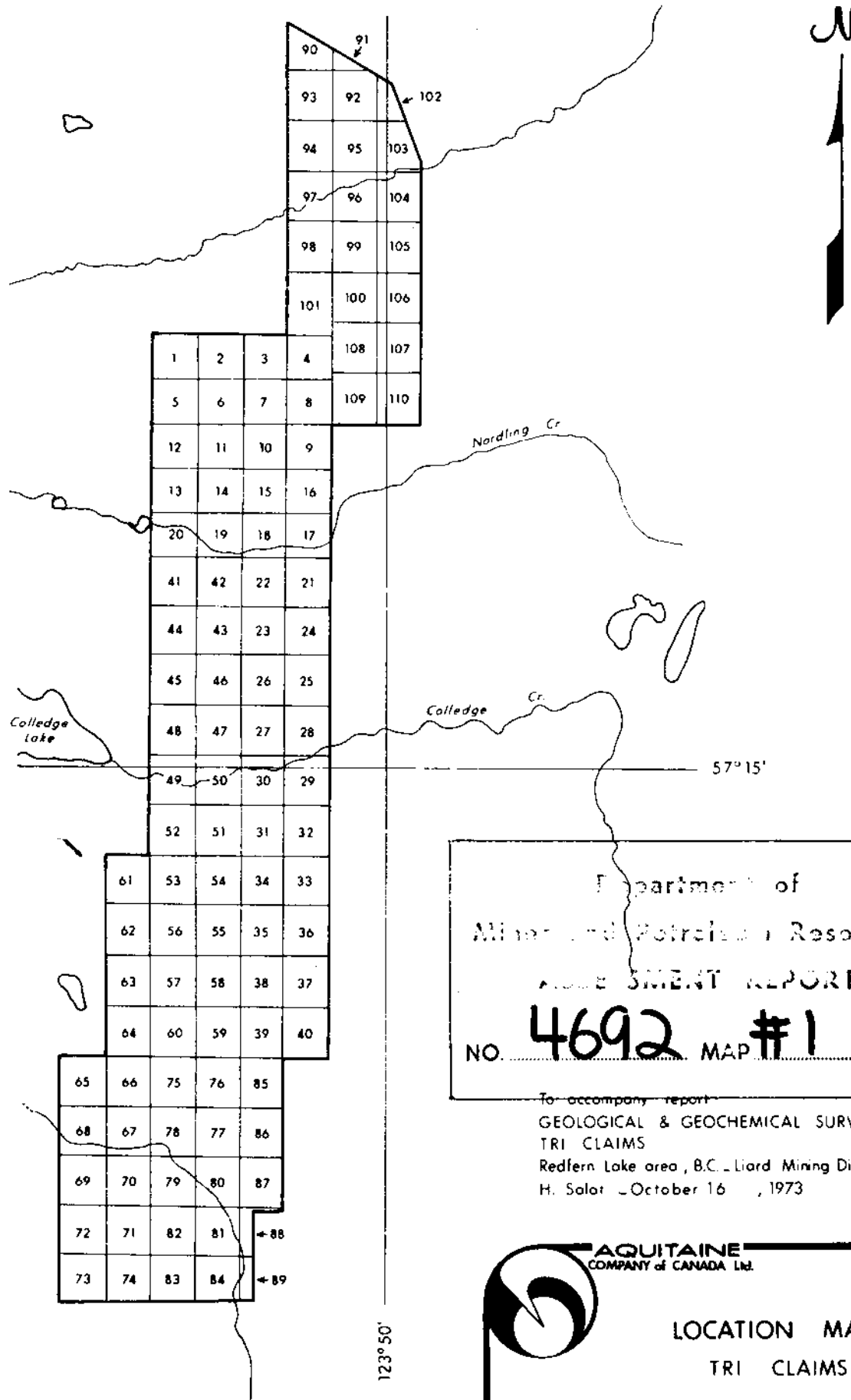
The TRI claims form an elongated block of 110 claims located on the eastern flank of Mount Helen; they extend from Redfern Lake in the north down to the Sikanni Chief River. The claims make up a north-south band, 1 to 1-1/2 miles wide, along the 123°51' W meridian. Their northern and southern boundaries are approximately 57°13' N and 57°18' N (see Figure 1).

The area is covered by topographic maps 94G/4W and 94G/5W (scale 1:50,000) and the zone of the claims itself is entirely within the coverage of aerial photos A-17163, 154 and 156 (obtainable from the Federal Government).

2. Geography and Access

The property is situated at the edge of the Front Range of the Rocky Mountains; the topography consists of a series of east-west ridges separated by deep, flat-bottomed valleys. The high, rugged sides of the ridges are either outcropping or covered by rock scree;

1a



Department of
 Mineral and Petroleum Resources
 ASSESSMENT REPORT
 NO. **4692** MAP # **1**

To accompany report
 GEOLOGICAL & GEOCHEMICAL SURVEY
 TRI CLAIMS
 Redfern Lake area, B.C. - Liard Mining Division
 H. Salat - October 16, 1973

FIG. 1



AQUITAINE
 COMPANY OF CANADA LTD.

LOCATION MAP
TRI CLAIMS

DATE	SCALE 1" = 900'
Prep. by	FILE

many are flanked by sheer cliffs. To the southwest, the property encompasses a portion of the flat plateau which marks the transition between the bare peaks and the forested valleys of the Foothills region. The average elevation is above 5,500' and culminates at 7,600' on the northernmost ridge. Three broad valleys cut across the property, of which Nordling Creek and Colledge Creek flow in two.

Some shrubs, dwarfed timber pines and willows are present at the bottom of the valleys. Otherwise, only a vegetation of moss and lichens subsists on the lower slopes or on the plateau. The snow-free period extends from the end of June until September; however, patches of snow remain along ledges, drop-offs or at the heads of cirques until late in the summer.

The TRI claims are approximately 45 miles west of Mile 162 on the Alaska Highway, but there is no access route into the area apart from a pack horse trail which starts at Mile 163 on the Alaska highway and follows the Sikanni Chief River. Past Mount Bertha, it crosses a trail running north-south along the valley marking the transition between the Foothills and the Rocky Mountains. The northern trail passes just two miles east of the TRI claims. Besides this trail, air transportation is the only other means of access into the area. If a float plane is to be used, Redfern Lake or Fairy Lake to the north and Cranswick Lake to the east are available, but again these are located four to five miles from the property. As for Colledge Lake, its position at the head of a glacial cirque, next

to Mount Helen, makes it unsuitable for landing. Indeed, the only easy way to get into the area quickly is by helicopter.

GEOLOGY

No previous work has ever been done in this area and the general geological map of the Trutch area (94G) by B.R. Pelletier and D.F. Stott (Map 12-1963) does not differentiate the Paleozoic strata. The only information provided is by G.C. Taylor and W.S. Mackenzie in their paper "Devonian Stratigraphy of Northeastern British Columbia" (G.S.C. Bulletin 186) in which they give a very generalized outline of the zones where the different Devonian formations outcrop.

In the wake of the Robb Lake discovery by Barrier Reef Ltd. at the end of 1971, Aquitaine Company of Canada Ltd. decided to investigate the Devonian stratigraphy in the general area. In the meantime, some mineralization was found on the north side of Nordling Creek, which led to the staking of an original block of 20 claims and then increased to 110 units. Therefore, in the summer of 1973, geological work had to be done, the stratigraphy described and the property explored for the location of any mineralization. Fortunately, the high relief existing over most of the property and the lack of brush vegetation exposed enough outcrops to accurately map the entire area.

1. Stratigraphy

Taking into account the stratigraphic nomenclature devised by

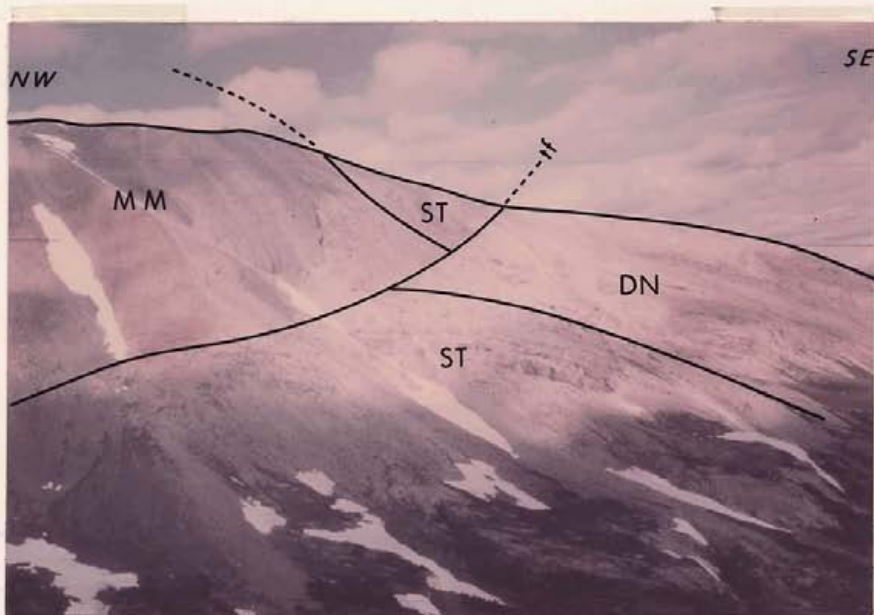


Plate I - Nordling Creek, looking to the Northeast. - M.M : Muncho-McConnell Fm;
ST: Stone Fm; DN: Dunedin Fm; T.F. Thrust fault;

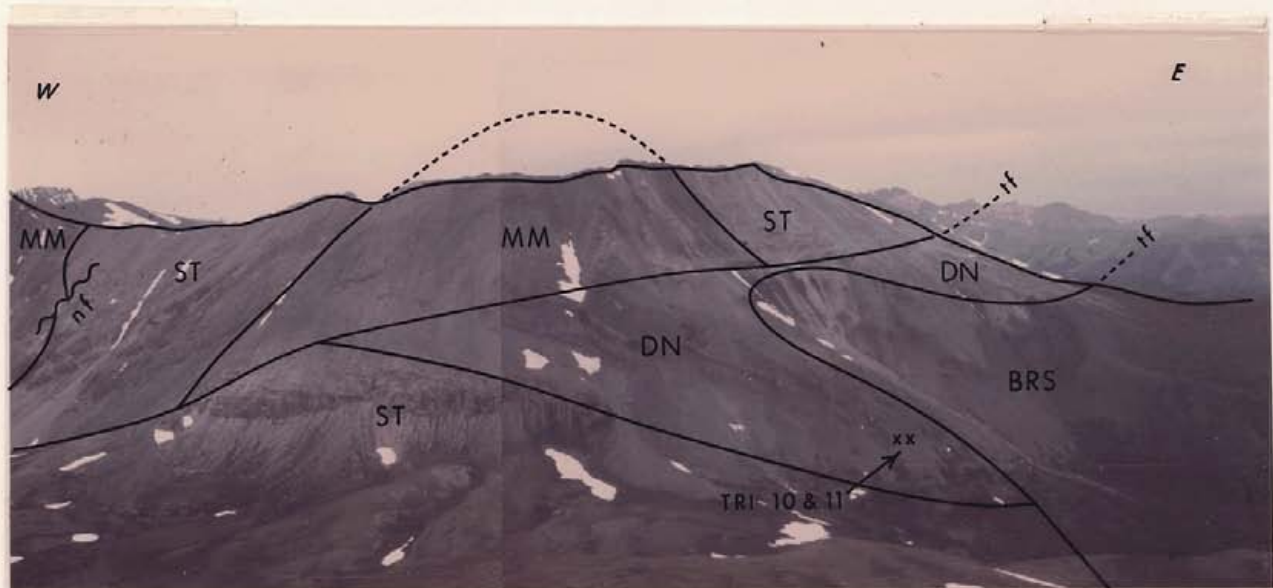


Plate II - Nordling Creek, north side. - M.M : Muncho-McConnell Fm; ST: Stone Fm;
DN: Dunedin Fm; BRS: Besa River Shale Fm; XX: Mineralized zone;
T.F : Thrust fault; N.F: Normal fault; Note the low angle thrust fault
bringing MM & ST Fm above Dunedin Fm.

G.C. Taylor and W.S. Mackenzie (1969), the succession of geological formations in the area can be described as follows:

a) Muncho-McConnell (Lower Devonian)

In the area, the Muncho-McConnell outcrops in the northern portion and a nearly complete section has been measured along the crest of the ridge on the north side of Nordling Creek. There the Muncho-McConnell constitutes the central core of a tight anticline (see Plate II). However, the lower section was seen along the slope located on the north side of the adjoining cirque, to the north of the main ridge, but not measured.

-The section begins with a medium grey dolomite containing many large silicified fossils (isolated ceroid corals, Halysitis, some Hallopora) followed by sandy beds.

-A medium grey to brown-grey dolomite with silicified fossils (undetermined) underlies the huge succeeding mass of white quartzite which forms a prominent cliff. Overlying the quartzite, a very dark grey, cryptocrystalline dolomite rich in white Stromatopora, corals and brachiopods indicates the start of the measured section which is as follows:

-30 feet of ash-grey, crypto- to microcrystalline dolomite with many very thin veins of calcite. On the weathered surface, it appears with many laminae.

-10 feet of dolomite having a strongly contorted parting, followed by a thin silicified bed (nearly a chert) and 30 feet of light grey, cryptocrystalline, well-layered dolomite.

-20 feet of dark grey, microcrystalline dolomite displaying many laminae.

-100 feet of white quartzite which weathers green due to lichen growth.

-20 feet of light brown, microcrystalline, sandy dolomite.

-10 feet of very dark grey, cryptocrystalline dolomite with many silicified Stromatopora and algae.

-5 feet of medium grey, microcrystalline, somewhat sandy dolomite.

-10 feet of very dark dolomite, rich in silicified Stromatopora mainly at the base. At the top, there is a medium grey laminated dolomite.

-2 feet of white quartzite.

-25 feet of dark dolomite with many beds of silicified Stromatopora intercalated with beds rich in sand (quartz grains). At the top, light grey, brown-weathering dolomite slightly sandy.

-50 feet of the same sequence as above.

-30 feet of light grey, sandy dolomite, still with some silicified Stromatopora at the base, but then disappearing toward the top.

b) Wokkpash Formation (upper Lower Devonian)

This unit is not very well defined and along the measured section, only 10 feet of light grey sandstone with dolomitic cement, which evolves from a grey-brown pure quartzite at the base, can be related to the Wokkpash Formation. This grey sandstone lies conformably above the sandy dolomite described previously. The facies convergence between the upper 100 feet of the Muncho-McConnell and the Wokkpash is so pronounced that it is difficult to draw a line; consequently the Wokkpash has to be grouped with the Muncho-McConnell for mapping purposes as it is not readily observable on a larger scale.

c) Stone Formation (lower Middle Devonian)

Following the sandy beds of the Wokkpash Formation, 150 feet of light grey, cryptocrystalline dolomite were measured along the top of the ridge. It contrasts sharply with the darker beds of the Muncho-McConnell and the contact can be seen over long distances.

The Stone Formation goes on with 50 feet of light grey, crystalline dolomite displaying many bird's-eye features

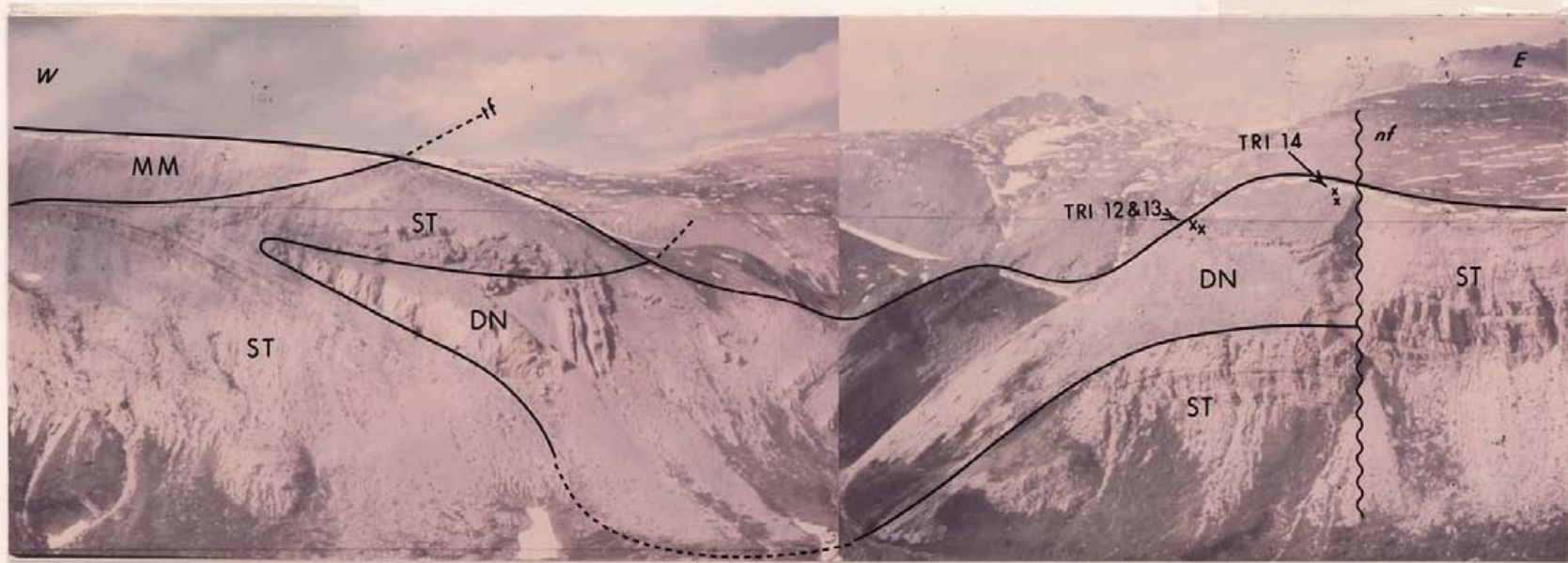


Plate III - Colledge Creek, north side - M.M: Muncho-McConnell FM; ST: Stone Fm; DN: Dunedin Fm;
XX: Mineralized zone; NF: Normal fault; T.F. Thrust fault;.

('laminoid fenestra') while above, another 50 feet of the same dolomite is devoid of any bird's-eyes.

The measured section terminates with an unknown thickness of light to medium grey dolomite which contains some darker discontinuous layers.

From other areas where the Stone Formation outcrops, we can observe the upper part of that formation as it underlies the above Dunedin Formation. Under no circumstances were we able to correlate exactly the last unit of the measured section, as the Stone Formation seems here to be rather thick. As a matter of fact, on the north side of Colledge Creek a cliff of 700 feet is made up of horizontal upper beds of the Stone Formation (see Plate III). This includes layers of light grey to beige, cryptocrystalline dolomite, associated with lithographic calcareous dolomite. It is overlain by a series of sandy dolomite in which the rounded quartz grains are concentrated in thin continuous layers or in lenses. This sandy unit is locally pyritic; pyrite is then part of the cement.

The sandy dolomite grades into a dolomite with a more dispersed sand grain distribution. It is followed by a thick series of limy dolomite including many bird's-eyes or with undulating compaction surfaces indicative of a supratidal environment. This series also contains some sandstone

units (3 to 5 feet thick) and before it passes into the above fossiliferous Dunedin Formation, we can generally observe the presence of a thick layer of mega-breccia composed of large elements (up to 5 x 10 cm) of the same nature as the matrix (a solution breccia?).

d) Dunedin Formation (upper Middle Devonian)

Over the claim area, the Dunedin Formation is incomplete as it is either eroded away or topped and squeezed by thrust planes. Where the contact with the underlying Stone Formation is visible, it starts with limy dolomite rich in Amphipora and finely laminated limestone containing brachiopods and crinoids.

It is overlain by a sequence of cryptocrystalline limestone which becomes a dolomite at the top; this sequence is repetitive and generally intercalated by a bed--30 to 50 cm thick--of brown-grey, saccharoid dolosparite. The beds of the top sequences display a more shaly parting. Then it is followed by thick, massive beds of dark grey limestone which in their turn are overlain by a sequential arrangement of dolomite, grey limestone with brachiopods and some fine laminae, and azoic crystalline dolomite often having a pencil-like parting. Some brecciated beds, 50 to 10 cm thick, are present, and generally there is a very thin bed of shale squeezed between two sequences.

The above described section was observed on the north side of Nordling Creek (see Plate I). But some lateral facies changes were noticed in the vicinity. For example, on the other side of Nordling Creek, the limestones are very dark grey with rare brachiopods and crinoids; these make up a thick massive series and indicate a poor environment for animal life (well isolated back-reef facies). This change takes place over a localized area as along the walls of the next creek to the south, the outcropping Dunedin shows layers of limy dolomite rich in brachiopods, corals (Thamnopora), and Amphipora. Also zebra rock facies, large vugs and generally good porosity are apparent here over a significant thickness; it was also found, in this area, that many thick beds of limy dolomite were rich in carbonaceous matter.

e) Besa River Shale Formation (Upper Devonian to Mississippian)

This formation comprises many black shales, pyritic shales and thin, dark grey, limy shales or shaley limestones. It outcrops to the east of the claim area and covers a large portion in the southeast corner. Due to its plasticity, the shales are highly folded; it is hard to estimate their thickness or attempt to delineate the stratigraphic succession within the formation.

2. Structural Geology

After the stratigraphy of the area was described (see Figure 2), the different structural units were most easily recognized. The claims

are underlain by masses of dolomite and limestone which belong to two separate thrust plates. The first is to the east overriding the plastic Besa River shales; these shales have played the role of a "decollement" layer on top of which the rest slid eastward.

The eastern plate includes mainly layers of the Stone Formation approximately 700 to 900 feet capped by a thin veneer--200 to 300 feet thick at the most--of Dunedin limestone. The layers are nearly horizontal except for the northern section where they dip eastward, between 25° to 45°.

The second thrust plate lies nearly flat on top and above the preceding one; the bulk of the rocks composing it belong to the Muncho-McConnell Formation and the Nonda Formation (Silurian age) further to the west, but some remnants of the Stone dolomite are still present, especially right against the thrust fault. Within that tectonic unit, layers are strongly folded; one well-shaped cylindrical anticline is noticeable since it begins on the northern tip of the claims and extends in a southwesterly direction along the property boundary to the Sikanni Chief River. A complex syncline and tight anticline are observed topping the high ridge north of Nordling Creek, where some Stone Formation is preserved. The general direction of the fold axis is north-south to north-northeast.

3. Mineralization

As mentioned in the general introduction, the property was staked after the discovery of some mineralization. The crew returned to the

original spot which is located over the last scree of the high ridge directly north of Nordling Creek (see Point TRI 10 and 11 on Figure 2), before the Besa River shale is reached. The mineralization corresponds to a brecciated zone filled with barite accompanied by some chalcopyrite and malachite. This breccia seems to relate to a fracture zone.

Next to it, a second barite breccia zone dipping to the west at 80° cuts across the eastward sloping limestone beds. This zone contains large blebs of galena and sphalerite. Some samples (see Appendix III) run as high as 1 to 3% lead and 5 to 12.4% zinc.

While mapping the area, two other zones of unequal importance were discovered and all of them are located within the Dunedin limestone. The first is located on the south side of Nordling Creek, across from the originally discovered mineralization. It consists of a sub-conformable vein of barite, one to two feet thick in dark grey microcrystalline limestone. Galena and sphalerite are concentrated at the bottom of the vein and have somewhat impregnated the footwall (see TRI 15 on Figure 2).

The second mineralized zone is found on the north slope of Colledge Creek (see TRI 12 and 13 on Figure 2). In a dark grey, limy dolomite, zebra facies starts to develop as one reaches the top of the series; along with zebra rock, the frequency of vugs or geodes increases and blebs of barite appear to fill most of them. The barite generally contains some galena and sphalerite; the galena is well crystallized and conspicuous while the zinc sulphide is not readily detected. The barite zone, 6 to 7 feet wide by 30 feet long, is pinched out against

the beds to the northwest, but its attitude is paraconformable with the surrounding layers. On the southeast termination of the mineral occurrence, the footwalls are well impregnated; they show a weathered greyish facies, where the galena is still present but the sphalerite is inconspicuous. However, a level as high as 12% zinc is reached. A bit further to the east, right against the fault (see Plate III), where the Dunedin beds are warped down to nearly vertical, some rubble containing malachite was found. It was composed of crushed, medium grey, vuggy dolomite.

Of the different mineral shows, this last is the most encouraging due to its size, attitude and the fact that a significant volume of the footwall is mineralized. However, it is to be noted that the showings are all situated approximately at the same stratigraphical level within the Dunedin Formation and show a certain alignment from one outcropping area to the next.

GEOCHEMISTRY

A stream sampling program was implemented over the TRI claims area. Also, a small field laboratory was installed in the cabins where the crew was staying. There, a chemist analysed samples using the Bloom and Holman test for metallic elements. In this way, it was possible to appraise the relative values of the samples. Afterward, the samples were sent to our main laboratory to be thoroughly assayed.

The five creeks flowing through the property were sampled every 200 feet wherever possible. Also, every tributary with running water was sampled, at least at its confluence; however, whenever such a tributary was found to be draining potentially interesting terrain, it was sampled the same way as the main creeks. Along the streams, silt was taken in the active bed with a shovel or by hand and poured into a wet-proof Kraft bag (8" x 4") and carefully identified; its location was immediately noted on a 1:6,000 air photo enlargement. Afterwards, the samples were sent to the main laboratory and analyzed for zinc, lead and copper.

The results (see Appendix I and Figure 2) show hardly any variation along the same creek, with the exception of a few tributaries (6a on Colledge Creek; 15a to 18a on Nordling Creek) which drain areas down-slope from known mineralization. However, the background is not the same for each creek and the TRI-SS and TRIN-SS samples display a higher average for zinc and copper (94.5 ppm Zn - 36 ppm Cu and 92 ppm Zn - 33 ppm Cu respectively). These mean values are bettered by stronger values found in correlation with the underlying Besa River shales; as a matter of fact, these two series of samples were taken along streams which flow mainly above bedrock belonging to the formation. In other words, higher geochemical values could be correlative to that formation and could help in contouring it, taking into account that the boundary in the southern corner is not precisely known.

To summarize, geochemical sampling of stream sediments did not lead directly to mineral discovery; also the results from analysis seem to show a correlation with bedrock rather than mineralized occurrences,

with the possible exception of some tributaries yielding slightly higher values. However, these exceptions are not evident and are made a posteriori.

CONCLUSION

Reconnaissance geochemistry by stream sediment sampling over the TRI claims did not bring any encouraging information and seems to reflect mainly the nature of the bedrock. However, the combination of geology and direct prospecting has shown the area to contain mineralization within the Dunedin limestone Formation.

Mineral occurrences which consist mainly of galena and sphalerite appear to be related mainly to veins and tectonic breccia zones; however, it has been observed that some of the best assays came from impregnated footwalls, which leads to the possibility of more extensive stratiform bodies.

Further exploration should be carried out on the southern half of the claims where the Dunedin Formation outcrops extensively and lies in a more or less horizontal position (between TRI 15 and TRI 12); the Dunedin Formation indicated in the very southern portion of the property needs to be checked more thoroughly as it lays in the same position as its counterpart to the north (see Figure 2). The nature of the formation and mineralization found in connection with it certainly warrant further exploratory work over well defined targets and area.

REFERENCES

- Pelletier, B.R., and Stott, D.F.
1963: Trutch Map-Area, British Columbia (94G); Geological Survey of Canada, Paper 63-10.
- Taylor, G.C. and Mackenzie, W.S.
1969: Devonian Stratigraphy of Northeastern British Columbia; Geological Survey of Canada, Bulletin 186.

APPENDIX I

Geochemical
Assays

DATE: July 28, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
TRIN/SS/01	16	25	60
/02	18	25	40
/03	22	25	30
/04	25	25	70
/05	40	25	90
/06	25	< 25	60
/06a	75	< 25	210
/07	55	< 25	110
/08	38	< 25	140
/09	60	25	130
/10	45	< 25	110
/11	50	< 25	120
/12	30	25	65
/13	35	25	95
/14	30	< 25	80
/15	25	< 25	75
/16	30	< 25	75
/17	35	< 25	100
/17a	35	< 25	120
/18	40	25	95
/19	35	25	105

continued...

DATE: July 28, 1973

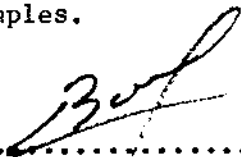
ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
TRIN/SS/20	50	25	130
/21	30	25	90
/22	40	< 25	120
/23	30	< 25	75
/24	30	< 25	90
/25	25	25	75
/26	25	25	70
/27	25	< 25	70
/28	32	< 25	90
/29	30	< 25	85
/30	25	< 25	75
/31	25	< 25	75
/32	45	< 25	120
/33	30	< 25	75
/34	30	< 25	90
/36	25 *	< 25	85
/37	45	< 25	140
/38	25	< 25	80

I hereby certify that the above results are those assays
made by me upon the herein described samples.

.....


DATE: August 2, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
NOR/SS/01	12	< 25	30
/02	10	< 25	30
/04	15	< 25	45
/05	12	< 25	25
/05a	15	< 25	20
/07	20	< 25	25
/08	12	40	30
/09	12	40	30
/10	15	< 25	45
/11	20	< 25	30
/12	12	< 25	50
/13	12	< 25	45
/14	15	25	50
/15	12	25	45
/15a	40	< 25	90
/16	12	< 25	45
/16 a	40	< 25	100
/17	18	< 25	60
/17 a	40	< 25	80
/18	20	< 25	80
/18 a	40	< 25	85

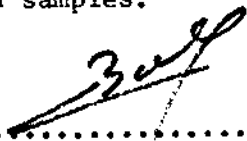
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DATE: August 2, 1973
ANALYST: M. Balous
SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
NOR/SS/19	40	<25	95
/23	12	<25	45
/27	12	<25	40
/28	<10	<25	25
/30	12	<25	35
/30a	22	25	155

I hereby certify that the above results are those assays
made by me upon the herein described samples.


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DATE: July 30, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
COL/SS/01	16	25	35
/02	16	25	45
/02a	18	< 25	40
/03	15	< 25	50
/04	22	< 25	65
/05	18	< 25	60
/06	20	< 25	45
/06a	50	< 25	145
/07	32	< 25	70
/08	38	< 25	110
/09	30	< 25	90
/10	25	< 25	70
/11	22	25	85
/12	25	25	85
/13	30	< 25	115
/14	16	< 25	80
/15	20	< 25	90
/17	20	< 25	85
/18	15	50	60
/19	15	50	60
/20	12	< 25	45

continued...

DATE: July 30, 1973

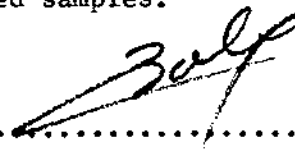
ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
COL/SS/21	16	< 25	70
/22	18	< 25	65
/23	16	50	80
/24	12	50	45
/25	20	50	60
/27	20	25	50
/28	15	25	30
/29	12	25	40
/30	12	50	45

I hereby certify that the above results are those assays
made by me upon the herein described samples.


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DATE: August 7, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
COLT/SS/01	15	40	65
/02	15	40	60
/03	15	40	60
/04	20	25	60
/05	25	25	65
/06	15	25	70
/07	15	25	80
/08	15	40	75
/09	15	25	85
/10	15	40	70
/11	20	25	60
/12	20	40	70
/13	20	25	75
/14	20	25	65
/15	15	25	60
/16	20	25	70
/17	20	25	70

I hereby certify that the above results are those assays
made by me upon the herein described samples.

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DATE: July 27, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
TRI/SS/01	40	25	90
/2a	50	25	100
/03	45	< 25	100
/04	40	40	95
/06	40	< 25	95
/09	40	< 25	90
/11	45	< 25	120
/12	45	< 25	105
/13	40	50	85
/14	55	< 25	95
/15	55	< 25	95
/16	50	< 25	90
/17	40	< 25	90
/18	35	40	80
/19	35	60	70
/20	30 ^r	< 25	90
/21	30	< 25	70
/22	35	< 25	80
/23	30	< 25	80
/24	30	40	90
/25	30	40	85

continued...

DATE: July 27, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
TRI/SS/26	30	40	90
/27	30	< 25	90
/29	25	< 25	95
/30	25	< 25	90
/31	25	< 25	90
/32	25	< 25	85
/34	30	< 25	140
/35	30	< 25	140

I hereby certify that the above results are those assays
made by me upon the herein described samples.

..... 

DATE: July 27, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
TRIS/SS/01	< 10	50	25
/02	< 10	50	18
/06	10	30	20
/07	< 10	30	15
/09	< 10	25	20
/13	12	25	20
/14	< 10	25	20
/15	< 10	25	30
/16	< 10	< 25	18
/17	< 10	< 25	20
/18	< 10	< 25	25
/20	15	< 25	20
/21	15	< 25	25
/22	< 10	< 25	25
/23	< 10	< 25	20
/24	< 10	< 25	25
/25	< 10	< 25	25
/26	< 10	< 25	18
/27	< 10	50	20
/28	< 10	< 25	25
/29	< 10	25	20

continued...

DATE: July 27, 1973

ANALYST: M. Balous

SAMPLES: Geochem Stream Sediments

ASSAYS

<u>Sample Number</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
TRIS/SS/30	< 10	25	25
/31	10	< 25	25
/32	< 10	< 25	25
/33	< 10	40	20
/34	< 10	25	25
/35	10	< 25	25
/36	< 10	25	20
/37	10	< 25	25
/38	10	< 25	20

I hereby certify that the above results are those assays
made by me upon the herein described samples.


.....

ANALYST CERTIFICATE

I, M. BALOUS, do hereby certify that:

- I am a chemist residing at 64.230 Poey do Lescar, France.
- I am the holder of a certificate of Industrial Training and have obtained a diploma from the National Conservatory of Engineering (Conservatoire National des Arts et Metiers), France.
- I have been employed with Société Nationale des Pétroles d'Aquitaine in Pau, France, since 1963. I work as a chemist in special charge of assays done by Atomic Absorption Spectrophotometry.
- I am temporarily working for Aquitaine Company of Canada Ltd., a subsidiary, and am doing their chemical analysis.
- The method I am using in assaying soils and stream sediments consists of:
 - 1) drying the samples at 110°C, grinding, sieving, and taking the fraction passing through the 50 mesh sieve.
 - 2) one gram of the sample is digested by 20 cc of 70% boiling nitric acid for a period of one hour, dried slowly, redigested by 10 cc of 70% hot nitric acid for 15 minutes, and then allowed to cool.
 - 3) The solution is poured into a 50 cc graduated flask with distilled water added to bring the solution up to the 50 cc mark. After agitating and decantating, the solution is ready for analysis.
 - 4) Measurements are made through the use of an atomic absorption spectrophotometer, JARRELL-ASH, with a single beam, and equipped with a digitalized read-out. The analysed solution is compared to standards containing the same elements to be analysed at various concentrations.

In the case of chip samples, the dosage is the same, only the preparation and digestion change.

- 1) Chip samples are sawed, crushed, and ground into a jaw-crusher.
- 2) One gram of the sample, which is placed in a teflon capsule, is digested in 10 cc of concentrated perchloric acid and 40 cc of 40% hydrofluoric acid, and then put on a hot plate at 80° C for a period of 12 hours, enough to dry the sample out.
- 3) According to the element to be analysed, the sample is then redissolved either in nitric or hydrochloric acid.

To carry out the work, I am using the facilities of CORE LABORATORIES CANADA LTD., 6101 - 6th Street S.E., Calgary, Alberta, using space and equipment rented by Aquitaine Company of Canada Ltd.



M. Balous

APPENDIX III

ROCK SAMPLE DESCRIPTION

Sample Number	Location	Chemical Analysis			Description
		Cu (ppm or %)	Pb (ppm or %)	Zn (ppm or %)	
TRI-10	N. side of Nordling Cr. (see Figure 2)	205	< 25	190	Gr micro x ls containing brachs. Some fine laminae.
TRI-10*	"	1.2%	< 25	185	Brec ls, cemented by bar; specks of chalcopyrite, malachite coating
TRI-10*a	"	2.0%	< 25	170	AA
TRI-10*b	"	140	< 25	45	Barite filling in brecciated zone
TRI-10*c	"	50	< 25	50	AA
TRI-10*d	"	100	25	300	AA
TRI-10*e	"	270	9000	3800	Brecciated ls on footwall.
TRI-11a	N. side of Nordling Cr. 200' E of TRI-10 (see Figure 2)	340	3.0%	12.4%	Barite breccia containing galena & sphalerite.
TRI-11b	"	260	2.1%	8.0%	AA
TRI-11c	"	180	1.0%	5.0%	AA
TRI-11*a	"	50	700	560	Footwall; grey ls.
TRI-11*b	"	55	1.2%	330	AA
TRI-11*c	"	85	750	215	AA
TRI-11*d	"	55	25	240	AA
TRI-11*e	"	55	1350	140	AA
TRI-12	N. side of Colledge Cr. (see Figure 2)	180	1.3%	3.6%	Barite brec zone containing some galena and sphalerite.
TRI-12*	"	25	< 25	160	Limy dol showing a zebra facies, on the breccia footwall.
TRI-13a	N. side of Colledge Cr. 100' S of TRI-12 (see Figure 2)	380	2.0%	13.6%	Greyish, weathered limy dol, on footwall of barite zone (SE termination).
TRI-13b	"	330	2.2%	12.5%	AA
TRI-14	N. side of Colledge Cr. 400' E of TRI-13, next to the fault (see Figure 2)	4000	250	1350	Weathered slaggy dol with malachite coating and tiny specks of sphalerite.
TRI-14*	"	250	460	1550	AA
TRI-15	S. side of Nordling Cr. (see Figure 2)	135	1.2%	1.4%	Barite vein containing specks of galena and sphalerite.
TRI-16	On top of ridge, N of Nordling Creek (see Figure 2)	---	---	---	Very dark grey, crypto x dol with abundant white calcitic Stromatopora, corals and brachs (Munich McConnell Fm.).

APPENDIX IV

COST BREAKDOWN

Air Transportation	\$7,465.22
Labour -	
Field	2,990.00
Office and Report	900.00
Expenditures -	
Chemical Analysis	258.00
Field Geochemical Analysis	165.06
Food and Lodging	761.14
Field Supplies	286.65
Reproduction	278.35
Sub total	<hr/> \$13,104.42
Administration and Supervision @ 10%	1,310.44
Audit Fee	50.00
	<hr/> \$14,464.86

APPENDIX V

CERTIFICATE

As provided under the 'Mineral Act' Chapter 244, revised statutes of British Columbia, 1960, I, Hugues Salat, do hereby certify that:

1. I am a geologist residing at 4707 Charles Avenue S.W., Calgary, Alberta.
2. I was a graduate of the National Superior School of Geology (Nancy, France) and of the Earth Sciences Faculty (the University of Nancy, France) in 1965.
3. I have attended and worked as a research assistant at the University of Southern California (Hancock Foundation) from 1965 to 1967.
4. I worked as an exploration oil geologist for Societe Nationale des Petroles d'Aquitaine (France) from 1968 to 1969 and since then have been an exploration mining geologist with Aquitaine Company of Canada Ltd.
5. I personally directed and supervised the geological and geochemical programs concerning the TRI claims.
6. I am registered with the Association of Professional Engineers of the Province of British Columbia.



A handwritten signature in black ink, appearing to read 'H. Salat'. The signature is written in a cursive style and is positioned above a horizontal line that serves as a signature line.

H. Salat



- LEGEND**
- 38 0/20 Sample identification $\frac{0}{20}$ (in ppm)
 - Claim group boundary
 - Geological contour
 - ↘ ↙ Dip of beds (Inclined, vertical)
 - Thrust fault (defined, assumed)
 - ~ Fault (defined, assumed)
 - [BRS] Bero River shale formation (Upper Devonian - Mississippian)
 - [DN] Durendin formation (Upper middle Devonian)
 - [ST] Stone formation (Low middle Devonian)
 - [MM] Muncho-Mc Connell formation (Lower Cambrian)

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4692 MAP #2

To accompany report:
 GEOLOGICAL & GEOCHEMICAL SURVEY
 TRI Claims
 Redfern Lake area - B.C.
 Lead Mining Division
 H. Salar - October 16, 1973

4692 M2 FIG. 2

AQUITAINE COMPANY OF CANADA LTD.	
TRI CLAIMS GEOCHEMICAL SURVEY COPPER & ZINC in STREAM SEDIMENTS	
INTERPRETED BY H. SALAT	CONTOUR INTERVAL
DATE September, 1973	SCALE 1 : 10 000 approx.
REVISED	FILE NO.