84-#863 - # 13107

ASSESSMENT REPORT

GEOLOGICAL, GEOCHEMICAL SURVEYS INLAW I CLAIM ATLIN MINING DIVISION TRAPPER LAKE AREA, B.C.

> LATITUDE 58°28' N LONGITUDE 132°44' W

> > 104 16 76

OWNER: CHEVRON MINERALS LTD. OPERATOR: CHEVRON CANADA RESOURCES LIMITED

> Author: Godfrey CWE OFLOGICAL BRANCH October 1945 SESSMENT REPORT

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INTRODUCTION

A total of 38 man days were spent on the INLAW | claim establishing a soil sampling grid, 2 trenches, geological mapping and prospecting throughout the property. The geological, geochemical and physical work was assisted by helicopter support. The work was started on August 17, 1983 and completed on August 15, 1984. The trenching was done by Yukon Erich and Associates who are based in Whitehorse, Yukon with some assistance from Chevron crews. The helicopter support in 1984 was provided by Trans North Turbo Air Helicopters in the form of a Hughes 500D based in Whitehorse and in 1983 by Viking Helicopters with a Hughes 500D from Ottawa.

LOCATION AND ACCESS

The INLAW claim is located at latitude 58°28'N and longitude 132°44'W, approximately seven kilometers west of Trapper Lake. A base camp was established at Trapper Lake in 1983 and at Tatsamenie Lake in 1984 to work on a number of Chevron claims including the INLAW claim block. A Hughes 500D helicopter provided daily access to the property. Supplies were flown to the Trapper Lake campsite from Atlin, British Columbia by float equipped Beaver aircraft and to the Tatsamenie Lake campsite from Dease Lake, British Columbia. The INLAW claim is primarily all above tree line with scrub spruce and pine and large area of grass, moss and licken.

CLAIM STATUS

The INLAW I claim was staked in August, 1983 by Chevron personnel. The following table summarizes the pertinent information:

CLAIM	RECORD NUMBER	RECORD DATE	NUMBER OF UNITS
INLAW I	1983	August 16, 1983	20





The INLAW claim is just south of Chevron's OUTLAW claim block and the THORN and KAY claim blocks. The ground has previously been unstaked. The THORN and KAY claims cover a porphyry copper prospect in THORN creek.

REGIONAL GEOLOGY

The INLAW claim's area is a small part of Souther's (1971) geological map of the Tulsequah area. Souther's map indicates the area is primarily underlain by Upper Triassic Stuhini group volcanics which have been cut by the Tertiary to Cretaceous Sloko group volcanics.

The Stuhini group is comprised of basalt and mafic volcanoclastic rocks. The Sloko group is primarily made up of rhyolite dykes in this area, although to the north and south a large aerial extent of Sloko group volcanic and subvolcanic rocks are common. Ten kilometers to the west is the coast range batholith.

GEOLOGICAL SURVEY

The geological mapping was done in two stages, the first was completed in 1983 where the whole claim block was quickly examined and then in 1984 a more concentrated effort around the trenched area.

The geological units which have been outlined are:

Sloko group – volcanics and subvolcanics Biotite hornblende diorite Stuhini group

Sloko Group - Unit 3

The Sloko group is represented by rhyolitic feldspar porphyry dykes which have quartz eyes and a small stock of dacitic feldspar porphyry.

The dykes are typically white in weather colour and in fresh colour with one centimeter feldspar phenocyrsts in a crystalline matrix. The matrix is almost entirely fine crystalline feldspar with the small quartz eyes. No mafics are visible. Since the dykes are so white, they are clearly visible from a long distance and especially from the air.

The stock is brown to dark brown in colour. The feldspars are in the order of one centimeter with a very fine grained to glassy matrix. No crystals are visible in the matrix. Staining specimens in the field indicate no potassium feldspar is present and no free quartz is visible in the form of quartz-eyes. Neither form of feldspar porphyry appears to be weathered. The feldspars are fresh. Normally no sulphides are present in either rock type.

Stuhini Group - Unit 2

The Stuhini group is typically comprised of dark green massive volcanics. The package is a mixture of flows and tuffs with some augite porphyry present. The fresh and weathered colours are essentially the same green.

The flows have some pillow structures which are fairly crude. There is also some flow banding although it is not very extensive. The tuffs are typically lapilli lithic tuffs although there are some crystal tuffs. The layering appears to be approximately I meter in thickness and where recognizable it is striking northerly and dipping steeply to the east.

Biotite-hornblende diorite - Unit I

The diorite is medium grained, equigranular. It is quite fresh in appearance although some of the mafic minerals have been chloritized. The diorite is typically black and white in colour on a fresh face. No significant sulphides have been observed in the outcrop. No hornfels has been observed around the stocks on this property although that may be more the outcrop pattern as opposed to there being no hornfels.

ALTERATION AND MINERALIZATION

The claim has a large area that strikes approximately northwesterly that has been carbonatized. This alteration is very visible from the air and is the first obvious feature on the claim block. The alteration is so intense that the mafic volcanic rocks now fizz like a limestone although some original textures are still present. The carbonatization does not effect the rhyolites or any of the Sloko rocks which may suggest the alteration is pre-Sloko volcanics. No other alteration is evident on the claims.

The mineralization can be characterized into two types, one a vein type and the other silica flooding in a rhyolite dyke.

The first type of mineralilzation is a series of veins which are comprised of galena and chalcopyrite. The veins are typically 2 centimeters wide but can be 5 centimeters locally, striking approximately east and dipping vertically. Some quartz is also associated with the sulphide veins. The veins vary a lot in density, but in one area that has been trenched the density is one vein per 50 centimeters. In other areas the density is a lot less.

The second type of mineralization is the silica flooding within a rhyolite. This type of mineralization was located in 1982 by Chevron personnel and was considered to host some spectacular grades that had been obtained from the area. Other similar rock types did not contain the same gold values. Associated with the silica flooding is a coarse yellow pyrite with no other visible sulphides.

Trenching the main area of mineralization, an area where grades up to 33 grams/tonne have been obtained, clearly outlines the two types of mineralization. The other point that is confirmed by the trench sampling is that the better grades are obtained from the sulphide veins as opposed to the silica flooding.

Further prospecting has obtained more veins despite the rather sparse outcrop. The soil grid that was established in 1984 suggests the vein system may be larger than previously thought; see next chapter for further comment.

GEOCHEMICAL SURVEY

Reconnaissance type geochemistry with randomly orientated traverse lines were established in 1983. This survey outlined a number of very interesting geochemical values many being anomalous in gold.

In 1984 a grid was placed over this area with lines every 50 meters and samples every 50 meters along these lines. A 1500 meter baseline was established with lines being 1200 meters long. To increase the accuracy in plotting the data, a tie line was established. A total of 700 soil samples were collected on the property, although most were



collected on the grid. The samples where possible were taken from the B horizon, but in most cases were actually talus fine samples. The samples were generally taken at 5 - 25 centimeter depth using a soil mattock and placed in gusseted kraft sample bags.

In addition to the soil samples, 30 rock samples were collected primarily in the grid area. An additional 11 channel samples were collected in the trenches and sent for assay.

All samples were shipped to Chemex Laboratory in North Vancouver, British Columbia after being air dried in camp. The samples were further dried, prepared and analyzed as outlined in Appendix A.

Both the reconnaissance style sampling and the grid sampling indicate there is a large area of anomalous gold values. Within this anomaly there are a number of very high spotty values. This type of geochemical pattern is very characteristic of a vein type of deposit. The exact nature of the system will be difficult to assess with the amount of grass cover. Although the geochemistry should be useful to narrow down an area to prospect.

The high gold soil values (8650, 8350 ppb Au) were revisited and bulk sampled. A total of 3 larger 18 x 20 plastic bags of material was collected. This soil was processed by a spiral heavy mineral separator to see if any gold could be seen. In both cases numerous flakes of gold were observed. A number of other locations were tried with varying success. Gold, however, is definitely present. The arsenic and antimony provide similar values and provide good confirmation of the gold values. The arsenic and antimony provide a larger halo than the gold values and are not as spotty suggesting the system could be quite large.

Only the 1983 samples were analyzed for silver so none of the grid samples have silver values.

Prospecting around most of the soil samples with values greater than 1000 ppb Au turned up veins of galena with or without chalcopyrite.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusion can be drawn:

- The gold, arsenic and antimony anomalies corresponds to the area where some galena, chalcopyrite veins have been found.
- (2) The gold appears associated with these veins as opposed to the silica-pyrite flooding in the rhyolite dykes.
- (3) The sulphide veins are very young since they cut the rhyolite dykes and the silica flooding.

The recommendations for further work are:

- (1) Further prospecting in area of geochemical anomaly.
- (2) More sampling to determine if the gold really is associated with the sulphides.
- (3) Further trenching especially near some of the higher soil values.

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REFERENCES

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

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COST STATEMENT

INLAW CLAIM

June 22 - June 28, 1984

(A) PHYSICAL WORK

(1) Labour

		Position	Field Days	Office Days		
	M. Thicke	Geologist	1	1		
	M Woods	Mucker	2			
	G. Wober	Mucker	2	-		
			5	1		
5 mc	an days average	cost = \$95 man day x 5	man days	475.00		
l off	fice day at \$149	9 man day		149.00		
(2)	Contractor					
	Yukon Erich					
	2 men @	780.00				
	Supplies - F	200.00				
(3)	Camp Costs					
	9 man days (540.00				
(4)	Helicopter					
	2% hours @\$450.00/hour including fuel			\$ 1,012.50		
				\$ 3,156.50		

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COST STATEMENT

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INLAW CLAIM

June 22 - June 28, 1984

(B) GEOLOGICAL AND GEOCHEMICAL

(1) Labour

		Position	Field Days	Office Days		
	G. Walton	Geologist Supervisor	4	2		
	M. Gray M. Thick	Geological Assistant Geologist	2	1		
	G. Wober	Sampler	10			
	A. Grigorik	Sampler	10			
	M. Woods	Sampler	<u>1</u>	-		
			29	3		
Aver	age Cost field da	y = \$100.78 x 29 man days	s =	2,922.00		
Aver	age Cost office d	lay = \$213.34 x 3 man day	s =	640.00		
(2)	Analysis:	Au, Sb, As, some Ag				
	Soil: \$13.95 x 7	9,765.00				
	Rock: \$17.65 x	30 samples		529.50		
	Rock assay: \$1	0.50 x 11 samples		115.50		
(3)	Camp Costs					
	\$60 man day x	28 days		1,680.00		
(4)	Helicopter					
	10 hours @\$45(0.00/hour including fuel		4,500.00		
(5)	Drafting					
	11 days @\$100.			1,100.00		
				\$ 21,252.00		

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.

I supervised and carried out the work on the INLAW 1 claim.

odfry Walton

GODFREY WALTON

APPENDIX A

GEOCHEMICAL PREPARATION AND ANALYTICAL PROCEDURES

- 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.
- A 1.00 gram portion of the sample is weighted into a calibrated test tube. The sample is digested using hot 70% HC104 and concentrated HN03. Digestion time = 2 hours.
- 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	-	l ppm
Molybdenum	-	l ppm
Zinc	-	I ppm
*Silver	-	0.2 ppm
*Lead	-	I ppm
*Nickel	-	I ppm
Chromium	-	5 ppm

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

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

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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 1⁻. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption 0.2 ppm ± 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 NaBH₄ and the arsenic content determined using flameless atomic absorption.

Detection limit: | ppm



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	- N
1530 IAM	
	Legend
•••	TERTIARY / CRETACEOUS
	3 Sloko group. a. dacitic feldspar porphyry b. rhyolitic feldspar porphyry
	JURASSIC / CRETACEOUS
	2 Diorite.
	TRIASSIC
	I Stuhini group. a. basait flows b. porphyritic feldspar andesite c. aggiomeritic basait
	SYMBOLS :: Outcrop.
	Geological contact: definite, assumed.
\	Dyke orientation.
N.	 Rock sample location.
١.	vv Fault.
ì	Trench.
and a subject of	- We want the Local Manual on Poster Colline
/	GEOLOGICAL BRANCH ASSESSMENT REPORT
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	INLAW 1
400 500 Metres	GEOLOGY AND ROCK SAMPLES
	FIGURE No. 3 PROJECT No. M-504
	DATE OCT. 1984 REVISIONS CONTOUR 100 m SCALE 1: 5000

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SET7





Legend

Soil sample - As (ppm).

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G E A S	OLOGI SESSM	CAL B BNT R	RA	NC	H T
1 ¥ CI	Byron Can	1 ada Resou	C		7 ad
	INL. SOIL GEO ARS	AW 1 CHEMIS SENIC	TÀY		
FIGURE No.	6	PROJECT	ka l	M-50)4
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NTS No. 104K/7				FIL	E No.

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. 0.2 . 0.1 . 0.1 Legend •0.6 Soll sample - Ag (ppm). GEOLOGICAL BRANCH ASSESSMENT PEPORT Chevron Canada Resources Limited INLAW 1 400 500 Metres SOIL GEOCHEMISTRY SILVER PROJECT No. M-504 FIGURE No. 8 DATE OCT. 1984 CONTOUR 100m SCALE 1: 5000 REVISIONS NTS No 104K/7 FILE No. COMPILED BY