

LOG NO: 0419	RD.
FILE NO:	

REPORT ON THE  
GEOLOGY, GEOCHEMISTRY AND GEOPHYSICS OF THE  
NEW LAW #2 AND #3 CLAIMS  
TOODOGGONE RIVER AREA,  
OMINECA MINING DIVISION, B.C.

N.T.S. 94 E / 6  
Latitude: 57° 22' N  
Longitude: 127° 18' W

FILED

For

**MARIAN MINERALS CORPORATION**

303 - 68 Water Street

Vancouver, B.C.

V6B 1A4

17,288

part 2  
of 2

DAVID L. COOKE, Ph.D., P.Eng.

D.L. COOKE AND ASSOCIATES LTD.

#808 - 675 West Hastings Street

Vancouver, B.C.

V6B 1N2

October 16, 1987

SUB RECORDER  
APR 14 1988  
M.R. # ..... \$ .....  
VANCOUVER, B.C.



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## SUMMARY

The New Law mineral claims cover favourable geology and geophysically inferred structures adjacent to known epithermal gold and silver mineralization in the Toodoggone River area of north central British Columbia. The property is located some 300 kilometers north of Smithers, B.C., and is currently accessible by fixed-wing aircraft and helicopter.

The Toodoggone River gold camp is underlain by the Toodoggone, Hazelton and Takla volcanic rocks of Jurassic and Triassic ages. These rocks are generally in fault contact with each other, and are intruded by monzonite and granite plutons. Economic mineralization within the district consists of gold and silver in quartz veins and quartz breccias, which are associated with silicified and argillic zones within faults and fractures in the volcanic assemblages.

Dupont Canada Explorations Ltd., operated the Baker gold and silver mine in the area between 1981 and 1983, starting with reserves of 90,000 tons and grades of 0.87 oz/T Au and 19 oz/T Ag. Cheni Gold Mines Inc. (formerly Serem Inc.) is currently preparing its Lawyers deposit in the Toodoggone area for production. Cheni has proven, probable and possible reserves in excess of 1,700,000 tons with about 0.3 oz/T Au equivalent.

The New Law claims were evaluated in 1986 by an airborne magnetometer survey. This was followed by ground magnetometer and soil geochemical surveys in 1987. Extensive overburden cover impeded geological and geochemical work. However, the geophysics suggests the presence of favourable fault structures. The close proximity to gold and silver mineralization on nearby properties do not guarantee the discovery of precious metal mineralization on the New Law claims, but should encourage the owners to persist in exploring the property further.

A program of induced polarization and resistivity is therefore recommended on the New Law property.



BRITISH COLUMBIA

Scale 1:7,500,000



MARIAN MINERALS CORPORATION

NEW LAW #2 & #3 CLAIMS  
TOODOGGONE RIVER AREA  
LOCATION MAP

Scale 1:7 500 000

Date Oct. 1987

Drawn J.S.

FIGURE 1

Ashworth Explorations Limited

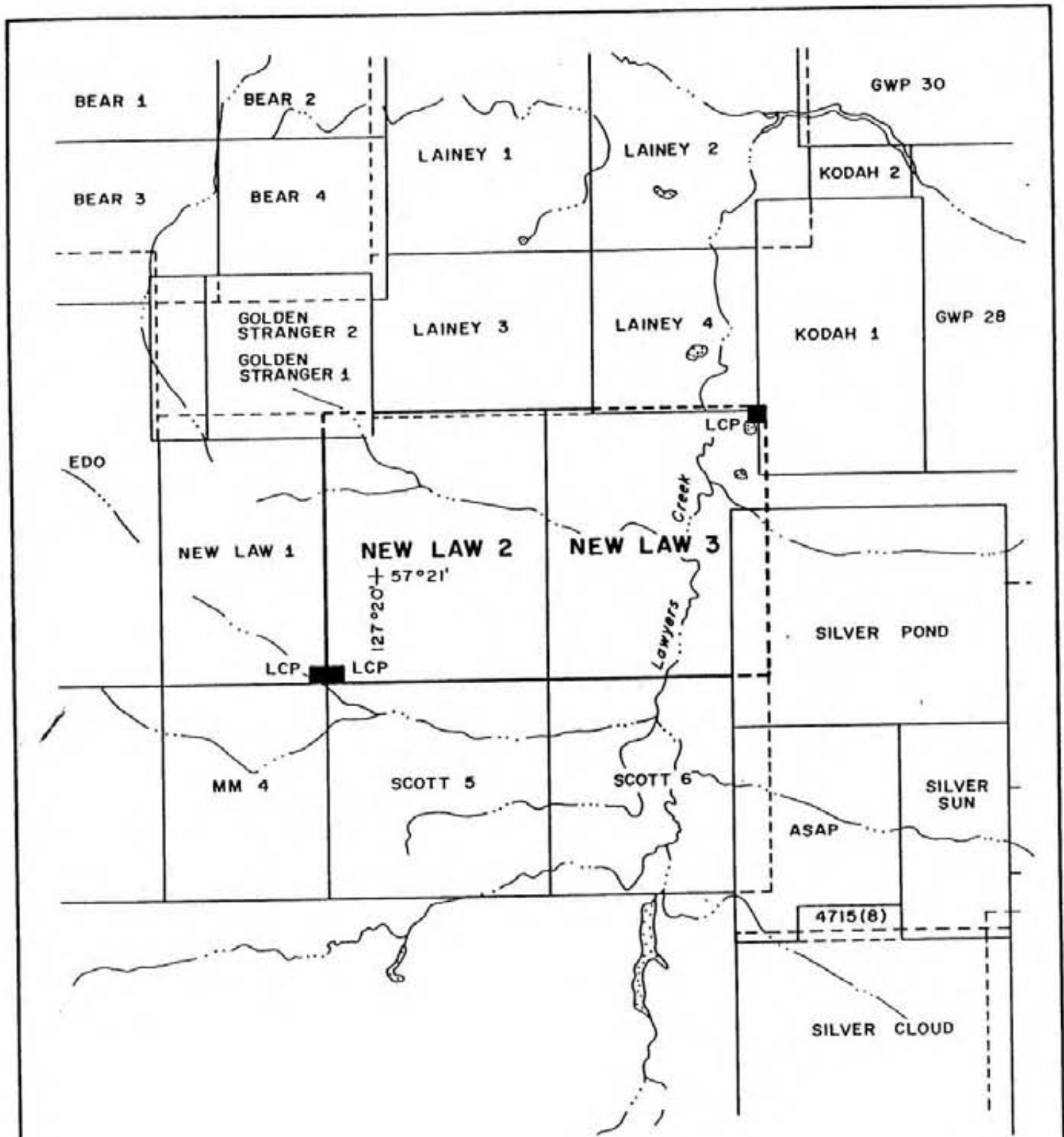
## INTRODUCTION

An evaluation of the New Law #2 and #3 claims was requested by Marian Minerals Corporation. This report describes the results of the exploration program which was done on the property by Ashworth Explorations Ltd. in 1987. Regional and property geological, geochemical and diamond drill data were reviewed in the course of this evaluation. The writer's visit to the property on July 31, 1987 provided first hand information on which to base his interpretation of the data reviewed and to make recommendations for further exploration. The 1987 field program consisted of mapping, prospecting, rock, soil and silt geochemistry and magnetometer work done August 7, and 14-20, 1987. Field personnel were E. Scroggins, geologist, F. Renaudat, geophysical technician and prospector, R. Paesler and D. Spooner, field assistants. Geochemical analyses of rocks, soils and silt samples were done by Vangeochem Lab Limited of North Vancouver, B.C.

## LOCATION AND ACCESS

The New Law claims are located in the Toodoggone River area, approximately 300 kilometers north of Smithers, B.C. (Figure 1). The New Law #2 claim adjoins the southeast boundary of the Golden Stranger gold property of Sutton Resources Ltd. and Redfern Resources Ltd. The New Law #3 claim lies on the western boundary of the Silver Pond property being drilled by the Cassidy Resources Ltd. and St. Joe Minerals joint venture. The New Law property is 7.5 kilometers west of the Lawyers precious metal deposit of Cheni Gold Mines Inc.

The terrain is marked by gentle rolling hills, with broad open valleys. Elevations range from 1300 to 1550 meters. Soil cover is extensive and the area is well wooded.



**MARIAN MINERALS CORP.**  
**NEW LAW 2 & 3 CLAIMS**  
**CLAIMS MAP**  
**N.T.S. 94E/6**

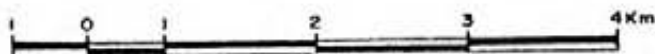


FIG. 2

Access to the property is presently by fixed wing aircraft 280 kilometers from Smithers to the Sturdee River airstrip and then by helicopter approximately 18 kilometers to the northwest. On completion of the Omineca road in 1988 to the Lawyers deposit of Cheni Gold Mines Inc. the New Law claims will be within 2 kilometers of road access.

### PROPERTY AND OWNERSHIP

The New Law property consists of the New Law #2 and #3 mineral claims which are held under agreement by Marian Minerals Corporation. The location of the claims is shown on Figure 1. The pertinent claim data is as follows:

<u>Claim</u>	<u>Units</u>	<u>Record Number</u>	<u>Date Recorded</u>	<u>Due Date*</u>
New Law #2	20	8318	April 16, 1987	April 16, 1988
New Law #3	20	8320	April 16, 1987	April 16, 1988

\* Prior to the filing of 1987 work for assessment credits.

## HISTORY AND PREVIOUS WORK

The earliest record of exploration and mining in the area relates to placer mining activities on McClair Creek and Toodoggone River in 1930. These records indicate that minor amounts of gold were taken out of the Toodoggone area. There was sporadic exploration for gold, copper, lead and zinc between 1934 and 1960. The area was actively explored by Sumitomo, Umex and Texas Gulf Sulphur between 1963 and 1967, and in 1968 by Kennco Exploration (Western) Ltd., Cominco Ltd., and Cordilleran Engineering Ltd. Numerous Cu-Mo prospects were acquired and explored as a result of the 1968 reconnaissance programs.

Kennco Exploration (Western) Ltd. recognized the precious metal potential of the area and staked the Lawyers and Chapelle claims and explored them until 1975. The Chapelle property was eventually optioned to Conwest Explorations Ltd. and then to DuPont of Canada Exploration Ltd. This led to the discovery of the Baker deposit. The Baker mine was placed into production with indicated reserves of 90,000 tons and grades of 0.87 oz/T Au and 19.0 oz/T Ag in the Main Zone. The Baker deposit was mined out in 1983. The Lawyer's property is presently held under option to Serem Inc. Surface and underground drilling has defined a deposit containing 561,000 tons grading 0.211 oz/T Au, and 7.11 oz/T Ag in the AGB zone. The drill-indicated reserves in three zones is estimated at 1 million tons of 0.2 oz/T and 7.4 oz/T Ag (Schroeter, 1985). Drilling in 1987 has increased the total reserves to about 1,700,000 tons.

Some 18 companies are actively exploring or holding ground in the Toodoggone River area including Newmont Exploration, DuPont of Canada Exploration Ltd., Manson Creek Resources Ltd., Golden Rule Resources Ltd., Multinational Resources Ltd., Lacana Mining Corporation, St. Joe Minerals Inc., Energex Minerals Ltd. and Cassidy Resources Ltd. Energex in 1986 reported drill indicated reserves of 130,000 tons with a grade of



0.248 oz/T Au in its BV zone, and 134,000 tons with a grade of .249 in its Thesis III zone. Several ore grade intersections were obtained in the 1987 drilling on the Bonanza zone.

The only previous work known to have been done on the New Law #2 and #3 claims consisted of an airborne magnetometer survey (Hermery and White, 1987).

## REGIONAL GEOLOGY AND MINERALIZATION

The Toodoggone River epithermal precious metal district occurs near the eastern margin of the Intermontane tectonic belt. It extends for more than 100 kilometers from McConnell Creek to the Stikine River as a 20 kilometer wide zone of volcanic, sedimentary and intrusive rocks. The oldest rocks in the area are the Asitka rhyolites, limestones, argillites and cherts of Permian age. The Asitka Group is usually in fault contact with Takla volcanic rocks of Upper Triassic age. The Takla is characterized by abundant flows of augite andesite, basalt, porphyritic feldspar andesite and their volcanoclastic sedimentary equivalents.

The volcanic rocks lying stratigraphically above the Takla Group have been classified under two headings: the Toodoggone and the Hazelton. The Toodoggone Group is of Lower Jurassic age and is equivalent to the base of the Hazelton Group (Panteleyev, 1984). The Toodoggone volcanics consist predominantly of subaerial dacite, latite, trachyte and rhyolite pyroclastic rocks more than 500 meters in thickness, which unconformably overlie the Takla. The majority of the epithermal precious metal occurrences in the area are associated with the Toodoggone volcanic rocks. However, the Baker deposit occurs in Takla volcanic rocks.

The Toodoggone volcanic rocks are bordered on the east by and are in fault contact with the Hazelton Group, consisting of intermediate volcanic conglomerate, breccia, lahar and abundant pink feldspar porphyry dikes and sills. These rocks range in age from Lower Jurassic to Upper Jurassic and may include members of the Toodoggone Group. Acid to intermediate stocks and plugs of Jurassic age intruded into the sedimentary and volcanic rocks of the area.

The Toodoggone camp exhibits at least four types of precious metal mineralization, the most common of which is epithermal in origin. The epithermal deposits occur as massive quartz veins such as at the Baker Mine, or as silicified zones and amethystine breccia zones such as at the Lawyers deposit. They are generally close to major northwest faults and

are associated with siliceous volcanic centres, exhalative vents and zones of alteration within the Toodoggone volcanics. Quartz, barite and carbonate are the chief gangue minerals. The vein minerals are acanthite, pyrite, electrum, chalcopyrite, native gold, sphalerite and galena. Grades range from 0.1 to 1.0 oz/T Au and 1.0 to 20.0 oz/T Ag.

### PROPERTY GEOLOGY

The New Law #2 and #3 claims are underlain by Toodoggone volcanic rocks of Lower to Middle Jurassic age. Because of the gentle relief, rock outcrops are found mainly along creeks which have cut down into bedrock. Some rock exposures occur in the northern part of the claims (Figure 3). However, glacial cover is quite thick in the southern and eastern portions of the property, and outcrops are non-existent in these areas.

There are essentially two types of volcanic rocks exposed on the property (Figure 3). The oldest and most widespread are grey quartzose plagioclase porphyry flows with lesser tuffs and breccias. Where altered this unit is characterized by orange and pink feldspar crystals, epidote and pyrite. Quartz veinlets occur in altered areas. This unit is magnetic and may be correlated with the Lawyers-Metsantan quartzose andesite (unit #3) of Diakow (Diakow, et. al., 1985). The other volcanic unit consists of grey, mauve and purple quartzose plagioclase crystal tuff, lapilli tuff and breccia. This unit outcrops in the northwest corner of the property. It is generally non-magnetic and may be classified with the Toodoggone crystal ash tuffs (unit #7) of Diakow.

Numerous north-northeast and northwest fault structures were mapped in the northern part of the property. Some of these faults are marked by fault scarps which trend from 330° to 010°. They appear to be truncated by a major westerly to northwesterly structure which occurs along the east-flowing creek in the northern part of the property. In addition a major north-northeast fault, the Lawyers fault, is inferred along Lawyers creek near the east boundary of the property.

## GEOCHEMISTRY

### Sample Collection

Soil, silt, and rock samples were collected in 1987 for geochemical analysis from the New Law #2 and #3 mineral claims. This work was done by Ashworth Explorations Ltd. Soil samples were collected at 50 meter intervals along the grid lines which were spaced at 200 meters intervals. Samples were taken with a mattock from depths of 15 cm to 25 cm, placed in numbered Kraft paper bags and shipped to Vangeochem Labs Limited, in North Vancouver for analysis. Rock chip samples were taken from alteration zones which contained pyrite and quartz stringers.

### Analytical Methods

Soil and silt samples were dried at approximately 60°C and then sieved to minus 80 mesh. A 0.5 gram portion of each sample was extracted by digestion with nitric acid and aqua regia followed by 25 element Induction Coupling Plasma (ICP) analysis. Rock samples were crushed before extraction and ICP analysis. Gold was extracted by aqua regia solution and measured by atomic absorption.

### Discussion of Results

The analytical results are presented in Appendix III. Gold and silver values are plotted on Figure 4 and lead and zinc as Figure 5. Rock chip sample locations are indicated on Figure 3.

The levels of gold in the rock chip samples from the outcrop areas in the northern part of the claims are relatively low. The highest value is 25 ppb gold. Sample #NL87-19 contained 23.7 ppm silver and 288 ppm copper. Both values are strongly anomalous and warrant further investigation.

The plots for gold, silver, lead and zinc show very low values over the drift-covered areas. Isolated high values for both gold and silver occur along lines 22+00N and 24+00N in the general area of rock outcrops and presumably thinner overburden cover. In particular significance are the anomalous values obtained from the soils at locations 22+00N, 6+00W; and 24+00N, 0+50W. These soils returned 150 ppb Au, 11.3 ppm Ag and 85 ppb Au and 3.3 ppm Ag respectively. Additional work should be done in these areas to determine the source of the anomalies.

## GEOPHYSICS

### Instrument and Field Procedure

A magnetometer survey was run over the grid area which was laid out by chain and compass for a total of 23 line kilometers. An EDA Omniplus magnetometer and base station unit were employed in this survey. The total magnetic field was measured and recorded automatically every 25 meters the grid lines were traversed. Diurnal corrections were made at the end of each day with the base station unit and a print out made of the corrected magnetic readings. The corrected magnetic readings were sent to Pacific Geophysical Ltd. of Vancouver, B.C. where they were converted by computer to map form (Figure 6).

### Discussion of Results

Many narrow north-south magnetic highs and lows are indicated over distances of one or two lines in the northern portion of the grid area. These anomalies are believed to be due to computer plotting bias because the grid lines are spaced about 200 meters apart and the anomalies occur on one or two lines only. One exception to this interpretation is the magnetic low which strikes north-northwesterly from the baseline at 14+00N to 20+00N, 3+50W. This magnetic low may represent a fault structure.

The other significant feature of the magnetic data occurs over the low ground along the baseline. The magnetic pattern shows very variable relief to the west of the baseline, but much more gentle and smooth features to the east. This contrast is characteristic of lithological change from one rock type to another. Diakow's regional geological map and Hermary's aeromagnetic map shows a major fault zone through this low lying area (Hermary and White, 1987).

## CONCLUSIONS

The New Law #2 and #3 mineral claims are favourably located between and adjacent to two properties on which significant epithermal gold and silver mineralization occurs. The claims are underlain by Toodoggone volcanic rocks favourable for the occurrence of similar precious metal mineralization. Incipient propylitic hydrothermal alteration and the development of quartz veinlets is evident in the northern part of the property where rock exposures are present. A few scattered gold and silver anomalies in this area support the interpretation that the property has potential for gold and silver mineralization.

Glacial overburden is widespread and probably deep in the southern and eastern parts of the property. Consequently soil geochemistry would not reflect gold and silver mineralization in the underlying bedrock. However, both airborne and ground magnetometer surveys point to possible local and regional fault structures which may carry precious metal values on the property.

A program of additional geophysics is warranted to try and define drill targets in the structurally favourable areas obscured by glacial overburden.

### RECOMMENDED PROGRAM

A program of induced polarization and resistivity surveys is recommended. The induced polarization survey is intended to define zones of concentration of sulphide mineralization within which gold and silver may occur. Zones of silicification as well as fault zones will be indicated by resistivity work. Gold values have been located in some of these silicified zones located by resistivity within Toodoggone volcanic rocks on nearby properties. Any such zones defined by geophysics will require drill testing to evaluate them.

The I.P. and resistivity surveys should be done over the area of the present soil grid. This coverage should also be extended to the eastern boundary of the property in order to cover the trace of the Lawyers Creek fault which is characterized by flat swampy ground.

Report by  
D.L. COOKE AND ASSOCIATES LTD.



David L. Cooke, Ph.D., P.Eng.  
October 14, 1987





## REFERENCES

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1983, Geological Fieldwork 1982, Paper 1983-1, pp. 125-133  
1984, Geological Fieldwork 1983, Paper 1984-1, pp. 134-135  
1985, Geological Fieldwork 1984, Paper 1985-1, pp. 291-297

ITEMIZED COST STATEMENT - NEW LAW #2 AND #3

(Project Geologist, Geophysical Operator, Two Geotechnicians, August 7, 14-20, 1987; 8 days in field)

Mob/Demob (includes fixed wing, helicopter, wages, food and accommodation during mob/demob)		\$ 5,940.00
Field Crew:		
Consultant \$450/day x 1 day	\$ 450.00	
Project Geologist \$325/day x 8 days	2,600.00	
Geophysical Operator \$275/day x 8 days	2,200.00	
Two Geotechnicians \$210/manday x 16 mandays	<u>3,360.00</u>	
		\$ 8,610.00
Field Costs:		
Fixed Wing Support	\$ 900.00	
Helicopter Support	4,800.00	
Camp Rental and Fuel \$150/day x 8 days	1,200.00	
Food \$30/day x 32 mandays	960.00	
Expediting	280.00	
Communications \$35/day x 8 days	280.00	
Supplies	800.00	
Air Cargo	200.00	
Geophysical Instrument Rental \$175/day x 8 days	<u>1,400.00</u>	
		\$ 10,820.00
Lab Analysis:		
277 soil and silt samples - Fire Assay Au and multi-element ICP \$14.85/sample	\$ 4,113.45	
15 rock samples - fire assay Au and multi-element ICP \$17.25/sample	<u>258.78</u>	
		\$ 4,372.20
Report and Supervision		\$ 4,200.00
Sub-total		\$ 33,942.20
Administration 15%		<u>5,091.33</u>
TOTAL		<u>\$ 39,033.53</u>

APPENDIX I

**ESTIMATED COST OF PROPOSED PROGRAM  
NEW LAW #2 AND #3 CLAIMS, OMINECA M.D.**

**Phase I**

Mobilization and demobilization		\$ 7,000
Geophysics		
Induced Polarization and Resistivity survey: 20 kms at \$1,200/km	24,000	
Linecutting	<u>5,200</u>	<u>29,200</u>
Domicile		
Room and board: 75 man days at \$80/day	6,000	
Communications and equipment rental	<u>1,000</u>	7,000
Transportation		
Helicopter and fixed wing aircraft		9,000
Administration		<u>7,800</u>
<b>Total Phase I</b>		<b>\$ 60,000</b>

**Phase II** (contingent on success in Phase I)

Diamond drilling and support, including administration \$ 100,000

**TOTAL ESTIMATED PHASE I AND II** **\$ 160,000**

Prepared by  
D.L. COOKE AND ASSOCIATES LTD.



David L. Cooke, Ph.D., P.Eng.

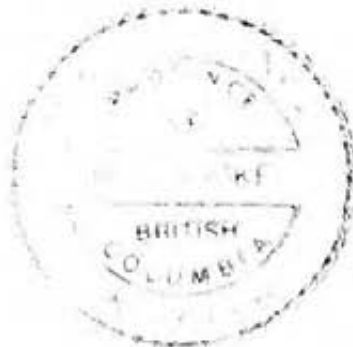


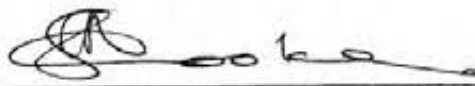
APPENDIX II

STATEMENT OF QUALIFICATIONS

I, DAVID LAWRENCE COOKE, of the Municipality of Surrey in the Province of British Columbia, hereby certify:

1. That I am a Consulting Geologist, residing at 16331 Bell Road, Surrey, B.C., V3S 1J9, with a business office at 808 - 675 West Hastings Street, Vancouver, B.C., V6B 1N2.
2. That I graduated with a B.Sc. degree in Geology from the University of New Brunswick in 1959, and with a M.A. degree and Ph.D. degree in Geology from the University of Toronto in 1961 and 1966 respectively.
3. That I have practised my profession as an exploration geologist from 1959 to the present time in Canada, the U.S.A., Mexico, the Caribbean and South America.
4. That I am a Registered Member of the Association of Professional Engineers of the Province of British Columbia.
5. That I made a field examination of the New Law #2 and #3 claims on July 31, 1987.
6. That I have no interest in the New Law #2 and #3 mineral claims, nor in the shares of Marian Minerals Corporation, nor do I expect to receive any interest.



  
DAVID L. COOKE, PH.D., P.ENG.

APPENDIX 3  
ANALYTICAL RESULTS



# VANGEOCHEM LAB LIMITED

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(604) 251-5656

## =====

### GEOCHEMICAL ANALYTICAL REPORT

## =====

CLIENT: ASHWORTH EXPLORATION LTD.  
ADDRESS: Mez. Flr. 744 W. Hastings  
: Vancouver, B.C.  
: V6C 1A5

DATE: Oct 01 1987

REPORT#: 871158 GA  
JOB#: 871158

PROJECT#: 138 New Law  
SAMPLES ARRIVED: Aug 26 1987  
REPORT COMPLETED: Sept 25 1987  
ANALYSED FOR: Au ICP

INVOICE#: 871158 NA  
TOTAL SAMPLES: 277  
SAMPLE TYPE: 255 Sol 22 Sit  
REJECTS: DISCARDED

SAMPLES FROM: ASHWORTH EXPLORATION LTD.  
COPY SENT TO: ASHWORTH EXPLORATION LTD.

PREPARED FOR: Mr. C. Ashworth

ANALYSED BY: VGC Staff

SIGNED: \_\_\_\_\_

GENERAL REMARK: None



# VANGEOCHEM LAB LIMITED

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REPORT NUMBER: 871158 6A

JOB NUMBER: 871158

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PAGE 1 OF 8

SAMPLE #	Au ppb
NL -L 1N 0+00E	5
NL -L 1N 0+50E	nd
NL -L 1N 1+00E	50
NL -L 1N 1+50E	nd
NL -L 1N 2+00E	nd
NL -L 1N 2+50E	5
NL -L 1N 3+00E	nd
NL -L 1N 3+50E	5
NL -L 1N 5+00E	5
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Line 20+50N	
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NL -L 1N 2+50W	nd
NL -L 1N 3+00W	nd
NL -L 1N 3+50W	nd
NL -L 1N 4+00W	5
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NL -L 1N 5+00W	5
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NL -L 1S 3+50E	nd
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NL -L 1S 4+50E	5
NL -L 1S 5+00E	nd
Line 18+50N	
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NL -L 1S 1+00W	nd
NL -L 1S 1+50W	nd
NL -L 1S 2+00W	nd
NL -L 1S 3+50W	nd
NL -L 1S 4+00W	nd
NL -L 1S 4+50W	nd
NL -L 1S 5+00W	nd
NL -L 3N 0+00E	nd

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



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REPORT NUMBER: 871158 GA

JOB NUMBER: 871158

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PAGE 2 OF 8

SAMPLE #	Au ppb
NL -L 3N 0+50E	10
NL -L 3N 1+00E	nd
NL -L 3N 1+50E	nd
NL -L 3N 2+00E	10
NL -L 3N 2+50E	nd
NL -L 3N 3+00E	nd
NL -L 3N 3+50E	nd
NL -L 3N 4+00E	5
NL -L 3N 4+50E	nd
NL -L 3N 5+00E	nd
NL -L 3N 0+50W	nd
NL -L 3N 1+00W	nd
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NL -L 5N 4+50E	5
NL -L 5N 5+00E	nd
NL -L 5N 0+50W	nd
NL -L 5N 1+00W	nd
NL -L 5N 1+50W	nd
NL -L 5N 2+00W	nd
NL -L 5N 2+50W	nd
NL -L 5N 3+00W	nd
NL -L 5N 3+50W	nd
NL -L 5N 4+00W	10

Line 22+50N

Line 24+50N

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample





# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L8  
(604) 251-5656

REPORT NUMBER: 871158 GA

JOB NUMBER: 871158

ASHWORTH EXPLORATION LTD.

PAGE 3 OF 8

SAMPLE #	Au ppb
NL -L 5N 4+50W	10
NL -L 5N 5+00W	10
NL -L10S 0+00W	10
NL -L10S 0+50W	5
NL -L10S 1+00W	5
NL -L10S 1+50W	nd
NL -L10S 2+00W	5
NL -L10S 2+50W	nd
NL -L10S 3+00W	10
NL -L10S 3+50W	nd
NL -L10S 4+50W	10
NL -L10S 5+00W	nd
NL -L10S 6+50W	nd
NL -L10S 7+00W	nd
NL -L10S 7+50W	5
NL -L10S 9+00W	5
NL -L10S 9+50W	10
NL -L10S 10+00W	10
NL -L12S 0+00E	nd
NL -L12S 1+20W	5
NL -L12S 2+00W	5
NL -L12S 2+50W	5
NL -L12S 3+00W	5
NL -L12S 3+50W	5
NL -L12S 4+00W	5
NL -L12S 4+50W	nd
NL -L12S 5+00W	nd
NL -L12S 5+50W	10
NL -L12S 6+00W	nd
NL -L12S 6+50W	10
NL -L12S 7+00W	5
NL -L12S 7+50W	10
NL -L12S 8+00W	5
NL -L12S 8+50W	15
NL -L12S 9+00W	5
NL -L12S 9+50W	nd
NL -L12S 10+00W	nd
NL -L14S 0+00W	10
NL -L14S 0+50W	10

Line 10+00N

Line 12+00N

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



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NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 871158 6A

JOB NUMBER: 871158

ASHWORTH EXPLORATION LTD.

PAGE 4 OF 8

SAMPLE #	Au ppb
NL -L14S 1+00W	10
NL -L14S 1+50W	nd
NL -L14S 2+00W	10
NL -L14S 2+50W	nd
NL -L14S 3+00W	10
NL -L14S 3+50W	nd
NL -L14S 4+00W	20
NL -L14S 4+50W	nd
NL -L14S 5+00W	10
NL -L14S 5+50W	5
NL -L14S 6+00W	nd
NL -L14S 6+50W	5
NL -L14S 7+00W	15
NL -L14S 7+50W	nd
NL -L14S 8+00W	nd
NL -L14S 8+50W	nd
NL -L14S 9+00W	10
NL -L14S 10+00W	5
NL -L16N 1+20W	10
NL -L16N 6+75W	5
NL -L16S 0+00W	nd
NL -L16S 0+50W	15
NL -L16S 1+00W	nd
NL -L16S 1+50W	5
NL -L16S 2+00W	nd
NL -L16S 2+50W	nd
NL -L16S 3+00W	10
NL -L16S 3+50W	15
NL -L16S 4+00W	5
NL -L16S 4+50W	10
NL -L16S 5+00W	10
NL -L16S 5+50W	nd
NL -L16S 6+00W	10
NL -L16S 6+50W	15
NL -L16S 7+00W	10
NL -L16S 7+50W	10
NL -L16S 8+00W	5
NL -L16S 8+50W	nd
NL -L16S 9+00W	nd

Line 14+00N

Line 16+00N

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



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BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 871158 GA

JOB NUMBER: 871158

ASHWORTH EXPLORATION LTD.

PAGE 5 OF 8

SAMPLE #	Au ppb
NL -L16S 9+50W	nd
NL -L16S 10+00W	nd
NL -L18N 0+50W	10
NL -L18N 1+50W	5
NL -L18N 2+50W	5
NL -L18N 3+50W	nd
NL -L18N 4+50W	5
NL -L18N 5+50W	nd
NL -L18N 6+50W	nd
NL -L18N 7+50W	10
NL -L18N 8+50W	nd
NL -L18N 9+50W	nd
NL -L18S 0+00W	nd
NL -L18S 1+00W	nd
NL -L18S 2+00W	nd
NL -L18S 3+00W	nd
NL -L18S 4+00W	nd
NL -L18S 5+00W	15
NL -L18S 6+00W	nd
NL -L18S 7+00W	5
NL -L18S 8+00W	5
NL -L18S 9+00W	5
NL -L18S 10+00W	nd
NL -L20S 0+00W	nd
NL -L20S 0+50W	nd
NL -L20S 1+00W	nd
NL -L20S 1+50W	5
NL -L20S 2+00W	nd
NL -L20S 3+50W	nd
NL -L20S 4+00W	nd
NL -L20S 4+50W	nd
NL -L20S 5+00W	nd
NL -L20S 5+50W	nd
NL -L20S 6+00W	nd
NL -L20S 6+50W	nd
NL -L20S 7+00W	15
NL -L20S 7+50W	nd
NL -L20S 8+00W	15
NL -L20S 8+50W	nd

Line 18+00N

Line 20+00N

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



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1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L8  
(604) 251-5656

REPORT NUMBER: 871158 GA

JOB NUMBER: 871158

ASHWORTH EXPLORATION LTD.

PAGE 6 OF 8

SAMPLE #	Au ppb
NL -L20S 9+00W	nd
NL -L20S 9+50W	nd
NL -L20S 10+00W	nd
NL -L22S 0+00W	nd
NL -L22S 0+50W	nd
NL -L22S 1+00W	nd
NL -L22S 1+50W	nd
NL -L22S 2+00W	nd
NL -L22S 2+50W	nd
NL -L22S 3+00W	nd
NL -L22S 3+50W	nd
NL -L22S 4+00W	nd
NL -L22S 4+50W	15
NL -L22S 5+00W	nd
NL -L22S 5+50W	nd
NL -L22S 6+00W	150
NL -L22S 6+50W	nd
NL -L22S 7+00W	nd
NL -L22S 8+00W	nd
NL -L22S 8+50W	nd
NL -L22S 9+00W	15
NL -L22S 9+50W	nd
NL -L22S 10+00W	nd
NL -L24N 0+00W	5
NL -L24N 0+50W	85
NL -L24N 1+00W	10
NL -L24N 1+50W	10
NL -L24N 2+50W	nd
NL -L24N 3+00W	nd
NL -L24N 3+50W	5
NL -L24N 4+00W	5
NL -L24N 4+50W	5
NL -L24N 5+00W	nd
NL -L24N 5+50W	5
NL -L24N 6+00W	5
NL -L24N 7+00W	nd
NL -L24N 7+50W	nd
NL -L24N 8+00W	nd
NL -L24N 8+50W	nd

Line 22+00N

Line 24+00N

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 996-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 871158 GA

JOB NUMBER: 871158

ASHWORTH EXPLORATION LTD.

PAGE 7 OF 8

SAMPLE #	Au ppb
NL -L24N 9+00W	5
NL -L24N 9+50W	nd
NL -L24N 10+00W	nd
NL -L26N 0+00W	10
NL -L26N 0+50W	nd
NL -L26N 1+00W	nd
NL -L26N 1+50W	nd
NL -L26N 2+00W	nd
NL -L26N 2+50W	nd
NL -L26N 3+00W	nd
NL -L26N 3+50W	nd
NL -L26N 4+00W	nd
NL -L26N 4+50W	nd
NL -L26N 5+00W	nd
NL -L26N 5+50W	nd
NL -L26N 6+00W	nd
NL -L26N 6+50W	10
NL -L26N 7+00W	10
NL -L26N 7+50W	5
NL -L26N 8+00W	nd
NL -L26N 8+50W	nd
NL -L26N 9+00W	5
NL -L26N 9+50W	10
NL -L26N 10+00W	10
NL -S1/2 0+00	nd
NL -S1-S 1+00S	5
NL -S1-S 2+00S	nd
NL -S1-S 3+00S	nd
NL -S1-S 3+25S	nd
NL -S1-S 4+00S	nd
NL -S1-S 5+00S	nd
NL -S1-S 5+21S	5
NL -S1-S 6+00S	5
NL -S2 1+00W	nd
NL -S2 2+00W	5
NL -S2 3+00W	nd
NL -S2 4+00W	nd
NL -S2 5+00W	nd
NL -S2 6+00W	nd

Line 26+00N

Silt Samples

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L8  
(604) 251-5656

REPORT NUMBER: 871158 6A

JOB NUMBER: 871158

ASHWORTH EXPLORATION LTD.

PAGE 8 OF 8

SAMPLE #

NL -S3 0+00  
NL -S3 1+00S  
NL -S3 1+95S  
NL -S3 3+00S

Au  
ppb  
nd  
nd  
nd  
nd

Silt Samples

DETECTION LIMIT

nd = none detected

5

-- = not analysed

is = insufficient sample



SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	K %	Mg %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SB PPM	SN PPM	SR PPM	U PPM	W PPM	Zn PPM
ML-L 3N 0+50E	.6	2.73	16	ND	132	ND	.21	.1	4	11	14	3.14	.04	.35	259	2	.06	15	.07	48	ND	ND	3	ND	24	ND	ND	53
ML-L 3N 1+00E	.1	3.31	7	ND	123	ND	.07	.1	3	14	11	2.44	.04	.29	204	2	.04	13	.06	17	ND	ND	ND	ND	15	ND	ND	53
ML-L 3N 1+50E	.1	3.50	16	ND	120	ND	.20	.1	5	15	18	2.86	.04	.45	436	2	.06	18	.07	18	ND	ND	ND	ND	28	ND	ND	64
ML-L 3N 2+00E	.1	7.10	ND	ND	49	ND	1.51	.1	9	1	27	2.34	.05	1.16	894	ND	.07	3	.08	2	ND	ND	ND	ND	144	ND	ND	56
ML-L 3N 2+50E	.1	4.84	ND	ND	163	ND	.25	.1	7	23	17	2.92	.04	.67	651	1	.07	39	.11	7	ND	ND	ND	ND	33	ND	ND	80
ML-L 3N 3+00E	.1	4.76	4	5	102	ND	.25	.1	5	10	11	2.79	.05	.38	317	2	.07	11	.11	17	ND	ND	ND	ND	29	ND	ND	75
ML-L 3N 3+50E	.1	3.34	ND	ND	97	ND	.55	.1	8	7	15	3.34	.04	.59	406	1	.08	6	.06	12	ND	ND	ND	ND	55	ND	ND	74
ML-L 3N 4+00E	.2	4.80	3	ND	120	ND	.30	.1	5	11	17	3.40	.05	.41	337	2	.07	17	.07	14	ND	ND	ND	ND	37	ND	ND	67
ML-L 3N 4+50E	.2	3.35	ND	ND	138	ND	.25	.1	5	10	13	2.76	.03	.53	316	1	.06	17	.06	9	ND	ND	ND	ND	45	ND	ND	71
ML-L 3N 5+00E	.1	3.42	6	ND	52	ND	.60	.1	8	3	11	3.74	.03	1.07	816	1	.12	3	.08	7	ND	ND	ND	ND	54	ND	ND	77
ML-L 3N 0+50W	.1	2.80	5	ND	104	ND	.25	.2	5	13	12	2.53	.03	.52	350	1	.06	14	.05	8	ND	ND	ND	ND	22	ND	ND	80
ML-L 3N 1+00W	.1	3.92	4	ND	169	ND	.55	.1	6	63	18	2.95	.05	.64	549	8	.05	47	.09	8	ND	ND	ND	ND	45	ND	ND	80
ML-L 3N 1+50W	.1	3.24	ND	ND	88	ND	.52	.1	3	8	12	2.16	.03	.47	448	1	.06	7	.08	5	ND	ND	ND	ND	50	ND	ND	59
ML-L 3N 2+00W	.1	2.80	6	ND	114	ND	.35	.1	6	12	11	2.95	.04	.53	444	ND	.06	16	.03	9	ND	ND	ND	ND	28	ND	ND	55
ML-L 3N 2+50W	.1	2.05	5	ND	86	ND	.26	.1	4	9	9	2.64	.03	.40	330	1	.06	9	.05	5	ND	ND	4	ND	21	ND	ND	58
ML-L 3N 3+00W	.1	4.21	ND	ND	193	ND	.55	.9	6	14	16	2.83	.05	.52	393	ND	.05	17	.09	5	ND	ND	ND	ND	41	ND	ND	53
ML-L 3N 3+50W	.1	3.77	ND	ND	97	ND	1.06	.1	4	10	11	2.24	.04	.54	377	ND	.05	9	.04	5	ND	ND	ND	ND	102	ND	ND	70
ML-L 3N 4+00W	.6	2.82	5	ND	103	ND	.30	.1	6	11	11	2.40	.04	.49	365	ND	.05	12	.04	4	ND	ND	ND	ND	29	ND	ND	47
ML-L 3N 4+50W	.4	1.24	5	ND	65	ND	.28	.1	4	8	7	1.76	.02	.34	328	ND	.03	10	.02	5	ND	ND	5	ND	16	ND	ND	38
ML-L 3N 5+00W	.2	2.30	10	ND	116	ND	.27	.1	6	11	13	2.61	.04	.44	606	ND	.06	12	.07	7	ND	ND	3	ND	27	ND	ND	59
ML-L 5N 0+00E	.1	2.32	7	ND	115	ND	.18	.1	5	17	16	2.65	.05	.43	409	1	.06	27	.07	22	ND	ND	ND	ND	21	ND	ND	57
ML-L 5N 0+50E	.3	2.34	3	ND	151	ND	.50	.1	5	43	10	1.95	.05	.50	273	5	.04	33	.03	21	ND	ND	3	ND	51	ND	ND	73
ML-L 5N 1+00E	.1	3.55	10	ND	134	ND	.29	.1	6	16	15	2.81	.05	.57	381	1	.06	20	.04	32	ND	ND	ND	ND	38	ND	ND	68
ML-L 5N 1+50E	.3	4.25	5	ND	158	ND	.64	.1	8	11	17	2.78	.06	.66	476	ND	.06	17	.07	7	ND	ND	ND	ND	56	ND	ND	63
ML-L 5N 2+00E	.1	4.07	4	ND	148	ND	.40	.1	6	20	14	2.78	.05	.69	391	1	.07	23	.02	11	ND	ND	ND	ND	40	ND	ND	75
ML-L 5N 2+50E	.1	5.33	5	ND	112	ND	.53	.1	7	11	17	2.85	.05	.72	460	1	.07	11	.09	10	ND	ND	ND	ND	68	ND	ND	73
ML-L 5N 3+00E	.2	2.74	3	ND	108	ND	.27	.1	6	10	14	2.47	.04	.50	323	1	.05	18	.05	21	ND	ND	3	ND	36	ND	ND	53
ML-L 5N 3+50E	22.0	3.45	3	ND	82	ND	.52	.1	7	9	45	2.82	.05	.64	454	ND	.06	13	.05	62	ND	ND	ND	ND	49	ND	ND	66
ML-L 5N 4+00E	.4	5.07	ND	ND	98	ND	.60	.1	9	14	22	3.69	.05	.89	712	1	.11	14	.03	11	ND	ND	ND	ND	50	ND	ND	98
ML-L 5N 4+50E	.8	2.58	ND	ND	52	ND	.40	.1	11	6	10	3.83	.05	.66	425	ND	.09	11	.02	20	ND	ND	3	1	40	ND	ND	66
ML-L 5N 5+00E	.1	4.14	9	ND	108	ND	.43	.1	9	12	16	2.71	.06	.60	445	1	.05	19	.06	8	ND	ND	ND	ND	43	ND	ND	52
ML-L 5N 0+50W	.3	2.27	8	ND	145	ND	.23	.1	3	16	11	1.97	.04	.39	226	ND	.04	12	.04	35	ND	ND	3	ND	21	ND	ND	53
ML-L 5N 1+00W	.1	4.77	10	ND	171	ND	.63	.1	7	20	20	3.42	.06	.82	711	1	.10	21	.07	18	ND	ND	ND	ND	41	ND	ND	115
ML-L 5N 1+50W	.1	2.35	ND	ND	195	ND	.86	.1	6	13	15	1.61	.06	.63	843	1	.06	15	.06	8	ND	ND	ND	ND	46	ND	ND	88
ML-L 5N 2+00W	.1	2.74	7	ND	82	ND	.16	.1	5	11	11	3.04	.05	.47	461	1	.07	11	.08	7	ND	ND	ND	ND	21	ND	ND	71
ML-L 5N 2+50W	.1	2.93	3	ND	91	ND	.24	.1	7	12	13	2.75	.04	.51	528	ND	.06	18	.06	10	ND	ND	ND	ND	29	ND	ND	64
ML-L 5N 3+00W	.1	3.51	3	ND	111	3	.27	.1	5	14	15	3.02	.05	.62	433	ND	.07	15	.05	3	ND	ND	ND	ND	26	ND	ND	74
ML-L 5N 3+50W	.1	4.10	ND	ND	122	ND	.28	.1	6	15	18	3.01	.06	.63	485	1	.07	18	.06	7	ND	ND	ND	ND	14	ND	ND	91
ML-L 5N 4+00W	.2	3.06	ND	ND	80	ND	.28	.1	5	11	16	2.47	.05	.53	451	ND	.04	14	.09	6	ND	ND	ND	ND	27	ND	ND	50
DETECTION LIMIT		.01	3	3	1	2	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	1	1	5	3	1	1

Line 22+50N

Line 24+50N





SAMPLE NAME	AG PPM	AL I	AS PPM	AU PPM	BA PPM	BI PPM	CA I	CD PPM	CO PPM	CR PPM	CU PPM	FE I	K I	MG I	MN PPM	MO PPM	NA I	NI PPM	P I	PB PPM	PD PPM	PT PPM	SP PPM	SN PPM	SR PPM	U PPM	W PPM	ZN PPM
NL-L14S 1+00W	.1	2.73	14	ND	144	3	.52	.1	8	6	13	2.96	.05	.67	560	ND	.08	13	.08	11	ND	ND	3	ND	61	ND	ND	88
NL-L14S 1+50W	.1	2.32	ND	ND	183	3	.12	.1	7	9	12	2.87	.04	.58	1712	1	.08	10	.05	11	ND	ND	3	ND	18	ND	ND	128
NL-L14S 2+00W	.1	1.65	ND	ND	129	ND	.16	.1	4	14	10	1.50	.04	.36	191	ND	.02	15	.02	4	ND	ND	4	ND	25	ND	ND	35
NL-L14S 2+50W	.1	3.33	3	ND	242	ND	.25	.1	7	14	13	2.73	.05	.49	1226	1	.06	23	.07	8	ND	ND	ND	ND	107	ND	ND	68
NL-L14S 3+00W	.1	1.53	ND	ND	73	ND	.05	.1	3	9	6	2.18	.03	.23	290	1	.03	7	.02	12	ND	ND	6	ND	9	ND	ND	44
NL-L14S 3+50W	.2	1.80	ND	ND	97	3	.07	.4	5	10	9	2.57	.05	.24	332	ND	.04	11	.03	11	ND	ND	5	ND	12	ND	ND	59
NL-L14S 4+00W	.1	1.46	ND	ND	100	ND	.07	.1	2	14	7	1.54	.05	.30	141	ND	.02	17	.02	8	ND	ND	5	ND	10	ND	4	38
NL-L14S 4+50W	.1	3.71	15	ND	192	ND	.57	.2	5	15	20	2.64	.07	.63	613	ND	.06	23	.08	11	ND	ND	ND	ND	70	ND	ND	81
NL-L14S 5+00W	.1	2.11	ND	ND	211	ND	.16	.1	3	9	9	2.19	.05	.24	195	1	.03	12	.06	12	ND	ND	4	ND	26	ND	ND	49
NL-L14S 5+50W	.1	3.00	41	ND	137	ND	.56	.1	7	9	13	2.79	.06	.52	526	ND	.06	10	.07	13	ND	ND	ND	ND	58	ND	ND	64
NL-L14S 6+00W	.1	1.03	ND	ND	75	4	.04	.1	3	4	7	2.08	.03	.18	241	ND	.03	4	.03	4	ND	ND	6	ND	7	ND	4	44
NL-L14S 6+50W	.1	2.23	32	ND	44	ND	.22	.1	3	3	3	2.60	.03	.58	411	ND	.04	6	.13	4	ND	ND	4	ND	18	ND	ND	49
NL-L14S 7+00W	.2	1.61	22	ND	37	ND	.56	.1	3	1	13	2.44	.04	1.08	512	ND	.06	2	.05	5	ND	ND	4	ND	54	ND	ND	59
NL-L14S 7+50W	.1	2.90	23	ND	36	ND	.14	.3	5	ND	15	1.64	.06	.75	593	ND	.04	ND	.13	5	ND	ND	ND	ND	106	ND	ND	52
NL-L14S 8+00W	.1	2.73	30	ND	73	ND	.56	.1	4	2	13	2.10	.04	.37	308	ND	.04	2	.12	3	ND	ND	ND	ND	65	ND	ND	39
NL-L14S 8+50W	.1	1.47	11	ND	161	ND	.15	.3	3	11	9	1.39	.03	.24	139	ND	.01	14	.03	5	ND	ND	4	ND	18	ND	ND	36
NL-L14S 9+00W	.1	3.72	50	ND	88	ND	.57	.1	5	6	22	2.41	.08	.40	896	ND	.05	9	.05	10	ND	ND	ND	ND	118	ND	ND	94
NL-L14S 10+00W	.1	2.74	14	ND	82	ND	.55	.1	5	11	13	2.89	.05	.59	559	ND	.07	14	.10	5	ND	ND	3	ND	36	ND	ND	91
NL-L16N 1+20W	.1	2.53	4	ND	109	ND	1.18	.1	7	7	17	3.54	.07	.62	535	ND	.07	11	.10	11	ND	ND	ND	ND	97	ND	ND	71
NL-L16N 6+75W	.1	3.98	ND	ND	65	ND	2.22	.1	7	1	15	2.15	.07	.89	723	ND	.06	1	.06	3	ND	ND	ND	ND	189	ND	ND	59
NL-L16S 0+00W	.1	2.87	ND	ND	138	ND	.30	.1	5	9	12	3.39	.04	.35	305	1	.07	24	.12	12	ND	ND	ND	ND	38	ND	ND	72
NL-L16S 0+50W	.1	2.17	3	ND	175	ND	.11	.1	4	9	11	3.00	.03	.28	954	1	.07	13	.16	15	ND	ND	4	ND	18	ND	ND	73
NL-L16S 1+00W	.1	3.48	8	ND	138	3	.33	.4	8	10	13	3.49	.04	.34	500	1	.06	18	.08	13	ND	ND	ND	ND	42	ND	ND	55
NL-L16S 1+50W	.1	1.95	ND	ND	141	ND	.26	.4	6	29	12	2.11	.01	.58	229	ND	.05	34	.02	5	ND	ND	3	ND	28	ND	ND	50
NL-L16S 2+00W	.1	3.57	8	ND	342	ND	.77	.1	5	21	26	3.00	.06	.51	591	ND	.05	29	.05	17	ND	ND	ND	ND	70	ND	ND	58
NL-L16S 2+50W	.1	2.51	23	ND	123	ND	.05	.4	4	16	12	2.58	.03	.34	355	1	.07	15	.05	11	ND	ND	3	ND	16	ND	ND	120
NL-L16S 3+00W	.1	3.33	ND	ND	108	3	.16	.1	6	11	12	3.10	.02	.53	573	1	.08	15	.10	5	ND	ND	ND	ND	22	ND	ND	110
NL-L16S 3+50W	.1	2.14	3	ND	138	ND	.08	.1	3	10	9	2.64	.02	.23	244	1	.06	11	.09	7	ND	ND	4	ND	15	ND	ND	69
NL-L16S 4+00W	.1	3.50	13	ND	60	ND	.69	.1	4	3	7	2.01	.01	.54	365	ND	.06	ND	.16	3	ND	ND	ND	ND	77	ND	ND	75
NL-L16S 4+50W	.1	2.91	13	ND	151	ND	.15	.1	4	11	11	3.46	.01	.41	315	1	.08	10	.32	11	ND	ND	ND	ND	21	ND	ND	56
NL-L16S 5+00W	.1	2.99	15	ND	160	ND	.45	.1	5	11	12	2.34	.03	.49	579	ND	.05	14	.05	10	ND	ND	ND	ND	59	ND	ND	60
NL-L16S 5+50W	.1	2.56	6	ND	122	ND	.10	.1	5	14	11	2.20	.01	.42	259	ND	.05	18	.04	5	ND	ND	ND	ND	19	ND	ND	58
NL-L16S 6+00W	.1	4.74	ND	ND	69	ND	1.44	.1	9	4	23	2.91	.05	.32	332	ND	.07	6	.11	6	ND	ND	ND	ND	143	ND	ND	62
NL-L16S 6+50W	.1	3.48	ND	ND	137	ND	.94	.1	7	10	16	2.70	.05	.31	446	ND	.06	14	.08	2	ND	ND	ND	ND	92	ND	ND	73
NL-L16S 7+00W	.1	1.92	ND	ND	182	ND	.25	.1	7	15	16	2.00	.02	.42	350	ND	.04	20	.04	6	ND	ND	4	ND	47	ND	ND	52
NL-L16S 7+50W	.1	2.27	ND	ND	158	ND	.23	.1	6	16	14	2.24	.02	.44	198	ND	.05	21	.03	2	ND	ND	ND	ND	41	ND	ND	50
NL-L16S 8+00W	.1	4.19	9	ND	89	ND	.98	.1	5	6	10	2.04	.03	.58	452	ND	.05	6	.09	ND	ND	ND	ND	ND	120	ND	ND	55
NL-L16S 8+50W	.1	2.67	13	ND	52	ND	.42	.1	5	4	13	1.65	.02	.46	365	ND	.06	3	.08	6	ND	ND	ND	ND	47	ND	ND	57
NL-L16S 9+00W	.1	2.65	9	ND	258	ND	.50	.1	7	11	12	2.35	.02	.43	672	ND	.05	16	.03	5	ND	ND	ND	ND	74	ND	ND	79
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	1	2	1	5	3	1

Line 14+00N

Line 16+00N

SAMPLE NAME	AG PPM	AL I	AS PPH	AU PPH	BA PPH	BI PPH	CA I	CO PPH	CR PPH	CU PPH	FE I	K I	MG I	MN PPH	MO PPH	NA I	NI PPH	P I	PB PPH	PD PPH	PT PPH	SE PPH	SN PPH	SR PPH	TU PPH	W PPH	ZN PPH	
NL-L16S 9+50W	.1	5.11	6	ND	63	ND	1.32	.1	4	2	7	1.64	.06	.42	455	ND	.03	5	.14	6	ND	ND	ND	ND	145	ND	ND	37
NL-L16S 10+00W	.2	3.46	7	ND	105	ND	.20	.1	6	16	27	2.52	.36	.46	321	ND	.05	23	.07	14	ND	ND	ND	ND	24	ND	ND	60
NL-L18N 0+50W	.3	2.25	13	ND	220	ND	.79	.3	8	13	16	2.43	.07	.42	1098	1	.03	17	.04	17	ND	ND	3	ND	76	ND	ND	71
NL-L18N 1+50W	.5	4.29	28	ND	234	ND	1.25	.5	5	20	25	2.67	.08	.65	507	ND	.05	30	.09	6	ND	ND	ND	ND	108	ND	ND	86
NL-L18N 2+50W	.1	3.00	ND	ND	211	ND	.15	.1	4	13	11	3.11	.06	.33	312	2	.07	14	.23	16	ND	ND	ND	ND	23	ND	ND	95
NL-L18N 3+50W	.1	2.65	9	ND	165	ND	.10	.3	4	13	10	3.39	.05	.30	305	1	.08	11	.12	18	ND	ND	3	ND	15	ND	ND	105
NL-L18N 4+50W	.2	2.49	8	ND	46	3	.54	.1	12	6	11	3.61	.05	1.39	921	ND	.13	8	.04	6	ND	ND	ND	ND	51	ND	ND	93
NL-L18N 5+50W	.7	2.65	15	ND	70	3	.31	.1	16	11	16	4.27	.04	1.41	964	1	.14	13	.05	20	ND	ND	3	5	30	ND	ND	127
NL-L18N 6+50W	.3	3.94	10	ND	129	4	.21	.1	7	11	13	3.74	.06	.41	299	1	.09	10	.10	13	ND	ND	ND	ND	28	ND	ND	74
NL-L18N 7+50W	.4	5.23	4	ND	71	ND	.55	.1	6	6	10	3.71	.06	.40	441	2	.08	7	.29	15	ND	ND	ND	ND	70	ND	ND	96
NL-L18N 8+50W	.1	5.26	17	ND	30	ND	2.25	.1	5	1	6	1.19	.07	.55	458	ND	.01	2	.10	2	ND	ND	ND	ND	248	ND	ND	34
NL-L18N 9+50W	.1	3.22	3	ND	97	ND	1.72	.1	5	4	14	1.98	.07	.64	555	ND	.04	10	.06	10	ND	ND	ND	ND	148	ND	ND	59
NL-L18N 0+00W	.3	1.61	ND	ND	207	ND	.22	.4	4	13	4	1.81	.05	.36	255	ND	.05	22	.05	8	ND	ND	3	ND	27	ND	ND	69
NL-L18N 1+00W	.6	2.47	10	ND	169	ND	.11	.2	9	12	12	2.82	.05	.33	917	2	.06	19	.05	21	ND	ND	4	ND	19	ND	ND	102
NL-L18N 2+00W	.1	3.12	8	ND	97	ND	.44	.1	4	5	59	2.59	.05	.40	584	1	.06	4	.33	8	ND	ND	ND	ND	53	ND	ND	61
NL-L18N 3+00W	.2	2.95	6	ND	130	ND	.09	.1	5	14	10	2.44	.05	.35	220	1	.06	18	.12	8	ND	ND	ND	ND	14	ND	ND	107
NL-L18N 4+00W	.2	3.68	16	ND	165	ND	.63	.1	13	21	49	3.42	.08	.73	4848	ND	.08	22	.09	14	ND	ND	ND	ND	37	ND	ND	119
NL-L18N 5+00W	2.5	3.88	7	ND	67	3	.26	.1	15	10	53	5.19	.05	1.25	781	ND	.16	9	.04	15	ND	ND	ND	ND	26	ND	ND	122
NL-L18N 6+00W	.3	2.63	16	ND	116	ND	.19	.1	6	12	30	3.28	.05	.39	458	1	.07	13	.09	19	ND	ND	4	4	14	ND	ND	83
NL-L18N 7+00W	.5	1.58	5	ND	70	ND	.29	.1	7	4	14	2.89	.05	.43	616	ND	.07	4	.10	11	ND	ND	5	1	32	ND	ND	67
NL-L18N 8+00W	.5	3.40	13	9	72	ND	.12	.1	5	10	10	4.23	.06	.28	411	2	.10	18	.13	25	ND	ND	4	1	13	ND	ND	112
NL-L18N 9+00W	.3	2.87	7	ND	158	ND	1.22	.1	7	9	18	2.49	.08	.64	562	ND	.05	16	.08	11	ND	ND	ND	ND	108	ND	ND	76
NL-L18N 10+00W	.2	3.08	4	ND	131	ND	1.48	.1	7	9	18	2.58	.08	.67	571	ND	.05	10	.08	7	ND	ND	ND	ND	126	ND	ND	67
NL-L20S 0+00W	.4	1.62	3	ND	141	4	.12	.3	5	15	12	1.84	.05	.41	218	ND	.03	27	.03	9	ND	ND	5	ND	19	ND	ND	40
NL-L20S 0+50W	.3	2.32	7	ND	194	ND	.44	.1	6	10	11	2.43	.06	.32	298	ND	.04	16	.12	12	ND	ND	ND	ND	55	ND	ND	48
NL-L20S 1+00W	.5	1.25	5	ND	152	ND	.27	.1	6	15	12	1.58	.06	.35	336	ND	.02	22	.02	11	ND	ND	5	ND	35	ND	ND	44
NL-L20S 1+50W	.3	2.26	4	ND	164	ND	.15	.1	4	10	9	2.91	.06	.26	723	1	.06	9	.14	15	ND	ND	4	ND	19	ND	ND	76
NL-L20S 2+00W	1.0	2.82	11	ND	155	ND	.97	.3	5	15	50	2.59	.07	.44	461	ND	.02	26	.06	20	ND	ND	ND	ND	49	ND	ND	83
NL-L20S 3+50W	.5	2.88	6	ND	134	ND	.10	.1	4	14	11	2.96	.05	.35	226	1	.07	14	.21	11	ND	ND	ND	ND	14	ND	ND	73
NL-L20S 4+00W	.5	2.24	27	ND	97	ND	.16	.1	4	15	10	1.90	.05	.40	246	ND	.03	19	.04	14	ND	ND	3	ND	16	ND	ND	67
NL-L20S 4+50W	.3	3.23	39	ND	40	ND	.92	.1	4	5	5	1.25	.07	.59	385	ND	.02	5	.10	1	ND	ND	ND	ND	110	ND	ND	44
NL-L20S 5+00W	.6	1.59	5	ND	102	ND	.23	.1	6	9	12	2.49	.05	.62	361	ND	.05	8	.04	10	ND	ND	3	ND	22	ND	ND	57
NL-L20S 5+50W	.9	2.24	9	ND	100	5	.26	.1	13	20	20	4.53	.06	.53	810	2	.12	17	.07	14	ND	ND	5	37	ND	ND	77	
NL-L20S 6+00W	.5	3.04	7	ND	76	4	.35	.1	18	9	12	4.97	.06	1.94	1356	ND	.18	13	.06	11	ND	ND	ND	ND	24	ND	ND	118
NL-L20S 6+50W	1.1	2.28	7	ND	72	3	.20	.1	10	9	13	4.28	.05	1.07	722	ND	.12	9	.05	15	ND	ND	4	2	16	ND	ND	74
NL-L20S 7+00W	.9	3.22	9	ND	72	3	.25	.1	14	9	11	4.78	.06	1.34	983	ND	.15	8	.06	13	ND	ND	ND	ND	14	ND	ND	97
NL-L20S 7+50W	.7	2.35	ND	ND	67	ND	.16	.1	12	8	14	4.03	.05	1.18	678	ND	.12	7	.03	21	ND	ND	4	2	26	ND	ND	98
NL-L20S 8+00W	.6	4.54	18	ND	80	ND	.96	.7	8	13	26	3.30	.08	.76	2147	ND	.06	17	.09	15	ND	ND	ND	ND	59	ND	ND	81
NL-L20S 9+50W	.7	3.38	13	ND	71	ND	.62	.1	10	15	18	2.57	.07	.92	814	ND	.07	18	.05	17	ND	ND	ND	ND	54	ND	ND	101
DETECTION LIMIT	.1	.01	3	3		3	.01	.1	1	1	.01	.01	.01	.1	.01	.1	.01	.1	.01	2	3	5	3	1	5	3	1	

Line 18+00N

Line 20+00N

SAMPLE NAME	AS PPM	AL I	AS PPM	AU PPM	BA PPM	BI PPM	CA I	CD PPM	CO PPM	CR PPM	CU PPM	FE I	K I	MG I	MN PPM	MO PPM	NA I	NI PPM	P I	PB PPM	PD PPM	PT PPM	SB PPM	SN PPM	SR PPM	TJ PPM	V PPM	ZN PPM	
NL-L20S 9+00W	.6	2.20	5	ND	60	ND	.32	.1	10	6	13	3.15	.05	.97	478	1	.09	7	.02	16	ND	ND	3	1	24	ND	ND	92	
NL-L20S 9+50W	.3	3.18	31	ND	76	3	.41	.1	11	11	17	3.12	.06	.75	636	1	.07	13	.05	12	ND	ND	ND	ND	34	ND	ND	88	
NL-L20S 10+00W	.5	2.94	23	ND	45	ND	.63	.1	10	7	15	3.34	.06	.39	516	2	.07	11	.06	13	ND	ND	ND	1	57	ND	ND	72	
NL-L22S 0+00W	.3	1.75	ND	ND	179	ND	.24	.1	3	26	21	2.13	.05	.61	481	ND	.04	41	.03	11	ND	ND	3	ND	34	ND	4	57	
NL-L22S 0+50W	.4	1.70	ND	ND	175	ND	.23	.2	6	22	19	1.89	.06	.52	362	1	.03	36	.04	15	ND	ND	4	ND	35	ND	3	47	
NL-L22S 1+00W	.5	2.05	4	ND	150	ND	.15	.3	3	25	18	2.26	.07	.57	379	1	.04	40	.03	12	ND	ND	3	ND	25	ND	ND	50	
NL-L22S 1+50W	.4	1.64	5	ND	197	3	.22	.1	8	27	19	2.10	.06	.50	389	1	.04	48	.03	13	ND	ND	4	1	31	4	ND	49	
NL-L22S 2+00W	.5	1.66	3	ND	166	ND	.16	.1	7	23	15	1.98	.07	.62	326	1	.03	37	.05	13	ND	ND	5	1	25	3	4	53	
NL-L22S 2+50W	.4	2.41	ND	ND	150	3	.10	.1	12	36	27	2.65	.07	.77	411	1	.06	62	.03	10	ND	ND	3	ND	18	ND	ND	64	
NL-L22S 3+00W	.4	2.36	4	ND	172	ND	.12	.1	6	12	9	2.81	.07	.35	272	2	.05	18	.06	14	ND	ND	3	ND	20	ND	3	64	
NL-L22S 3+50W	.5	3.09	19	ND	192	ND	.52	.1	8	17	16	2.75	.08	.44	1041	2	.02	25	.05	17	ND	ND	ND	ND	49	3	ND	73	
NL-L22S 4+00W	.5	1.31	ND	ND	124	ND	.10	.1	4	3	13	2.10	.06	.19	334	2	.03	7	.04	18	ND	ND	5	2	13	3	3	77	
NL-L22S 4+50W	.5	2.12	7	ND	158	ND	.12	.3	5	12	10	2.53	.07	.32	302	2	.04	14	.03	15	ND	ND	5	ND	23	3	ND	49	
NL-L22S 5+00W	.3	4.49	3	ND	44	ND	1.07	.1	6	4	9	2.57	.08	.42	567	2	.05	5	.17	4	ND	ND	ND	ND	38	ND	ND	56	
NL-L22S 5+50W	.6	1.82	6	ND	101	ND	.55	.7	6	11	13	2.33	.07	.40	634	2	.04	11	.02	16	ND	ND	4	ND	51	ND	ND	57	
NL-L22S 6+00W	1.3	3.81	ND	ND	34	ND	1.37	.1	4	2	30	2.52	.08	.15	462	1	.08	3	.05	59	ND	ND	ND	ND	135	ND	ND	109	
NL-L22S 6+50W	.6	1.60	3	ND	90	ND	.08	.1	4	14	8	1.89	.06	.32	178	2	.02	17	.02	12	ND	ND	5	1	13	8	ND	40	
NL-L22S 7+00W	.5	1.83	ND	ND	73	ND	.10	.1	16	3	9	5.71	.06	1.73	376	2	.19	10	.05	9	ND	ND	ND	ND	7	ND	ND	120	
NL-L22S 8+00W	.9	2.03	9	ND	57	3	.72	.1	11	5	12	3.17	.07	.84	512	1	.07	4	.05	21	ND	ND	4	7	63	4	ND	66	
NL-L22S 8+50W	.5	3.20	6	ND	37	ND	.89	.1	10	5	15	3.13	.07	.84	563	1	.07	6	.05	5	ND	ND	ND	ND	70	ND	ND	64	
NL-L22S 9+00W	.1	5.44	ND	ND	55	ND	2.39	.1	4	4	9	1.60	.09	.40	238	1	.03	10	.03	ND	ND	ND	ND	ND	209	ND	ND	44	
NL-L22S 9+50W	.4	2.97	4	ND	91	ND	.53	.1	8	12	12	2.52	.07	.71	460	1	.06	17	.04	10	ND	ND	ND	ND	52	ND	ND	89	
NL-L22S 10+00W	.3	5.72	ND	ND	99	ND	.80	.1	12	8	60	3.27	.07	1.08	548	1	.08	12	.05	4	ND	ND	ND	ND	74	ND	ND	71	
NL-L24N 0+00W	.8	1.78	4	ND	110	ND	.12	.1	5	12	25	2.09	.07	.32	248	17	.02	14	.02	12	ND	ND	ND	ND	18	4	ND	38	
NL-L24N 0+50W	3.3	6.56	61	ND	73	ND	1.43	.1	9	15	24	4.57	.08	.70	715	14	.12	21	.07	119	ND	ND	ND	ND	155	ND	ND	77	
NL-L24N 1+00W	.1	3.30	ND	ND	211	ND	.17	.1	7	29	19	3.20	.06	.55	323	2	.06	42	.04	3	ND	ND	ND	ND	30	ND	ND	58	
NL-L24N 1+50W	5.0	2.81	3	ND	172	ND	.01	.1	2	3	7	4.86	.07	.16	224	50	.10	3	.07	58	ND	ND	3	ND	6	ND	ND	42	
NL-L24N 2+50W	4.6	2.94	7	ND	69	ND	.05	.1	5	12	30	5.64	.07	.12	693	9	.15	11	.20	28	ND	ND	5	ND	10	ND	ND	59	
NL-L24N 3+00W	.6	1.81	ND	ND	127	ND	.10	.1	5	15	10	2.02	.06	.36	163	1	.03	20	.04	15	ND	ND	3	ND	16	5	ND	43	
NL-L24N 3+50W	.5	2.01	ND	ND	118	ND	.19	.1	5	19	11	1.98	.06	.41	464	2	.03	23	.02	11	ND	ND	3	ND	26	3	4	43	
NL-L24N 4+00W	.5	2.15	ND	ND	134	ND	.10	.2	6	23	13	2.32	.06	.56	154	1	.05	38	.04	6	ND	ND	ND	ND	12	3	ND	66	
NL-L24N 4+50W	.6	1.75	4	ND	116	ND	.07	.1	5	3	10	1.92	.07	.15	231	2	.05	3	.04	22	ND	ND	4	2	16	4	ND	69	
NL-L24N 5+00W	.1	2.93	ND	ND	97	ND	.12	.1	5	10	10	3.48	.05	.37	320	2	.09	19	.10	13	ND	ND	3	ND	16	ND	ND	106	
NL-L24N 5+50W	.4	1.39	ND	ND	150	3	.12	.1	5	11	11	2.35	.06	.31	345	2	.08	11	.07	16	ND	ND	4	ND	20	ND	ND	118	
NL-L24N 6+00W	.7	3.24	4	ND	52	ND	.63	.1	11	4	19	5.68	.07	.87	581	2	.14	3	.06	12	ND	ND	ND	2	51	ND	ND	67	
NL-L24N 7+00W	.5	1.58	ND	ND	128	ND	.33	.2	5	13	8	1.31	.07	.42	432	1	.03	16	.02	13	ND	ND	3	1	30	4	ND	60	
NL-L24N 7+50W	.2	3.25	6	ND	108	ND	.17	.1	5	10	9	3.24	.06	.32	233	2	.06	12	.07	11	ND	ND	ND	ND	26	ND	ND	53	
NL-L24N 8+00W	.5	1.81	ND	ND	92	ND	.98	.1	4	13	6	1.83	.05	.29	163	2	.02	15	.02	12	ND	ND	3	ND	12	ND	ND	40	
NL-L24N 8+50W	1.0	3.93	4	ND	125	ND	.15	.1	6	11	30	3.44	.05	.72	479	2	.09	19	.04	6	ND	ND	ND	ND	22	ND	ND	37	
DETECTION LIMIT	.1	.01	3	3		3	.01	.1	1	1	1	.01	.01	.01	1	.01	1	.01	1	.01	2	3	5	2	2	1	3	3	1

Line 22+00N

Line 24+00N





**VANGEOCHEM LAB LIMITED**

**MAIN OFFICE**  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 966-5211 TELEX: 04-352578

**BRANCH OFFICE**  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L8  
(604) 251-5656

**=====**  
**GEOCHEMICAL ANALYTICAL REPORT**  
**=====**

**CLIENT:** ASHWORTH EXPLORATION LTD.  
**ADDRESS:** Mez. Flr. 744 W. Hastings  
: Vancouver, B.C.  
: V6C 1A5

**DATE:** August 26 1987

**REPORT#:** 871138 GA  
**JOB#:** 871138

**PROJECT#:** None Given  
**SAMPLES ARRIVED:** August 24 1987  
**REPORT COMPLETED:** August 26 1987  
**ANALYSED FOR:** Au (FA/AAS) ICP

**INVOICE#:** 871138 NA  
**TOTAL SAMPLES:** 15  
**SAMPLE TYPE:** 15 Rock  
**REJECTS:** SAVED

**SAMPLES FROM:** ASHWORTH EXPLORATION LTD.  
**COPY SENT TO:** ASHWORTH EXPLORATION LTD.

**PREPARED FOR:** ASHWORTH EXPLORATION LTD.

**ANALYSED BY:** VGC Staff

**SIGNED:** \_\_\_\_\_

**GENERAL REMARK:** None



# VANGEOCHEM LAB LIMITED

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BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 871138 GA

JOB NUMBER: 871138

ASHWORTH EXPLORATION LTD.

PAGE 1 OF 1

SAMPLE #	Au ppb
NL-87-1	20
NL-87-4	20
NL-87-5	25
NL-87-6	nd
NL-87-7	5
NL-87-8	20
NL-87-9	nd
NL-87-10	nd
NL-87-12	20
NL-87-13	10
NL-87-16	15
NL-87-17	5
NL-87-18	5
→ NL-87-19	5
NL-87-20	nd

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N. VANCOUVER B.C. V7P 2S3 PH: (604)986-5211 TELEX: 04-352578  
 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR SN,NI,FE,CA,P,CR,NI,BA,PD,AL,NA,K,W,PT AND SR. AU AND PD DETECTION IS 3 PPM.  
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -- NOT ANALYZED

COMPANY: ASHWORTH EXP.  
 ATTENTION:  
 PROJECT:

REPORT#: 871138PA  
 JOB#: 871138  
 INVOICE#: 871138NA

DATE RECEIVED: 87/08/24  
 DATE COMPLETED: 87/09/18  
 COPY SENT TO:

ANALYST *W. Jones*

PAGE 1 OF 1

SAMPLE NAME	AG PPM	AL I	AS PPM	AU PPM	BA PPM	BI PPM	CA I	CO PPM	CR PPM	CU PPM	FE I	K I	NI I	NA PPM	NO PPM	NR I	NI PPM	P I	PS PPM	PD PPM	PT PPM	SB PPM	SN PPM	SR PPM	Z PPM	W PPM	ZY PPM	
NL-87-1	.8	2.04	15	ND	71	3	.58	.1	14	11	16	3.07	.05	1.77	1025	2	.11	4	.08	24	ND	ND	ND	2	33	ND	ND	99
NL-87-4	.2	3.75	19	ND	55	ND	3.20	.1	9	3	10	2.97	.08	1.04	674	1	.06	1	.08	12	ND	ND	ND	ND	180	ND	ND	48
NL-87-5	.6	3.04	30	ND	37	3	2.43	.1	10	7	4	3.49	.10	.55	468	2	.05	3	.17	18	ND	ND	ND	ND	138	ND	ND	41
NL-87-6	.1	5.02	ND	ND	31	ND	14.66	.1	2	ND	ND	1.20	.01	.30	1077	ND	.02	ND	.03	5	ND	ND	ND	ND	308	ND	ND	16
NL-87-7	.1	6.05	4	ND	30	ND	7.75	.1	4	ND	ND	1.70	.07	.48	568	ND	.03	ND	.04	8	ND	ND	ND	ND	290	ND	ND	23
NL-87-8	.1	4.07	2	ND	32	ND	3.75	.1	9	4	71	3.18	.05	1.06	1201	ND	.08	2	.07	6	ND	ND	ND	ND	176	ND	ND	70
NL-87-9	.3	1.48	14	ND	46	3	.51	.1	7	35	7	3.34	.08	.32	237	1	.05	1	.08	47	ND	ND	ND	ND	52	ND	ND	25
NL-87-10	.2	1.62	20	ND	96	4	.39	.1	23	36	38	4.66	.08	1.10	628	4	.08	1	.11	12	ND	ND	ND	ND	21	ND	ND	41
NL-87-12	1.5	1.77	13	ND	67	ND	.92	.5	13	12	24	3.84	.08	1.29	2446	1	.13	4	.07	33	ND	ND	ND	2	11	ND	ND	146
NL-87-13	1.2	1.73	12	ND	74	3	.96	.1	14	9	21	4.17	.08	1.21	819	2	.08	2	.08	12	ND	ND	ND	4	64	ND	ND	59
NL-87-16	1.8	2.00	20	ND	39	5	.26	.1	8	25	21	3.62	.06	1.37	2256	14	.13	ND	.08	39	ND	ND	ND	3	26	ND	ND	128
NL-87-17	.8	1.98	29	ND	30	5	.29	.1	7	38	22	3.97	.06	1.39	1658	6	.13	4	.08	20	ND	ND	ND	3	25	ND	ND	103
NL-87-18	1.7	.91	16	ND	41	6	.04	.1	6	32	1	2.79	.07	.68	340	2	.04	ND	.07	23	ND	ND	3	5	7	ND	3	26
NL-87-19	23.7	.73	12	ND	35	3	.24	.4	6	15	288	2.52	.08	.26	420	ND	.05	2	.06	22	ND	ND	4	2	5	ND	3	77
NL-87-20	1.7	1.22	10	ND	34	ND	.34	.2	6	54	129	2.68	.08	.38	536	1	.07	5	.06	21	ND	ND	3	ND	17	ND	ND	71
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1





# VANGEOCHEM LAB LIMITED

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VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

## =====

### GEOCHEMICAL ANALYTICAL REPORT

## =====

CLIENT: ASHWORTH EXPLORATION LTD.  
ADDRESS: Mez. Flr. 744 W. Hastings  
: Vancouver, B.C.  
: V6C 1A5

DATE: Sept 10 1987

REPORT#: 871147 GA  
JOB#: 871147

PROJECT#: 138 NEW LAW  
SAMPLES ARRIVED: Aug 24 1987  
REPORT COMPLETED: Sept 10 1987  
ANALYSED FOR: Au ICP

INVOICE#: 871147 NA  
TOTAL SAMPLES: 4  
SAMPLE TYPE: 4 SILT  
REJECTS: DISCARDED

SAMPLES FROM: ASHWORTH EXPLORATION LTD.  
COPY SENT TO: ASHWORTH EXPLORATION LTD.

PREPARED FOR: ASHWORTH EXPLORATION LTD.

ANALYSED BY: VGC Staff

SIGNED: \_\_\_\_\_

GENERAL REMARK: None

ilt  
amples

SAMPLE NAME	AS PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CO PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PT PPM	SB PPM	SK PPM	SR PPM	U PPM	V PPM	ZN PPM
VL-S3 0+05	.2	2.68	4	ND	67	ND	1.27	.1	12	5	28	3.56	.07	1.24	1143	1	.10	13	.07	6	ND	ND	3	ND	106	ND	ND	81
VL-S3 1+00S	.2	2.77	6	ND	63	3	1.38	.1	11	2	19	3.41	.07	1.20	1233	1	.09	4	.06	7	ND	ND	4	ND	125	ND	ND	72
VL-S3 1+95S	.5	2.08	19	ND	205	ND	1.09	.1	12	11	24	3.13	.08	.78	1265	ND	.04	17	.09	9	ND	ND	3	ND	103	ND	ND	66
VL-S3 2+00S	.1	2.28	9	ND	213	ND	.71	.1	13	13	20	2.99	.07	.73	1592	1	.08	25	.06	14	ND	ND	6	ND	72	ND	ND	92
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1



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REPORT NUMBER: 871147 GA

JOB NUMBER: 871147

ASHWORTH EXPLORATION LTD.

PAGE 1 OF 1

SAMPLE #

Au

oob

S1 1+00N

nd

S1 2+00N

10

S1 3+00N

5

S1 4+00N

nd

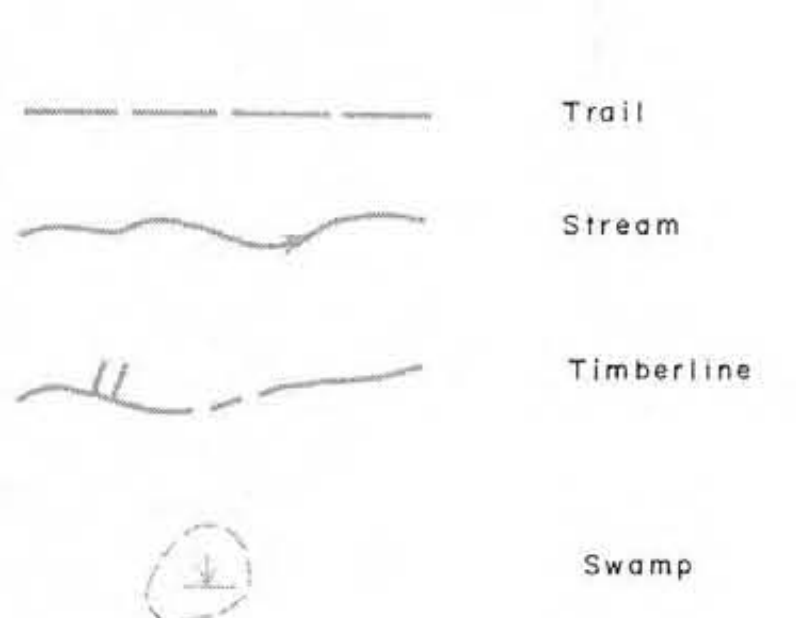
DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample



**GEOLOGY**

**TOODOGGONE CRYSTAL ASH TUFFS and FLOWS**  
(equivalent to Unit 7 - Diakow et al, 1985)

**2** Grey, mauve, purple quartzose plagioclase crystal tuff, lapilli tuff and breccia.

**LAWYERS - METSANTON QUARTZOSE ANDESITE**  
(equivalent to Unit 3 - Diakow et al, 1985)

**1** Green to grey quartzose biotite hornblende plagioclase porphyry flows and tuffs with local flow breccia, zones of epidotized, pyritic rock with characteristic salmon, pink and orange plagioclase crystals.

- c.c. - calcite
- q.vt. - quartz veinlets
- py - pyrite
- ep - epidote
- ser - sericitization
- sil - silicification
- chl - chloritization
- bx - brecciation
- aa - argillic alteration
- M - magnetic rock

16 x Rock sample location ( prefix NL-87)

o Silt sample location

**SYMBOLS**

- o Outcrops
- Faults (observed, inferred)
- Geological contact (observed, inferred)
- /// Bedding

**GLACIAL FEATURES**

- x Erratics, boulders
- Eskers
- fit. Float sample

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**17,288**  
Part 2 of 2



MARIAN MINERALS CORPORATION  
NEW LAW 2+3 CLAIMS  
OMINECA MINING DIVISION

**GEOLOGY**  
showing Rock and Silt Sample Locations  
NTS 94E/6

Scale 1:5000 By  
Date SEPTEMBER 1987 Map FIGURE 3

Ashworth Explorations Limited



- TRAIL
- STREAM
- TIMBERLINE
- SWAMP

35 Au ppb  
1.6 Ag ppm

GEOLOGICAL BRANCH  
ASSESSMENT REPORT  
**17,288**  
Part 2 of 2



MARIAN MINERALS CORPORATION	
NEW LAW 2+3 CLAIMS OMINECA MINING DIVISION	
SOIL GEOCHEMISTRY Gold and Silver	
NTS 94E/6	
Scale: 1:5000	By:
Date: SEPTEMBER 1967	Map: <b>FIGURE 4</b>
Ashworth Explorations Limited	



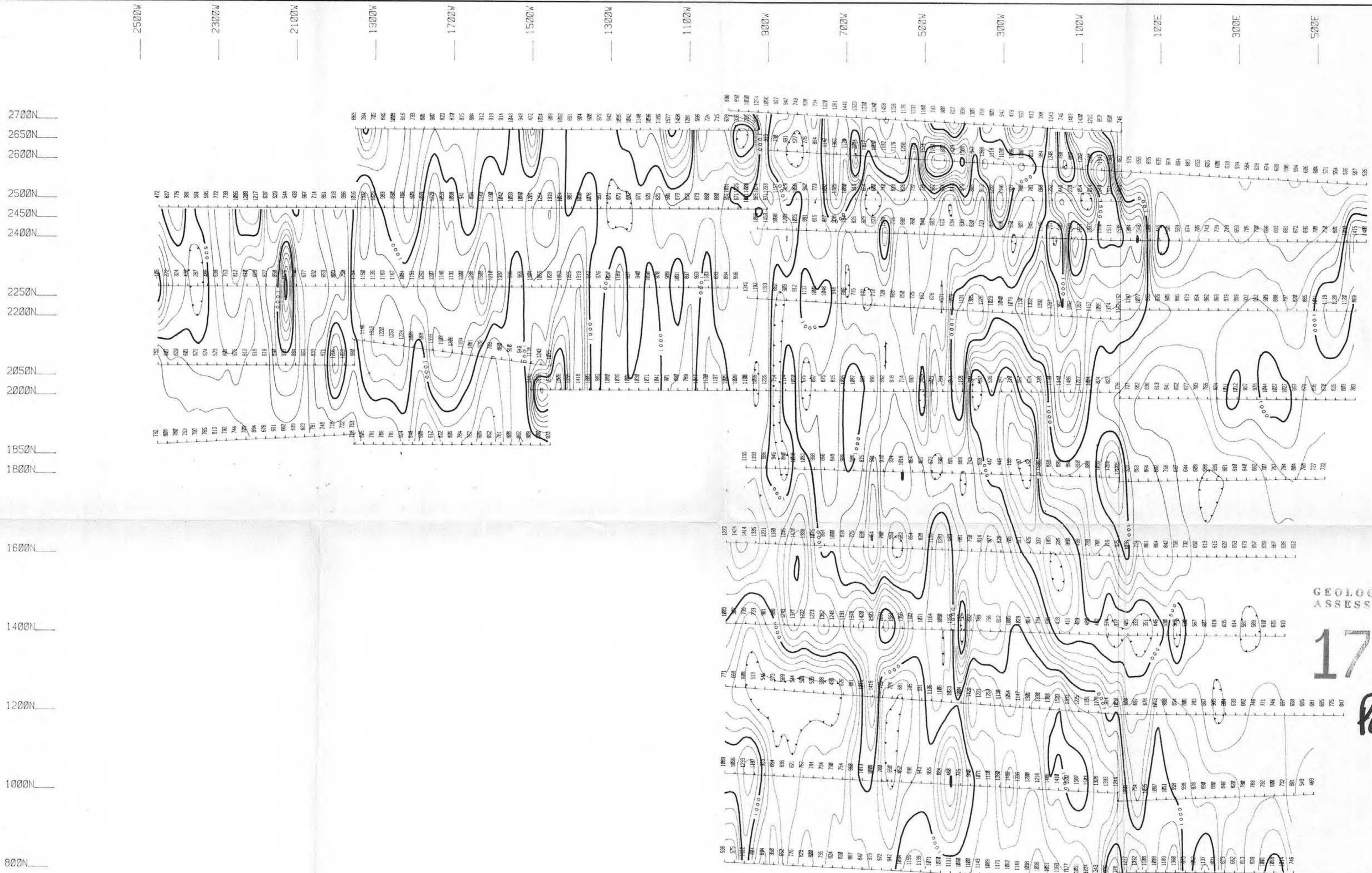
- TRAIL
- STREAM
- TIMBERLINE
- SWAMP
- $\frac{55}{105}$  LEAD ppm  
ZINC ppm

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**17,288**  
Part 2 of 2



MARIAN MINERALS CORPORATION	
NEW LAW 2+3 CLAIMS OMINECA MINING DIVISION	
SOIL GEOCHEMISTRY Lead and Zinc	
NTS 94E/6	By:
Scale: 1:5000	Date: SEPTEMBER 1987
Map: FIGURE 5	Ashworth Explorations Limited



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

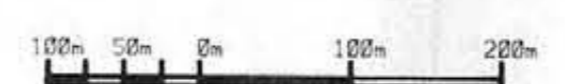
17,288

Part 2  
of 2

FIGURE 6

Instrument : EDA OMNIPUS  
Field : TOTAL  
Datum : 58000.0 m

Contour Interval : 100 m  
( 1 pass through a 3 pt. Hanning Filter.)  
( 1 pass through a 9 pt. Hanning Filter.)



**MARIAN MINERALS CORP.**  
**MAGNETOMETER SURVEY**  
( FILTERED CONTOUR PRESENTATION )  
PROJECT: NEW LAW 2&3 PROJECT #: 138  
BASELINE AZIMUTH : 360 Deg.

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SCALE = 1: 5000 DATE : 8/28/87  
SURVEY BY : F.R. NTS : 94E/6  
FILE: M138MAR  
Ashworth Explorations Ltd.