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GEOLOGICAL AND ROCK SAMPLE ASSESSMENT REPORT ON

THE GATAGA PROJECT

BEAR GROUP (BEAR, SI, CUB claims)

LIARD/OMINECA MINING DIVISION

57 58'15"N, 125 47'35"W

NTS. 94F 13W



GEOLOGICAL BRANCH ASSESSMENT REPORT

GRAEME EVANS NOVEMBER, 1993 KAMLOOPS, B.C.

OWNER: TECK CORP. #600,200 BURRARD ST. VANCOUVER, B.C. V6C 3L9

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1-INTRODUCTION

This report covers the 1993 program of geological mapping and rock sampling of the Bear claim group. The focus of the program was to map in detail the stratigraphic package hosting the sed-ex style sulphides encountered in previous drilling on the Bear claim group. The priority was to outline the structure and any facies changes to define potential drill targets.

2-LOCATION & ACCESS (Fig.1)

The Bear claim group is located on the northeast side of the northern Rocky Mountain trench within the Muskwa range, the claim LCP's centred at 57 58'15"N and 125 47'35"W. The property lies 5 kilometers northwest of the Gataga Lake chain at the headwaters of the South Gataga river (94F/13W).

In 1993 access was gained by helicopter from the Driftpile main camp which is located 14 kilometers NW of the property. An existing airstrip at Driftpile will handle fixed wing planes up to Twin Otters in size. These flights originated from Watson Lake (270 Km's NW), Fort Nelson (220 Km's NE) or Fort St John (320 Km's SE). The helicopter service was based at the Finbow Logging camp 75 Km's south of the property.

3-TOPOGRAPHY AND VEGETATION

The countryside consists of U-shaped glacial valleys with local precipitous cliffs below old glacially derived hanging valleys. Elevations range from 1200 meters to peaks attaining an elevation of 2082 meters and the treeline is at the 1600 meter elevation. Numerous talus slopes cover much of the valley and hillsides with numerous active snow chutes present. Forest cover consists of alpine spruce and poplar with brushy willow underbrush dominating. Above treeline only minor grasses and scrub persist. The vegetation is typical northern alpine bush hampered by a heavy and long snow cover season (September-May).

4-CLAIMS (Fig.2)

The Bear claim group is located in Liard & Omineca Mining Division and consists of 48 contiguous units. The property is owned by Teck Corp. of Vancouver with pertinent data on the following table:

Claim Name	Record #	No. of Units	Record Date	Expiry Date •
Bear	237950	20	July 11, 1977	July 11, 1997
SI	221913	18	Dec 10, 1979	Dec. 10, 1997*
Cub	318715	10	June 27, 1993	June 27, 1997*

BEAR CLAIM GROUP

* date pending acceptance of this report





5-PREVIOUS WORK AND HISTORY

1970- Geophoto Surveys conducted a reconnaisance stream sediment survey in the region.

1973-74 Canex-Placer investigated stream sediment anomalies with initial prospecting which discovered mineralized float in Driftpile Creek, and was later staked.

1974-75 Canex-Placer conducted geological mapping, soil sampling, hand trenching and an E.M survey in the Driftpile area.

1976- Castlemaine conducted further stream sediment sampling in the region around the Canex-Placer property.

1977-The Gataga Joint Venture was formed to follow up these extensive anomalies on unstaked ground. Work consisted of extensive soil sampling and regional geologic mapping. During this phase the Bear claim was staked to cover anomalies over a weakly mineralized zone, which was hand trenched.

1979- The SI claims were added to protect favorable stratigraphy with soil anomalies.

1980- The main showing on the Bear claim was tested with 5 diamond drill holes for a total of 818 meters.

1981- 2 diamond drill holes tested mineralization on the Bear property (total of 325.5 meters).

6-1993 WORK

Two weeks (June 27-July 10) were spent geologically mapping and sampling the property with a crew of two. A total of eight square kilometers were mapped at 1:5,000 scale. A small flagged and compassed grid was placed over the main Bear showing area for control. This grid totalled 6.9 km's with lines every 100 m's along a 1.8 km baseline. 44 samples of barite, shales and ferricrete were collected and analyzed for 30 element ICP and Ba assay.

7-GEOLOGY

A) REGIONAL GEOLOGY (Fig.3)

The property is located within the northwest trending Kechika Trough which is a southerly extension of the Selwyn basin into northeast B.C.. This trough preserves a thick succession of Paleozoic basinal facies clastic rocks formed within sub-basins due to rifting along a generally passive continental margin. These basins are a portion of the westward prograding clastic wedge outboard of the carbonate shelf. Strata consists of Ordivician-Devonian sediments in a 180 kilometer long complex fold and thrust belt. Basement rocks consist of Proterozoic metamorphosed sediments of the Windemere Group. Within the basin the basal sequence is composed of the Cambrian-Ordovician Kechika Group which consists dominantly of limestone with lesser mudstones and shales. This is overlain by Ordovician to early Devonian Road River Group consisting of siltstones, shales and limestones. In turn this is overlain by the upper Devonian-Mississippian Earn Group composed of cherts, shales and siltstones. The uppermost sequence of the succession is a Mississippian-Triassic package consisting of limestones, siltstones and cherts. In the Gataga district the mineralization is dominant within the Gunsteel Formation which is part of the Earn Group.



AFTER MacINTYRE, 1983

Within these sub-basins large sedimentary exhalative barite and sulphide-barite deposits occur. The most signifigant deposits to date are hosted within the mid-late Devonian Gunsteel Formation. The Gunsteel Formation is dominated by black anoxic shales with varying amounts of carbonate, graphite and silica. The largest deposit to date is the Cirque deposit which lies 50 km's SE of the Bear property in similar Gunsteel stratigraphy. Reserves stand at 38.5 million tons grading 8.0% Zn, 2.2% Pb and 47.2g/t Ag within a mixed sulphide-barite stratiform deposit. The Driftpile property lies 15 km's NW of the Bear property and is being actively explored at the same time as the Bear group. Mineralization at Driftpile consist of stratiform sulphide lenses with some barite within the Gunsteel Formation.

B-PROPERTY GEOLOGY (Fig.4 & 5)

The Bear property consists of a thick sequence of unmetamorphosed upper Devonian Gunsteel Formation striking northwest and influenced by northeast directed folding and thrusting. The Gunsteel Fm. on the property is bounded on the west by the large Waldemar thrust which thrusts lower Devonian Besa River Fm. units over the upper Devonian Gunsteel sequence. The Gunsteel is largely controlled on the property by a large doubly plunging antiformal structure and subsidiary folds. This northwest trending structure can be traced accross the length of the property and varies from a broad open fold to a tighter overturned fold when adjacent the Waldemar thrust. Numerous small thrust sheets and small scale folds (both F1 and F2) complicate the structure which is often difficult to correlate due to the lack of recognizable stratigraphy.

The Gunsteel Fm. stratigraphic sequence in the area of the Bear property is uncertain due to the complex structure and lack of distinctive stratigraphy. The Gunsteel formation is dominated by black shales, siltstones, mudstones and turbidites in a sequence at least 500-800 meters thick. The most distinctive packge in the sequence is the anoxic section which contains the mineralization. This sequence consists of a sequence believed to be 200-300 meters thick consisting of a basal sequence of graphitic shales and cherts overlain by the sulphide and baritic horizons which in turn are overlain by concretionary and nodular shales. The Gunsteel Formation is generally a recessive sequence and the sulphide mineralization is particularly recessive and is only outlined by ferrocrete zones and barite beds on the surface. The surface trace of the mineralization is projected to surface on Fig.4 based on stratigraphic locations and previous soil geochemical anomalies. Sampling of ferrocrete and barite zones indicates Pb, Zn, Ag, and Cd anomalies reflect proximity to mineralization.

C-LITHOLOGY

During the 1993 program it was decided to map the area on recognizable stratigraphic units and to leave the stratigraphic correlations aside. Previous mapping by other groups has focussed on stratigraphic correlations and the grouping of sequences which in some cases led to confusion. Many of the lithologies are very similar in the various sequences and correlations on an outcrop scale can be dificult.

1-SULPHIDES (to date in Gunsteel Fm.)

No massive sulphides are exposed on the Bear property and the following descriptions are pertinent to previous drilling. The surface trace of the sulphides is recessive and is occasionally expressed by ferricrete zones.

a) Laminated to brecciated massive pyrite with interstitial carbonate and varying amounts of interstitial sphalerite and galena.

b) Laminated barite with 30-40% pyrite and varying amounts of interstitial sphalerite and galena.

2-BARITE (to date in Gunsteel Fm.)

Barite is exposed in several horizons along the length of the property and in general is a good indicator of nearby sulphide mineralization.

a) Massive laminated barite with individual 1-4mm laminations can contain shale laminations as interbeds.

b) Blebby barite as individual laminations mixed with shale interbeds is common. These beds appear to be a slightly distal equivalent of the massive laminated barite zones. The 5-10mm barite blebs are likely a preferential deformation of narrow barite laminations.

c) Necklace Barite consists of small blades of barite distorted from individual 1mm laminations into V-shaped "necklaces" within black graphitic shales. Deformation has distorted these grains from the original laminar texture.

d) Nodular barite is another form of deformed distal barite but may also consist of barite concretions within black shales. Occasionally pyrite is present partly replacing the barite which forms blebs from 5mm-20mm in length paralel to foliation within the shales.

3-GRAPHITIC SHALE (Gunsteel Fm.)

Graphitic shales comprise much of the mineralized stratigraphy and are closely related to the chert units both laterally and interbedded.

a) Highly Graphitic black shales are generally quite recessive and are rarely exposed. When visible the rock varies from strongly foliated with graphitic plates to blocky zones with a very low specific gravity. Original textures are poorly preserved and much of the rock tends to be strongly weathered.

b) Black shales with a high carbon content are distinctive for their black graphite streak on the cleavage faces. This unit is transitional from black shales to graphitic shales.

c) graphitic shales with disseminated pyrite, commonly contain hydrozincite on oxidized surfaces. These shales are metaliferous shales commonly containing the sulphide horizons.

d) graphitic shales with carbonate nodules 2-8mm or carbonate rich concretions from 1-50 cm in diameter.

e) graphitic shales occasionally contain 5-30% py laminations proximal to sulphide mineralization. These occur as 1-10mm laminations with graphitic shale interbeds.

4-CHERT (Gunsteel Fm.)

a) black-green chert interbedded with graphitic shales. The chert appears as blocky shale with a conchoidal fracture and a vitreous jade green color is the normal appearance with quartz veinlets commonly present. b) the cherts have a gradational transition into siliceous black shales which are a darker black color with a stronger cleavage developed. These rocks are still very siliceous and beds remain fairly thick 1-5cm.

c) radiolarian cherts have not been noted in the field area but are quite common in drill core at Driftpile. These vary from individual radiolarians to more common 1-10mm siliceous radiolarian beds within shales.

d) angular chert breccias are relatively rare but have been noticed within graphitic shales near the southern portion of the SI calim. These consist of angular 1-10mm chert fragments (grey, green and red) within a shale and pyritic matrix. These narrow units maybe signifigant in that they may relect debris flows related to fault scarps.

5-BLACK SHALE (Earn Group clastics including Gunsteel)

this unit is very common and is normally strongly weathered, the obvious difference from graphitic shale is a paler grey color and a grey streak with a lower carbon content.

a) very fissile shales 1-3mm parting, generally nondescript with little original textures.

b) black shales w/ 1-5mm pyrite +/- carbonate nodules are generally seen near mineralized horizons.

c) black shales with large 5-100cm carbonate concretions. These concretions can contain some pyrite and appear in a sequence generally near mineralized horizons.

d) commonly black shales are interbedded with siltstones as turbidites. These units can be gradational with mudstones and for the purposes of this unit the mudstone component is less than 40% of the stratigraphic interval with laminations ranging from 1-10mm.

e) another form of black shales is finely laminated on a 1mm interval with varying mudstone components.

6-SILTSTONE (Earn Group clastics including Gunsteel Fm.) siltstones comprise a large portion of the sequence and occur near the mineralized section as well as throughout the entire sequence.

a) this unit is transitional from 5d where black shales are interbedded with siltstones. This unit is characterized by a dominance of 1-2cm siltstone beds with 1-5mm shale interbeds to a maximum of 40%.

b) typical siltstones have a light brown coloration with 1-5cm bed thicknesses.

c) some sections have markedly thicker beds with a possibly larger grain size.

d) above the Waldemar thrust on the western portion of the property siltstones are commonly mixed with sandstone of the Besa River Fm. This unit consists of 1cm siltstone beds with up to 30% sandstone interbeds.

7-MUDSTONE (Earn Group including the Gunsteel Fm.) this unit commonly has a creamy brown coloration with a blocky texture and often has a conchoidal fracture due to high clay content. a) this unit has a high carbonate content interstitially.

b) a distinctive unit with fissile shale interbeds in the core of an anticline on the eastern edge of the Bear claims.

8-SANDSTONE (Besa River Fm. lower portion of Earn Group)

This sequence forms part of a thick sequence on the hangingwall of the Waldemar thrust along the western side of the property.

a) fine grained sandstone with quartz and feldspar grains less than .5mm in diameter.

b) medium grained sandstone with quartz, felspar and shale grains .5-2.0mm in diameter.

c) some units contain a high quarz grain content of 80+%.

d) other units contain a high feldspar content and qualify as wackes.

9-CONGLOMERATE (Besa River Fm. lower portion of the Earn Group)

a) this conglomerate unit consists of a sandstone matrix with 0.5-1.0cm diameter rounded chert pebbles of a similar size.

b) this conglomerate unit consists of a sandstone matrix with chaotic chert pebbles ranging from 0.5-5.0cm in diameter and ranging from rounded to angular.

10-LIMESTONE (Atan or Road River Groups)

This unit forms prominent ridges along the ranges east of the property and is not present on the property.

a) massive grey limestone forms pronounced ridges and float seen on the property ranges from from finely laminated to recrystallized massive limestone.

D. STRUCTURE (Figs. 4 & 5)

The property is dominated by thrust faulting and related (F1) folding due to Mesozoic compression in a northeast direction. Northwest penetrative cleavage with related shortening is developed throughout the region related to this event. It is very probable that there are numerous thrust faults within the property but the Waldemar fault along the western side of the property is the only visible thrust fault. A prominent fault scarp forms along the moderate to steeply west dipping thrust which thrusts lower Devonian Besa River sandstones and conglomerates over the Gunsteel Fm. A large doubly plunging antiform is the most signifigant structure present over the length of the property. This structure can be traced over the length of the property and plunges shallowly north (5-10 degrees) in the northern portion and shallowly south (5-15 degrees) near the Bear showings and is as much as 800 meters across. In general folding is guite open within folds from 10-600 meters in width which range from symmetric to asymmetric. Structures become isoclinal and overturned near the Waldemar thrust on all scales including the large antiform while above the thrust assymetric overturned folds appear common. High angle normal faults are common and are likely related to the fold and thrusting. Later F2 folds with cleavage trending east to northeast overprint earlier folds and locally warp the F1 folds over widths of 10-100 meters in width. These folds develop kink and relatively tight assymetric folds which only locally disrupt the regional trends.

E. MINERALIZATION & PALEOSTRUCTURE

Massive sulphides are not visible on surface and are only seen in drill core from previous drilling from 1980-81 by Archer Cathro. Surface expressions of the mineralization consist of baritic zones and ferrocrete zones further discussed in section 8 under geochemical sampling. A general sequence within the mineralized sequence appears to consist of a basal sequence of mineralized cherts and graphitic shales overlain by massive sulphides and massive barite which in turn is overlain by nodular and concretionary shales. In the area of the previous drilling this sequence appears overturned and appears to contradict the regional structure indicating a large scale antiform. Either the entire sequence is overturned or a smaller scale synform or thrust slice overturns the area previously drilled.

The mineralized sequence in the area of the 1980 drilling consists of the following sequence. A basal section of black cherts, siliceous shales and graphitic shales in this area appears at least 100+ meters in true thickness. This sequence contains occasional pyrite laminations and disseminated galena and sphalerite veinlets as well. The entire section is anomalous in Pb, Zn and Ag and is likely the analogous footwall sequence to Cirque and other occurences in the Kechika trough. The mineralized zone consists of mineralized barite and massive pyrite with interstitial carbonate over true thicknesses of 15-25 meters. Both barite and massive pyrite contain values in Pb, Zn and Ag. The mineralization is in turn overlain by graphitic and siliceous shales with some laminated pyrite in a section of approximately 10 meters in thickness. Overlying this sequence is a section of black shales with carbonate +/- barite and pyrite concretions which grade upwards from 1-10cm in diameter to small 0.5cm carbonate/pyrite nodules over a vertical distance of approximately 50-70 meters. This hangingwall sequence is typical to that seen at Driftpile.

As previously mentioned the sulphides are not exposed at surface and mineralization can be traced along a NW-SE trending bett of soil geochem anomalies and ferrocrete and barite zones. The footwall sequence which near the Bear showings is dominated by distinctive cherts appears to have a lateral facies change to the northwest where graphitic shales dominate. To the northwest narrow but signifigant chert breccia lenses are present with a sulphide rich matrix. These breccias may reflect debis flows proximal to faults in an otherwise low energy basinal system and may reflect brine vent sources which maybe signifigant exploration targets. This anomalous central zone appears to be the most anoxic basinal portion of the Gunsteel formation which becomes more turbiditic and has a coarser clastic component to the east and west.

8-GEOCHEMICAL SAMPLING

During the mapping program a total of 44 samples of ferrocrete, barite and shales were collected and analyzed by ICP for 30 elements (see appendices #111,1V and V for descriptions, procedures and results). These consisted of 5 samples of shale, 21 samples of ferrocrete and 18 samples of barite occurrences. The number of samples does not allow any statistical analysis and results will be discussed as general observations.

Ferrocrete zones are common and sampling was conducted to see if we could discriminate cold water Fe seeps along faults from Fe seeps proximal to mineralization. Zn (5,000-50,000ppm) is prolific in both forms of ferrocrete so other elements were examined. Trenches above the massive sulphide exposures at the Bear showing reflect elevated values in Ag (1.0-12.0ppm), Pb (125-1128ppm) while other elements appear erratic. In ferrocrete zones Cu appears erratic and independant of other elements while Co and Ni appear to have a correlation of unknown signifigance.

Cd and As appear to be good indicator elements for proximity to mineralization but appear too inconsistent to be used alone. In conclusion Pb anomalies > 30ppm appear to reflect proximity to mineralization particularly if associated with anomalous values of Ag, As and Cd.

Barite ranges from proximal and laminated to distal and blebby and indicator elements were examined to see if these zones reflect mineralization or distal zones not associated with adjacent mineralization. Again barite zones proximal to the massive sulphides were used for control and contain anomalous values in Ag (1.1-19.6ppm), Pb (125-1128ppm), Zn (125-1339ppm). Cu appears to be anomalous at low levels (12-49ppm) against a background of 1-3ppm and Co appears weakly anomalous. Again Pb anomalies appear the most signifigant (>125 ppm), particularly when associated with anomalous Ag, Cu and Zn values.

These samples highlight a belt of black graphitic shales and cherts +/- barite which was previously outlined in the soil surveys. This zone extends in a NW direction from the SW corner of the grid through the Bear showings and over the pass area into the valley in the central SI claim area. Other fold limbs of this sequence do not appear geochemically anomalous and the sampling outlines the single linear sequence over a strike length of 7.5 km's.

9-CONCLUSIONS & RECOMMENDATIONS

The Bear property contains a mineralized horizon accross the entire strike length of the property (7.5km's) consisting of upper Devonian Gunsteel formation with anomalous Pb,Zn and Ag values within a portion of the Kechika trough. This sequence consists of a distinctive stratigraphic sequence of anoxic black shales and cherts containing sed-ex style sulphide and baritic mineralization in a package 200-300 meters in true thickness. The stratigraphy in the region is strongly affected by thrusting and folding directed towards the northeast and locally is affected by F2 folds along near vertical East trending axes. The Gunsteel formation appears strongly controlled by a large antiformal structure trending nortwesterly accross the length of the property. The stratigraphy is bounded to the west by the large Mt. Waldemar thrust which places lower Devonian Besa river coarse sediments above the upper Devonian sediments. The western limb of the main antiform appears the most anoxic portion of the Gunsteel and contains all the signifigant geochemical anomalies. This sequence appears to become less anoxic with a greater turbidite component both east and west of the one limb.

Sulphide mineralization is not exposed at surface anywhere on the property and is reflected by ferrocrete zones and barite horizons. The ferrocrete zones proximal to mineralization appear anomalous in Ag, Pb and occasionally Cd and As. Barite horizons proximal to mineralization appear to become more massively bedded and are anomalous in Ag.Pb,Zn,and possibly Cu and Co. The sequence containing the mineralization is quite distinctive and consists of a 50-80 meter thick hanging wall sequence of cherts, siliceous shales and graphitic shales which has anomalous Pb,Zn and Ag values. This unit is particularly siliceous near the previous drilling on the Bear claim and becomes more graphitic with occasional chert breccia units to the northwest on the SI claim. This is overlain by the mineralization which is 15-25 meters in thickness where intersected in previous drilling. Mineralization consists of both massive pyrite/carbonate and massive barite/pyrite containing values in Pb,Zn and Ag. The hangingwall portion of the sequence consists of graphitic and black shales which contain distinctive carbonate +/- pyrite concretions and nodules analogous to the hangingwall sequence at Driftpile. This unit is estimated at 50-70 meters in thickness and grades from large concretions at the base to nodules at the top. As previously mentioned this sequence becomes more turbiditic and loses much of its carbon and silica component both to the east and west reflecting distance from the anoxic basin.

Future work should consist of diamond drilling portions of the anomalous Gunsteel along this western limb. Initial drilling should test downdip and to the northwest of previous intersections in 80B 1 & 2. Additional drilling is required along the horizon in the grid area based on initial results and the presence of a large area of anomalous graphitic shales and cherts both to the southeast and northwest of the previous drilling. Additional drilling is also warranted in the pass area between the SI and Bear claims and the western limb in the Valley on the SI claims. Initial drilling should be used to define the rake of the sulphide lenses and trends into areas that have not been drill tested.

REFERENCES

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Summry Report 1977-82 Exploration by Gataga Joint Venture in the Gataga River Area, In House Report by Archer Cathro and Associates, Dec., 1983.

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Geological Setting and Genesis of Sedimentary Exhalative Barite and Barite-Sulphide Deposits, Gataga District, Northeastern British Columbia, Explor. Mining Geol Vol.1 No.1 pp1-20, 1992. **APPENDIX** 1

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STATEMENT OF QUALIFICATIONS

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STATEMENT OF QUALIFICATIONS

- I, Graeme Evans, do certify that:
- 1) I am a geologist and have practiced my profession for the last eleven years .
- 2) I graduated from the University of British Columbia, Vancouver, British Columbia with a Bachelor of Science degree in Geology (1983).
- 3) I am a member in good standing with the APEGBC as a professional geoscientist.
- 4) I was actively involved and supervised the Bear program and authored the report herein.
- 5) All data contained in this report and conclusions drawn from it are true and accurate to the best of my knowledge.
- 6) I hold no personal interest, direct or indirect in the Bear property which is the subject of this report .



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Graeme Evans Project Geologist December, 1993 APPENDIX 11

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COST STATEMENT

COST	STAT	EMENT
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1. GEOLOGY & ROCK SAMPLING	
Jim Oliver(Senior Geologist)June 27th 1 Day @ \$ 340/day	\$ 340.00
Randy Farmer(Project Geologist) June 27th 1 Day @ \$ 280/day	\$ 280.00
Graeme Evans (Project Geologist) June 27-July 10 15 Days @ \$ 285/day	\$ 4,275.00
Hugh Stewart (Junior Geologist) June 28-July 10 14 Days @ \$214/day	\$ 2,996.00
2. HELICOPTER 206 Based @ Finbow Camp for Northern Mountain Rate = \$608/hr + \$239/hr fuel = \$847/hr rate	
June 27 Site Visit w/ return = 2.8 hrs June 29 Camp Mob N. Bear = 1.8 hrs July 3 Camp Mob to Bear Main = 1.9 hrs July 10 Camp Demob to Driftpile = 1.8 hrs	
Total Hours = 8.3 @ \$847/hr	\$ 7,030.10
3. GEOCHEMISTRY	
30 elem. ICP + Ba Assay 44 samples @ 24.25/sample	\$ 1067.00
4. FOOD	
Food for 31 man days @ \$28/day	\$ 868.00
5. REPORT	
4 days @ \$285/day G.Evans	\$ 1140.00
4 days drafting S. Archibald @ \$175/day	\$ 700.00

TOTAL = \$ 18,696.10



APPENDIX 111

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SAMPLE DESCRIPTIONS

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BEAR GROUP SAMPLE DESCRIPTIONS

For Locations see Fig.#4

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SAMPLE #	LOCATION	DESCRIPTION
37615	Central SI	Fe seep below graphitic black shale talus slope
37616	Central SI	slope above #615 graphitic black shale 4m chip
37617	Western SI	Ferricrete Zone
37618	Western SI	Ferricrete Zone
37619	Southern SI	Blebby & laminated Ba ~2m chip
37620	Southern SI	Graphitic shale w/ py lam ~3m chip
37621	Southern SI	Ferricrete Zone
37622	Bear L5N Stn 0+50W	Laminated barite float
37623	Central Bear	Ferricrete Zone
37624	Bear B/L Stn0+00	Laminated Ba float from kill zone
37625	Bear LON Stn 2+20W	Ferricrete Zone
37626	Bear L9S Stn 3+05W	Ferricrete Zone
37627	Bear L8S Stn 3+00W	Ferricrete Zone
37628	Central Bear	Ferricrete Zone
37629	Central Bear	Main Ferricrete Zone
37630	Central Cub	Laminated barite zone ~4m chip
37751	Central SI	Cherty-pyritic graphitic shale ~3m chip
37752	Central SI	Blebby ba ~2m chip
37753	Central SI	Ferricrete Zone
37754	NE SI	Soil from Ferricrete Zone
37755	NE SI	Ferricrete Zone
37756	NE SI	Blebby, nodular barite in graphitic- pyritic shale
37757	NE SI	Ferricrete Zone
37758	Central SI	Blebby to sublaminar barite ~2m chip
37759	Central Si	Blebby barite and py lam siliceous black shale ~ 1m chip
37760	Central SI	Massive-laminated barite ~ 1m chip

37761	NE SI	Massive-laminated barite -grab sa
37762	NE SI	Blebby laminated py in graphitic ~2m chip
37763	North SI	Soil from ferricrete zone
37764	North SI	Laminated barite ~1m chip
37765	Central Bear	Blebby py-ba in black shale
37766	Central Bear	Soil sample from Iron seep
37767	Bear L1N 0+25E	Trench 5m chip of Ferricrete & weathered semi-mass. to massive
37768	Bear L1N 0+25E	Small trench grab sample of oxidi shale and ba
37769	Central Bear	Small trench grab sample of ferric and boxwork shale-ba
37770	Central Bear	Grab sample from west end of tre of laminated ba
37771	Central Bear	Heavily weathered goss. shale w/ py
37772	Central Bear	Ferricrete w/ high graphite conter
37773	Central Bear	Ferricrete Zone
37774	Central Bear	Ferricrete Zone
37775	Central Bear	Ferricrete Zone
37776	West Bear	Ferricrete Zone
37777	West Bear	Ferricrete Zone
37778	West Bear	Ferricrete Zone

APPENDIX 1V

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CERTIFICATES OF ANALYSIS

COMP: TECK EXPLORATION LTD.

PROJ: 1728

ATTN: RANDY FARMER / FRED DALEY

MIN-EN LABS - ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 (604)980-5814 OR (604)988-4524

FILE NO: 3V-0332-RJ

DATE: 93/07/10

SAMPLE NUMBER	AG	AL %	AS PPM	B PPM	BA PPM	BE PPM	B I PPM	CA X	CD PP N	CO PPM	CU PPM	FE X	K X	L I PPN	MG	MN PPM	MO PPM	NA X	NT PPM	P PPM	PB PPM	SB PPM	SR PPM	TH P PM	T I M99	V PPM	ZN PPM	GA PPM F	SN PM PP	W CR PM PPM
37615 37616 37617 37618 37619	.8 .1 .1 .1	.38 .09 .39 .69 .26	584 22 1 1 12	72 7 89 164 24	768 145 58 1661 3854	.1 .1 .8 .1 .2	1 1 1 2	.03 .01 .01 .01 .01 .35	.1 .1 .1 .1	14 1 125 116 4	134 3 4 13 13	>15.00 .37 >15.00 14.75 1.52	.09 .04 .02 .18 .07	1 1 3 1	.01 .01 .01 .03 .01	1 18 134 3911 246	19 16 1 4 6	.01 .01 .01 .01 .01	1 1 4 161 39 12	5950 30 180 610 320	2043 43 1 475 682	427 4 1 1 1	128 1 176 73 36	1 5 1 1 17	10 5 17 24 18	66.2 22.6 32.0 121.6 63.8	623 7 3901 2801 706	1 1 1 1	19 1 72 19 1	1 75 3 75 1 162 1 60 2 42
37620 37621 37751 37752 37753	.1 .1 .5 .1	.80 .22 .23 .12 .59	1 1 23 8 1	212 139 50 11 110	3215 2906 1002 2991 2539	.1 .1 .1 .1	1 1 2 1 1	.01 .25 .35 .01 .01	.1 23.4 .1 .1	9 222 4 2 13	97 4 11 1 47	9.10 >15.00 1.24 .57 12.84	.22 .09 .07 .04 .17	3 1 1 2	.04 .01 .02 .01 .03	2 >10000 112 189 1	2 1 4 9 1	.01 .01 .01 .01 .01	1 B12 21 11 1	1680 250 1570 120 600	33 10 7 69 263	1 1 1 1	77 142 33 42 60	1 1 22 1	43 22 19 4 28	109.4 43.9 29.8 9.0 67.3	205 >10000 78 118 645	1 1 1 1	12 42 1 1 15	1 54 1 133 6 139 1 23 1 58
37754 37755 37756 37757 37758	1.2 .1 .1 .1 .1	.51 .01 .48 .61 .12	26 1 4 1 5	113 69 98 95 3	1527 1089 2464 4887 3802	.1 .1 .1 .1 .1	1 1 1 1	.02 .53 .02 .13 .02	.1 .1 .1 .1	59 256 3 138 2	40 2 28 13 3	>15.00 >15.00 2.30 >15.00 .44	.08 .01 .15 .03 .02	1 1 2 1	.01 .02 .03 .01 .01	1754 >10000 43 6647 81	175 1 3 21 1	.01 .01 .01 .01 .01	31 447 5 540 13	4280 1060 610 440 120	68 1 10 1 4	8 1 1 1	184 148 76 212 46	1 10 1 30	24 5 31 18 5	61.7 21.7 43.5 35.5 21.8	3107 9269 78 5418 70	1 1 1 1	52 46 2 64 1	1 133 1 125 1 32 1 153 2 24
37759 37760 37761 37762 37763	.1 .1 .1 .1 .1	.66 .05 .04 1.06 .01	14 2 1 1	124 1 1 82 80	1047 3284 4354 893 1398	.1 .1 .3 .1	2 2 1 1	.11 .01 .02 .14 .11	.1	5 2 1 10 52	15 1 1 34 3	1.62 .57 .12 2.07 >15.00	.01 .01 .14 .01	2 1 3 1	.01 .01 .01 .04 .01	135 74 17 474 1	6 1 3 1	.01 .01 .01 .01 .01	38 6 5 66 1	530 110 60 550 280	10 1 1 10 1	1 1 1 1	15 79 181 46 185	24 1 23 5 1	16 1 25 8	71.0 7.8 6.4 45.8 32.8	125 58 15 215 3084	1 1 1 1	1 1 2 74	2 43 1 6 1 6 1 32 1 160
37764 37765 37801	.1 .1 .1	.03 .90 .22	4 6 11	1 51 7	3810 406 3789	.1 .1 .1	1 2 1	.01 .10 .05	.1 .1 .1	1 3 2	10 18 8	.33 1.49 .75	.01 .10 .06	1 1 1	.01 .02 .02	59 17 113	2 6 3	.01 .01 .01	3 25 19	50 500 390	2 8 40	1 1 1	29 41 46	33 42 45	1 20 11	13.2 42.2 34.1	51 30 391	1 1 1	1 2 1	1 8 1 39 1 18
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VANCOUVER OFFICE:

705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2 TELEPHONE (604) 980-58 14 OR (604) 988-4524 FAX (604) 980-9621 SMITHERS LAB .:

3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TELEPHONE (604) 847-3004 FAX (604) 847-3005

Geochemical Analysis Certificate

3V-0332-RG1

Company:	TECK EXPLORATION LTD.
Project:	1728
Attn:	RANDY FARMER / FRED DALEY

Date: JUL-16-93 copy 1. TECK EXPLORATION LTD., KAMLOOPS, B.C.

We hereby certify the following Geochemical Analysis of 23 ROCK samples submitted JUL-12-93 by R. FARMER.

Sample	BA-TOT	
Number	PPM	
37615	6680	
37616	1110	
37617	101	
37618	3210	
37619	>10000	
37620	>10000	
37621	4340	
37751	7030	
37752	>10000	
37753	7570	
37754	2420	
37755	1390	
37756	>10000	
37757	7130	
37758	>10000	
37759	>10000	
37760	>10000	
37761	>10000	
37762	>10000	
37763	5610	
37764	>10000	
37765	>10000	
37801	>10000	

Certified by

MIN-EN LABORATORIES

COMP: TECK EXPLORATION LTD.

MIN-EN LABS --- ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 (604)980-5814 OR (604)988-4524

FILE NO: 3V-0361-RJ

DATE: 93/07/2

ATTN: FRED DALEY

PROJ: 1728

TTN: FRED DAL	IN: FRED DALEY								(604)980-5814 OR (604)988-4524														* F	юск *	(A	CT:F31				
SAMPLE NUMBER	AG PPM	AL X	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA X	CD PPM	CO PPM	CU PPM	FE X	K X	L I PPM	MG X	MN PPM	MO PPM	NA X	N1 PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI PPM	V PPM	ZN PPM	GA S PPM PF	SN PM PP	W CR M PPM
37622 37623 37624 37625 37626	1.5 _1 19.6 _1 _1	.07 .41 .01 .71 .75	2 1 2 1 1	56 170 37 159 173	1333 1927 2541 300 4460	.1 .1 .1 .1 .1	1 6 1 11 5	.01 .01 .01 .01 .01	_1 _1 _1 _1	1 9 1 31 9	7 39 2 49 27	.40 11.27 .15 >15.00 9.34	.07 .12 .02 .07 .22	1 1 1 1	.01 .02 .01 .01 .04	6 1 2 1 42	2 6 1 1 8	.01 .01 .01 .01 .01	1 1 1 1	70 720 40 60 1020	130 124 803 11 38	2 7 1 5 8	14 55 22 168 54	19 152 28 152 137	8 16 3 12 34	17.5 55.2 3.4 .1 69.6	9 256 3 666 643	2 9 2 18 8	1 1 1 1 1	2 24 3 17 1 7 1 9 4 50
37627 37628 37629 37630 37631	.1 .1 .4 .3	.40 .28 .61 .17 .29	1 1 6 9	140 155 176 78 54	2313 2197 2723 2432 2683	.1 .1 .8 .1 .1	7 9 11 1	.01 .01 .05 .01 .02	.1 .1 .1 .1	15 24 19 1	15 30 13 10 10	>15.00 >15.00 >15.00 .63 .68	.13 .10 .13 .07 .03	1 1 1 1	.02 .01 .02 .01 .01	1 1 32 5 18	1 1 2 5 4	.01 .01 .01 .01 .01	1 1 6 12	750 1280 430 190 270	262 478 32 4 2	7 5 9 2 2	86 146 92 23 30	172 193 196 41 37	22 24 35 12 4	62.8 235.7 65.7 25.0 15.0	270 518 2965 42 89	11 17 13 2 3	1 1 1 1	3 28 5 27 2 62 1 20 2 23
37632 37633 37634 37766 37767	.1 .5 .3 .1 10.4	.36 .38 .39 .36 .16	53 17 16 1 1	144 114 72 128 89	131 2871 3861 4218 1688	.1 .2 .1 .1	11 1 6 6	.01 .04 .05 .20 .01	.1 .1 .1 .1	30 2 42 9	21 9 16 6 39	>15.00 .98 .97 9.27 10.98	.03 .10 .08 .09 .03	1 1 1 1	.01 .02 .01 .03 .01	1 28 97 2816 1	12 8 8 26 8	.01 .01 .01 .01	1 7 13 66 1	>10000 570 620 380 120	31 12 28 140 627	22 3 5 7 13	451 39 49 45 82	216 60 60 131 147	10 26 22 24 17	1898.9 64.5 93.9 112.9 37.5	48 34 73 3113 177	27 3 3 13 7	1 2 1 1 1	4 99 4 49 4 62 2 50 2 8
37768 37769 37770 37771 37772	11.5 12.1 1.1 .1 .1	.17 .10 .23 .60 .48	1 13 1 1	116 84 43 196 149	2605 3081 3973 1222 2542	.1 .1 .1 .1	9 5 1 7 2	.01 .01 .03 .01 .01	.1 .1 .1 .1	22 12 3 13 6	45 12 58 27 27	>15.00 14.61 .71 >15.00 <u>6.61</u>	.03 .02 .01 .25 .12	1 1 1 2	.01 .01 .01 .03 .03	1 20 1 1	6 1 3 2 7	.01 .01 .01 .01 .01	1 1 8 1 1	200 50 80 680 370	1128 646 125 470 77	10 5 8 6	106 53 85 85 24	203 166 44 195 111	26 9 26 16	67.8 26.0 49.0 170.5 122.5	1339 720 91 119 228	13 8 3 10 7	1 1 1 1	1 1 1 2 3 36 5 33 5 56
37773 37774 37775 37776	.1 .1 .1 .1	.50 .27 .98 .68	1 302 1 1	119 126 159 159	3256 277 4172 954	.2 .1 .4 .1	4 8 17 13	.02 .01 .10 .24	6.8 _1 _1 _1	416 33 431 45	143 54 50 40	3.43 >15.00 >15.00 >15.00	.12 .01 .06 .05	3 1 1 1	.04 .01 .01 .01	8245 85 9877 357	6 47 1 3	.01 .01 .01 .01	130 1 517 27	580 >10000 680 4480	49 1 5 1	4 14 13 9	31 1003 140 240	48 179 154 161	26 4 24 16	61.0 1052.4 27.6 39.1	244 57 4645 1807	17 21 36 21	1 1 1 1 1 1	64 5 104 1 31 1 13
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COMP: TECK EXPLORATION LTD.MIN-EN LABS — ICP REPORTFILEPROJ: 1728705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2FILEATTN: FRED DALEY(604)980-5814 OR (604)988-4524* ROF													TLE NO): 3V- DATE:	-0361 93/0 (ACT : 1	-RJ2 7/28 F313															
SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	B1 PPM	CA %	CD PPM	CO PPM	CU PPM	FE X	X %	LI PPM	MG X	MN PPM	MD PPM	NA %	N1 PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	T I PPM	V PPM	ZN PPM	GA PPM	SN PPM f	W PPN PI	CR PM
37777 37778 37779 37780	.1 .1 .1 .3	,58 8,40 1,34 ,42	1 67 1 11	163 85 110 91	558 408 2856 2614	.1 1.7 .4 .1	14 10 11 1	.02 .01 .03 .08	.1 .1 .1 .1	180 150 257 5	49 385 96 20	>15.00 6.18 14.08 .95	.05 .04 .08 .18	1 14 5 1	.01 .01 .03 .02	4126 >10000 >10000 197	1 17 10 7	.01 .01 .01 .01	347 695 492 24	750 190 1910 590	1 32 43 18	6 24 11 5	162 41 85 38	117 92 125 46	38 37 53 11	.1 6.3 25.4 23.0	3462 1005 2133 50	32 29 28 3	1 1 1	1 7 2 2	10 18 22 24
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SPECIALISTS IN MINERAL ENVIRONMENTS

VANCOUVER OFFICE:

705 WEST 15TH STREET NORTH VANCOUVER B.C. CANADA V7M 1T2 TELEPHONE (604) 980-5614 OR (604) 988-4524 FAX (604) 980-9621

SMITHERS LAB .: SMITHERS LAD. 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TELEPHONE (604) 847-3004 FAX (604) 847-3005

Assay Certificate

3V-0361-XA1

Company:	TECK EXPLORATION LTD.
Project:	1728
Attn:	FRED DALEY

Date: AUG-05-93 Copy 1. TECK EXPLORATION LTD., KAMLOOPS, B.C.

We hereby certify the following Assay of 24 ROCK samples submitted JUL-20-93 by RANDY FARMER.

Sample	BA	
Numb e r	%	
37622	29.30	
37623	3.49	
37624	25.20	
37625	4.24	
37626	1.41	
37627	2.45	
37628	2.03	
37629	. 59	
37630	23.20	
37631	36.00	
37632	1.09	
37633	15.60	
37634	16.90	
37766	. 83	
37767	30.80	
37768	11.00	
37769	36.50	
37770	40.70	
37771	.71	
37772	. 65	
37773	1.65	
37774	. 09	
37775	. 88	
37776	.74	

lv Certified by

MIN-EN LABORATORIES



SPECIALISTS IN MINERAL ENVIRONMENTS

VANCOUVER OFFICE:

705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2 TELEPHONE (604) 980-5814 OR (604) 988-4524 FAX (604) 980-9621

SMITHERS LAB.: 3176 TATLOW ROAD SMITHERS, B.C. CANADA VOJ 2NO TELEPHONE (604) 847-3004 FAX (604) 847-3005

Assay Certificate

3V-0361-XA2

Company:TECK EXPLORATION LTD.Project:1728Attn:FRED DALEY

Date: AUG-05-93 Copy 1. TECK EXPLORATION LTD., KAMLOOPS, B.C.

We hereby certify the following Assay of 4 ROCK samples submitted JUL-20-93 by RANDY FARMER.

BA	
%	
4.09	
5.81	
1.25	
3.42	
-	4.09 5.81 1.25 3.42

Certified by

MIN-EN LABORATORIES

APPENDIX V

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ANALYTICAL PROCEDURES



ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK: PROCEDURE FOR 31 ELEMENT TRACE ICP

Ag, Al, As, B, Ba, Be, Bl, Ca, Cd, Co, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, V, Zn, Ga, Sn, W, Cr

Samples are processed by Min-En Laboratories, at 705 West 15th Street, North Vancouver, using the following procedures.

After drying the samples at 95 <u>C</u>, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

0.5 gram of the sample is digested for 2 hours with an aqua regia mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by computer Jarrell Ash ICP (Inductively Coupled Plasma Spectrometers). Reports are formatted and printed using a laser printer.

PHONE: (604) 980-5814 (604) 988-4524 TELEX: VIA USA 7601067 FAX: (604) 980-9621



ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

PROCEDURE FOR Ba ASSAY

Samples are dried @ 95 C and when dry are crushed on a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to - 1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample (in accordance with Gy's statistical rules.) This sup-sample is then pulverized on a ring pulverizer to 95% - 150 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Samples are weighed and fused at 1200 C with lithium metaborate prior to being dissolved in nitric acid. The resulting solutions are analyzed by ICP. The CANMET standards are employed as check standards with each set of 24 samples. Reports are formatted and printed using a laser printer.

OFFICE AND LABORATORIES: 705 WEST FIFTEENTH STREET, NORTH VANCOUVER, BC. CANADA V7M 1T2 PHONE: (604) 980-5814 (604) 988-4524 TELEX: VIA USA 7601067 FAX: (604) 980-9621





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GEOLOGICAL BRANCH ASSESSMENT REPORT

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