

DATE: November 21, 1989
A TO: I. D. Pirie
COPIES A COPIES TO: A. J. Davidson
DE FROM: G. Evans
SUJET SUBJECT: 1989 PN 624, 658 Conclusions and Recommendations for Property Acquisition

Numerous properties were visited during the 1989 field season. For classification purposes, the properties were divided into six types including, Tertiary, Epithermal, quartz veins, porphyry/disseminated, shear zones, skarns and massive sulphides. As is usual, many of the properties display two or more types of mineralization but are classified according to the dominant mineralized showing.

Most of the properties have had very little exploration and a quick assessment is difficult. Several advanced projects were visited and while Minnova - Brenda involvement is not warranted at this time due to complex ownership and deals, they should be monitored for possible future involvement. These include the Franklin Camp epithermal system optioned to Placer-Dome, Phoenix skarn owned by Kettle River Resources, Fairview quartz veins operated by Keewatin Engineering, Brett epithermal system optioned by Huntingdon and the Lexington porphyry system owned by Grenoble Energy Ltd.

Below the properties are rated on their merits within deposit type.

1. Tertiary Epithermal:

In 1989 an emphasis was placed on Tertiary Gold systems. Numerous properties were identified but a majority can be dismissed due to low precious metal or limited size potential. Of the

properties visited, the following are recommended for acquisition at this time (in order of priority):

1. Rainbow - Tam O'Shanter: good deal, size potential, good values
2. Spod: good deal, size potential, mod Au values
3. Goldstar: high values, size potential?, deal?
4. Rock Candy: huge system, little info, Cominco owned

2. Quartz Vein:

Numerous quartz vein systems were visited and sampled. The S. Okanagan region appears the most promising with the Fairview type veins having developed significant tonnage. A list of recommended properties is as follows:

1. Mam: high Au values, could develop tonnage
2. Lone Pine: similar to Fairview with large persistent veins

3. Porphyry/Disseminated Systems:

Relatively
~~Related~~ few porphyry systems were visited during the 1989 season and none are recommended at this time. With the possible optioning of the Mann property, a decision must be made whether to focus on alkaline Cu-Au porphyries in the Nicola belt.

4. Shear Zones:

Numerous shear zone showings were visited but while high Au values were found they generally lack size potential. While numerous mega structures exist, their recessive nature makes exploration difficult in the Okanagan.

5. Skarn:

Many skarn showings were visited and several require follow up work. The more promising include Burnt Basin, Burrell Creek and Dividend-Lakeview. If skarns are determined to be a priority target the Greenwood-Grandforks area should be focused upon.

Conclusions:

In 1989, all gold prospects in the Brenda JV area were visited regardless of deposit type. Mineralization of five deposit types mentioned were defined. With the extensive number of properties and existing funding level, one or two types must be made a priority by management before acquisitions are made. In light of the emphasis on Tertiary gold work in 1988, 1989 and the probable optioning of the Mann property. I suggest we focus specifically on Tertiary epithermal gold systems and alkaline Cu-Au porphyry systems in 1990.

PROPERTY NAME: Rainbow

NTS: 82E/2W

OWNERS: Dentonia Resources,
Kettle River Resources
Box 130
Greenwood, B.C.
VOH 1J0

LAT: 49° 02'
LONG: 118° 40'

CLAIMS: Annex, Graham Camp, Rainbow, Downhill, Midway, Midway Fr, M.F., Trout, Horn, Hide, Hoof (149 units)

LOCATION AND ACCESS: The Rainbow property is located about 3 kilometres northwest of Midway. Access to the property is good with numerous old logging and ranching roads from Murray Gulch Creek. The northwest part of the property can be accessed by the Ingram Creek Road.

SUMMARY OF FIELD VISIT: The Rainbow property covers a portion of the western part of the Toroda Creek graben, as shown on the attached figure. Several showings of chalcedonic veining and breccia zones, with anomalous gold values, occur on the property. Recent work on the property by Kerr Addison and by B.P. Resources included geological mapping, minor geochemistry and geophysics, and 460 metres of diamond drilling (in four holes). Only a small portion of the property was tested by these programs. Copies of assessment reports covering this work are attached. Kettle River Resources completed a heavy mineral sampling program of drainages in the area. Very strong gold-arsenic-antimony anomalies occurred in Murray Gulch and Bauer Creek, draining the Rainbow property.

The Rainbow property is underlain predominantly by Eocene volcanics and sediments of the Marron and Kettle River Formations which are preserved in a series of north trending grabens. Minor metasediments of the older Brooklyn and Knob Hill Formations occur locally. A roughly east-west trending belt of serpentine, locally strongly ankeritized, trends across the property, hosting much of

the chalcedonic veining. To the south of this, diorite to quartz diorite intrusions of probable Early Tertiary age are exposed. A number of late Tertiary syenite - monzonite dykes cut the above sequence.

Previous work on the property has been concentrated in the Picture Rock Quarry area. Banded, epithermal, chalcedonic veins, containing breccia clasts of altered serpentinite, occur at the Picture Rock Quarry. Previous sampling by Kerr Addison gave values up to 7.3 g/t Au and 31 g/t Ag from this area although generally results were much lower than this. BP shows the location of a northeast trending structure, the Silica Veined Structure immediately, east of the Picture Rock Quarry. This structure, and the Quarry Zone, were the target of all the drilling to date on the property. Highs to 2.2 g/t and 3.2 g/t Au occur in drill hole and outcrop, respectively, from the Silica Veined Structure.

Detailed grid work by BP covers a total of about 4 square kilometres on lines spaced 100 to 200 metres apart. Soil sample coverage is less than this. Four N-NW trending gold anomalies resulted from the soil sampling program. These anomalies range from 25-125 metres in width and up to 500 metres in length. One outcrop of vein material within the anomalous region gave 423 ppb Au. One drill hole was drilled on the Silica Veined Structure within the vicinity of the soil anomalies however no further follow-up has been done.

Minimal exploration has been done on the Midway Mine, a Pb-Ag (plus minor Au and Zn) mineralized shear zone hosted in an early Tertiary (?) intrusion. Past work has interpreted this as a separate mineralizing event, unrelated to the silicification and chalcedonic veining discussed above. Because of the very close spatial relationship with good epithermal alteration, about 150 metres, it is possible that this represents mineralization within the "base metal zone" of an epithermal system.

In summary, the Rainbow property contains a number of exposures of both epithermal precious metal and base metal (shear zone) mineralization. Although precious metal values are generally sub-economic, the system is very large and little exploration has been done to test it. In particular, no trenching has been done. Since overburden is generally minimal and topography is subdued, backhoe trenching would be an excellent method of exploring alteration zones and of following up soil anomalies.

Seven samples were collected from the Rainbow property, as detailed below.

SAMPLE DESCRIPTIONS AND RESULTS:

		Au ppb	Ag ppm	As ppm	Sb ppm
BCS 18455	Outcrop near MDH-88-4 Chalcedonic veining in alt'd serp	463	3.1	75	1
BCS 18456	Picture Rock Quarry Banded, white chalc.	303	0.2	51	1
BCS 18457	Picture Rock Quarry Pale blue, massive chalc with 10% alt'd serp bx clasts	32	0.7	19	1
BCS 18458	Midway Mine -1m channel across clay gouge zone	357	1.5	62	3
BCS 18459	Midway Mine -30 cm poddy mass. sulfide shear from upper pit	0.354*	830	18750	725
BCS 18460	Midway Mine -2m channel across py, kaol alt'd qtz-feldsp porphyry	0.120*	420	2450	205
BCS 18461	150m SW of Midway Mine Chalc veining in serp.	168	5.8	600	14

* values are in oz/t

RECOMMENDATIONS: The Rainbow property is an excellent early stage epithermal system associated with a major Tertiary graben structure. Work on the property to date has not adequately tested the system, which does locally contain economic precious metal values. The property would be inexpensive to explore, being close to town, with subdued topography, and with water relatively close by. The Rainbow property would be an excellent epithermal target and it is recommended that Minnova pursues the property.

REFERENCES:

- Chow, F., 1984. Report on the Rainbow Group of Mineral Claims, Kerr Addison Mines Ltd, filed for assessment.
- Reid, R. and P. Nielsen, 1983. Geology and Ground Magnetometer Survey of the Midway Mine Area, Dentonia Resources Ltd, Assessment Report 11,953.
- Wong, R., S. Hoffman and W. Harris, 1988. Geological, Geophysical, Geochemical and Diamond Drilling Report on the Rainbow Group, B.P. Resources Canada Ltd, filed for assessment.
- Wong, R. and S. Hoffman, 1988. Geological, Geochemical and Diamond Drilling Report on the Rainbow Group, B.P. Resources Canada Ltd, filed for assessment.

L. Lee
November, 1989

PROPERTY NAME: Tam O'Shanter

NTS: 82 E/2

OWNER: George Stewart / Houston Metals
Greenwood, B.C.

Lat: 49° 05'
Long: 118° 45'

CLAIMS: Tam, Hot, Shanter, Mother, Lode, Tom O'Shanter RCG, Iva
Lenore RCG, Buckhorn RCG, Ingram 1-2, Jolly, Taxpayer
(116 units)

LOCATION AND ACCESS: The Tam O'Shanter property is located about
4 kilometers west of Greenwood. Access is via the Motherlode Creek
Road. The property can be reached by taking either the turnoff at
km 2 or that at km 8.

SUMMARY OF FIELD VISIT: The Tam O'Shanter property covers an area
mapped by Church (1986) and Little (1983) as being underlain by
Tertiary volcanics and sediments (see attached map). The Deadwood
Ridge fault strikes North through the property, forming the eastern
margin of the Toroda Creek graben. Alteration on the property is
associated with this fault. The Tam O'Shanter property was visited
on September 15, 1989.

Alteration consists of silica flooding, brecciation and chalcedonic
veining, with local fine disseminated pyrite, in the tuffaceous
sediments of the Kettle River Formation. The zone is at least 30
metres wide and exposed in outcrop, road cuts, old pits and shafts
for a strike length of about 500 metres. It is likely that the
zone could be extended in length by further trenching. The
property has received little attention recently, perhaps because
gold values from surface samples tend to be low. Three diamond
drill holes were drilled in 1979 to test the system at depth and
values to 500 ppb Au were returned from core samples (see attached

report by Stewart, 1980). Minor addition drilling was recently done on the property by Houston Metals.

Four samples were collected from silicified brecciated and chalcedonic veined Kettle River sediments.

SAMPLE LOCATIONS AND RESULTS:

		Au ppb	Ag ppm	Hg ppb	As ppm
BCS 18179	cherty bx from shaft dump	22	1.8	5	21
BCS 18180	silic sst from shaft dump	9	0.7	30	11
BCS 18181	strongly silic, bx sed., 5% py	220	10.8	5	25
BCS 18182	silic sst	10	0.5	5	8

RECOMMENDATIONS: The Tam O'Shanter property is an excellent example of epithermal alteration associated with a major graben boundary. Although gold values on surface are low, the potential for higher grade values deeper in the system is good. The system is a reasonable size at present and open both along strike and at depth. In my opinion, as an early stage epithermal system, the Tam O'Shanter property has very good potential.

REFERENCES:

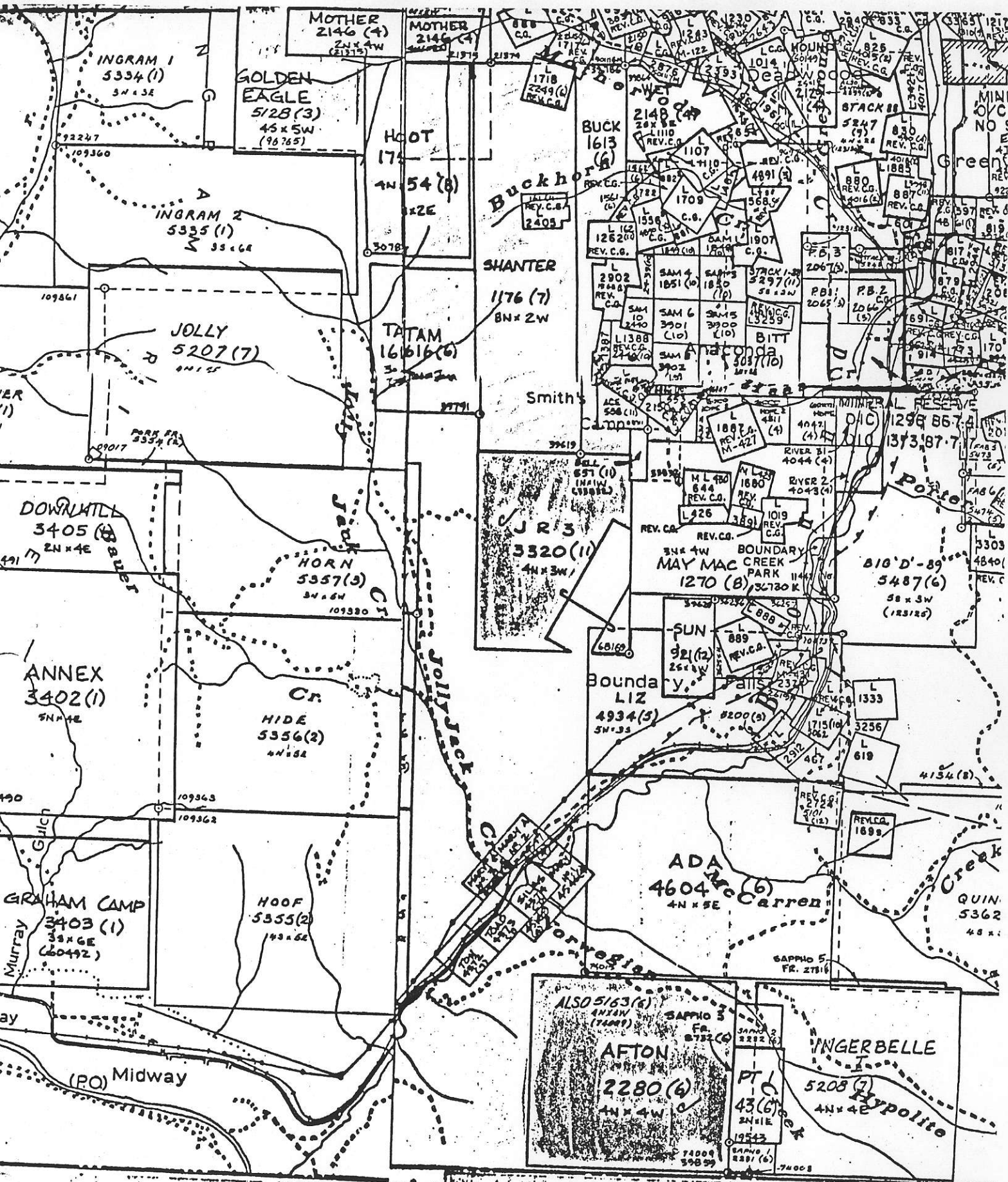
Church, B.N., 1986. Geological Setting and Mineralization in the Mount Attwood - Phoenix Area of the Greenwood Mining Camp, BCDM Paper 1986 - 2

Little, H.W., 1983. Geology of the Greenwood Map Area, British Columbia, GSC Paper 79 - 29

Stewart, G., 1980. Diamond Drilling on the Tam O'Shanter Property. Assessment Report 8795

LL

L. Lee
Sept 17/89



Tam O'Shanter
Property

82 E / 2
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used to serve as a guide
of located mineral claims
mining laws...

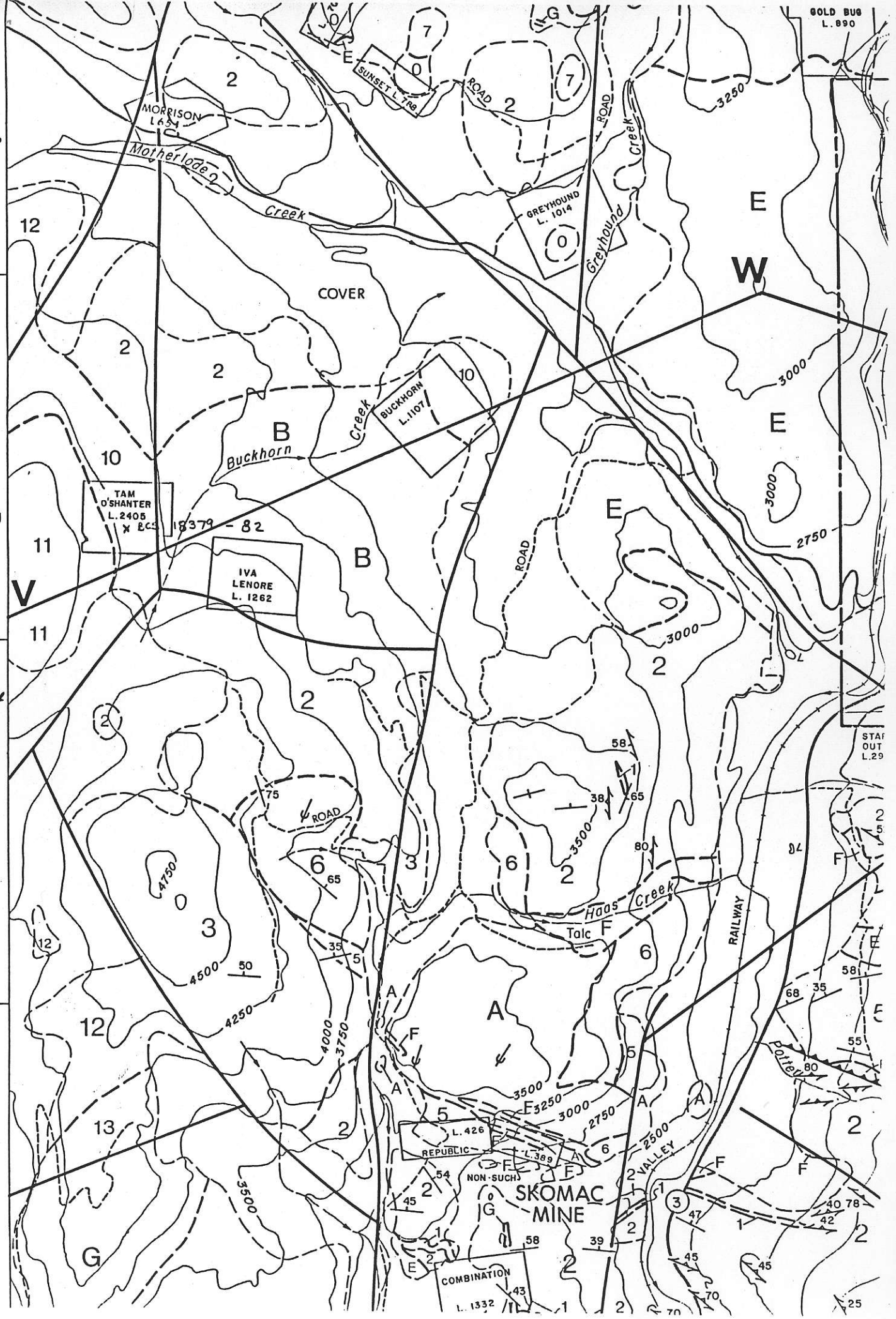
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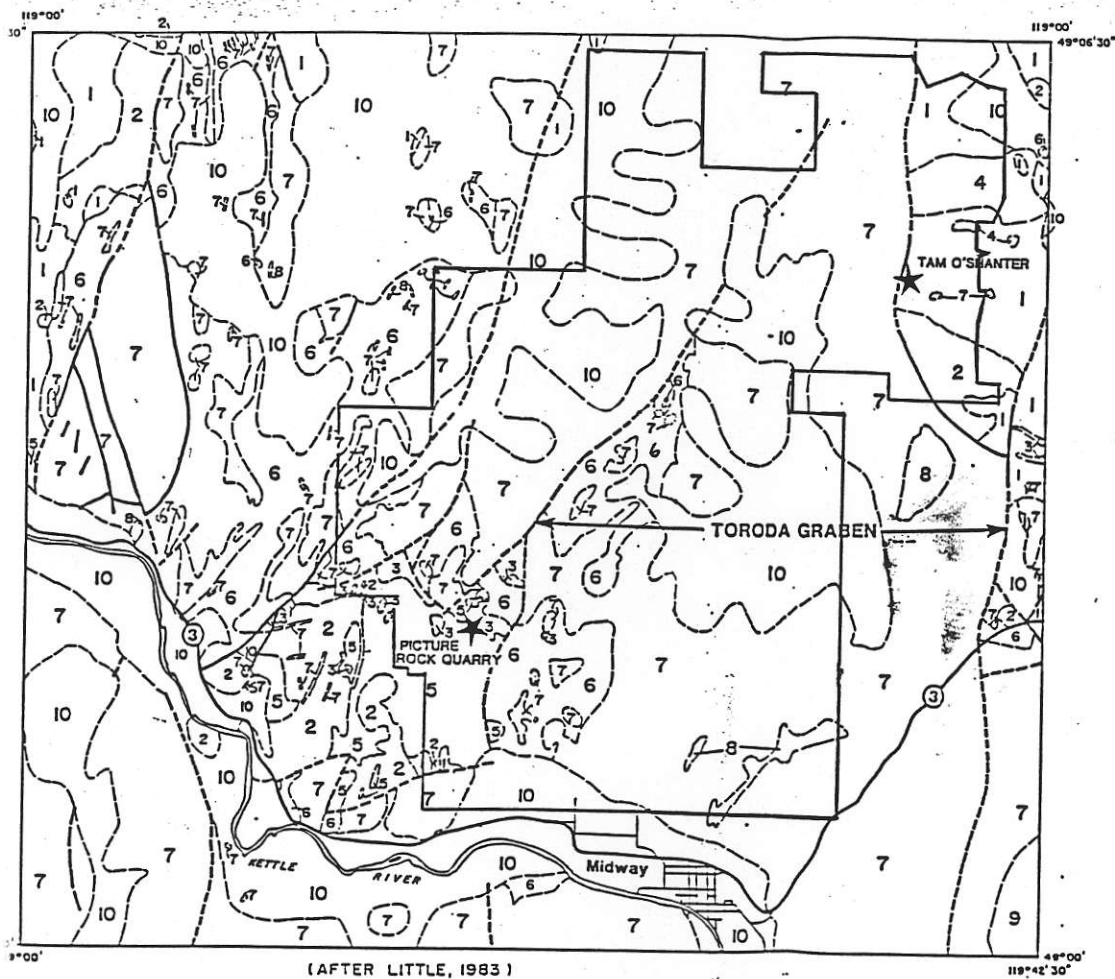
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 March, 1986
 BCDM Paper
 86-2

- 13 } Marron Fm
- 12 } Marron Fm
- 11 } Marron Fm
- 10 } Kettle River Fm
- 7-9 } Brooklyn Group
- 3-6 } Attwood Group
- 1-2 } Knob Hill

H - Coryell
 G - Tert Dior
 C+ - Cret Intrusive
 A-B - Trias. Intrus





OUTERNARY

10 UNCONSOLIDATED SEDIMENTS

EOCENE

- 9 KLONDKKE MOUNTAIN FORMATION: OLSTOSTROME
- 8 CORYELL INTRUSIONS: SYENITE TO QUARTZ MONZONITE
- 7 MARRON FORMATION: TRACHYTE TO ANDESITE AND INTRUSIVE EQUIVALENTS
- 6 KETTLE RIVER FORMATION: FELDSPATHIC AND LITHIC TUFFACEOUS SANDSTONE AND SILTSTONE, MINOR SHALE AND CONGLOMERATE

CRETACEOUS OR TERTIARY

5 QUARTZ FELDSPAR PORPHYRY: DIORITE TO DACITE

JURASSIC

4 NELSON INTRUSIONS: DIORITE TO GRANODIORITE

3 SERPENTINIZED ULTRAMAFICS

TRIASSIC

2 BROOKLYN FORMATION: LIMESTONE, SHARPSTONE CONGLOMERATE, MINOR CHERT, SANDSTONE, ARGILLITE

PALEOZOIC

1 CHERT, GREENSTONE, AMPHIBOLITE

--- FAULT (DEFINED, ASSUMED)

★ TERTIARY EPITHERMAL OCCURRENCES



BP BP Resources Canada Limited
MINING DIVISION

**MIDWAY PROPERTY
REGIONAL GEOLOGY**
SOUTHWEST PORTION OF THE
GREENWOOD MAP-AREA

SCALE: AS SHOWN	DRAWN BY: R WONG	FIG. 3
DATE: JAN 89	REV.: CHONG	
N.T.S. 82 E / 2W	PROJ: 10136	REPORT: MPVR 88-12

Rainbow Tam O'Shanter

Summary

The properties total 265 units covering most of the Tonoda Creek Graben. Due to litigation on Tam O'Shanter this property has only recently become available. These properties cover a large area of Eocene volcanics and sediments with a complex series of E-W and NE trending regional faults which have never been explored. Our 1989 U.S. Power Government Magnetic shadow plots show these faults clearly. Heavy mineral sampling by both Discovery and ourselves outline several highly anomalous areas elevated in Au, Ag, Cu, As, and Sb.

Known showings include the Midway Mine, Picture Rock Quarry and the Tam O'Shanter. Epithermal mineralization is confined to low angle serpentine shears along an unconformity and high angle fault structures with silicification in the porous Kettle River sediments. Either target could develop significant tonnage of Bonanza type epithermal ore. A reasonable deal can be worked out on a ~~large~~ undeveloped property with excellent potential.