

521902

SUMMARY REPORT

1989 EXPLORATION PROGRAM

ON THE

MT. ALCOCK PROPERTY

IN THE

KWADACHA RECREATIONAL AREA

NORTHERN BRITISH COLUMBIA

LATITUDE 57° 40' N

LONGITUDE 125° 24' W

N.T.S. 94-F-11

BY

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(Field Work completed during the period August 1 to November 4, 1989)

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SUMMARY

In June 1989, Triumph Resources was successful in its tender to the British Columbia Ministry of Energy Mines and Petroleum Resources to acquire title to mineral claims in the Mt. Alcock area of North Central British Columbia. Mt. Alcock is located 200 kilometres southwest of Fort Nelson and is within 40 kilometres of existing road access at the north end of Williston Lake.

The property is 22 kilometres northwest of the Cirque Deposit where a \$10 million pre-feasibility program is presently being carried out by Curragh Resources. The Cirque is Canada's largest undeveloped zinc-lead deposit with reserves of 30 million tons grading 8.6 percent zinc and 3.5 percent lead in one of three deposits outlined on the property. Potential exists for significantly expanding the presently reported reserves. The Mt. Alcock property contains the same style of mineralization within a similar geologic setting to that at Cirque.

Evidence of a large stratiform zinc-lead deposit exists at Mt. Alcock. Triumph's 1989 exploration program included geochemical and geophysical surveys and diamond drilling. The geochemical survey defined a zinc-lead anomaly over a length of 2.4 kilometres and a width of 300 metres. Zinc values in soils range from 500 to 10,000 ppm with coincident lead values ranging from 100 to 30,000 ppm. Within the central part of the anomaly stratiform barite hosted zinc/lead sulphides outcrop along a 300 metre strike length. Grab samples of mineralization assay 14 percent combined zinc and lead, and 1.0 ounce/ton silver.

The 1989 drill program traced the Mt. Alcock barite-zinc-lead horizon over a strike length of 230 metres and to a depth of 130 metres. The mineralized zone consists of barite with up to 10% sulphides that average 11.5 metres thick. Drill hole assays varied to 5.5% zinc, 3.8% lead and 1.2 oz/ton silver over 8.8 metres (29 feet). Within this district, barite is generally peripheral to base metal massive sulphides and, accordingly, zinc-lead values obtained from the barite zone are considered indicative of a nearby higher grade massive sulphide body.

In late 1989 an induced polarization geophysical survey outlined an intense chargeability anomaly on strike and southeast of the barite zinc-lead facies that was drill tested earlier in the season. The I.P. target suggests the presence of sulphide mineralization within the favourable host horizon.

SUMMARY

Continued

Several other geophysical-geochemical anomalies have been selected as excellent targets for discovery of additional deposits.

The proposed 1990 program will focus on drill testing I.P. targets which indicate sulphide mineralization associated with the barite hosted facies. An initial drill program of 5,000 feet is planned. Geochemical surveys and prospecting at Mt. Alcock will continue to explore other geologically favourable areas on the Mt. Alcock Property.

Teck Corporation has provided funding for the 1989 program by purchasing shares of Triumph Resources Ltd. Teck has the right to earn a majority interest in the property after it has provided on-going funding and placed the property into production.

INTRODUCTION

After completion of regulatory permitting and posting a reclamation bond, Triumph Resources Ltd. initiated exploration of the Mt. Alcock barite-lead-zinc-prospect in August 1989.

During the period August 4th to 25th, a two man crew conducted mapping, prospecting and geochemical reconnaissance sampling throughout the central portion of the property. A contract soil sampling crew provided by Gordon Clarke and Associates completed a grid soil sampling program over the main barite showing. The geochemical surveys delineated a well-defined 2.5 kilometer-long coincident lead-zinc soil anomaly.

Based on the success of the above targetting program, drilling equipment and camp gear were mobilized on September 8th via barge and road to the Finbow Airstrip, located 40 kilometers south of the property.

All equipment and personnel were transported via helicopter to the property. A campsite consisting of 6 tent frames was constructed on the southeast bank of the Kwadacha River just outside the Recreational Area. The program was carried out by a helicopter-supported, 8 man crew.

The diamond drilling contract was awarded to J.T. Thomas Drilling out of Smithers, B.C. A JT 600 diesel-hydraulic drill and related equipment was flown to the main barite showing on the property. The drilling program totalling 1111 metres in 9 holes tested the strike and depth extensions of the barite hosted zinc-lead mineralization. After completing the drilling program during the period Mid-September to Mid-October, an I.P. geophysical survey totalling 7 kilometers along nine lines was completed in the area of the main barite showing.

Field work was completed on October 30th and all personnel were demobilized shortly thereafter. Winter conditions along with many "foggy days" hampered the program in late October.

LOCATION AND ACCESS

The property covers the slopes of Mt. Alcock which lies immediately east of the junction of the Warneford and Kwadacha Rivers. The property is centered around the main barite showing which is located as latitude 57 degrees 40' N and longitude 125 degrees 24' W on N.T.S. sheet 94-F-11. All claims lie within the Kwadacha Recreational area.

Logistical support for the program is provided by charter fixed wing aircraft out of Smithers and Mackenzie to the Finbow Airstrip located 40 kilometers south of the property. Mobilization and demobilization of heavy equipment and fuel was conducted by a combination of barge and road haul to Finbow.

All transport within the property and to the property from either the campsite on the Kwadacha River or Finbow was conducted by helicopters. A Bell 205 helicopter, based at the Finbow airstrip, was utilized for transport of drill equipment and fuel.

CLAIM STATUS

The following claims were acquired by application, as "Parcel A" Kwadacha Recreational Area, within the jurisdiction of the Recreational Area Mining Division:

<u>Claim No.</u>	<u>Record No.</u>	<u>Unit</u>	<u>Expiry Date</u>
CU5488	164	16	JUNE 27, 1990
CU5490	165	16	JUNE 27, 1990
CU5492	166	16	JUNE 27, 1990
CU5494	167	16	JUNE 27, 1990
CU5496	168	16	JUNE 27, 1990
CU5688	169	16	JUNE 27, 1990
CU5690	170	16	JUNE 27, 1990
CU5692	171	16	JUNE 27, 1990
CU5694	172	16	JUNE 27, 1990
CU5696	173	16	JUNE 27, 1990
CU5890	174	16	JUNE 27, 1990
CU5892	175	16	JUNE 27, 1990
CU5894	176	16	JUNE 27, 1990
CU5896	177	16	JUNE 27, 1990
TOTAL	14 Claims	224 Units	

The following claims were acquired by "one-post" staking within the Kwadacha Recreational area:

<u>Claim No.</u>	<u>Record No.</u>	<u>Unit</u>	<u>Expiry Date</u>
CU5286	180	16	JULY 05, 1990
CU6090	198	16	SEPT. 28, 1990
TOTAL	2 Claims	32 Units	

REGIONAL SETTING

The Mt. Alcock barite-sulphide mineralization provides an attractive target for base metal exploration within Upper Devonian black shale stratigraphy. Barite hosted base metal mineralization within the district occurs in sub-basins with evidence of mineralizing ore forming systems having been discovered at 20 km intervals throughout the 160 km long Gataga district. The district is unique in that the deposits contain high grade zinc-lead-silver sulphide zones within a barite host containing low grade base metal values. As demonstrated by other deposits in the Gataga district, the sulphide zones contain over 70 percent of the base metal content. Present reserves in the Cirque deposit located 20 km to the south of the Mt. Alcock prospect total 33 million tons grading 8.6% Zn and 3.5% Pb. The South Cirque deposit contains an additional reserve of over 20 million tons of similar grade.

Structural stratigraphic studies, metal zoning and geochemical signatures gained from previous experience in the district indicates that the barite hosted mineralization occurs within the black Pregnant shale and Porcellanite facies of the Gunsteel Formation as is the case for other deposits in the belt. The Mt. Alcock property holds potential for discovery of several deposits within the claim block.

The geological frame-work of the Gataga District as outlined by Roberts (1981) and McIntyre (1983) suggest the barite-sulphide deposits are restricted to sub-basins within the upper Devonian stratigraphy in the belt. District mapping indicates the deposits are hosted within siliceous thick bedded facies of the Gunsteel Formation which are mapped as "Porcellanite and Pregnant Shale". Recognition of the above siliceous facies along with increased background values in lead, zinc, barium and iron provide attractive target areas for discovery of stratiform mineralization. Both the Mt. Alcock and Cirque properties cover the same north west trending structural panel of Gunsteel Formation that hosts exposed barite mineralization.

The Table of Geological Formations noted on page 7 provides the basic geologic frame-work for both regional and property stratigraphy.

TABLE OF GEOLOGICAL FORMATIONS

GATAGA DISTRICT STRATIGRAPHY

<u>AGE</u>	<u>SYMBOL</u>	<u>UNIT</u>	<u>LITHOLOGY</u>
Upper Devonian to Miss.	UDGS	<u>GUNSTEEL FORMATION</u>	
	DG _{und}	Undivided	- Shale: dark grey to Gunsteel black, silvery-grey weathering, laminated.
	DG _{ch}	Hanging wall	- Porcellanite: dark grey Ribbon Chert to black, silvery grey weathering, ribbon bedded (<5cm), with graphitic shale partings and interbedded = DG _{ch} .
	DG _{ex}	Silicic Exhalative	- Cream to grey "harvey combbed" vuggy quartz.
	DB _{ch}	Hanging wall Barite	- Barite: unmineralized, Barren laminated, white to grey; grading to blebby, calcareous, occurs in black porcellanite.
	DG _{th}	Hanging wall Poker Chip Shale	- Shale to porcellanite: dark grey, silver-grey weathering, distinct graphitic partings < 3 cm apart, commonly <1 cm; laminated, commonly with siltstone laminae.
	DG _{dl}	Distinctly Laminated Unit	- Rhythmically interlaminated on a scale of about 1 cm; siliceous siltstone, fine grained laminated pyrite, black siliceous shale & blebby barite.

AGE

SYMBOL

UNIT

LITHOLOGY

GUNSTEEL FORMATION

DG _{PR}	Pregnant Shale	- Shale to porcellanite; dark grey to black, silver-grey to rusty weathering, silty; bedding thicker than 3 cm, massive to laminated; good slaty cleavage in outcrop; nodules and laminae of barite, pyrite and calcite.
DB _{IN}	Veins and Sweats	- Barite: medium to coarsely crystalline, common galena in strain shadows and irregular patches, in veins and sweats. Barite talus slopes at Cirque and Elf showings are dominated by this unit.
DB _{MS}	Massive Sulphides	- Pyrite, sphalerite and galena: massive, medium to coarsely crystalline, minor barite. High grade, zinc rich.
DB _{SB}	Sulphides-Barite	- High grade sphalerite, galena and pyrite with >20% and <60% crudely laminated, barite.
DB _{BE}	Barite-	- Barite with <40% pyrite, >4% Pb + Zn Sulphides discontinuously laminated, finely crystalline.
DB _{EX}	Barite Breccia	- Intraformational breccia of barite, often with siltstone fragments, locally coarse crystalline, with <40% irregular laminae and matrix of pyrite + barite. *

<u>AGE</u>	<u>SYMBOL</u>	<u>UNIT</u>	<u>LITHOLOGY</u>
<u>GUNSTEEL FORMATION</u>			
	DG _{SP}	Barren Pregnant Shale	- Shale to porcellanite: black, moderately to very siliceous silty, graphitic So partings 3-10 cm; diffuse pyrite laminae, poorly to well cleaved, barren of Pb-Zn mineralization, grades into DG _{SP} .
	DG _{TF}	Footwall Poker Chip	- Shale: grey to black, silvery weathering, distinct graphitic partings < 3cm apart, Shale commonly 1 cm, internally finely laminated, common siltstone laminae same as DG _{TF} .
	DB _{SP}	Footwall Barren Weathering Barite	- Barite: unmineralized, laminated, light grey, rusty grading to blebby (BFB), calcareous, in black porcellanite, within DG _{SP} .
	DG _{CF}	Footwall Ribbon Chert	- Porcellanite: dark grey to black, silvery-grey weathering, ribbon bedded (<5cm), with graphitic shale interlaminae and partings = DG _{CF} .

DEVONIAN LIMESTONE

Devonian	DLL	Limestone	- light to medium grey laminated limestone. ♀
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Upper Silurian

SILURIAN SILTSTONE

- | | | |
|------------------|---|---|
| SS _{ex} | - | Siltstone: medium grey, dolomitic, laminated, includes Intraformational breccia. |
| S _{ex} | - | Siltstone: light orange-weathering dolomitic, with common burrows, feeding fans and burrow mottling |
| S _{el} | - | Limestone: grey weathering, laminated or burrow mottled, silty - calcareous. |
- LOCAL UNCONFORMITY-

SILURIAN CHERT

- | | | | | |
|--------------------------|-----|-------------------|---|---|
| Lower to
Mid Silurian | SRC | Silurian
Chert | - | Porcellanite: streaky white-striped, ribbon bedded, with black calcareous graptolitic shale partings, some dolomitic siltstone. |
|--------------------------|-----|-------------------|---|---|

SILURIAN LIMESTONE

- | | | | | |
|-------|-----|-----------------------|---|---|
| Lower | SRL | Silurian
Limestone | - | Limestone, grey, rhythmic flaggy to blocky bedded, calcisiltite and fine calcarenite turbidites with graptolitic shale interbeds. |
|-------|-----|-----------------------|---|---|
- LOCAL UNCONFORMITY-

Ordovician

ORR

ROAD RIVER GROUP

- | | | | |
|-----|---------------------------|---|---|
| ORC | Ordovician
Chert | - | Porcellanite: black
(+ white?), ribbon bedded,
with limestone concretions. |
| ORG | Ordovician
Craptolitic | - | Shale: black, silvery-grey
(gunsteel) to black
weathering, variably
calcareous, graptolitic,
minor chert, local barite
horizons. |
| ORQ | Ordovician
Quartzite | - | Quartzose sandstone
turbidites with minor
dolomite, carbonate fossil
fragments and graptolitic
shale interbeds. |
| ORP | Rusty Shale | - | Shale: black, rusty and buff
to light grey weathering,
graptolitic, commonly
calcareous. |
| ORD | Dolostone | - | Dolostone: orange
weathering, silty. |
| ORS | Silty Shale | - | Silty shale to Siltstone:
dark grey, tan to pink
weathering, laminated,
graptolitic, variably
calcareous,
stratigraphically below to
slightly above the Ospika
Volcanics (OV). |

MAPPING AND PROSPECTING PROGRAM

The central portion of the property was mapped at a scale of 1:10,000 with priority placed on locating stratigraphic units within the Upper Devonian sequences that host stratiform barite-sulphide mineralization in the district. Property mapping outlined three northwest trending structural panels of Upper Devonian stratigraphy (see Map No. 3).

The most westerly panel hosts the main barite-zinc-lead occurrence and consists of a silvery grey weathering siliceous package of units typical of assemblages that host stratiform mineralization in the district. This panel was mapped from the Kwadacha River for a distance of 5 kilometers to the northwest before being apparently terminated by a thrust sheet of Silurian Siltstone. The entire panel unconformably overlies Silurian Siltstone and is structurally overlain by both Road River shale and Silurian packages.

Rubble patches of siliceous shale within heavily forested terrain, lead-zinc geochemistry; and I.P. geophysical response suggest the presence of an additional belt of host Gunsteel Formation located 200 to 400 metres to the northeast of the above described host thrust panel. This additional belt which has an estimated thickness of 100 to 300 metres contains targets indicative of additional stratiform mineralization.

The thickest accumulation of upper Devonian units occurs in a 1 to 5 kilometre wide belt that trends northwest throughout the northeast portion of the property. This eastern structural panel consists of a thick accumulation of silty soft grey to black shales with minor resistant to hard siliceous units. Mapping has outlined a horizon of nodular barite with a thickness of 5 metres along a strike length of 1 kilometre. Both rock and soil sampling along and across this barite horizon yielded low lead and zinc values. Prospecting was conducted in the upper portions of streams draining the eastern panel. No stratiform massive barite or sulphides were discovered.

The main barite-sulphide showing located in the western panel, consists of pale grey laminated barite that has been outlined over a strike length of 300 metres and thickness varying to 20 metres. The showing occupies a saddle at 1600 m elevation on the eastern slope of Mt. Alcock. The curvilinear shaped showing is cut by a northeast trending fault with an estimated displacement of 60 metres of right lateral movement. North of the fault, surface dips vary from 35 to 50 degrees to the southwest. South of the fault dips are sub-vertical.

The barite contains several horizons of galena and sphalerite mineralization. Chip samples across the talus and sub-crop vary to 3.6 percent lead, 1.5 percent zinc and 0.5 oz/ton silver over 6.0 metres. Fine-grained disseminated galena is common throughout the entire

exposed barite mineralization. Grab samples of sulphide rich mineralization vary up to 14.8 percent combined zinc and lead. For details of the chip sampling program, refer to Map No.'s 8, 10 and 11.

A white, vuggy porous siliceous unit that occurs in the immediate hanging wall of the exposed barite appears to represent a siliceous exhalative. Size and shape of open spaces suggests the vugs contained sulphides.

Both the immediate hanging wall and footwall of the exposed barite consists of black porcellanite.

Prospecting and mapping in the heavily forested cover along strike to the northwest and southeast of the barite showing failed to locate additional mineralization. No outcrop is exposed along the projected trace of the favourable horizon (note Map No. 5).

Float of massive barite with bands of galena and sphalerite found in Alcock creek near grid co-ordinates 94 + 00 N, 100 + 00 E, located 400 metres to the southeast of the barite showing coupled with the presence of a large I.P. chargeability anomaly in this area, indicates underlying sulphide mineralization.

RECONNAISSANCE GEOCHEMICAL PROGRAM

Triumph Resources conducted a three week mapping, prospecting and geochemical sampling program over the central portion of the property. A total of 231 silt samples were taken along streams at a sample spacing of 200 metres (see Map No. 4). All samples were analyzed for lead and zinc. Results are plotted on the accompanying reconnaissance Geochemical Map. It is interesting to note there are three creeks anomalous in both lead and zinc. Two streams drain the main showing and the third anomalous creek drains northwest from Peak 1616 located in the northeast portion of the property.

Preliminary prospecting in the area of Peak 1616 has not located the source of the high lead-zinc values obtained in stream silts. Prospecting and further geochemical work is planned in this area.

In addition to traversing drainages a helicopter supported silt sampling program was completed along the Warneford and Kwadacha rivers at the mouths of all streams draining the property. No anomalous lead or zinc values were obtained. Lack of geochemical response may be a factor of stream length rather than lack of mineralization in the head waters.

All silt samples were shipped to Minen Laboratories in North Vancouver where they were dried, sieved to -80 mesh, digested in aqua regia and analysed by atomic absorption for both lead and zinc.

GRID GEOCHEMICAL PROGRAM

A flag-line geochemical grid consisting of a northwest trending base line with 1 kilometre long cross lines with 200 metre spacing was established over the main barite showing on the east slope of Mt. Alcock. The area covered by the grid measures 1 kilometre by 4 kilometres. A total of 416 soil samples were taken from the "B" horizon soil at 50 metre stations along each cross line. An additional 136 samples were taken over a more detailed grid established over the exposed mineralization.

All soil samples were shipped to Minen Labs in North Vancouver where they were dried, sieved to -80 mesh, weighed to 50 grams, digested in aqua regia and analysed by atomic absorption for both lead and zinc.

Results were plotted on histograms to determine populations and plotted on 1:5000 base maps. Contour intervals were selected for each population as per the following table:

<u>POPULATIONS</u>	<u>LEAD</u> (ppm)	<u>ZINC</u> (ppm)
Background	0-50	0-200
Threshold	50-100	200-450
Anomalous	100-200	450-650
Very Anomalous	200-500	650-1000
Highly Anomalous	> 500	> 1000

As may be noted on the accompanying grid geochemical maps, (Map No. 6 and 7), both lead and zinc soil anomalies indicate widespread mineralization along strike from the main barite showing. Lead values contoured at 100 ppm Pb outline an anomaly measuring 1600 metres long by 300 metres wide. Zinc values contoured at over 450 ppm delineate a target with strike length of 2,500 metres.

Anomalous lead values also suggest zones of potential stratiform mineralization within the central panel of host Gunsteel located 300 metres to the northeast and parallel to the original discovery area.

DIAMOND DRILLING PROGRAM

A total of 1,111.6 metres in 9 holes of EGBDM core drilling was completed by J.T. Thomas Diamond Drilling Ltd. of Smithers, B.C. Drilling was conducted during the period September 16 to October 8, 1989. All holes were drilled on sections at an azimuth of 045 degrees with dips varying from -45 to -80 degrees. Summary data on all drill holes is presented in Table I on the following page. All drill core is presently stored on the property near the main showing.

The geological frame-work for both surface mapping and core logging was provided by Roberts who has had extensive experience in advancing the area into a recognized zinc-lead district.

All core containing barite-sulphide mineralization was split with fire assays completed on half core. The immediate hanging wall and foot wall assemblages were also split and analysed by rock geochemical methods for both lead and zinc to aid in developing a geochemical signature. All fire assaying and rock geochemistry was undertaken by Minex Labs in North Vancouver.

Please note Appendix I for detail descriptions of rock units encountered during the drilling program. All assay and rock geochemical results are presented in Appendix II. Note Table II on page 14 for the summary of drill hole intersections obtained in the 1989 program.

The 1989 drill program was completed on 5 sections with offset holes collared to establish grid controlled intercepts of the mineralized horizon at depth. A description of mineralization and lithologies encountered in each of the sections drilled, follows:

TABLE I

1989 DRILL HOLE SUMMARY

MT. ALCOCK PROPERTY

HOLE NUMBER	SECTION	COLLAR LOCATION			HOLE DIP	HOLE AZM	TOTAL LENGTH (m)
		NORTHING	EASTING	ELEVATION (m)			
AK-89-1	99 + 60N	99 + 60	101 + 23	1647	-45	045	27.4
AK-89-2	99 + 60N	99 + 60	101 + 23.5	1647	-45	045	42.7
AK-89-3	99 + 60N	99 + 60	100 + 53	1624	-45	045	138.7
AK-89-4	99 + 60N	99 + 60	100 + 53	1624	-78	045	198.7
AK-89-5	98 + 65N	98 + 67	99 + 94	1602	-45	041	146.3
AK-89-6	100 + 26N	100 + 27	100 + 48	1626	-45	045	140.2
AK-89-7	100 + 26N	100 + 20	100 + 19	1631	-62	040	185.9
AK-89-8	100 + 82N	100 + 32	100 + 32	1603	-45	047	108.2
AK-89-9	99 + 30	99 + 30	100 + 57	1619	-45	045	123.5
TOTAL							1,111.6 Metres

SECTION 100 + 82N

Hole AK89-8 intersected 0.3 metres of stratiform barite approximately 70 metres down dip from the surface exposure of the zone. No significant zinc or lead values were obtained in the barite horizon.

Roch geochemical analysis in the porcelanite and pregnant shale hosting the barite mineralization were anomalous in both lead and zinc with values averaging 150 ppm and 1500 ppm respectively.

SECTION 100 + 26N

Drill hole AK-89-6 intersected barite hosted mineralization from 61.1 to 68.4 metres that graded 4.72% zinc-lead and 0.79 oz/ton silver over 7.3 metres. The dark grey laminated barite with fine laminations of sphalerite and galena noted in the drill hole is similar to mineralization observed in surface rubble 80 metres up dip. The mineralized horizon occurs in the immediate footwall of the black siliceous Porcelanite and Pregnant Shale facies of the Gunsteel Formation.

Both the Porcelanite and Pregnant Shale are highly anomalous in lead and zinc with values to 2800 ppm lead and 5770 ppm zinc. The footwall of the stratiform mineralization, the Poker Chip shale, contains lower lead and zinc values.

Hole AK-89-7 intersected barite hosted mineralization 40 metres down dip of hole 89-6 with a grade of 1.0% zinc-lead and 0.07 oz/ton silver over 4.0 metres. Barite hosted mineralization in hole 89-7 occurs at the contact of the overlying Pregnant Shale and underlying Porcelanite. The 18 metre section of Pregnant Shale immediately overlying the barite horizon is highly anomalous in both lead and zinc.

Thickness of the Gunsteel stratigraphy between the mineralized horizon and the top of the Silurian Siltstone appears to be increasing to the west suggesting the target area occurs along the eastern edge of an in-filling basin. An increase in thickness of both the Porcelanite and Pregnant Shale also confirms the presence of a reducing restricted basin to the west.

TABLE II

SUMMARY OF 1989 DRILL HOLE INTERSECTIONS

MT. ALCOCK PROPERTY

<u>DRILL HOLE</u>	<u>INTERVAL</u> (Metres)	<u>THICKNESS</u> (metres / feet)		<u>ZINC & LEAD</u> %	<u>SILVER</u> (oz/ton)
89-1	Did not reach target				
89-2	16.8 - 27.3	10.5	35	1.10	0.58
89-3	71.6 - 80.4	8.8	29	9.30	1.20
includes	71.6 - 75.2	3.6	12	14.20	1.60
89-4	Did not intersect zone				
89-5	Did not intersect zone				
89-6	61.1 - 68.4	7.3	24	4.72	0.79
89-7	88.6 - 92.6	4.0	13	1.00	0.07
89-8	55.5 - 57.7	2.2	7	Anomalous values	
89-9	76.2 - 86.7	10.5	35	6.80	0.70

SECTION 99 + 60N

Hole AKB9-1, collared to intersect the barite horizon 40 metres down dip of surface mineralization was stopped short of the target due to drill rods being struck in the immediate hanging wall of barite zone. Hole 89-2, drilled from the same collar location, cut 20 metres of stratiform laminated barite with very poor core recovery. Although the upper 10.5 metres of mineralization graded 1.10% zinc-lead and 0.58 oz/ton silver, the assays do not accurately represent the true grade due to the very poor core recovery. The immediate footwall and hanging wall facies to the bedded barite consist of 2 to 3 metres of black Porcelanite (units UDCH and UDCF).

Hole 89-3 intersected mineralization 65 metres down dip from hole 89-2 and 110 metres down dip from surface. Massive sulphide mineralization was discovered overlying the barite facies with grades of 21.7% zinc, 6.98% lead and .83 oz/ton silver. Fault breccia at the top of the sulphide facies suggests the presence of a normal fault which may have shortened the intersection. Combined grade of the sulphide and barite facies in hole 89-3 averages 9.3% zinc-lead and 1.30 oz/ton silver over 8.8 metres. Both the Pregnant Shale and Porcelanite facies in the hanging wall of the stratiform mineralization are highly anomalous in both lead and zinc.

Drill hole 89-4 collared to intersect the stratiform mineralization 60 metres down dip of hole 89-3 outlined a 35 metre thick section of Pregnant Shale with anomalous lead and zinc values. No stratiform barite or sulphide mineralization was intersected. The barite-sulphide facies may have terminated either through a rapid facies change or by normal faulting. A rapid facies change appears to be the favoured interpretation for absence of mineralization. A total dip length of 150 metres of mineralization has been outlined in this section.

SECTION 99 + 30N

A mineralized intersection 120 metres down dip from surface by drill hole AK 89-9 assayed 6.9% zinc-lead and 0.73 oz/ton silver over 10.5 metres. The mineralization consists of the barite facies with laminae of galena and sphalerite. Massive sulphides were not encountered in this drill hole. The stratiform barite is overlain by both black graphitic Porcelanite and Pregnant Shale which are both highly anomalous in lead and zinc. Poker Chip Shale, occurring in the footwall of the mineralized horizon is moderately anomalous in zinc and not anomalous in lead.

SECTION 98 + 63N

Drill hole AK 89-5, collared to intersect sub-vertical barite hosted mineralization exposed in trenches did not encounter the barite-sulphide facies. Structural data suggests that this steeply dipping zone represents the overturned limb of an isoclinal fold with the shallow upright limb occurring to the east. The drill hole appears to have missed the mineralized horizon by being collared to far to the southwest (See Map No. 20a).

In summary, the 1989 diamond drilling program was successful in outlining continuity of the barite facies mineralization with combined lead-zinc grades in the range of 4 to 10 percent. The sulphide facies with grades to 29 percent combined zinc-lead, discovered in drill hole 89-3, presents an attractive target for continued exploration along strike and to depth within the barite-sulphide system.

I.P. GEOPHYSICAL SURVEY

An I.P. geophysical survey was conducted in the area of the stratiform barite facies mineralization in order to define target areas of associated zinc-lead sulphide facies. A total of 7.7 kilometres of I.P. geophysical survey, conducted by MPH Consulting Ltd. of Vancouver, B.C., was completed along 9, 200 metre spaced lines between grid lines 92 N and 108 N. Areas of high chargeability were interpreted to represent areas of massive sulphide facies with high resistivity anomalies outlining the Silurian Siltstone footwall assemblage.

The Induced Polarization and Resistivity survey was conducted with a pole-dipole array utilizing a 7.5 kw Hunttec time domain system and EDA BRGM-IP6 receiver. An "a" spacing of 50 metres was measured for dipole separations of $n=1$ to $n=5$. The survey measured the standard parameters of primary voltage (VP) and secondary voltage (VS) for which the normal parameters of apparent resistivity in ohm-metres and chargeability in milliseconds are obtained. Chargeability was measured over an interval from 100 milliseconds to 1100 milliseconds. A pole-dipole array was used with the infinite pole located at approximately L99+00N, 110+60E on the grid. One infinite pole location was used for the entire survey. The survey was expected to have a depth penetration of 50 to 70 metres.

The survey, conducted on uncut flag lines with variable snow depths to 1 metre, progressed slowly with production averaging approximately 0.5 kilometres per day. Pseudosections of both I.P. chargeability and resistivity were computer plotted on a daily basis for all 9 lines and presented in Map Nos. 22 to 30. Plan maps with contoured values of chargeability and resistivity at N=1 are presented in Map Nos. 31 and 32.

The I.P. survey was successful in outlining several stratiform sulphide targets. An intense "pant-leg" chargeability anomaly delineated on lines 94N and 96N at station 101+100E presents a priority target for sulphides along the projected surface trace southeast of the barite mineralization. This target with an associated low resistivity response and strike length in excess of 300 metres may indicate massive pyrite-sphalerite-galena mineralization. A projected target depth of 70 metres is estimated.

A northwest trending chargeability anomaly delineated along the eastern boundary of grid lines 92N to 96N appears to outline a zone of stratabound sulphides within a structural panel of Gunsteel Formation. Pseudosections suggest a northwest plunging target with a near-surface causative source occurring at station 104E on line 92N.

High chargeability response at station 100E on line 104N is located along the projected mineralized stratigraphic horizon to the northwest of the exposed barite facies. The pseudosections suggest a mineralized target with an estimated depth in excess of 50 metres.

A broad northwest trending chargeability high between lines 100N and 108N in the northeast portion of the grid is coincident with a resistivity low or conductive zone and overlies the eastern structural panel of host Gunsteel Formation. The chargeability response may indicate a stratiform sulphides.

Apparent Resistivity response as outlined in plan Map No. 32, appears to reflect stratigraphy with areas of high resistivity corresponding to the Silurian Siltstone. The northwest trending conductive zones probably reflect the host Gunsteel Formation.

It is interesting to note that the barite facies delineated in the main showing is coincident with a resistivity high, as expected, with no chargeability response. The geophysical survey suggests that there is a lack of near surface massive sulphide mineralization within the barite facies.

EXPLORATION TARGETS

All geological, geochemical and geophysical data has been compiled on the accompanying Map Nos. 22 to 30 as well as sectional profiles for sections 92N to 104N. The following exploration targets as outlined in figure 33 on page 23 warrant drill testing.

TARGET A

The priority target is an intense I.P. chargeability anomaly associated with low resistivity response coincident with a lead-zinc soils, geochemical anomaly. The target centred at station 101E on the line 94N, is located on strike and 200 metres southeast of the exposed stratiform barite hosted lead-zinc deposit. The I.P. consists of a "pant-leg" chargeability high with a target depth of 70 metres coincident with soil geochemical values of 4695 ppm zinc and 665 ppm lead. On line 96N, 200 metres to the northwest, geochemical response coupled with a moderate chargeability signature, suggest a deeper source, thus indicating a northwest plunge to the causative source. (See Maps 22, 23 and 24). No outcrop exists within this forested target area. Float found in the creek at line 94N consists of barite with laminated galena and sphalerite. The target is interpreted to be the massive sulphide facies associated with the barite-sulphide facies exposed 200 metres to the northwest.

TARGET B

Drill testing of the barite hosted mineralization in 1989 outlined mineralization over a strike length of 230 metres and depth to over 130 metres. Hole 89-3 intersected both the barite and massive sulphide facies at a depth of 110 metres and returned the best zinc-lead grades obtained in the drilling program. Hole 89-4 collared to intersect the horizon an additional 60 metres down dip failed to locate mineralization. The zone may have been either terminated structurally or stratigraphically. Sulphide-barite facies could occur at depth. Deeper drilling is required to intersect the mineralized horizon 100 metres down dip from hole 89-4.

TARGET C

An I.P. chargeability anomaly coincident with lead anomalous geochemical values in soils has been outlined along the projected stratigraphic trace of the mineralized horizon 200 metres northwest of the exposed barite facies. The chargeability anomaly centered at station 99 + 50E on line 104N suggests a sulphide target within the Gunsteel Formation that requires drill testing.

TARGET D

Limited mapping along with both the geophysical and geochemical data suggest the presence of an additional Central structural panel of host Gunsteel Formation located roughly 300 metres to the northeast of the Western Panel.

Northwest trending conductive zones coincident with lead-zinc geochemical values may indicate sulphides hosted within the Gunsteel Formation. Coincident I.P. chargeability and geochemical anomalies centered at stations 104E and 102E, on lines 92N and 104N respectively, comprise excellent drill targets.

ADDITIONAL TARGETS

Both the western and central panels of the host Gunsteel Formation have been explored within the established grid area along a 4 kilometre strike length. Both lead and zinc anomalous geochemical values continue beyond the limits of the present grid. The continuation of the host Gunsteel Formation beyond the limits of the grid area should be further explored.

Creeks draining to the northwest and southeast of Peak 1616 in the northeast portion of the claim group are anomalous in both lead and zinc. The area is underlain by a thick succession of Upper Devonian Clastic units that contain facies of the Gunsteel Formation. The area around Peak 1616 presents a attractive target for discovery of additional stratiform lead-zinc mineralization. A program of detailed prospecting and contour soil sampling is recommended.

1989 RECLAMATION PROGRAM

A total of 7 drill sites measuring approximately 6m X 10m were constructed during the 1989 drilling program. At the completion of the drilling program all sumps were filled and contoured to the original slope configuration and were seeded with a fertilized Alpine seed mixture. As two of the drill sites were located in a forested area, all cut trees were limbed, bucked in two-metre lengths, and placed flat on the ground.

Timber cut in the area of the campsite was utilized as stringers for the drilling sites. The campsite was not seeded due to thick moss cover. All garbage from the drilling program and camp was incinerated with the remaining solids bagged and transported to the Mackenzie. All wooden tent frames were left intact and will be utilized again during the 1990 program.

CONCLUSIONS

The Mt. Alcock property, consisting of 255 claim units, located in the Kwadacha Wilderness Area, has excellent potential for discovery of stratiform zinc-lead mineralization.

The property lies in the central part of the 160 kilometre-long Gataga District, approximately 20 kilometres northwest of the Cirque deposit. The district is unique in that the deposits contain high grade zinc-lead-silver sulphide zones within and or peripheral to a barite host containing lower grade base metal values.

Three northwest trending structural panels of host Upper Devonian Gunsteel Formation have been outlined on the property over a 5 kilometre strike length.

Reconnaissance geochemical sampling within the property has identified three streams anomalous in both lead and zinc. Two of the creeks drain the main barite showing hosted in the Western structural panel. The third creek drains the northwest face of Peak 1616 in the eastern structural panel.

Mapping and prospecting within the main barite showing area has outlined barite hosted lead-zinc mineralization over a strike length of 300 metres. Grab samples of mineralization assayed to 14 percent combined zinc and lead. Chip samples across the talus and sub-crop assayed to 5.1 percent zinc-lead over 6 metres.

Grid geochemical soil sampling along a 4 kilometre strike length of the Western structural panel hosting the barite showing defined a northwest trending zinc-lead anomaly over a length of 2.4 kilometres and a width of 300 metres. Several lead anomalies were outlined over the central panel of host Gunsteel Formation.

The 1989 drill program of 1111 metres in 9 holes delineated the Mt. Alcock barite hosted lead-zinc mineralization over a strike length of 230 metres and to a depth of 130 metres. The barite facies varies from 1 to 20 metres thick. Sulphide facies mineralization encountered in hole 89-3 had an average grade of 29 percent combined zinc-lead.

An induced polarization geophysical survey conducted on 9 lines defined an intense chargeability anomaly on strike and southeast of the stratiform barite hosted mineralization as well as several additional anomalies within the host Gunsteel Formation. The chargeability anomalies may indicate sulphide mineralization within 70 metres of surface.

Exploration expenditures on the Mt. Alcock property during the period August 1st to December 31st, 1989 totalled \$441,228.60.

CONCLUSIONS

Continued

RECOMMENDED 1990 PROGRAM

The 1989 exploration program on the Mt. Alcock property outlined potential for stratiform barite hosted zinc-lead mineralization within a 2.5 kilometre long geochemical target zone. The drill testing program successfully delineated the barite facies grade zinc-lead facies. The I.P. geophysical survey defined targets indicating the presence of sulphide facies with potentially higher base metal grades. Further exploration as recommended.

The proposed 1990 program will focus on drilling I.P. target areas indicating sulphide mineralization associated with and peripheral to the exposed barite hosted facies. A program of 8 holes for a total of 1510 metres (5,000 feet) is proposed to test the following:

1. A large intense I.P. chargeability anomaly coincident with high zinc and lead geochemical values along strike to the southeast of the barite hosted mineralization. This 400 metre-long feature presents an excellent target for sulphide facies mineralization. Four holes totalling 600 metres (2,000 feet) are proposed.
2. The zinc-lead bearing barite facies, within the main showing, was traced to a depth of 130 metres (430 feet) before being either structurally or stratigraphically terminated. The sulphide content and average zinc-lead grades were consistently increasing with depth. A deep hole is recommended west of the presently drill tested target to explore for a fault offset of the sulphide rich facies. One hole totalling 350 metres (1,150 feet) is proposed.
3. Secondary targets of coincident lead geochemical response with I.P. chargeability anomalies have been delineated in both the west and central structural panels of the favourable host Gunsteel Formation. Two targets in the east panel and one target along the strike to the north west of the main barite showing are for drill testing. Three holes totalling 560 metres (1,850 feet) would be required.

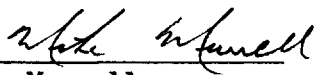
In addition to the drill testing program continued prospecting, sampling and geochemical soil sampling is proposed in the following areas:

Anomalous lead and zinc silts were obtained in creeks draining peak 1616 in the northeast portion of the property. Prospecting and contour soil sampling should be undertaken to locate and target the source area.

The grid targeting program explored a 4 kilometre length of the west and central structural panels of the host Gunsteel Formation that has a potential strike length of 8 kilometres. Both lead and zinc anomalous values trend off the northwest and southeast ends of the geochemical grid. Several additional soil lines and continued prospecting along the northwest trending structural panels is planned.

Additional drilling and continued geophysical-geochemical targeting will be contingent on the success of the proposed 1990 drill program.

Respectfully Submitted


M.R. Murrell

W.J. Roberts

STATEMENT OF QUALIFICATIONS

I, Michael R. Murrell, hereby certify that:

- 1) I am consulting Mining Exploration Geologist with residence at 1920 Ironwood Court, Port Moody, B.C. V3H 4C3
- 2) I graduated with an Honours BSc from the University of Alberta in 1966, and since that time have continuously practiced my profession. This includes 17 years with Cominco Ltd. and three years with Echo Bay Mines Ltd. Recent consulting work includes two years with Westmin Resources Ltd.
- 3) I am a Professional Geologist (P. Geol) registered with the Association of Engineers, Geologists and Geophysicists of Alberta (APEGGA), a fellow of the Geological Association of Canada (FGAC) and a member of the Canadian Institute of Mining and Metallurgy.
- 4) I personally worked on the Mt. Alcock property during the period of July 31 to November 17, 1989.
- 5) I hold no interest in Triumph Resources Ltd. nor do I expect to.
- 6) I consent to the use of all or portions of this report in a prospectus or statement of material facts for Triumph Resources Ltd.


M.R. Murrell

Date: Feb 8, 1990.