

ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 94.12.02

ASSESSMENT REPORT 23204

MINING DIVISION: Skeena

PROPERTY: Heather
LOCATION: LAT 56 07 00 LONG 129 42 00
UTM 09 6219071 456472
NTS 104A04E

CAMP: 050 Stewart Camp

CLAIM(S): Crown 5, Doc 1-2, Gypsy Fr, Glad 10

OPERATOR(S): Int. Tournigan

AUTHOR(S): Javorsky, D.

REPORT YEAR: 1993, 26 Pages

COMMODITIES

SEARCHED FOR: Gold, Copper

KEYWORDS: Jurassic, Salmon River formation, Unuk River Formation, Rhyolites
Greenstones, Galena

WORK

DONE: Geophysical, Prospecting

PROS 500.0 ha

Map(s) - 2; Scale(s) - 1:5000

MINFILE: 104A 127

RECEIVED
DEC 22 1993
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VANCOUVER, B.C.

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FILE NO:

1993 PROSPECTING REPORT

HEATHER GROUP OF MINERAL CLAIMS

FOR

INTERNATIONAL TOURNIGAN CORPORATION

BEAR PASS AREA

SKEENA MINING DIVISION

Mineral Map 104A 4E

Latitude: 56° 07' North
Longitude 129° 42' West

By: David Javorsky
Prospector

November, 1993.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

FILMED

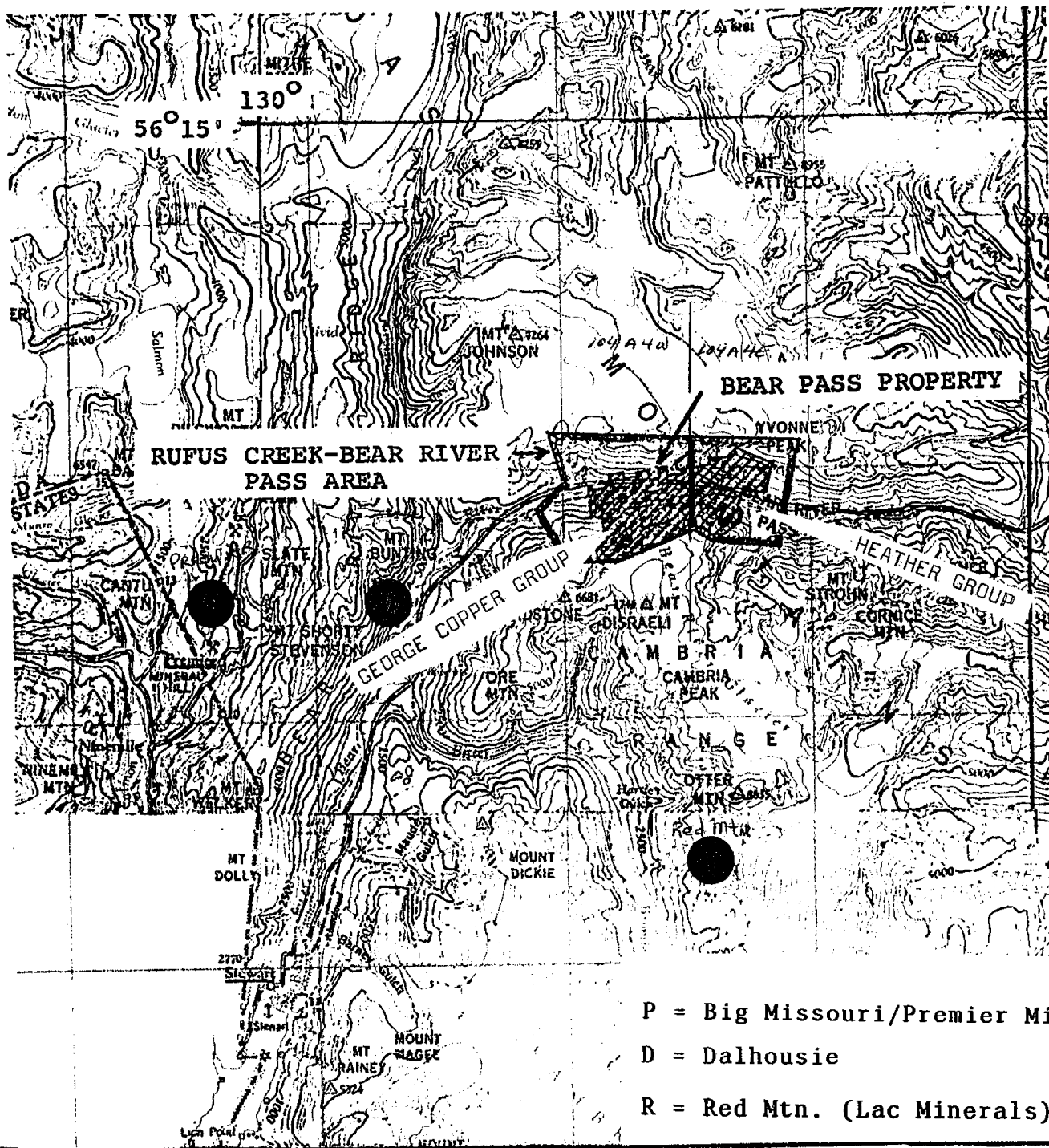
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TABLE OF CONTENTS

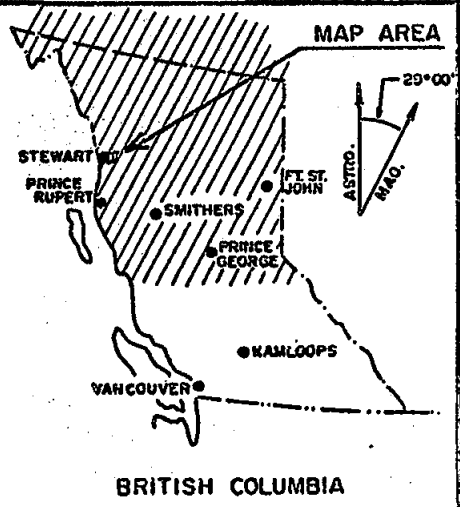
	Page
Location Map	1
Introduction	2
Location	2
1993 Assessment Work Program Physical Work.....	2
Location Map <i>claims</i>	3A
Physical Work Map	3B
Exploration Prospecting	4
Heather #4 Map	5
Geophysical Exploration	6
Assessment Work Expense Break-Down	11
Certificate of Qualifications	
Dave Javorsky	12
John Hembling	13

APPENDIX:

- 1) Sample Location Map
- 2) Assays
- 3) Report on the Barite and Red Top Groups
by Jas. A. Mitchell, Nov. 27, 1936.



- P = Big Missouri/Premier Mine
- D = Dalhousie
- R = Red Mtn. (Lac Minerals)



LOCATION MAP
TOURNIGAN MINING EXPLORATIONS LTD.

LOCATION OF BEAR PASS PROPERTY
AND RUFUS CREEK-BEAR RIVER PASS
AREA

MAP 104 A 4 E & W.
Scale 1:250,000
(1 inch equals 4 miles)

INTRODUCTION

The Heather Group of mineral claims lie on both sides of the Bear Pass Highway Northeast of Stewart, British Columbia (Map Area 104A-4E). This area is well mineralized and prospectors have been attracted to the gossan-stained cliffs and outcrops that characterize the area. The topography is "rugged" with glacier carved "U - shaped" vallies and near vertical cliffs abundant.

The 1993 Assessment Work Program on behalf of International Tournigan Corporation consists of road and trail maintenance, exploration prospecting and geophysics. A "Beep Mat" was used to locate EM conductors and magnetic minerals. Various samples were taken and submitted for assay.

The results of the program include the location, mapping, and trail work to the Heather #4 Adit and two other previously unrecorded adits. Prospecting and sampling involved locating mineralized zones including of an unusual brecciated mineralized rhyolite zone where the rhyolites are surrounded in a matrix of hematite and sphalerite.

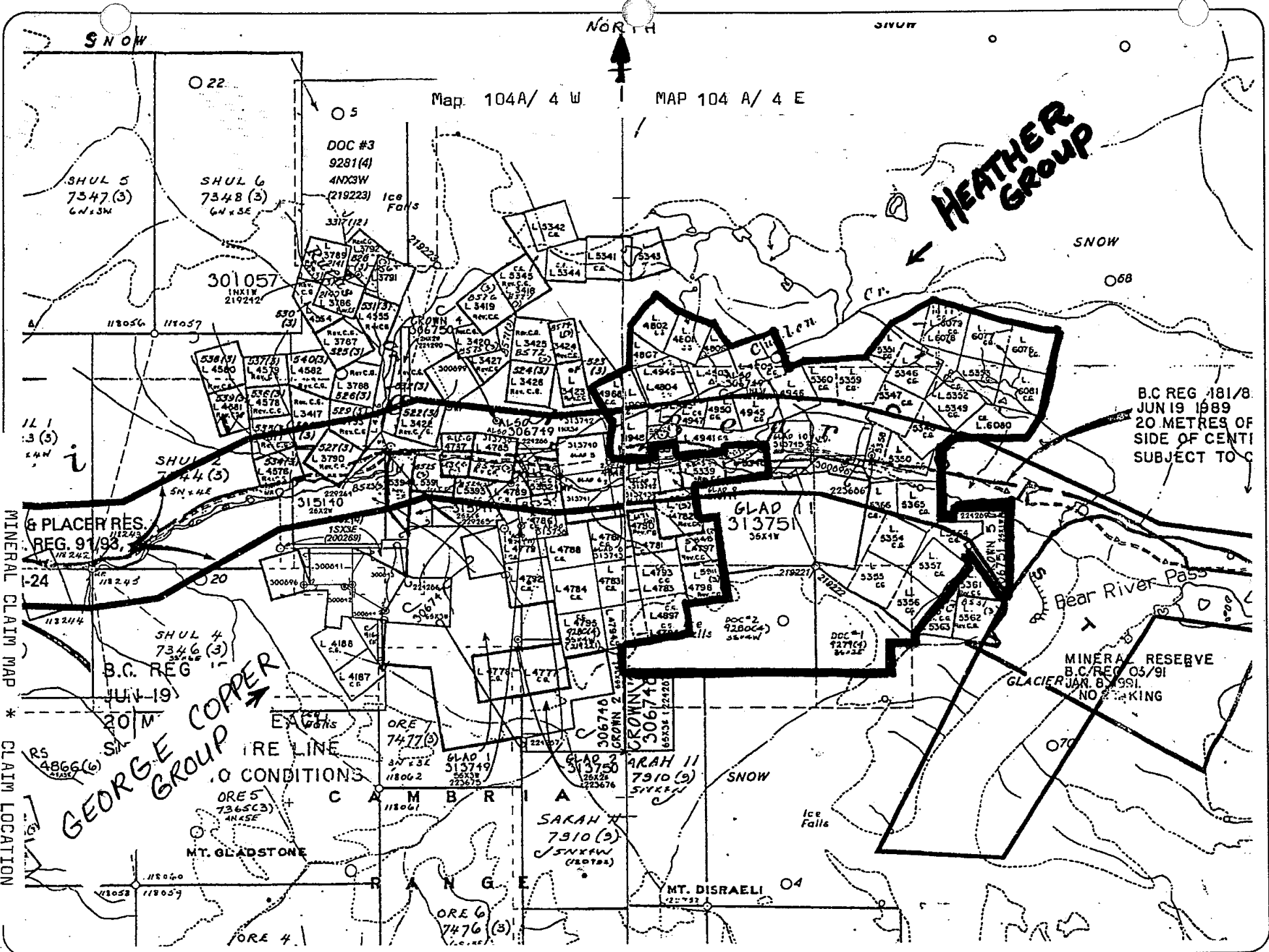
LOCATION

The center of the Heather Group of claims is located on Mineral Map 104A 4E at 129° 42' and 56° 07' north. Approximately 28 km NE of Stewart, B.C. adjacent to the Bear Pass Highway.

1993 ASSESSMENT WORK PROGRAM PHYSICAL WORK

The Heather #4 adit was located. An old pack trail going to the adit was flagged and brush and dead-fall was removed. An old pack-trail to the Red Top property was located and cleaned up. In addition a chain saw and brush-cutter were used to remove dead-fall from trails to the Enterprise adits and Amazon showings. Brush was cut and some dead-fall removed from a pack trail that went to an exploration adit driven on a gossan SW of the Enterprise main showing. An old trail on the west side of Cullen Creek was located and followed to an unrecorded adit on the north-west side of the Cullen Creek granitic intrusion. This trail was blazed for the first 500 meters and some dead-fall was cut and removed from the trail after it crossed onto the Amazon mineral claim.

This physical work along with the exploration was performed pursuant to approval permit number: SMI-93-0101212-270.



NORTH

Map 104A/ 4 W

MAP 104 A/ 4 E

HEATHER GROUP

B.C REG 181/8
JUN 19 1989
20 METRES OF
SIDE OF CENTI
SUBJECT TO C

HEATHER GROUP

MINERAL CLAIM MAP * CLAIM LOCATION

GEORGE COPPER GROUP

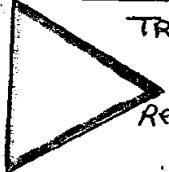
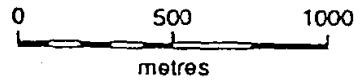
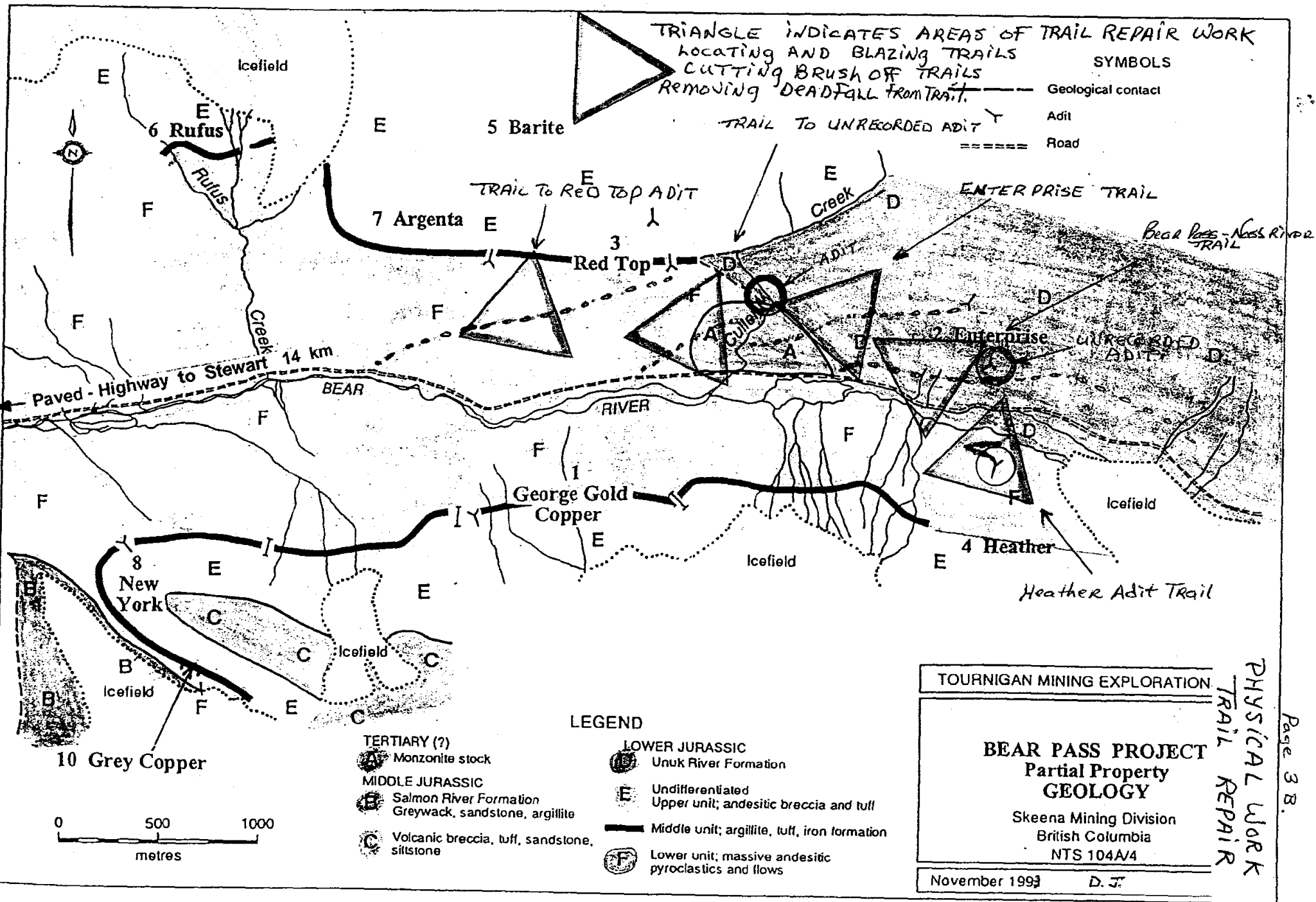
MINERAL RESERVE
B.C. REG 03/91
JAN. 8, 1991
NO WORKING

SAKAR H
7310 (3)

MT. DISRAELI

MT. GLADSTONE

MINERAL CLAIM MAP * CLAIM LOCATION



SYMBOLS
 --- Geological contact
 --- Adit
 ===== Road
 --- TRAIL TO UNRECORDED ADIT

LEGEND

- TERTIARY (?)**
 (A) Monzonite stock
- MIDDLE JURASSIC**
 (B) Salmon River Formation
 Greywack, sandstone, argillite
 (C) Volcanic breccia, tuff, sandstone, siltstone
- LOWER JURASSIC**
 (D) Unuk River Formation
 (E) Undifferentiated
 Upper unit; andesitic breccia and tuff
 Middle unit; argillite, tuff, iron formation
 (F) Lower unit; massive andesitic pyroclastics and flows

TOURNIGAN MINING EXPLORATION

BEAR PASS PROJECT
 Partial Property
GEOLOGY
 Skeena Mining Division
 British Columbia
 NTS 104A/4

November 1993 D. J.

PHYSICAL WORK
TRAIL REPAIR

EXPLORATION PROSPECTING

General prospecting and locating old showings and sampling new ones, was greatly enhanced via the use of a Beep Mat which locates magnetics and 'EM' conductors.

A prospecting traverse across the Doc and Glad claims was cut short by a serious snow storm. The Heather adit was located and sampled. This adit was first described by Dr. Wm V. Smitheringale, who sampled the mineralization during period from 1928-46. The 15 metre adit was driven on a zone containing a stringer of sulfides up to 25cm wide. The zone strikes NNW and dips 70 east. This zone can be seen in the cliffs above the portal where it has been exposed by cross-cutting and removal of moss and overburden. It is well documented by Dr. W.V. Smitheringale's Map of 1930. (Map Heather #4). Sampling of the Heather adit produced values in lead, zinc and silver. (Map Plan Heather Adit Portal) ITH samples 1 to 5.

On the north side of the Bear River at a point that is quite close to the 'cabin cuts' shown on Dr. Smitheringale's Heather #4 map, a mineralized quartz structure was found. Sample ITH-88 pyrites and grey sulfides make up at least 5% of the total rock samples. (8m SE of Avalanche Survey Sign 29.9).

On a traverse to the Red Top claims with the Beep Mat, sulfides were found in a greenstone. Sample #548583. The Beep Mat responded to this showing indicating it to be both magnetic and a conductor. Close by a one meter cube float boulder of mineralized quartz also rang the Beep Mat. Sample #548584. These two Beep Mat finds were accomplished directly under the new High Voltage power line into Stewart.

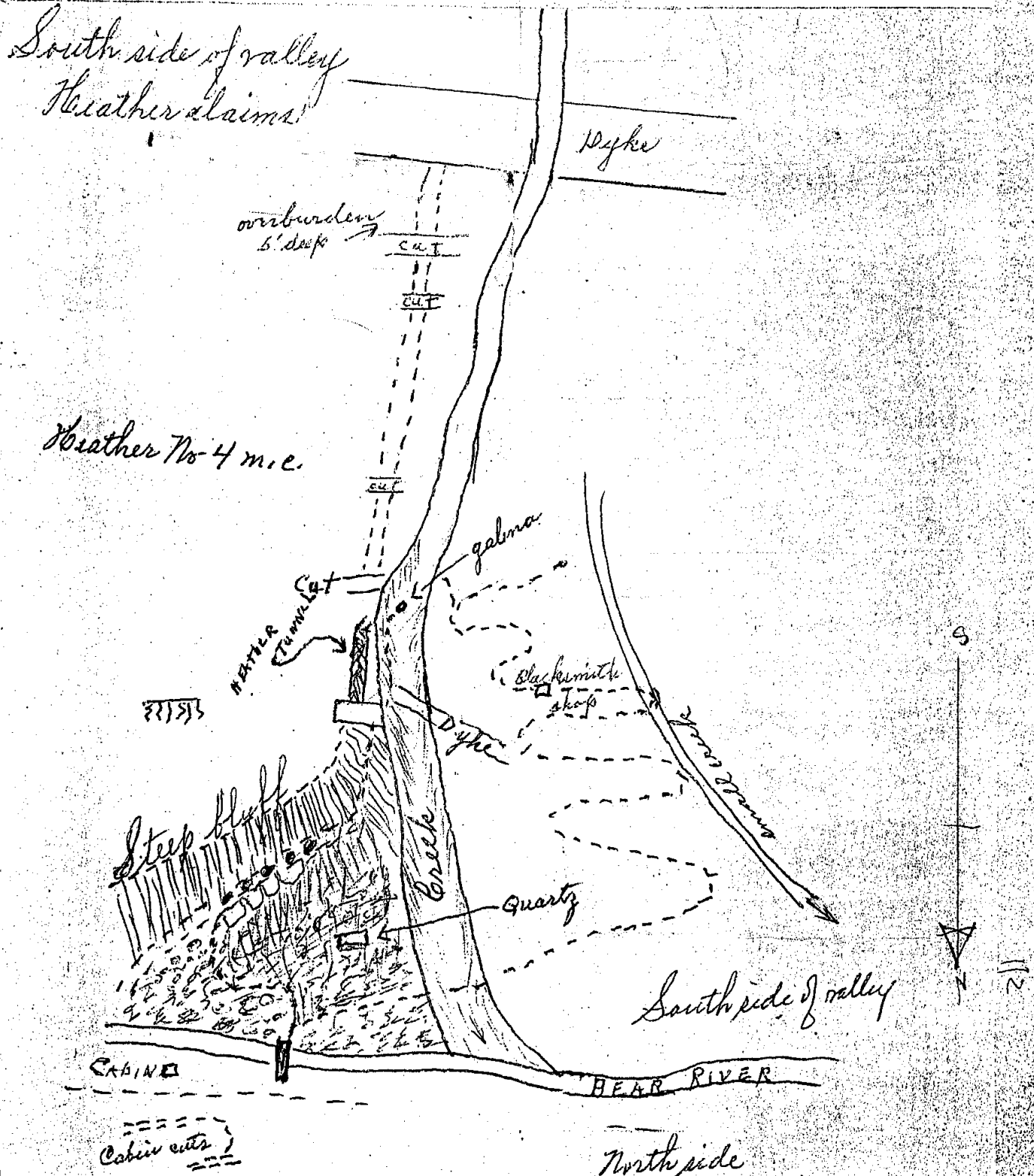
A Beep Mat prospecting traverse up the old Stewart-Nass River trail, located magnetite in volcanics. Sample #548585 was submitted for assay. Following this trail at a point 825m east a mineralized breccia zone was found with clasts of rhyolite and pyrite with a matrix of hematite and sphalerite. Sample #548586. *Further to the east sample 548587* was from a mineralized breccia zone sampled at a point 978m east, where the clasts of rhyolite appear to be larger (3 to 6 inches across) and darker, possibly due to more sulfide mineralization.

Sample #548589 was taken north of the Copper King Avalanche shoot and contains disseminated mineralization (10%) in greenstone. Adjoining the zone of disseminated mineralization is a zone of massive sulfide (-50%). Sample #548590. (200 metres west of no stopping sign for Copper King avalanche zone).

Heather #4 MINERAL CLAIM

Heather Adit

Map by Dr. W.V. Smitheringale
And Mrs. B. George-Early 1930's



No engineer's map has been
made of work on Heather No 4 m.c.

The Cullen Creek intrusive is silicious on its west and north west side. This zone is altered and contains up to approximately 5% in disseminated mineralization. Sample #548591. An unrecorded adit, in a cliff overlooking Cullen Creek accesses this mineralized silicious zone. The intrusion porphyritic and is exposed on its south east side, as an altered, silicious zone containing epidote. This exposure occurs in a rock quarry north of the Bear Pass road and east of Cullen Creek.

Another unrecorded exploration adit was found driven into a yellow gossan in the cliffs above the old Bear-Nass trail. Sample #548592 is altered, heavily mineralized in a quartz-sercite zone. It did not ring the Beep Mat, however a quartz zone within this gossan zone with disseminated pyrite lying next to the sercite zone did activate the Beep Mat. Sample #548593 is vugie grey quartz with 5 to 10% disseminated sulfides.

GEOPHYSICAL EXPLORATION

The 'Beep Mat' is an instrument developed by Instrumentation G.D.D. Inc. Ste.Foy, Quebec and is employed to identify magnetic and E.M. conductors. The uncoil is built into a small slead and the electronics are housed in a chest pack. The slead is dragged through the brush by its connecting wire. This procedure is similar to taking a blind dog for a walk, since he will invariably get tangled up in heavy brush on steep hillsides. However this blind dog has a good nose for electromagnetic (EM) conductors through moss and overburden. The unit in the Bear Pass used was the "Beep Mat Model BMII".

1.0 RED TOP EXPLORATION

The main Red Top showings could not be reached due to heavy snow fall. The mineralization is in argillites interbedded with volcanic fragments and lava flows.

"A 1936 Report on the Barite and Red Top Groups, by Jas. A. Mitchell", the geologist at the Premier Mine was used as a reference and is included in the appexdix 3.

The Beep Mat was pulled up the Red Top trail and the following observations were recorded.

<u>Location</u>	<u>Beep Mat Registered</u>	<u>Observation</u>
00 + 00	365	Greenstone volcanics
00 + 50	290	Greenstone
00 + 51	553	Very small beep dug in moss and found old chain saw file
1 + 00	556	Volcanics minor magnetic
1 + 22	382	Greenstone minor sulfides
1 + 50	305	Greenstone
1 + 64	650	Greenstone minor magnetics
2 + 00	280	Greenstone
2 + 12	258	Greenstone
2 + 50	291	Greenstone
3 + 02	437	Different color to volcanics, Elev. 1380 ft.
3 + 50	391	Volcanics
3 + 65	620	Dike
3 + 78	1110	Greenstone with magnetite
3 + 87	1241	Sample #548582, highest reading found in this area
		Greenstone with magnetite
4 + 00	314	Greenstone
4 + 50	331	Greenstone
5 + 12	311	Greenstone
5 + 50	318	Greenstone
6 + 01	550	Rusty sheer zone
6 + 20	710	Float bolder of magnetic Greenstone
6 + 50	412	Greenstone
7 + 17	728	Greenstone - magnetic
7 + 50	401	Greenstone
8 + 02	470	Elev. 1680 ft.- Greenstone
8 + 20	1200	Greenstone -magnetic
8 + 50	390	Greenstone
9 + 03	362	Greenstone
9 + 50	371	Greenstone
9 + 88	139	Overburden, heavy moss, broken down
10 + 00	172	Overburden
10 + 50	187	Overburden Elev. 1930 ft.
11 + 28	130	Overburden
11 + 60	152	Overburden
12 + 00	211	Overburden with Greenstone talus
12 + 50	231	Overburden
13 + 05	187	Overburden
13 + 25	192	Overburden - snow
13 + 91	186	Overburden -heavy snow
14 + 13	203	Overburden, Heavy dead fall blocking trail end of traverse Elev. 2175 ft. Heavy snow

Returning to 4 + 00
 400NE - 0 + 00E 270
 0 + 35E 63
 0 + 93E 617

1 + 00E 440
 1 + 22E 445
 1 + 93E 500
 1 + 92E 250

1 + 94 Edge of cliff

A traverse was run due east
 Greenstone
 Rusty volcanics greenstone
 Small zone (2m wide) of small
 (-1m) quartz veins with dissemi-
 nated pyrite in greenstone veins
 NW-SE Dip 205
 Greenstone
 Crossing quartz stringers (-1m)
 in volcanics
 Greenstone - Tuff (?)
 #548583 with disseminated pyrite
 Sample #547584, Float bolder
 1 cubic meter in size, silicious
 quartz, with disseminated pyrite
 Non conductive- non magnetic.
 Lots of black magnesite oxide.
 It appears I am standing on top
 of some form of volcanic flow.

2. ENTERPRISE EXPLORATION

Starting on the Gypsy Fr. Mineral claim at an old rock quarry
 the Beep Mat was east to north easterly along the old Bear
 Pass - Nass River trail. Elev. 1350 ft. (Avalanche Survey Sign
 28.6).

<u>Location</u>	<u>Beep Mat Registered</u>	<u>Observation</u>
0 + 00	263	Vell altered rock with epidote
0 + 50	80	Overburden
1 + 00	154	Overburden
1 + 50	191	Directly under powerline
2 + 00	170	Overburden
2 + 50	172	Overburden
2 + 74	900	Sample #548585, mineralized dark volcanics - possible dike
3 + 00	150	Avalanche shoot - overburden climbing over massive rubble
3 + 50	220	Overburden
4 + 00	312	Greenstone
4 + 50	276	Greenstone
5 + 00	294	Greenstone
5 + 25	700	Minor pyrite disseminated in in greenstone - possibly some magnetite
5 + 50	218	Overburden
6 + 00	350	Greenstone
6 + 50	410	Greenstone
7 + 00	391	Greenstone
7 + 50	290	Greenstone
8 + 00	170	Overburden with rhyolite talus in it.

<u>Location</u>	<u>Beep Mat Registered</u>	<u>Observation</u>
8 + 25	158	No beeps. However, breccia zone Sample #548586. A breccia zone of pale pink rhyolite claps containing disseminated pyrite, locked in a matrix of hematite (Brick Red Streak) and sphalerite and blackish -bluish metallics. This zone outcrops in cliffs above (40m) and has avalanched down onto trail. Exactive volcanics (?) quartz serrate.

Recalibrated Instrument

8 + 25	185	Overburden avalanche material
8 + 50	257	Overburden
9 + 00	191	Overburden
9 + 50	237	Overburden
9 + 76	187	Altered rock
9 + 78	286	This zone appears to be similar to zone at 8 + 25E, 40N. The fracture zone (?). Alteration zone NW-SE crosses flat lying flow or fault zone (?) Sample #548587. A breccia zone of mineralized pink rhyolite clats in a mineralized matrix similar to Sample #548586 probably a continuation of same structure.
10 + 00	263	Overburden
10 + 50	101	Overburden
11 + 00	140	Overburden, Elv. 1600 ft. Heavy brush . End of traverse.

This trail was accessed again by climbing up an avalanche shoot from the Bear Pass road at avalanche sign 30.5km, starting where the avalanche crosses the old trail and going westerly with the Beep Mat.

<u>Location</u>	<u>Beep Map Registered</u>	<u>Observation</u>
0 + 00	187	Overburden
0 + 05	220	Old culvert
0 + 50	800	A mineralized boulder
1 + 00	305	Greenstone
1 + 25	300	Greenstone
1 + 50	278	Greenstone
1 + 75	290	Greenstone
2 + 00	295	Below gossan in cliffs. No No beeps. Sample #548592 Massive sulfides (pyrite) in silica flooded altered greenstone. Yellow zone of alteration in cliffs, within rusty brown wathered volcanics. Moving the Beep Mat back and forth over the talus from the quartz sercite zone obtained a small response from what appears to be the quartz vein besides the sercite. Sample #548593 is mineralized vugie grey quartz.

End of traverse.

ASSESSMENT WORK EXPENSES

Labour:

16 days at \$150. per man day	\$2,400.00
6 days physical with chain saw & brush-cutter	
5 days for general prospecting	
5 days prospecting with Beep Mat	

Living Expenses:

16 man days @ \$55/day for room and board, camp & groceries	880.00
--	--------

<u>Insurance and Workmans' Compensation</u>	116.50
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Truck Rental:

4 x 4 3/4 ton @ \$50/day for 16 days	800.00
--	--------

Chain Saw and Brush-cutter Rentals:

6 days @ \$45/day	270.00
-------------------------	--------

Beep Mat Rental:

6 days @ \$70/day, plus transportation costs ..	472.85
---	--------

Expenditures:

Fuel for Truck and Chain Saw, Repairs for Truck and tires	471.92
Postage, Faxing, Telephone, Shipping of Rock Samples	218.47
Prospecting Supplies, Hardware, Camp Supplies .	266.36
Assaying 17 samples @ \$21.55/ea	366.35
Transportation - Helicopter 1. hr @ \$813.74/hr.	813.74
Report Presentation	<u>200.00</u>

<u>Total Expenditures - Heather Project</u>	<u>\$7,276.19</u>
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STATEMENT OF QUALIFICATIONS

I David Javorsky, state as follows:

That I am a graduate of the ADVANCED PROSPECTING SCHOOL sponsored by the B.C. Ministry of Education and the Ministry of Energy, Mines and Petroleum Resources.

That I have completed the Petrology and Alteration for Prospectors course presented by the British Columbia Prospectors Training Program, Geological Survey Branch.

That I have spent over 25 years working in the mining, prospecting and mineral exploration industry.

That I have been instructed in the use of the Beep Mat by the manufacture.

That I was directly involved with doing the work presented in the forgoing 1993 Assessment Work Report.

That my mailing address is: P.O.Box 806, Stewart, B.C. Vot-1w0, where I reside on glacier road.

David Javorsky
David Javorsky
November 28, 1993.

CERTIFICATE OF QUALIFICATIONS

Re: David Javorsky

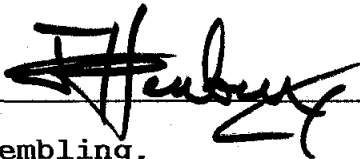
by:

John Hembling

I John Hembling, have reviewed the work conducted by 'Prospector David Javorsky' on behalf of International Tournigan Corporation in the Bear Pass area, near Stewart, B.C. in the late fall of 1993.

I have reviewed most of the rocks submitted for assay, and Javorsky's geological descriptions of them and attest to their general accuracy.

Dated at Vancouver this 26th day of November, 1993.



**John Hembling,
Chief Geologist
INTERNATIONAL TOURNIGAN CORPORATION**

A P P E N D I X 1

SAMPLE LOCATION MAP

A P P E N D I X 2

ASSAYS



ASSAYING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., P.R. #2, Kamloops, B.C. V2C 2J3 Phone (804) 573-5700
Fax (804) 573-4557

NOVEMBER 23, 1993

CERTIFICATE OF ANALYSIS ETS- 93-5662

DAVID JAVORSKY
P.O. BOX 806
STEWART, B.C.
V0T 1W0

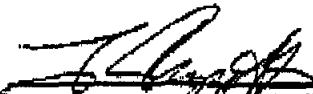
SAMPLE IDENTIFICATION: 23 ROCK SAMPLES received NOVEMBER 12, 1993

ET#	Description	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)
1	ITH 1	.08	.002	16.9	.49
2	ITH 2	.08	.002	5.1	.15
3	ITH 3	.17	.005	.9	.03
4	ITH 4	<.03	<.001	4.5	.13
5	ITH 5	.03	.001	.3	.01
6	ITH 88	.10	.003	8.4	.25
7	5485 76	.04	.001	.6	.02
8	5485 77	.06	.002	.9	.03
9	5485 78	<.03	<.001	.4	.01
10	5485 79	.06	.002	.7	.02
11	5485 80	.04	.001	1.0	.03
12	5485 81	.03	.001	.9	.02
13	5485 82	.03	.001	.1	<.01
14	5485 83	<.03	<.001	.1	<.01
15	5485 84	<.03	<.001	.3	.01
16	5485 85	<.03	<.001	.5	.02
17	5485 86	<.03	<.001	.4	.01
18	5485 87	.10	.003	1.0	.03
19	5485 89	.04	.001	.9	.03
20	5485 90	.07	.002	8.5	.25
21	5485 91	.06	.002	.6	.02
22	5485 92	<.03	<.001	.5	.02
23	5485 93	.03	.001	.8	.02

NOTE : < = LESS THAN

FAX @ 689-0288

SC93/misc


ECO-TECH LABORATORIES LTD.
FRANK J. PEZZOTTI, A.Sc.T.
B.C. Certified Assayer

FEED FAX THIS END

FAX

To: David Javorsky
Dept: 681-83131
Fax No.: 573 4557
No. of Pages: 3
From: Vicki
Date: NOV 29 1993
Company: Eco-Tech
Comments: Results & requested statements
Post-Net
FAX PAD 7903C

Reprints!!!

A P P E N D I X 3

REPORT ON THE BARITE AND RED TOP GROUPS

BY

JAS. A. MITCHELL, NOV. 27, 1936.

REPORT

on the

BARITE AND RED TOP GROUPS

UPPER BEAR RIVER VALLEY

PORTLAND CANAL DISTRICT, B. C.

by Jas. A. Mitchell

SUMMARY AND CONCLUSIONS

There are numerous mineral occurrences on this property but only two of these, the best, have been developed to any extent.

The first of these is a chalcopyrite replacement in tuffs and argillites and apparently controlled by a fault striking northeasterly. Concentrations were obtained at the surface in the footwall argillites, and underground in the hanging wall tuffs immediately above the downfaulted argillites. No important mineralization or values were obtained at any appreciable distance from the fault and although a small tonnage may be developed along this fault, nothing of commercial importance seems probable. This deposit does not carry gold values.

The second of these is a silver-lead-zinc type vein-like replacement of a shatter zone lying between two quartz diorite dikes. These dikes may have been responsible for the shattering but have not served to concentrate the mineralization. This mineralization is erratically spread throughout a wide zone and though a crosscut tunnel 225 feet below indicates it does not go down there is a faint possibility that it rakes over this tunnel. Further trenching across the zone to the west of the tunnel may reveal further concentrations but from the lensy nature of the fracturing it appears extremely unlikely that sufficient mineralization to constitute an orebody will be found here. Values are solely in silver, lead and zinc.

None of the other showings are in the least inviting and it therefore seems fairly conclusive that the Premier Gold Mining Company Limited would not be interested in this property.

LOCATION AND ACCESSIBILITY

The Red Top claims are located along the north side of the Bear River approximately five miles above its confluence with American Creek. These claims and the Barite claims above extend from the valley bottom at 1,200 feet elevation to the summit of a glaciated volcanic mountain, elevation 5,500 feet. Beyond this mountain to the north is an extensive ice field, on the other side of which the mountains rise to elevations of over 7,000 feet. From the end of the Bear River road, a good pack trail leads to the property and it would not be unduly difficult to build a road to the summit.

CLAIMS AND OWNERSHIP

The Red Top group consists of 24 claims and fractions and the Barite Group consists of 3 claims and one fraction. Some of the claims are crown-granted and some held by location and right of assessment as shown on Map #2-1968. The area covered by the Mars, Mars Fr., Zig Zag Fr., Alta and Superior No. 1 claims was relocated this year. These locations were carelessly made and it is extremely doubtful if they were completed, or whether they cover the ground intended. Moreover, old survey posts were used as location posts and sometimes the same post was used for two claims. Because of the doubt concerning these claims, they are not shown on the map.

Harry Quickstad, 1220 Standard Bank Building, Vancouver, B. C., is the sole owner of both groups and states that he will develop the properties himself if he cannot make a deal.

HISTORY

It is understood that the Red Top property was first staked in 1910 by Gus Ericson, but since then, by a series of transactions and lawsuits it passed from him to a man by the name of McNeil, now deceased, then from him to H. Quickstad, the present owner. The Barite group was previously held by a Mr. Hansen who sold out to H. Quickstad. The last discoveries were made in 1924. According to Quickstad, several prominent engineers had examined the property, and being favorably impressed by it had arranged for deals involving sums of money ranging from \$150,000 to \$300,000. He further states that these deals were not completed because of greed on the part of McNeil.

PRICE & TERMS

Mr. Quickstad would not divulge his price but gave to understand that the property was a valuable one, that the price asked would be in accordance and that it would entail a considerable cash payment.

GENERAL
CONDITIONS

Because the Bear River Valley has been subjected to glaciation, the lower slopes on the property are comparatively steep. However, they maintain an unbroken line of timber, indicating that large snow slides do not occur. This can probably be explained by the fact that the upper slopes above timber line are flat and where steeper slopes occur, intervening ravines protect the lower ground from slides.

Safe campsites, conveniently located with respect to timber and water are obtainable within reasonable distances of the lower showings, but to investigate the upper showings it would be more convenient to use fuel oil for power and domestic purposes.

For a large operation the best location for a mill would probably be along a narrow east-northeast fault valley somewhere between the copper showing and the Bear River. The exact position would depend on the mining depth established but would have to be several hundred feet below the copper showing in order to obtain water. A plentiful source of power is available in Cullen Creek which is fed by immense ice fields to the north.

GEOLOGY
AND ORE
OCCURRENCE

The prevailing rocks on the property belong to the volcanics of the Hazelton series and are principally fragmentals; tuffs at the lower levels and breccias at the upper levels. Some of the breccias show a flow-matrix and lava flows are intermixed with the pyroclastics at the lower levels. It is thought that the flow rocks are mainly andesites but a dense rock in the vicinity of the galena showing, No. 3 showing on the claim map, is purplish black even along the edges of thin splinters and is also slightly amygdaloidal. It seems fairly safe to call this rock a basalt.

Several dikes, dipping steeply to the southwest, cut across the property in a northwesterly direction. One, on the east side of the galena showing, does not appear to have any noticeable effect on the mineralization. There is if anything a lessening of the mineralization at the dike. There is no continuation of the zone beyond the dike but that is because at this point the vein would normally be cut off by the steep cliffs on the east side of the dike. Slightly higher on this side of the dike

there are reported to be occasional small bunches of galena mineralization.

In these dikes feldspar and hornblende phenocrysts, and a few of quartz aggregate about 50% of the rock in a fairly coarse matrix, apparently of the same minerals. Accordingly the dikes are classified here as quartz-diorite porphyry dikes and they are probably out-lying members of the belt of dikes which traverse the country a few miles to the south.

Individual descriptions of the principal occurrences follow. These occurrences are numbered in accordance with the circled numbers on the claim map. (See upper right hand corner of Map 2-1968)

Occurrence No. 1 This is apparently a replacement deposit concentrated along both walls of a normal fault striking northwesterly and dipping steeply to the northeast. Chalcopyrite mineralization in this fault indicates it was present before the period of chalcopyrite mineralization but as it cuts off what is presumably a pyritized portion of fault plane "B" is apparently younger than the period of pyrite mineralization. On the surface the chalcopyrite mineralization, though somewhat obscured by weathering appears to spread along the bedding planes of a narrow band of cherty argillites. Concentrations appear to break across the bedding at samples Nos. 26870 and 26871 but it was delimited to the north by unmineralized tuffs and obscured to the south by slide rock. Not more than six feet of the argillite bed is exposed between the tuffs and slide rock. Samples Nos. 26849 to 26853 inclusive with the above two samples cover the exposed chalcopyrite mineralization. Sample No. 26872, some sixty feet to the southeast is across fourteen feet of exposed argillites which are partly in the fault plane and which contain very little chalcopyrite mineralization. The area along the fault is exposed a short distance southeast of this sample but does not appear to be mineralized and it can safely be assumed that no values of interest would be obtained along here.

On the hanging wall of fault "A" and above the upper samples between faults "A" and "B" a minor fault which merges with the other, the rocks appear to fit the description of tuffaceous sandstones given in Dr. G. Hanson's report on the property. They are slightly iron stained but appear to be barren of mineral.

To the west of fault "B" in the area cross hatched to indicate mineralization in Dr. Hanson's map, top centre of Map 2-1968, a thin slice of pyritized argillites dipping flatly to the south and severely oxidized, is left adhering to the underlying volcanics. No chalcopyrite mineralization was detected in this mineralization and samples Nos. 26847 and 26848 which were taken from the most strongly mineralized sections were blanks.

This comparatively smooth slice of argillites suggests that faulting had taken place here after the period of pyrite mineralization. As the geological map of the area shows a major fault along the valley immediately below it is possible that at this point the fault plane and the argillite contact with the volcanics coincided. That it does not coincide elsewhere is indicated by the fact that the argillites at the point mineralized by chalcopyrite dip almost vertically and are apparently intersected by a crosscut tunnel about 150 feet directly below, and also by the fact that the argillite contact where exposed a short distance to the north is not faulted. At this point, marked occurrence 2, on the claim map, there is considerable pyrite but no chalcopyrite and samples taken were blanks.

The above mentioned fault plane is terminated sharply by fault "B". To the west and north the volcanic cliffs rise abruptly from the fault plane. These cliffs where accessible, were found to be formed of an extremely hard light colored and dense rock with few scattered hornblende crystals which near the surface appeared to be altered to chlorite. These rocks can probably be classified as felsites.

The crosscut mentioned previously showed fairly weak pyrite mineralization at the eastern end of the argillite band 200 feet from the portal with one small solid bunch on the right wall but samples Nos. 26854 and 26855 taken here were blanks in gold silver and copper. At 260 feet in, the crosscut intersected fault "A" and in this fault and beyond for twenty feet, samples Nos. 26861 to 26863 inclusive yielded appreciable values in copper but as elsewhere there was no gold content and only negligible values in silver. Sample 26861 and 26862 were in a medium greyish green fairly fine tuff but sample 26863 crossed the tuff-argillite contact. The argillites had apparently been downthrown by fault "A" from the surface to a point a few feet below the floor of the tunnel. As they dipped here about 20 degrees to the south they were intersected waist high in the tunnel about 20 feet beyond the fault. Except at this contact they were unmineralized to the face of the tunnel some 45 feet beyond.

A spur tunnel along the fault to the northwest was in blocky and Slickensided rock which though it appeared to be argillaceous at first glance was found to be tuffaceous when freshly broken. Of samples taken at intervals across the back of this tunnel, one yielded 0.6% Cu, with blanks in gold and silver and the remainder were blanks in all values. A grab sample was taken from the left wall near the face, of intensely slickensided and slightly copper stained rock, yielded 1% copper. This copper is very probably secondary.

To the west of the above showing, the volcanic cliffs are in places intensely iron stained and although it is not likely that commercial copper will be found, the ground between here and the Rufus Argenta showings should be prospected thoroughly.

Occurrence No. 2 In the neighborhood of the circled 2 on the claim map about a claim length east of occurrence 1 are a number of unimportant showings. They include a calcite vein in the stream, a pyritized volcanic argillite contact and an iron stained porphyritic rock containing negligible amounts of pyrite and chalcopryrite. All samples taken in this area were blanks.

Occurrence No. 3 Very little additional work has been done on the surface at this Elev. 4100 (Approx) showing since 1919 when it was previously examined.

A fracture zone lying between two quartz-diorite dikes some four hundred feet apart has been replaced by quartz and calcite carrying small bunches and discontinuous stringers of galena and smaller amounts of sphalerite. This zone strikes N 80 E and dips from 55 to 65 degrees southerly.

On an exposed cliff face adjoining the easterly of the two dikes the zone is merely a network of fine stringers carrying small amounts of the above sulphides; samples Nos. 26873 and 26876. If this zone had persisted to the east of the dike without faulting it has been eroded away.

About eighty feet west of the fault at a point where the mineralization was more concentrated than usual, samples 26877 and 26878 were taken and though yielding better results than the previous samples, were still too low to be of interest.

Another eighty feet to the west along this same lead, samples Nos. 26829-30-31 yielded similar results. Some twenty or thirty feet away on the footwall side of these samples is another slightly faulted quartz-calcite lens. Sample 26828 should be slightly better than the average grade of this lens and sample 26879 is really along a bunch of galena which had been left to show a good face. The intervening rock is a purplish slightly sheared volcanic.

Another fifty feet to the west and slightly offset to the north, a grab sample of the best looking material from a partly filled in cut yielded 155.88 ozs. Ag. From the general appearance of the cut the average across three feet or so of small erratic stringers might be about 10% of this.

About ten feet north of this cut a sample was taken along the face of an oxidized bluff where sulphides were noted in a narrow seam but the values obtained were negligible. To investigate the possible downward extension of these showings a 350 foot crosscut tunnel was driven 220 feet lower. It was sufficiently long to have cut the zone if it persisted to this depth along the dips indicated on the surface but failed to do so. Only dense barren purplish black volcanics with occasional small quartz and calcite gashes were encountered. A sample of the quartz in a drift at the end of this tunnel assayed waste.

Samples 26881 and 26882 are on a three foot mineralized quartzose zone 220 feet west of the above. The former sample, in the comparatively fresh material in a cut assayed Au Tr., Ag 16.28 ozs., Pb 1.5%, Zn 1.5%, but the latter across the heavily oxidized covering yielded only 1.52 ozs. Ag, and blanks in lead and zinc, indicating surface leaching. The heavily oxidized surface of this zone outcrops for some fifty feet only but the strike and dip line it up roughly with the previous occurrences. From this occurrence to the westerly of the two dikes the zone was not in evidence and though it may have been obscured by overburden it could not be picked up along the dike contact which was well exposed for some distance.

Occurrence No. 4 About 300 feet beyond the dike, H. Quickstad claimed he had a seven foot face of ore. When investigated it was found that the side of a seven foot lens had been cleaned off. This lens occurring in a fracture in the face of a steep cliff is nowhere greater than six inches in width and yielded only mediocre values; samples Nos. 26833 and 26834.

Occurrence 5 and 6 Two other opencuts supposed by the owners to be on the same zone as occurrences 3 and 4 were sampled but failed to yield any values. The lower occurrence No. 5, was merely a number of fine oxidized veinlets in the tuffs. The upper No. 6 was an iron stained and altered felsite dike. The dotted lines on the claims map connecting these occurrences are merely to outline a very improbable zone which the owners claim as existing.

Occurrence No. 7 This occurrence near the summit of the mountain consists of a zone of numerous discontinuous gashes and veins of barite. The strike and dip of this zone is irregular but on the average it strikes N 50 W and dips 70 degrees southerly.

Samples were taken in various cuts as shown on map 2-1968. Some of these samples were taken from the exact locations from which Quickstad claimed to have obtained high gold and silver values but the best assay obtained was 6.28 ozs. in Silver with a trace of gold. Excepting for an occasional streak of galena there is nothing here to indicate the presence of minerals of commercial value.

Occurrence No. 8 This is merely a small pyritized gash vein in volcanic breccias striking N 45 W and dipping 60 degrees southwesterly. It was claimed that this was a copper showing but only pyrite and limonite mineralization was apparent and two samples taken were blanks in gold, silver and copper. The vein was exposed in a gash in a thirty foot cliff but could not be traced along its strike in either direction and appears to be a small disk-like occurrence delimited on all sides.

Occurrence No. 9 This occurrence is similar to No. 4 and has been similarly opened up. An eighteen foot trench was made along the wall of a small lens eighteen feet long by about four inches average width. It was claimed that an eighteen foot face was thus exposed. Samples 26841 and 26842 were taken here.

Respectfully submitted,

J. Mitchell

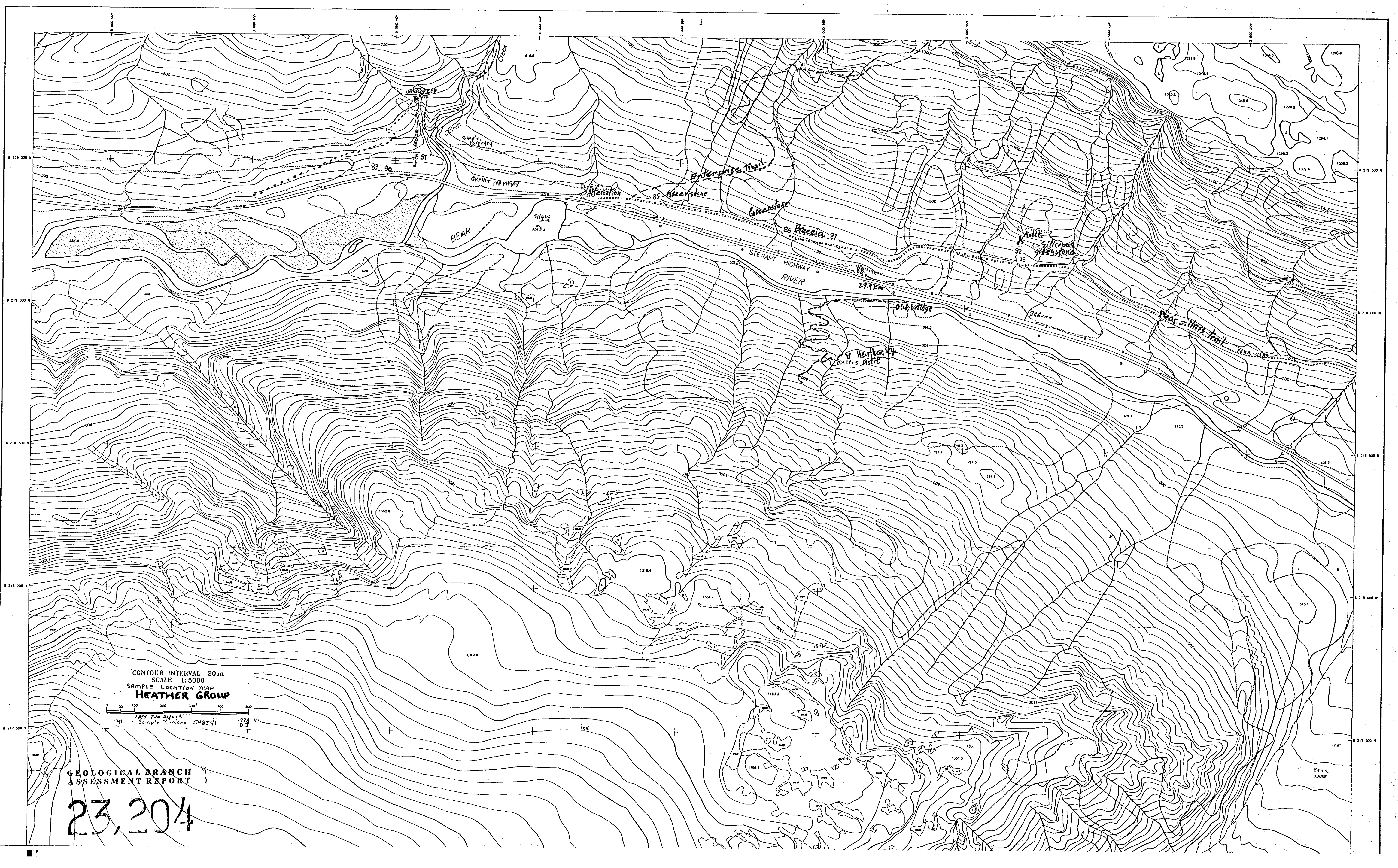
Premier, B. C.,
November 27th, 1936.

Assay returns on samples taken on BARITE AND RED TOP Examination - October 1936.

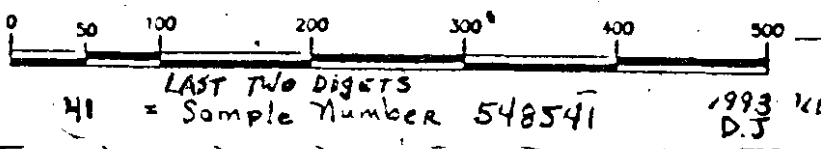
<u>Sample No. and width</u>	<u>Ozs. Au</u>	<u>Ozs. Ag</u>	<u>% Copper</u>	<u>% Lead</u>	<u>% Zinc</u>
26828 - 3 ft.	Tr	2.80		3.3	
29 - 20 ins.	Tr	4.88		7.4	
30 - 3 ft.	Tr	6.00		1.56	
31 - Specimen	Tr	13.20		37.80	
32 - Grab	Tr	155.88		6.50	
33 - 6 ins.	Tr	8.00		4.20	
34 - 6 ins.	Tr	9.20		28.20	
37 - 20 ins.	Tr	.72		4.40	
38 - 20 ins.	Tr	2.96		.60	
40 - Specimen	Tr	7.36		2.40	
41 - 5 ins.	Tr	1.80		6.00	7.8
42 - 5 ins.	Tr	5.28		20.80	16.7
43 - Specimen	Tr	27.68		50.00	(Probably)
49 - 2 ft.	Tr	.68	0.2		0.7
50 - 10 ft.	Tr	Tr	1.6		
51 - 10 ft.	Tr	Tr	0.5		
52 - 10 ft.	Tr	.40	2.5		
53 - 10 ft.	Tr	Tr	0.8		
58 - 3 $\frac{1}{2}$ ft.	Tr	Tr	0.6		
61 - 10 ft.	Tr	.32	1.7		
62 - 10 ft.	Tr	.32	2.6		
63 - 2 ft.	Tr	Tr	0.7		
70 - 3 ft	Tr	Tr	7.3		
71 - 3 ft	Tr	.28	3.2	1.3	Tr
75 - Specimen	Tr	9.60			
77 - 8 ins.	Tr	12.52	Nil	7.0	8.2
78 - 38 ins.	Tr	6.16	Nil	3.3	6.8
79 - 4 ft.	Tr	6.56	Nil	12.8	2.7
80 - ?	Tr	5.80	Nil	Tr	Tr
81 - 3 ft.	Tr	16.28	Nil	1.5	1.5
88 - Grab	Tr	4.00			
89 - Grab	Tr	6.28			
26900 - Grab	Tr	1.08	1.0		

Note: Sample numbers start at 26828 and end at 26900. Numbers within these brackets not listed above yielded assays less than \$1.00 in value.

Jas. A. Mitchell.



CONTOUR INTERVAL 20m
SCALE 1:5000
SAMPLE LOCATION MAP
HEATHER MAP



LAST TWO DIGITS
= Sample Number 548541

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,204

