84-#693 - 12797

ASSESSMENT REPORT

GEOLOGICAL, GEOCHEMICAL SURVEYS

HO, HUM MINERAL CLAIMS

ATLIN MINING DIVISION

LATITUDE 58°54'N

LONGITUDE 132°30'W

104K/16W

OWNER: CHEVRON MINERALS LTD.

OPERATOR: CHEVRON CANADA RESOURCES LIMITED

Author: Godfrey Walton

August 1984

a2/07/

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

A total of 17 man days were spent in the HO, HUM claims establishing and soil and rock sampling some soil lines on a crude grid. The work was accomplished by setting up two fly camps on Yeth Creek. The work was started on June 10th with the first fly camp being established. The fly camp was serviced from a base camp at Tatsamenie Lake by a Hughes 500D helicopter from Trans North Turbo Air.

LOCATION AND ACCESS

The HO, HUM claims are located at latitude 58°55'N and longitude 132°40'W. The base camp at Tatsamenie Lake provided support for the two fly camps and a number of other Chevron personnel. A Hughes 500D helicopter provided access to the fly camp from which the personnel walked to the traverse locations. Supplies were flown to the Tatsamenie Lake campsite from Dease Lake, British Columbia by float equipped Cessena 206 aircraft.

CLAIM STATUS

The HO, HUM claims were staked at the beginning of the season prior to the fly camps being established. The GOAT claims were staked in 1981. The pertinent information is outlined below:

Claim	Record Number	Record Date	Number of Units
GOAT	1351	July 10, 1981	20
GOAT 1	1492	August 21, 1981	20
GOAT 2	1493	August 21, 1981	20
HO	2327	June 26, 1984	20
HUM	2328	June 26, 1984	20

This ground was previously unstaked.

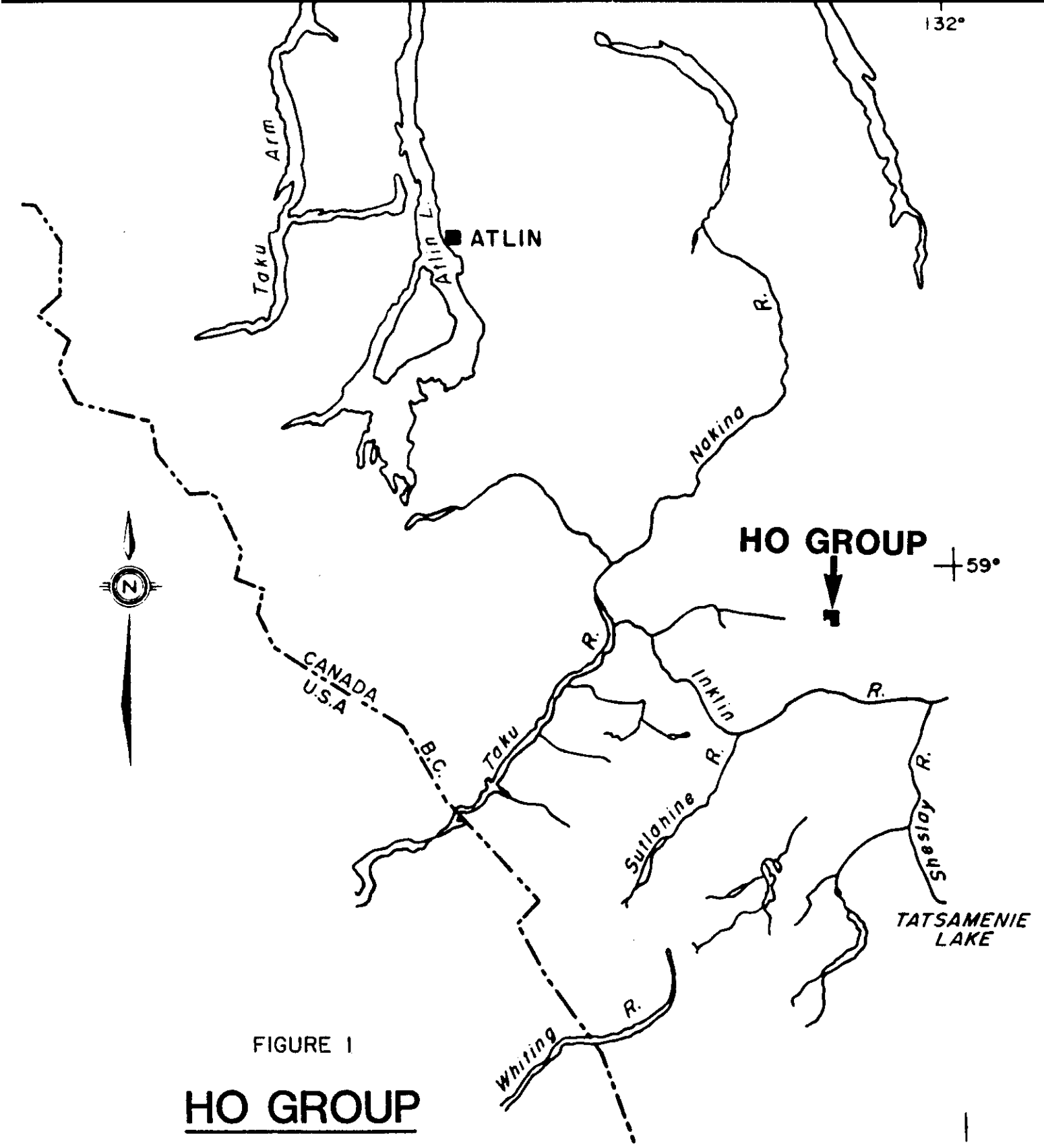

FIGURE 1

HO GROUP

LOCATION MAP

M504

0 30
Km

REGIONAL GEOLOGY

The claims straddle the Nahlin fault structure which contains a number of ultramafic bodies (Souther 1971). The Nahlin fault approximates the boundary between the Stikine Terrain to the south and the Cache Creek terrain to the north. The Inklin sediments outcrop on the south side of the Nahlin fault. Both the ultramafic and the Inklin sediments have been intruded by a number of rhyolite, feldspar porphyry dykes and plugs and some breccias that may be diatremes. This intrusive activity is probably related to the Sloko group and can be seen in various places in the Inklin.

GEOLOGICAL SURVEY

The majority of the geological mapping was on the HO and HUM claims south of Yeth Creek. A brief description of each of the map units follows:

Inklin Sediments

The sediments are well bedded, siltstone, sandstone and graywache. Bedding is typically a foot to three feet thick. Normally the bedding is quite uniform in the Inklin; however, in the claim area there is significant fold and faulting. Some hornfelsed sediments occur near the dioritic intrusion. The sediment has picked up some pyrrhotite and weathers a rusty brown. Most of the Inklin sediments were fresh; however, some small fault bounded areas had slight hematitic alteration to intensely carbonate-clay alteration.

Diorite

The diorite is medium to coarse grained, equigranular with hornblende and biotite comprising the majority of the mafics. There is a fine grained contact phase of the diorite near the sediment which suggests the diorite is later than the sediments and an intrusive contact as apposed to a sheared contact. The diorite is probably Jurassic in

age, although it does not appear on the Geological Survey maps for the Tulsequah area. No alteration was observed in the diorite. The diorite occurs in the central part of a circular structure which is probably related to the intrusion of the diorite. The diorite is probably a lot bigger than outlined on the geological map.

Rhyolites, Feldspar Porphyry

These rocks all occur as dykes which intrude the Inklin sediments. In many cases pyrite is associated with the dykes up to 5%. The dykes vary in thickness from 2 feet to 15 feet. They appear to be closely associated with some silica breccias. These breccia have been interpreted as diatreme because the fragments are rounded and appear to be totally foreign to the surrounding area. Some of the fragments are from the rhyolites, sediments and diorite.

ALTERATION AND MINERALIZATION

There are two main types of alteration, one hematite along fractures and the other is clay-carbonate alteration. Both types are quite restricted and are fracture or fault controlled.

The only mineralization that was seen on the claim block was quartz veining with pyrite. No anomalous gold, arsenic, antimony or silver values were obtained from any of the rock samples.

GEOCHEMICAL SURVEY

A total of 295 soil samples were collected on the HO, HUM claims. The claim line along Yeth Creek was used as a crude baseline and traverses were run to the south up the hills. The line spacing was 100 meters with samples being taken every 50 meters

along the lines. The samples were taken from 15 to 80 centimeters below the surface. Generally the soil development is good in the area; however, some localities have up to 50 centimeters of moss, rotten wood and talus. Since the samples were collected in early June several samples were in frozen ground.

The soil samples were collected using a mattock and placed in gusseted soil sample bags and shipped to Chemex Labs in North Vancouver. They were analyzed for gold by Fire Assay with an Atomic adsorption finish and geochemically analyzed for mercury, antimony and arsenic. A complete outline of the analysis and sample preparation is enclosed in the Appendix A. Weak anomalous values in antimony, arsenic, mercury and gold were obtained in the soil just west of Ho Creek. The gold and antimony can be correlated while the arsenic and mercury correlates quite well. All anomalies are essentially one line and cannot be called extensive.

The area underlain by these anomalous values is not altered or mineralized in any visible form.

CONCLUSION AND RECOMMENDATION

The geological mapping and geochemical sampling suggests the area west of Ho creek is the area of most interest because it contains low order gold, arsenic, antimony and mercury geochemical anomalies which are combined with a lot of intrusive activity. The typical intrusive material is feldspar porphyry and rhyolite dykes. Since no rocks with high samples were obtained on the HO HUM claims it is concluded no significant deposit could be found.

It is, therefore, recommended that no further work be done on these claims at the present time.

REFERENCE

Souther, J. G. (1971) Geology and Mineral Deposits of Tulsequah map-area, British Columbia , Geological Survey of Canada, Memoir 362, 84 p.

STATEMENT OF COST.

Geological, Geochemical Survey - June 11 to June 24, 1984

(1) **Personnel**

	Field Days	Office Days
M. Thicke	7 ½	2
M. Gray	7 ½	-
G. Wober	½	-
G. Walton	1 ½	1
	17	3

17 man days average cost = $133.92/man day $ 2,276.66

(2) **Geochemical Analysis**

295 soils analyzed for gold, arsenic and antimony @$13.95 4,115.25

30 rocks analyzed for gold, arsenic, antimony and mercury @$19.75 592.50

(3) **Camp Costs**

17 man days @$60/man day 1,020.00

(4) **Helicopter**

3.5 hours @4.60/hr. 1,610.00

(5) **Drafting**

2 man days @$100/man day 200.00

$ 9,814.41

a2/07/6

STATEMENT OF QUALIFICATIONS

I, Godfrey Walton, have worked as a geologist since 1974 in Alberta, British Columbia, Yukon, Northwest Territories and Ontario. I graduated in 1974 with a B.Sc. (Hons) degree from the University of Alberta and was awarded a M.Sc degree from Queens University in January 1978. I have been employed by Chevron on a permanent basis since 1976.

I am a member in good standing with the Canadian Institute of Mining and Metallurgy, the Society of Exploration Geochemists and the Mineralogical Association of Canada. The field work on the HO, HUM claims was carried out under my supervision.

Godfrey Walton

GODFREY WALTON

a2/07/7

APPENDIX A

GEOCHEMICAL PREPARATION AND ANALYTICAL PROCEDURES

1. Geochemical samples (soils, silts) are dried at 50°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.

2. A 1.00 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% $HClO_4$ and concentrated HNO_3. Digestion time = 2 hours.

3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.

4. Detection limits using Techtron A.A.5 atomic absorption unit.

Copper	1 ppm
Molybdenum	1 ppm
Zinc	1 ppm
*Silver	0.2 ppm
*Lead	1 ppm
*Nickel	1 ppm
Chromium	5 ppm

*Ag, Pb & Ni are corrected for background absorption.

5. Elements present in concentrations below the detection limits are reported as one half the detection limit, ie. Ag - 0.1 ppm

PPM Antimony:

A 2.0 gm sample digested with conc. HCl in hot water bath. The iron is reduced to Fe^{+2} state and the Sb complexed with I^-. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption 0.2 ppm $\pm$ 0.2.

Detection limit: 0.2 ppm

PPM Arsenic:

A 1.0 gram 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 KI and mixed. A portion of the reduced solution is converted to arsine with $NaBH_4$ and the arsenic content determined using flameless atomic absorption.

Detection limit: 1 ppm

F.A. - A.A. GOLD COMBO METHOD

For low grade samples and geochemical materials 10 gram samples are fused with the addition of 10 mg of Au-free Ag metal and cupelled. The silver bead is parted with dilute HNO_3 and then treated with aqua regia. The salts are dissolved in dilute HCl and analyzed for Au on an atomic absorption spectrophotometer to a detection of 5 ppb.

GOAT 3

GOAT

GOAT 1

GOAT 2

HUM

HO

NAHLIN FAULT ZONE (?)

NICKEL CR.

STEEP CR.

BENT CR.

YETH CR.

HO CREEK

LCP

LCP

large quartz and carbonate veins

Clay altered felsic intrusions

Rusty Inklin Deformed Sediments

Qtz. Fp. Pb Porphyry

Dacitic Fp ø (trachitic Fp)

Crystal tuff (?)

LEGEND

TERTIARY
QUARTZ-IRON CARBONATE ALTERATION

LATE CRETACEOUS AND EARLY TERTIARY
- 4 — QUARTZ-FELDSPAR PORPHYRY DYKES AND SILLS, CLAY ALTERED
- 4a — QUARTZ-FELDSPAR PORPHYRY STOCKWORK
- 4b — RHYOLITE DYKES AND RHYOLITE BRECCIAS, CLAY ALTERED
- 4c — INTRUSIVE BRECCIA, POLYMICTIC

POST MIDDLE JURASSIC
- 3 — HORNBLENDE DIORITE, DIORITE; FINE TO MEDIUM GRAINED RELATIVELY FRESH INTRUSIONS

LOWER AND MIDDLE JURASSIC
- 2 — INKLIN FORMATION - SILTSTONE, SHALE, MUDSTONE
- 2a — GREYWACKE

PERMIAN (?)
- I — NAHLIN ULTRAMAFIC BODY
- Ia — PERIDOTITE, DUNITE
- Ib — SERPENTINITE (IN PLACE)
- Ic — SERPENTINITE RUBBLE

SYMBOLS

- GEOLOGICAL BOUNDARY (DEFINED APPROXIMATE)
- BEDDING - INCLINED, VERTICAL
- APPROXIMATE LIMIT OF OUTCROP
- FAULT - STEEP TO VERTICAL
- LAKE
- SWAMP
- INTERMITTENT STREAM
- DRAINAGE AREA

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,797

SCALE
0 300 600 M

Chevron Canada Resources Limited
Minerals Staff

HO CREEK

GEOLOGY

1982,83,84

FIGURE No 2		PROJECT No M 504	
DATE 1983	REVISIONS		SCALE 1:10000
NTS No 104 K	BC 5615 235		FILE No G - 31
COMPILED BY M.G.			

GOAT 3

GOAT 1

LCP

GOAT HUM

GOAT 2

HO

NICKEL CR.

STEEP CR.

BENT CR.

YETH CR.

LCD

N

LEGEND

- SOIL SAMPLE
- ROCK SAMPLE
- SILT SAMPLE

LEGEND

- Lake
- Drainage area
- Swamp
- Intermittent Stream

SCALE
0 300 600 M

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HO CREEK
GEOCHEMISTRY Au. ppb.

1982,83,84

FIGURE No 3		PROJECT No M 504	
DATE 1982,83,84	REVISIONS		SCALE 1:10000
NTS No 104 K	BC 5615 235		FILE No C - 226
COMPILED BY M.G.			

GOAT 3

GOAT 1

GOAT 2

GOAT HUM

HO

NICKEL CR.

STEEP CR.

BENT CR.

YETH CR.

LCP

LCP

N

LEGEND

- SOIL SAMPLE
- ROCK SAMPLE
- SILT SAMPLE

LEGEND

Lake

Drainage area

Swamp

Intermittent Stream

SCALE

0 300 600 M

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HO CREEK

GEOCHEMISTRY As. ppm.

1982,83,84

FIGURE No 4		PROJECT No M 504	
DATE 1982/83/84	REVISIONS		SCALE 1:10000
NTS No 104 K	BC 5615 235		FILE No C - 224
COMPILED BY M.G.			

GOAT 3

GOAT 1

GOAT HUM

GOAT 2

HO

LCP

NICKEL CR.

STEEP CR.

BENT CR.

YETH CR.

LEGEND

- SOIL SAMPLE
- ROCK SAMPLE
- SILT SAMPLE

LEGEND

- Lake
- Drainage area
- Swamp
- Intermittent Stream

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,797

SCALE 0 300 600 M

Chevron Canada Resources Limited
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HO CREEK
GEOCHEMISTRY Sb. ppm.
1982,83,84

FIGURE No 5		PROJECT No M 504	
DATE 1982,83,84	REVISIONS		SCALE 1:10000
NTS No 104 K	BC 5615 235		FILE No C - 225
COMPILED BY M.G.			