

5805

GEOLOGICAL, GEOCHEMICAL & GEOPHYSICAL REPORT

On the
GUT CLAIM

CROUSE CREEK - 49°25'N, 118°57'W (82 E/7W)
GREENWOOD MINING DIVISION, B. C.

TECK CORPORATION LIMITED

By: J. M. Carr, P.Eng.

May 14 - May 19, 1975 #5805

February 27, 1976

Vancouver, B.C.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 5805 MAP

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In back pocket

GEOLOGICAL, GEOCHEMICAL, & GEOPHYSICAL REPORT
ON THE GUT CLAIM
CROUSE CREEK - 49°25'N, 118°57'W (82 E/7W)
GREENWOOD MINING DIVISION, B. C.
TECK CORPORATION LIMITED
May 14 - May 19, 1975

INTRODUCTION

Geological, geochemical, and geophysical surveys and hand trenching were done on the Gut claim during the period May 14 to May 19, 1975 by Geophysical Engineering Limited, on behalf of Teck Corporation Limited. The Gut claim is in Greenwood Mining Division, 11 km east of the Beaverdell mine owned by Teck Corporation Limited (Figures 1 & 2).

The claim has Record No. 32, was recorded 6 May, 1975, and consists of two units (see Figure 2). It lies between 3400 and 3900 feet elevation astride Crouse (Cedar) Creek, a moderately incised southeast-flowing tributary of Kettle River. Access by road is from Westbridge off Highway 33 and thence northward by hardtop and for the last 8 miles by unimproved gravel road. The claim is lightly timbered with underbrush, thick only along the banks of Crouse Creek.

Veins at Beaverdell have been discovered by systematic close-spaced soil sampling for Ag and other contained metals, aided by VLF-EM definition of conductive shear zones which host such veins. The same procedure was therefore employed to search for veins on the Gut claim.

The claim was located following reconnaissance surveys made in 1973 and 1974, at which time Lines A to E were picketed and soil sampled. For the sake of completeness, results of this earlier geochemical work are included on maps in this report.

Subsequent to recording the Gut claim and as part of the present survey, eight lines totalling 3.9 km were established at 60 m (200-foot) spacing using chain and compass, and picketed at 15 m (50-foot) interval. On the accompanying maps these lines are identified as F, G, 2+00E, 4+00E, 6+00E, 8+00E and 10+00E.

REGIONAL GEOLOGY

Crouse Creek is a SSE-trending topographic lineament approximately aligned along the east contact of a part of the Beaverdell batholith (1). Near Crouse Creek this Cretaceous(?) quartz monzonite batholith and its local apophyses of diorite and granodiorite are emplaced in northeast-striking, gently dipping Permian and/or Triassic volcanic strata of the Anarchist Group. Locally both the Anarchist strata and the plutonic rocks are overlain by later volcanic and sedimentary strata belonging variously to the Kettle River Formation and the Phoenix Volcanic Group, both Tertiary in age. Related Tertiary dykes intrude the older rocks.

The geological setting at Crouse Creek is considered comparable to that of silver-bearing veins such as have long been productive at the Beaverdell (Highland Bell) mine farther west.

LOCAL GEOLOGY AND MINERALIZATION

Rock outcrops amount to about 5% and occur chiefly either immediately adjoining Crouse Creek or at uppermost elevations on the west slopes of its valley (Map 3). Much of the claim is obscured by talus on the slopes, where soil development is poor and consequently geochemical sampling difficult. Mainly on the higher ground, glacial till occupies the remaining area. The direction of Pleistocene glacial transport was south-southeasterly.

Geological mapping failed to identify the main contact of the batholith which is inferred to lie west of Crouse Creek. Greenstone of the Anarchist Group is exposed in a few outcrops and in hand-cut trenches; a poorly revealed bedding strikes NNW and the rocks are everywhere intensely fractured to the extent of preventing collection of specimens larger than a few centimetres. Fractures are in numerous directions and commonly contain chlorite, minor epidote, calcite, and other low-temperature metamorphic or hydrothermal minerals. Exposures are commonly rusty from oxidation of small amounts of pyrite or other sulphides.

Grey medium-grained diorite and granodiorite form scattered outcrops representing dykes or possibly larger intrusive bodies whose shape and extent are conjectural but which are considered connected to the adjoining batholith. Granodiorite forms a dyke some 5 metres in width emplaced steeply (?) within greenstone in trench T1 adjoining Crouse Creek; the granodiorite dyke strikes easterly and like other greenstone or granodiorite exposures in this southern part of the area it is rusty due to decay of sulfides on fractures.

Small outcrops of tan-coloured to white, aphanitic rhyolite(?) in the southeast part of the claim are either remnants of a flow belonging to the Kettle River Formation or, more likely, one or more dykes equivalent to this Lower Tertiary unit. Fresh, dark-grey to green andesite and flat-lying, inter-bedded black tuff comprise abundant rust-brown outcrops in the northeast part of the claim and apparently represent a previously unmapped outlier of the Phoenix Volcanic Group, which is Tertiary also but later than the Kettle River Formation.

Subsequent to the 1975 geochemical survey, four hand trenches were cut in the south part of the claim adjoining Crouse Creek (Map 3). Forty-two rock samples were taken at successive 3 m (10-foot) intervals representing the total length (126 m) of the trenches and were analyzed for Au by Bondar-Clegg and Co. Ltd.

at its North Vancouver Laboratory. The method of sample treatment was similar to that described for soil samples except for a preliminary crushing (see later). Near Line 2+00E at 21+00S, trench T1 contains a central 13 m-long (40 feet) section of average assay 1.5 ppm ^{Au} coinciding with the granodiorite dyke (Figure 3). All other parts of the trenches are occupied by Anarchist greenstone which, although exhibiting pyrite in amounts similar to this weakly mineralized dyke, contain generally no more than 0.2 ppm Au.

Two grab samples were collected and assayed for gold and silver from a narrow, rusty vein in outcrop immediately to the west across Crouse Creek (Map 3). Assay results of these samples indicate a precious metal content of the vein not exceeding 1.8 ppm Au, and 2.5 ppm Ag.

Although not assayed and consequently of unknown importance, greenstone float containing minor amounts of arsenopyrite was observed near Line 6+00E at 14+00S. No pyrite or accompanying chloritic alteration were noted at outcrops in the northern part of the claim.

GEOCHEMICAL SURVEY

1. Method:

Soil development on the claim is poor, there being generally only a thin A horizon and a poorly developed B horizon. A fine talus covers much of the slope adjoining Crouse Creek which necessitated samples being taken at some sites only roughly coinciding with the line stations. Where possible samples were collected from the lower B or uppermost C horizons at depth of approximately 25 cm. In all, 90 soil samples were collected in the present survey of which 43 variously on Lines F, G, 6+00E, and 8+00E were analyzed for Au and Ag with results as shown on Map 4 and 5. Results of the 1974 sampling of other lines are also shown on these maps.

Samples were collected using a grub hoe and were placed in small manila envelopes. Every other sample collected (i.e. from each 30 m (100-foot) interval) was sent for analysis at the North Vancouver laboratory of Bondar-Clegg and Co. Ltd. There the samples were dried in infra-red driers, sieved to -80 mesh, and treated as follows:

- For Au
- Weighed out 20 grams
 - Lead fusion employing liquid silver as collector
 - Noble metal bead taken into solution by 2-step acid solution.
 - Diluted with water
 - Analyzed by atomic absorption spectrometer and constant comparison with synthetic and matrix standards.

For Ag -Weighed out 0.5 grams
 -Digested in Lefort aqua regia for three hours
 -Bulked at 20% acid concentration and homogenized
 -Allowed 1 hour settling time
 -Analyzed by atomic absorption spectrometer
 in constant comparison with synthetic and
 matrix standards.

2. Results:

Because of the small sample population available (125 for Au, 132 for Ag including those from the 1974 survey) no statistical treatment of metal values is possible. The threshold value for Ag is accepted as 1 ppm and that for Au as 200 ppb.

Sampling done to date indicates anomalous values exist mainly in the south part of the claim where they form several east-trending narrow anomalies (Maps 4 and 5). The principal anomaly is coincident for Au and Ag and it extends west from Line B at 21+75S towards trench T1. As mentioned above, this trench contains a pyritic dyke mineralized in sub-economic amounts by gold. Trench T2 containing much lower assays is reflected by soil values in the range of 200 to 300 ppb Au.

In the north part of the claim, a moderate Ag-anomaly (up to 3.4 ppm) coincides with up to 95 ppb Au in soil.

GEOPHYSICAL SURVEYS

1. Magnetometer Survey:

Using a Scintrex MF-2 instrument all lines were surveyed at 30 m station interval (Map 1). The datum base is assumed and diurnal variation corrections were made by comparison with readings repeated each hour at a control station within the survey area.

Vertical relief in the area is generally less than 1000 ♂. Local magnetic highs which exceed this relief show only a limited correlation with the plutonic rock outcrops and, in general, the magnetic survey fails to define areas underlain by altered or mineralized rock.

2. VLF-EM Survey


Lines cut in 1975 were surveyed with a Crone "Radem" unit receiving the VLF signal transmitted from Cutler, Maine. Dip angle measurements taken every 30 m (50 feet) are shown on Map 2, as also are the results in filtered form (after the method of Fraser, 1969 and 1971). Significant conductors would be those whose filtered value exceeded 10.

A single, small and weak conductor in the northeast part of the claim was alone indicated (see Insert on Map 1). This conductor has no apparent importance. Conductors which strike

closest to WNW should most readily be detected by use of the Cutler signal; it seems therefore that east-striking mineralized structures such as the dyke in trench T1 are not sufficiently conductive to be detected by VLF-EM survey.

SUMMARY AND CONCLUSIONS

Whereas on the Gut claim prospecting and soil sampling are reasonably effective in locating low-grade gold-silver mineralization, neither VLF-EM nor magnetometer surveys appear useful in this regard. Additional areas of the claim remain to be tested.



J. M. Carr, P. Eng.
February 27, 1976



REFERENCES

1. Reinecke, L. (1915) Ore deposits of the Beaverdell map area
G.S.C. Memoir 79
2. Little, H.W. (1957) Kettle River (East half) B.C., G.S.C.
Map 6-1957.
3. Fraser, D. C. "Contouring of VLF-EM Data", Geophysics
XXXIV, 6, pp. 958-967, December, 1969.
4. Fraser, D.C. "VLF-EM Data Processing", CIM Bulletin,
January, 1971, pp. 39-41

APPENDIX I


STATEMENT OF APPLICABLE COSTS

1. Line cutting (3.9 km) 1 man day @ \$90/day	\$ 90.00
2. Geological mapping - 2 man days (G.W.Davies) @ \$100/day 2 man days (G.Lovang) @ \$90/day	380.00
3. Geochemical survey - 0.5 man days @ \$90/day	45.00
4. Geochemical analyses: 43 samples Au @ \$3.85/sample Ag @ \$1.60/sample	165.00 68.00
5. Trenching (Hand), 126 m - 5 days @ \$35/day	175.00
Geochemical (rock) analyses: 42 samples Au @ \$4.75/sample Ag @ \$2.50/sample	199.00 105.00
6. Magnetometer survey, 2 man days @ \$75/day	150.00
7. VLF-EM Survey, 2 man days @ \$90/day	180.00
* 8. Board and lodging, 15 man days @ \$30/day	450.00
* 9. Transportation, 4 days @ \$25/day	100.00
*10. Preparation of report and supervision	<u>500.00</u>
	\$ 2,607.00

The above costs are property related costs only and do not include preliminary compilation of previous data, administration costs, transportation to and from Vancouver, and other costs not normally applicable for assessment credits.

\$2,400 of the above costs is requested to be applied to Certificates of Work for 6 years in respect of the Gut claim (2-units), Record No. 32, Greenwood Mining Division (82 E/7W) whose current expiry date is 6 May, 1976 (per Form B attached).

*Pro rated on Form B attached (Sections A & D).


 J. M. Carr, P.Eng.
 February 27, 1976

APPENDIX II

LIST OF FIELD PERSONNEL

<u>Name</u>	<u>Position</u>	<u>Pay Rate</u> <u>\$/day</u>	<u>No. of</u> <u>days</u> <u>Employed</u>	<u>Dates</u>
G. W. Davies	Field Supervisor	100	4	May 15-19, 1975
G. Lovang	Senior Prospector	90	4	May 14-18, 1975
K.W. Davies	Field Technician	90	2	May 14-15, 1975
W. Staples	Contract Labourer	35	5	May 14-19, 1975

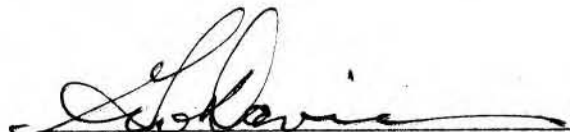
J. M. Carr, P.Eng.
February 27, 1976



CERTIFICATE

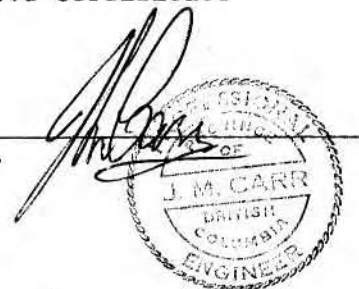
I, Garry W. Davies, do hereby certify that:

1. I am a technologist residing at 3081 Clark Drive, Vancouver, British Columbia and employed by Geophysical Engineering Limited.
2. I am a graduate Mining Technologist (1972) from the British Columbia Institute of Technology.
3. I have practised my profession continuously for the past four years.
4. Between 15 May and 19 May, 1975, I supervised and carried out geological, geochemical and geophysical surveys on the Gut claim on behalf of Teck Corporation Limited.


Garry W. Davies, Dip.T (B.C.I.T.)

I, John M. Carr, endorse herewith the above Certificate


John M. Carr, P.Eng.
February 27, 1976



CERTIFICATE

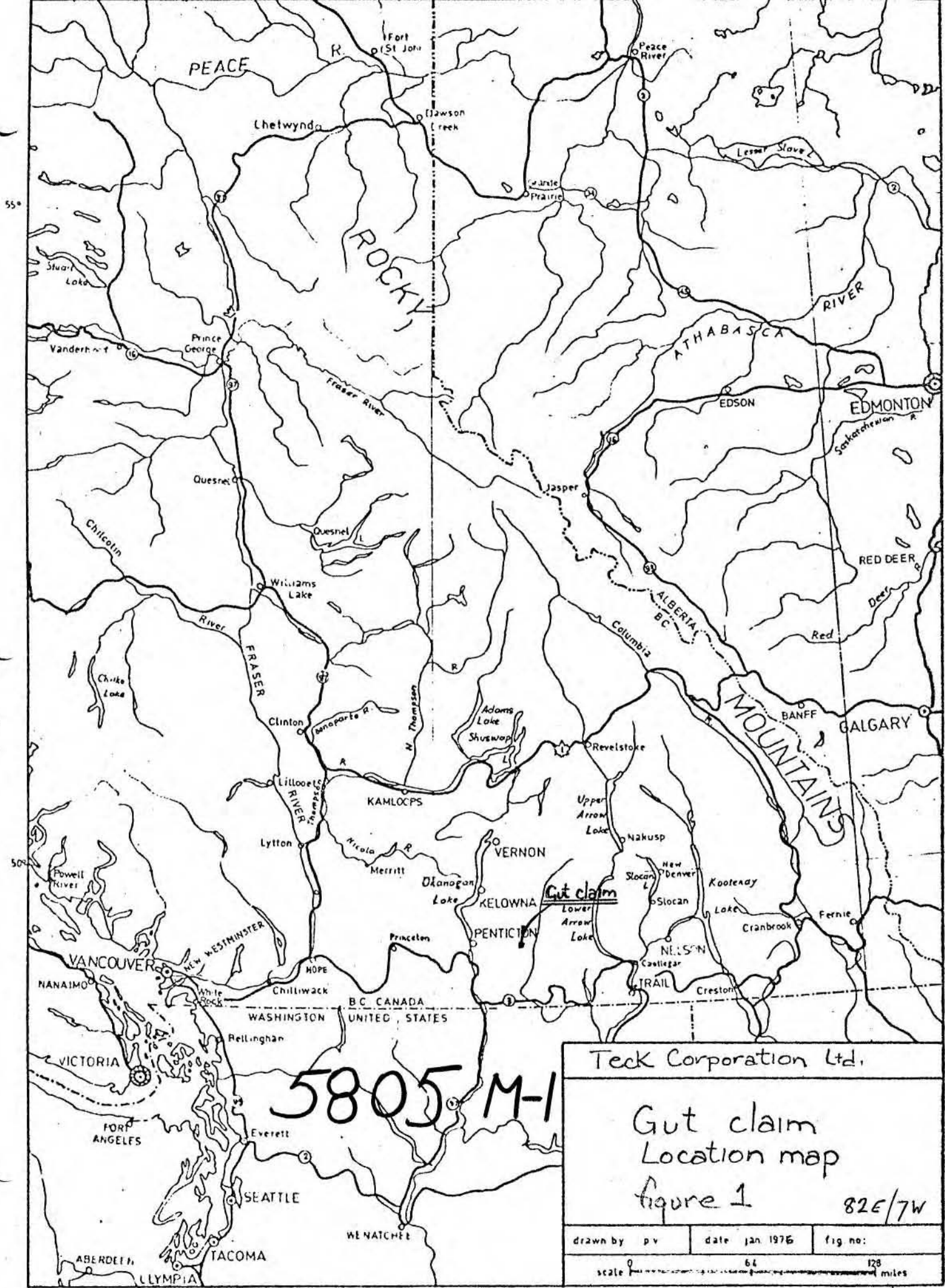
I, John M. Carr, do hereby certify that:

1. I am a geologist residing at 3896 Scolton Road, Victoria, British Columbia and employed by Teck Corporation Limited.
2. I am a graduate of the University of Oxford with a B.A. (Hons.) degree in Geology and a D.Phil. degree in Geology obtained at the same University.
3. I am a Professional Engineer registered in the Province of British Columbia.
4. I have practised my profession in geology continuously for the past 24 years and since 1955 in British Columbia.
5. Between 14 May and 19 May, 1975, I directed a field programme on the Gut claim on behalf of Teck Corporation Limited.



John M. Carr, P. Eng.
February 27, 1976





5805 M-1

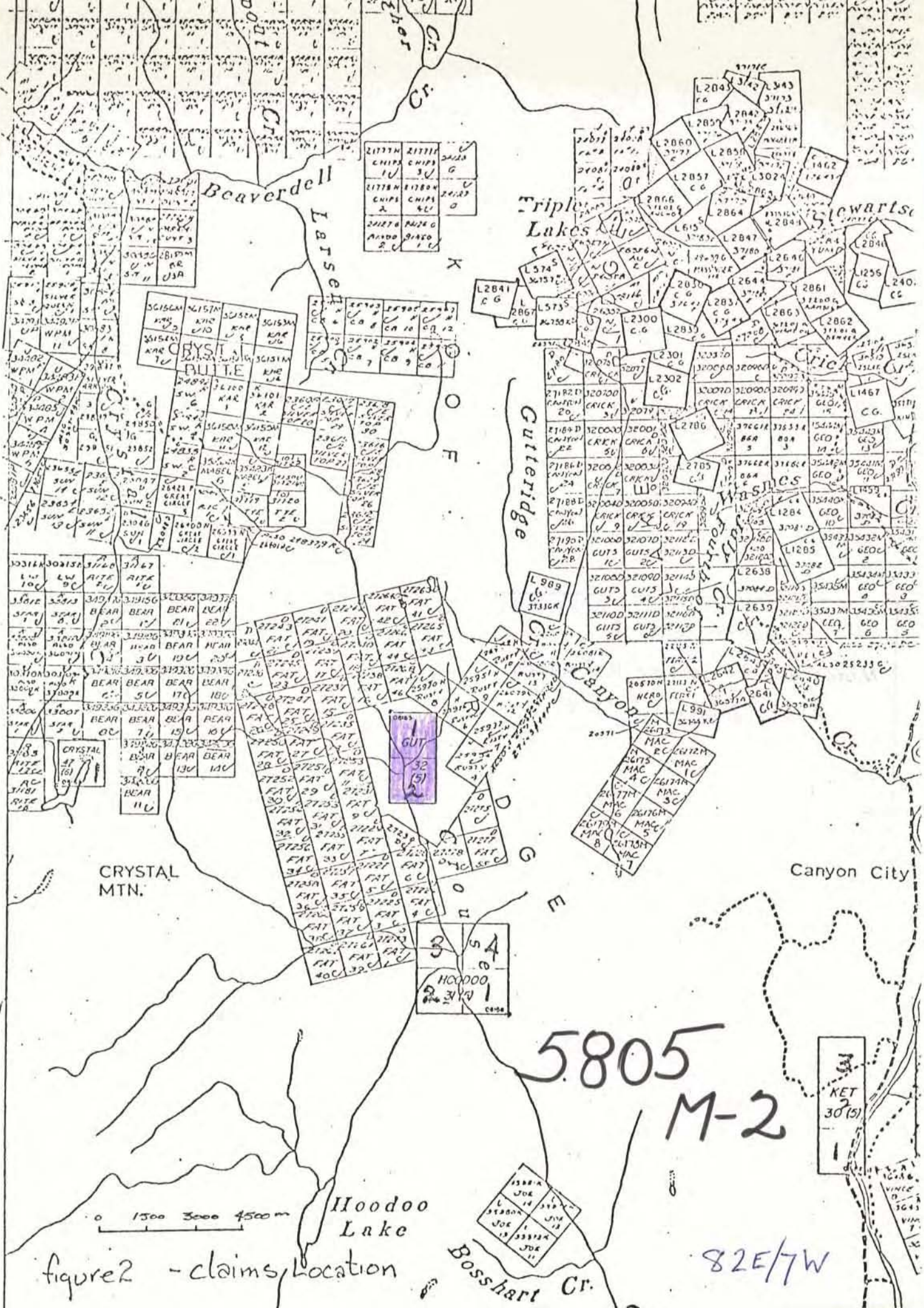
Teck Corporation Ltd.		
Gut claim Location map figure 1		
82E/7W		
drawn by	pv	date jan 1976
scale		fig no:
0 6.4 12.8 miles		

6

5

4

SEE MAP 82 E



21777	21778	21779	21780
CHIPS	CHIPS	CHIPS	CHIPS
1U	3U	4U	5U
21778	21779	21780	21781
CHIPS	CHIPS	CHIPS	CHIPS
2	4U	4U	4U
21778	21779	21780	21781
ANDO	ANDO	ANDO	ANDO
2U	2U	1U	1U

SCISSOR	SCISSOR	SCISSOR	SCISSOR	SCISSOR
KAR 12	KAR 10	KAR 15	KAR 16	KAR 16
SCISSOR	SCISSOR	SCISSOR	SCISSOR	SCISSOR
KAR 7U	KAR 7U	KAR 7U	KAR 7U	KAR 7U

21703	21704	21705	21706
CA 8	CA 10	CA 12	CA 12
21703	21704	21705	21706
CA 7	CA 9	CA 11	CA 11

GUT
32
(5)

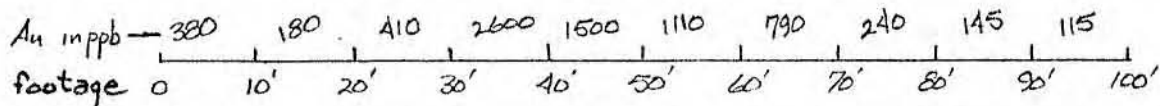
3
5
A
HOODOO
2
3
1
CROSS

5805
M-2

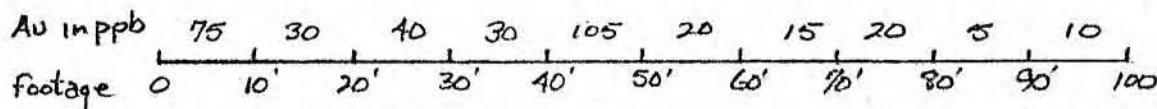
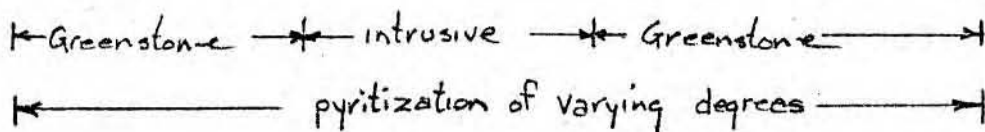
KET
30
(5)

figure 2 - claims, location

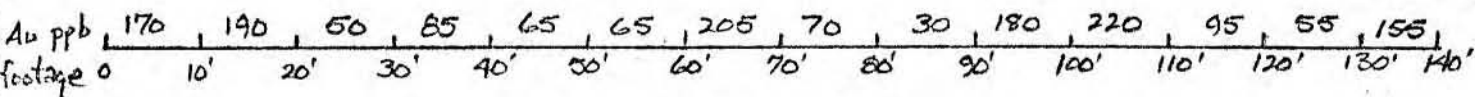
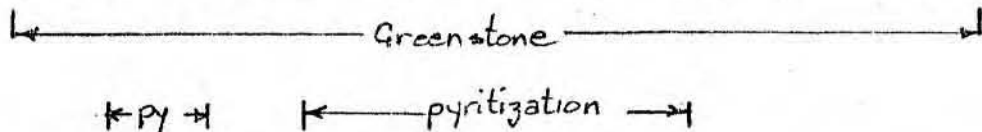
82E/7W



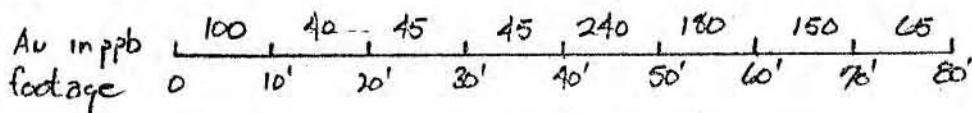
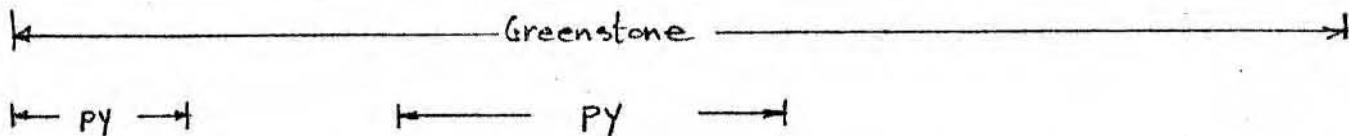
Trench "T1"



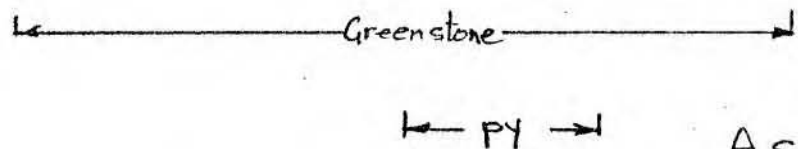
Trench "T2"



Trench "T3"



Trench "T4"



5805 M-3

Assays & Lithologies
 in Hand Trenches

Cut Claim (82E/7W)
 see Map 3

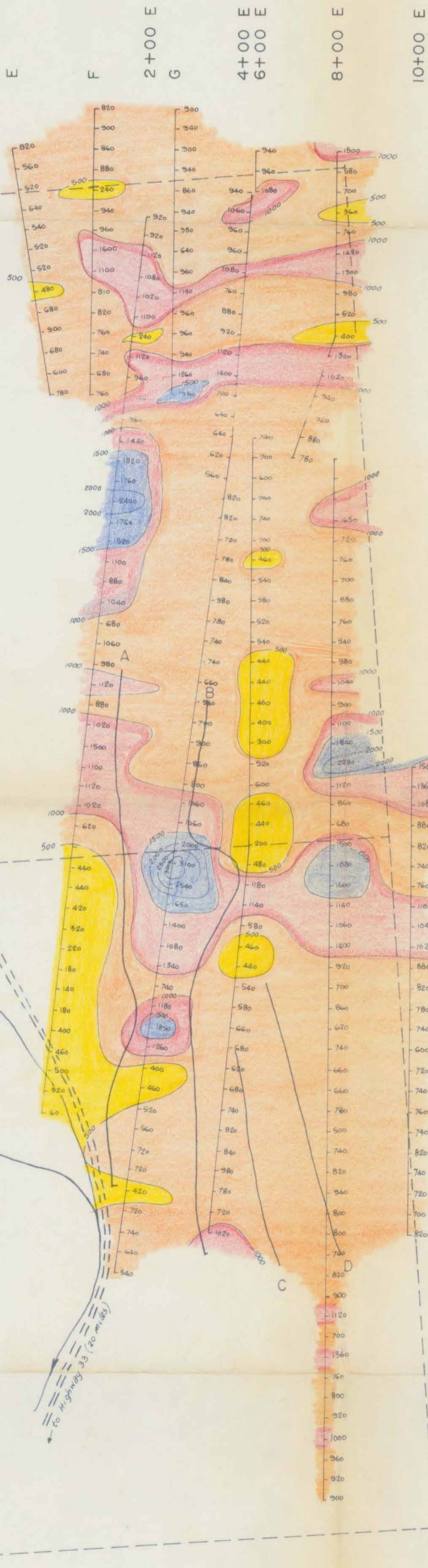
Jan 1976



LEGAL CORNER POST

GUT (1)

GUT (2)



LEGEND

- SURVEY LINE
- ROAD
- CREEK
- ISOMAGNETIC CONTOURS
- CLAIM BOUNDARY

ISOMAGNETIC CONTOURS (Vertical intensity)

- > 1500 γ
- 1000 - 1500 γ
- 500 - 1000 γ
- < 500 γ

Base station-north end line G assumed datum 900 γ

5805
SCALE IN METERS
0 50 100 150 METERS

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5805 MAP 4

M-4

TECK CORPORATION LIMITED
VANCOUVER, B.C.

GUT MINERAL CLAIMS
MAGNETOMETER SURVEY

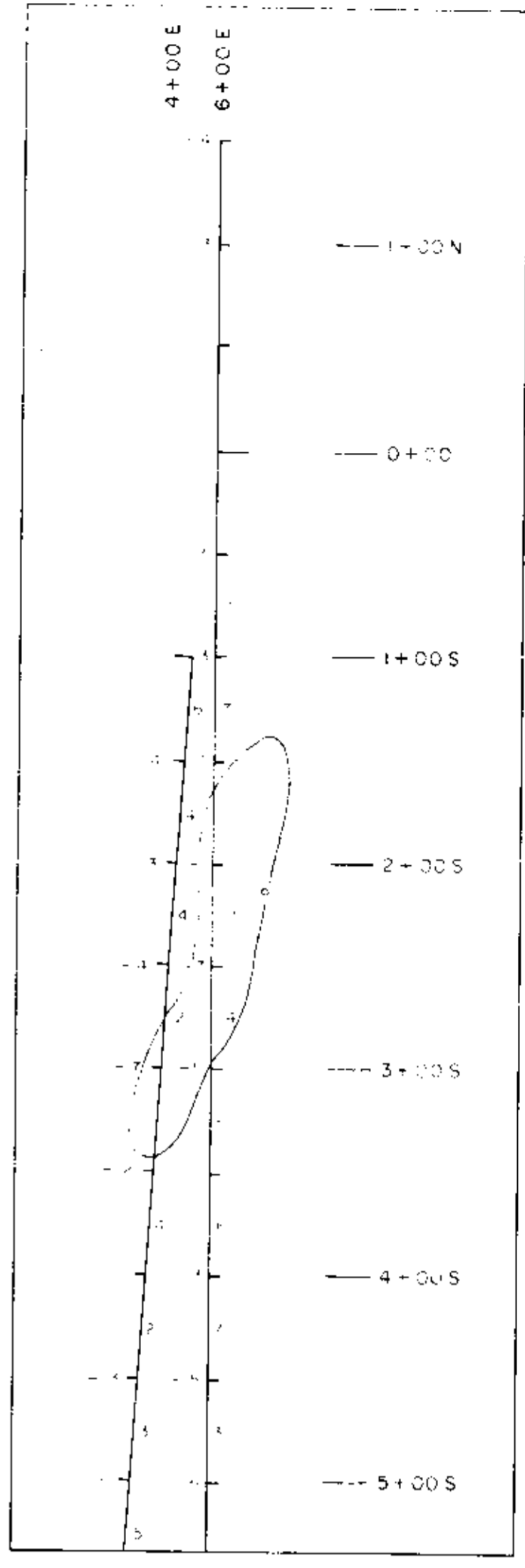
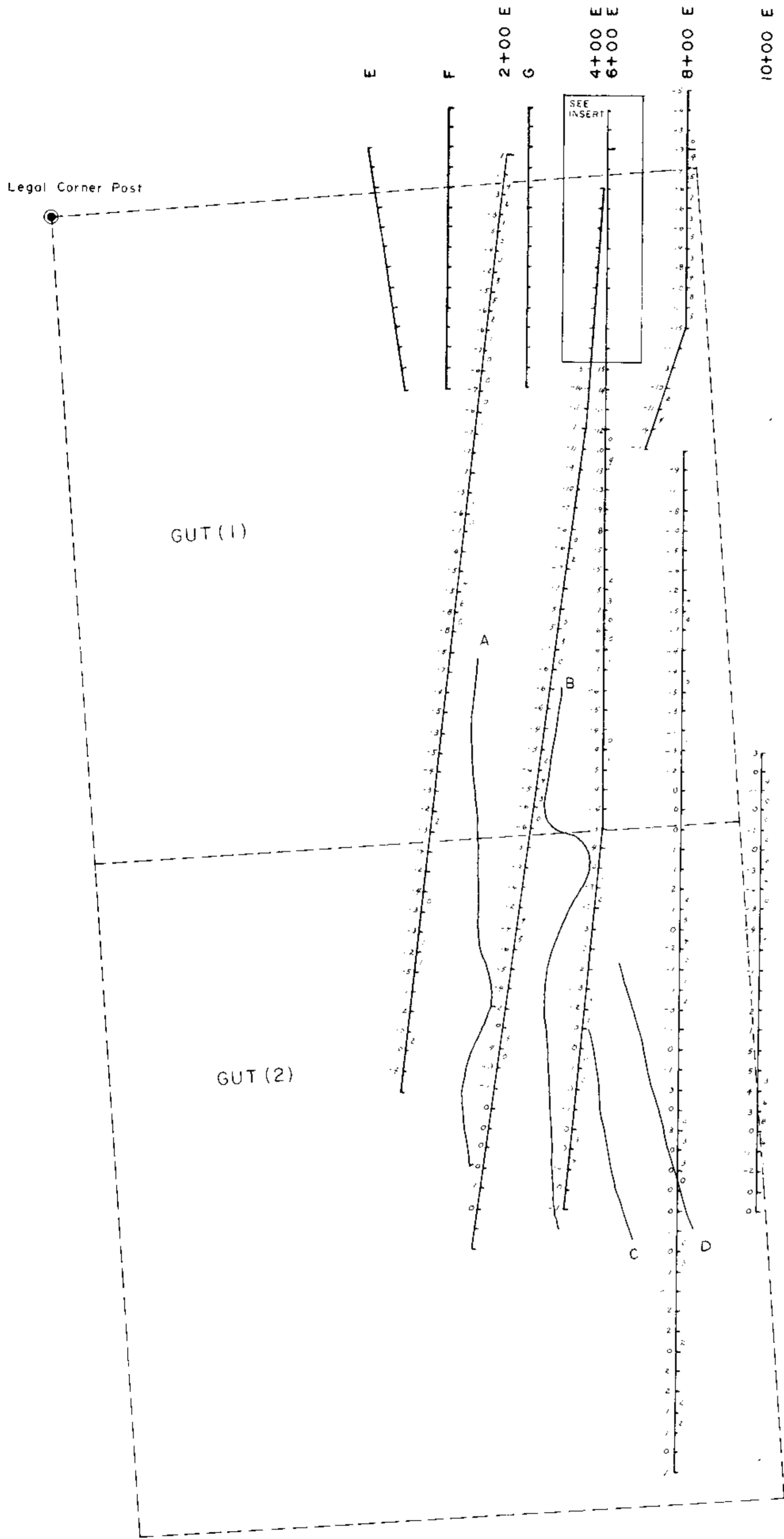
CROUSE CREEK AREA
BEAVERDELL AREA, B.C.

MAP 1

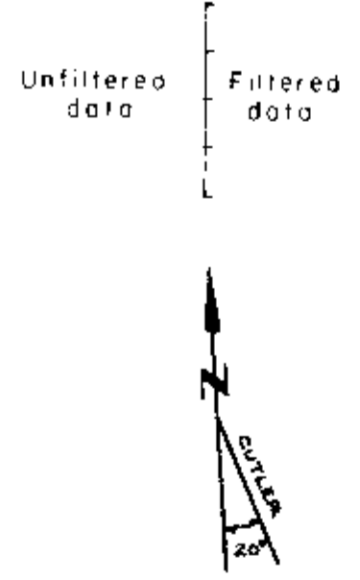
DATE: FEBRUARY 1976
N.T.S. 82 E / 7 W

JOB No. 1071
DWG. No.

To accompany Assessment Report dated February 27, 1976



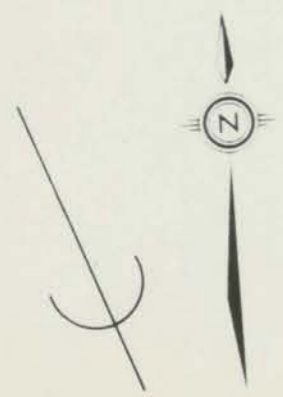
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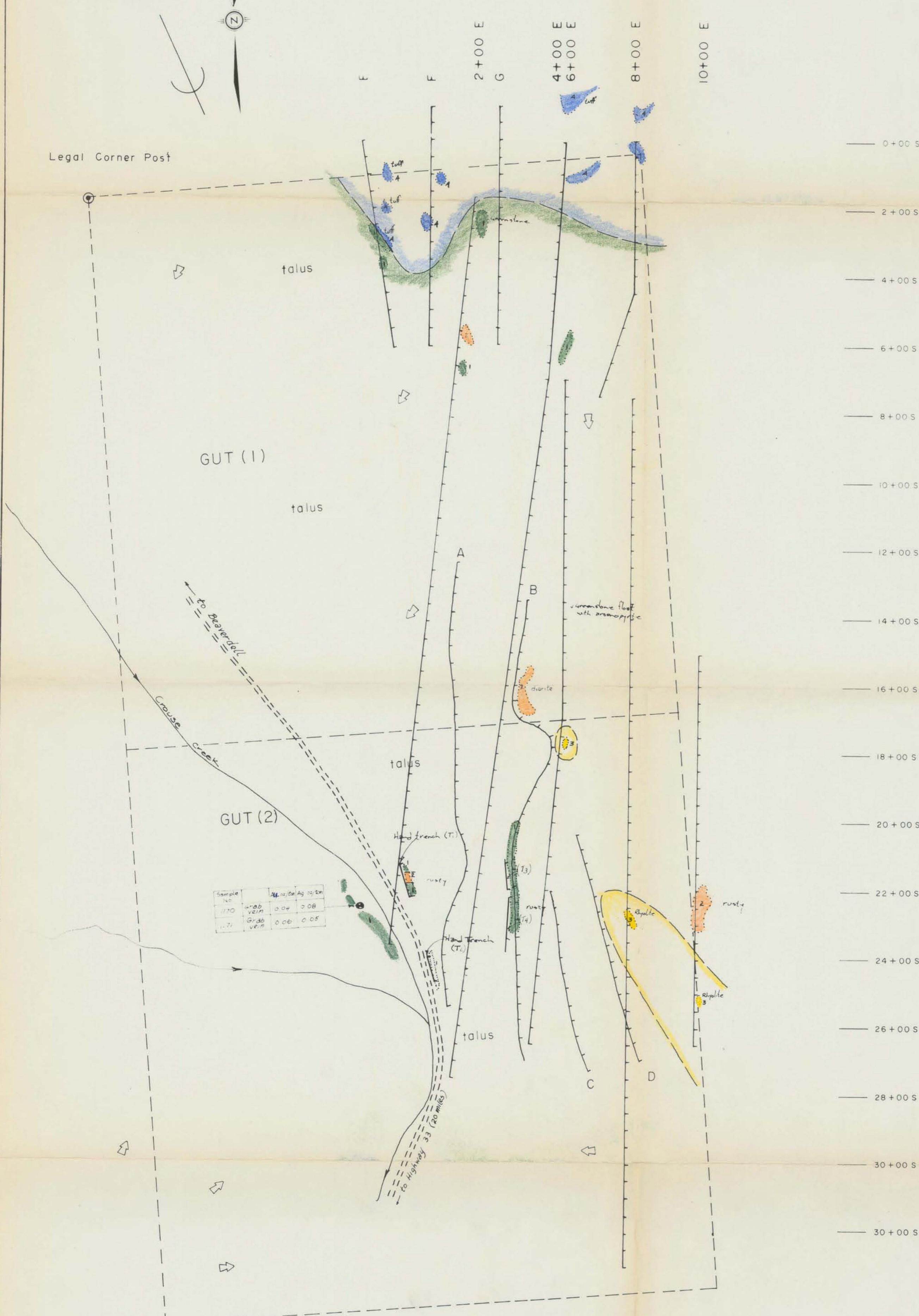
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5805 MAP 5

TECK CORPORATION LIMITED
VANCOUVER, BC
GUT MINERAL CLAIMS
VLF - EM SURVEY
CROUSE CREEK AREA
BEAVERDELL AREA, BC





Legal Corner Post



LEGEND

TERTIARY

Phoenix Volcanic Group

4 Andesite flows and tuffs

Kettle River Formation

3 Rhyolite flows (and dykes?)

CRETACEOUS (?)

2 Diorite, granodiorite

PERMIAN (?)

Anarchist Group

1 Greenstone

Geological contact

Survey line

Outcrop

Trench (hand)

Road

Ground slope

Sample No.	Alt. (m)	As (%)	Ag (%)	Cu (%)	Sn (%)
170	0.25	0.04	0.08		
171	0.25	0.06	0.05		

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5805 MAP 6

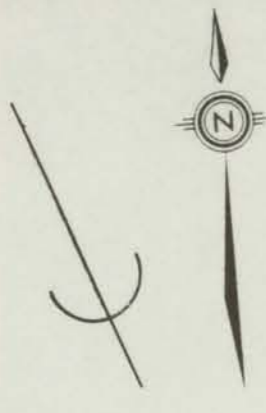
TECK CORPORATION LIMITED
VANCOUVER, BC
GUT MINERAL CLAIMS
GEOLOGY
CROUSE CREEK AREA
BEAVERDELL AREA, BC



MAP 3

DATE: FEBRUARY 1976	JOB No: 1071
N.T.S. 82 E / 7 W	DWG. No.

To accompany assessment report dated February 27, 1976



Legal Corner Post

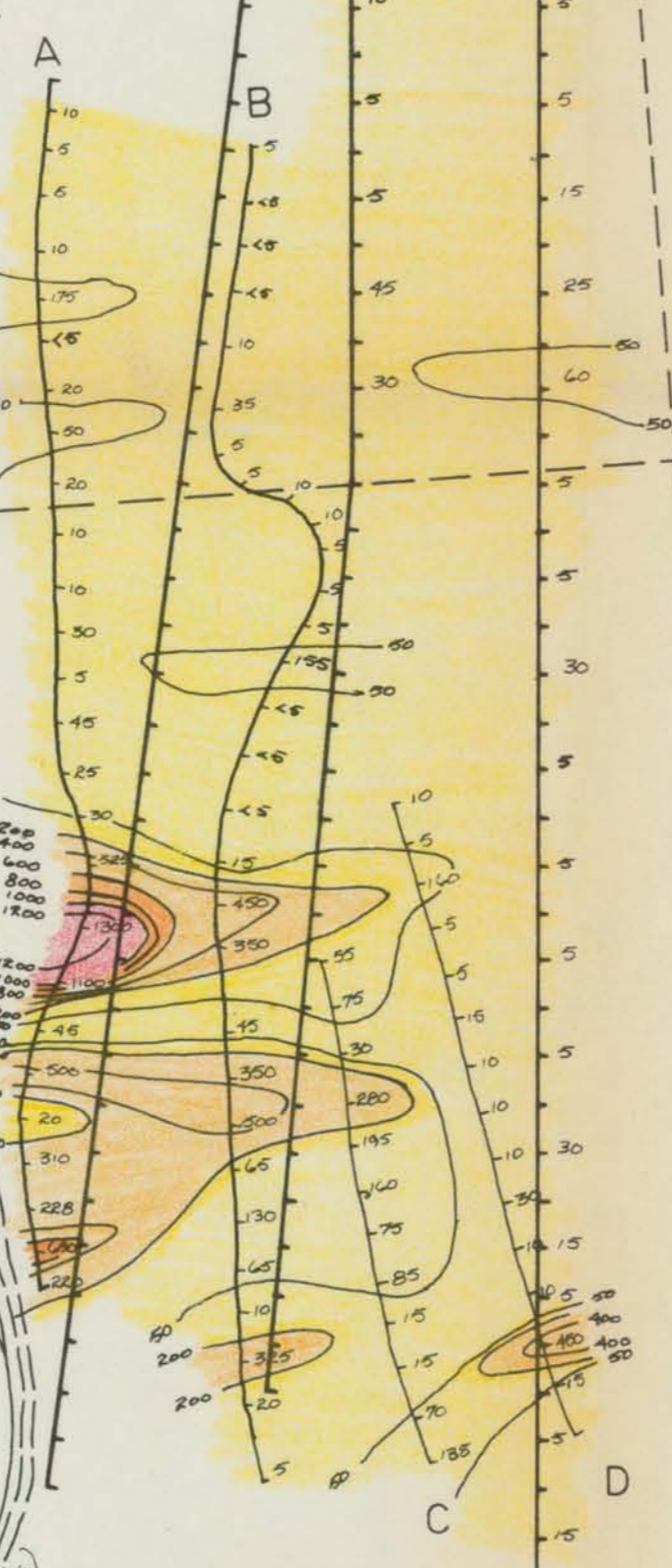
E F 2+00 E G 4+00 E 6+00 E 8+00 E 10+00 E

GUT (1)

GUT (2)

To Beaverdell
Crouse Creek

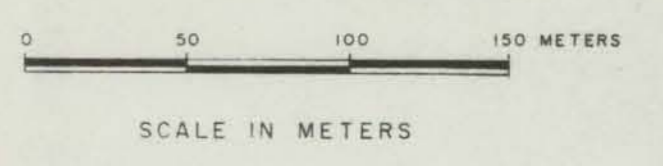
To Highway 33 (50 miles)



0+00 S
2+00 S
4+00 S
6+00 S
8+00 S
10+00 S
12+00 S
14+00 S
16+00 S
18+00 S
20+00 S
22+00 S
24+00 S
26+00 S
28+00 S
30+00 S
32+00 S

LEGEND
Colour code for Au in soils

- > 1000 ppb
- 600 - 1000 ppb
- 200 - 600 ppb
- < 200 ppb
- ppb CONTOUR
- SURVEY LINE



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5805 MAP 7

TECK CORPORATION LIMITED
VANCOUVER, B.C.

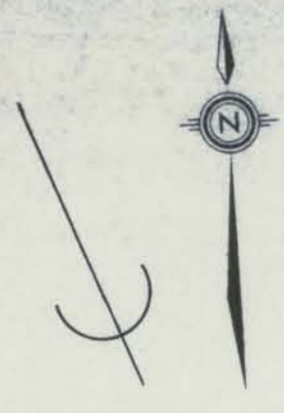
GUT MINERAL CLAIMS
GEOCHEMICAL SURVEY
(AU IN SOILS)

CROUSE CREEK AREA
BEAVERDELL AREA, B.C.



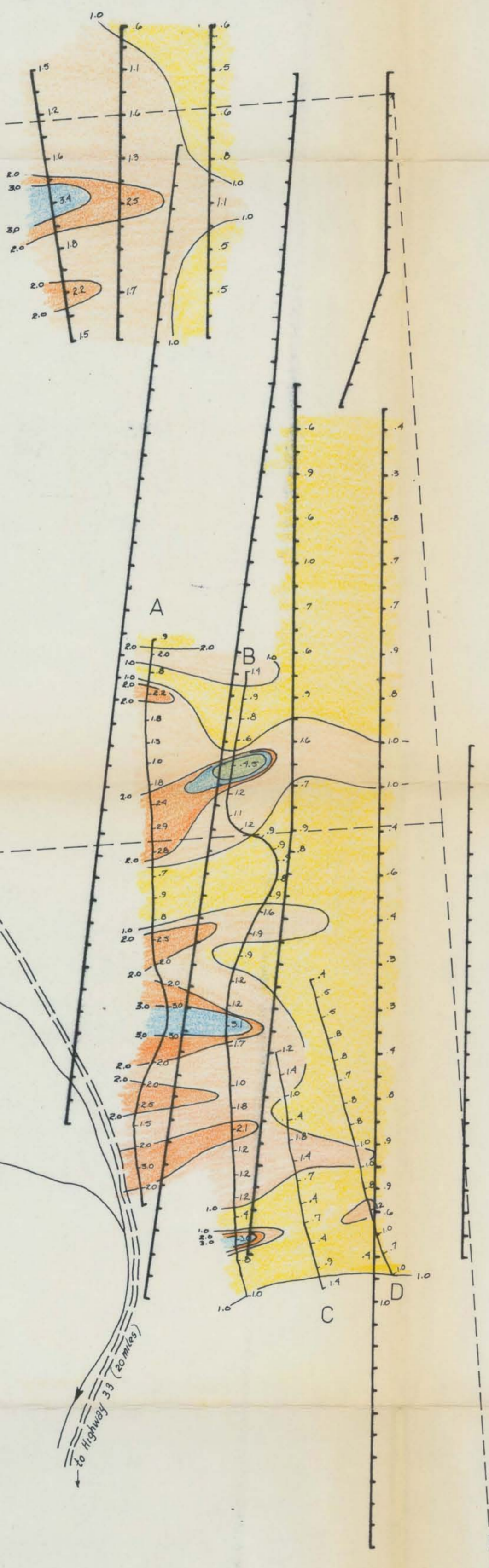
MAP 4 DATE: FEBRUARY 1976 JOB No. 1071
N.T.S. 82 E / 7 W DWG. No.

To accompany Assessment Report Dated February 27, 1976



Legal Corner Post

E F 2+00 E G 4+00 E 6+00 E 8+00 E 10+00 E



GUT (1)

to Beaverdell

Crouse Creek





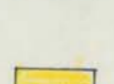
GUT (2)


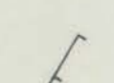
to Highway 33 (20 miles)

0+00 S
2+00 S
4+00 S
6+00 S
8+00 S
10+00 S
12+00 S
14+00 S
16+00 S
18+00 S
20+00 S
22+00 S
24+00 S
26+00 S
28+00 S
30+00 S
32+00 S

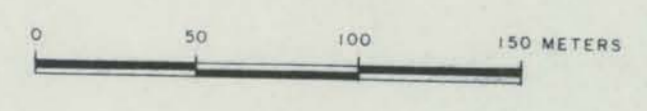
LEGEND

Colour code for Ag in soils

-  > 4 ppm
-  3-4 ppm
-  2-3 ppm
-  1-2 ppm
-  < 1 ppm

-  ppm CONTOUR
-  SURVEY LINE

SCALE IN METERS



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5805 MAP 8

TECK CORPORATION LIMITED
VANCOUVER, B.C.

GUT MINERAL CLAIMS
GEOCHEMICAL SURVEY
(Ag IN SOIL)

CROUSE CREEK AREA
BEAVERDELL AREA, B.C.

DATE: FEBRUARY 1976 JOB No. 1071
N.T.S. 82 E / 7 W DWG. No.



MAP 5

To accompany assessment report dated February 27, 1976