REPORT ON THE

1981 GEOCHEMICAL SOIL SURVEY
BRAM MINERAL CLAIM
MARBLE RIVER AREA, VANCOUVER ISLAND
NANAIMO MINING DIVISION

50°32'North; 126°27'West
(N.T.S. 92L/11W)

Owner of Claim:

H.M. Jones

Operator:

Baron Resources Ltd.

Consultant:

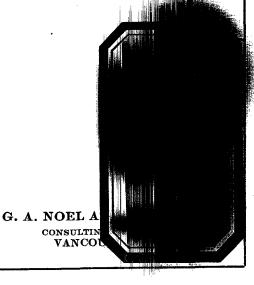
G.A. Noel & Associates, Inc.

Author:

G.A. Noel, P.Eng.

Date Submitted:

July 2, 1981



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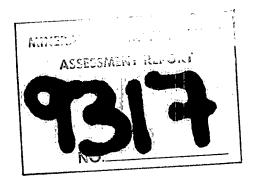
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#### SUMMARY

Between June 11-17, a geochemical soil sampling program was conducted on the Bram claim, located on the Marble River in the Nanaimo Mining Division 20 km south of Port Hardy. A total of 263 samples were collected and analysed for total copper, zinc and molybdenum in parts per million.

This geochemical soil survey showed that copper in the soils reflects the copper mineralization in the Triassic volcanics. The zinc and molybdenum showed relatively no anomality. The copper anomalies have a north-northeast trend which conforms with shearing and fracturing of the copper-bearing basalts at the main showing on Marble River. Further soil sampling, geological mapping and prospecting are recommended.

#### INTRODUCTION

At the request of Baron Resources Ltd., G.A. Noel & Associates, Inc. conducted a geochemical soil sampling program between June 11 and 17, over part of the Bram mineral claim as part of the Stage I program recommended by Mr. L. Trenholme in his March 30, 1981 report. The property is located in the Nanaimo Mining Division approximately 20 km south of Port Hardy.

Fieldwork was conducted by two field assistants, under the supervision of G.A. Noel, P.Eng.

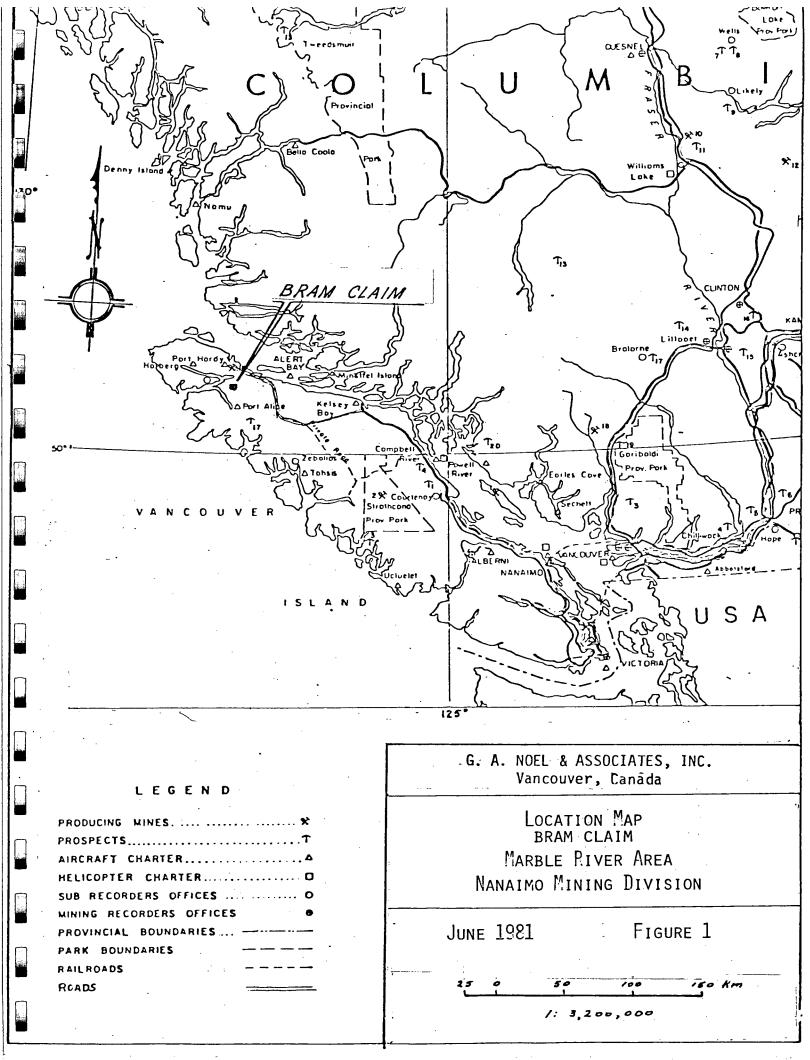
#### Location and Access (50°32'North; 127°27'West)

The Bram claim straddles the Marble River approximately 5 km upstream from its mouth at Varney Bay, a narrow inlet on the south shore of Rupert Inlet. It is also approximately 1 km northwest of the Port Alice-Port Hardy highway bridge over the Marble River, and 20 km south of Port Hardy.

Access from Port Hardy is via 38 km of paved road to a camp-ground immediately west of Marble River; followed by approximately 1 km of good trail westerly along the south side of the river to the Bram claim.

#### Topography and Vegetation

The claim straddles the Marble River, which in this area is approximately 30 m wide and fast-flowing. To the south of



the river slopes are moderate, rising from the river at 15 metres elevation to 90 metres at the south boundary. North of the river, the topography is dominated by a small round knoll, which is dissected by numerous narrow steep-sided, south-trending drainages. The northern part of the Bram claim lies on the steep, southerly slopes of this knoll. Elevations on this side of the river range up to 270 m.

The claims are well forested with marketable fir and cedar. Under brush, consisting of salal and blueberry is in general, light.

#### **Property**

The property consists of one claim which is more particularly described as follows:

Claim Name	Record No.	No. of Units	Expiry Date
Bram	654	٧ 9	June 23, 1981

The claim is owned by H.M. Jones, Vancouver, B.C. A transfer of ownership to Baron Resources Ltd., 600 - 535 West Georgia Street, Vancouver, B.C., is now in process.

#### History

First reference to this copper occurrence appears in the B.C. Minister of Mines Annual Report for 1930. The original claims included Lucky Jim, Winner, Royal, Old Dog, Hard Tack and Marble Creek, which were held by a group from Holberg. Some

trenching and blasting were done at that time on the showings on the south side of Marble River. Some copper mineralization was reported, as well, across the river about 45 metres to the north.

The Kar Group of 64 claims was staked by Gordon Milbourne in 1967 to cover this copper occurrence. Seven trenches were dug by hand and sampled in that year. In 1968, Milbourne completed 690 feet of X-ray drilling in three holes on the property. The Kar property eventually lapsed in 1976.

#### **GEOLOGY**

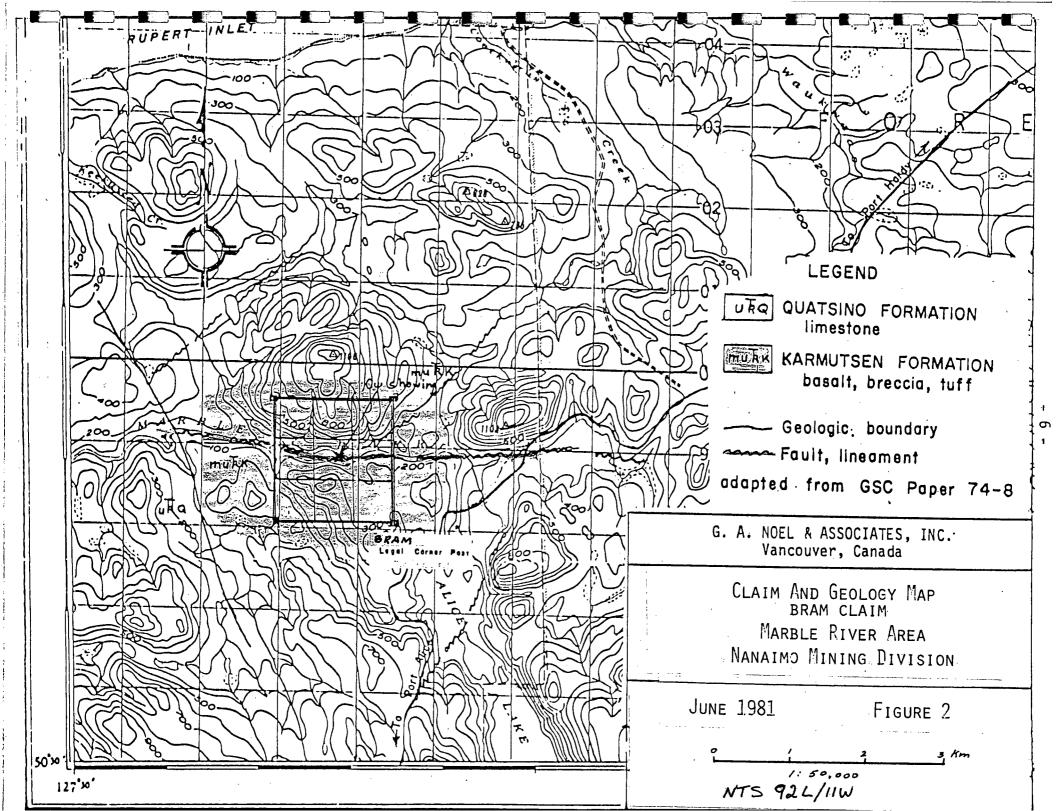
#### General Geology

The Marb claim is underlain by amygdaloidal and massive andesite and basalt flows with some interbedded volcaniclastics of the Karmutsen Group of Upper Triassic age (Figure 2). The regional trend of the Karmutsen volcanics south of Holberg Inlet is west to northwest with low to moderate dips to the north and northeast.

#### Local Geology

Several occurrences of copper in amygdaloidal andesite or basalt are known on the property.

The main showing is on the south bank of the Marble River at about 40 metres elevation. Basalt is exposed in an outcrop along the river bank trending  $N65^{\circ}W$  for about 20 metres by



10 metres wides. This outcrop is marked by sporadic malachite staining. A chip sample by Noel (1979), cut  $N45^{\circ}E$  across the outcrop for 9.1 metres assayed: 5.09% copper, 0.32 oz/ton silver and 0.005 oz/ton gold.

The B.C. Minister of Mines Annual Report for 1930 notes that copper was found in the volcanics across the river from the main showing 40-50 metres to the north. This occurrence has not yet been field checked.

About 700 metres east and 200 metres north of the main showing, disseminated pyrite and chalcopyrite were noted in amygdaloidal andesite which was exposed for at least 50 metres along the canyon of a small south-flowing creek (Noel 1979).

The X-ray drilling was done about 12 metres south of, and 9 metres above, the main showing on Marble River. The holes were drilled vertically but only two collars could be located. The results of this drilling are not known.

Trenholme (1981) examined the property and sampled the main showing referred to above. Over an aggregate length of 8.8 metres he took four samples which averaged 3.51% Cu, 0.20 oz/ton Ag and 0.003 oz/ton Au over 2.93 metres.

#### GEOCHEMICAL SURVEY

A grid 960 metres long (E-W) by 480 metres (N-S) was laid out to cover a large part of the claim lying to the south of Marble River. An E-W baseline was run along the south side of the river with cross-lines marked out at 60 metre spacings.

The cross-lines were run due south from the baseline for 480 m, with sample stations marked at 30 metre intervals.

Soil samples were collected at each station from the "B" horizon. A mattock was used for digging the sample. The "B" horizon is well defined in the area as a rich sandy red-brown soil. Depth to this horizon varies from 5 to 40 cm depending on the surface organic cover. Several wet and swampy areas were encountered where soil samples could not be taken. A total of 11 samples were missed due to deep organic cover, swamp or near-surface rock.

A total of 263 samples were collected. They were sent to Acme Analytical Laboratories Ltd., 852 East Hastings Street, Vancouver, B.C. for total copper, zinc and molybdenum analyses in parts per million.

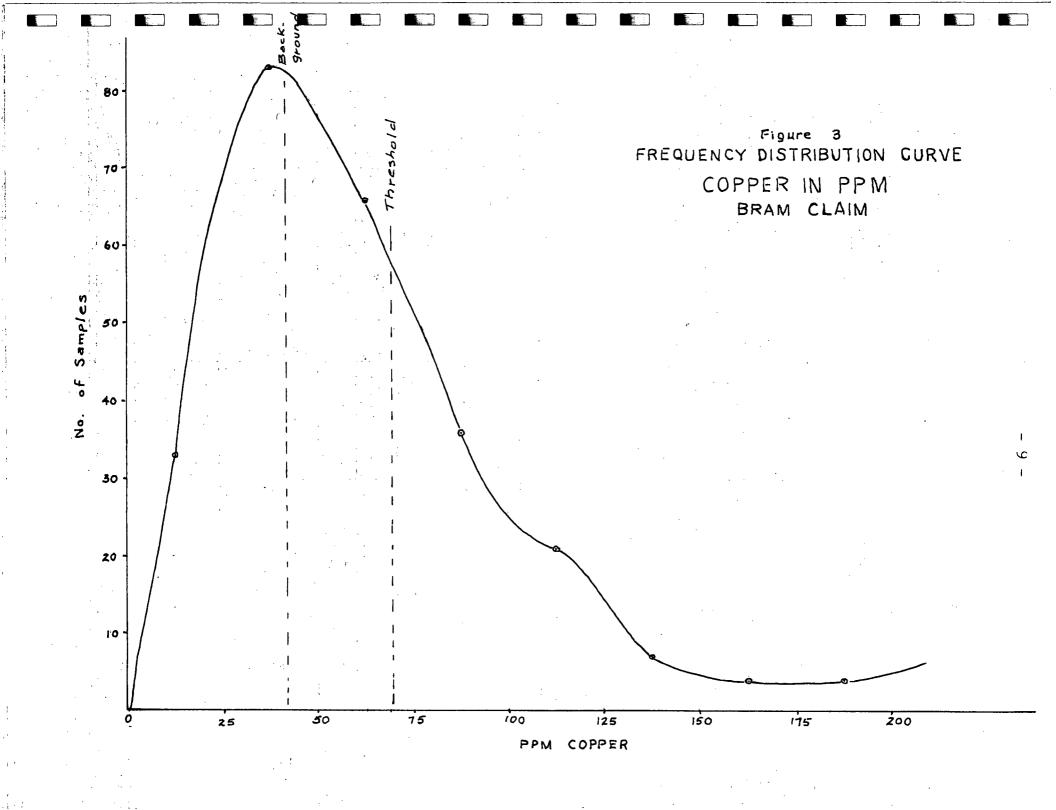
Sample treatment was as follows:

#### (a) Copper and Zinc

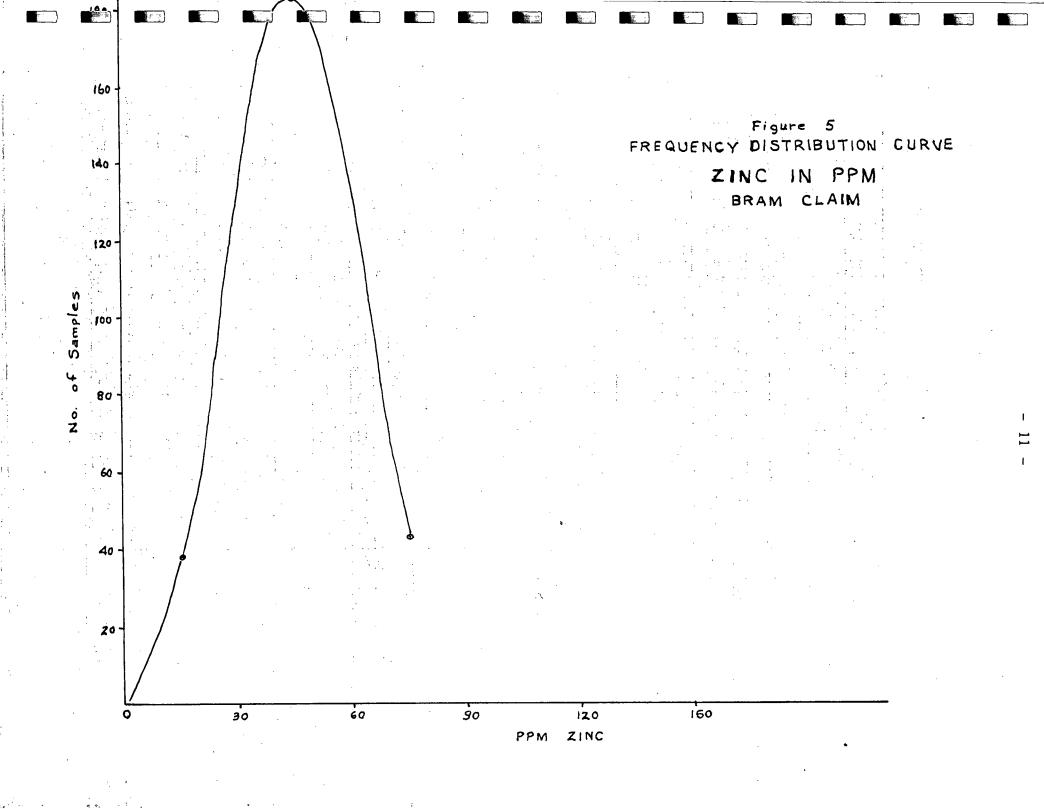
Soil samples were dried at 60°C and sieved to -80 mesh. A 0.5 gram portion of each sieved sample was digested in hot dilute aqua regia in a boiling water bath and diluted to 10ml with demineralized water. The quantity of copper and zinc was then determined in the acid solution by the atomic absorption method.

#### (b) Molybdenum

A 0.5 gram portion of the sieved sample was digested with 10 ml of hot 5% oxalic acid solution. The resulting solution was then analysed for molybdenum by the atomic absorption method



0/



#### Results

The analyses of copper in soils have been plotted on Figure 6 at a scale of 1:5000. The cumulative percent frequency curve for copper in soils (Figure 3) shows a significant break at 60 ppm and this value is considered to be the local threshold value for copper. From a study of this curve and the frequency distribution curve (Figure 4), the following anomalous limits for copper were selected:

possibly anomalous 60-110 ppm Cu probably anomalous 110-160 ppm Cu definitely anomalous 160 ppm Cu

Contours have been drawn to outline the areas of anomalous values using the above limits. About 50% of the gridded area shows anomalous copper values in the soils. The pattern is rather confused but the higher copper anomalies suggest a number of NNE trending zones. This trend conforms with shearing and fracturing of the copper-bearing vesicular basalt which forms the principal showing along the river.

The analyses of zinc in soils have been plotted in Figure 7 at a scale of 1:5000. The frequency distribution curve for zinc in soils (Figure 5) is a typically normal curve indicating normal zinc distribution except for one anomalous value.

The analyses of molybdenum in soils have been plotted on Figure 8 at a scale of 1:5000. This plot shows only three slightly anomalous values.

#### CONCLUSIONS

This geochemical soil survey has shown that the copper mineralization on the Bram claim gives a positive signature in the soils. The pattern of anomalous values conforms with shearing and fracturing associated with copper mineralization in the principal showing on Marble River. This pattern indicates that the geochemical soil coverage should be extended to the north, east and west of the present grid and that trenching, sampling and mapping should be done across the anomalous zones.

#### RECOMMENDATIONS

It is recommended that the geochemical soil survey be extended to cover the Bram claim and that geological mapping and sampling be carried on simultaneously. This program would complete the Stage 1 recommendations of Mr. L.S. Trenholme in his report of March 30, 1981.

Vancouver, B.C. July 2, 1981

G.A. NOEL, P.Eng.

#### REFERENCES

- B.C. Minister of Mines Annual Reports: 1930 pp 295-6; 1967 p.69; 1968 p.98.
- Muller, Northcote & Carlisle (1974): Geology and Mineral Deposits of Alert Cape Scott Map-Area, Vancouver Island, B.C., Geol. Survey Can., Paper 74-8.
- Noel, G.A. (1979): Summary Report, Marb Claim, Alice Lake Area, Northern Vancouver Island; private report.
- Trenholme, L.S. (1981): Bram Mineral Claim, Nanaimo M.D., Vancouver Island; private report for Baron Resources Ltd.

#### CERTIFICATE

- I, Gerald A. Noel do hereby certify that:
- 1. I am a practising geological engineer with G.A. Noel & Associates, Inc., 622-510 West Hastings Street, Vancouver, B.C.
- 2. I am a graduate of the University of B.C. and the University of Toronto and have been granted the degree of Master of Applied Science.
- 3. I have been practising my profession as a geological engineer for over 25 years.
- 4. I am a member of the association of Professional Engineers of British Columbia, Registration No. 4283.
- 5. This report is based on recently completed fieldwork which was done under my supervision on the Bram claim.

Model

G.A. NOEL, P.Eng.

Vancouver, B.C. July 2, 1981

#### APPENDIXI

Statement of Costs

#### STATEMENT OF COSTS

(June 10 - June 22, 1981)

Salaries	and	Wages:
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A Fraser:	6 days @ \$120/day	\$ 720.00
M. MacKillop:	7 days @ \$150/day	1,050.00
11	2 dass @ \$200/dass	000 00

H. Jones: 3 days @ \$300/day 900.00

G. Noel: 1 day @ \$300/day 300.00 \$ 2,970.00

#### Meals & Accomodation:

2 men - 6 days @ \$30/man/day 360.00

Transportation:

\$ 267.18	•
77.00	
<u>158.75</u>	502.93
	77.00

Field supplies 182.53

Geochemical supplies:

262 soil samples for Cu, Mo, Zn @ \$3.00/sl. 786.00

Other Expenses:

Taxis	\$ 24.50
Masking Tape	6.00
Freight on samples	23.20
Telephone calls	4.00 57.70

Report Preparation (stenographic & copying) 150.00 \$ 5,009.16

Moroel

#### APPENDIX II

Geochemical Soil Analyses

#### G.A. Noel & Associates, 622 - 510 W. Hastings St., Vancouver, B.C.

V6B 1L8

from: Vancouver Island.

#### ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6 phone:253 - 3158

81-0544

File No.	01-0344					
Type of S	amples	Soil				

#### GEOCHEMICAL ASSAY CERTIFICATE

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ASSAYER



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· · · · · · · · · · · · · · · · · · ·	DATE SAMPLES RECEIVED June 18, 1981
All results are in PPM. DIGESTION:	DATE REPORTS MAILED June 23, 1981
DETERMINATION:	ASSAYER DOLLA



To: G.A. Noel & Associates Ltd.,

#### ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R6 phone:253 - 3158

> File No. 81-0544 Type of Samples \_

#### **GEOCHEMICAL ASSAY CERTIFICATE**

SA	AMPLE No.	Linear L	Мо	Cu	Zn									
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·	6	<u> </u>	1	53	28					:				
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All reports	are	the	confid	lencial	prope	rty of	clients
All results	are	in P	PM.			Ž.	eris Taariya
DIGESTION	•					4	**********
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To: G.A. Noel & Associates,

#### ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6 phone:253 - 3158

	File No.	81	-0544
E	Type of Samp	les	Soil

### GEOCHEMICAL ASSAY CERTIFICATE

S AMPLE No.		Мо	Cu	Zn									
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All reports are the	confidencial p	property	of clients
All results are in PP	M.		
DIGESTION:			

DATE REPORTS MAILED



To: G.A. Noel & Associates,

#### ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6 phone: 253 - 3158

	File No.	81-	0544	
TC.	Type of Samples		Soil	

## GEOCHEMICAL ASSAY CERTIFICATE Disposition

1		Zn		1 190						
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