

GEOLOGICAL MAPPING

Ridge Zone

Specific Claims Involved:      Beekeeper 1, Record #2055  
    Beekeeper 2, Record #3892

Mining Division:                      Cariboo

Specific Location (N.T.S.):      93A/6W

Latitude and Longitude:          52° <sup>23.8'</sup> ~~21'~~ North  
    121° <sup>20.3'</sup> ~~21'~~ West

Owner of Claims:                      Eastfield Resources Ltd.

Operator:                                  Eastfield Resources Ltd.

Author of Report:                      J. W. Morton

Date Submitted:                        August, 1986

**FILMED**

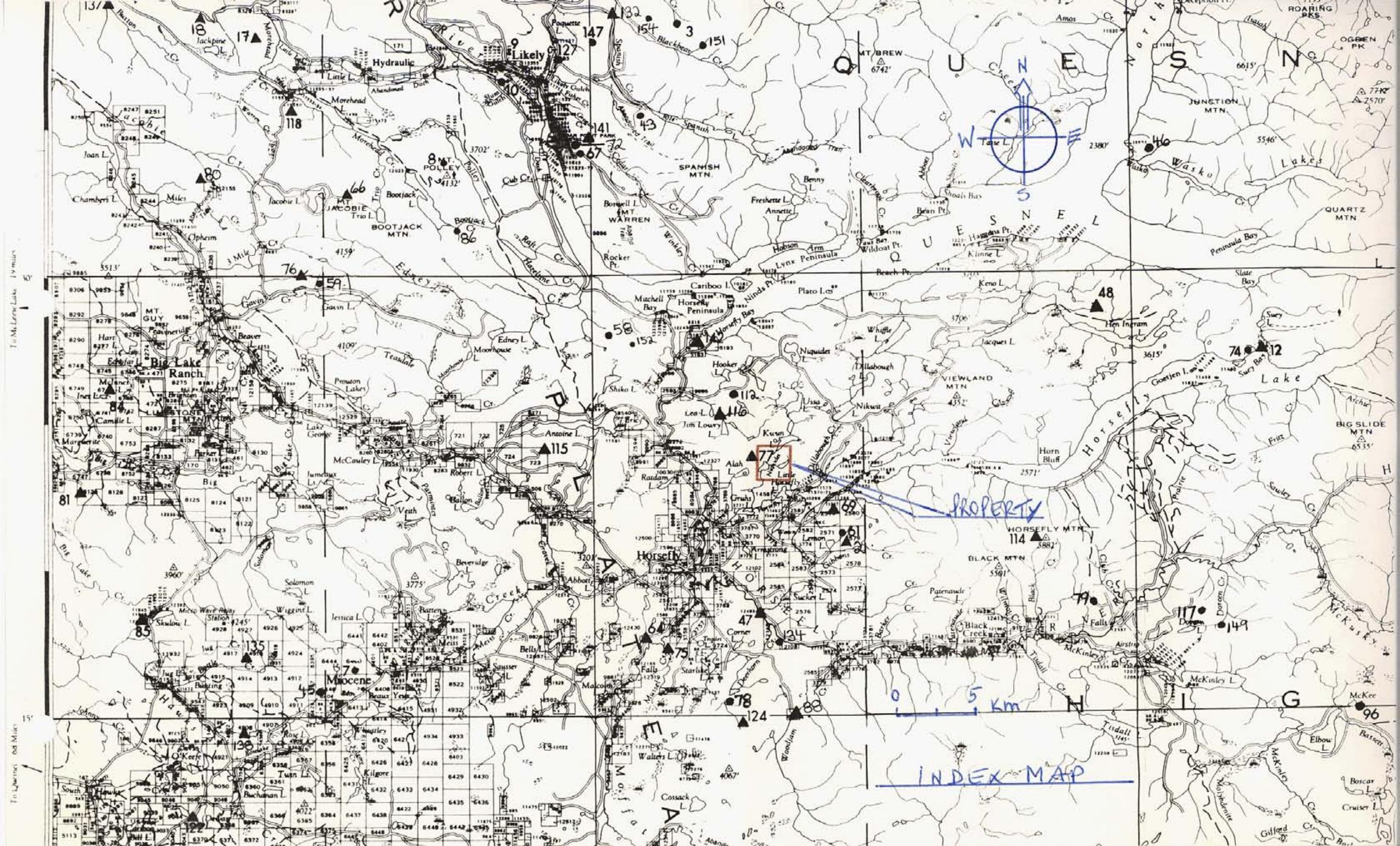
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

MINISTRY OF ENERGY, MINES  
 AND PETROLEUM RESOURCES

Rec'd      AUG 29 1986

SUBJECT \_\_\_\_\_  
 FILE \_\_\_\_\_  
 VANCOUVER, B.C.

15,048



PROPERTY

INDEX MAP

To McLeese Lake 19 miles

To Queen 60 miles

## Table of Contents

Index Map	Figure 1
<b>CLAIM MAP</b>	<b>Figure 1a</b>
Location of Physiographic Position	Page 1
Regional Geological Summary	Page 2
Summary of Work Completed	Page 3
Detailed Land Specimen Descriptions	Page 4
Summary of Additional Geochemical Results	Page 8
Observations	Page 9
Geological Map 1:500 scale	Figure 2
Costs	Page 11
Statement of Author's Qualifications	Page 12
Feldspar Staining Procedures	Appendix
Geochemical Certificates and Procedures	Appendix



## Introduction

### Location and Physiographic Position:

The Beekeeper claim group is located approximately five (5) kilometers northeast of Horsefly Lake in central British Columbia. The claim occurs in a moist vegetative zone dominated by combinations of coniferous fir-pine-(cedar) and deciduous poplar-birch-willow. Considerable adjacent land has been cleared and converted to improved pasture. Soils are predominantly luvisolic in type and derived from ablation tills, basal tills, and lacustrine deposits. Soils generally are neutral to slightly acidic in reaction and are usually heavy in soil texture (loams to clay loams predominating). (Geochemical expression of underlying mineralization can be expected to be poor.) The terrain is moderately undulating with elevations ranging between 825 and 950 meters (2,750 to 3,050 feet).

The property is accessible by pickup truck along a bush road that connects with an all-weather road approximately ten (10) kilometers from the property.

### Regional Geological Summary

The most significant single geological structure in the Horsefly area is called the Quesnel Trough. The Quesnel Trough is a Mesozoic tectonic feature that occurs between the Paleozoic Omineca Crystalline Belt to the east and the oceanic deposited rocks of the Paleozoic Cache Creek group to the west. Deposition within the trough has been predominantly by Triassic - Jurassic volcanics and their minor intercalated volcanoclastic sediments. The volcanic pile, in large, is derived from phreatic eruption and submarine laharc activity. Phreatic centres are identified by the presence of comagmatic felsic intrusives (often with a subvolcanic habit). The Quesnel Trough is an extensive feature, thought to have formed in Upper Triassic to Lower Jurassic time peripheral to deep faulting related to isostatic readjustment<sup>1</sup>. It more or less extends from the United States border to the Yukon border where it becomes known as the Whitehorse Trough. In the Horsefly area lithologies occurring have a higher alkaline habit than elsewhere in the trough.

During the late nineteenth century, major placer gold occurrences were worked in several locations within the Horsefly River watershed. The Ward Mine, a major nineteenth century placer operation, was worked on the Horsefly river downstream from the Beekeeper claims.

<sup>1</sup> A modern analogue may be a narrow chain of recent islands east of New Ireland, Papua New Guinea. (Johnson et al, 1976)

Summary of Work Completed

The Ridge Zone was mapped on a scale of 1:500 (25,000 meters<sup>2</sup>).

Samples were cut and stained for feldspar identification and then used as mapping standards.

Seven samples were collected and analysed using multi-element I.C.P. techniques (gold by A.A.) or neutron activation procedures.

All work was completed on the Beekeeper I claim.

## Sample A-4 (trench A)

- equigranular phenocrysts of feldspar and hornblende
- low carbonate
- feldspars do not stain
- strongly magnetic
- wide areas broken and sheared
- classification: feldspar hornblende porphyry

## C-1 (trench C)

- augite phenocrysts in slightly aphanitic groundmass
- brecciated
- low carbonate content
- moderate to strongly magnetic
- classification: brecciated basalt

## C-4 (trench C)

- fine grained light cream coloured rock probably altered to sericite - carbonate
- weathers buff brown
- cut by a stockwork of micro sulfide veinlets
- low carbonate content
- low magnetism
- classification: clay alteration (epithermal zone)

## C-10 (trench C)

- largely plagioclase augite porphyry
- one fragment of kspar-augite porphyry
- some pyrite porphyroblasts
- kspar rich fragment has a much darker matrix
- low carbonate
- moderately magnetic
- classification: augite plagioclase porphyry (kspar enriched)

## C-11 (trench C)

- clay carbonate silica rock
- altered to buff brown
- low kspar
- low magnetism
- possible relic augite phenocrysts
- low magnetism
- low kspar
- classification: clay silica alteration (epithermal zone)

## C-12 (trench C)

- augite plagioclase porphyry
- dark matrix
- minor sulfide veinlets
- low carbonate content
- strongly magnetic
- classification: augite-plagioclase porphyry

## C-14 (trench C)

- quartz sulfide breccia
- low carbonate content
- low kspar content
- low magnetism
- classification: quartz-sulfide vein breccia

## E-4 (trench E)

- latite porphyry cut by two sets of quartz carbonate and quartz - carbonate - sericite veins
- full of carbonate
- visible disseminated cinnebar
- low magnetism
- classification: vein breccia in augite-plagioclase porphyry (epithermal zone)

## E-5 (trench E)

- plagioclase augite porphyry
- minor veinlets with cinnebar
- low kspar content
- strongly magnetic
- classification: augite-plagioclase porphyry

## E-10 (trench E)

- augite porphyry in kspar enriched matrix
- augite phenocrysts largely replaced by carbonate - clay
- veinlets with cinnebar
- very strongly magnetic
- classification: augite-plagioclase porphyry (kspar enriched)

## E-12 (trench E)

- finer grained dark grey rock
- kspar enriched
- contains carbonate microveinlets
- very strongly magnetic
- classification: clay pyrite alteration (epithermal zone)

## E-20 (trench E)

- latite porphyry
- minor carbonate veinlets
- low kspar
- low carbonate
- low magnetism
- full of disseminated cinnebar
- classification: augite-plagioclase porphyry (epithermal zone)

## E-23 (trench E)

- latite porphyry
- gash type microveinlets
- chalcedonic silica
- carbonate veinlets
- low magnetism
- low kspar content
- classification: augite-plagioclase porphyry (epithermal zone)

## E-24 (trench E)

- (latite?) (augite?) porphyry largely altered to a finer grained grey-brown rock
- cut by sulfide veinlets
- visible cinnebar
- low kspar content
- low carbonate content
- low to moderate magnetism
- classification: augite-plagioclase porphyry (epithermal zone)

## E-26 (trench E)

- fine grained grey rock (clay altered?)
- possibly some relic augite phenocryst present
- low kspar content
- low carbonate content
- weakly magnetic
- classification: clay alteration (epithermal zone)

## E-31 (trench E)

- grey altered rock
- some relic equigranular phenocrysts (plagioclase?, augite?)
- some pyrite porphyroblasts
- low kspar content
- low carbonate content
- moderately magnetic
- classification: clay alteration (epithermal zone)

## F-1 (trench F)

- augite porphyry with dark kspar rich matrix
- cut by microveinlets carrying cinnebar
- full of carbonate
- considerable visible magnetite
- strongly magnetic
- classification: augite-plagioclase porphyry (kspar enriched)

## F-5

- augite-Kspar-porphyry
- matrix full of kspar
- lots of carbonate
- augite phenocrysts altered to clay carbonate
- minor microveinlets with cinnebar
- porphyroblasts of pyrite
- strongly magnetic
- classification: augite-kspar porphyry (epithermal zone)

## F-7

- altered augite porphyry
- phenocrysts altered to a light brown (clay-carbonate?) product
- some kspar
- weakly magnetic
- classification: augite-plagioclase porphyry (kspar enriched)

## F-10

- fine grained dark grey unit (probably from augite porphyry)
- minor kspar enrichment
- full of carbonate
- moderate to strongly magnetic
- classification: clay carbonate alteration (epithermal zone)

SUMMARY OF ANALYTICAL RESULTS OBTAINED IN CONJUNCTION WITH GEOLOGICAL MAPPING

<u>Sample #</u>	<u>Gold</u> ppb	<u>Copper</u> ppm	<u>Antimony</u> ppm	<u>Arsenic</u> ppm	<u>Molybdenum</u> ppm	<u>Mercury</u> ppb	<u>Analytical Grid</u>		<u>Comments</u>
							<u>Technique</u>	<u>Location</u>	
BK-C-4(H)	16	66	16.0	145	3	-	b.	295E 100N	clay quartz alteration zone - Trench C
BK-C-14	34	310	76.5	785	67	-	b.	295E 100N	quartz-sulfide alteration zone - Trench C
BKE10-E21	10	68	8.6	38	2	-	b.	466E 74N	quartz-carbonate vein breccia - Trench E
BK480E 90N	1	90	2	2	1	34000	a.	480E 90N	augite-Fspar porphyry with cinnebar
BK550E 160N	1	109	2	6	1	800	a.	550E 160N	shear zone-carbonate rich
A-6	90	315	2	13	4	-	a.	445E 77N	gossion in hornblende-Fspar porphyry - Trench A
A-11-B	12	164	9	4	1	-	a.	443E 85N	hornfelse in augite Fspar porphyry - Trench A

- a. inductively coupled plasma analyses
- b. instrumental neutron activation

Observations

Detailed mapping was completed in an area of approximately 250 meters by 100 meters with correlations obtained using sawn and stained specimens. This area had previously been trenched and geochemically sampled. (See assessment report - Bulldozer Trenching Program (Ridge Mercury Zone), September, 1985.) Epithermal style mineralization was known to occur within a basaltic to andesitic suite of rocks. A more felsic (latite porphyry) unit was also believed to occur. Major faulting, noted by intense shearing occurs in several directions within this area. Correlations made between observed field relationships, cut and stained sample descriptions and previously completed petrographic analyses have resulted in the following conclusions:

1. The latite porphyry, which at first appears to be distinct from the basalt (augite-plagioclase porphyry) and which is host to epithermal style alteration, may in fact be an altered equivalent of the basalt. Alteration in this unit includes a mineralogical change to clay-carbonate in the plagioclase phenocrysts and sometimes potassium metasomatism in the matrix. This unit is extremely anomalous in mercury content and also shows an increase in arsenic and antimony content towards the southeastern limits of the trenched area. Surface gold values in this unit are anomalous but are not strong although they also appear to be increasing to the south-east.
2. Within the epithermal zone domains up to several meters thick are more intensely altered to clay, clay-carbonate or clay-silica-sulfide assemblages.
3. Visible cinnebar and chalcedonic quartz occur within the epithermal zone.

Observations - (continued)

4. Epithermal style mineralization appears to trend in any one of three directions:

- i) of approximately 040° with a near vertical dip in trench E (the most easterly and mercury rich trench)
- ii) at approximately 120° with a near vertical dip in trenches C and F (east central)
- iii) at approximately 155° with a near vertical dip in a small alteration zone in trench H (the most westerly trench) and in a small discrete quartz vein in trench C.

5. A sheared hornblende feldspar porphyry (greater than 10 meters thick) occurs in the southern end of trench A. The hornblende feldspar porphyry contains lower, although still elevated, concentrations of mercury and is the unit which is the most anomalous in gold content. It becomes essentially complete iron oxide gooson at the southern end of trench A (iron oxides greater than 20%). This unit is much less affected by epithermal style mineralization than trench E which occurs immediately to the east.

6. The basalt (augite-plagioclase porphyry) has been hardened (skarned?) in the northern portions of several trenches (E, A and F). An equigranular intrusive (monzodiorite is known to occur within 300 meters of the trenches (to the northwest) and its emplacement may have been responsible for these hornfelsic textures.

Costs

Manpower, Morton, May 26, July 12, July 18/86 3 days @ \$200/day	\$ 600
Vehicle Costs, 1372 km total @ \$0.30/km	411
Room and Board, 3 days @ \$40/day	120
Analytical Work	55
Report Preparation	200
	\$ <u>1386</u>

Author's Qualifications

I, JAMES W. MORTON, CERTIFY THE FOLLOWING:

I graduated from Carleton University in 1971 with a Bachelor of Science in Geology.

I graduated from the University of British Columbia in 1976 with a Master of Science in Soil Science.

I have worked for various mining and exploration companies since 1969.

A handwritten signature in cursive script, appearing to read "J. W. Morton", is written above a horizontal line.

J. W. Morton,  
Geologist

## Appendix

### Feldspar Staining Procedures

#### Staining Procedures

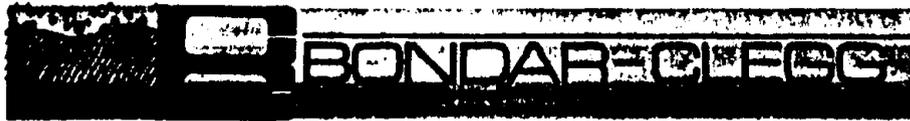
1. Specimen cut in two with diamond rock saw.
2. One half of specimen etched by submersing in concentrated HF for 15-20 seconds.
3. Specimen then dipped in water.
4. The still wet specimen is then submersed in a saturated solution of sodium cobaltinitrite for one to two minutes.
5. The specimen is then rinsed and dried.

#### Colour Reaction

- Kspar is stained bright yellow.
- Plagioclase is left chalky white.
- Qtz is left dull grey.

#### Geochemical Procedures (Samples Analysed by Neutron Activation Procedures)

Samples are pulverized and encapsulated in a vial (10g of sample in the vial). Vials are then directly irradiated and concentrations are determined directly using instrumental Neutron Activation procedures.



REPORT: 126-1519

PROJECT: NONE GIVEN

PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Sb PPM	As PPM	Ba PPM	Cd PPM	Cs PPM	Cr PPM	Co PPM	Eu PPM	Hf PPM	Ir PPB
R2 2+80E 1+94N		1230	12.0	56	<100	<10	<1	350	77	<2	<2	<100
R2 BK-C-4(H)		16	16.0	145	640	<10	4	<50	17	<2	3	<100
<i>Beekeeper</i> R2 BK-C-14		34	76.5	785	160	<10	<1	180	61	<2	<2	<100
R2 BKE10-E21		10	8.6	38	420	<10	1	250	17	<2	<2	<100
R2 NEW SHIKO LINE		<5	0.9	16	310	<10	<1	140	12	<2	<2	<100
R2 SK 0+45E 3+48N		270	1.8	23	<100	<10	<1	410	65	<2	2	<100
R2 SK 1+00E 0+20N		7	4.4	18	3600	<10	<1	370	14	<2	<2	<100
R2 SK 1+55E 0+10S		58	5.0	21	<100	<10	<1	380	26	<2	<2	<100
R2 SK 1+90E 2+00N NORTH		2330	19.0	59	<100	<10	<1	320	63	<2	<2	<100
R2 SK 190E 200N SOUTH		10	2.7	11	2700	<10	<1	350	21	<2	2	<100



REPORT: 126-1519

PROJECT: NONE GIVEN

PAGE 18

SAMPLE NUMBER	ELEMENT UNITS	Fe PCT	La PPM	Mo PPM	Ni PPM	Rb PPM	Sc PPM	Se PPM	Ag PPM	Ta PPM	Tb PPM	Th PPM
R2 2+80E 1+94N		9.1	13	2	63	<10	15.0	<10	<5	<1	<1	2.2
R2 BK-C-4(H)		5.6	14	3	<50	43	27.0	<10	<5	<1	<1	1.7
<i>Beekeeper</i> R2 BK-C-14		11.0	7	67	<50	20	11.0	<10	<5	<1	<1	1.1
R2 BKE10-E21		6.2	<5	<2	<50	<10	33.0	<10	<5	<1	<1	<0.5
R2 NEW SHIKO LINE		3.0	8	3	<50	54	11.0	<10	<5	<1	<1	0.8
R2 SK 0+45E 3+48N		8.8	13	5	57	<10	21.0	<10	<5	<1	<1	2.5
R2 SK 1+00E 0+20N		8.3	11	<2	120	69	19.0	<10	<5	<1	<1	2.1
R2 SK 1+55E 0+10S		8.4	8	<2	100	<10	19.0	<10	<5	<1	<1	2.0
R2 SK 1+90E 2+00N NORTH		11.0	12	3	120	11	15.0	<10	5	<1	<1	2.0
R2 SK 190E 200N SOUTH		6.2	12	2	200	65	17.0	<10	<5	<1	<1	2.2

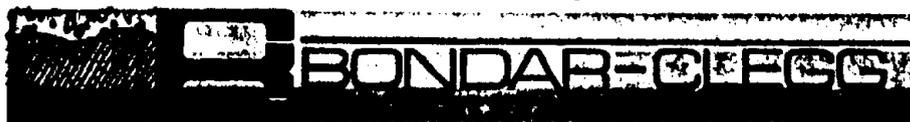


REPORT: 126-1519

PROJECT: NONE GIVEN

PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	W PPM	U PPM	Yb PPM	Zn PPM	Cu PPM
R2 2+80E 1+94N		<2	2.2	<5	<200	7200
R2 BK-C-4(H)		10	1.0	<5	<200	66
<i>Bookkeeper</i> R2 BK-C-14		7	<0.5	<5	<200	310
R2 BKE10-E21		8	<0.5	<5	<200	68
R2 NEW SHIKO LINE		<2	1.9	<5	<200	34
R2 SK 0+45E 3+48N		3	2.7	<5	<200	400
R2 SK 1+00E 0+20N		<2	1.3	<5	<200	230
R2 SK 1+55E 0+10S		<2	3.1	<5	<200	590
R2 SK 1+90E 2+00N NORTH		<2	3.0	<5	210	5700
R2 SK 190E 200N SOUTH		<2	1.5	<5	<200	540



REPORT: 126-1519 ( COMPLETE )

REFERENCE INFO:

CLIENT: JW MORTON &amp; ASSOCIATES

SUBMITTED BY: B MORTON

PROJECT: NONE GIVEN

DATE PRINTED: 13-JUN-86

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold	10	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
2	Sb Antimony	10	0.2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
3	As Arsenic	10	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
4	Ba Barium	10	100 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
5	Cd Cadmium	10	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
6	Cs Cesium	10	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
7	Cr Chromium	10	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
8	Co Cobalt	10	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
9	Eu Europium	10	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
10	Hf Hafnium	10	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
11	Ir Iridium	10	100 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
12	Fe Iron	10	0.5 PCT	NOT APPLICABLE	IND. NEUTRON ACTIV.
13	La Lanthanum	10	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
14	Mo Molybdenum	10	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
15	Ni Nickel	10	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
16	Rb Rubidium	10	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
17	Sc Scandium	10	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
18	Se Selenium	10	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
19	Ag Silver	10	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
20	Ta Tantalum	10	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
21	Tb Terbium	10	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
22	Th Thorium	10	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
23	W Tungsten	10	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
24	U Uranium	10	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
25	Yb Ytterbium	10	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
26	Zn Zinc	10	200 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
27	Cu Copper	10	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE 253-3158

DATA LINE 251-1011

## GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, TI, B, AL, NA, K, V, SI, ZR, CE, SN, Y, NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: ROCK CHIPS AU ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JULY 23 1986

DATE REPORT MAILED:

*July 25/86*ASSAYER: *D. Toye* DEAN TOYE, CERTIFIED B.C. ASSAYER.

FILE # 86-1611

PAGE 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Tl	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Hg	Ba	Ti	B	Al	Na	K	W	Au*	Hg
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
BK 480E 90H	1	90	7	74	.3	19	23	927	5.25	2	5	ND	2	78	1	2	2	197	4.06	.122	6	52	2.20	87	.18	9	1.75	.13	1.04	1	1	34000
BK 550E 160H	1	109	9	91	.3	46	22	1490	4.66	6	5	ND	3	145	1	2	2	114	13.51	.076	6	71	2.00	40	.01	13	2.04	.09	.15	1	1	800
A-6	4	315	4	34	.3	31	10	335	7.35	13	5	ND	2	78	1	2	2	152	.64	.204	9	92	1.46	25	.30	6	1.43	.09	.18	1	90	-
A-11-8	1	164	4	39	.1	119	23	465	3.75	4	5	ND	3	81	1	9	2	129	1.69	.223	10	162	2.08	365	.27	5	1.97	.25	1.20	1	12	-
STD C/MU-0.3	20	62	39	142	7.0	74	29	1150	3.96	39	21	8	35	49	19	16	19	71	.48	.109	38	62	.88	187	.09	38	1.72	.09	.13	15	510	-

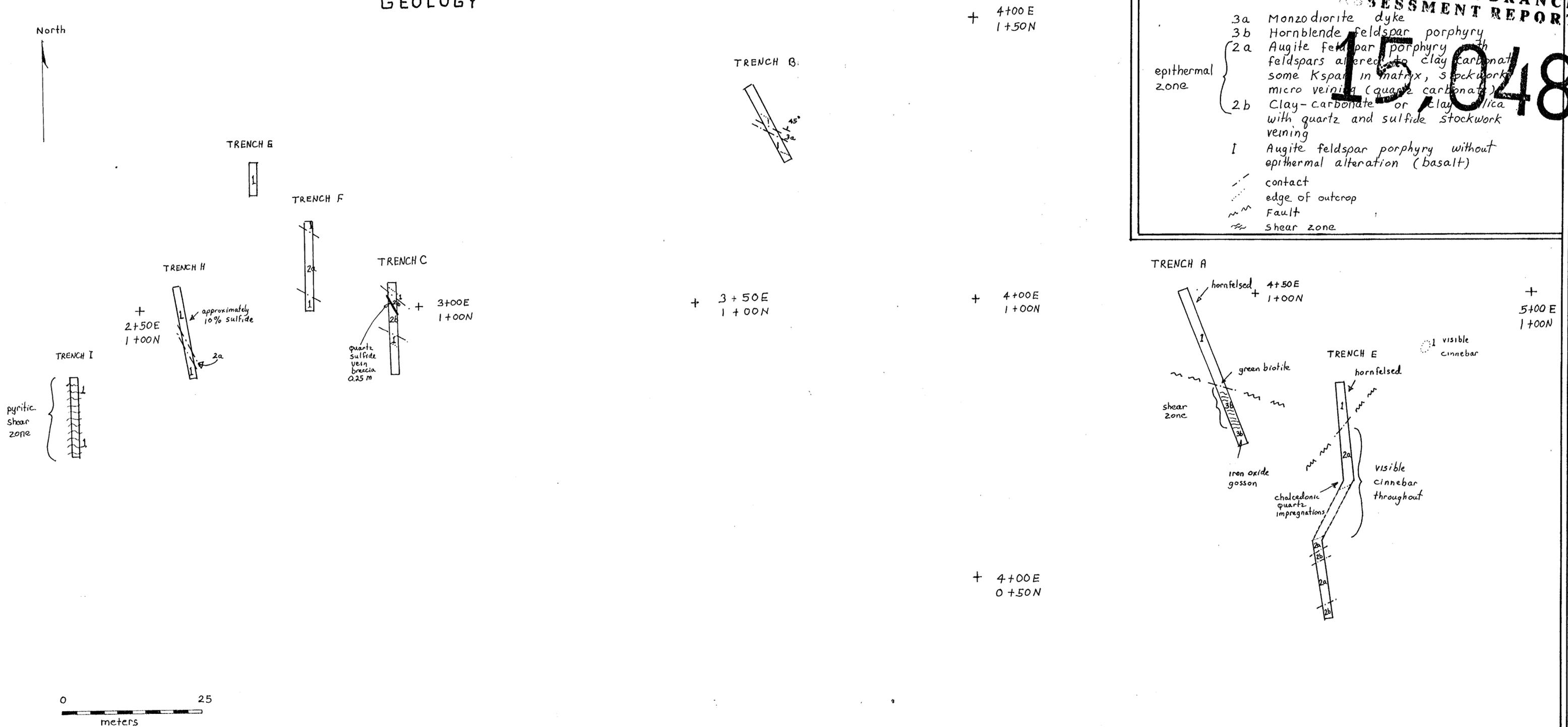
BEEKEEPER PROSPECT  
(RIDGE ZONE)  
GEOLOGY

LEGEND  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

15,048

- epithermal zone
- 3a Monzodiorite dyke
  - 3b Hornblende feldspar porphyry
  - 2a Augite feldspar porphyry with feldspars altered to clay carbonate some Kspar in matrix, stockwork micro veining (quartz carbonate)
  - 2b Clay-carbonate or clay silica with quartz and sulfide stockwork veining
  - 1 Augite feldspar porphyry without epithermal alteration (basalt)
- - - contact
  - · - · - edge of outcrop
  - ~ ~ ~ Fault
  - ~ ~ ~ Shear zone

North



Station 0+00E 0+00N 720 m north of LCP Beekeeper 1

Figure 2.