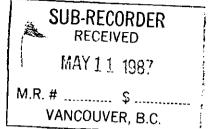
87-260-16065



## GEOLOGICAL AND GEOCHEMICAL

#### REPORT

On the MINT 1-4, KING 3-4 CLAIMS

#### **CLINTON MINING DIVISION**

NTS 920/7E and 8W 22.7' 32.7' 510237N 1220297W

FILMED

3

Owner: MineQuest Exploration Associates Ltd.

Operator: Chevron Canada Resources Limited

Author: S. G. McAllister

April 1987

ę-

GEOLOGICAL BRANCH ASSESSMENT REPORT

16.065

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#### I.0 INTRODUCTION

The MINT 1-4 and KING 3-4 claims were staked in 1983 on the basis of gold associated with anomalous quantities of arsenic in heavy mineral samples taken from stream sediments. Follow-up work in 1983 consisted of silt sampling and contour soil sampling. This work was directed at finding the source of the gold in the heavy mineral concentrates. During 1986 limited VLF-EM surveys were conducted on the claims to outline structural features.

This report describes the work carried out in 1986 and 1987 directed at evaluating the property's potential, as well as targeting structural features (Landsat study, Appendix VI) for more detailed follow-up.

#### 2.0 LOCATION, ACCESS AND TOPOGRAPHY

The claims are located in south central British Columbia (Fig. 1) on the west side of Fraser River, 230 km north-northeast of Vancouver and 70 km northwest of Clinton on the northern flank of Blackdome Mountain. Blackdome Mine lies 6 km to the south of the claims.

The property may be accessed by helicopter from Williams Lake or via a dirt road leading off the Blackdome Mine access road. The mine access road is maintained all year-round and under dry conditions 2-wheel drive is adequate.

The claims lie at the northern edge of the Camelsfoot Range on the gentle north facing slope of Blackdome Mountain. The slope descends northward into the Churn Creek valley. Elevations range from 1550 m to 2000 m.

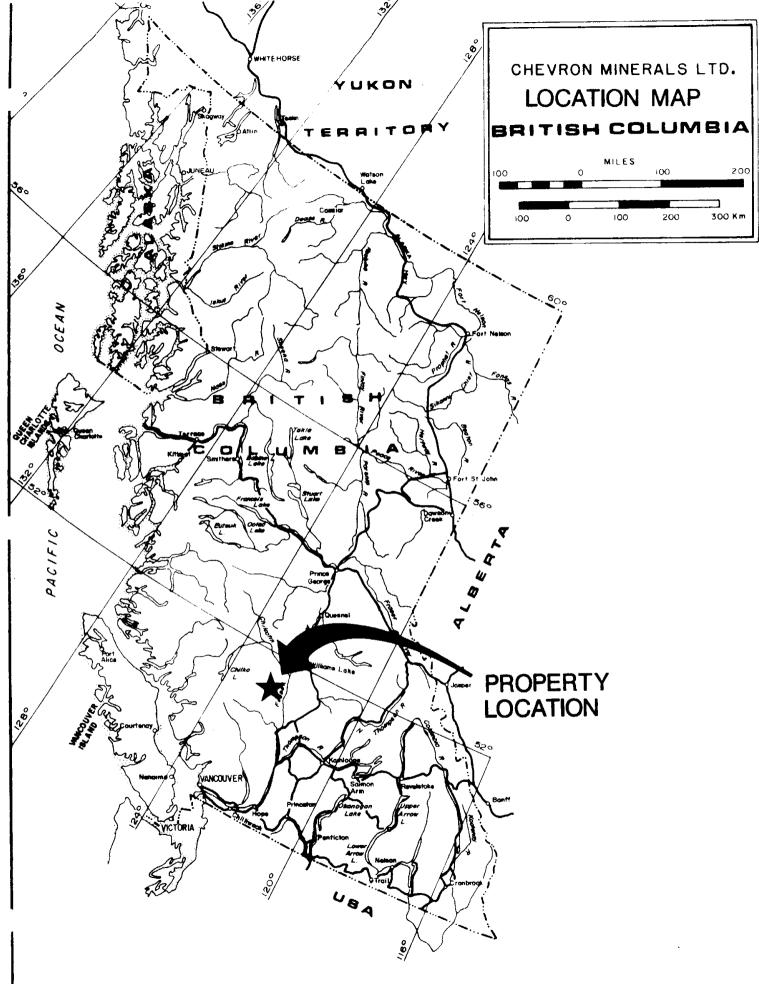


FIGURE 1

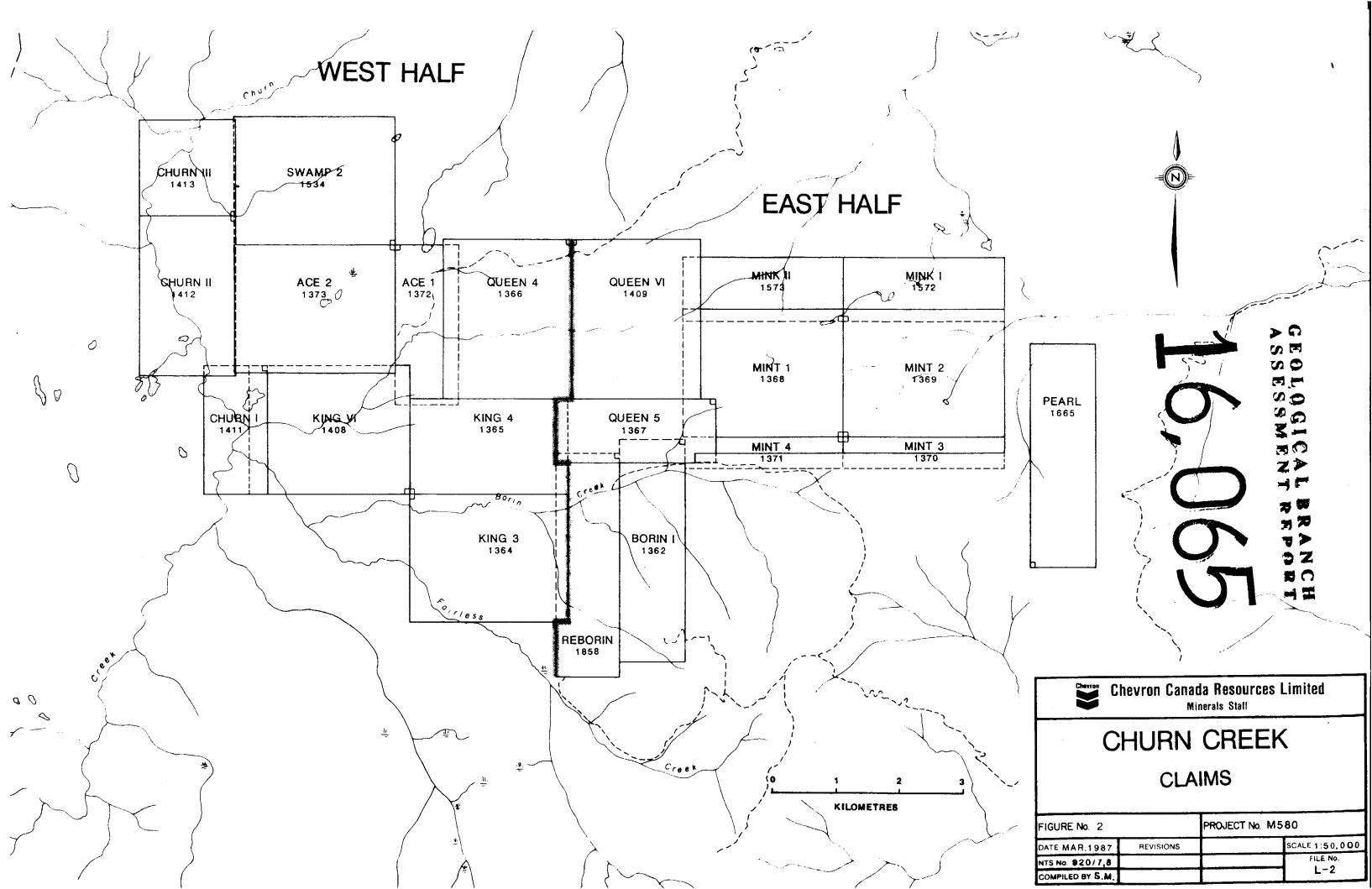
### 3.0 CLAIM STATUS

The work outlined in this report was conducted primarily by Chevron Canada Resources Limited on some of the following claims (Fig. 2) owned by MineQuest Exploration Associates Ltd.;

<u>Claim</u>	Record #	No. of Units	Record Date	Expiry Date (before submission of this report)
King #3 King #4 Mint #1 Mint #2 Mint #3 Mink #4 Mink I Mint II Reborin Pearl Ace #1 Ace #1 Ace #2 Borin I Queen #4 Queen 5 Churn II Churn II Churn III King VI Queen VI Swamp 2	1364 1365 1368 1369 1370 1371 1572 1573 1858 1665 1372 1373 1362 1366 1367 1411 1412 1413 1408 1409 1534	20 15 20 20 5 5 10 10 14 14 10 20 14 20 10 8 15 9 20 20 20 20 20 20 20 20 20 20	21-Mar-83 21-Mar-83 21-Mar-83 21-Mar-83 21-Mar-83 19-Sep-83 16-Nov-84 17-Nov-83 21-Mar-83 21-Mar-83 21-Mar-83 21-Mar-83 21-Mar-83 25-May-83 25-May-83 25-May-83 25-May-83 25-May-83 25-May-83 25-May-83 25-May-83	21-Mar-87 21-Mar-87 21-Mar-87 21-Mar-87 21-Mar-87 21-Mar-87 19-Sep-87 16-Nov-87 17-Nov-87 21-Mar-88 21-Mar-88 21-Mar-88 21-Mar-88 25-May-88 25-May-88 25-May-88 25-May-88 25-May-88 25-May-88 25-May-88
	Total	299		

#### 4.0 HISTORY AND PREVIOUS WORK

The MINT 1-4 and KING 3-4 claims lie 6 km north of Blackdome Mine. Gold bearing quartz veins were first discovered on Blackdome Mountain in the late 1940's. Serious exploration began in 1977 with production commencing in April 1986. The published reserves stand at 276,000 tons grading 0.72 oz/ton Au and 2.58 oz/ton Ag (Blackdome Mining Corporation, 1986 Annual Report).



The MINT 1-4 and KING 3-4 claims were staked in 1983 by MineQuest Exploration Associates Ltd. The 1983 program consisted of silt, soil and rock sampling. In 1986 limited VLF-EM surveys were carried out on these claims. No lode mineral occurrences are known on the claims.

#### 5.0 WORK CARRIED OUT IN 1986-1987

Two days were spent on the claims by Chevron Canada Resources Limited personnel prospecting and collecting rock samples. As well, Welcome North's crew spent five days on the property collecting soils and panned concentrate samples. The above work was done as part of a property examination.

MineQuest's crew spent two days on the claims running geological traverses, followed by two days of photo geological studies. The results of this work are described by R. V. Longe in MINT, MINK, PEARL Claims Preliminary Geology Report, December 1986.

A comprehensive remote sensing analysis of the claim area was conducted by MineQuest (Appendix VI).

#### 6.0 GEOCHEMICAL RESULTS

A total of 40 rocks, 150 soils and 28 panned concentrates were collected and analyzed for all or some of the following elements; gold, arsenic, silver, mercury and antimony (Figs. 3 & 4). The geochemical values are outlined in Appendix III.

#### 6.1 Rock Geochemistry

The 40 rocks collected were analyzed for gold, silver, arsenic and antimony at Chemex Labs in North Vancouver by the methods outlined in Appendix IV.

a33/02/6

Rock samples were collected while prospecting and most of these were taken from float found within creek beds. Minimal outcrop was seen during the traverses. Gold values were uniformly low except for five samples that had values of 70-920 ppb gold. These are all fine grained buff coloured highly altered volcanic rocks cut by small quartz veins. The quartz veins are thought to be the source of the gold anomaly. These five samples had corresponding arsenic peaks.

#### 6.2 Soil Geochemistry

The 150 soils were collected by Welcome North's crew from the B horizon and analyzed at Min-En Labs in North Vancouver for gold. Subsequently, these soils were analyzed at Chemex Labs for silver, arsenic, mercury and antimony.

Soils were collected from four lines (2 east-west and 2 north-south) at 100 m spacings. The gold values range from 5-2500 ppb. The spot highs are in areas of minimal outcrop and no source for these anomalies has yet been found. Silver, arsenic and antimony values are all uniformly low. Mercury values are flat with a few higher values.

#### 6.3 Panned Concentrate Geochemistry

The 28 panned concentrate samples were collected from streams on the property by Welcome North's crew and were analyzed at Min-En Labs in North Vancouver for gold.

Gold values range from 3-1030 ppb and the anomalous values warrant follow-up, although they appear to be downslope from known quartz-gold veins on Blackdome's ground.

**7.0** <u>GEOLOGY</u> are todeled by Miscene Dosalts The geology of the property is described by R. V. Longe in a report on the MINT, MINK, PEARL claims Preliminary Geology dated December 1986. This work was filed for assessment credit on September 18, 1986.

### 8.0 CONCLUSIONS

The rocks, soils and panned concentrates sampled during this property examination indicated some localized zones of gold enrichment on the claims. Coincident with some of these values are moderate antimony, mercury, silver and arsenic levels. These are worthy of a more detailed follow-up.

The remote sensing analysis of the claim area (Appendix VI) has outlined a number of lineaments. These potential structures warrant follow-up on the ground directed at determining their true nature.

#### 9.0 REFERENCES

Blackdome Mining Corporation, 1986 Annual Report

Longe, R. V. December 1986, Mint, Mink, Pearl Claims – Preliminary Geology MineQuest Exploration Associates Ltd. Report #139 (Submitted as Assessment Report)

## APPENDIX I

Statement of Qualifications

#### Statement of Qualifications

I, Sandy G. McAllister, hereby certify that:

- I am presently employed as a geologist by Chevron Canada Resources ۱. Limited at 1900 - 1055 West Hastings Street, Vancouver, B. C.
- I graduated from Queen's University in Kingston, Ontario with a B.Sc. 2. (Honours, Geological Sciences) in May 1981.
- I have practiced geology for the past 6 years in B. C. 3.
- I am a member in good standing of the Geological Association of Canada, 4. Society of Economic Geologists and a Licensee of the Association of Professional Engineers, Geologists and Geophysists of Alberta.
- I conducted the work outlined in this report. 5.

Dated the 30<sup>fl</sup> day of April, 1987 Signed <u>I m Dellista</u> Sandy G. McAllister

APPENDIX II

Cost Statement

a33/02/11

#### CHEVRON

#### Salaries:

S. McAllister T. Zanager	4 days Sept. 4–7/86 4 days Sept. 4–7/86	
	8 days @ \$150.	\$ 1,200.000

#### Disbursements:

Rocks (analysed for Au,Ag,As,Sb) - 40 @\$18.90	756.00
Soils (analysed for Ag,As,Hg,Sb) - 150 @\$13.675	2,047.50
Sample shipping	12.00
Drafting – 5.7 days @\$150.	850.00
Reprographics	280.40
Report preparation – 2 days @\$150.	300.00
Food	126.00
Gas	76.00
Accommodation	98.44

#### Landsat Study:

Landsat computer compatible tape	1,181.85
BC Research (machine & operator) 12 hrs. @180.	2,160.00
Photography	50.00
Imagery analysis - 6 hrs. @\$80.	480.00
Report preparation - 12 hrs. \$80.	960.00
Reprographics	150.00
Drafting	300.00
10% on disbursements	155.00
	·

Total - Chevron

\$11,183.19

## WELCOME NORTH

#### Salaries:

A. Schmidt M. Heino	5 days Sept. 8–12/86 5 days Sept. 8–12/86	
	10 days @\$153 <b>.</b> 95	\$ 1,539.50

### Disbursements:

Soils (analysed for Au) – 150 @\$5.35	802.50
Panned concentrates (analysed for Au)	
28 @\$7.00	196.00
Camp maintenance	141.22
Redhawk rentals	508.14

Total - Welcome North

\$ 3,187.36

#### MINEQUEST

Expense carried forward from MineQuest report #139 on Mint, Mink and Pearl Claims (filed for assessment Sept. 18, 1986)

TOTAL COSTS

)
/

APPENDIX III

Geochemistry Data

a33/02/12

Project:DataAttention:ANDY SCHMIDTTypeWe hereby certifythe following results for samples submittedSample $\Delta U$ Number $50/LF$ PFR $HUEQuerr'r - F$ A0+001040HESHA1+00N5A2+00N10A4+00N5A4+00N10A5+00N5A6+00N10A7+00N5A8+00N5A9+00N5A10+00N5A11+00N5A11+00N5A12+00N10A15+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A21+00N5<	File:6-793/P1 Date:SEPT 18/86 Type:SOIL GEOCHEM Ed <b>SEP 1 9 1986</b>
Company: WELCOME NORTH MINESFill Project:Attention: ANDY SCHMIDTDate DateWe hereby certifythe following results for samples submittedSampleSollsNumberSollsPFBMUEQueTT's - 5A0+00104000010A0+0010A0+0010A0+0010A0+0010A0+0010A0+0010A0+0010A10005A2+00N10A5+00N5A6+00N10A7+00N5A8+00N5A9+00N10A10+00N5A11+00N5A11+00N5A12+00N10A13+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5A20+00N5 <th>File:6-793/P1 Date:SEPT 18/86 Type:SOIL GEOCHEM Ed<b>SEP 1 9 1986</b></th>	File:6-793/P1 Date:SEPT 18/86 Type:SOIL GEOCHEM Ed <b>SEP 1 9 1986</b>
Project:DateAttention:ANDY SCHMIDTTypeWe hereby certifythe following results for samples submittedSampleSollsNumberSollsA0+001040HESHA1+00N5A2+00N160A3+00N5A4+00N10A5+00N5A6+00N10A8+00N5A0+0010A1+00N5A2+00N10A3+00N5A4+00N10A7+00N5A10+00N5A11+00N5A12+00N10A13+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A14+00N5A12+00N10A12+00N5A20+00	Date:SEPT 18/86 Type:SOIL GEOCHEM Ed SEP 1 9 1986
He hereby certify the following results for samples submittedSampleAUHINEQuerr's - 3Number $50/LT$ PFBHINEQuerr's - 3A0+001040MESHA1+00N5A2+00N160A3+00N5A4+00N10A3+00N5A6+00N10A7+00N5A8+00N5A8+00N5A9+00N10A10+00N5A11+00N5A11+00N5A12+00N10A15+00N10A15+00N10A15+00N5A17+00N5A18+00N5A19+00N5A20+00	ed SEP 1 9 1986
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A5+00N     S       A6+00N     10       A7+00N     S       A8+00N     S       A8+00N     S       A9+00N     10	
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A26+00N 5	
A27+00N 5	
A28+00N 10 A29+00N 5	

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Certified by

MIN-EN CABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7N 1T2

\_\_\_\_\_

PHONE: (604) 980-5814 DR (604) 988-4524

## Certificate of GEOCHEM

Company:WELCOME NURTH MINES Project: Attention:ANDY SCHMIDT File:6-793/P2 Date:SEPT 18/86 Type:SUIL GEOCHEM

TELEX: VIA USA 7601067 UC

He hereby certify the following results for samples submitted.

Sample	AU	
Number	FFB	
 A30+00N	20	
A31+00N	5	
A32+00N	5	
A33400N	120	
A34+00N	10	40MESH
A35+00N	5	
A36+00N	et. L	40MESH
A37+00N	5	
A37+60N	5	
A38+00N	5	
A39+00N	10	
B0+00	10	
B1+00N	10	
B2+00N	5	
B3+00N	10	
B4+00N	10	
85+00N	5	
B6+00N	5	
B7+00N	5	
B8+00N	5	
89+00N	15	
B10+00N	10	
B11+00N	5	
B12+00N	20	
B13+OON	10	40MESH
B14+00N	5	40MESH
B15+OON	10	
316+00N	5	
B17+00N	15	
318+00N	25	

Certified by

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments 705 West 15th Street North Vancouver, B.C. Canada V7H 172

PHONE: (604) 980-5814 OR (604) 988-4524

1.4

TELEX: VIA USA 7601067 UC 

### Certificate of GEOCHEM

Company:WELCOME NORTH MINES Projecti Attention: ANDY SCHMIDT

File:6-793/P3 Date:SEPT 18/86 Type:SOIL GEOCHEM

He hereby certify the following results for samples submitted.

		<b></b>
Sample	AU	
Number	PPB	
B19+00N	10	40MESH
820+00N	5	
821+00N	10	
B22+00N	5	
B23+00N	5	
B24+00N	5	
825+00N	10 🗸	
M1+00W	5	
M2+00W	5	
M3+00W	<b>5</b> .	
M4+00W	5	
M5+00W	5	
M6+00W	15	
M7+00W	5	
MB+OOW	10	
M9+00W	2500	
M10+00W	5	
M11+00W	10	
M12+00W	5	
M13+00W	5	
1114+00W	10	
M15+00W	5	
M16+00W	20	
M17+00W	5	
M18+00W	5	
M19+00W	5	
M20+00W	<b>5</b>	
M21+00N	10	
M22+00W	<b>E</b> .	
M23+00W	1.0	

Certified by

MIN-EN LADORATORIES LTD.

Specialists in Mineral Environments 705 West 15th Street Worth Vancouver, B.C. Canada V7N 172

PHONE: (604) 980-5814 OR (604) 988-4524

TELEXIVIA USA 7601067 UC

### Certificate of GEOCHEM

Company:WELCOME NORTH MINES File:6-793/P4 Froject: Date:SEPT 17/86 Attention:ANDY SCHMIDT Type:SOIL GEOCHEM

He hereby certify the following results for samples submitted.

Sample	AU	
Number	<b>B</b> 99	
M24+00W	5	
M25+00W	5	
M26+00W	10	
M27+00W	12 	
M28+00W	g	
 M29+00W		······································
M30+00W	20	
M31+00W	5	
M32+00W	5	
M33+00W	5	
M34+00W	 ອ	
M35+00W	5	
M36+00W	10	
M37+OOW	10	
M38+00W	10	
M39+00W	5	
M40+00W	5	/ 40MESH
<u>141+00W</u>	5	$\checkmark$
V1+00W	10	
N2+00W	5	
N3+00W	10	
14+00W	10	
WOO+EV	15	
N9+00M	10	
47+00W	5	
18+00W	5	
18+00M	10	
M00+00M	5	
411+00W	5	40MESH
V12+00W	c,	

Certified by

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments 705 West 15th Street North Vancouver, B.C. Canada V7H 112

DNE: (604) 980-5814 DR (604) 988-4524

TELEXIVIA USA 7601067 UC

#### Certificate of GEOCHEM

Company:WELCOME NORTH MINES Project: Attention:ANDY SCHMIDT

Ł

File:6-793/P5 Date:SEPT 17/86 Type:SOIL GEOCHEM

He hereby certify the following results for samples submitted.

------

Sample	AU	
Number	PPB	
N13+00W	5	
N14+00W	10	
N15+00W	5	
N16+00W	5	
N17+00W	10	
N18+00W	5	
N19+00W	5	
N21+00W	3	
N22+00W	5	
N23+00W	5	40MESH
24+0QW	5	
N25+00W	10	40MESH
N26+00W	5	
N27+00W	5	40MESH
N28+00W	5	
N29+00W	<b>1</b> 0	
N30+00W	5	
N31+00W	5	
N32+00W	5	
N33+00W	10	
N34+00W	ະ ເ	
W32+00M	5	
N36+00W	3	
N37+00W	5	
N38+00W	5	
N39+00W	10	
N40+00W	5	
N41+00W	10	
N42+00₩	5	
N43+00W	10	$\checkmark$

Certified by

MIN-ED LABORATORIES LTD.

Specialists in Mineral Environments 705 West 15th Street Worth Vancouver, B.C. Canada V7H 1T2

PHONE: (604) 980-5814 DR (604) 988-4524

#### TELEX: VIA USA 7601067 UC

#### Certificate of GEOCHEM

Company:WELCOME NORTH MINES Froiect: Attention: ANDY SCHMIDT

File:6-793 Date:SEPT 18/86 Type:PAN CONC.

He hereby certify the following results for samples submitted.

Sample Number	Heino Panned Concentrater AU FF1	Fi
21451	✓ 10	
21452	5	
21453	10	
21454	5	
21455		
21456	10	
21457	10	
21458	e.	
21459	5	
21460	1.0	
	5	
21462	35	
21463	1030	
21464	5	
21465	105	
21466	10	***************************************
21467	800	
21468	5	
21469	10	
21470	5	
21471	10	
21472		
21473	10	
21474	8.71 1947	
21475	<u>ئ</u>	
21476	10	
477	10	/
21478	5	/

Certified by

MIN-EN LABORATORIES LTD.



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Chemex Labs Ltd ASTER

212 Brooksbank Ave. North Vancouver, B.C.

Analytical Chemists •

Geochemists • Registered Assayers

Phone: (604) 984-0221 Telex: 043-52597

V7J 2C1

## CERTIFICATE OF ANALYSIS

TO : CHEVRON CANADA RESOURCES LTD. MINERALS STAFF 1900 - 1055 W. HASTINGS ST. VANCOUVER, B.C. V6E 2E9

CERT. # : A3617883-001-A INVOICE # : 18617883 : 21-SEP-86 DATE P.G. # : NONE M543

#### ATTN: S. MCALLISTER

Sample         Prep         Ag ppm         AS         Sb         Au ppb           description         code         Aqua R         ppm         ppm         FA+AA           SM6T4-242         205         0.1         90         1.0         <5            SM6T4-243         205         0.1         90         1.0         <5            SM6T4-243         205         0.1         1         0.3         <5            SM6T4-244         205         0.1         7         1.0         <5            SM6T4-245         205         0.1         7         1.0         <5            SM6T4-245         205         0.1         1         0.2         <5            SM6T4-245         205         0.1         1         0.2         <5            SM6T4-246         205         0.1         36         14.0         <5            SM6T4-247         205         0.1         1         0.1         <5            SM6T4-248         205         0.1         1         0.3         <5            SM6T4-249	
SM6T4-242       205       0.1       90       1.0       <5          SM6T4-243       205       0.1       1       0.3       <5          SM6T4-243       205       0.1       1       0.3       <5          SM6T4-244       205       0.1       7       1.0       <5          SM6T4-245       205       0.1       1       0.2       <5          SM6T4-245       205       0.1       1       0.2       <5          SM6T4-246       205       0.1       1       0.2       <5          SM6T4-247       205       0.1       36       14.0       <5          SM6T4-248       205       0.1       1       0.1       <5	
SM6T4-243       205       0.1       1       0.3       <5          SM6T4-244       205       0.1       7       1.0       <5          SM6T4-245       205       0.1       7       1.0       <5          SM6T4-245       205       0.1       1       0.2       <5          SM6T4-246       205       0.1       1       0.2       <5          SM6T4-247       205       0.1       36       14.0       <5          SM6T4-248       205       0.1       1       0.1       <5	
SM6T4-244       205       0.1       7       1.0       <5	
SM6T4-245       205       0.1       1       0.2       <5	     
SM6T4-246       205       0.1       1       0.2       <5          SM6T4-247       205       0.1       36       14.0       <5	   
SM6T4-247         205         0.1         36         14.0         <5            SM6T4-248         205         0.1         1         0.1         <5	   
SM6T4-248 205 0.1 1 0.1 <5	  
SM6T4-249 205 0-1 1 0-3 <5	
SM6T4-25C 205 0.1 1 0.2 <5	
SM6T4-251 205 0.1 38 18.8 <5	
SM6T4-252 205 0.1 1 0.2 <5	
SM6T1-253 205 0.1 15 0.2 <5	
SM6T1-254 205 0.1 11 2.C <5	
SM6T1-255 205 0.1 12 0.5 <5	
SM6T1-256 205 0.1 1 0.2 <5	
SM6T1-257 205 0.1 1 0.1 <5	
SM6T1-258 205 0.1 10 1.2 <5	
TZ6T4-244 205 0.1 10 0.1 <5	
TZ6T4-245 205 0.1 2 0.4 <5	
TZ6T4-246 205 0.1 1 0.2 <5	
TZ6T4-247 205 0.1 1 0.5 <5	
TZ6T4-248 205 0.1 1 0.3 <5	
TZ6T4-249 205 0.1 1 0.6 <5	
TZ6T4-25C 205 0.1 1 0.2 <5	
TZ6T4-251 205 0.1 1 0.3 <5	
TZ6T4-252 205 0.1 1 1.0 <5	
TZ6T4-253 205 0.1 7 0.5 95	
TZ6T4-254 205 0.1 1 0.5 <5	
TZ6T4-255 205 6.3 6 1.2 30	
TZ6T4-256 205 0.1 4 0.3 <5	
TZ6T4-257 205 0.1 6 0.6 <5	
TZ6T4-258 205 0.1 22 1.0 135	
TZ6T4-259 205 0.1 7 9.0 60	
TZ6T4-26C 205 0.1 24 6.0 <5	
TZ6T4-261 205 1.3 17 3.2 920	
TZ6T4-262 205 0.9 70 1.6 10	
TZ6T4-263 205 0.6 90 8.8 75	
TZ6T4-264 205 0.3 24 2.0 <5	
TZ6T4-265 205 0.7 5 1.4 5	
TZ6T4-266 205 0.1 9 0.7 <5	
11 1.8 00	VOI rev. 4/85



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## Chemex Labs Ltd Ltd.

212 BROOKSBANK AVE , NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

CERTIFICATE OF ANALYS	IS A8711 /6
To : CHEVRON CANADA RESOURCES LTD. MINERALS STAFF	Page No. :1
1900 - 1055 W. HASTINGS ST.	Date :09-MAR-87
VANCOUVER, B.C. V6E 2E9	Invoice # : I-8711976 P.O. # : 36828
VOE 2E9 Project : MSSO Comments: ATTN: S. MCALLISTER MASTER	FILE
Comments: ATTN: S. MCALLISTER	• • • • •

SAMPLE DESCRIPTION	PREP CODE		AS ppm	Нg ррь	Sь ppm						
A 0+00N A 1+00N A 2+00N A 3+00N A 4+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1	5 2 1 2 2	1 1 0 40 3 0 40 40	0.1 0.1 0.1						
A 5+00N A 6+00N A 7+00N A 8+00N A 9+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1		30 30 30	0.1 0.1 0.1						
A 10+00N A 11+00N A 12+00N A 13+00N A 13+00N A 14+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1	1 2 2 2 1	2 0 2 0 3 0 2 0 2 0	0.1 0.1 0.2						
A 15+00N A 16+00N A 17+00N A 18+00N A 19+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1	2 9 2 3	50 20 20	0.2 0.1 0.1						
A 20+00N A 21+00N A 22+00N A 23+00N A 24+00N	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.1 0.1 0.1 0.1 0.1 0.1	4 4 3 2 3	50 30 30	0.1 0.1 0.1						
A 25+00N A 26+00N A 27+00N A 28+00N A 29+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1	1 2 1 2 1	2020	0.1 0.1 0.1						
A 30+00N A 31+00N A 32+00N A 33+00N A 34+00N	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.1 0.1 0.1 0.1 0.1	1 1 1 1 2	30 30 30 40 40	0.1 0.1 0.2						
A 35+00N A 36+00N A 37+00N A 37+60N A 38+00N	214 214 214 214 214 214 214	0 1 0. 1 0. 1 0. 1 0. 1 0. 1	2 2 1 1 3	3 0 3 0 4 0	0.2 0.1 0.1						
L	. <u>L</u>	<b></b>	1	_1	1	<u> </u>	CE	RTIFICATION	Han	thick	ler



Chemex

#### CERTIFICATE OF ANALYSIS A8711 '6

To : CHEVRON CANADA RESOURCES LTD. MINERALS STAFF 1900 - 1055 W. HASTINGS ST. VANCOUVER, B.C. V6E 2E9

Page No. :2 Tot. Pages:4 Date :09-MAR-87 Invoice # : I-8711976 P.O. # :36828

Project : MS80

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Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

Comments: ATTN: S. MCALLISTER

SAMPLE DESCRIPTION	PREP CODE		AS H	lg ipb	Sb ppm						
A 39+00N B 0+00N B 1+00N B 2+00N B 3+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1		30 50 30 20 40	0.1 0.2 0.1 0.1 0.1						
B 4+00N B 5+00N B 6+00N B 7+00N B 8+00N	214 214 214 214 214	0 1 0 1 0 1 0 1 0 1 0 1 0 1	1 2 1 1 1	30 20 40 40 50	0.1 0.2 0.1 0.1 0.1						
B 9+00N B 10+00N B 11+00N B 12+00N B 13+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1	2 2 2 1 2	30 80 30 80 40	0.1 0.1 0.1 0.1 0.1						
B 14+00N B 15+00N B 16+00N B 16+00N B 17+00N B 18+00N	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1	7 6 3 5 5	40 50 40 50 40	0.2 0.1 0.1 0.1 0.1						
B 19+00N B 20+00N B 21+00N B 22+00N B 23+00N	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.1 0.1 0.1 0.1 0.1 0.1	1 1 5 1 1	70 90 40 40 40	0.1 0.1 0.1 0.1 0.1						
B 24+00N B 25+00N M 1+00W M 2+00W M 3+00W	214 214 214 214 214 214	$ \begin{array}{c} 0 & . & 1 \\ 0 & . & 1 \\ 0 & . & 1 \\ 0 & . & 1 \\ 0 & . & 1 \end{array} $	1 1 1 3 1	40 30 30 40 20	0.1 0.1 0.1						
M 4+00W M 5+00W M 6+00W M 7+00W M 8+00W	214 214 214 214 214 214	0 · 1 0 · 1 0 · 1 0 · 1 0 · 1 0 · 1	2 1 2 1 1	30 20 30 20 30	0.1 0.1						
M 9+00W M 10+00W M 11+00W M 12+00W M 13+00W	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1	2 2 2 2 2 2	40 40 30 30 40	0.1 0.1 0.1					_	
L	┺┉═╌╢═╓╼	<b></b>	I		- <u></u>	L	CEN	TIFICATION :	da	ABid	ler



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PHONE (604) 984-0221

## Chemex Labs Ltd. CERTIFICATE OF ANALYSIS A8711 To CHEVRON CANADA RESOURCES LTD. Page No.

To: CHEVRON CANADA RESOURCES LTD. MINERALS STAFF 1900 - 1055 W. HASTINGS ST. VANCOUVER, B.C. V6E 2E9 Page No. : 3 Tot. Pages: 4 Date : 09-MAR-87 Invoice # : I-8711976 P.O. # : 36828

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Project : MS80

Comments: ATTN: S. MCALLISTER

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	AS ppm	Hg ppb	Sъ ppm			
M 14+00W M 15+00W M 16+00W M 17+00W M 18+00W	214 214 214 214 214	0.1 0.1 0.1		50 50 30 40 40	0.1 0.1 0.1			
M 19+00W M 20+00W M 21+00W M 22+00W M 23+00W	214 214 214 214 214	0.1 0.1 0.1	2	40	0.2 0.1 0.1			
M 24+00W M 25+00W M 26+00W M 26+00W M 27+00W M 28+00W	214 214 214 214 214	0.1 0.1 0.1		2 0 3 0 2 0	0.1 0.1 0.1			
M 29+00W M 30+00W M 31+00W M 32+00W M 33+00W	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.1 0.1	2	30 30	0.1 0.1 0.1			
M 34+00W M 35+00W M 36+00W M 37+00W M 38+00W	214 214 214 214 214	- 0.1 - 0.1 - 0.1	1	20	0.1 0.1 0.1			
M 39+00W M 40+00W M 41+00W N 1+00W N 2+00W	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	- 0.1 - 0.1 - 0.1	2	2020	0.1 0.1 0.1			
N 3+00W N 4+00W N 5+00W N 6+00W N 7+00W	$\begin{array}{c} 214 \\ -21$	- 0.1 - 0.1 - 0.1	3	60 40 30	0.1 0.1 0.1			
N 8+00W N 9+00W N 10+00W N 11+00W N 12+00W	214 - 214 - 214 - 214 - 214 - 214 -	- 0.1 - 0.1	2	30	0.1 0.1 0.1			



Chemex Labs

Analytical Chemists . Geochemists . Registered Assayers 212 BROOKSBANK AVE , NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

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To : CHEVRON CANADA RESOURCES LTD. MINERALS STAFF 1900 - 1055 W. HASTINGS ST. VANCOUVER, B.C. V6E 2E9

Page No. :4 Tot. Pages:4 Date :09-MAR-87 Invoice # : I-8711976 P.O. # :36828

Project : M580

TC

Comments: ATTN: S MCALLISTER

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	AS ppm	Н <b>д</b> рръ	Sb ppm					
N 13+00W N 14+00W N 15+00W N 16+00W N 16+00W N 17+00W	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.1 0.1 0.1 0.1 0.1		2020	0.1 0.1 0.1 0.1 0.1					
N 18+00W N 19+00W N 21+00W N 22+00W N 23+00W	214 214 214 214 214	0.1 0.1 0.1 0.1 0.1 0.1	2 3 2 1 2	40 20 20	0.1 0.1 0.1 0.1 0.1					
N 24+00W N 25+00W N 26+00W N 27+00W N 28+00W	214        214        214        214        214        214	0.1 0.1 0.1 0.1 0.1	32	30 40 30 30 20	0.1 0.1 0.1 0.1 0.1					
N 29+00W N 30+00W N 31+00W N 32+00W N 33+00W	214            214            214            214            214            214	0.1 0.1 0.1 0.1 0.1 0.1	1	30 30 20	0.1 0.1 0.1 0.1 0.1 0.1					
N 34+00W N 35+00W N 36+00W N 37+00W N 38+00W	214 214 214 214 214 214	0.1 0.1 0.1 0.1 0.1		50 30 30	0.1					
N 39+00W N 40+00W N 41+00W N 42+00W N 42+00W N 43+00W	214 214 214 214 214 214	0 . 1 0 . 1 0 . 1 0 . 1 0 . 1 0 . 1	1 2 2	30	0.1					
						CE	RTIFICATION :	Han	HBich	ler

APPENDIX IV

Analytical Techniques

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212 Brooksbank Ave.North Vancouver, B.C.CanadaV7J 2C1Phone:(604) 984-0221Telex:043-52597

Gold F.A.-A.A. Combo Method ppb:

For low grade samples and geochemical materials, 10 gram samples are fused in litharge, carbonate and siliceous flux with the addition of 10 mg of Au-free Ag metal and cupelled. The silver bead is parted with dilute HNO3 and then treated with aqua regia. The salts are dissolved in dilute HC1 and analyzed for Au on an atomic absorption spectrophotometer.

Detection limit: 5 ppb

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Antimony ppm:

A 2.0 gm sample is digested with conc. HCl-KClO3 at low heat. The iron is reduced to Fe+2 state and the Sb extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption.

Detection Limit: 0.2 +/- 0.2



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Copper, Lead, Zinc, Silver ppm:

1.0 gm sample is digested with perchloric-nitric acid (HC104-HN03) for approximately 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Copper, lead, zinc and silver are determined by atomic absorption techniques. Silver and lead are corrected for background absorption.

Detection limit: Copper, Zinc - 1 ppm Silver - 0.2 ppm Lead - 2 ppm



212BrooksbankAve.NorthVancouver,B.C.CanadaV7J 2C1Phone:(604)984-0221Telex:043-52597

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Arsenic ppm:

A 1.0 gm sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with the and mixed. A portion of the reduced solution is converted to arsine with NaBH4 and the arsenic content determined using flameless atomic absorption.

Detection limit: 1 ppm

## APPENDIX V

Statement of Exploration and Development

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STATEMENT OF EXPLORATION AND DEVELOPME	<b>2</b> 3 1987
	NTS UVER, B.C.
L Sandy G. McAllister Agent for MineQuest Exploration As	sociates Ltd.
201 - 1286 W. 14th Ave. 311 Water Street	
Vancouver, B.C. Vancouver, B.C.	· · · · · ·
	569-2251 Hephone Number)
Valid subsisting FMIC, No. MCALS 218642 Valid subsisting FMIC, No. 296272	· · · •••••
STATE THAT	
1 I have done, or caused to be done, work on the Mint 1, Mint 2, Mink I, Mink II, Queen 4,	
Queen VI (Queen 1987 Group)	Claim(s)
Record No(s). 1368, 1369, 1572, 1573, 1366, 1409 Situate at 70 km NW of Clinton in the Clinton M	inina Division
Situate at 70 kill NW OF CT In LOIT in the CT In LOIN M to the value of at least 6,200 dollars. Work was done from the 1st	ining Division, day
of September 19.86 to the 13th day of March	19 87
2 The following work was done in the 12 months in which such work is required to be done.	
[COMPLETE APPROPRIATE SECTION(S) A, B, C, D. FOLLOWING]	
A. PHYSICAL (Trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails.)	
(Give details as required by section 13 of regulations.)	
	1.1. M
TOTAL PHYSICAL	
I wish to apply \$ of physical work to the claims listed below.	
(State number of years to be applied to each claim, its month of record, and identify each claim by name and record numbe	r.)
B. PROSPECTING (Details in report submitted as per soction 9 of regulations.)	
(The itemized cost statement must be part of the report.) COST	
a marine and a second	

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C. DRILLING	G (Details in rep (The itemized	ort submitted as per section 8 of reg cost atatement must be part of the r	vistions.) eport.)		COST
	•	·			
D. GEOLOG	ICAL, GEOPHYSI	CAL, GEOCHEMICAL	<u> </u>		
	(The itemized	ort submitted as per section 5, 6, or cost statement must be part of the r work in space below.)	7 of regulations.) eport.)		
Geology,	geochemical sa	ampling		\$6,200	
-	-				
			TOTAL OF C AND D	\$6,200	· · · ·
Report to	o follow within	n 90 davs			
Whe	re the above statement	requires a technical report as per sec of the ASSESSMENT REPORT TIT	tion C of the Mineral Act Regu LE PAGE AND SUMMARY to	ulations, the author of th orm and include the co	ne raport Impleted
Who was the ope	rator (provided	Name Chevron	Canada Resources	Limited	
the financing)?		Address 1900 -	1055 West Hasting	s Street	
		Vancouve	er, B.C.		
			ttached list		
		<u>* see a</u>			
Portable Asse	ssment Credits (PA	* see_a AC) Withdrawal Request			MOUNT
				*	MOUNT
		AC) Withdrawal Request roperator(s) account(s)		•	MOUNT
Amount to be with [May be no more of value of the submitted as a	idrawn from owner(s) oi than 30 per cent approved work ssessment work	AC) Withdrawal Request	erator		
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Amount to be with [May be no more of value of the submitted as a	than 30 per cent spproved work l	AC) Withdrawal Request roperator(s) account(s) Name of Owner.Op MineQuest Exploration	erator	\$1,80	0
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I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the *Mineral Act*. I further acknowledge and understand that if the statements made, or information given, in this Statement of Exploration and Development are found to be false and the exploration and development has not been performed, as alleged in this Statement of Exploration and Development of Exploration and Development, then the work reported on this statement will be cancelled and the subject mineral claim(s) may, as a result, forfeit to and vest back to the Province.

ta.

S. M. Blub Someword Applicant

Financing was provided by:

.s. a

- Chevron Canada Resources Limited 1900 - 1055 West Hastings Street Vancouver, B.C. V6E 2E9
- MineQuest Exploration Associates Ltd. 311 Water Street Vancouver, B.C. V6B 1B8
- Welcome North Mines Ltd. 1027 - 470 Granville Street Vancouver, B.C. V6C 1V5

STATEMENT OF EXPLORATION AND DE	VANCOUVER,
Sandy G. McAllister Agent for MineQuest.	Exploration Associat
201 - 1286 W. 14th Avenue 311 Water	
(Addrass)	(Address)
V6H 1P9 736-2149 V6B 1B8 (Postal Code) (Telephone Number) (Postal Code)	559-2 (Telephone P
Valid subsisting FMIC No. MCALS 218642 Valid subsisting FM.C. No.	296272
STATE THAT	
1 I have done, or caused to be done, work on the Ace 1, King 3, King 4, Rebori	in, Borin 1, Queen 5,
Mint 3, Mint 4, (King 1987 Group)	<b>C</b> I
Record No(s) 1372, 1364, 1365, 1858, 1362, 1367, 1370, 1371	
Situate at 70 km NW of Clinton in the Clinton	Mining Di
to the value of at least 7,000 dollars. Work was do	
of September 1986, to the 13th day of March	19 87
2 The following work was done in the 12 months in which such work is required to be done:	
[COMPLETE APPROPRIATE SECTION(S) A, B, C, D, FOLLC	
A. PHYSICAL (Trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads	and trails.)
(Give details as required by section 13 of regulations.)	COST
	ĺ
	<b></b>
TOTAL PHYSICAL	
	<u> </u>
I wish to apply \$ of physical work to the claims listed below.	
(State number of years to be applied to each claim, its month of record, and identify each claim b	by name and record number.)
	· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·	
B. PROSPECTING (Details in report submitted as per section 9 of regulations.) (The itemized cost statement must be part of the report.)	COST
I wish to apply \$	
(State number of years to be applied to each claim, its month of record, and identify each claim t	by name and record number.)

C. DRILLING	(Details in repo (The itemized i	(Details in report submitted as per section 8 of regulations.) (The itemized cost statement must be part of the report.)			COST	
			····			
GEOLOGICAL		AL, GEOCHEMIC				
	(The itemized (	nt submitted as per se cost statement must be vork in space below)	e part of the repo	regulations.) rt )		
Geochemica	al sampling				\$7,000.	
				· · · · · · · · · · · · · · · · · · ·		
				TOTAL OF C AND D	\$7,000.	
Report	to follow w	vithin 90 days	5.			
shall comp		f the ASSESSMENT F			tions, the author of the report n and include the completed	
ho was the operator (p	rovided	Name	Chevron (	Canada Resources	Limited	
the financing)?		Address	1000 1055 W Wastings Street			
			Vancouve	r, B.C. V6E 2	E9	
			* see at	tached list		
ortable Assessme	nt Credits (PA	C) Withdrawal Rei			AMOUNT	
ount to be withdrawn	from owner(s) or	operator(s) account(s)	r.			
ay be no more than 30 of value of the appro submitted as assess n C and (or) D.]	ved work	·		on Associates Lt	d. \$2,000.	
				TOTAL WITHDRAWAL	\$2,000.	
· ·	····	TOTAL OF C 4	AND (OR) D PLU	S PAC WITHDRAWAL	\$9,000.	
I wish to apply \$	9,000.	of this	work to the claim	s listed below.		
(State number o	of years to be app	lied to each claim, its i	month of record,	and identify each claim by r	name and record number.)	
CLAIM	RECORD #	RECORD MONT	TH UNI	TS WORK AP	PLIED YEARS EARNED	
King 3	1364	March	20	\$4,00	0 1	
King 4	1365	March	15	\$3,00	0 1	
Mint 3	1370	March		\$1,00	0. 1	
lint 4	1371	March	5	\$1,00	0. 1	
		le assessment credit (i proved value of C and		d to claims.]		
			Name		AMOUNT	
me of	1					
ner operator	2					
	3.					
			_			
I, the undersigner statement or pre-	ed Free Miner,	hereby acknowled	toe and under	stand that it is an offer	nce to knowingly make a false	

,

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<u>- 1. III GUELLSE</u> Signature of Applicant

Financing was provided by:

.\*

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2

- Chevron Canada Resources Limited 1900 - 1055 West Hastings Street Vancouver, B.C. V6E 2E9
- MineQuest Exploration Associates Ltd. 311 Water Street Vancouver, B.C. V6B 1B8
- Welcome North Mines Ltd. 1027 - 470 Granville Street Vancouver, B.C. V6C 1V5

# APPENDIX VI

Remote Sensing Anaylsis

MineQuest Report #152 Ref. No. RM3802

### REMOTE SENSING ANALYSIS CHURN CREEK CLAIMS

Churn Creek Area Clinton Mining Division

N.T.S. 920/7, 0/8

for

Chevron Canada

by

K.V. Campbell

of

MineQuest Exploration Associates Ltd.

Vancouver, B.C.

April, 1987

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-MineQuest Exploration Associates Ltd. ------

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3.0	RESULTS	4
4.0	RECOMMENDATIONS	5

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2	Lineament Analysis	after	page	4
3	Lineament Interpretation	after	page	4

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#### INTRODUCTION

This brief report describes the results of a remote sensing analysis on the CHURN CREEK claims, Clinton Mining Division, British Columbia. The objective of the work was to identify lineaments using digitally enhanced Thematic Mapper data.

Thematic Mapper (Landsat 5) computer tapes were used in this study. Particulars of the imagery are given in Table I.

#### TABLE I

### Description of Data

Tape ID	Image Date	Scene
TM1543	September 22, 1985	Track 48 Figure 24 Bands 1,2,3,4,5,7
<b>a</b> 11		the term terms

Spectral wavebands included on the tape were:

TM-1	0.45 - 0.52	visible blue
TM-2	0.52 - 0.60	visible green
TM-3	0.63 - 0.69	visible red
TM-4	0.76 - 0.90	infrared
TM-5	1.55 - 1.75	infrared
TM-7	2.08 - 2.35	infrared

Figure 1 shows the relation of the Thematic Mapper (TM) bands in relation to other satellite scanners. The TM spectral sampling area (i.e. pixel dimension) is 30 x 30 m.

Supporting data consisted of 1:50,000 topographic maps (N.T.S. 920/7, 0/8).

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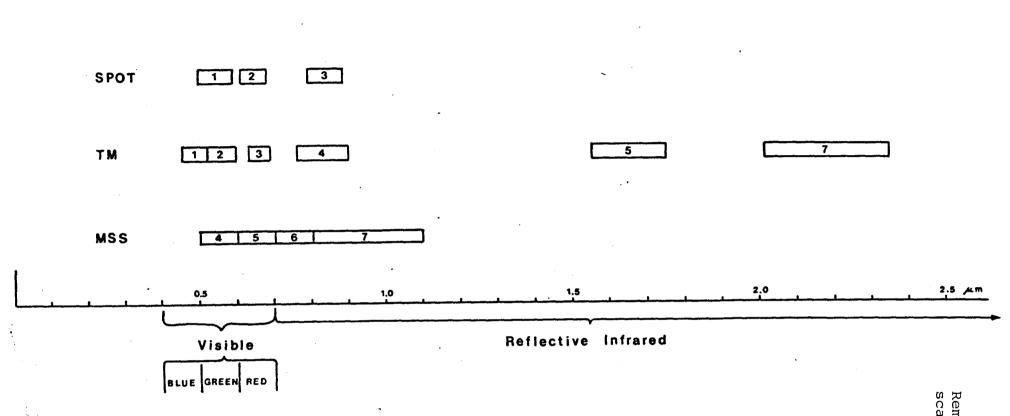


FIGURE I Remote sensing satellite scanner bands

### METHOD

TM computer compatible tapes (CCT) are acquired from the Canadian Centre for Remote Sensing, Prince Albert, Saskatchewan. The imagery contained on each tape covers an area about 90 kilometres square. A portion of the imagery, 1024 x 1024 pixels or 30.72 kilometres square, is transferred to a hard disk on the Vax 780 main frame computer at the B.C. Research Council facility. The software program used in the analysis is EASI-PACE produced by Perception Computing Inc.

The method of digital analysis is outlined below:

- 1. Histograms of raw spectral data are produced.
- The spectral data are 'stretched' from their raw distribution (determined in Step 1) over the available brightness sensitivity range, 0-255. The nature of the stretch is proprietary.
- 3. Ratios of the six bands of raw data are then produced and stretched according to the configuration of their histograms. Ratios produced were 1/2, 1/7, 2/3, 3/4, 4/5 and 5/7.
- 4. Each waveband and ratio is then viewed independantly and a judgement made as to the quality of contrast and ability of the enhancement to identify geological stuctures.
- 5. Based on the above, a number of colour composites are made using combinations of various bands and band ratios. Any three bands or band ratios can be composited and projected onto the computer monitor (512 x 512 pixel display). Any one channel (band or band ratio) can be projected with blue, green or red light, the operator determining which colour combination is most suitable for lineament definition.

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6. Each composite is photographed with 35mm colour positive film (Ektachrome 200). Eight x ten inch enlargements are then made, with a nominal scale of 1:75,000.

7. Lineament analysis is performed on overlays directly on the enlarged photographs. The overlays are then enlarged to a scale of 1:50,000 with a photocopy machine. For this work lineaments were transferred by overlaying a 1:50,000 topographic map and getting the best fit. The surface features making up a lineament may be geomorphic (caused by relief) or tonal (caused by contrast in colour or brightness). Surface features may be landforms, linear boundaries between different types of terrain, or breaks within a uniform Tonal lineaments are caused by terrain. differences in vegetation, moisture content, and soil or rock composition.

Page 3

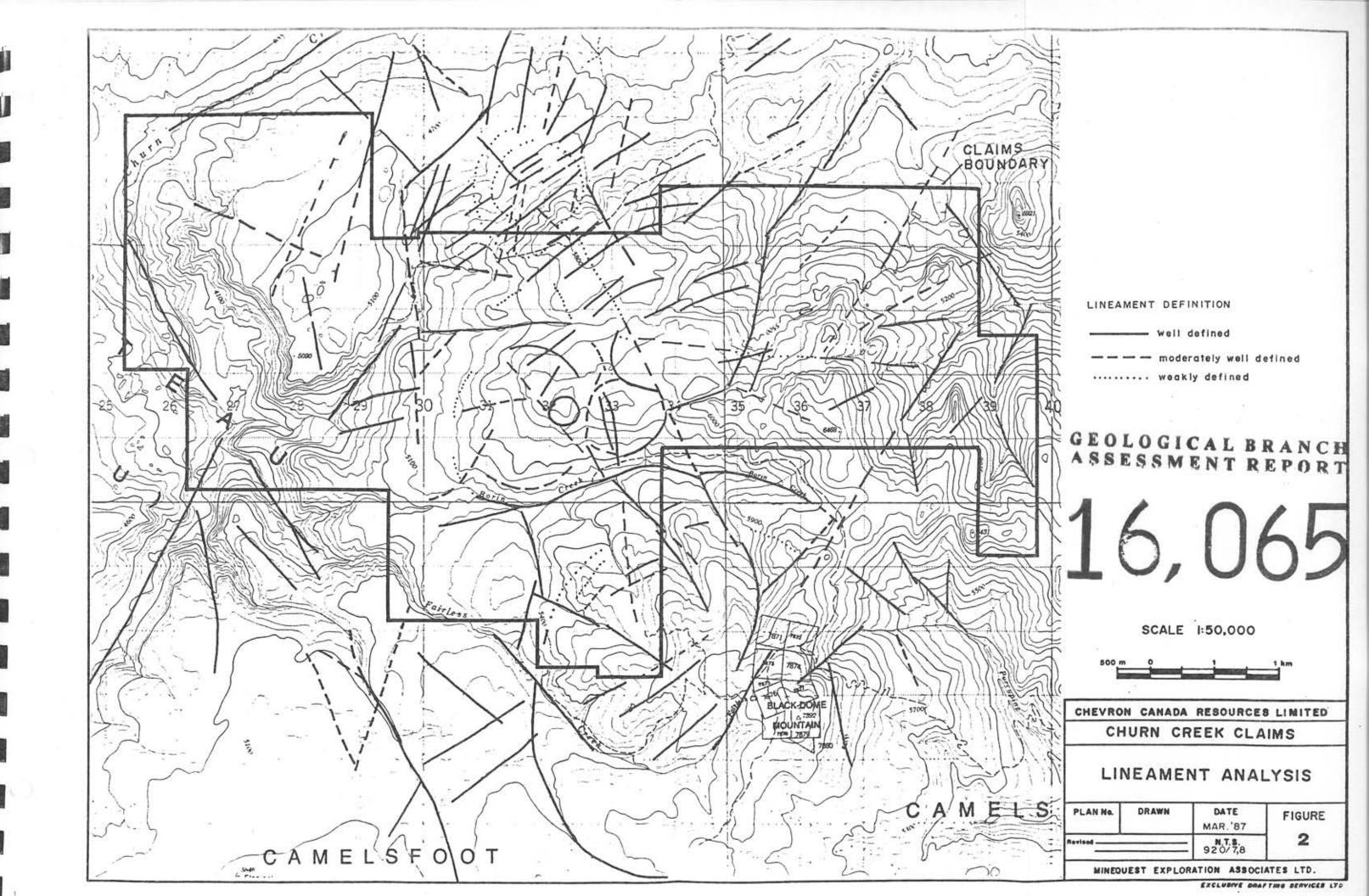
#### RESULTS

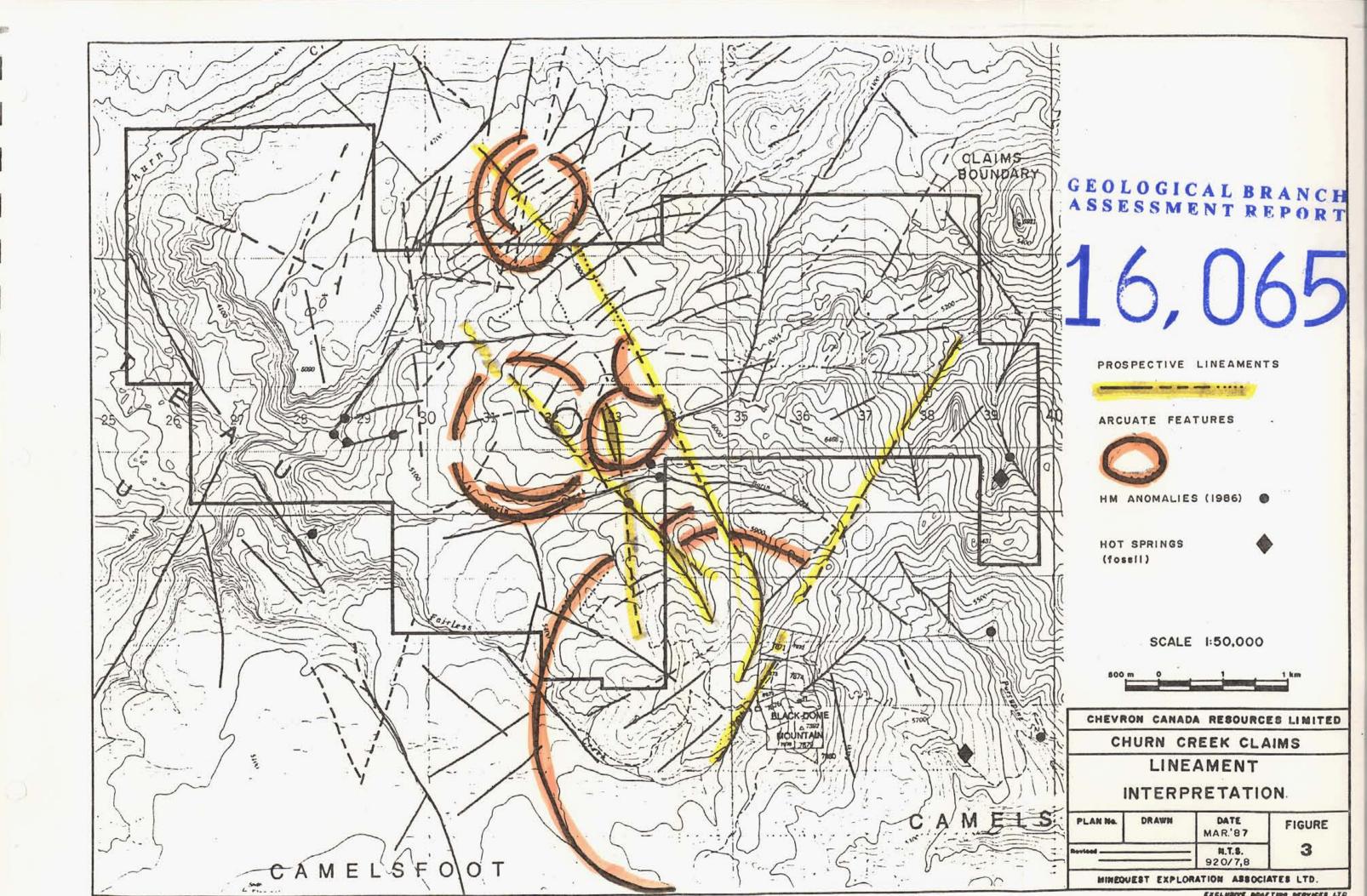
Figure 2 is the lineament analysis of the project area, compiled from all composited images. A three-fold classification is used; well defined, moderately well defined and weakly defined. This has no relation to the relative geological significance or ranking of the lineaments.

Figure 3 is the same lineament base as Figure 2, but with particular lineaments highlighted by the author as being worthy of ground verification and prospecting. Silt anomalies identified in earlier work (1983) and fossil hot springs are also shown. The following observations are made:

- The majority of lineaments fall into three sets: northeast, north-northeast and northwest.
- 2. There are four arcuate features:
  - a) centered in Black Dome Mountain area, diameter 5-6 kilometres, well defined by drainage and weakly defined by tonal contrasts.
  - b) and (c) centered one kilometre north of Borin Creek, diameter of (b)  $1 \frac{1}{2} - 2$ kilometres, diameter of (c)  $\frac{3}{4}$  kilometre, well defined to weakly defined by tonal contrasts.
  - d) centered five kilometres north of Borin Creek, diameter  $1 \frac{1}{2} 2$  kilometres, weakly defined by tonal contrasts.

It is considered noteworthy that these features are aligned on a north-northwest trend extending from the Black Dome area. The possibility that these curvilineaments represent ring structures caused by doming or collapse should be examined. Of particular exploration interest are the longer lineaments that cross or project into the circular features.





#### RECOMMENDATIONS

Prior to field verification the lineaments in Figures 2 and 3 should be identified or approximated as closely as possible on 1:15,000 or 1:20,000 air photos. This is most cheaply done by sketch transferring directly from the colour enlargements to the photos.

Geomorphic lineaments are relatively easy to transfer accurately. Tonal lineaments are more difficult to transfer as they can be invisible to the human eye (or panchromatic film). Hand-held colour infrared photography from fixed or rotary wing aircraft can bridge this problem.

Once the lineaments have been located on the photos they should be examined in the field and quantified as to definition and apparent geological significance. Geochemical soil sampling both along and across lineaments, especially where they intersect the arcuate lineaments is an established reconnaissance technique that has been used successfully elsewhere.

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K.V. Campbell

-MineQuest Exploration Associates Ltd.-

#### STATEMENT OF QUALIFICATIONS

I, KENNETH VINCENT CAMPBELL, resident of vancouver, Province of British Columbia, hereby certify as follows:

- I am a Consulting Geologist with MineQuest Exploration Associates Ltd. at 201-311 Water Street, Vancouver, British Columbia, V6B 1B8.
- 2) I graduated with a degree of Bachelor of Science, Honours Geology, from the University of British Columbia in 1966, a degree of Master of Science, Geology, from the University of Washington in 1969, and a degree of Doctor of Philosophy, Geology, from the University of Washington in 1971.
- 3) I have practiced my profession for 21 years. I am a Fellow of the Geological Association of Canada (F0078).
- 4) I am a member of good standing with the following professional societies; The American Society of Photogrammetry and Remote Sensing and the International Association of Engineering Geologists.
- 5) This report is based on my analysis and interpretation of remote sensing data covering the Churn Property, Cariboo Mining Division, British Columbia.

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K.V. Campbell, Ph.D. Geologist

Dated at Vancouver, B.C., this 9th day of April, 1987

MineQuest Exploration Associates Ltd.-

