MACKENZIE SYNDICATE

MINERAL CLAIM GROUPS.

TOAD RIVER AREA, B. C.

by: L. G. White, P. Eng.

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# MINERAL CLAIM GROUPS.

## TOAD RIVER AREA, B. C.

1.	Key Location Map.			
2.	Composite Sketch - Claim Groups	1"	=	2 mile
3.	Jim and Pine Groups	1"	æ	l mile
4.	C A and B A Groups	1"	=	3000'
5	J A Grann	7 11		10001

- 6. Photographs of Showings
  C A and B A Claims
- 7. Staking and Recording Data.

# THE ANACONDA COMPANY

28 W. McCormick Street, Tucson, Arizona

Amagaman

Geological Department Southwest Office

April la,

Mr. Len G. White c/o Yackenzie Syndicate Ltd. Box 43 Watson Lake, Yukon Territory Canada

Dear Mr. White:

We have received the dasave of the damples taker on the various properties held by the Mackenzie byndicate in the That Tiver Area, British Columnia, Canada, last summer. Pollowing are the columns and assays from the CA group of claims, Wolf Creek areas

Location		Us/ton	Oz/ten	Vopper
North bank of stream; altered, sheared diabase, few thin qtz. seams with CaCO3, disseminated pyrite			Trace	0.10
North bank of stream; east of previous sample; sheared zone of qtz., carbonates, pyrite, weak chalcopyrite; some iron and copper exides	5.0 m	trade		2.4
North bank of stream; east of pre- vious sample, similar type min- eralization		trace	0.05	0.40
North bank of stream, altered, sheared diabase east of vein zone sampled by preceding samples	5.0 %	trace	0.05	0.10.
North bank of stream; altered, sheared diabase, numerous qtz. seams, some carbonates, very weak pyrite	est Co		trace	. 0.15

Mr. Len G. White

Samples and assays from the BA group, east of Toad River, are as fellows:

fellows: Location	Width	Gold Oz/ton	Silver Oz/ton	Copper
North end of qtzcarbonate vein; pods, blebs pyrite, chalcopyrite; strong iron and copper oxide stain	5.0 ft.			3.2
Widest exposure of vein; west side of vein	4.0 ft.			6.9
Widest exposure of vein; east side of vein	4.0 ft.			3.1
≠50 ft. south of wide exposure of vein; qtz., carbonates, spetty sulfides	5.0 ft.	trace	trace	4.9
South exposure of vein; strong qtz., ankerite with pods, blebs pyrite, chalcopyrite, possibly some bernite				5.7

It has been decided that The Anaconda Company will not be interested in doing any additional exploration work on these properties.

Thank you for bringing these claims to our attention and for your ecoperation in showing us the area.

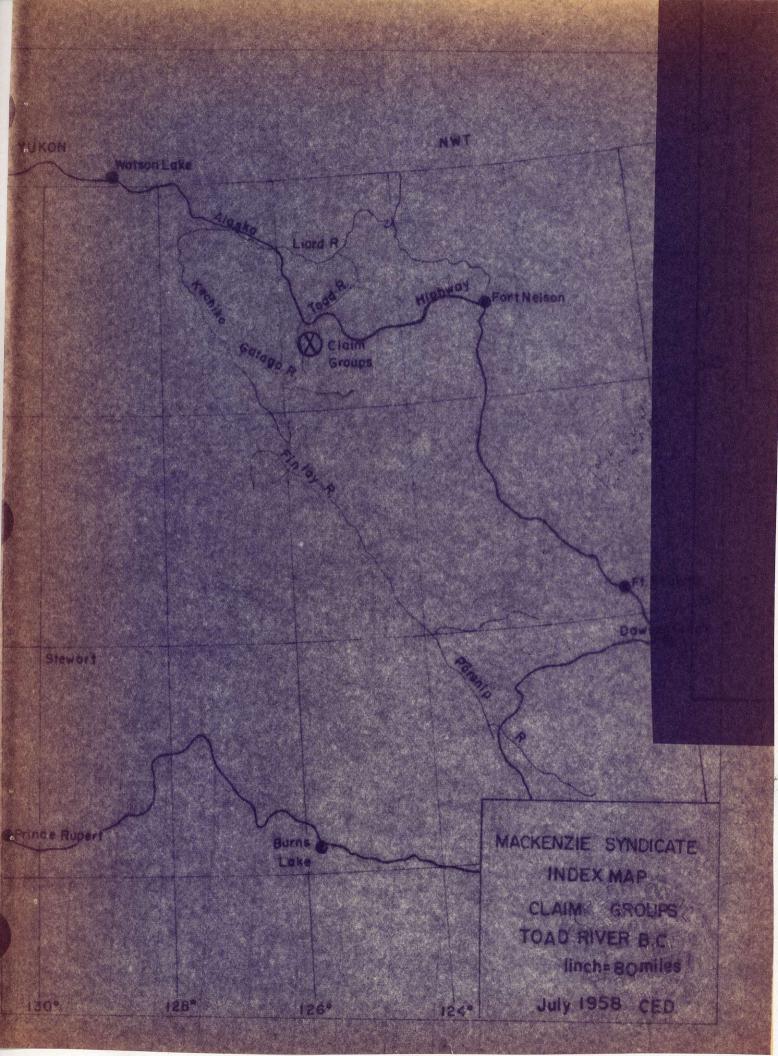
With best regards,

Yours very truly,

G. A. Barber

GAB: je

ec Mr. R. B. Mulchay



## JIM CLAIM GROUP - TOAD RIVER AREA, B. C.

Location:

Long: 125°45'; Lat: 58°35'; on the West side of the Toad River, 18 miles south of Mile 442 on the Alaska Highway.

Property:

The total group camprises twenty-five (25) claims, Sixteen claims adjoin the Sol Group which are jointly held by G. Radisics and F. Jowsey of Toronto. The Sol Group is tied to the north boundary of claims held by Fort Reliance Minerals.

Jim 17-25 claims are tied to the west boundary of Fort Reliance Minerals claims, approximately one claim width from the mineralized shear exposed on their ground.

The claim groups cover the steep eastern slopes of the height of the land separating the West Toad and main Toad rivers. Elevations range from 6000 to 7000 ft. Several creeks cross the claim groups. Gradients are very steep.

Geology:

The geology consists of a series of sedimentary rocks, probably Early Paleozoic in age and can be divided into three main horizons:

- (1) the lowest a shaley argillaceous horizon;
- (2) middle calcareous horizon;
- (3) uppermost horizon sandstones and conglomerates.

The shaley argillaceous horizon is made up of dark grey to black shales and argillites which, in places, are contorted and quite heavily sheared. Locally they are cut by small stringers of quartz and carbonate. Some interbeds of shaley limestones were observed and noted to be more massive and less sheared. The calcareous horizon consists of massive, thickly-bedded (average thickness 6"-12") limestones. Generally fine-grained and dark-coloured with local moderate metamorphism resulting in re-crystallization into a crystalline limestone.

The uppermost horizon consists of a series of interbedded sandstones and quartzites. One white-coloured sandstone is made up of clear, well-rounded quartz grains extremely well-sorted. The conglomerates are varied but are mainly composed of an assortment of pebbles and boulders of quartz, quartzite, limestone and minor amounts of siltstones. The fragments are rounded to sub-rounded and camented by a fine-grained calcareous, argillaceous matrix. In places movement has sheared the conglomerates and metamorphosed the sandstone into quartzites.

A series of diabase dykes cut through the argillites and limestones but were not seen to cut through the overlying sandstone-conglomerate horizon. A small vertical felsite dyke was seen near a diabase dyke cutting through the argillites. No other signs of igneous activity was observed.

Structure:

The bedding of the sediments strike in a general northerly direction (i.e.  $350^{\circ}\text{T}$  to north) and dip to the west  $25^{\circ}$  becoming more steeply dipping westerly. Shearing which is locally quite prominent strikes  $320^{\circ}\text{T}$  and dips  $50^{\circ}$  west. The diabase dykes strike  $350^{\circ}\text{T}$  and dip steeply west to vertical.

Summary:

Preliminary prospecting of the Jim Group did not disclose any mineralization associated with the basic dykes cutting through the basement series of rocks. However, massive chalcopyrite float up to 2.0' in diameter was located by Fort Reliance engineers in the canyon creek crossing the "Jim 17 and 19" mineral claims.

Further prospecting of the groups is warranted dependent on drill results and structural characteristics controlling mineralization on the Fort Reliance ground.

L..G. White, P. Eng.

# PINE CLAIM GROUP - TOAD RIVER AREA, B. C.

Location:

Long: 125°40'; Lat: 50°32'; straddling the Toad River, 20 miles south of Mile 442, the Alaska Highway.

Property:

The Pine claims form a contiguous thirty-six (36) claim group covering the flank of the ridge and the valley bordering the Fort Reliance groun. The south end of the group ties to the #2 group of Sol claims.

Elevation of the claims runs from river level to 3500 ft, to 4000 ft. on the slope of the mountain.

Good timber stands on the claims. Line-cutting for possible geophysical work would not be difficult.

Geology:

The west line of claims on the Pine Group cover washes and some outcrops of basement rocks; interbedded argillites and quartzites along the lower branches of the slopes below the mineralized shear exposed on Fort Reliance claims.

Outcrops examined west of the Toad River on claims 27 and 30 consisted of basic dyke material. Overburden masked any possibilities of locating contacting rock types.

General structural trend of the sedimentary series in a southerly direction shows the strike to be treading to the east.

Summary:

Geophysical survey work would be quite applicable on the Pine Group to trace possible extensions of the mineralized shear as exposed on the Fort Reliance ground. The general structural trend to the east and the observed outcrops of basic dyke material on the claims offers possibilities that extensions of the zone may re-occur along the valley.

L. G. White, P. Eng.

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## MACKENZIE SYNDICATE.

## C A CLAIM GROUP - TOAD RIVER AREA, B. C.

Location:

Long: 124°27'W; Lat: 58°30'N; Tuchodi Lake - 1" = 4 miles 94K, at the extreme headwaters of Wolf Creek. The creek is not named on the Tuchodi Lake sheet but heads due west of Delano Creek, entering the Toad river 14.2 miles south of the West Toad river junction. Distance from Mile 442 on the Alaska Highway is 25 miles.

Property:

The property comprises 32 claims, two of which are known as the "P A GROUP" and adjoin the "C A Group" on the northeast boundary. The claims are staked four wide over the showing on Wolf Creek, and two wide for the remainder on a location line by N.45°E (True). The east boundary of the group lies adjacent to the property of Magnum Copper Mines Ltd. on Delano Creek.

Elevations vary between 5500' and 7500' with the showing at 5500'. Timber is scarce on the claims but mostly obtained from Toad River valley 10 miles distant. Road building presents no serious problems and accessibility is good. Water is plentiful on the showing.

Showings:

A diabase dyke, 120 ft. wide is cut traversely by Wolf Creek at a fold in the dyke. At this location the dyke is intruded parallel to strike by two quartz-carbonate veins. The west vein is totally enclosed in the dyke and has an exposed width of 7.0 ft; the east vein is exposed at the east contact of the dyke and sheared argillites for a width of 6.5 ft.

The two veins are separated on the north bank of the creek by 45 ft. of sheared argillites and dyke material. The 10 ft. section of sheared material contacting the west vein contains stringers of massive chalcopyrite mineralization.

The south face of the creek bank is partially obscured by overburden and shows only one vein outcrop. It appears to have been faulted giving a false width of approximately 12 ft. Actual true width is closer to 6.5 ft. This face also shows considerable quartz in the associated argillites giving a total zone width of 14.5 ft. Massive chalcopyrite mineralization occurs over 2.0 ft. width on the west contact.

Mineralized float was traced in a southerly direction for a distance of 1200 ft. on projected extensions of the creek exposures.

Mineralization: Copper mineralization occurs in the quartz-carbonate vein as massive sulphides (CuFeS2) up to 2 ft. in width, also as stringers and disseminated through the silicated sheared argillites bordering the veins. Very minor amounts of galena (Pb) were noted in hand specimens taken from the Only Trace amounts of gold and silver were outcrops. reported in assays.

> Total width of quartz-carbonate veins and sheared argillites exposed on the north bank of the creek was 70.0'., of which 24.5' or 35% was well mineralized.

Sample Results:

Original chip sampling of the outcrops returned values as follows:

Sample No:	Location:	Width:	Au/oz/T.	ASSAYS Ag/oz/T.	Cu. %
1471	East vein, north bank				
	of creek.	1.0'	0.005	0.25	3.70
1472	East vein, north bank				
	of creek	3.0'	0.005	0.20	1.85
1473	East vein, south bank				
	of creek	2.01	0.01	Tr.	0.35
1474	East vein, south bank				
	of creek	3.01	0.01	Tr.	11.70
1475	East vein, south bank				
•	of creek	3.01	0.015	0.15	2,60
1476	East vein, south bank			_	
	of creek	2.0'	0.005	Tr.	0.90
1477	East vein, south bank				
	of creek	2.01	0.01	0.15	0.70
1478	West vein, north bank			_	
	of creek	4.01	0.015	Tr.	6.65
1479	West vein, north bank			_	
	of creek	3.01	0.005	Tr.	7.40

Weighted averages of chip sampling on original outcrops show:

<sup>6.8%</sup> Copper over 7.0' across the west vein on the north side of creek; " 4.0! on the east vein, north side; and 2.4%

<sup>3.4%</sup> " 12.0' across the east vein on south side of the creek.

Results of sampling after trenching across the outcrops are listed below:

Sample No:	Location:	Width:	Assays - Cu.%
1482	East vein, north bank of creek.	2,3'	1,30
1483	West vein, north bank of creek	2,5'	0.60
1484	West vein, north bank of creek	4.5'	1.70
1485	East vein, south bank of creek	3.01	0.70
1486	East vein, north bank of creek	5,2'	3,80
1487	East vein, south bank of creek	3.51	2,65
1488	Centre section, north bank of creek	4.5'	3.35
1489	Centre section, north bank of creek	5.51	0.85

Total weighted average of sampling across the 24.5 ft. of mineralization on the north side of the creek was 2.1% Cu. The average across 6.5 ft. of quartz and argillites on the south side of the creek was 1.75% Cu.

Visual examination of the outcrops after blasting and trenching showed the mineralization to be just as concentrated as on the original faces. Decrease in assay results was probably due to sampling procedure rather than lack of mineralization.

Geology:

Country rock consists of probably Late Proterosoie and Early Paleozoic sediments roughly divided into three stratigraphic divisions. Argillites and limey siltstones for the base of the series; limestones in the middle; and pink quartzites and red conglomerates in the upper part of the series. Locally the beds are gently folded, but in general they strike 155° and dip 30° to the southwest. They are intruded by basic dykes and sills, diabasic in texture. The dykes have a general strike of N.45°E. locally and North-South regionally. Dips are near vertical. The strike of the dykes suggests that they follow lines of weakness at right angles to the strike of the sediments. Later faulting parallel to and in the dykes introduced quartz-carbonate veins and accompanying lens of argillites.

#### Recommendations:

Sufficient mineralized float material was found both north and south of the outcrop to indicate extensions of the zone for at least 1200 ft. Further trenching or drilling is justified to locate the mineralized zone in place.

L. G. White, P. Eng.

### B. A. CLAIM GROUP - TOAD RIVER AREA, B. C.

Location:

Long: 125°28'; Lat: 58°32'; at the headwaters of the south fork of Yedhe Creek, approximately 22 miles southeast of Mile 442, Alaska Highway, in the Toad-Racing River area, B. C.

Property:

The B A Group consists of 18 claims covering the steep flank and ridges of the creek. Elevations range from 5500 to 6000 ft. in the creek bottom to 7000 ft. on the ridges.

The claims lie above timberline. There is plenty of water. The adjaining C A Group held by Mackenzie Syndicate covers the head of the valley and runs tangent to the B A Group for two claim-lengths. Both groups are tied to Magnum Mines' claim heldings.

Creek gradients are steep but accessible by horse trail along gravel bars from the Toad River 20 miles distant.

Showings:

(1) Quartz-carbonate veining outcrops on the north wall of a steep canyon in a small creek running westerly into Yedhe Creek and crossing tho B A Group. veins form a west wall of a sheared argillaceous zone striking N. 10 E. with 850 dips to the west. Chalcopyrite mineralization occurs as massive stringers up to 6" wide and disseminated throughout the quartz. The main vein varies in width on exposure from 8.5' to 3.5° at the brow of the canyon. Parallel veining occurs in the argillites forming zone material some 15 to 20 ft. wide before contacting the altrabasic dyke on the east side of the creek. Chalcopyrite mineralization was noted in small stringers in the argillites. The bedded limestones, dipping at a flat angle to the west, form a west wall of the zone. Local down-warping of the beds was noted on contact with the mineralized zone.

Vertical exposure of the zone from creek bottom to brow of the ridge slope was approximately 150 ft. The zone was traced under light overburden for 200 ft. north up the slope. No continuity could be established to the south wall of the canyon although several large chunks of float were uncovered on the upstream side of the projected strike of the zone. Faulting could cause this phenemena.

Chip samples were taken at two locations on the main vein over widths of 3.5 and 8.7 ft. Two additional samples were taken across pyritized argillaceous material showing heavy brown stain on the upstream or east side of the zone at creek level.

(2) Abundant carbonate float containing massive chalcopyrite was located at the extreme easterly end of the claim group. A basic dyke cuts across the head of the creek valley striking roughly N-S. The float undoubtedly represents talus from a paralleling-quartz-carbanate vein associated with this dyke.

Sampling Results:

Results of sampling on the main quartz-carbonate vein outcrop were as follows:

Sample No:	Location:	Width	Assays Cu. %
1480	Brow of canyon -4.01	3.5'	5.00
1481	Brow of canyon -40.01	8.71	5,10

Two samples were taken across stained dyke material on the east contact of the quartz vein at creek level and returned 0.30% Cu. over 12.0.

The entire cross-section of rock types exposed in the lower reaches of the creek canyon consists of limestones and interbedded schists and argillites. Numerous basic dykes cut this basement series in a North-South direction across the claim group.

Recommendations:

Dependent on sample results and general activity in the Toad River area, the showings on the B A Group should be investigated by trenching and further detailed prospecting.

L. G. White, P. Eng.

J A CLAIM GROUP - TOAD RIVER AREA, B. C.

Location:

Long: 125°30'; Lat: 58°33'; on the south side of a steep easterly-flowing tributary to the south fork of Yedhe Creek 20 miles southeast of Mile 442, Alaska Highway in the Toad-Racing Rivers area, B. C.

Property:

The J A Group consists of four located claims straddling the south side of the creek, half a mile upstream from its junction with Yedhe Creek

Elevation of the group is approximately 6400 ft. There is no timber, but plentiful water.

Showings:

Abundance of cepper float was found from the junction of the creeks to a point half a mile upstream. Here a quartz-carbonate vein was located striking N.20°E. and dipping 70°W cutting diagonally across the creek. The vain cut through dark, silicified sheared limestone beds. Overburden obscured extensions of the vein although it was traced for 1,000 ft. Widths ranged from 1 to 8 ft.

Mineralization:

Massive chalcopyrite mineralization was found in float boulders of quartz-carbonate wein material. Sections of the vein where exposed did not carry massive bands of chalcopyrite but were very highly stained with malachite. Blebs and narrow discontinuous stringers of chalcopyrite were found in discontinuous sections.

Geology:

Typical basement type rocks were exposed along the narrow canyon type creek valley. Limestones, argillites and quartzites of Late pre-Cambrian intruded by numerous ultrabasic dykes. The sodiments dip gently south to southwesterly, whereas the dykes and associated quartz veins cut vertically through them.

Recommendations:

No special significance can be placed on the merita of this claim group other than the claims do cover typical mineralized structure of the same type as found in the general area. If success is gained by other operators working in the general area, closer investigation of the mineralized zone crossing the claims should be made.

L. G. White, P. Eng.

# Mineral Claim Data.

Name:	Nos:	Tag Nos:	Staking Date	Recording Date
PINE	1 - 8	322301-8	July 6/58	Aug. 5/58
19	9 - 16	322326-33	Aug. 1/58	11
11	17 - 23	322334-40	Ħ	Ħ
11	<b>24</b> .	322343	Aug. 2/58	10
**	26, 29, 32	322345-48-51	Aug. 1/58	#
н	25, 27, 28, 30, 31	322344-6,7,9,	50 Aug. 2/58	\$4
ŧŧ	33	322352	Aug. $2/58$	Sept.1/58
11	34	322353	11	Aug. 5/58
Ħ	35, 38	322354-57	Aug. 1/58	n'
JIM	1 - 16	322701-16	July 8/58	Aug. 5/58
**	17 - 25	322717-25	July 14/58	т.
J A	1 - 4	322313-16	Aug. 2/58	Aug. 5/58
ВА	1 - 4	322309-12	Aug. 2/58	Aug. 5/58
11	5 <b>- 6</b> 6	322358-9	Ħ	**
1111	7 - 10	322739-42	<b>!!</b>	Sept.1/58
H	11 - 12	322743-4	Aug. 4/58	19
ij	13 - 16	322 <b>773-6</b>	Aug. 3/58	ti .
Ħ	17 - 18	322777-8	H	11
CA	1 - 16	322793-800	July 14/58	July 21/58
11	17 - 24	322725-32	n	<b>"</b> " '
<b>99</b>	25 - 30	322733-38	July 19/58	н .
P A	1 - 2	322341-2	July 15/58	July 21/58

