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**GEOLOGICAL AND GEOCHEMICAL  
ASSESSMENT REPORT  
ON THE  
TED 1-8 CLAIMS  
(PART OF THE COYOTE PROPERTY)**

Fort Steele Mining Division  
NTS 82 J/4E,3W & 82 G/13E,14W  
Latitude 50°00'N Longitude 115°30'W

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**OWNER:** Teck Corporation  
600-200 Burrard Street  
Vancouver, B.C.  
V6C 3L9

**22,428**

S. Jensen  
June 1992  
Kamloops, B.C.

## SUMMARY

The Ted claim group consists of the Ted 1-8 mineral claims totalling 8 units. The claims are part of Teck's Coyote property and are located within the Rocky Mountains of southeastern B.C., roughly 25 kilometres southeast of Canal Flats.

The property was staked in response to a 1991 government RGS release identifying several anomalous zinc values draining a north-trending belt of Devonian black shale stratigraphy.

The 1992 program consisted of 1:5,000 scale mapping with concurrent rock sampling. The purpose of the program was to test for an economic shale-hosted Zn-Pb massive sulphide deposit hosted within Devonian black shales. Mapping and rock sampling was concentrated within the black shales. The program was carried out between June 5 and June 7.

Mapping and prospecting confirmed the presence of black shale stratigraphy upslope from anomalous 1991 Teck moss mat stream samples. Mapping, prospecting and rock sampling within the central north-trending belt of black shales failed to reveal significant base metal results. Erratic elevated zinc and silver values are associated with highly elevated phosphorus and vanadium. In addition, associated shale-hosted massive sulphide elements including barium, manganese and arsenic are not elevated. The iron content of the black shale rocks is very low and they are only very locally rusty.

The elemental associations lead to the conclusion that the black shales within the claims most likely formed in a restricted lagoonal environment and not a potential massive sulphide forming environment of a deep water anoxic basin or sub-basin.

**RECOMMENDATIONS**

No further work is recommended on the Ted 1-8 claims at this time due to :

- 1) Absence of significant anomalous base metal (zinc and lead) rock sample results.
- 2) Anomalous phosphorus and vanadium levels in black shales.
- 3) Lack of elevated sedex massive sulphide indicator elements in rocks including arsenic, barium and manganese.

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## 1. INTRODUCTION

During 1992, a three-day program consisting of 1:5,000 scale mapping with concurrent rock sampling was carried out on the Ted 1-8 claims. The claims were staked in response to a 1991 RGS release identifying several anomalous zinc values draining a north-trending belt of black shale stratigraphy. The program was designed to evaluate the potential for an economic shale-hosted Zn-Pb massive sulphide deposit.

Initial follow-up was designed to confirm the presence of black shale stratigraphy. Additional follow-up consisted of mapping, prospecting and rock sampling.

This report describes the program and results.

## 2. LOCATION AND ACCESS (Figures 1, 2)

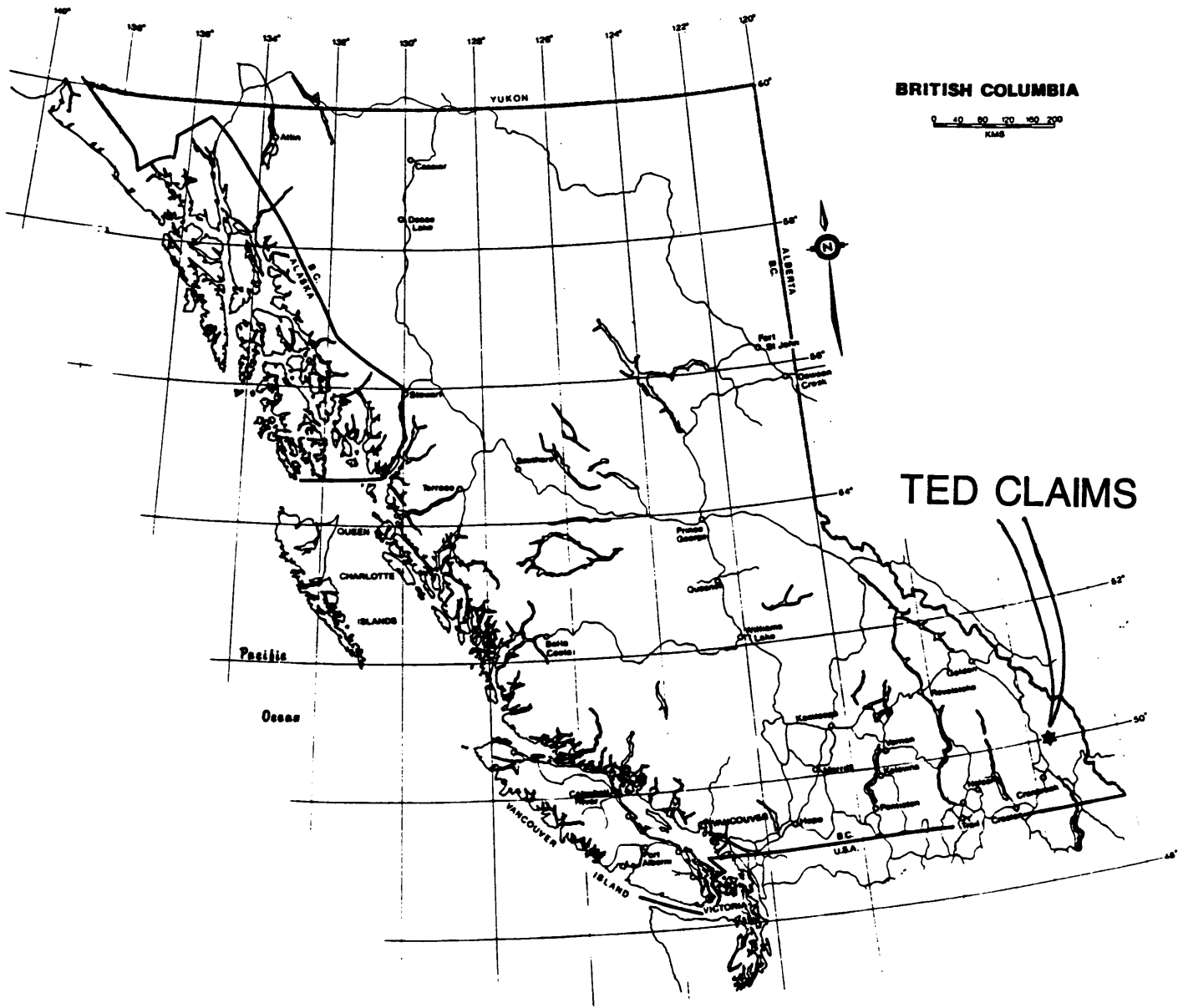
The Ted mineral claims are located roughly 25 kilometres southeast of Canal Flats in southeastern British Columbia. The property is located on NTS map sheets 82J/4E,3W and 82G/13E,14W with an approximate property centre latitude and longitude of 50° 00'N and 115° 30'W, respectively.

The property is easily road accessible via the Whiteswan Lake Road originating five kilometres south of Canal Flats along Highway 93/95. Whiteswan Lake Road is followed eastward for ≈21 kilometres and then south along the Lussier - Coyote Forest Road for roughly 16 kilometres to the White - Coyote Ridge Road. The Ted claims are located immediately south of the Coyote Ridge Road, roughly 3km east from the Lussier - Coyote Road.

## 3. TOPOGRAPHY AND VEGETATION

Topography is moderate as the property is situated within the Kootenay Ranges of the Rocky Mountains. Elevations range from 2160 metres (7084 feet) in the southeastern claim area to 1510 metres (4953 feet) in the southwestern corner of the claims, roughly 500m east of Lussier River. The claims are situated along the west side of a prominent northwest trending ridge.

Vegetation is thick to open and consists predominantly of mature spruce, pine, and fir with other mixed conifers. Underbrush is generally moderate and consists of alders, scrubbrush and burn. Moderate portions of the property area are covered by recent logging cuts and forest fire burns.



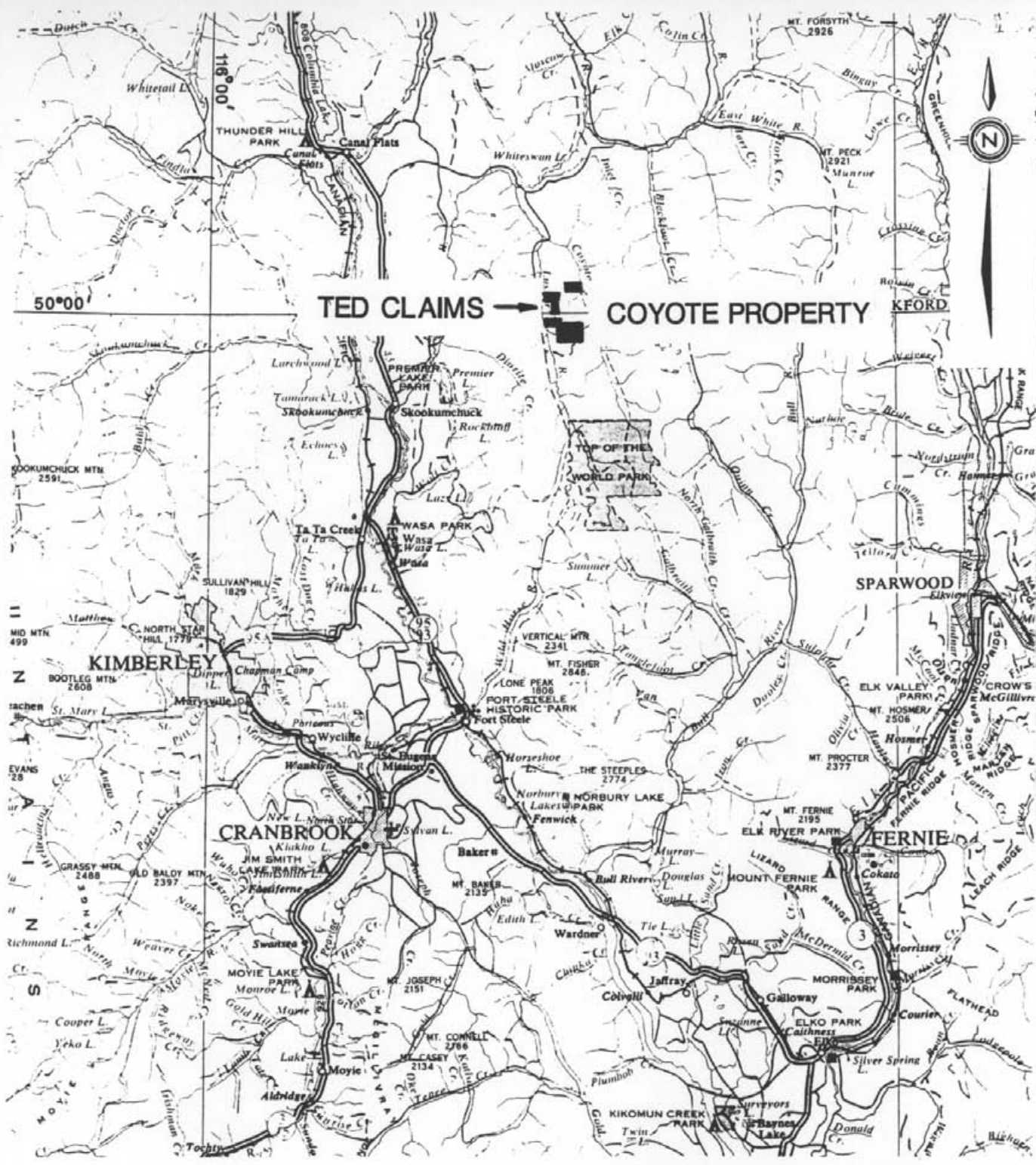
TECK EXPLORATIONS LTD

LOCATION MAP

TED CLAIMS

SCALE : 1 : 1,000,000

FIGURE : 1



TECK EXPLORATION LTD

**TED CLAIMS**

**LOCATION MAP**

SCALE : 1 : 600,000      FIGURE : 2



#### 4. CLAIMS (Figure 3)

The property, located in the Fort Steele Mining Division, consists of the Ted 1-8 mineral claims totalling 8 units ( $\approx$ 200 hectares). The claims are registered in the name of Teck Corporation and are grouped as the Ted Group (8 units total). The following table lists all pertinent claim data.

**TABLE 1**  
**CLAIM RECORDS**

Claim Name	Record No.	Units	Record Date	Expiry Date *
Ted 1	304403	1	Sept 5, 1991	Sept 5, 1996
Ted 2	304404	1	Sept 5, 1991	Sept 5, 1996
Ted 3	304405	1	Sept 5, 1991	Sept 5, 1996
Ted 4	304406	1	Sept 5, 1991	Sept 5, 1995
Ted 5	304407	1	Sept 5, 1991	Sept 5, 1996
Ted 6	304408	1	Sept 5, 1991	Sept 5, 1995
Ted 7	304409	1	Sept 5, 1991	Sept 5, 1995
Ted 8	304410	<u>1</u>	Sept 5, 1991	Sept 5, 1995
		Total = 44 Units		

Note \* = Expiry Date based on acceptance of this report.

#### 5. PREVIOUS WORK and HISTORY

Previous work in the area is restricted to industrial minerals, mainly gypsum. Domtar Construction Material's Lussier River gypsum quarry, located  $\approx$  3 kilometres north of the claims, has been in production since 1984 with limited production from their 'South quarry' about 750 metres to the south. Work by Trurock Gypsum Products south of the current Tom claims suggests a reserve potential of 40 million tonnes with a gypsum content of 80%. Additional gypsum prospects are located proximal to the claims and have been worked by various companies. There is no record of base metal exploration in the area.

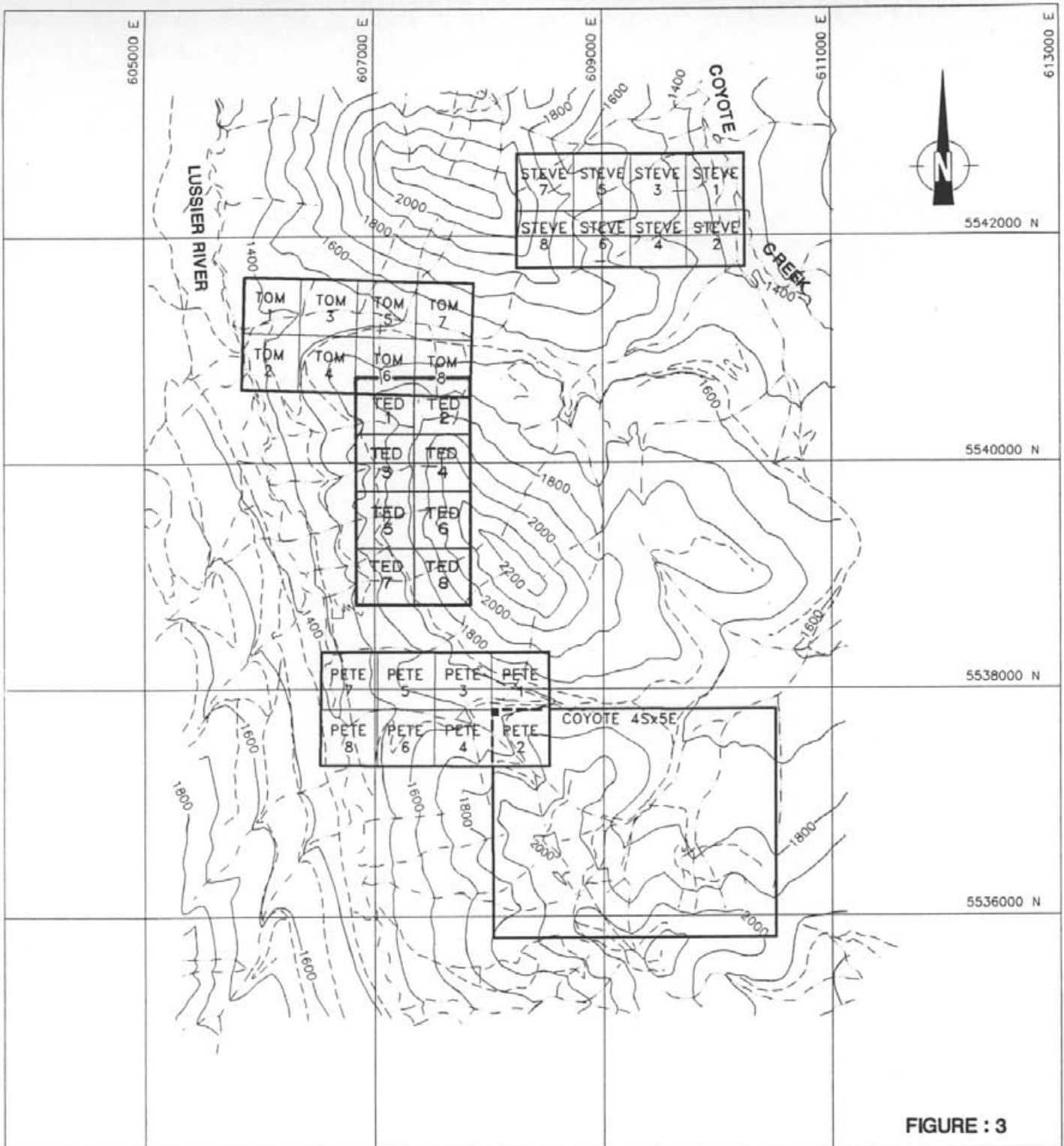


FIGURE : 3



**TECK EXPLORATION LTD.**  
 COYOTE PROPERTY

**TED CLAIMS  
 Claim Map**

DATE DRAWN: APR. 27, 1992	SCALE: 1:50,000	DWG. NAME:
COMPILED BY: S.J.	JOB No: 1711	COY-CLMS
DRAWN BY: L.M./S.A.	NIS:82G/14W,13E,82J/3W,4E	

## 6. 1991 PROGRAM

In 1992, 3 mandays were spent on the Ted claims between June 5 and 7. The program consisted of 1:5,000 scale geological mapping with concurrent rock chip sampling. A total of 14 rock samples were collected as part of the mapping and prospecting program.

Mapping was done with topofil, compass and altimeter. Outcrop exposure on the property is variable, with old logging skid trails and roads providing valuable access and outcrop exposure.

## 7. GEOLOGY

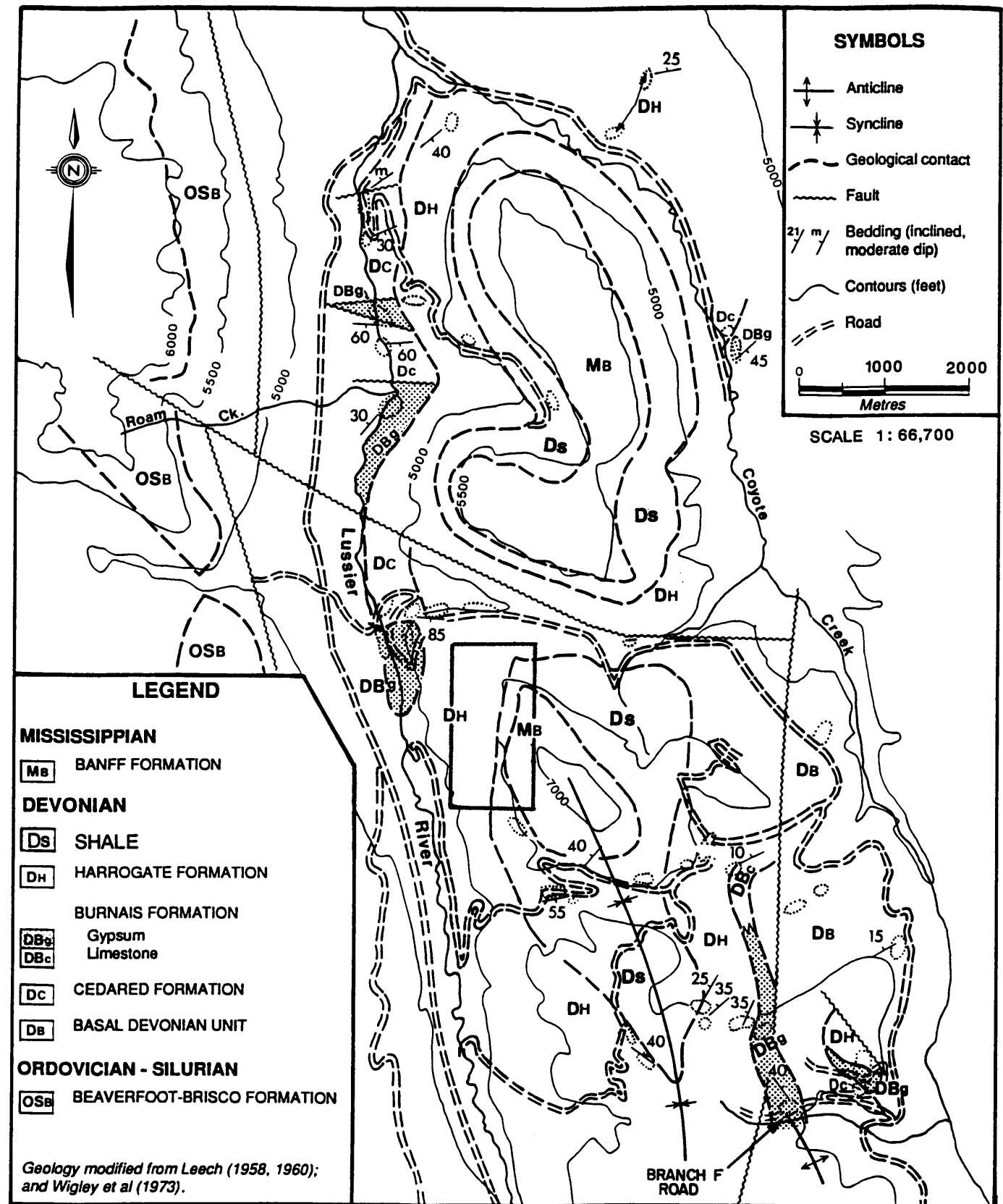
### A. Regional Geology (Figure 4)

The Lussier - Coyote region has been mapped on several occasions by the federal and provincial governments since mid century. The two most recent mapping projects are 'Geology of the Fernie W½ Map Sheet (And Part of Nelson E½)' by T. Hoy and G. Carter of the B.C. MEMPR in 1988 (Open File Map No. 1988-14) and 'Kananaskis Lakes' by G.B. Leech of the Geological Survey of Canada in 1979 (Open File 634).

This work indicates the Ted claims are predominantly underlain by Devonian and Mississippian carbonate and clastic rocks. The Devonian stratigraphy consists of the (oldest?) Basal Devonian Unit quartzites, argillaceous limestone and limestone. This is overlain by Middle Devonian Cedared Formation dolomites, sandstones and limestones and the laterally equivalent Burnais Formation evaporites (gypsum and anhydrite). The youngest Devonian unit underlying the region is the Middle to Upper Devonian Harrogate Formation limestones and shales.

The Devonian strata unconformably overlie or are in structural contact with the Ordovician-Silurian Beaverfoot-Brisco Formation limestones and dolomite. Overlying the Devonian rocks are limestones and chert of the Mississippian Banff and Rundle Formations.

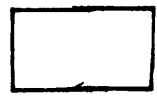
Structurally, the Lussier-Coyote area is dominated by a gentle north-plunging open syncline, with its north-northwest trending axis located along the height of land separating Coyote Creek and Lussier River. Leech (1954) interpreted the Lussier Syncline to occupy a graben-like structure with bounding high angle normal faults separating Silurian to Mississippian strata from Ordovician and Cambrian rocks. More recent mapping by T. Hoy and G. Carter of the B.C. MEMPR (1988) indicated a northwest-trending thrust fault (Lussier Creek Fault) separating predominantly Devonian strata from predominantly Cambrian strata.



- LEGEND**
- MISSISSIPPIAN**
- MB** BANFF FORMATION
- DEVONIAN**
- Ds** SHALE
  - DH** HARROGATE FORMATION
  - BURNAIS FORMATION
    - DBg** Gypsum
    - DBc** Limestone
  - DC** CEDARED FORMATION
  - DB** BASAL DEVONIAN UNIT
- ORDOVICIAN - SILURIAN**
- OSB** BEAVERFOOT-BRISCO FORMATION

Geology modified from Leech (1958, 1960); and Wigley et al (1973).

Geological setting of the Lussier River-Coyote Creek area, Stanford Range.



**CLAIM OUTLINE**

**REGIONAL GEOLOGY**

**FIGURE : 4**

Numerous northwest-trending folds and thrusts dominate to the east. The north-northwest trending Rocky Mountain Trench Fault is located roughly 15 kilometres to the west.

The area surrounding the Coyote property is host to few mineral showings or occurrences.

**B. Property Geology (Figure 5)**

The Ted claims area can be divided into 4 major formations or mappable units. (Figure 5).

The youngest unit, consisting of Middle Devonian limestone and dolomites of the Cedared Formation, lies roughly 600 metres to the west of the northern Ted claims. Proximal to this carbonate unit is laterally equivalent evaporites (mainly gypsum) of the Burnais Formation. Middle Devonian Harrogate Formation limestones underlie the western and northwestern portions of the property. Moving to the east and stratigraphically higher, the limestones become interbedded with silty limestones, limy siltstones, and shales cumulating with a thin unit of limy siltstones and grey to brown shales above the limestones.

Above the limestones and further to the east, trending through the center of the claims, lies Devonian black shales. Black shales are capped by a thin unit of limy siltstones and brown to grey shales. Further to the east lies the youngest unit exposed on the claims, the Mississippian Banff and Rundle Formation limestones and cherts. These limestones occupy the eastern edge of the claims and form the northwest trending ridge top. The exact age of the siltstones and black shales is uncertain, as they are underlain by the Middle to Upper Devonian Harrogate Formation limestones and overlain by Mississippian limestones. Therefore, the shale is either Upper Devonian or Lower Mississippian in age. The writer has included the shales and siltstones as part of the Devonian Harrogate Formation.

The bedding of the limestones, shales and siltstones is inconsistent and their distribution is controlled by topography as a majority of the dips are less than 30°.

Mapping and prospecting was initially concentrated upslope from 1991 anomalous zinc stream values. Upon identification of favourable upslope black shale stratigraphy, mapping and rock sampling was then concentrated within the central black shale unit.

Units 2,3,4 and 5 (Figure 5) are described individually.

**Unit 2 : Burnais Formation**

Unit 2 is a light to medium grey, fine grained evaporite, composed predominantly of gypsum. It is commonly finely laminated with white and grey laminations of 0.5-2mm. It is characteristically very soft and crumbly.

**Unit 3 : Cedared Formation**

The Cedared Formation consists of limestone, dolomite and local shaley beds. Limestone ranges in color through grey, black, orange and buff. Grey dolomite is locally interbedded with the limestone. The unit is laterally equivalent to the Burnais Formation. Bedding is subvertical and a cross-cutting fracture cleavage was noticeable. The unit is distinguished from overlying limestones by proximity to the evaporites and characteristic subvertical dips.

**Unit 4 : Harrogate Formation**

This Middle to Upper Devonian unit is comprised of four subunits. Unit 4d is comprised of medium to dark grey and black limestones. Locally, limestones are orange to brownish, banded, bioturbated and contain variable quantities of sand, silt and shale (increasing up section). Limestones often contain a prominent fracture cleavage. Unit 4c consists of grey to brown limy siltstone and siltstone. Siltstones often contain fine, light colored laminations and locally contain calcite veinlets. Brown to grey shales make up Unit 4b. The shales can also possess light colored fine laminations and are locally quite limy. Black shales (subunit 4a) comprise the top of the Harrogate Formation . They are locally rusty and can contain trace quantities of pyrite. They are for the most part non-limy and look very organic (high carbon content). Locally, the black and grey to brown shales and limestones and siltstones are intercalated.

**Unit 5 : Banff and Rundle Formations**

Unit 5 consists of cliff-forming Mississippian limestones and cherts. Limestones are fine grained, medium to dark grey and locally silty. They possess a differential weathering pattern producing a characteristic banded appearance. Dark grey to black chert generally occurs as bands and lenses generally less than one to two metres thick with occasional chert nodules present within limestone. The contact relationship with the underlying Devonian strata is not known at present as no direct contacts were located.

## I. Mineralization and Alteration

A total of 14 rock samples were collected from black shales on the Ted 1-8 claims. Sample locations with Zn, Ag, P and V results in ppm are shown on Figure 5 with rock sample descriptions provided in Appendix V. Samples were sent to Eco-Tech Laboratories in Kamloops, B.C. and analysed for 30 elements by ICP (Ag, Al, As, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sn, Sr, Ti, U, V, W, Y, Zn). Analytical Procedures are included in Appendix IV and Certificates of Analyses in Appendix III.

Mapping and prospecting was initially concentrated up slope from 1991 anomalous moss mat stream samples (Figure 5) in the northern Ted claims area. Two moss mats returned zinc values of 4084 ppm and 2718 ppm, respectively.

No significant base metal results were returned. The highest zinc value obtained was 1385 ppm (sample 10550) with the next highest 814 ppm Zn (sample 10554). The Pb results were not elevated, the highest value being 57 ppm (sample 10554). The strongest silver value returned was 3.8 ppm (sample 10550).

The multi-element ICP analysis provided some interesting elemental patterns. The most noticeable values are the strongly elevated phosphorus results. Five of the fourteen black shale samples returned values greater than 1000 ppm P, with sample 10554 returning 5110 ppm P. Associated with the high phosphorus is anomalous vanadium values up to 1252 ppm (sample 10552). In contrast with the elevated P and V results, sedex indicator elements, including barium, manganese and arsenic showed no significant response. In addition, iron results were very low, often below 1%. The black shales contained only local weak, very fine grained iron sulphides (pyrite?) and are for the most part a plain dark black color. Often, elevated zinc and silver values are associated with elevated phosphorus ± vanadium. For example, sample 10550 - 1385ppm Zn, 3.8ppm Ag, 1490ppm P, and 327ppm V, and sample 10554 - 814ppm Zn, 1.0ppm Ag, 5110ppm P and 810ppm V. The elevated zinc results are most likely coming from phosphatic black shales that act as scavengers. The black shales effectively scavenge the zinc from groundwater and stop the normal hydromorphic dispersion of the element. This is supported by the very low Fe results; the zinc is probably not coming from sphalerite, it's coming from phosphatic black shales.

In summary, elevated P and V together with the low Zn, Pb, Ag, Ba, Mn, As and Fe results point towards a lagoonal environment as opposed to a deep offshore anoxic basin. The shallower lagoonal environment is less suitable for the formation of a significant base metal deposit.

No significant hydrothermal alteration was noted within the black shales.

**8. CONCLUSION**

Results from the 1992 program were not encouraging.

Geological mapping has shown the property to be underlain by Devonian to Mississippian carbonates and clastics. Middle Devonian Cedared limestones and dolomites and Burnais Formation evaporites have been identified west of the northern claim area. The western and central claim area is underlain by Middle to Upper Devonian Harrogate Formation limestone, siltstones and shales. Overlying the Devonian stratigraphy along the eastern portion of the claims is cliff-forming Mississippian limestones and cherts of the Banff and Rundle Formations.

A north-trending section of favourable black shale stratigraphy has been outlined along the central portion of the claims. Mapping and rock sampling was concentrated within the black shales. The black shales are locally weakly rusty and unmineralized. Sporadic anomalous zinc and silver values are correlative with elevated phosphorus and vanadium. Sedimentary exhalative indicator elements such as barium, manganese and arsenic are not elevated. In addition, the iron content of the rock is very low.



**11. REFERENCES**

1. Belyea, H.R. and Norford, B.S.(1967): The Devonian Cedared and Harrogate Formations in the Beaverfoot, Brisco and Standford Ranges, Southeast British Columbia; Geological Survey of Canada, Bulletin 146.
2. Butrenchuk, S.B.(1988): Gypsum In British Columbia (82G,J,83E), British Columbia Ministry of Energy, Mines and Petroleum Resources; Geological Fieldwork 1988, Paper 1989-1.
3. Hoy, T. and Carter, G.(1988): Geology Of The Fernie W½ Map Sheet (And Part Of Nelson E½), British Columbia Ministry of Energy, Mines and Petroleum Resources; Open File Map No. 1988-14.
4. Jensen, S. (1992): Geological and Geochemical Assessment Report on the Coyote Property (Coyote, Steve, Pete and Tom Claims).
5. Leech, G.B.(1954): Canal Flats, British Columbia; Geological Survey of Canada, Paper 54-7.
6. Leech, G.B.(1958): Fernie Map-Area, West Half, British Columbia, 82G W½, Geological Survey of Canada, Paper 58-10.
7. Leech, G.B.(1958): Canal Flats, Kootenay District, British Columbia; Geological Survey of Canada, Map 24-1958.
8. Leech, G.B.(1960): Geology Fernie (West Half), Kootenay District, British Columbia; Geological Survey of Canada, Map 11-1960.
9. Leech, G.B.(1979): Kananaskis Lakes Map Area; Geological Survey of Canada, Open File 634.
10. Okulitch, A.V. and Woodsworth, G.J.(1977): Kootenay River; Geological Survey of Canada, Open File 481.
11. Wigley, T.M.L. et al (1973): Geomorphology and Geochemistry of a Gypsum karst near Canal Flats, British Columbia; Canadian Journal of Earth Sciences, Volume 10, Number 2.

**APPENDIX I**  
**Statement of Qualifications**

I, Steve Jensen, do hereby certify that:

- 1) I am a geologist and have practised my profession for the past five years.
- 2) I graduated from University of British Columbia, Vancouver, British Columbia with a Bachelor of Sciences degree in Geology (1987).
- 3) I was actively involved in the Ted Claims program and authored the report contained herein.
- 4) All data contained within this report and conclusions drawn from it are true and accurate to the best of my knowledge.
- 5) I hold no personal interest, direct or indirect in the Ted Claims which is the subject of this report.



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Steve Jensen  
Project Geologist  
June, 1992

**APPENDIX II**  
**Cost Statement**

**TED 1-8 CLAIMS**  
**COST STATEMENT**

1. Geology

A. Steve Jensen (Geologist)  
3 days @ \$219.70/day \$659.10  
June 5,6,7

**Subtotal \$659.10**

2. Analytical = Echo-Tech Laboratories, Kamloops, B.C.

A. Rock Samples  
14 @ \$8.81 ea. \$123.34  
(30 el. ICP)

**Subtotal \$123.34**

3. Food and Accommodation

A. Food  
\$25.00/manday x 3 mandays \$75.00

**Subtotal \$75.00**

4. TRANSPORTATION

4x4 Toyota Pickup  
4 days @ \$65.00/day \$260.00  
(includes fuel,insurance,repairs)

**Subtotal \$260.00**

5. FIELD SUPPLIES

Sample bags,flagging,topo thread etc. **Subtotal \$50.00**

6. DRAFTING

A. Base map preparation (Steve Archibald - Draftsman)  
1 day @ \$200.00/day \$200.00

B. Drafting (Steve Archibald - Draftsman)  
1 day @ \$200.00/day \$200.00

**Subtotal \$400.00**

7. Report Writing and Typing

A. Steve Jensen (Geologist)  
2 days @ \$219.70/day

**Subtotal \$439.40**

**TOTAL COST 1992 TED 1-8 CLAIMS PROGRAM : \$2006.84**

**APPENDIX III**  
**Certificates of Analysis**

ECO-TECH LABORATORIES LTD.  
10041 EAST TRANS CANADA HWY.  
KAMLOOPS, B.C. V2C 2J3  
PHONE - 604-573-5700  
FAX - 604-573-4557

TECK EXPLORATION LTD. SKX 228  
# 350, 272 Victoria Street  
KAMLOOPS, B.C.  
V2C 2A2

ATTENTION: STEVE JENSEN

JUNE 12, 1992

VALUES IN PPM UNLESS OTHERWISE REPORTED

PROJECT NUMBER: 1711  
16 ROCK SAMPLES RECEIVED JUNE 10, 1992

6.12.1992 17:02

HT#	DESCRIPTION	AG	AL(%)	AS	B	BA	BI	CA(%)	CD	CE	CF	CG	CH(%)	CI(%)	LA	MG(%)	NM	NO	NA(%)	NI	P	PB	SB	SM	SR	TI(%)	U	V	W	Y	ZN
1	- 10541	1.4	.46	35	10	80	<5	1.68	3	20	31	40	2.04	.20	10	.08	64	37	<.01	89	690	29	5	<20	20	<.01	10	48	<10	14	232
2	- 10542	2.4	.53	20	14	95	<5	.48	10	<1	57	18	.43	.22	10	.14	41	19	<.01	48	1230	14	<5	<20	19	<.01	10	977	<10	8	84
3	- 10543	1.2	.41	15	12	50	<5	.23	3	<1	42	11	.30	.19	<10	.06	20	20	<.01	44	320	6	<5	<20	10	<.01	<10	602	<10	<1	193
4	- 10544	.8	.62	35	14	65	<5	.46	18	2	44	59	.75	.22	10	.08	4	63	<.01	111	1160	8	15	<20	14	<.01	10	868	<10	15	448
5	- 10545	.4	.50	25	12	60	<5	.04	2	<1	54	11	.51	.20	<10	.05	<1	47	<.01	46	110	10	10	<20	11	<.01	10	1229	<10	<1	44
6	- 10546	.2	.43	10	12	65	<5	.09	3	<1	34	16	.30	.18	<10	.05	8	31	<.01	40	50	6	5	<20	8	<.01	10	638	<10	<1	54
7	- 10547	1.2	.81	15	14	65	<5	.36	3	4	40	38	1.11	.31	<10	.12	28	24	<.01	41	1600	8	10	<20	13	<.01	10	395	<10	11	543
8	- 10548	.6	.67	20	12	135	<5	.16	3	10	30	66	1.66	.28	10	.10	88	4	<.01	53	530	10	10	<20	9	<.01	<10	91	<10	17	340
9	- 10549	<.2	.36	5	10	65	<5	.20	4	<1	36	16	.48	.17	<10	.05	1	41	<.01	57	140	2	<5	<20	18	<.01	10	457	<10	<1	43
10	- 10550	(3.8)	.76	15	14	160	<5	.72	47	6	35	53	1.16	.32	<10	.20	88	23	<.01	55	1490	8	10	<20	10	<.01	<10	327	<10	12	(1385)
11	- 10551	.4	.46	15	12	110	<5	.31	2	<1	26	44	.46	.17	<10	.13	22	31	<.01	39	340	6	5	<20	18	<.01	10	529	<10	2	53
12	- 10552	.2	.43	25	10	65	<5	.43	11	<1	60	16	.31	.15	<10	.07	<1	28	<.01	64	310	6	10	<20	16	<.01	10	1252	<10	4	183
13	- 10553	<.2	.49	25	10	70	<5	.17	5	11	28	40	1.39	.18	<10	.07	129	46	<.01	74	220	8	5	<20	9	<.01	10	319	<10	10	386
14	- 10554	1.0	.65	20	20	75	<5	1.45	38	2	68	42	.61	.24	10	.08	18	42	<.01	112	5110	6	5	<20	57	<.01	10	810	<10	13	814
15	- 10555	<.2	.44	30	10	95	<5	1.18	<1	24	22	44	2.97	.22	20	.06	86	12	<.01	91	1700	16	<5	<20	30	<.01	<10	52	<10	27	13

REPEAT #:

13-	10551	.4	.46	15	10	110	<5	.31	1	<1	27	45	.46	.17	<10	.13	23	32	<.01	39	340	6	5	<20	18	<.01	10	524	<10	2	52
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GED STANDARD	1951	1.2	1.84	45	2	175	<5	1.88	<1	21	64	80	3.96	.36	10	.95	686	<1	.01	22	660	12	5	<20	57	.11	<10	75	<10	14	65
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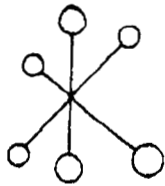
NOTE: < = LESS THAN

*Steve Jensen*  
 ECO-TECH LABORATORIES LTD.  
 JEFFREY JEALOUSSE  
 B.C. Certified Assayer

FROM ECO-TECH KAMLOOPS



**APPENDIX IV**  
**Analytical Procedures**



# ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING  
10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

## GEOCHEMICAL LABORATORY METHODS

### SAMPLE PREPARATION (STANDARD)

1. Soil or Sediment: Samples are dried and then sieved through 80 mesh sieves.
2. Rock, Core: Samples dried (if necessary), crushed, riffled to pulp size and pulverized to approximately -140 mesh.
3. Humus/Vegetation: The dry sample is ashed at 550 C. for 5 hours.

### METHODS OF ANALYSIS

All methods have either canmet certified or in-house standards carried through entire procedure to ensure validity of results.

#### 1. MULTI ELEMENT ANALYSES

(a) ICP Packages (6,12,30 element).

Digestion	Finish
-----	-----

Hot Aqua Regia	ICP
----------------	-----

(b) ICP - Total Digestion (24 element).

Digestion	Finish
-----	-----

Hot HClO <sub>4</sub> /HNO <sub>3</sub> /HF	ICP
---	-----

(c) Atomic Absorption (Acid Soluble)

Ag\*, Cd\*, Cr, Co\*, Cu, Fe, Pb\*, Mn, Mo, Ni\*, Zn.

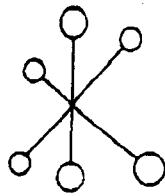
Digestion	Finish
-----	-----

Hot Aqua Regia	Atomic Absorption
	* = Background corrected

(d) Whole Rock Analyses.

Digestion	Finish
-----	-----

Lithium Metaborate fusion	ICP
---------------------------	-----

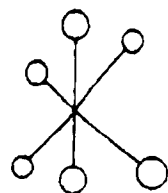


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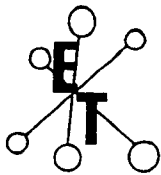
- |                              |   |  |
|------------------------------|---|--|
| 2. Antimony                  |   |  |
| Digestion                    | Finish                                      |  |
| -----                        | -----                                       |  |
| Hot aqua regia               | ICP   |  |
| 3. Arsenic                   |   |  |
| Digestion                    | Finish                                      |  |
| -----                        | -----                                       |  |
| Hot aqua regia               | Hydride generation - A.A.S.                 |  |
| 4. Barium                    |   |  |
| Digestion                    | Finish                                      |  |
| -----                        | -----                                       |  |
| Lithium Metaborate           | ICP   |  |
| 5. Beryllium                 |   |  |
| Digestion                    | Finish                                      |  |
| -----                        | -----                                       |  |
| Hot aqua regia               | Atomic Absorption                           |  |
| 6. Bismuth                   |   |  |
| Digestion                    | Finish                                      |  |
| -----                        | -----                                       |  |
| Hot aqua regia               | Atomic Absorption<br>(Background Corrected) |  |
| 7. Chromium                  |   |  |
| Digestion                    | Finish                                      |  |
| -----                        | -----                                       |  |
| Sodium Peroxide<br>Fusion    | Atomic Absorption                           |  |
| 8. Flourine                  |   |  |
| Digestion                    | Finish                                      |  |
| -----                        | -----                                       |  |
| Lithium Metaborate<br>Fusion | Ion Selective Electrode                     |  |



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9. Gallium	
Digestion	Finish
-----	-----
Hot HClO <sub>4</sub> /HNO <sub>3</sub> /HF	Atomic Absorption
10. Germanium	
Digestion	Finish
-----	-----
Hot HClO <sub>4</sub> /HNO <sub>3</sub> /HF	Atomic Absorption
11. Mercury	
Digestion	Finish
-----	-----
Hot aqua regia	Cold vapor generation - A.A.S.
12. Phosphorus	
Digestion	Finish
-----	-----
Lithium Metaborate Fusion	ICP finish
13. Selenium	
Digestion	Finish
-----	-----
Hot aqua regia	Hydride generation - A.A.S.
14. Tellurium	
Digestion	Finish
-----	-----
Hot aqua regia Potassium Bisulphate Fusion	Hydride generation - A.A.S. Colorimetric or I.C.P.



## **ECO-TECH LABORATORIES LTD.**

ASSAYING - ENVIRONMENTAL TESTING

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### **GEOCHEMICAL LABORATORY METHODS**

#### **Multi Element ICP Analyses**

**Digestion:** 1 gram sample is digested with 6 ml dilute aqua regia in a waterbath at 90°C for 90 minutes and diluted to 20 ml.

**Analysis:** Inductively coupled Plasma.

**APPENDIX V**  
**Rock Sample Descriptions**

SAMPLE NUMBER	LOCATION COMMENT	SAMPLE DESCRIPTION
10541	Ted 7 claim, ele. 1680m	≈ 1m chip thru limy black shale, interbedded with burrowed limestone beds up to 30cm wide, bedding 350/20NE, ran: 3.4ppm Ag
10542	Ted 2 claim, ele. 1760m	Grab of local black shale in overturned tree stump, weakly rusty (pyrite?) on bedding planes (zinc zap blue)
10543	Ted 2 claim, ele. 1770m	Same as sample 10543
10544	Ted 2 claim, ele. 1770m	≈ 60cm chip thru black shale, bank dig in, ran: 448ppm Zn
10545	Ted 2 claim, ele. 1795m	1.0m chip thru black shale, patchy yellow weathering on lite powdery blue weathering, local weak pyrite on bedding planes, bedding 117/22SW
10546	Ted 2 claim, ele. 1818m	Same as 10546 plus: variable bedding, up section from sample 10545
10547	Ted 2 claim, ele. 1860m	≈ 80cm chip thru black shale, unreliable bedding, up section from 10546, ran: 543ppm Zn
10548	Ted 4 claim, ele. 1840m	Grab over 70cm of black shale, bank dig in
10549	Ted 2 claim, ele. 1810m	80cm chip thru black shale, weak pyrite (zinc zap blue), broken up outcrop under overturned tree
10550	Ted 2 claim, ele. 1865m	1.0m chip thru black shale, outcrop along old skid trail, bedding 060/30SE, 080/30SE ran: 1385ppm Zn, 3.8ppm Ag
10551	Ted 2 claim, ele. 1795m	Composite grab of black shale subcrop
10552	Ted 5 claim, ele. 1740m	60cm chip thru black shale, along skid trail, bedding 115/25NE
10553	Ted 5 claim, ele. 1770m	1.0m chip thru black shale, along skid trail, bedding 010/30SE (variable)
10554	Ted 5 claim, ele. 1750m	1.0m chip thru black shale, weak to moderately rusty (zinc zap blue), good outcrop along skid trail, bedding 340/20NE, ran: 814ppm Zn



LEGEND

- MISSISSIPPIAN
- 5 BANFF AND RUNDLE FORMATIONS  
Limestone, Chert
- DEVONIAN
- 4 HARROGATE FORMATION  
a- black shale  
b- brown to grey shale, locally limy  
c- limy siltstone, siltstone  
d- limestone, local shaley limestone
  - 3 BURNAIS FORMATION  
Evaporites-gypsum
  - 2 CEDARED FORMATION  
Dolomite, Sandstone, Limestone
  - 1 BASAL DEVONIAN UNIT  
Quartzite, Argillaceous limestone, Limestone

KEY

- 4a OUTCROP
- 4b TALUS, local outcrop/subcrop
- GEOLOGIC CONTACT
- BEDDING
- FOLIATION
- FRACTURE CLEAVAGE
- 1991 Moss Mat sample with Zinc (ppm) value
- 10547 (549, 12, 1600, 395)  
Rock Sample with Zinc (ppm), Silver (ppm), Phosphorus (ppm) and Vanadium (ppm) values
- CLIFF
- STREAM
- ROAD, SKID TRAIL
- 1800 TOPOGRAPHIC CONTOUR - Interval 20 m
- TED CLAIMS CLAIM OUTLINE

GEOLOGICAL BRANCH ASSESSMENT REPORT

22,428

FIGURE 5

TECK EXPLORATION LTD.  
COYOTE PROPERTY

**TED CLAIMS**  
GEOLOGY and GEOCHEMISTRY

0 100 200 300 400 500  
metres

DATE DRAWN: JULY 2, 1992 SCALE: 1:5,000 DWG. NAME:  
COMPILED BY: S.J. JOB No: 1711  
DRAWN BY: S.A./L.M. NSBDS/144/325/24/E COY-T-1

5542000 N

5540000 N

5538000 N