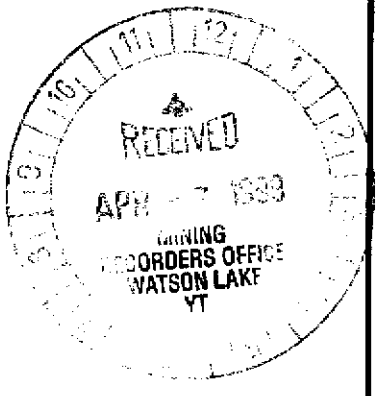
093977

1998 ASSESSMENT REPORT

on the

BID PROPERTY



YUKON TERRITORY
NTS 105F/10
61°37N 132°41'W

ATNA RESOURCES LTD.
1550-409 Granville Street
Vancouver, B.C., Canada
V6C 1T2

Peter Holbek, P.Geo.
Rob G. Wilson, P.Geo.

March 15, 1999

ATNA
RESOURCES LTD.

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 3600.00 .

M. Bell

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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SUMMARY

The Bid claims are located in the south-central Yukon Territory and consist of 12 contiguous claims located along the McConnell River on Pass Peak map sheet (NTS 105F/10). The current claim block is under option to Atna Resources Ltd. from Oro Bravo Resources Ltd. The claims were optioned as part of a package after the discovery of the Wolf deposit within similar rocks 60 km to the SE.

The 1998 field program was operated by Atna and consisted of reconnaissance style geological mapping, and geochemical sampling. The claims are underlain by volcanic, sedimentary and intrusive rocks, probably belonging to the Mississippian aged Pelly Mountain Volcanic Belt.

Lead-zinc-silver anomalies in soils and talus fines were defined that could be caused by a single, relatively flat lying horizon that trends north-northwesterly. However, extensive sphalerite and galena bearing quartz and quartz-carbonate veinlets observed in outcrop and float are likely the source for the anomalies in spite of the geochemical signature being similar to that for volcanogenic sulphide mineralization elsewhere in the belt. The observation of massive pyrite mineralization in float down-slope from the strongest geochemical anomalies by previous workers does indicate that additional investigations could be fruitful. However, the extent to which the stratigraphy is dissected by intrusive rocks and the topographically limited area of the anomalies does not leave a lot of room to host a significant sized massive sulphide deposit. The lack of barite float and barium enriched geochemical samples and the lack of volcanic units typically associated with massive sulphide mineralization elsewhere in the belt is discouraging. Prospecting, geological mapping and lithogeochemical and geochemical sampling covering an area much larger than the current claim position is recommended if favourable results are found at other locations in the general property area.

1. INTRODUCTION

This report describes the 1998 work completed on the Bid claims, which are part of the Atna option agreement with Oro-Bravo. The properties, consisting of the Mamu-Bravo-Kulan-Mat and Bid claims, were optioned from Oro Bravo Resources Ltd. by Atna Resources Ltd. The properties are all underlain by rocks of the Pelly Mountain Volcanic Belt (PMVB) which host the Wolf and MM volcanogenic massive sulphide, zinc-lead-silver deposits.

1.1 LOCATION AND ACCESS

The Bid claims are located on the Pass Peak map sheet, NTS 105F/10, centered at approximately 61°37'N 132°41'W (UTM 6833500 N, 623000 E), figure 1.1. During the 1998 field season, access to the claim group was gained by helicopter based in Ross River, located approximately 40 km to the north. The crew was housed at the Ketza River mine site located approximately 15 km to the southeast of the Bid property.

The claims cover sub-alpine to alpine terrain within the St Cyr range of the Pelly Mountains. Elevations on the claim group range from 1460 to 1980 meters. The majority of the claim block is covered with a thin veneer of talus or colluvium. Overall outcrop exposure averages less than 10%.

1.2 CLAIMS

The Bid claim area consists of 12 contiguous mineral claims covering approximately 250 hectares (figure 1.2). The property is subject to an agreement between Brian Hall and Oro Bravo Resources Ltd. Atna Resources Ltd. has an option from Oro Bravo to earn a 60% interest in the property by completing an escalating series of field work programs. The claims are recorded in the Watson Lake Mining District as follows:

Table 1: Claim Data

Name	Grant number	Expiry date*
Bid 1-6	YB70102-YB70107	October 13, 2001
Bid 7 Fr	YB70108	October 13, 2001
Bid 8	YB70109-YB70109	October 13, 2001
Bid 9 Fr	YB 70110	October 13, 2001
Bid 10-12	YB70111-YB70113	October 13, 2001

- with acceptance of this report.

1.3 HISTORY

Atna Resources Ltd. optioned the claims as part of a larger property in 1997 after discovering the Wolf massive sulphide deposit within similar rocks 60 km southeast of the Bid claims. The area covering the southern part of the claim block was staked as the Bid claims in 1977 and optioned to a joint venture between Cyprus Anvil Mining Corp. and Hudson's Bay Oil & Gas Ltd. A program of mapping, geochemistry, geophysics (magnetometer and EM) was completed on the property before the claims were allowed to lapse. Re-staked as the Ram claims in 1984 by Regional Resources Ltd., the property was mapped, sampled and surveyed by geophysics before being transferred to Fairfield Minerals Ltd. in 1986. Fairfield completed additional geological, geochemical and geophysical surveys in a joint venture with Equity Silver Minerals Ltd. in 1987 and 1988. Pacific Comox Resources Ltd. acquired the property in 1993 as part of a much larger land position where the work was focused in the Seagull valley. The claims were subsequently allowed to lapse. The current Bid claims were staked by Brian V. Hall and are subject to an agreement between Brian Hall and Oro Bravo Minerals Ltd. in 1994. Atna Resources Ltd. acquired an option on the property from Oro Bravo in 1997.

1.4 1998 EXPLORATION PROGRAM

During the 1998 field season, reconnaissance prospecting/geological mapping, and soil sampling was carried out on the Bid claim block. Three contour soil lines were completed, and 146 samples were collected. Geology and geochemical data from the Bid claims was compared with that from known VMS deposits within the PMVB.

YUKON TERRITORY

68°

66°

64°

62°

140°

136°

132°

128°

124°

Old Crow

Dawson

Elsa

Mayo

Stewart Crossing

Pelly Crossing

Beaver Creek

Faro

Ross River

Haines Junction

WHITEHORSE

Watson Lake

Cominco's Kudz ze Kayah Project

Boliden Westmin/Atna Wolverine Project

ABM

WOLVERINE

MAMU PROPERTY BID CLAIMS

LOCATION MAP

BID CLAIMS
PELLY MOUNTAINS REGION
YUKON TERRITORY

50 100 200 km
50 100 miles

Figure 1.1

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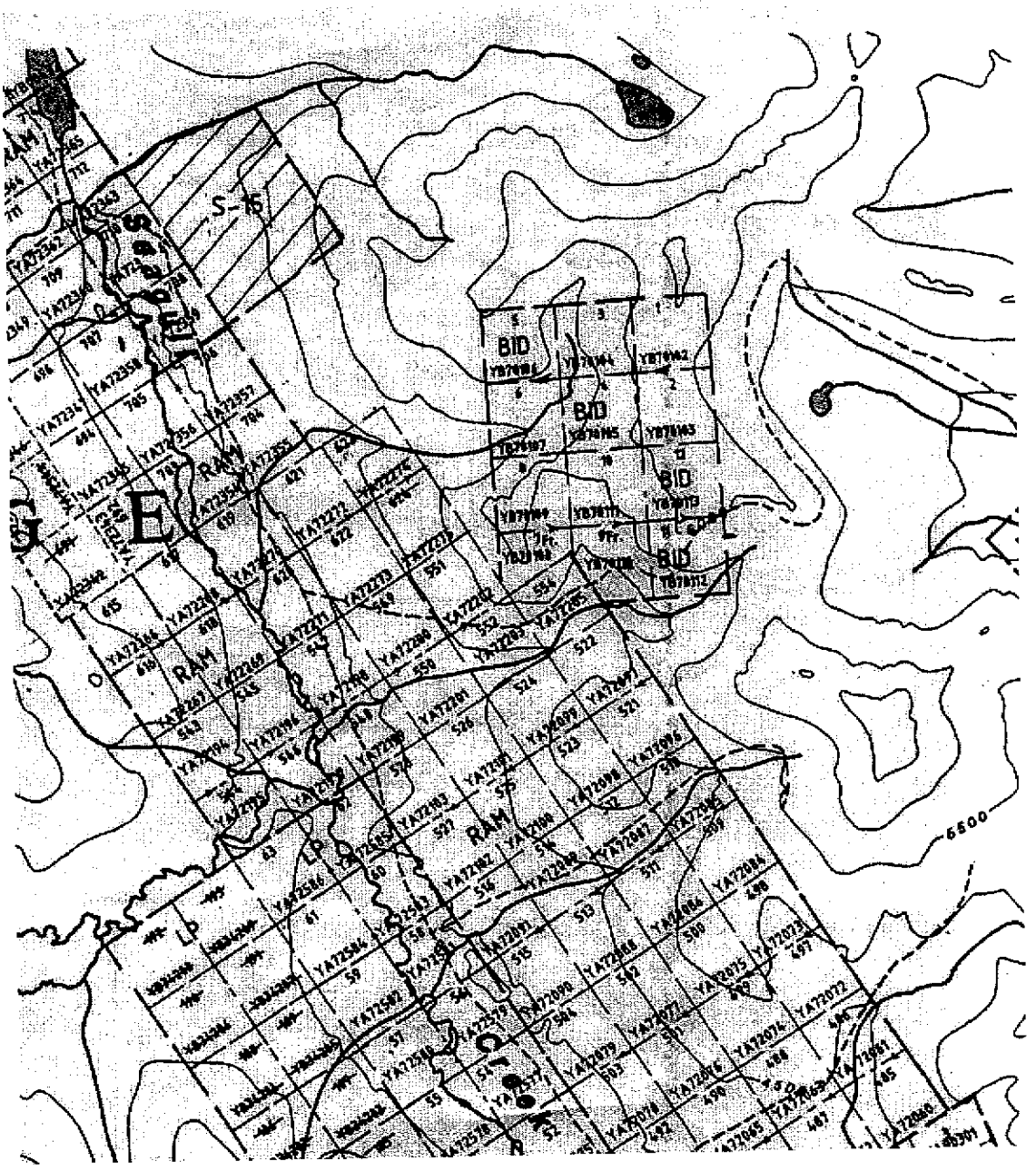

1500 0 1500 3000 4500 6000

Scale (feet)

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MAMU PROJECT

BID CLAIMS

Claims Location

NTS 105F/10			Date Mar./99
Scale As Shown	DWG by		Figure 1.2

2 GEOLOGY

2.1 REGIONAL GEOLOGY

The volcano-sedimentary rocks which host the Wolf and MM deposits as well as underlie the Bid claims form a narrow arcuate belt that extends 80 kilometres along a northwesterly trend within the Pelly Mountains of the southern Yukon (Fig. 2.2). These rocks have been termed the Pelly Mountains Volcanic Belt (PMVB) by Hunt (1999) and are characterized by high potassium content and, locally, bedded barite and volcanogenic massive sulphide deposits and showings. The PMVB is early to middle Paleozoic in age and occurs within the Pelly-Cassiar Platform, considered to be part of ancestral North America (Tempelman-Kluit, 1977). The tectonic framework for the Pelly Mountains area is described by Gabrielse and Yorath (1991), Tempelman-Kluit and Blusson, (1977) and Gordey (1977) and is summarized below.

The miogeoclinal sequence and related rocks which underlie much of the Pelly Mountains are part of a large area about 70 km wide and 600 km long that is referred to as the Pelly-Cassiar Platform (PCP) (figure 2.1). The PCP formed slightly outboard of, but parallel to the craton edge and consisted of a thick accumulation of volcanic rocks and related sediments upon which shallow water sedimentation, predominantly carbonate, took place until late Devonian time. To the northeast of the PCP during late Proterozoic through to Silurian time, a sequence of shallow water carbonates, tuffaceous shale and andesitic rocks were deposited on the western edge of ancestral North America in the Selwyn Basin and, to the south, in the Kechika Trough.

During Late Devonian to Mississippian time, shale, greywacke, and chert pebble conglomerate was deposited over much of the PCP and Selwyn Basin. These rocks were derived from a westerly source, or from locally uplifted parts of the PCP. Felsic igneous activity, including intrusion and volcanism, occurred locally within the PCP, possibly within rifts or graben-like structures created by variable uplift and block faulting within the platformal rocks. Sedimentation resumed within PCP sub-basins during the Upper Triassic.

Deformation of the Paleozoic rocks took place post-Late Triassic and consisted of compression and/or transpression along a northeasterly axis which resulted in northwesterly trending and northeasterly verging folds and southwesterly dipping thrust faults. The Anvil-Campbell allochthon, part of the Omineca Crystalline belt, was emplaced during this event as a large thrust-sheet and is now preserved as local klippen on mountain ridges. An anastomosing system of steeply dipping, strike-slip faults related to movement along the northwesterly trending Tintina Fault cuts the folds and thrust faults and extends for up to 20 kilometres southwest of the Tintina Trench. Late normal faults cross-cut earlier structures and divide the region into a number of panels which commonly represent different structural levels. Cretaceous intrusions develop thermal and structural aureoles in the western part of the Pelly Mountains. Metamorphism and

degree of deformation varies from block to block but generally increases in a westerly direction and varies from lower to upper greenschist facies.

The Pelly Mountains Volcanic Belt is composed of localized volcanic centers separated by basins in-filled with sediments and volcaniclastic rocks. Associated with these volcanic rocks are at least two VMS deposits (the Wolf and the MM) and a number of historical showings, including the Chzerpnough (Fire/Tree claims), and the BNOB (Ice claims).

The volcanic rocks are predominantly felsic, but in some areas significant accumulations of andesite to basalt occur. The most common feature of the belt are flows, epi-zonal sills, and small plugs of trachyte. The trachyte flows and/or sills are laterally very extensive, probably due to low magmatic viscosity caused in part by high alkali element content. Typically the trachyte contains significant amounts of pyrite which gives rise to extensive gossans. The trachytes are commonly cream coloured, with very fine to medium grained phenocrysts of feldspar and rare quartz and are locally massive, amygdaloidal or brecciated. Syenite intrusions have been noted at a number of locations within the PMVB (Mortensen, 1981; Morin, 1977) and are thought to be rounded plugs which represent volcanic feeders. Although they may still represent volcanic feeders, drill data from the Wolf and Ice properties indicates that the syenite intrusions are sills.

The structural and stratigraphic relationships of the Pelly Mountains Volcanic Belt with other parts of the Pelly-Cassiar Platform are not always clear. In the southern part in the belt near the Wolf and Fox claims the PMVB rocks are separated from platformal carbonates and associated sediments by thrust, and possibly, steeply dipping normal faults. In the northeastern most part of the belt, immediately northeast of the Ketza River Mine site, the volcanic sequence is very thin (+/- 100m) and is overlain by chert and chert pebble conglomerate and underlain by shale. Both contacts appear conformable but are not well exposed.

The shale and conglomerate are considered age equivalent with the volcanic rocks that have been mapped in conformable relationships by Gordey (1977). On the Fire (Chzerpnough) and Tree claim area, the PMVB appears to conformably overlie, and in places be intercalated with, a relatively thick sequence of shale and minor greywacke. Similarly on the Mamu property, adjacent to the McConnell River, volcanic rocks conformably overlie an extensive shale-greywacke sequence. On the Ice (BNOB) property, between the Tree-Fire and Mamu properties, the volcanic rocks are surrounded by an argillite-limestone sequence that appears to be continuous with the shale-sequence of the Fire property. Gordey (1977) describes a Siluro-Devonian assemblage of shallow water dolomite and platy siltstone which represent a stable marine carbonate bank environment, and are supposed basement for the PMVB. The Siluro-Devonian siltstones, however, are quartz bearing and tan weathering and do not seem to be a good match with the shale attached to the Pelly Mountain Volcanic rocks. Similarly, the younger Triassic sedimentary package has not been observed in contact with PMVB. Consequently, there is little or no contact information that gives a clear indication of the tectono-stratigraphic

environment in which the PMVB was deposited other than the nature of the rocks within the belt itself.

The platformal setting on the continental margin, the high potassium geochemistry of the volcanic rocks, and the presence of bedded barite and volcanogenic massive sulphide deposits indicate that the Pelly Mountain Volcanic Belt was likely deposited in a continental rift-type environment (Mortensen and Godwin, 1982). The coarse volcanic debris flows that overlie the Wolf deposit indicate a high energy environment consistent with a graben type structure.

2.2 PROPERTY GEOLOGY

2.2.1 GEOLOGY

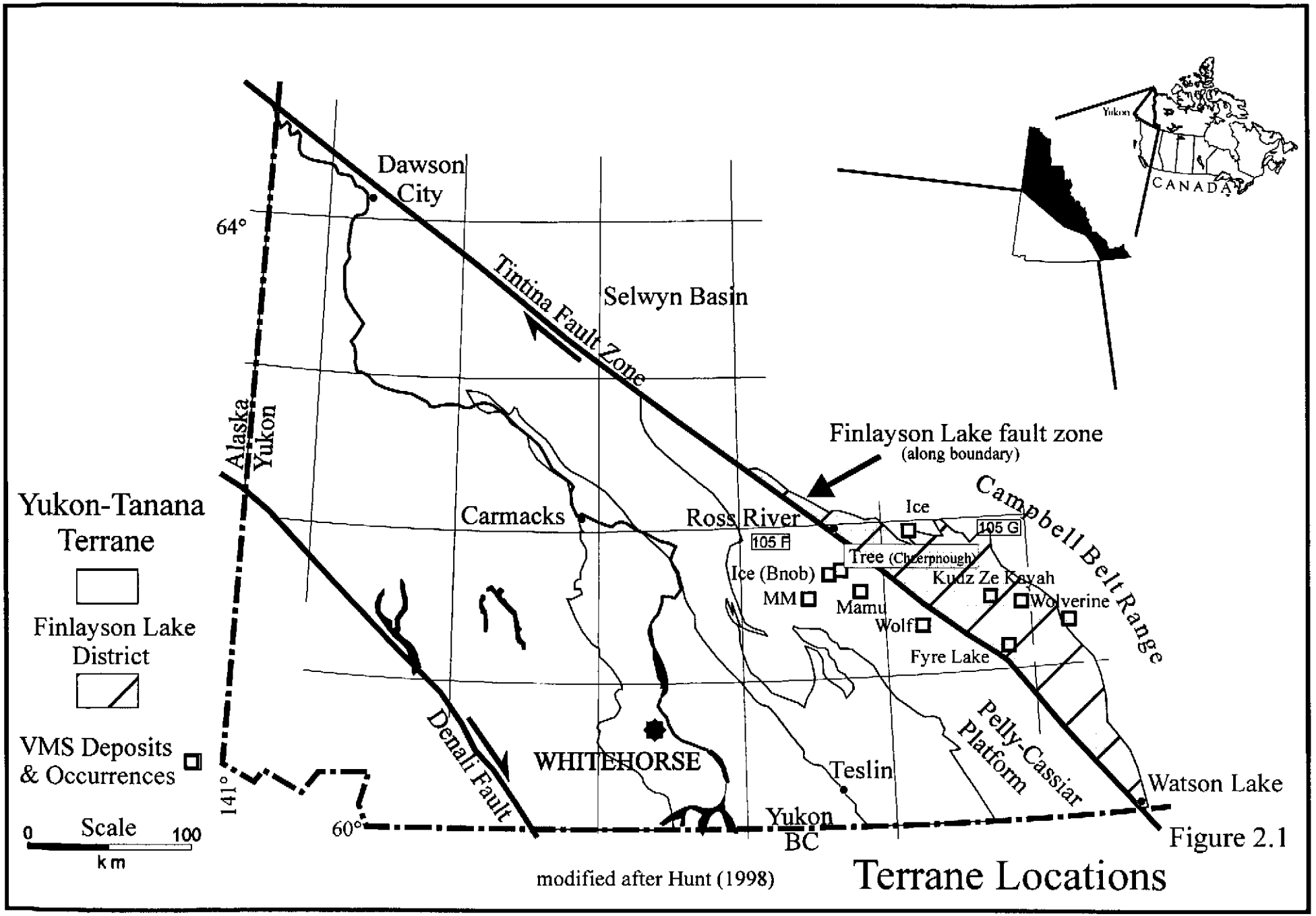
Two man days were spent prospecting and completing reconnaissance style geological mapping on the property. Talus cover is extensive on the slopes of the property but relatively good exposure occurs along the ridge tops.

The claim area is underlain by volcanic flow and pyroclastic rocks and associated sediments, probably of the Mississippian aged Pelly Mountain Volcanic Belt that have been extensively intruded by syenite to monzonite dykes, plugs and/or sills. Much of the exposed rock on the Bid claims is intrusive in origin, consisting of small areas of intrusive surrounded by volcano-sedimentary rocks. The presence of this much intrusive with the volcano-sedimentary sequence suggests that intrusive rocks form the basement for the claim area and that the intrusive rocks are likely never far from surface.

The volcano-sedimentary package of rocks consists of interlayered fine-grained, mafic tuffs and/or flows, argillaceous sediments, brown weathering, poorly sorted lapilli tuffs and pale gray, felsic ash tuffs. The finer grained volcanic and sedimentary rocks are typically foliated and bedding is difficult to observe. Although foliation attitudes in outcrop are variable (and probably random due to outcrop slumping) the stratigraphic sequence appears to be relatively flat lying when viewed from a distance.

2.2.2 MINERALIZATION

Immediately north of the claim boundary and within a large area of syenite outcrop, widely spaced quartz and quartz-carbonate veins commonly carry from 1 to 2%, and rarely up to 10%, sphalerite. To the south of the above occurrence, and within the northeast corner of the Bid claim block, is a small (10 by 10m) outcrop of massive to semi-massive magnetite that appears to be hosted by mafic volcanic rocks and has a large associated gossan. The magnetite is interpreted to be skarn type mineralization related to the adjacent syenite. Fine grained massive pyrite mineralization as noted by Dean (1977) on the southern end of the property was not observed.


Yukon-Tanana Terrane
Finlayson Lake District
VMS Deposits & Occurrences
0 Scale 100
km
Dawson City
64°
Tintina Fault Zone
Selwyn Basin
Alaska
Yukon
Finlayson Lake fault zone
(along boundary)
Campbell Belt Range
Carmacks
Ross River
105 F
105 G
Ice
Tree (Cheerpnough)
Ice (Bnob)
MM
Mamu
Kudz Ze Kayah
Wolverine
Wolf
Fyre Lake
Pelly-Cassiar Platform
Denali Fault
WHITEHORSE
Teslin
Watson Lake
141°
60°
Yukon
BC
CANADA
modified after Hunt (1998)
Terrane Locations
Figure 2.1

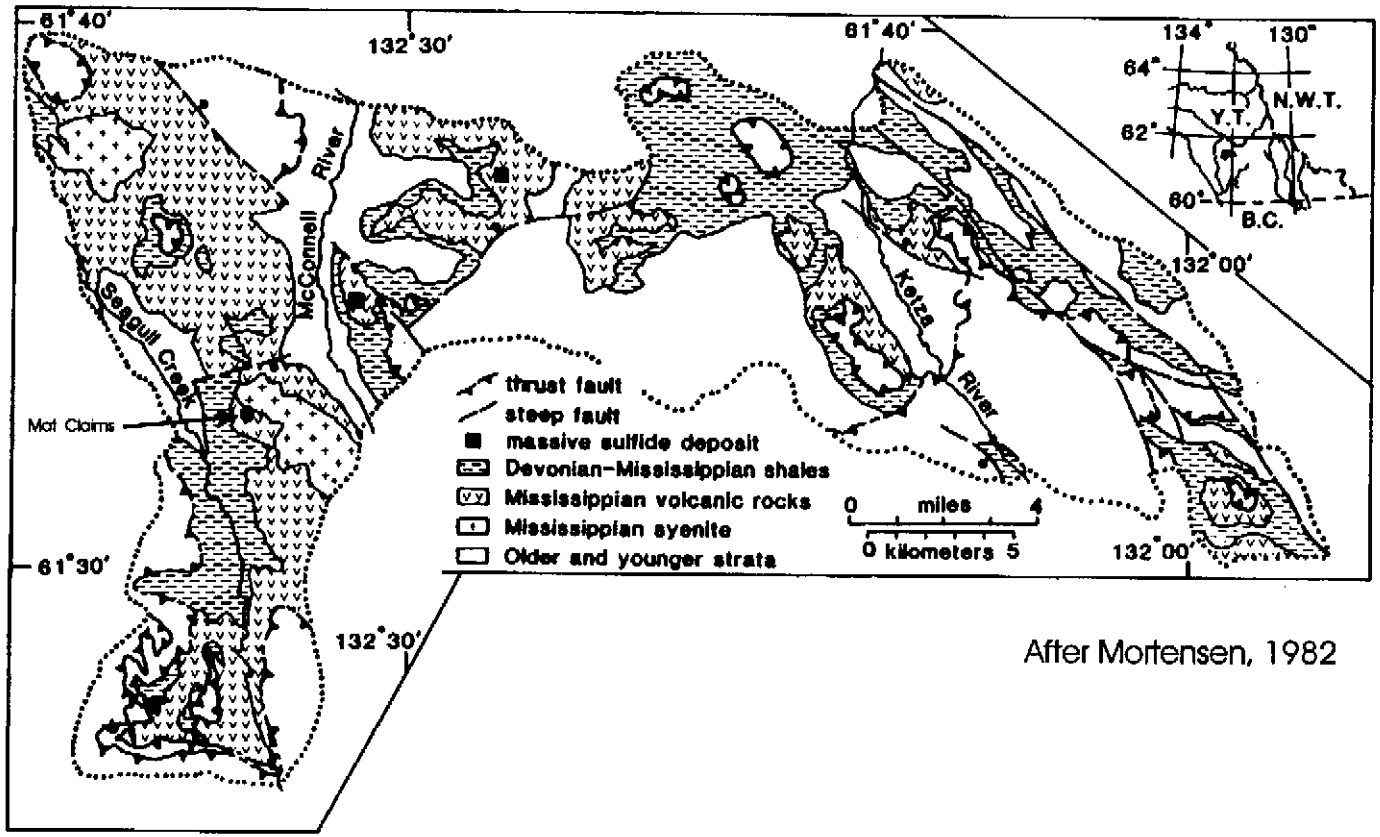


FIG. Distribution of Upper Devonian and Mississippian strata in the study area in the central Pelly Mountains, Yukon Territory.

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MAMU PROPERTY
BID CLAIMS
Regional Geology

NTS 105F & 105G			Date Mar /99
Scale As Shown	DWG by RGW		Figure 2.2

3 GEOCHEMISTRY

The 1998 geochemical program consisted of contour soil sampling. A total of 146 samples were collected along three lines that cover most of the central claim area.

The samples were collected from shovel or mattock dug holes which averaged 30 cm in depth. Soils or more properly, talus fines, were placed in kraft bags for air drying prior to shipment. All samples were analyzed by Acme Laboratories of Vancouver, B.C. using aqua regia digestion followed by 30 element ICP detection. Additionally, mercury was analyzed by flameless AA methods. Certificates of analysis from Acme Laboratories are contained within Appendix I, and sample locations and significant results are plotted as "dot-plots" on figures 3.1 to 3.4

Multi-element data from the survey demonstrates a reasonably strong correlation between lead, zinc and silver, and a lesser correlation between those elements and molybdenum, gold and mercury. There is an erratic association between the above mentioned elements and arsenic. The element correlation noted here, particularly with the absence of any enrichment of Cu, Sb and Bi, are more characteristic of the volcanogenic massive sulphide mineralization of the Pelly Mountain Volcanic Belt than they are for intrusive related vein systems.

The distribution of lead, zinc and mercury anomalies are illustrated in figures 3.2 to 3.4 and could, with a few exceptions, be accounted for by a single north-northwesterly trending horizon, assuming some down-hill dispersion. A notable exception is the anomalous zinc in the northernmost samples which are located directly down-slope from the syenite outcrop with widely spaced zinc bearing quartz and quartz-carbonate veins.

The most significant anomalies are located on a west facing slope on the southern part of the sampled area. This area was noted as a strong gossan within scree during reconnaissance mapping and is up-slope from where much of the previous work was carried out (Dean, 1977). The historical geochemical and geophysical surveys were carried out over a very small area immediately below the lowest 1998 soil line, if the mineralization was sourced from above this area it is not surprising that no geophysical conductors were detected.

621000 mE

622000 mE

623000 mE

624000 mE

6834000 mN

6833000 mN

N

Mamu Property (Bid Claims)
Contour Soils (Zn ppm)

939 to 1,770	(16)
244 to 939	(23)
91 to 244	(45)
18 to 91	(62)

093977

DWG (1)

ATNA RESOURCES LTD.

	Mamu Property Bid Claims Contour Soils Zn (ppm)
Date: 9/2/1999	
Author: RGW	
Office: VAN, B.C.	
Drawing: 3.2	
Scale: 1:10000	Projection: UTM Zone 8 (NAD 27 for Canada)

0 125 250 500

metres

621000 mE

622000 mE

623000 mE

624000 mE

6834000 mN

6833000 mN

N

Mamu Property (Bid Claims)
Contour Soils (Pb ppm)

904 to 5,365	(12)
162 to 904	(22)
45 to 162	(43)
4 to 45	(69)

093977 DWG ②

ATNA RESOURCES LTD.

Mamu Property
Bid Claims
Contour Soils
Pb (ppm)

Date: 9/2/1999	
Author: RGW	
Office: VAN, B.C.	
Drawing: 3.3	
Scale: 1:10000	Projection: UTM Zone 8 (NAD 27 for Canada)

0 125 250 500
metres

621000 mE

622000 mE

623000 mE

624000 mE

6834000 mN

6833000 mN

Mamu Property (Bid Claims)
Contour Soils (Hg ppb)

120 to 305 (5)
40 to 120 (34)
10 to 40 (107)

093977 Dwg (3)

ATNA RESOURCES LTD.

Mamu Property
Bid Claims
Contour Soils
Hg (ppb)

Date: 9/2/1999
Author: RGAV
Office: VAN, B.C.
Drawing: 3.4
Scale: 1:10000
Projection: UTM Zone 8 (NAD 27 for Canada)

0 125 250 500
metres

4. DISCUSSION

Geological reconnaissance indicates that the volcano-sedimentary rocks underlying the Bid claim area are probably part of the Pelly Mountain Volcanic Belt and thus have potential to host volcanogenic massive sulphide deposits similar to the Wolf and MM deposits. Insufficient work was done to determine the volcanic stratigraphy present on the property and whether this stratigraphy had features indicative of massive sulphide mineralization. The initial reconnaissance indicated that the volcano-sedimentary rocks have been extensively intruded by syenite to monzonite plugs, dykes and sills and that both magnetite skarn and vein type mineralization are associated with the intrusive contact areas.

It was presumed that these mineralization types were responsible for the geochemical anomalies in the area. However, analysis of multi-element soil/talus-fines data indicates that the geochemical signature is more similar to PMVB massive sulphide mineralization than one would expect from intrusive related skarn or vein type mineralization, although this evidence is not considered to be conclusive. The 1998 geochemical anomalies also suggest that the previously identified massive pyrite mineralization may be sourcing from an area significantly up-slope from what was previously interpreted. The position of the 1998 anomalies could be related to a flat to gently dipping volcanic horizon with a north-northwest trend and a strike length greater than 600 metres. It could also be argued that the vein type mineralization was derived from primary volcanogenic mineralization. Dean (1977) pointed out that the silver to lead ratios where atypical of VMS systems however, the average silver to lead ratio of the Wolf deposit is approximately 30g/t silver to every 1% lead which is similar to the ratios of the vein mineralization found in float by Dean. A significant factor that argues against VMS type mineralization is the lack of barite float and barium enrichment in the geochemical samples. Barite is a major component of the mineralized horizon within the PMVB.

In spite of the favourable geochemical results there are a number of property features that discourage further work. The volcanic lithologies bear little resemblance to the rocks hosting the Wolf deposit and the extent to which intrusive rocks are present indicate that continuity of mineralization would be an important consideration. If the volcanic stratigraphy is flat lying the potential area that could be underlain by the mineralization is severely constrained by topography.

5. CONCLUSIONS AND RECOMMENDATIONS

The Bid claims cover an area of approximately 9 square kilometres which are underlain by volcanic and sedimentary rocks, probably of the Pelly Mountain Volcanic Belt, which have been extensively intruded by syenite to monzonite dykes, plugs and sills. Sphalerite and galena bearing quartz and quartz-carbonate veinlets are associated with the intrusive rocks and massive to semi-massive magnetite in a possible skarn type setting is

associated with the intrusive contact areas. The property hosts significant lead-zinc-silver soil/talus fine anomalies with associated weak enrichments in molybdenum, mercury and gold and no enrichment in copper which is typical of volcanogenic massive sulphide mineralization of the Pelly Mountain Volcanic Belt. The geochemical signature is not conclusive and the lack of barite float and enrichment in barium geochemical values (regardless of digestion technique) is a concern. Additionally, the extent of the intrusive rocks and the constraints imposed by topography indicate that the potential for a VMS horizon is limited.

Although the geochemical anomalies from past and present work are intriguing it is most probable, but not conclusive, that these anomalies are caused by vein type mineralization associated with intrusive activity. The volcanic stratigraphy is extensively dissected by intrusive rocks and the potential area for mineralization is constrained by topography, therefore the probability of discovering a significant massive sulphide deposit on the property is low. The area would benefit from additional mapping and sampling, particularly on the east side of the north trending ridge.

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APPENDIX I

GEOCHEMICAL CERTIFICATES

OF ANALYSIS

ACME ANALYTICAL LABORATORIES LTD. (ISO 9002 Accredited Co.) 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Atna Resources Ltd. PROJECT BID File # 9803914 Page 1

1550 - 409 Granville St., Vancouver BC V6C 1T2 Submitted by: P. Holbek

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	Hg ppb
BID8-01-01	6	11	54	65	.5	12	10	800	3.45	17	<8	<2	14	19	.3	<3	<3	26	.64	.173	52	11	.47	357	.03	<3	1.40	.01	.13	<2	3	30
BID8-01-02	4	16	198	115	.7	16	10	1566	5.09	16	<8	<2	10	13	.9	<3	<3	25	.26	.116	40	15	.56	197	.02	<3	1.43	.01	.14	<2	2	55
BID8-01-03	3	14	66	138	<.3	15	7	840	3.14	22	<8	<2	5	12	1.2	<3	<3	29	.25	.073	34	16	.37	150	.03	<3	1.03	.01	.09	<2	4	40
BID8-01-04	2	13	18	46	.4	10	5	316	1.91	13	<8	<2	2	7	1.0	<3	<3	25	.06	.049	23	12	.17	53	.03	<3	.66	.02	.05	<2	3	15
BID8-01-05	2	15	45	97	<.3	15	7	904	2.17	13	<8	<2	<2	10	1.5	<3	<3	31	.16	.084	24	17	.36	115	.02	<3	.96	.01	.06	<2	2	30
BID8-01-06	4	20	107	140	<.3	17	8	533	3.24	79	<8	<2	<2	10	.7	<3	<3	37	.13	.086	31	18	.31	108	.02	<3	.96	.01	.05	<2	3	<10
BID8-01-07	3	14	32	136	<.3	17	6	339	2.29	25	<8	<2	<2	11	3.1	<3	<3	35	.20	.057	25	18	.27	71	.02	3	.61	.01	.06	<2	3	<10
BID8-01-08	3	13	96	159	.8	11	5	468	2.39	152	<8	<2	2	7	1.0	<3	<3	28	.08	.060	27	15	.19	68	.01	<3	.81	.01	.05	<2	3	30
BID8-01-09	6	17	236	246	.6	15	8	1020	3.46	98	<8	<2	6	11	1.3	<3	<3	24	.26	.061	44	16	.27	208	.02	<3	.95	.01	.10	<2	4	15
BID8-01-10	2	16	71	138	.4	6	2	258	2.26	37	<8	<2	3	4	.6	<3	<3	27	.03	.033	40	9	.11	58	.01	<3	.74	.01	.05	<2	3	<10
BID8-01-11	9	59	52	654	<.3	47	39	2871	23.43	36	<8	<2	11	7	1.6	<3	<3	59	.40	.090	132	41	1.57	204	.01	3	1.75	.01	.05	<2	5	165
BID8-01-12	4	38	3575	1102	9.6	12	6	912	5.36	1352	<8	<2	9	8	4.3	10	<3	29	.15	.038	26	14	.32	124	.02	<3	1.04	.01	.10	<2	21	60
BID8-01-13	4	27	1319	676	1.0	13	9	1762	5.03	304	<8	<2	2	13	9.0	<3	5	28	.45	.082	32	13	.39	154	.02	<3	1.11	.01	.05	<2	4	10
BID8-01-14	2	21	555	328	.4	12	8	1493	4.31	126	<8	<2	<2	10	2.5	<3	<3	30	.15	.074	18	11	.25	113	.01	<3	.77	.01	.06	<2	7	<10
BID8-01-15	3	30	627	306	.3	19	9	542	5.88	170	<8	<2	<2	8	.7	<3	3	35	.26	.054	30	21	.43	79	.02	<3	1.21	.01	.03	<2	6	20
BID8-01-16	2	14	51	77	<.3	6	3	252	2.24	48	<8	<2	<2	22	.4	<3	<3	16	.35	.114	26	5	.35	246	.02	3	1.31	.01	.09	<2	1	<10
BID8-01-17	4	19	104	102	.7	13	5	458	3.05	121	<8	<2	3	16	.3	<3	4	30	.31	.091	23	9	.25	112	.02	<3	.76	.01	.09	<2	1	<10
BID8-01-18	4	24	60	80	.4	23	7	229	2.67	47	<8	<2	<2	8	<.2	4	<3	33	.07	.061	25	11	.18	64	.02	<3	.62	.01	.05	<2	1	10
BID8-01-19	2	14	23	56	<.3	9	7	610	3.14	25	<8	<2	<2	18	.2	4	<3	36	.28	.080	21	13	.50	238	.08	<3	1.54	.01	.36	<2	1	<10
BID8-01-20	2	14	48	76	<.3	11	9	717	3.50	19	<8	<2	2	12	.5	<3	<3	44	.13	.061	17	15	.58	151	.13	8	1.46	.01	.53	<2	2	<10
BID8-01-21	3	15	12	61	<.3	9	7	522	4.36	9	<8	<2	3	14	<.2	<3	<3	32	.34	.128	34	11	.57	240	.14	7	1.86	.01	.61	<2	1	20
BID8-01-22	2	25	10	82	.3	13	12	1059	5.47	14	<8	<2	11	18	<.2	<3	<3	33	.48	.162	56	16	.84	441	.19	<3	2.36	.01	.84	<2	3	<10
RE BID8-01-22	2	25	11	84	<.3	13	12	1063	5.44	14	8	<2	10	18	<.2	<3	<3	33	.49	.164	55	15	.83	442	.19	<3	2.33	.01	.84	<2	6	<10
BID8-01-23	1	12	6	46	.5	2	4	1668	2.61	2	<8	<2	<2	9	.3	<3	<3	18	.10	.077	13	3	.33	188	.07	7	1.50	.02	.38	<2	<1	15
BID8-01-24	2	9	5	32	<.3	8	5	630	2.24	10	<8	<2	<2	14	.2	<3	<3	27	.15	.054	14	12	.54	142	.08	<3	1.21	.02	.24	<2	<1	35
BID8-01-25	2	17	13	55	.8	19	8	413	3.10	55	<8	<2	9	15	<.2	6	<3	40	.26	.073	31	22	.59	164	.08	4	1.77	.01	.21	<2	2	<10
BID8-01-26	3	14	4	32	.4	4	4	270	3.16	6	<8	<2	<2	8	.2	7	<3	19	.13	.063	26	7	.34	182	.04	<3	1.60	.01	.34	<2	1	10
BID8-01-27	1	24	10	76	<.3	14	14	741	4.50	13	<8	<2	<2	15	.3	<3	<3	82	.30	.119	25	15	.92	204	.13	<3	2.04	.01	.40	<2	2	10
BID8-01-28	4	77	17	73	<.3	18	25	5954	5.06	15	<8	<2	5	57	.7	<3	<3	37	1.27	.245	153	11	.42	664	.02	<3	2.00	<.01	.17	2	<1	<10
BID8-01-29	2	20	19	74	.4	14	14	1432	5.09	11	9	<2	7	38	.3	<3	<3	60	.87	.109	32	12	.92	307	.12	5	1.86	.01	.69	3	<1	<10
BID8-01-30	1	15	12	53	<.3	21	11	751	3.43	7	<8	<2	6	26	.2	7	<3	48	.56	.067	27	24	.74	143	.07	<3	1.45	.01	.18	<2	<1	15
BID8-01-31	1	11	11	73	.5	5	10	828	3.78	5	<8	<2	2	35	.3	<3	<3	62	.94	.214	29	5	.85	289	.11	<3	1.83	.02	.41	2	<1	<10
BID8-01-32	1	17	8	52	.3	3	13	900	4.98	5	9	<2	2	34	<.2	<3	<3	38	.85	.226	20	4	.82	240	.07	<3	2.32	.01	.43	<2	<1	<10
BID8-01-33	2	21	22	115	.3	127	23	1100	6.75	17	10	<2	10	39	<.2	<3	<3	115	.97	.249	57	223	3.77	362	.15	<3	3.82	.01	.62	3	<1	<10
BID8-01-34	5	28	78	72	.9	37	20	1272	4.26	453	<8	<2	13	46	<.2	3	5	26	1.12	.180	44	63	1.05	249	.06	<3	1.44	.01	.36	2	8	20
STANDARD C3/AU-S	26	66	35	161	6.0	36	12	769	3.34	56	18	<2	21	29	24.2	20	23	81	.54	.095	17	164	.63	156	.09	20	1.98	.04	.17	21	45	860
STANDARD G-2	1	3	<3	41	.4	8	4	513	1.91	<2	<8	<2	4	81	<.2	<3	<3	40	.61	.099	8	73	.59	246	.13	<3	1.11	.12	.54	3	<1	10

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND MASSIVE SULFIDE AND LIMITED FOR NA K AND AL.
- SAMPLE TYPE: SOIL AU* - AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM) HG ANALYSIS BY FLAMELESS AA.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 8 1998 **DATE REPORT MAILED:** Sept 14/98 **SIGNED BY** ..... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data FA

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	Hg ppb
BID8-01-35	5	9	5	18	.5	8	8	644	1.76	5	<8	<2	7	23	.2	3	<3	7	.79	.114	31	3	.27	97	<.01	<3	.62	.01	.06	<2	<1	35
BID8-01-36	6	62	162	99	.7	38	33	1562	6.40	53	<8	<2	14	50	.8	<3	<3	63	1.78	.223	58	38	1.34	373	.05	<3	2.24	<.01	.29	<2	5	40
BID8-01-37	5	49	40	96	.3	29	24	1388	6.38	43	<8	<2	13	44	.8	<3	3	45	1.28	.170	63	32	1.31	499	.07	<3	2.48	.01	.46	<2	2	35
BID8-01-38	5	61	77	106	.8	15	20	1555	6.60	245	<8	<2	14	37	.7	<3	8	47	1.07	.219	58	13	1.00	457	.09	<3	1.94	.01	.54	<2	2	25
BID8-01-39	4	34	32	100	.8	25	21	1490	5.85	27	<8	<2	13	47	1.0	<3	<3	43	1.34	.201	59	22	1.16	380	.07	<3	1.99	<.01	.44	<2	1	30
BID8-01-40	18	80	36	92	<.3	28	24	802	5.66	37	<8	<2	13	48	.7	<3	<3	48	.84	.123	46	25	1.25	342	.17	<3	2.03	.01	.57	<2	1	25
BID8-01-41	2	24	23	58	.8	15	13	1668	3.91	20	<8	<2	16	36	.5	5	<3	16	.89	.166	70	7	.67	405	.08	<3	1.58	<.01	.51	<2	<1	15
BID8-01-42	3	26	62	88	.5	10	11	734	5.19	92	<8	<2	12	38	.7	<3	3	30	.83	.143	54	7	1.03	347	.10	<3	2.33	.01	.57	<2	1	20
BID8-01-43	1	21	39	59	.3	9	10	658	3.89	15	<8	<2	13	44	.5	4	<3	22	1.06	.188	66	5	.77	333	.10	<3	1.92	<.01	.48	2	2	15
BID8-01-44	3	22	929	416	2.7	10	7	692	4.18	371	<8	<2	8	35	2.1	5	3	19	1.03	.124	38	9	.52	371	.04	<3	1.53	.01	.23	<2	2	35
BID8-01-45	3	25	904	323	2.4	11	10	1377	3.89	200	<8	<2	15	25	2.0	8	<3	12	.74	.192	50	3	.35	304	.03	<3	1.09	<.01	.20	<2	3	45
BID8-01-46	10	50	2348	1027	5.0	37	7	1371	4.94	677	<8	<2	8	13	4.7	16	5	21	.30	.090	31	7	.15	118	<.01	<3	.51	<.01	.08	<2	5	50
BID8-01-52	1	9	24	63	.5	10	6	587	2.69	12	<8	<2	5	21	.4	7	3	27	.35	.102	36	12	.50	218	.04	<3	1.37	.02	.13	<2	<1	15
BID8-01-53	2	14	20	137	.3	9	10	1674	4.56	8	<8	<2	10	30	1.4	<3	5	20	.37	.108	53	9	.47	387	.05	<3	1.52	.01	.41	<2	<1	30
BID8-01-54	8	6	9	59	<.3	10	8	412	5.04	5	<8	<2	6	17	.6	<3	<3	33	.29	.075	30	21	1.15	225	.14	<3	1.75	.01	.85	<2	<1	30
BID8-01-55	1	10	11	50	.5	12	11	1089	4.07	5	<8	<2	8	56	.7	<3	<3	30	1.06	.152	61	19	.99	190	.04	<3	1.92	.01	.19	2	<1	40
BID8-01-56	4	29	17	41	.5	9	10	1240	2.68	19	<8	<2	7	19	.2	<3	<3	12	.45	.082	33	4	.18	144	.01	3	.78	.02	.10	<2	1	25
BID8-01-57	2	26	41	170	<.3	11	13	975	3.90	9	<8	<2	8	49	1.2	<3	5	23	.91	.087	48	11	.50	230	.03	<3	1.38	.01	.15	<2	<1	30
BID8-02-01	4	11	25	59	.6	13	8	1219	3.99	9	<8	<2	17	9	.6	<3	<3	20	.24	.037	48	13	.28	124	.02	<3	.79	.01	.05	<2	1	25
RE BID8-02-01	4	12	28	62	.6	13	9	1263	4.15	9	<8	<2	18	9	.5	8	<3	20	.25	.039	50	13	.29	126	.02	<3	.82	.01	.06	<2	<1	30
BID8-02-02	6	44	19	179	<.3	14	10	2363	6.37	15	<8	<2	12	11	1.4	5	3	18	.28	.050	40	11	.22	155	.01	<3	.67	.01	.08	<2	1	45
BID8-02-03	8	10	50	71	<.3	12	8	963	4.45	22	<8	<2	10	16	.6	<3	5	24	.42	.078	31	15	.26	152	.01	<3	.76	.01	.08	<2	2	15
BID8-02-04	10	55	209	126	1.0	23	12	1335	5.03	59	<8	<2	13	13	1.0	6	3	28	.49	.064	42	15	.36	140	.01	<3	.80	.01	.07	<2	2	50
BID8-02-05	8	45	166	107	1.3	21	11	1111	4.48	50	<8	<2	16	12	.9	5	3	28	.39	.050	41	15	.38	126	.01	<3	.79	.01	.07	<2	2	30
BID8-02-06	13	49	87	130	1.0	16	13	1420	5.49	47	<8	<2	15	8	1.0	7	4	14	.54	.052	38	7	.20	118	<.01	<3	.57	<.01	.06	<2	2	50
BID8-02-07	5	13	27	64	.5	7	5	937	3.06	11	<8	<2	9	12	.5	4	<3	25	.41	.071	27	5	.14	119	.02	<3	.67	.02	.06	<2	1	25
BID8-02-08	5	12	65	326	<.3	19	10	1515	4.19	56	<8	<2	13	10	1.7	4	<3	26	.31	.041	45	31	.38	212	.02	<3	.91	<.01	.05	<2	2	15
BID8-02-09	6	14	71	314	.3	20	11	1558	4.48	54	<8	<2	14	10	1.8	3	<3	28	.33	.048	42	34	.40	207	.02	<3	.94	.01	.06	<2	2	35
BID8-02-10	7	23	80	180	.7	29	11	1171	5.03	53	<8	<2	16	10	1.0	3	4	37	.26	.061	41	32	.42	173	.02	<3	1.12	.01	.06	<2	2	35
BID8-02-11	3	59	70	1057	.9	55	26	1604	9.26	44	<8	<2	11	28	4.7	6	10	49	4.74	.138	86	31	1.85	176	.02	<3	1.50	<.01	.10	<2	6	120
BID8-02-12	4	96	96	370	1.0	23	23	2461	12.49	29	<8	<2	9	18	1.8	<3	12	28	1.51	.070	57	20	1.39	483	.02	7	1.33	.01	.15	<2	5	75
BID8-02-13	3	94	58	360	.8	22	23	2401	12.26	29	<8	<2	9	19	1.6	<3	<3	28	1.54	.068	54	20	1.35	477	.02	<3	1.28	<.01	.16	<2	5	45
BID8-02-14	5	55	184	1220	1.0	38	29	3285	10.60	48	<8	<2	11	16	5.3	5	13	66	2.60	.191	117	33	3.54	318	.01	9	1.36	<.01	.04	<2	4	185
BID8-02-15	5	73	196	583	.9	50	36	1502	16.78	61	<8	<2	12	10	2.7	<3	9	51	.51	.131	53	31	.77	138	.04	<3	1.04	.01	.06	<2	7	35
BID8-02-16	15	76	137	1115	.3	61	30	1506	10.32	39	<8	<2	10	6	5.9	<3	3	36	.24	.095	32	15	.56	122	<.01	4	.88	<.01	.06	<2	7	40
STANDARD C3/AU-S	25	64	33	161	5.5	36	11	742	3.29	54	26	<2	22	28	22.5	16	24	79	.53	.087	17	164	.60	145	.09	18	1.88	.04	.17	18	53	940
STANDARD G-2	2	5	<3	41	.3	8	4	498	1.91	2	<8	<2	6	72	<.2	<3	7	39	.59	.090	7	71	.57	220	.12	<3	.97	.09	.46	2	<1	<10

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data___ FA ___

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	Hg ppb
BID8-02-17	28	12	225	174	1.2	7	4	892	3.18	20	<8	<2	13	12	1.0	<3	6	13	.52	.060	34	6	.46	149	<.01	<3	1.11	.01	.08	<2	2	40
BID8-02-18	28	22	1594	1508	3.8	12	4	3636	5.85	135	<8	<2	6	13	8.0	<3	3	26	1.12	.102	32	11	.41	184	<.01	<3	.69	<.01	.09	<2	4	100
BID8-02-19	1	17	1092	1495	1.8	11	3	820	3.20	89	<8	<2	19	9	7.0	8	3	6	.67	.101	36	3	.59	170	<.01	<3	1.56	<.01	.05	<2	2	30
BID8-02-20	9	57	5365	1344	15.0	28	1	155	4.41	559	<8	<2	11	19	11.2	91	4	19	.11	.078	13	3	.05	244	<.01	<3	.31	<.01	.14	<2	9	60
BID8-02-21	6	32	3058	966	9.0	23	1	139	2.75	361	<8	<2	9	15	12.5	58	3	13	.12	.074	14	3	.03	202	<.01	<3	.20	<.01	.10	<2	7	35
BID8-02-22	3	19	313	311	1.1	3	4	1659	4.08	24	<8	<2	21	9	2.4	3	5	5	.44	.044	40	2	.39	204	<.01	<3	1.15	<.01	.11	<2	2	25
BID8-02-23	2	20	1700	1476	4.4	4	5	2282	4.62	93	<8	<2	20	9	7.9	5	3	6	.40	.055	41	3	.29	211	<.01	<3	.92	<.01	.07	<2	1	40
BID8-02-24	3	7	168	138	1.2	6	3	579	3.40	41	8	<2	12	11	.6	<3	<3	11	.38	.040	36	5	.35	278	.01	<3	1.11	<.01	.14	<2	5	25
BID8-02-25	3	12	244	244	.8	4	3	1153	2.68	34	<8	<2	4	10	1.8	<3	<3	14	.20	.072	21	3	.18	108	.01	<3	.83	.02	.07	<2	1	45
BID8-02-26	3	6	10	26	<.3	5	4	1462	4.75	9	<8	<2	22	8	.5	<3	3	7	.32	.079	94	3	.59	149	.01	<3	1.10	<.01	.09	2	1	10
BID8-02-27	5	14	73	75	.5	5	5	1481	5.47	36	<8	<2	14	10	.5	<3	<3	10	.26	.061	50	5	.25	214	.01	<3	.82	<.01	.10	<2	1	20
BID8-02-28	6	14	107	95	.7	5	4	1747	4.69	25	<8	<2	17	7	.8	<3	3	9	.17	.050	58	5	.18	258	.01	<3	.83	<.01	.16	<2	2	50
RE BID8-02-28	6	15	105	95	1.0	5	4	1748	4.70	22	<8	<2	17	7	.8	<3	6	9	.17	.050	56	5	.18	259	.01	<3	.83	<.01	.16	<2	2	50
BID8-02-29	4	18	28	47	.5	11	4	763	3.46	13	<8	<2	10	11	.2	<3	4	18	.16	.049	48	19	.29	205	.02	<3	1.11	.01	.17	<2	2	10
BID8-02-30	4	19	87	173	1.0	3	2	1724	4.66	38	<8	<2	14	11	1.0	<3	4	4	.40	.041	40	2	.19	363	<.01	<3	.84	<.01	.17	<2	3	10
BID8-02-31	5	10	94	104	.8	6	3	861	3.92	42	<8	<2	10	10	.5	<3	4	14	.23	.060	43	7	.22	189	.01	<3	1.08	.01	.14	<2	2	25
BID8-02-32	3	93	31	45	.7	6	6	2399	5.46	6	<8	<2	9	12	.4	<3	<3	13	.53	.089	44	3	.23	191	.01	<3	.84	.01	.10	<2	1	35
BID8-02-33	3	24	26	35	.9	5	5	1259	4.31	7	<8	<2	9	10	.5	<3	4	14	.27	.082	42	4	.15	153	.01	<3	.82	.01	.11	<2	1	35
BID8-02-34	3	56	20	52	.7	7	6	1797	4.86	11	<8	<2	9	12	.4	<3	4	16	.22	.085	46	6	.15	183	.02	<3	.88	.01	.11	<2	1	50
BID8-02-35	7	16	32	59	.6	8	7	1847	4.92	19	<8	<2	15	12	.5	<3	3	9	.28	.066	53	6	.19	326	<.01	<3	1.02	<.01	.18	<2	2	40
BID8-02-36	6	15	28	52	.5	7	6	1671	4.44	18	<8	<2	15	12	.5	<3	5	8	.27	.062	49	4	.18	306	<.01	<3	1.00	<.01	.18	<2	4	60
BID8-02-37	1	9	13	36	1.0	2	2	225	1.37	3	<8	<2	3	8	<.2	<3	<3	14	.12	.054	15	3	.08	100	.02	<3	.81	.03	.07	<2	1	25
BID8-02-38	6	24	59	119	.6	12	7	1589	5.99	14	<8	<2	10	12	.8	<3	4	15	.31	.074	64	9	.24	213	.01	<3	1.06	.01	.12	<2	3	25
BID8-02-39	5	18	51	137	.5	13	6	1370	4.92	21	<8	<2	9	11	.7	<3	<3	21	.22	.059	89	13	.36	254	.02	<3	1.18	.01	.14	<2	2	35
BID8-02-40	2	18	19	48	.7	6	4	490	2.46	8	<8	<2	5	9	.2	<3	5	18	.16	.077	50	6	.18	93	.01	<3	1.08	.02	.06	<2	2	30
BID8-02-41	6	24	12	109	.5	20	14	676	2.94	13	<8	<2	6	24	.7	<3	<3	21	.54	.157	39	8	.44	105	.01	<3	.82	.01	.05	<2	3	35
BID8-02-42	2	12	9	36	.7	10	7	407	2.18	7	<8	<2	4	15	<.2	<3	3	19	.34	.118	34	8	.27	125	.01	<3	.91	.01	.05	<2	<1	15
BID8-02-43	3	49	18	164	.9	26	31	1032	3.73	15	<8	<2	8	18	1.0	<3	<3	8	.42	.147	31	4	.15	152	<.01	<3	.56	.01	.08	<2	1	30
BID8-02-44	1	11	10	33	.4	9	7	642	2.29	7	<8	<2	3	13	.2	<3	3	14	.27	.110	25	6	.15	146	.01	<3	.69	.01	.06	<2	1	20
BID8-02-45	1	16	19	64	.6	18	9	720	3.11	10	<8	<2	4	21	<.2	<3	<3	16	.41	.086	23	9	.27	194	.01	<3	.94	.01	.10	<2	3	15
BID8-02-46	1	12	20	45	.4	11	6	386	1.88	7	<8	<2	<2	22	<.2	<3	<3	17	.46	.102	26	9	.26	122	.01	<3	.81	.02	.05	<2	1	10
BID8-02-47	12	81	466	1221	.7	40	26	2086	6.52	36	<8	<2	10	11	3.5	<3	3	38	.22	.104	42	20	.78	174	.08	<3	1.80	.01	.14	<2	1	110
BID8-02-48	3	19	48	124	<.3	12	13	1636	3.30	12	<8	<2	<2	19	.7	<3	<3	47	.26	.091	19	15	.41	261	.06	<3	.95	.01	.15	<2	<1	30
BID8-02-49	2	16	59	96	.8	15	9	504	3.05	18	<8	<2	3	22	.3	<3	<3	27	.34	.087	34	15	.43	194	.02	<3	1.13	.01	.08	<2	7	30
BID8-02-50	1	11	27	87	<.3	13	8	459	3.54	9	<8	<2	11	20	.3	<3	3	22	.35	.073	52	12	.72	237	.10	<3	1.58	.01	.23	<2	1	30
STANDARD C3/AU-S	25	64	32	154	6.0	36	12	738	3.27	56	25	<2	21	28	23.6	23	27	78	.52	.092	16	161	.60	151	.08	20	1.89	.04	.17	20	54	845
STANDARD G-2	1	3	<3	39	.4	8	4	490	1.86	<2	<8	<2	5	70	<.2	<3	<3	39	.58	.095	5	71	.57	226	.12	5	.96	.07	.48	4	<1	<10

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data___ FA ___

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	Hg ppb
BID8-02-51	1	8	13	91	<.3	11	8	497	4.11	6	<8	<2	10	27	.3	6	<3	46	.55	.108	58	11	1.25	316	.19	<3	1.96	.01	.45	<2	<1	15
BID8-03-01	6	20	28	58	<.3	19	8	1412	4.87	10	<8	<2	8	18	.5	<3	<3	31	.34	.072	26	14	.31	180	.02	<3	.94	.02	.04	<2	1	30
BID8-03-02	14	47	45	125	<.3	52	18	1728	4.49	29	<8	<2	5	21	1.0	3	<3	27	1.15	.187	27	8	.18	293	<.01	<3	.66	.01	.06	<2	1	75
BID8-03-03	23	36	627	939	.9	85	23	1515	4.59	246	<8	<2	16	16	5.9	6	<3	29	.46	.140	52	12	.26	176	<.01	<3	.92	<.01	.06	<2	1	60
BID8-03-04	16	191	262	1621	<.3	88	26	1826	5.65	212	<8	<2	18	11	7.6	8	<3	55	.27	.111	47	15	.48	112	.01	<3	.89	.01	.04	<2	3	100
BID8-03-05	4	33	21	53	<.3	35	7	401	2.15	13	<8	<2	3	14	.2	3	<3	37	.25	.084	11	14	.44	91	.01	<3	.94	.02	.01	<2	<1	20
BID8-03-06	4	9	50	88	.3	31	6	529	2.28	22	<8	<2	3	12	<.2	3	<3	63	.29	.175	17	23	1.04	95	.01	<3	1.40	<.01	.03	<2	1	60
BID8-03-07	2	12	31	119	<.3	34	8	759	2.84	19	<8	<2	3	10	.6	5	<3	65	.26	.146	20	24	1.07	90	.01	<3	1.68	<.01	.04	2	2	25
BID8-03-08	4	40	27	230	<.3	26	22	838	5.86	18	<8	<2	3	14	1.2	7	<3	34	.39	.072	25	14	.75	96	.03	<3	1.18	.01	.02	<2	4	25
BID8-03-09	19	50	39	412	<.3	45	27	1218	10.62	33	<8	<2	5	9	.9	<3	30	49	.44	.129	79	21	.90	219	.01	<3	1.42	.01	.04	<2	35	75
BID8-03-10	10	53	41	379	<.3	40	33	2206	13.09	20	<8	<2	7	11	.9	<3	<3	40	.58	.068	52	21	1.67	396	.01	<3	1.67	.01	.08	<2	14	100
BID8-03-11	9	88	222	990	<.3	55	39	2848	17.57	92	<8	<2	7	13	2.5	<3	27	46	.73	.120	104	24	.84	906	.01	<3	1.32	.01	.11	<2	23	145
RE BID8-03-11	8	91	229	1023	<.3	56	41	2947	17.73	97	<8	<2	7	13	3.0	<3	30	46	.75	.124	107	24	.87	929	.01	<3	1.36	.01	.10	<2	15	125
BID8-03-12	12	82	105	643	<.3	49	26	3646	12.31	49	<8	<2	10	17	2.8	<3	<3	44	1.71	.104	54	39	1.86	289	.04	<3	1.37	.01	.08	<2	7	35
BID8-03-13	5	13	54	98	<.3	17	6	813	2.37	14	<8	<2	<2	7	.5	<3	<3	30	.11	.126	21	13	.11	69	<.01	<3	.66	.01	.03	<2	6	30
BID8-03-14	2	10	65	95	<.3	11	6	1251	3.99	6	<8	<2	12	11	.6	<3	<3	18	.47	.058	60	20	.48	123	.01	<3	1.05	<.01	.04	<2	3	25
BID8-03-15	1	11	18	44	.3	14	7	485	3.24	8	<8	<2	9	8	.3	3	<3	27	.13	.048	40	26	.69	127	.02	<3	1.44	.01	.04	<2	1	10
BID8-03-16	2	8	162	177	.8	7	5	1003	3.32	16	<8	<2	16	12	.7	<3	<3	12	.34	.047	38	8	.81	946	<.01	<3	1.58	<.01	.03	<2	1	25
BID8-03-17	10	18	1086	1498	2.9	4	6	4469	5.05	2042	<8	<2	25	22	9.1	15	<3	7	.22	.035	35	4	.47	234	<.01	<3	.78	<.01	.08	<2	44	20
BID8-03-18	6	4	35	57	<.3	3	6	1113	5.31	11	<8	<2	26	6	.5	4	<3	7	.27	.066	52	4	1.72	125	<.01	<3	2.07	<.01	.04	2	1	30
BID8-03-19	3	5	15	29	.3	4	5	766	4.74	7	<8	<2	17	13	.3	6	<3	9	.33	.071	46	6	.54	255	.01	<3	1.37	<.01	.13	<2	1	10
BID8-03-21	6	37	23	32	<.3	4	3	714	3.68	15	<8	<2	22	9	.3	<3	<3	6	.26	.029	64	6	.47	189	.01	<3	1.21	<.01	.18	<2	2	20
BID8-03-22	8	5	26	47	<.3	3	3	1648	4.59	8	<8	<2	26	9	.5	<3	<3	5	.23	.025	63	3	.39	265	.02	<3	.92	<.01	.23	<2	1	<10
BID8-03-23	4	14	28	43	<.3	4	3	1352	3.82	9	<8	<2	25	10	.2	<3	<3	15	.21	.036	77	4	.20	175	.02	<3	.81	<.01	.18	<2	1	15
BID8-03-24	4	7	8	32	<.3	8	5	831	3.64	8	<8	<2	14	14	.3	<3	<3	18	.27	.059	42	16	.35	290	.03	<3	1.05	.01	.24	<2	1	15
BID8-03-25	5	70	915	449	2.3	6	6	1515	3.75	28	<8	<2	16	14	1.0	4	<3	13	.23	.045	40	7	.18	663	.01	<3	.83	<.01	.16	<2	1	30
BID8-03-26	7	10	12	30	<.3	6	6	929	3.87	7	<8	<2	18	14	.3	3	<3	17	.22	.070	44	8	.35	222	.06	<3	1.09	.01	.27	<2	1	25
BID8-03-27	4	9	9	33	<.3	3	3	1012	3.38	12	<8	<2	17	10	.2	<3	<3	10	.14	.035	64	4	.18	220	.03	<3	.87	.01	.19	<2	1	20
BID8-03-28	3	6	11	31	<.3	6	5	829	4.00	9	<8	<2	18	11	.4	<3	<3	13	.24	.049	59	7	.35	207	.06	<3	1.01	<.01	.28	<2	<1	10
BID8-03-29	3	9	8	41	<.3	7	4	767	3.25	9	<8	<2	7	7	.2	<3	<3	25	.09	.036	41	11	.19	128	.03	<3	.94	.01	.12	<2	1	10
BID8-03-30	3	9	10	37	<.3	9	10	1265	4.37	15	<8	<2	6	10	.3	3	<3	21	.21	.105	75	10	.19	276	.01	<3	1.04	<.01	.14	<2	1	35
BID8-03-31	3	11	13	39	.3	9	5	976	3.75	11	<8	<2	13	10	.3	3	4	19	.23	.050	55	11	.29	234	.04	<3	1.03	.01	.20	<2	1	10
BID8-03-32	8	47	16	161	<.3	19	12	3615	6.26	11	<8	<2	29	14	1.0	<3	<3	13	.25	.049	90	9	.23	393	.01	<3	1.75	<.01	.08	<2	3	45
BID8-03-33	6	34	166	276	.5	19	10	2668	6.08	17	<8	<2	11	7	.9	<3	3	28	.06	.073	74	17	.30	190	.02	<3	1.24	.01	.11	<2	3	75
BID8-03-34	9	25	144	174	<.3	12	8	2515	7.41	15	<8	<2	20	8	1.0	3	9	16	.14	.064	120	11	.26	293	.01	<3	.75	<.01	.15	<2	2	40
STANDARD C3/AU-S	25	63	33	155	5.7	35	12	735	3.25	56	23	<2	22	28	23.6	23	22	79	.52	.090	16	160	.61	148	.08	20	1.87	.03	.17	20	49	890
STANDARD G-2	1	3	<3	39	<.3	8	4	487	1.85	<2	<8	<2	5	70	<.2	<3	<3	39	.57	.092	6	70	.57	223	.12	<3	.95	.07	.48	2	<1	<10

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data___ FA ___

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	Hg ppb
BID8-03-35	11	20	51	135	<.3	13	9	2245	7.33	20	<8	<2	22	6	1.1	<3	20	16	.14	.084	77	8	.29	208	.01	<3	.59	<.01	.13	<2	2	50
BID8-03-36	2	12	11	34	<.3	5	3	601	1.96	8	<8	<2	6	8	<.2	<3	<3	18	.12	.066	37	5	.12	86	.02	<3	.64	.02	.06	<2	2	20
BID8-03-37	8	23	103	203	.4	24	10	1817	6.13	21	<8	<2	17	8	.8	<3	4	25	.21	.073	73	14	.29	216	.02	<3	.75	<.01	.08	<2	3	25
BID8-03-38	6	22	70	194	.5	21	11	2323	6.46	24	<8	<2	16	11	.8	<3	3	29	.20	.065	55	18	.37	261	.03	<3	.87	<.01	.09	<2	4	35
RE BID8-03-38	6	24	68	196	.8	22	10	2317	6.49	24	<8	<2	17	11	.9	4	<3	30	.20	.065	55	18	.38	261	.04	<3	.88	.01	.09	<2	4	35
BID8-03-39	9	28	241	305	.6	16	12	3380	7.12	61	<8	<2	19	10	1.8	8	7	16	.20	.086	70	13	.24	212	.01	<3	.54	<.01	.10	<2	7	45
BID8-03-40	5	35	59	301	.3	4	6	2572	5.54	34	<8	<2	19	9	1.9	7	4	7	.23	.044	67	3	.12	347	.01	<3	.56	<.01	.18	<2	5	<10
BID8-03-41	9	79	313	1770	.7	8	10	2971	6.15	28	<8	<2	20	11	5.0	6	6	10	.26	.050	71	5	.13	273	.01	<3	.49	<.01	.11	<2	8	305
BID8-03-43	6	58	163	218	<.3	6	7	3212	8.65	42	<8	<2	10	14	1.3	<3	<3	9	.32	.057	39	4	.18	317	.01	<3	.69	.01	.08	<2	6	20
BID8-03-44	13	17	75	316	<.3	7	9	2076	5.48	18	<8	<2	14	16	2.0	<3	<3	14	.46	.068	62	6	.23	544	.02	<3	.82	<.01	.18	<2	2	30
BID8-03-45	9	22	112	461	<.3	7	7	2909	5.83	13	<8	<2	12	13	3.7	3	<3	11	.33	.068	35	3	.14	336	.02	<3	.51	.02	.08	<2	3	25
STANDARD C3/AU-S	24	63	33	159	5.5	36	11	721	3.21	55	14	<2	23	28	23.1	18	25	78	.54	.089	17	161	.59	146	.09	20	1.91	.04	.18	18	51	895
STANDARD G-2	1	4	<3	40	<.3	8	4	478	1.82	2	14	<2	6	69	<.2	<3	<3	39	.58	.091	6	71	.56	215	.12	<3	.93	.07	.46	2	1	<10

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data___ FA ___

APPENDIX II

STATEMENT OF EXPENDITURES

Statement of Expenditures

Mamu Project (Bid Claims) 1998

Field-work: July 1 - August 31, 1998

Geology	
Geologist: 1 day @ $300/man day	$ 300.00
Geological Assistant: 1 day @ $250.00/man day	$ 250.00
Geochemistry	
Sampling Crew: 3 man days @ $200.00/man day	$ 600.00
146 samples: @ $13.90/sample	$2029.40
Transportation	
Helicopter: 1.2 hours @ $725.00/hr	$ 990.00
Camp (all costs)	
Pro-rated costs: 5 man days @ $200.00/day	$1000.00
Reporting:	$ 800.00
	$5969.40

APPENDIX III

GEOLOGIST'S CERTIFICATES

OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

I, Peter M. Holbek with a business address of 1550 - 409 Granville Street, Vancouver, British Columbia, V6C 1T2, do hereby certify that:

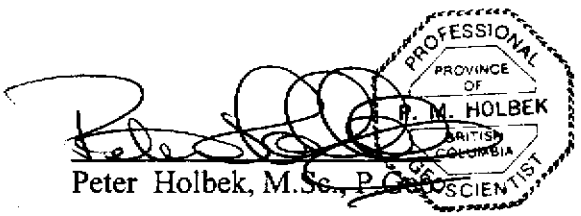
1. I am a professional geologist registered under the Professional Engineers and Geoscientists Act of the Province of British Columbia and a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.

2. I am a graduate of The University of British Columbia with a B.Sc. in geology 1980 and an M.Sc. in geology, 1988.

3. I have practiced my profession continuously since 1980.

4. I am Vice President of Atna Resources having a business address as given above.

5. I supervised the work program conducted on the Mamu Property (Mat Claims) as described in this report.



Peter Holbek, M.Sc., P.Geo.

CERTIFICATE OF QUALIFICATIONS

I, Robert G. Wilson, of 3328 West 15th Ave. Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

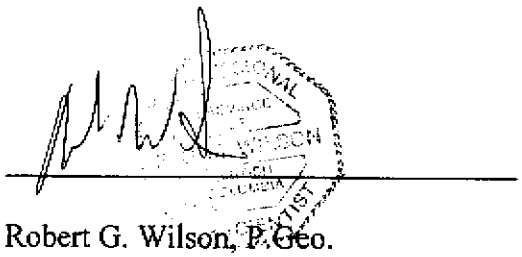
1. THAT I am employed by Atna Resources Ltd. of 1550 - 409 Granville St., Vancouver B.C.

2. THAT I am a graduate of the University of British Columbia with a Bachelor of Science degree in Geology.

3. THAT I am a Professional Geoscientist registered in good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

4. THAT this report is based in part on property work I directly supervised between June 1 and September 3, 1998.

DATED at Vancouver, British Columbia, this 29th day of March, 1999.



Robert G. Wilson, P.Geo.

621000 mE

622000 mE

623000 mE

624000 mE

6835000 mN

6834000 mN

6833000 mN

Claim Boundary

6000

5500

BID8-03-45
BID8-03-44
BID8-03-43
BID8-03-41
BID8-03-40
BID8-03-39
BID8-03-38
BID8-03-37
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BID8-01-01

LEGEND

BID8-03-06 Soil Sample Number

Tree Line

Contour Interval : 100'

093977

Dwg (4)

ATNA RESOURCES LTD.

NTS: 105F/10	**Mamu Property Bid Claims Contour Soils Sample Numbers**
Date:10/2/1999	
Author: RGW	
Office: VAN, B.C.	
Drawing: 3.1	
Scale: 1:5000	Projection: UTM Zone 8 (NAD 27 for Canada)

0 75 150 300

metres

622000 mE

623000 mE

624000 mE

Edge of Mapping

6835000 mN

6834000 mN

6833000 mN

30 / 125

065 / 20

22 / 088

Zn

065 / 42

6000

5500

Claim Boundary

LEGEND

- Monzonite
- Syenite
- Intercalated Intermediate to Mafic Tuff and Argillite
- Intermediate to Mafic Tuff
- Argillite

093977

- Outcrop or Subcrop Area
- Gossan Area
- Zn — Showing
- 065 / 42 — Bedding
- 20 — Foliation
- Bid8-03-07 — Soil Sample Location

093977

DWG (5)

ATNA RESOURCES LTD.

NTS: 105F/10	**MAMU PROPERTY Bid Claims**
Date:22/3/1999	
Author: RGW	**Geology & Sample Locations**
Office: Van. B.C.	
Drawing: 2.3	
Scale: 1:5000	Projection: UTM Zone 8 (NAD 27 for Canada)

0 75 150 300

metres