1997 PROJECT REPORT

on the

MONEY PROPERTY

YUKON TERRITORY
NTS 105H/5 & 105G/8
61°25'N 130°00'W

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

Rob G. Wilson, P.Geo.
Peter Holbek, P.Geo.
February 1, 1998

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RESOURCES LTD.

This report has been examined by
the Geological Evaluation Unit
under Section 55 (9) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of $ 600.00.

M. Burke

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

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SUMMARY

The Finlayson Lake Belt of south-eastern Yukon is host to several recently discovered polymetallic massive sulphide deposits including Kudz Ze Kayah (1994), Wolverine (1995), Fyre (1996) and Ice (1996). Following discovery of the Wolverine, Atna Resources Ltd. secured an option on the adjacent Money property owned by YGC Resources Ltd.

The Money property, located 150 km northwest of Watson Lake, is composed of 52 claims. The property is underlain by rocks of Slide Mountain Terrane thrust over Yukon Tanana Terrane. Previous work on the property explored the near surface environment including two Cu-Ag-Au bearing showings. The nature and setting of the sulphide showings suggests that the mineralization is of Cyprus-type affiliation.

The 1997 field program was designed to test for massive sulphides at depth and consisted of 15 km of grid re-establishment, geological mapping at 1:5000 scale, and 15 line km of 3D Geo-electric geophysical surveying. Targets identified for follow-up were tested by four NQ diamond drill holes for 827.8 metres (2716 feet). The drilling was successful in explaining all 3D Geoelectric and historical HLEM geophysical anomalies tested, but did not encounter sulphides of economic grades and widths. Since all other geophysical targets are considered to be very weak anomalies, no secondary targets remain to be tested on the grid.

It is concluded that those targets having the potential of hosting an economic sized massive sulphide deposit have been tested without success and that no further work is warranted on the Money claims under the current option terms. It is therefore recommended that the option be terminated or re-negotiated.

1 INTRODUCTION

This report details work completed on the Money property during 1997 and is the fourth report by Atna Resources or it's contractors.

1.1 LOCATION AND ACCESS

The Money property is located in the southeastern Yukon 150 km northwest of Watson Lake and 17 km west of Frances Lake (Figure 1). Money claims are bounded to the southwest by the Puck property (Expatriate Resources, Westmin Resources and Atna Resources joint venture), and to the northeast by Cominco's Strike claims. The property is within the Watson Lake Mining District on NTS maps 105G/08 & 105H/05 with the claim's center at 61° 25'N 130°00'W. The property ranges in elevation from 1,100m in the southeast to 1,900m in the northwest, with treeline occurring at approximately 1,400m.

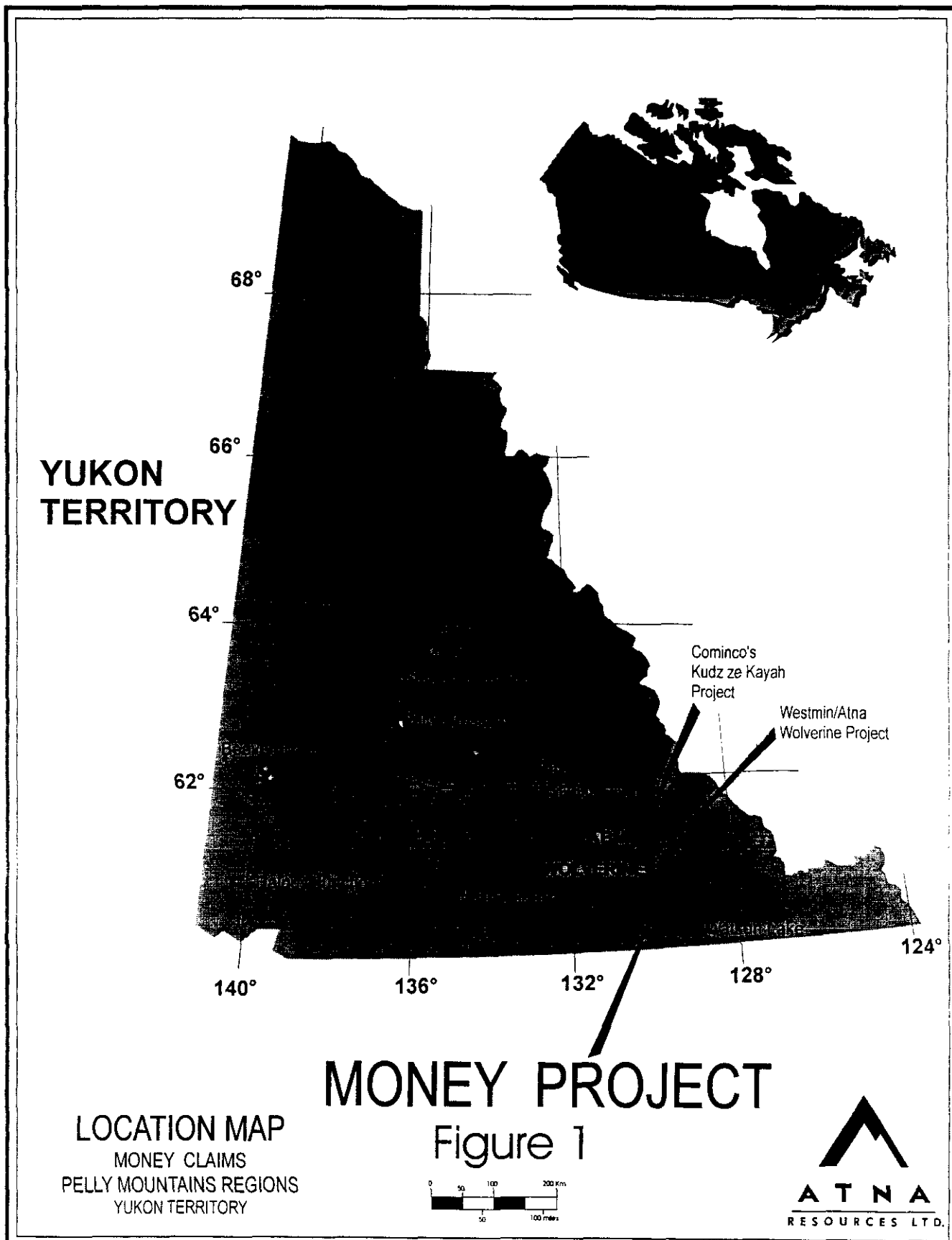
Access to the property is by helicopter with the nearest road being the Robert Campbell highway 11 km to the northeast. Nearest fixed wing access is the Wolverine airstrip 4 km west of the property. A Canadian Helicopters Bell 206 Jetranger on contract to Westmin Resources and stationed at Wolverine Lake was used for all programs carried out on the property. All crew accommodations were at Westmin and Atna's Wolverine camp.

1.2 CLAIMS

The Money property is comprised of the Money 1-52 claims under option to Atna Resources Ltd. from YGC Resources Ltd. (Figure 2). Claim post locations were accurately determined through a differentially corrected GPS survey (Appendix I). Six additional claims (Money 47 - 52) were staked in 1997 to close a gap in the claim block center. Table 1 lists the claims and relevant associated data.

Table 1: Claim Data

Claim Name	Record No.	No. of Claims	Expiry Date
Money 1-20	YB16726 - YB16745	20	March 20, 2001
Money 21 - 46	YB51926 - YB51951	26	August 31, 2002
Money 47 - 52	YB90521 - YB90526	6	September 11, 1998
	Total	52 Claims	


68°
66°
64°
62°
YUKON
TERRITORY
Cominco's
Kudz ze Kayah
Project
Westmin/Atna
Wolverine Project
140°
136°
132°
128°
124°
MONEY PROJECT
LOCATION MAP
MONEY CLAIMS
PELLY MOUNTAINS REGIONS
YUKON TERRITORY
Figure 1
ATNA
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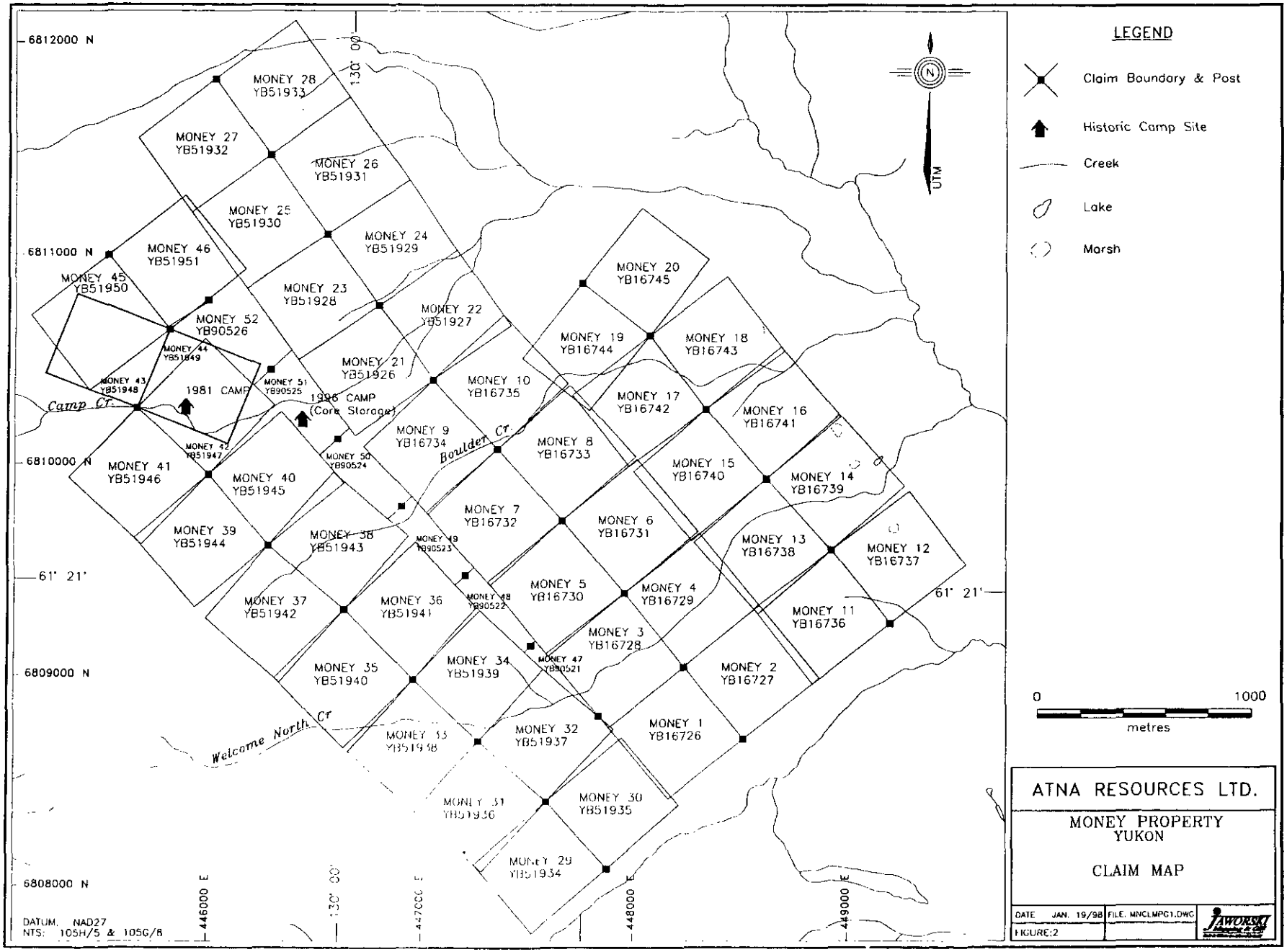
6812000 N
6811000 N
6810000 N
6809000 N
6808000 N
61° 21'
130° 00'
446000 E
447000 E
448000 E
449000 E
MONEY 28 YB51933
MONEY 27 YB51932
MONEY 26 YB51931
MONEY 25 YB51930
MONEY 24 YB51929
MONEY 23 YB51928
MONEY 22 YB51927
MONEY 21 YB51926
MONEY 20 YB16745
MONEY 19 YB16744
MONEY 18 YB16743
MONEY 17 YB16742
MONEY 16 YB16741
MONEY 15 YB16740
MONEY 14 YB16739
MONEY 13 YB16738
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MONEY 7 YB16732
MONEY 6 YB16731
MONEY 5 YB16730
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MONEY 3 YB16728
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MONEY 45 YB51950
MONEY 52 YB90526
MONEY 44 YB51949
MONEY 43 YB51948
MONEY 51 YB90525
MONEY 42 YB51947
MONEY 50 YB90524
MONEY 41 YB51946
MONEY 40 YB51945
MONEY 39 YB51944
MONEY 38 YB51943
MONEY 49 YB90523
MONEY 48 YB90522
MONEY 47 YB90521
MONEY 37 YB51942
MONEY 36 YB51941
MONEY 35 YB51940
MONEY 34 YB51939
MONEY 33 YB51938
MONEY 32 YB51937
MONEY 31 YB51936
MONEY 30 YB51935
MONEY 29 YB51934
1981 CAMP
1996 CAMP (Core Storage)
Camp Cr.
Boulder Cr.
Welcome North Cr
N
UTM
DATUM: NAD27
NTS: 105H/5 & 105G/8
LEGEND
Claim Boundary & Post
Historic Camp Site
Creek
Lake
Marsh
0
1000
metres
ATNA RESOURCES LTD.
MONEY PROPERTY
YUKON
CLAIM MAP
DATE JAN. 19/98
FILE: MNCLMPC1.DWG
FIGURE:2
JAWORSKI

1.3 HISTORY

The Money property has been worked by several different groups since discovery of massive sulphide mineralization within property creek drainages in the early 1980's. The following is a chronological history of previous exploration programs.

1980 Massive sulphides were discovered in Welcome North Creek by Welcome North Mines Ltd. prospector Pete Risby. The Julia 1-10 claims were staked by Welcome North Mines Ltd. and Esperanza Explorations Ltd. and the property was optioned to Arbor Resources Inc. Montgomery Consultants Ltd., on behalf of Arbor, carried out soil geochemical surveys and E.M. 16 geophysical surveys and staked additional claims.

1981 Arbor joint ventured the property with Esso Resources Canada Limited. Esso acted as operator and completed geological mapping, silt sampling, horizontal loop E.M. and magnetometer surveys and diamond drilled 3 holes totaling 329 m (1080 feet).

1990 YGC Resources Ltd. re-staked the lapsed Julia property as the Money 1-20 claims and completed geochemical sampling and prospecting.

1994 YGC Resources Ltd. staked the Money 21-46 claims and carried out brief field examinations and summary reporting.

1995 Atna Resources Ltd. optioned the property. Geological mapping, soil geochemistry, and hand trenching was completed for Atna by Paul Kallock. Horizontal Co-Planar Loop Electromagnetics (Max-Min) was surveyed over a portion of the property for Atna by Delta Geoscience Ltd.

1996 Geological mapping, prospecting, and rock sampling plus diamond drilling 681.5m (2236 feet) in 5 holes was completed by Equity Engineering Ltd. on behalf of Atna. An additional 2 holes totaling 284.1m (932 feet) were completed by Atna during a second phase of diamond drilling.

1.4 1997 EXPLORATION PROGRAM

The 1997 Money field program was completed in three phases. Phase one ran from July 31 to August 10, 1997 and consisted of grid re-establishment plus GPS surveying of line ends and baseline intersections, geological mapping, and Geo-electric geophysical surveying. Phase two, August 31 - September 11, 1997 involved ground truthing geophysical anomalies, additional geological mapping, GPS surveying of claim

post locations and staking six claims to close a gap within the claim block. Phase three was conducted from September 18 to October 6, 1997 and entailed diamond drilling 4 NQ holes for a total of 827.8 metres (2716 feet).

1.4.1 OBJECTIVES

The Money project was designed to explore for copper-zinc massive sulphide mineralization within a sequence of submarine mafic volcanics and related sediments. The nature and setting of the property geology and the sulphide showings discovered to-date suggest that the mineralization is of Cyprus-type affiliation. This deposit type typically forms funnel or champagne glass shaped deposits where much of the mineralization is not strataform, and deposits commonly consist of clusters of very small deposits rather than a single large deposit. Consequently, exploration for this type of deposit can be very difficult.

Conventional electromagnetic (EM) geophysical surveys are strongly affected by the shape and orientation of buried sulphide bodies and respond best to conductive material in large sheet-like bodies oriented perpendicular to survey lines. Cylindrical, spherical and other such shapes, particularly of mediocre conductivity and at various orientations are extremely difficult to detect with almost all EM methods. Surface exposure on the Money property is quite good and with the exception of talus slopes overburden is minimal, therefore any near surface sulphide body should be readily detectable by prospecting and soil geochemistry.

Soil surveys on the Money property do not indicate any sources of mineralization other than what is already known, therefore it is assumed that any new discoveries of potentially ore-grade mineralization would be at depth. In addition, mineralization on the Money property consists of both massive pyrite and zones of quartz-chlorite-pyrite alteration. The former might yield an EM response if in the right shape and orientation but the latter would not. Therefore, a three dimensional Geo-electrical survey was chosen as the best technique to evaluate the property.

Geo-electrical surveying, which is based on leading edge computing technology, provides full three dimensional resistivity and chargeability data to depths in excess of 300m. Massive sulphide mineralization would appear as resistivity lows possibly combined with chargeability highs, whereas quartz-chlorite-pyrite zones would appear as resistivity and chargeability highs. Orientation of any mineralized zones would not be a critical factor.

As the cost of this type of survey is high, the area it covers must be chosen with care. Mineralization exposed and known on the Money claims is located within a defined

band of stratigraphy, and in general appears to strengthen to the north. Consequently the 3-D Geo-electric survey was carried out over a 1 by 1.5 km area along the favourable stratigraphy on the northern end of the property.

1.4.2 SURVEYS

Geophysical surveying was by Premier Geophysics Inc. of Langley, B.C. and diamond drilling was completed by F. Boisvenu Diamond Drilling of Delta B.C. using a Hagby fly drill. All other surveys were by Atna personnel. Helicopter support was by Canadian Helicopters utilizing a Bell 206 Jetranger III. All personnel stayed at the Wolverine Lake camp operated by Westmin Resources.

Mapping (and geophysics) control was by a re-established 1995 grid, whose boundaries are lines 4300N and 5800N between 4500E and 5500E, Figure 3. The base line, L5000E, runs 320° and cross lines at 100 metre intervals are at 050°/230°. Both base-line and cross-lines are hard chained and slope corrected with picket marked stations at 50 metre intervals. Strong magnetics over portions of the grid affected compass readings and the cross-lines were installed by back-sighting to lessen line deflections. Control on actual grid placement was achieved by a differentially corrected GPS survey of line ends and base-line intersections (Appendix I).

Discrepancies in line locations were encountered between the new and old grid. The old grid lines vary between 0° to 5° and up to 10° off the new lines. Although the grid placement crew used the same grid coordinate system (hence different pickets have the same grid coordinate), both grids were slope corrected and the greatest lateral offset between the two sets of grid pickets is less than 25 metres.

Control for the actual grid line placement as well as claim post locations was established using a Differentially Corrected Global Positioning Survey (GPS). The hardware and software to complete this survey was made available to Atna courtesy Westmin Resources Ltd. Appendix I contains a discussion on GPS surveying and the calculated Universal Transverse Mercator (UTM) coordinates of the grid and claim post locations. Also included are the coordinates of several gossan showings and historical drill collars. The current drill collars could not be included as the survey equipment had been demobilized prior to drilling.

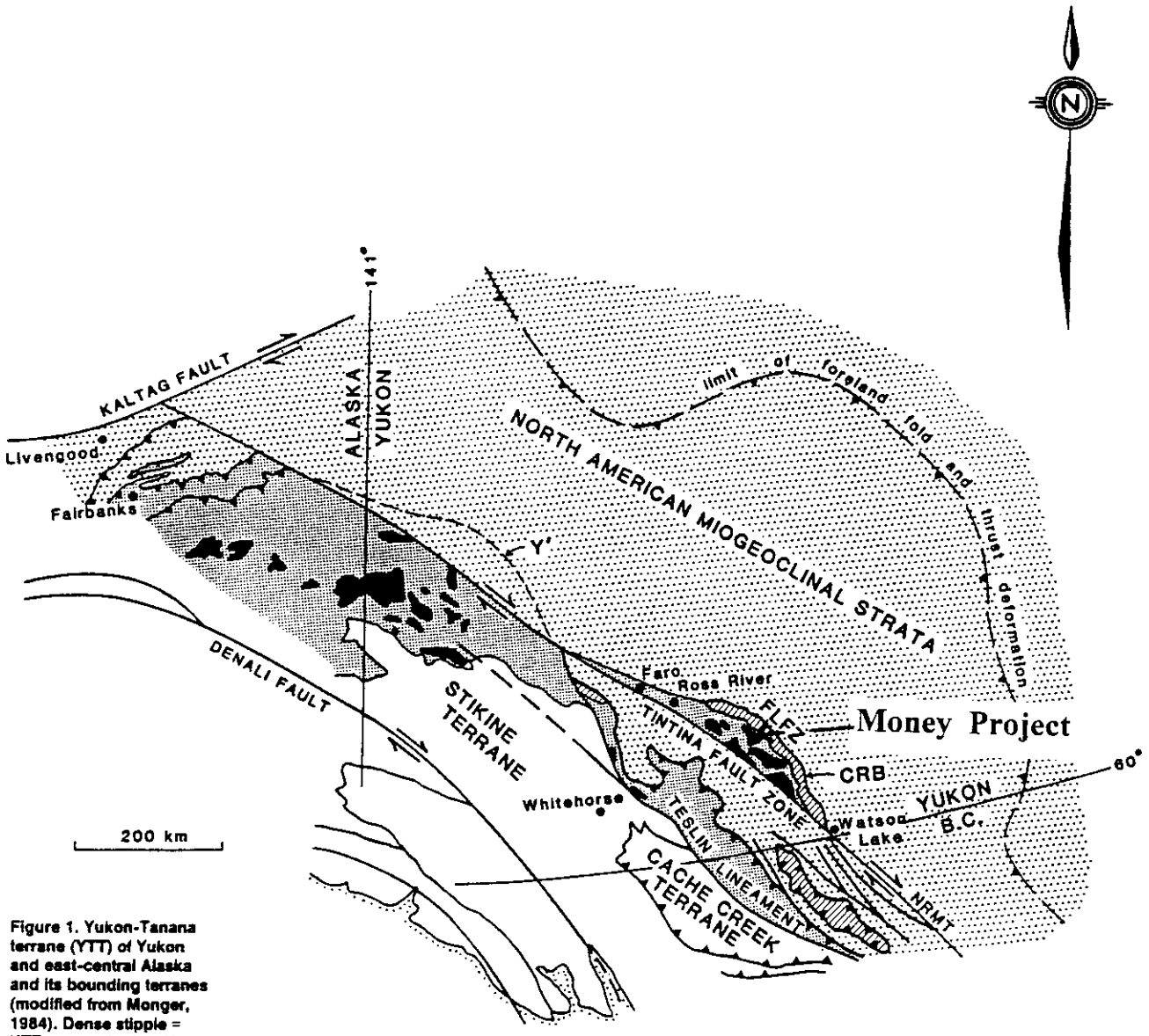

Figure 1. Yukon-Tanana terrane (YTT) of Yukon and east-central Alaska and its bounding terranes (modified from Monger, 1984). Dense stipple = YTT; open stipple = North American miogeoclinal strata; ruled pattern = Slide Mountain terrane; solid black = Mississippian orthogneisses. Map patterns in Alaska from Weber et al. (1985) and in British Columbia from Gabrielse (1985). FLFZ = Finlayson Lake fault zone; NRMT = Northern Rocky Mountain Trench; CRB = Campbell Range belt (see text). Study area is that part of YTT northeast of Tintina fault. Dashed outline at Y' shows position of study area relative to main body of YTT (but not to NACM) prior to main body being offset 450 km along Tintina fault system.

After: Mortensen, 1985

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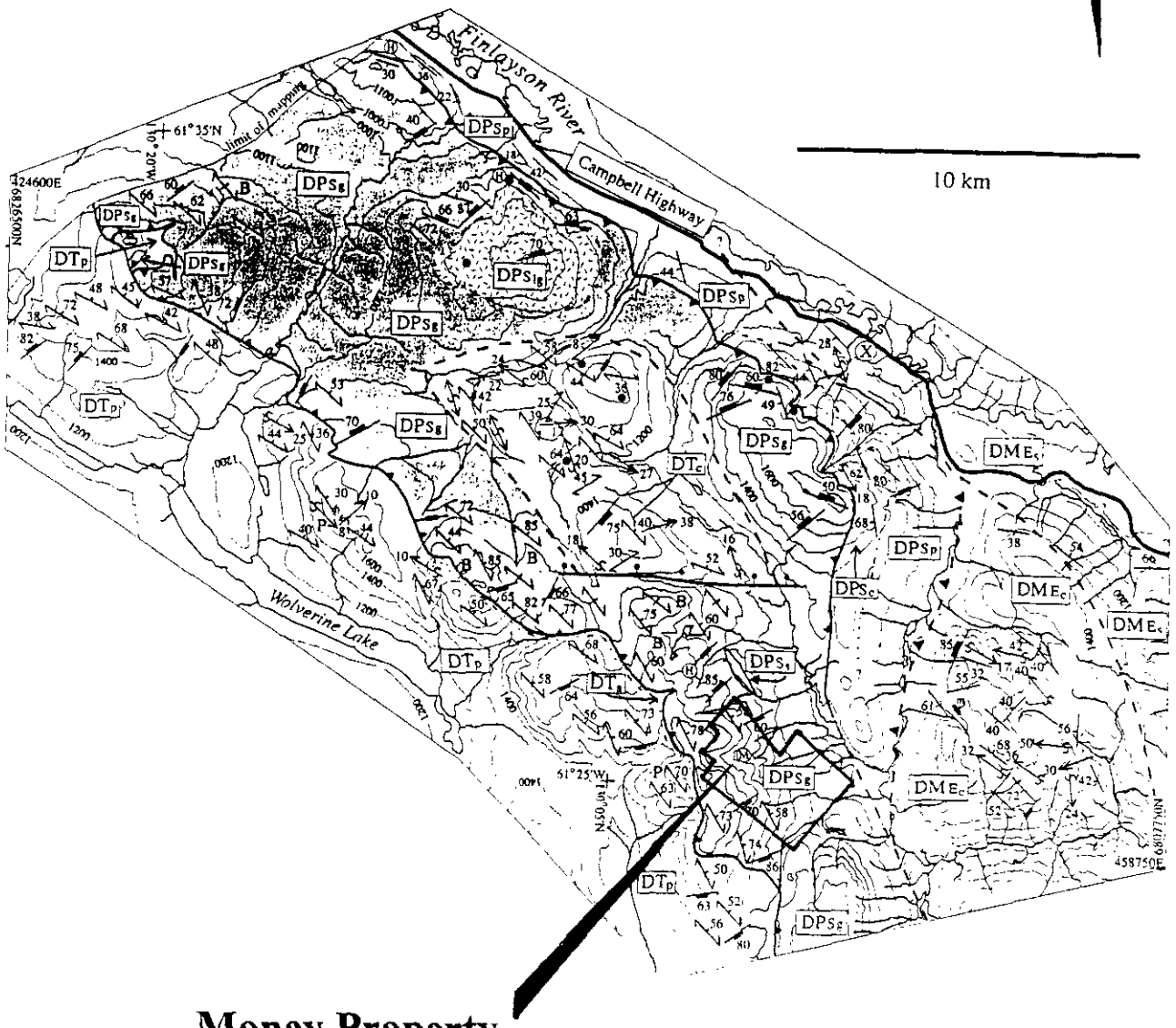
MONEY PROJECT

Terrane Locations

NTS Yukon			Date Nov. /97
Scale As Shown	DWG by		Figure 3



Money Property

After Plint & Gordon,
GSC Current Research 1996a.

ATNA RESOURCES LTD.

MONEY PROJECT

Regional Geology

NTS 105H/5 & 105G/8			Date Nov. /97
Scale As Shown	DWG by		Figure 4a

DEVONIAN-MISSISSIPPIAN
EARN GROUP?

DMEs — Sandstone, siltstone and shale: Well sorted, very fine-grained, sandstone, laminated siltstone and black, fissile

DMEc — Metachert and argillite: Grey, rusty, tan or white weathering, dark grey to black, massive to thinly bedded, radiolarian metachert with argillaceous partings or interbedded with argillite. Minor quartz-chert sandstone and chlorite phyllite.

DEVONIAN-PERMIAN
SLIDE MOUNTAIN TERRANE

DPSs — Serpentinite: green to black, magnetic, locally brecciated; massive, sugary textured to well foliated; locally contains grey metacarbonate and maroon metasiltstone.

DPSg — Greenstone: massive to foliated greenstone, greenstone and pillow breccia, heterolithic breccia, metasiltstone, metachert, metadiorite, metagabbro and metagreywacke.

DPSlg — Leucogabbro: plagioclase-pyroxene, coarse grained, ophitic gabbro, some fine grained and pegmatite phases and fine grained mafic enclaves.

DPSc — Metachert and metasiltstone/argillite: ribbon to massive, tan, yellow, or maroon weathering, tan, grey, maroon or green metachert, interbedded with metasiltstone/argillite; minor chert breccia and chert-quartz conglomerate.

DPSp — Metachert and phyllite: pink, orange, tan, white or green-grey metachert with argillaceous partings or with argillite or phyllite interbeds.

PRE-DEVONIAN - UPPER TRIASSIC?
YUKON-TANANA TERRANE

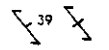
DTc — Metachert and slate: Grey, white and black laminated metachert interfoliated with black slate and siliceous metasiltstone; structurally interleaved with serpentinite, feldspar - hornblende porphyry, muscovite-chlorite-quartz phyllite and metacarbonate.

DTp — Actinolite-chlorite schist and phyllite, interfoliated with muscovite-quartz-chlorite phyllite, black slate, white quartzite (some with argillaceous partings) and minor grey, white and tan metachert.

DTa — Rusty brown or grey weathering, grey or grey-brown argillite (some phyllitic) and metasiltstone.

SYMBOLS

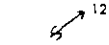
- ● — sub-map scale serpentinite bodies
- P — porphyry in unit DTp
- B — breccia in unit DPSg
- m — silty marble in unit DMEc
- Ⓗ — hydrothermal alteration zone
- Ⓧ — basalt outcrop in unit DMEs
- Ⓜ — Money sulphide showing



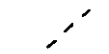
cleavage or schistosity: inclined, vertical

joint: inclined, vertical

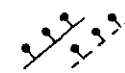
rodding

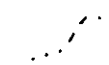


mesoscopic folds and crenulations

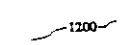

inferred fault (displacement unknown)


thrust fault: defined, inferred (symbol on upper plate)

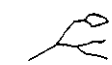

normal fault: defined, inferred (symbol on down-dropped block)


geological boundary, defined


geological boundary, approximate



elevation contour (c.i. = 100 m)


drainage

After Plint & Gordon,
GSC Current Research 1996a.

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MONEY PROJECT
Regional Geology
(Legend)

NTS Yukon			Date Nov. /97
Scale	DWG by		Figure 4b

2 GEOLOGY

2.1 REGIONAL GEOLOGY

The Money property lies within the Yukon Tanana and Slide Mountain Terranes of south-east Yukon. Regional mapping in the area has been completed by Tempelman-Kluit et al (1976), Mortensen (1985, 1992), and Plint and Gordon (1996). While this summary is derived mainly from these sources it is recognized that many other authors have contributed to the understanding (and in part added to the controversy) surrounding the region's geologic history.

The area which encompasses the claims is known as the Finlayson Lake Belt (FLB) and lies northeast of the Tintina fault and southwest of Finlayson Lake fault zone (Figure 3). The FLB, an elongate body consisting of Yukon Tanana and Slide Mountain Terranes, stretches from Ross River in the northwest to Watson Lake in the southeast. It adjoins North American miogeoclinal strata on the northeast and Pelly-Cassiar Platform rocks on the southwest. The FLB has had 450 km of southeastward relative displacement during Mid-Cretaceous to Tertiary time by movement along the dextral Tintina fault.

Considerable debate surrounds the tectonic evolution of these rocks with several authors redefining the nomenclature to suit their particular interpretation. The most commonly accepted theory is that Yukon Tanana Terrane (YTT) represents an assemblage of polydeformed metamorphic rocks originating from pre-Devonian to Upper Triassic igneous and sedimentary sources. Slide Mountain Terrane (SMT) is overthrust onto YTT and consists of Late Devonian to Late Triassic massive greenstone, mafic to ultramafic igneous, and related sedimentary rocks.

The YTT within the FLB is host to the Wolverine Deposit and is comprised of actinolite-chlorite schist and phyllites, muscovite-quartz-chlorite phyllite, slate, metachert, argillite, and metasiltstone, Figure 4a & 4b (Plint & Gordon, 1996). It has been interpreted to be a metamorphosed and tectonically disrupted suite of felsic submarine volcanics, intervolcanic pelites and cherts, and related intrusives.

Regional workers have mapped the area containing the Money property as SMT, an overlying sequence of ultramafics, greenstones, metacherts, argillites, metasiltstones and leucogabbro. They have interpreted the SMT to be an overthrust and dismembered ophiolite, the remnants of oceanic crust that separated YTT from North America. Local mappers working within the YTT on the nearby Wolverine deposit, however, have not identified a thrust contact and have suggested that rocks east of the Wolverine, including those on the Money property, are part of the YTT. The marked change in deformation styles between the YTT and the mapped SMT, however, suggests that the two are

different rock suites, with separate deformation histories. Whether the contact between them is a thrust or unconformity remains to be resolved.

2.2 PROPERTY GEOLOGY

Geological mapping was completed at 1:5000 scale between Camp Creek and the southern boundary of the geophysical grid, Figure 6. The work was completed to gain better control on a sedimentary break within the mafic volcanic pile that is interpreted to host the sulphides in Boulder and Welcome North Creeks. Additional geological information has been obtained from the current drilling and from examining the core from previous drilling.

2.2.1 LITHOLOGIES

The Money property is underlain by a thick mafic volcanic pile consisting of basaltic pillow lavas, pillow breccias, and massive flows(?) (greenstones). Minor (lapilli) tuffaceous sections (hyaloclastites?) are noted, but are still of a mafic composition. The rocks show two alteration styles including epidote-carbonate-chlorite, and very locally by sericite-chlorite-silica. They are light to dark green, and aphanitic to pyroxene-plagioclase(?) phyric (sills?). Pillow selveges consist of some combination of epidote, calcite, chlorite, hematite and jasper. Pillow breccia matrix is typically fine volcanic material with similar alteration minerals as the selveges. Angular blocks of calcite to 15 cm diameter are seen within the basalts along the western edge of the grid. They are weathered grey and are coarsely crystalline white on fresh surface.

Intercalated within the volcanic pile are thin beds of tuffaceous siltstones, mudstones, and exhalative(?) chert that mark at least two sedimentary breaks (periods of quiescence) in the volcanic sequence. One of the sedimentary beds situated in the south-west corner of the grid contains a jasper rich mudstone layer. The other sedimentary layer is seen only along valley walls in Boulder and Welcome North creeks, and is generally a recessive unit. It is characterized by a maroon, fine grained mudstone or siltstone, and hosts the massive sulphide showings in the creeks and in drill core. A detailed discussion of the geological section hosting the sulphides can be found in Baknes (1997).

The rocks are locally foliated, with the fragments or pillows distorted and aligned along the foliation direction. Foliation is sub-parallel to bedding as seen in sedimentary interbeds. Foliation / bedding measurements strike 150-165° and dip 40-60°E.

2.2.2 WHOLE ROCK GEOCHEMISTRY

A suite of nineteen drill core samples were chosen for whole rock geochemical analysis. Each sample consisted of four to five representative pieces of mafic volcanic collected over drilled lengths ranging between 6 and 30m. Samples were selected from sections that visually appeared to be the least-altered. Sample analysis was completed by Pioneer Laboratories of New Westminster. Analytical results are included within Appendix III.

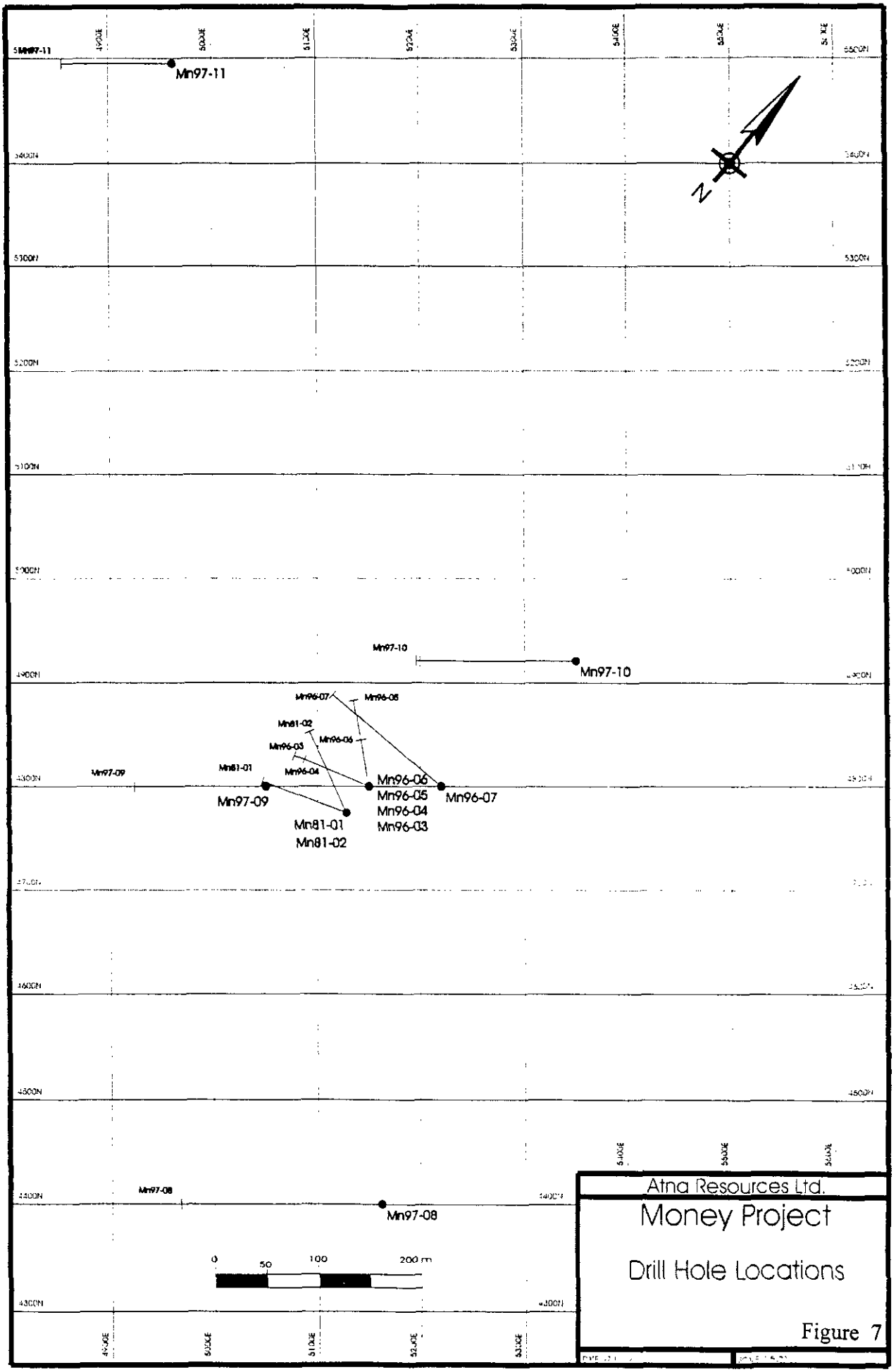
Plotting the whole rock results on a series of classification diagrams (Appendix V) leads to the conclusion that the mafic rocks on the Money property are sub-alkaline (tholeiitic) basalts.

2.2.3 MINERALIZATION

A Cyprus type deposit model best fits the setting found on the Money property. Cu-Zn ± Ag-Au mineralization is found in two showings of (siliceous) massive sulphides within sedimentary breaks in mafic (pillowed) volcanics. The sulphides may or may not be associated with stockwork zones.

Diamond drill hole Mon97-8 contains the only new massive sulphide mineralization discovered on the property in 1997. The hole is situated between Welcome North and Boulder Creeks and tested the strike extension of the sedimentary break which hosts the massive sulphides in Bolder Creek.. The drill hole intersected a narrow (0.7m) pyritic massive sulphide hosted by maroon pelites. The zone consists of 95% massive bedded pyrite with 15 to 20 cm tan-orange argillically altered host as hanging and footwall. No other mineralization is associated with this zone. Thirty-three metres further down hole a pyritic crackle or pseudo-breccia in mafic volcanic may be a stockwork zone, though it's relationship to the massive sulphides is unknown. Both intersections contain low grade Cu, Zn, ± Ag, Au with values to 0.17% Cu and 26.1 gpt Ag, 750 ppb Au in the massive sulphide and 0.4% Cu, 0.2% Zn and 4.6 gpt Ag in the stockwork(?) zone. A third intersection 96m below the pseudo-breccia consists of 0.9m pyritiferous tuff. The tuff is bedded, and contains a 10 cm siliceous massive sulphide section. The zone is hosted by pillow-breccia basalt with sharp contacts and contains 0.66% Cu, 0.17% Zn and 3.9 gpt Ag. This zone may be the down-dip extension of the upper sedimentary break. See Section 4.2.1: Mon97-8 for further descriptions of these intersections.

No new mineralized showings were discovered during mapping and only the one drill hole (described above) intersected massive sulphide mineralization. To date no showings have been found containing economic grades and widths of mineralization.


Mn97-11
Mn97-10
Mn97-09
Mn97-08
Mn96-07
Mn96-05
Mn81-02
Mn96-06
Mn96-03
Mn81-01
Mn96-04
Mn96-06
Mn96-05
Mn96-04
Mn96-03
Mn96-07
Mn81-01
Mn81-02
N
0
50
100
200 m
Atna Resources Ltd.
Money Project
Drill Hole Locations
Figure 7

3 GEOPHYSICS

Premier Geophysics Inc. of Langley B.C. was contracted to complete a 3D Geo-electric geophysics survey over the re-installed grid on the Money property. The survey covered an area 1.0 x 1.5 km, for a total of 15 line kilometers consisting of grid lines 4300N to 5800N from 4500E to 5500E.

A geophysical report authored by Greg Shore PGeo of Premier Geophysics detailing the procedures and results is included as Appendix II. Discussions on survey procedures, technical specifications, processing procedures, results presentations, and general interpretation plus viewing limitations are available within the geophysical report appendices.

As 3D Geo-electric survey is a relatively new mineral exploration tool, a short introduction is warranted.

3.1 3D GEO-ELECTRIC SURVEY

The following survey description is by Greg Shore PGeo:

> 3D Geo-electric survey is an advanced geophysical technique which measures conventional earth resistivity and induced polarization (IP). It is substantially more powerful than the 3D E-SCAN system, previously developed by Premier Geophysics.
>
> Data collection involves acquisition of a large, dense, multi-directional set of conventional pole-pole array resistivity and IP data. The data are collected using an automated switching apparatus which addresses an array of electrodes that are set out in advance over the entire grid. As each grid point in turn is employed for current injection, a selection of 20 to 30 other grid points is connected to the receiver, sequentially, to measure the earth response to the current input in the area surrounding the injection point.
>
> The pole-pole data set can be viewed directly as pseudo-depth plan plots; for the present report, the IP results are presented as apparent chargeability in pseudo-depth plan plots. The resistivity data are further processed by 3D inversion[1] to produce a true 3D earth

[1] Inversion: A computer block model that takes a (resistivity) data set and using an iterative process assigns and re-assigns (resistivity) values to each cell of a 3-dimensional array until the simplest real earth model which satisfies the observed data is obtained.

resistivity model. Unlike pseudosection or pseudo-depth plan plots, this 3D earth model presents an accurate spatial representation of the results in all three dimensions.

It follows from the above discussion that care must be exercised in establishing a fully slope corrected grid upon which to complete the survey. Errors in grid point placement will disrupt the linearity of the surveyed arrays. Also, the greater the control over actual node locations in the Z-direction, the more accurate the interpretation.

Included in the survey is a surrounding area of marginal data 200 metres wide. This zone has fewer data points and the interpreted data does not have as high a confidence level as the central data core. This is because the inversion process lacks outside constraining data points against which to refine the model. As a result, the survey area with maximum confidence was 600 x 1100 metres, although some cautious interpretation of the perimeter data has been made.

4 DIAMOND DRILLING

A four hole, 827.8 metre (2716 feet) NQ diamond drill commenced September 22 and was completed October 5, 1997 (Figure 7). Boisvenu Diamond Drilling completed the contract using a Hagby diamond drill which is easily transportable with a Bell 206 or Hughes 500 helicopter. The core is stored on the property at the 1996 camp site in Camp creek along with cores from 1996 drilling.

4.1 TARGETS

The drilling was focused on combined geological-geophysical targets primarily defined by results of previous drilling and the 3D Geo-electric survey. A proposed fifth hole to provide a second test of the massive sulphide zone defined by HLEM conductor "C" (Hendrickson, 1995) between drill hole Mon97-8 and Welcome North Creek was abandoned due to all water sources freezing solid under winter conditions.

The HLEM survey conductors are weak and therefore presented dubious stand alone drill targets. HLEM conductors E and E', however, occur along the strike continuation of a discontinuous tuffaceous jasper - siltstone sedimentary layer between Welcome North Creek and Boulder Creek, and constituted a possible but very low priority drill target.

4.2 RESULTS

Table 2 summarizes the significant results of each hole while Table 3 gives a drill hole summary. None of the holes intersected mineralization of either economic grades or widths. Split core sample results are presented within Appendix III.

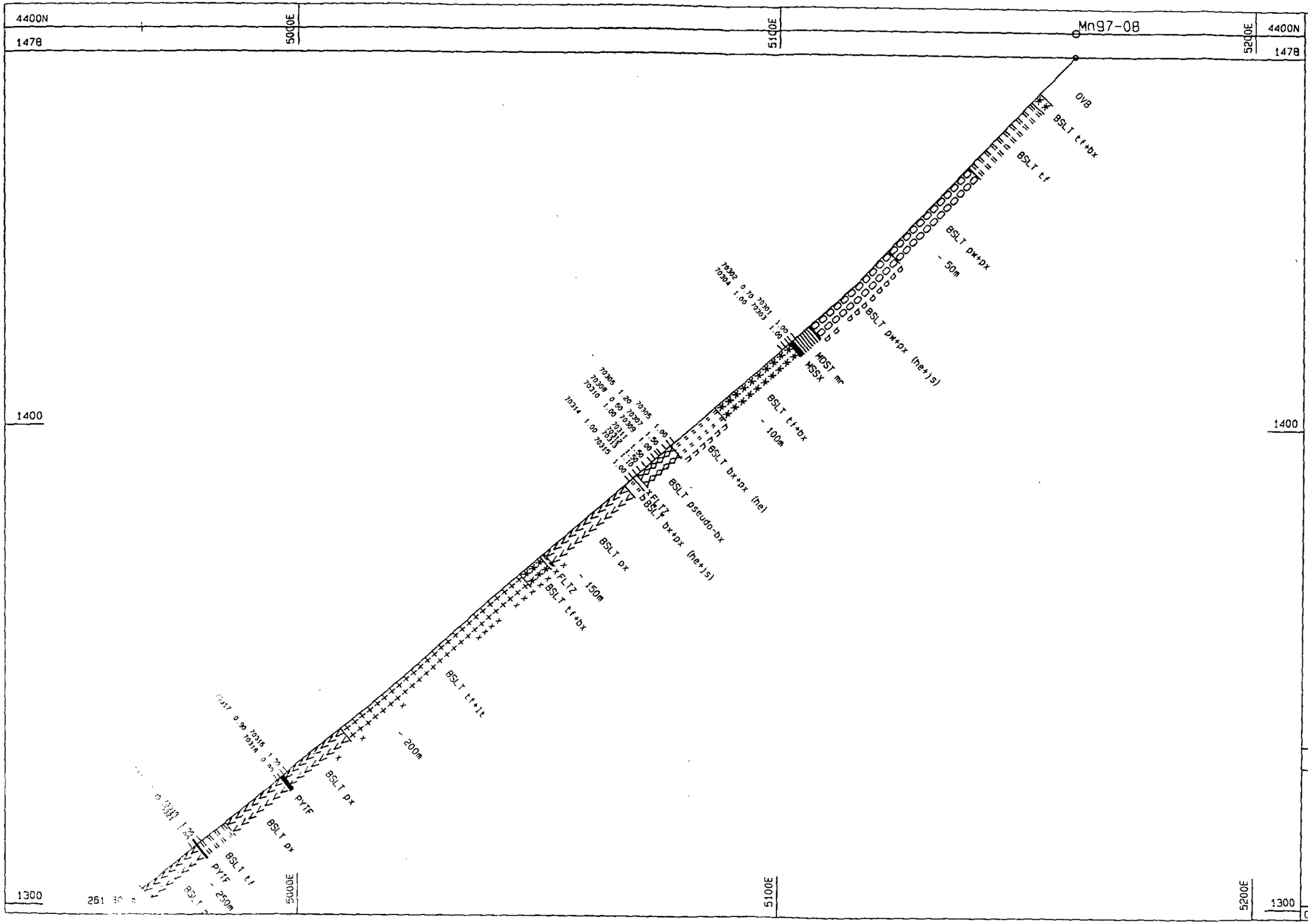
Drill sections are presented in page size format (Figures 7-14), and with added topographic and geophysical data (Figures 15-18). Sample locations of drill core collected for whole rock analysis are shown on Figures 19-22, and results of whole rock analysis are contained within Appendix III.

Table 2: Summary of Significant Intersections - 1996 Drilling

HOLE #	FROM	TO	WIDTH	Cu	Zn	Ag	Au
	meters	meters	meters	ppm	ppm	ppm	ppb
Mon97-8	84.5	85.2	0.7	1744	189	26.1	750
	85.2	86.2	1.0	690	1689	2.6	80
	86.2	87.2	1.0	3724	2109	0.3	8
	120.7	121.3	0.6	4425	1918	4.6	75
	122.3	123.3	1.0	707	1820	0.8	20
	224.0	224.9	0.9	6649	1688	3.9	70
Mon97-9	3.5	4.5	1.0	2644	167	0.3	3
	15.5	15.9	0.4	4862	144	0.3	3
	15.9	16.9	1.0	1044	120	0.3	2
	16.9	18.2	1.3	1319	150	0.3	5
	18.2	18.5	0.3	5759	156	0.3	5
	37.4	37.9	0.5	1345	805	0.8	22
Mon97-10	No	Significant	Results				
Mon97-11	83.6	84.6	1.0	450	1603	1.2	43

4.2.1 MON97-8

Diamond drill hole Mon97-8 tested Target A, a 200m long low-resistivity 3D Geo-electric zone which occurs from 4300 to 4500 N between 5000 and 5100 E (Figure 8a-c). An HLEM conductor "C" (Hendrickson, 1995) is central to the low resistivity zone. The drill hole was sited to coincide with the location of a very weak Dighem (Westmin survey of Wolverine property area) airborne EM anomaly. Target A is overburden covered but is interpreted to be underlain by a sedimentary break in the mafic volcanic pile exposed in both Boulder and Welcome North Creeks.



Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-bx)
- Basalt, pillow & pillow-breccia (pw+px)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf+bx)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+px)
- Basalt, pillow (pw)
- Basalt, pillow breccia (px)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MDST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- b b Hematite & Jasper (he+js)
- h h Hematite (he)
- s s Jasper (js)
- . . Malachite

Structure

- x x Tectonic Breccia

Figure 8a

Atna Resources Ltd.

Money Project

SECTION 4400N

Split Core ICP Results

Sample# & Sample Width

DATE: 97/11/10 | SCALE:

4400N
1478
5000E
5100E
Mn97-08
5200E
4400N
1478
1400
1400
1300
1300
5000E
5100E
5200E
OVB
BSLT tf+bx
BSLT tf
BSLT pw+bx
- 50m
BSLT pw+bx (he+is)
MDST mr
MSSX
BSLT tf+bx
- 100m
BSLT bx+bx (he)
BSLT pseudo-bx
FLTZ
BSLT bx+bx (he+is)
BSLT py
- 150m
BSLT tf+lt
- 200m
BSLT bx
PYTF
BSLT py
BSLT tf
PYTF
- 250m

Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-bx)
- Basalt, pillow & pillow-breccia (pw+bx)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf-bx)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+bx)
- Basalt, pillow (pw)
- Basalt, pillow breccia (bx)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MDST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- h h Hematite & Jasper (he+js)
- h h Hematite (he)
- j j Jasper (js)
- Malachite

Structure

- Tectonic Breccia

Figure 8b

Atna Resources Ltd.

Money Project

SECTION 4400N

Split Core ICP Results

Cu, Zn, Ag (ppm), Au (ppb)

DATE: 97/11/10 | SCALE:

Table 3: Money Project Drill Hole Summary

HOLE #	LOCATION	TARGET	RESULTS
Mon97-8	44+00N / 51+62E Az: 230° Dip: -50° Length: 261.8m	Target A: Combined 3D Geo-electric low resistivity zone and weak HLEM conductor (C) within the southern projection of the sedimentary horizon which hosts the Boulder Creek sulphide showing.	Three intersections contain elevated Cu-Zn ± Ag ± Au in semi-massive (>60% py) sulphide zones. They are associated respectively with 0.7m of massive sulphides within maroon pelites at a volcanic-sediment break; a 9.7 m pyritic pseudo-breccia (stockwork?) zone; and a 0.9m pyritic tuff. The pyritic pseudo-breccia together with a highly fractured (wet) lapilli tuff explain the low resistivity anomaly.
Mon97-9	48+00N / 50+50E Az: 230° Dip: -45° Length: 164.3m	Target D: Combined 3D Geo-electric low resistivity zone and Boulder Creek pyritic, siliceous gossan.	A narrow siliceous zone within fractured mafic volcanics containing malachite and azurite intersected at the top of hole is the downdip extension of the gossan. The hole contains anomalous Cu down to 19 m. Pyritic stringers in mafic volcanics explain the low resistivity anomaly.
Mon97-10	49+25N / 53+50E Az: 230° Dip: -55° Length: 234.4m	Target B: Combined 3D Geo-electric chargeability anomaly and northerly projection of Boulder Creek sulphide showing.	Hematitic mafic volcanics appear to cause the chargeability anomaly. No sulphides were seen at the volcanic / sediment contact. Samples returned only background values.
Mon97-11	54+95N / 49+62E Az: 230° Dip: -50° Length: 167.3m	Target C: Combined 3D Geo-electric low resistivity and weak chargeability anomaly and northerly projection of Camp Creek Gossan.	Highly fractured / faulted and pyritic mafic volcanics are the 3D Geo-electric anomaly sources. Only one sample returned slightly anomalous Zn results.

The drill hole encountered a series of basaltic pillow lavas, pillow breccias, crystal tuffs and crystal lapilli tuffs. Three sulphide intersections were encountered in the drill hole. The first intersection was a narrow (5m) sequence of maroon mudstones preceded a 0.7m massive sulphide (pyrite only) layer. The sediments and sulphides are thought to be related to the massive pyrite found in Boulder Creek. The sulphides are in fault contact with an underlying massive basalt which is tectonically brecciated at its upper contact. The contact consists of 15 cm of orangy-tan clay gouge. Analysis of split core samples from this zone returned values of 0.17% Cu and 26.1 gpt Ag, 750 ppb Au over 0.7m. Samples taken immediately below the zone in brecciated basalt returned 0.22% Cu and 0.19% Zn over 2m. These samples contained low silver and gold values.

The second intersection thirty-three metres further down hole is a 10m pyritic pseudo-breccia (alteration caused pyritic stockwork?). The zone is bleached and has gradational upper and lower contacts. The fragments are sericite altered, and pyrite occurs with silica as fragment rims. Copper and zinc results from split core samples are elevated throughout the zone with the best result of 0.4% Cu, 0.2% Zn, and 4.6 gpt Ag over 0.6m. It is unclear whether the zone is related to the above massive sulphides. This zone, along with a highly fractured lapilli tuff further down-hole are the apparent sources of the low resistivity zone defined by the 3D Geo-electric survey. The hole became a weak artesian well when the lapilli tuff was intersected.

The third intersection ninety-six metres below the pseudo-breccia is a 0.9 m pyritic (lapilli) tuff hosted in a basalt pillow breccia. The zone is siliceous and has sharp contacts. No stockwork zone is related to this intersection. Results from this intersection were 0.66% Cu, 0.17% Zn and 3.9 gpt Ag over 0.9m..

Analysis of split core rock geochemistry indicates that the three zones contain elevated Cu-Zn ± Ag ± Au. They occur over semi-massive (>40% py) sulphide zones associated respectively with massive sulphides within maroon pelites, a pyritic pseudo-breccia (stockwork?) zone, and a pyritic tuff. Other samples contained anomalous, but lower values of Cu, Zn, Ag, and Au. The mineralization corresponds well with results obtained from the various geophysical surveys. Since this drill section contained the best geophysical target, the potential for a thicker, higher grade zone further along strike is diminished.

4.2.2 MON97-9

Diamond drill hole Mon97-9 tested Target D, a low-resistivity 3D Geo-electric zone about 100m west of the Boulder Creek showings, and the down dip extension of the Boulder Creek siliceous gossan (Figure 9a-c). The drill hole cored basaltic pillow lavas, pillow breccia, lapilli tuffs and intercalated tuffaceous mudstone. The basaltic rocks are

4900E

5000E

5100E

4800N

Mn97-09

1450

1300

70323 0.50 70325 1.50 70322 1.20 70324 1.20 70326 0.50 70328 0.40 70331 0.30 70327 1.00 70329 1.00 70330 1.00 OVB BSLT pw+px BSLT tf+bx MOST 70335 1.00 70334 1.00 70333 0.50 BSLT tf (ls) BSLT pw+px - 50m BSLT pw BSLT pw+px 100m BSLT pw (5-20% py) BSLT pw+tf BSLT tf (5% py) BSLT pw+tf (5-10% py) BSLT tf 100m BSLT tf+lt 164.30 m Mn97-09

Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-bx)
- Basalt, pillow & pillow-breccia (pw+px)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf+bx)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+px)
- Basalt, pillow (pw)
- Basalt, pillow breccia (px)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MOST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- h h Hematite & Jasper (he+js)
- h h Hematite (he)
- s s Jasper (js)
- Malachite

Structure

- x x Tectonic Breccia

Figure 9a

Atna Resources Ltd.

Money Project

SECTION 4800N

Split Core ICP Results

Sample# & Sample Width

DATE: 97/11/09 | SCALE:

4900E

5000E

5100E

4800N

Mn97-09

1450

1300

OVB

BSLT pw+px

MSSV tf+bx

BSLT pw+px

BSLT tf (js)

BSLT pw+px

~ 50m

BSLT pw

~ 100m

BSLT pw+py

BSLT pw+tf

BSLT tf

BSLT pw+tf (5-10% py)

BSLT pw (5-20% py)

BSLT tf+lt

BSLT tf (5% py)

BSLT tf+lt

Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-px)
- Basalt, pillow & pillow-breccia (pw+px)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf+px)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+px)
- Basalt, pillow (pw)
- Basalt, pillow breccia (px)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MDST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- h h Hematite & Jasper (hem-js)
- h h Hematite (he)
- j s Jasper (js)
- Malachite

Structure

- x x Tectonic Breccia

Figure 9b

Atna Resources Ltd.

Money Project

SECTION 4800N

Split Core ICP Results

Cu, Zn, Ag (ppm), Au (ppb)

DATE: 97/11/10

SCALE:

moderately fractured and contain 5-15% pyritic stringers. These two features account for the low resistivity zone seen in the 3D Geo-electric survey.

Minor amounts of malachite and azurite are seen over the top 18.5m of the hole in pillow and pillow-breccia basalts. Except for a narrow quartz-chlorite-epidote vein, the rock is not silicified, and thus the source of the silicified gossan seen in talus is unexplained. It is possible that the hole was drilled sub-parallel to a siliceous feeder which was not intersected.

Analysis of core samples confirmed the presence of low grade copper at the top of the hole, with best results of 0.28% Cu over 3.0 m and no zinc, silver or gold. Samples elsewhere in the hole returned only anomalous levels of Cu and Zn, with background values of Ag and Au.

A rough geological interpretation has been made on figure 9c for drill holes 81-1 & 2 and 96-3 to 7. It should be noted, however, that drill hole azimuths from historical data do not agree with general field observations. Unfortunately, this was not discovered until after the field season when new drill plots were completed. Any future field programs should re-survey the collar directions to determine if historical collar azimuths are grid bearings or magnetic directions. The collar directions can be determined by anchor pipes which remain in place.

4.2.3 MON97-10

Diamond drill hole Mon97-10 tested Target B, a large, 3D Geo-electric chargeability zone. Situated beneath the cliffs north of Boulder Creek, this anomaly does not extend to surface (Figure 10a-c). Although the zone appears to be north plunging, the steep topography plus large-block boulder field forced the drilling to be oriented in a westerly direction and drilled across the zone but perpendicular to the stratigraphy.

The hole cored a thick sequence of (jasperoidal) pillow basalt and pillow breccia at the top of the hole. Below this is a hematitic tuffaceous mudstone and quartz vein, and then a sequence of interbedded hematized pillow basalts and pillow breccias, mudstones, and tuffs. This, in turn, passes into non-hematized pillow basalt and pillow breccia to the end of the hole.

As seen on Figure 10c, the down-dip projection of the maroon mudstone which hosts the massive sulphides in Boulder Creek coincides with the hematitic tuffaceous mudstone seen in drill core. A 2.5m quartz vein is seen at the position where the sulphides should occur. As the mudstone is strongly sheared, a preliminary interpretation is that any sulphides that were at this horizon have been faulted off.

4925N

1368

5200E

5300E

Mn97-10

OVB

BSLT pw+px

- 50m

PYTF

BSLT pw+px

- 100m

BSLT tf+bx

- 150m

BSLT pw+tf (he)

MDST (he-tf)

- 200m

BSLT pw+tf (he)

BSLT pw+px (he)

BSLT pw+px

BSLT tf+bx

BSLT

1300

1200

Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-bx)
- Basalt, pillow & pillow-breccia (pw+px)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf+bx)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+px)
- Basalt, pillow (pw)
- Basalt, pillow breccia (px)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MDST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- Hematite & Jasper (he-js)
- Hematite (he)
- Jasper (js)
- Malachite

Structure

- Tectonic Breccia

Figure 10a

Atna Resources Ltd.

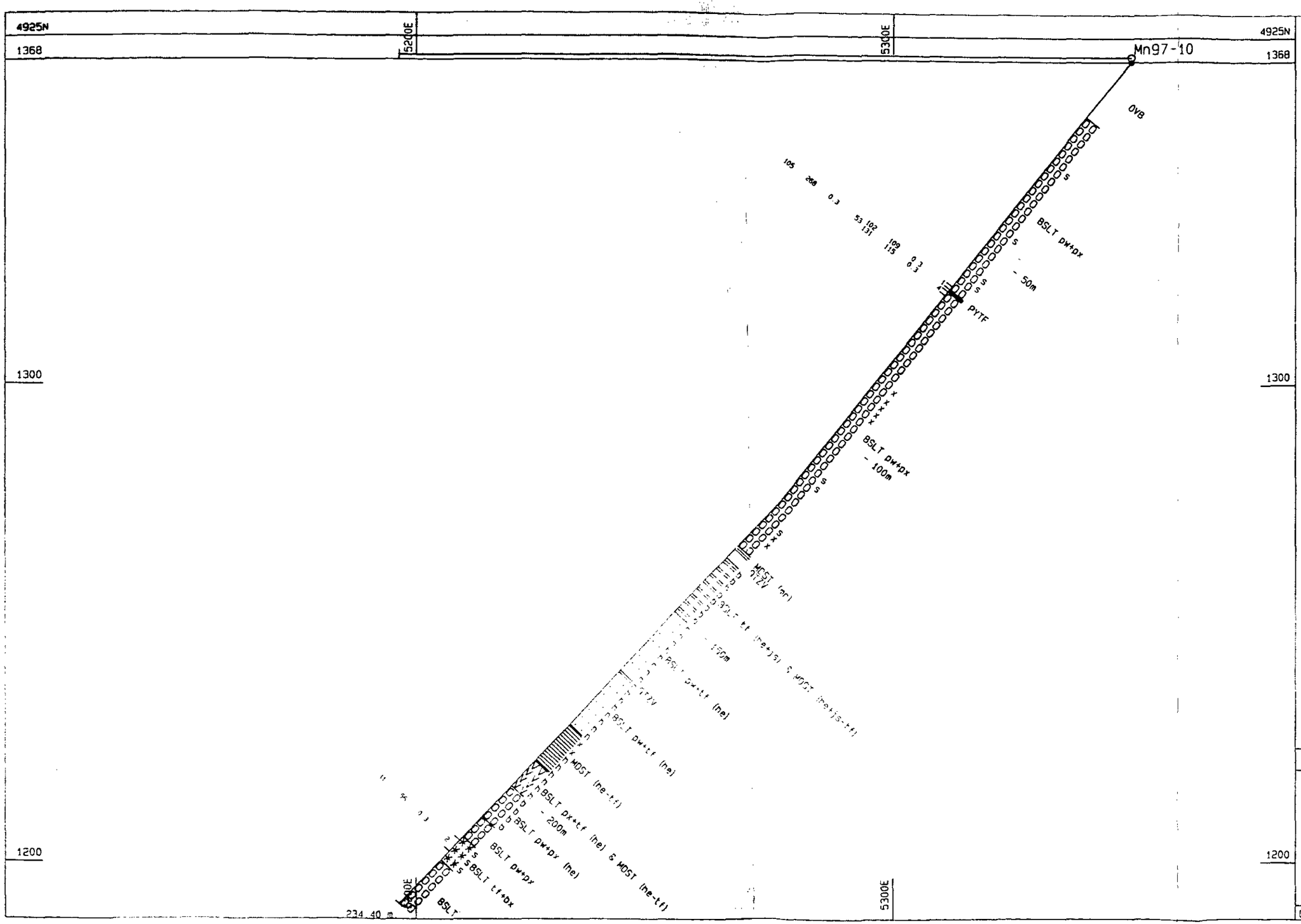
Money Project

SECTION 4925N

Split Core ICP Results

Sample# & Sample Width

DATE: 97/11/09 | SCALE:



Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-bx)
- Basalt, pillow & pillow-breccia (pw+px)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf+bx)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+px)
- Basalt, pillow (pw)
- Basalt, pillow breccia (px)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MOST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- b b Hematite & Jasper (he+js)
- h h Hematite (he)
- s s Jasper (js)
- . Malachite

Structure

- x x Tectonic Breccia

Figure 10b

Atna Resources Ltd.

Money Project

SECTION 4925N

Split Core ICP Results

Cu, Zn, Ag (ppm), Au (ppb)

DATE: 97/11/10 | SCALE:

The hematitic nature of the rocks is believed to be the cause of the chargeability anomaly. Examples of similar IP anomalies caused by hematized mafic volcanics are known within the Bathurst camp (J.W. Pickett, pers. comm.). The location of the hematized stratigraphy corresponds closely with the 3D Geo-electric positioning of the chargeability anomaly. Very minimal pyrite, and no economic sulphides were observed in drill core. Only background geochemical values were received for core samples submitted for analysis.

4.2.4 MON97-11

Diamond drill hole Mon97-11 tested Target C, a low resistivity and chargeability anomaly 100m north-northwest of the pyrite-quartz gossan in Camp Creek (Figure 11a-c). The drill hole surface projection is talus covered but the drill hole should have intersected a northerly strike projection of the gossan.

Basaltic pillows, pillow breccias, and massive basalt with minor mafic tuffs were encountered over the entire hole. Much of this hole is a tectonic breccia with considerable clay gouge, and minor disseminated and stringer pyrite. These two features are the cause of the resistivity low and chargeability anomalies.

Other than disseminated pyrite, no other sulphides were noted in core. Split core samples returned a single anomalous value of 1603 ppm Zn over 1.0 m. All other results were at background levels.

5 DISCUSSION

The geological mapping, together with geophysical data, suggests that the Boulder Creek and Welcome North Creek sulphide showings lie along the same maroon pelitic horizon at a hiatus in mafic submarine volcanism. Pyrite-chalcopyrite (sphalerite) mineralogy typifies the best showings, (Cyprus or Beshi(?) type affiliation). If an economic deposit occurs between the two creeks, a significant HLEM or IP geophysical anomaly would be expected. A weak HLEM anomaly and low resistivity 3D Geo-electric zone characterize the recessive trend, outcrops of which are only seen in the two creeks. The 0.7 m massive sulphide zone within maroon sediments intersected in Mon97-8 appears to be the southerly strike extension of the Boulder Creek sulphide showing. This same zone is thought to be the northerly strike of the sulphide showing in Welcome North Creek.

Although a connection is made between the Boulder Creek sulphides and those intersected in drill hole Mon97-8, the narrow, low grade nature of the drilled zone, plus

4800E

4900E

5000E

5500N

5500N

1480

1480

1400

1400

Mn97-11

OVB

BSLT pw+tf

- 50m

70344 0.90

BSLT pw

BSLT pw (cherty)

70345 1.00

BSLT pw

BSLT tf

- 100m

- 150m

BSLT pw (tf)

4800E

4900E

5000E

Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-bx)
- Basalt, pillow & pillow-breccia (pw+px)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf+bx)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+px)
- Basalt, pillow (pw)
- Basalt, pillow breccia (px)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MDST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- Hematite & Jasper (hem+js)
- Hematite (he)
- Jasper (js)
- Malachite
- Serpentine
- Tectonic Breccia

Figure 11a

Atna Resources Ltd.

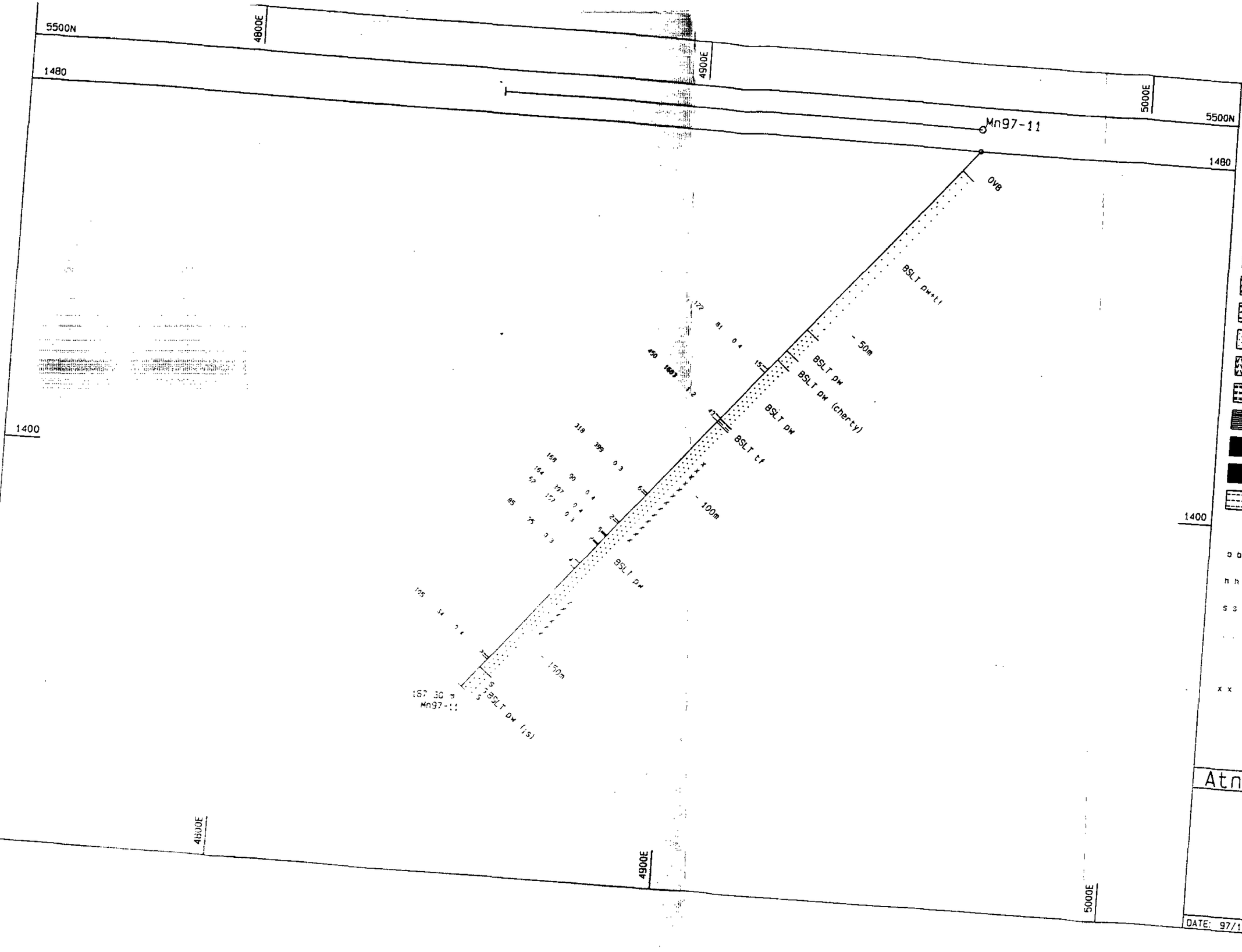
Money Project

SECTION 5500N

Split Core ICP Results

Sample# & Sample Width

DATE 97/11/10 SCALE:



Geological Legend:

SLIDE MOUNTAIN TERRANE

- Basalt pseudo-breccia (pseudo-bx)
- Basalt, pillow & pillow-breccia (pw+px)
- Basalt, pillow & tuff (pw+tf)
- Basalt, tuff & breccia (tf+bx)
- Basalt, tuff & lapilli tuff (tf+lt)
- Basalt, breccia & pillow breccia (bx+px)
- Basalt, pillow (pw)
- Basalt, pillow breccia (px)
- Basalt, tuff (tf)
- Mudstone (shale), maroon (MDST mr)
- Massive Sulphide (pyrite) (MSSX)
- Mafic Tuff, pyritic (PYTF)
- Fault Zone (FLTZ)

Alteration / Accessory Minerals

- h h Hematite (he)
- s s Jasper (js)
- . . Malachite

Structure

- x x Tectonic Breccia

Figure 11b

Atna Resources Ltd.

Money Project

SECTION 5500N

Split Core ICP Results

Cu, Zn, Ag (ppm), Au (ppb)

DATE: 97/11/10 | SCALE:

lack of improving geophysical anomaly along strike precludes further interest in this area. Drill hole Mon97-10 tested the northern extension of the sediments which host the Boulder Creek zone but a quartz vein instead of sulphides was intersected along with the sediments.

Drilling under the Boulder Creek and Camp Creek gossans (Mon97-9 and Mon97-11) failed to yield significant intersections. Interest in these zones is diminished by the limited extent of the showings as outlined by surface mapping and diamond drilling, together with a lack of significant surrounding geophysical response .

The drill program has demonstrated that the 3D Geo-electric geophysical survey is capable of outlining resistivity and chargeability anomalies in the third dimension with a relatively high degree of positional accuracy. It appears useful in areas of conductive overburden, and in areas where talus hampers conventional IP surveys. The 3-D modeling works best with resistivity anomalies although a reasonable depth estimate was made for chargeability responses. The high cost per line kilometer dictates that care should be used in selecting which properties should be tested with this investigative tool.

6 CONCLUSIONS AND RECOMMENDATIONS

Results from the 1997 Money field project has limited the potential for an economic massive sulphide deposit occurring on the property. The best geological-geophysical targets within the grid area have been tested without success. Additional exploration on the Money property would be of a preliminary follow-up nature to examine low priority targets. It is therefore concluded that no further work is warranted on the Money claims under the current option terms and recommended that the option be re-negotiated or terminated.

7 ACKNOWLEDGMENTS

Able assistance in grid establishment and geophysical surveying was provided by Jeff Kasyon and Eddie Gordon of Twin Mountain Contracting. Chris Hope of Equity Engineering also contributed to grid establishment. J. Wayne Pickett P.Geo. mapped the property's northern end and contributed to the understanding of mineralization and alteration in Cyprus type settings. Overall project supervision was by Peter Holbek P.Geo.

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APPENDIX I

GPS SURVEY

GPS Surveying

The GPS technique makes use of a series of orbiting satellites launched and maintained by the US Military to establish a triangulated position fix on the earth's surface. A hand-held receiver containing a highly accurate clock calculates the travel time for a satellite emitted signal to reach the receiver. The receiver then converts the travel time to a distance measurement from the receiver to the satellite. By measuring the distance from the hand-held unit to several widely spaced satellites of known angular location, and using geometrical triangulation, the receiver calculates it's location with great accuracy.

For reasons known only to the military, the satellite signals are purposely degraded by a system known as Selective Availability (SA). The net effect is that field hand-held receivers are limited to location accuracy (absolute position) of ± 200 m, with extremely poor precision (repeatability). A technique known as differential correction, however, can be employed to reduce the field data and eliminate the effects of SA.

The correction process is similar to that used for magnetic surveys. It makes use of a recording base station for which the absolute location is accurately known. Since the signal degradation measured by the base and field receivers are the same, the base station will experience the same altering of calculated position. By subtracting the calculated position from the absolute position, an instantaneous change in position at that time (usually measured every 1 - 2 seconds) can be determined. Field readings are reduced each evening by subtracting the instantaneous change in position for the same time period. By collecting multiple readings at each field station (usually >120) and averaging the corrected locations (to lessen the errors caused by moving satellites), the reduced position fix becomes more accurately calculated.

A limitation to differential corrections occurs in areas of significant topographic relief where the base station and field receivers cannot "see" the same satellite. If the base station is blocked by topography from receiving a satellite signal that the field receiver is using (e.g. base station and field receivers are on opposite sides of a mountain and the satellite is low above the horizon) then differential corrections cannot be completed.

The present survey was completed using a Trimble Navigation Geoexplorer (ser.# 10002hnw) field unit and reduced by Trimble Navigation recording base station and software run on a PC computer base. The base station was set-up in the Wolverine Lake camp.

OBJECT	OBJECT IDENTIFIER		ROVER	CORRECTED POSITION			AVERAGED POSITION			TOTAL	CORRT'D	PERCENT
SURVEYED	NORTHING	EASTING	FILE	EASTING	NORTHING	ELEV	EASTING	NORTHING	ELEV	POSN'S	POSN'S	CORRECTED
Grid	4300	4500	D080720B	446523	6808893	1656	446409	6809109	1690	124	124	100
Grid	4300	5000	D080720A	446912	6809205	1554	446832	6809370	1505	124	65	52
Grid	4300	5500	D080719C	447295	6809521	1397	447209	6809715	1396	124	124	100
Grid	4400	4500	D080616B	446455	6808967	1700	446351	6809159	1663	131	14	11
Grid	4400	5000	D080720C	446851	6809284	1562	446736	6809434	1554	129	129	100
Grid	4400	5500	D080719B	447239	6809605	1406	447137	6809804	1436	123	21	17
Grid	4500	4500	D080616C	446385	6809049	1716	446188	6809247	1632	135	18	13
Grid	4500	5000	D080720D	446789	6809365	1546	446697	6809592	1574	125	125	100
Grid	4500	5500	D080917A	447187	6809669	1391	447127	6809843	1463	121	121	100
Grid	4600	4500	D080617A	446327	6809141	1726	446292	6809248	1770	125	125	100
Grid	4600	5000	D080721A	446728	6809445	1546	446646	6809627	1552	125	125	100
Grid	4600	5500	D080718C	447128	6809742	1397	447028	6809909	1453	124	124	100
Grid	4700	4500	D080617B	446264	6809226	1707	446191	6809389	1667	125	125	100
Grid	4700	5000	D080721B	446668	6809523	1529	446577	6809731	1582	123	123	100
Grid	4700	5500	D080718D	447057	6809812	1340	446951	6809971	1259	126	126	100
Grid	4800	4500	D080617C	446207	6809298	1690	446111	6809473	1631	161	161	100
Grid	4800	5000	D080721C	446594	6809598	1510	446514	6809810	1509	123	9	7
Grid	4800	5500	D080917B	447001	6809905	1320	446887	6810097	1256	123	123	100
Grid	4900	4500	D080617D	446142	6809378	1698	446043	6809585	1684	123	26	21
Grid	4900	5000	D080722A	446541	6809689	1505	446425	6809879	1618	123	123	100
Grid	4900	5200	D080923C	446673	6809805	1530	446550	6810009	1442	123	123	100
Grid	4900	5500	D080717B	446925	6810019	1364	446915	6810116	1337	123	123	100
Grid	5000	4500	D080617E	446090	6809452	1712	446001	6809631	1698	125	70	56
Grid	5000	5000	D080722C	446482	6809767	1577	446387	6809953	1561	120	120	100
Grid	5000	5500	D080717A	446862	6810095	1407	446795	6810201	1406	124	124	100
Grid	5100	4500	D080617F	446025	6809543	1724	445913	6809754	1687	128	128	100
Grid	5100	5000	D080722D	446421	6809847	1581	446328	6810010	1585	125	125	100
Grid	5100	5500	D080622A	446819	6810143	1457	446713	6810324	1382	73	73	100
Grid	5200	4500	D080617G	445966	6809618	1740	445891	6809809	1805	125	125	100
Grid	5200	5000	D080722E	446360	6809927	1560	446246	6810136	1592	123	123	100
Grid	5200	5500	D080621G	446746	6810228	1396	446690	6810349	1302	126	126	100
Grid	5300	4500	D080618A	445863	6809749	1740	445792	6809937	1785	127	127	100
Grid	5300	5000	D080722F	446298	6810006	1525	446203	6810175	1621	124	124	100
Grid	5300	5500	D080621F	446687	6810301	1385	446630	6810548	1474	127	7	6
Grid	5400	4500	D080618B	445816	6809790	1745	445722	6809995	1809	126	126	100
Grid	5400	5000	D080722G	446236	6810086	1499	446143	6810252	1487	124	124	100
Grid	5400	5500	D080621E	446629	6810393	1402	446552	6810580	1462	126	18	14
Grid	5500	4500	D080618C	445772	6809867	1726	445659	6810067	1778	126	126	100

Money Property GPS Survey

OBJECT	OBJECT IDENTIFIER		ROVER	CORRECTED POSITION			AVERAGED POSITION			TOTAL	CORRT'D	PERCENT
SURVEYED	NORTHING	EASTING	FILE	EASTING	NORTHING	ELEV	EASTING	NORTHING	ELEV	POSN'S	POSN'S	CORRECTED
Grid	5500	5000	D080620C	446175	6810165	1475	446090	6810355	1569	140	140	100
Grid	5500	5500	D080621D	446586	6810446	1437	446493	6810628	1416	127	127	100
Grid	5600	4500	D080619A	445724	6809939	1704	445638	6810052	1532	128	128	100
Grid	5600	5000	D080620B	446118	6810242	1471	446022	6810405	1625	126	126	100
Grid	5600	5500	D080621A	446513	6810551	1476	446388	6810688	1493	126	126	100
Grid	5700	4500	D080619B	445676	6809998	1658	445605	6810171	1644	126	94	75
Grid	5700	5000	D080620A	446059	6810325	1486	445933	6810556	1455	127	127	100
Grid	5700	5500	D080621B	446450	6810630	1496	446368	6810763	1397	127	127	100
Grid	5800	4500	D080619C	445611	6810089	1600	445540	6810252	1500	143	143	100
Grid	5800	5500	D080621C	446387	6810721	1540	446311	6810927	1609	128	128	100
Claim Posts	#1-YB51942&3	#2-YB51940&1	D080820A	446642	6809307	1616	446538	6809541	1643	122	83	68
Drill Pad	Mon96-?		D080821A	446783	6809501	1515	446694	6809726	1527	122	122	100
Drill Pad	Mon96-7		D080823B	446777	6809730	1427	446674	6809922	1373	123	15	12
Drill Pad	Mon96-3-6		D080823D	446719	6809696	1424	446634	6809910	1450	123	123	100
Drill Pad	not used		D083116B	447055	6809204	1505	446992	6809375	1656	125	125	100
Drill Pad	not used		D083122A	446171	6810112	1497	446093	6810320	1505	129	68	53
Claim Posts	#1-YB51940&1	#2-YB51938&9	D090218A	446956	6808981	1554	446886	6809077	1317	122	122	100
Claim Posts	#1-YB51940&1	#2-YB51938&9	D090219A	446956	6808981	1554	446890	6809020	1227	124	124	100
Claim Posts	#2-YB51950&1		D090219C	445398	6814871	8025	445280	6815016	7894	124	124	100
Claim Posts	#2-YB51950&1		D090219D	445530	6810997	1771	445418	6811177	1807	122	122	100
Claim Posts	#1-YB51950&1	#2-YB51948&9	D090220A	445811	6810644	1736	445660	6810838	1673	124	124	100
Claim Posts	#1-YB51950&1	#2-YB51948&9	D090220B	445810	6810643	1736	445708	6810818	1690	122	122	100
Grid	10+00N/0+75W		D090220C	445973	6810623	1672	445893	6810797	1652	124	124	100
Claim Posts	#1-YB51946&7	#2-YB51944&5	J090219A	445987	6809954	1608	445901	6810174	1576	144	144	100
Claim Posts	#1-YB51946&7	#2-YB51944&5	J090219B	445988	6809951	1601	445895	6810073	1579	143	143	100
Claim Posts	#1-YB51938&9	#2-YB51936&7	J090115A	447275	6808691	1423	447186	6808861	1432	154	154	100
Claim Posts	#1-YB51938&9	#2-YB51936&7	J090117A	447274	6808691	1423	447173	6808842	1399	129	129	100
Claim Posts	#1-YB51944&5	#2-YB51942&3	D080816A	446285	6809617	1626	446159	6809845	1715	120	75	63
Claim Posts	#1-YB51944&5	#2-YB51942&3	J090118A	446286	6809616	1626	446202	6809834	1642	134	134	100
Claim Posts	#1-YB51944&5	#2-YB51942&3	J090118B	446285	6809616	1624	446199	6809811	1611	223	223	100
Grid	L53N 45E		J090120A	445865	6809753	1736	445749	6809881	1744	191	191	100
Grid	L53N 45E		J090120B	445866	6809751	1735	445756	6809922	1766	126	126	100
Grid	L53N 46E		J090121A	445951	6809802	1673	445856	6809991	1662	138	138	100
Grid	L53N 46E		J090121B	445950	6809802	1674	445834	6809930	1541	121	121	100
Gossan			J090121C	446076	6809962	1588	445938	6810146	1518	4	135	3375
Gossan			J090122A	446076	6809962	1589	445953	6810184	1588	60	129	215
Claim Posts	#1-YB51948&9	#2-YB51946&7	D090117A	445663	6810264	1585	445594	6810510	1550	124	124	100
Claim Posts	#1-YB51948&9	#2-YB51946&7	D090117B	445661	6810266	1583	445565	6810480	1624	123	123	100

Money Property GPS Survey

OBJECT	OBJECT IDENTIFIER		ROVER	CORRECTED POSITION			AVERAGED POSITION			TOTAL	CORRT'D	PERCENT
SURVEYED	NORTHING	EASTING	FILE	EASTING	NORTHING	ELEV	EASTING	NORTHING	ELEV	POSN'S	POSN'S	CORRECTED
Claim Posts	#1-YB51930&1	#2-YB51928&9	D090117C	446555	6811102	1458	446486	6811286	1421	26	126	485
Claim Posts	#1-YB51936&7	#2-YB51934&5	D090118C	447594	6808396	1371	447482	6808586	1434	8	122	1525
Grid	12+00N/4+75W		D090120A	445528	6810622	1780	445394	6810827	1722	123	123	100
Gossan			D090122C	446364	6810055	1497	446265	6810221	1379	97	125	129
Claim Posts	#1-YB51946&7	#2-YB51944&5	D090123A	445533	6811000	1766	445438	6811143	1674	63	123	195
Claim Posts	#1-YB15932&3	#2-YB15930&1	D090318A	446289	6811467	1478	446196	6811665	1490	122	59	48
Claim Posts	#1-YB15932&3	#2-YB15930&1	D090318B	446290	6811467	1482	446211	6811642	1400	124	93	75
Claim Posts	#2-YB51932&3		D090318C	446025	6811827	1389	445968	6812028	1348	121	121	100
Claim Posts	#2-YB51932&3		D090318D	446024	6811834	1401	445940	6812040	1477	223	223	100
Claim Posts	#1-YB51934&5		D090319A	447877	6808078	1225	447768	6808377	1079	123	123	100
Claim Posts	#1-YB51934&5		D090319B	447874	6808070	1246	447772	6808225	1215	123	123	100
Claim Posts	#1-YB61910&11	#2-YB61908&9	D090320A	448116	6808058	1251	448044	6808261	1367	122	122	100
Grid	L12+00N/6+00E		D090320C	446479	6811104	1481	446399	6811274	1402	122	122	100
Claim Posts	#1-YB51928&9	#2-YB51926&7					446712	6810952	1379	122	0	0
Grid	L12+OON/6+OOE		D090320C	446479	6811104	1481	446399	6811274	1402	122	122	100
Claim Posts	#1-YB51928&9	#2-YB51926&7					446712	6810952	1379	122	0	0
Claim Posts	#1-YB51926&7	#2-YB16734&5	D090322A	447053	6810394	1348	446963	6810563	1303	123	29	24
Claim Posts	#1-YB51926&7	#2-YB16734&5	D090322B	447053	6810392	1348	446992	6810584	1213	123	123	100
Claim Posts	#1-YB51926&7	#2-YB16734&5	D090322A	447053	6810394	1348	446963	6810563	1303	123	29	24
Claim Posts	#1-YB51926&7	#2-YB16734&5	D090322B	447053	6810392	1348	446992	6810584	1213	123	123	100
Claim Posts	#1-YB51926&7	#2-YB16734&5	D090615A	447051	6810398	1347	446962	6810588	1305	159	159	100
Claim Posts	#1-YB51926&7	#2-YB16734&5	D090615B	447054	6810393	1348	447083	6810475	1407	141	141	100
unknown	practice?		D090616A	447360	6810071	1284	447267	6810314	1435	135	135	100
unknown	practice?		D090616B	447238	6810202	1306	447159	6810426	1411	63	63	100
Claim Posts	#1-YB16734&5		D090617A	447318	6810116	1286	447259	6810282	1342	195	195	100
Claim Posts	#1-YB16734&5		D090618A	447360	6810072	1277	447326	6810198	1261	160	160	100
Claim Posts	#1-YB16732&3	#2-YB16730&1	D090618B	447667	6809732	1242	447554	6809914	1160	229	229	100
Claim Posts	#I-YB16732&3	#2-YB16730&1	D090619A	447667	6809728	1240	447564	6809896	1330	137	64	47
uncorrected	readings		D099619B	uncorrected	readings		447565	6809891	1254	138	0	0
Claim Posts	#1-YB16730&1	#2-YB16728&9	D090620A	447958	6809388	1219	447838	6809568	1187	155	55	35
Claim Posts	#1-YB16730&1	#2-YB16728&9	D090620B	447961	6809385	1219	447836	6809558	1111	125	125	100
Claim Posts	#1-YB51928&9	#2-YB51926&7	J090618A	446797	6810756	1343	446702	6810993	1302	125	40	32
Claim Posts	#1-YB51928&9	#2-YB51926&7	J090618B	446795	6810756	1353	446659	6810877	1207	125	125	100
Outcrop	See Field Notes		J090619A				446604	6810874	1421	133	0	0
Outcrop	See Field Notes		J090620A	446730	6810562	1429	446638	6810792	1393	125	125	100
Gossan	WP-MON-97-01		D090715A	446056	6809983	1581	446008	6810155	1709	128	128	100
Outcrop	See Notes		D090717A	446083	6810007	1565	445979	6810159	1572	123	123	100
Gossan uphill	from core area		D090719A	446383	6810053	1490	446246	6810246	1436	124	122	98

Money Property GPS Survey

OBJECT	OBJECT IDENTIFIER		ROVER	CORRECTED POSITION			AVERAGED POSITION			TOTAL	CORRT'D	PERCENT
SURVEYED	NORTHING	EASTING	FILE	EASTING	NORTHING	ELEV	EASTING	NORTHING	ELEV	POSN'S	POSN'S	CORRECTED
Core Logging Area			D090720A	446714	6810304	1391	446586	6810419	1395	148	120	81
Outcrop	See Field Notes		D090817A				445756	6810145	1535	125	0	0
Outcrop	See Field Notes		D090819A	445940	6810390	1589	445816	6810616	1618	124	124	100
Outcrop	See Field Notes		D090819B	445962	6810427	1585	445861	6810635	1558	126	72	57
Outcrop	See Field Notes		D090819C	445970	6810459	1602	445886	6810605	1548	126	126	100
Outcrop	See Field Notes		D090820A	446007	6810478	1588	445910	6810667	1514	123	123	100
Outcrop	See Field Notes		D090820B	446121	6810591	1616	446017	6810835	1601	133	133	100
Claim Posts	#1-YB16734&5	#2-YB16732&3	R090915A	447361	6810070	1278	447306	6810236	1358	124	124	100
Claim Posts	#1-YB16734&5	#2-YB16732&3	D090916B	447362	6810069	1278	447271	6810223	1236	145	145	100
Claim Posts	#1-YB16734&5	#2-YB16732&3	D090916A	447362	6810072	1276	447219	6810319	1305	126	126	100
Claim Posts	#2-YB16744&5		R090920B	447748	6810961	1175	447625	6811070	1118	128	128	100
Claim Posts	#2-YB16744&5		R090920D	447749	6810961	1178	447665	6811149	1239	134	134	100
Claim Posts	#2-YB16744&5		D090920C	447749	6810962	1174	447642	6811124	1166	126	126	100
Claim Posts	#1-YB16730&1	#2-YB16728&9	D090916C	447959	6809381	1220	447881	6809536	1201	123	45	37
Claim Posts	#1-YB16744&5	#2-YB16742&3	R090920A	448057	6810623	1167	447950	6810837	1192	128	128	100
Claim Posts	#1-YB16744&5	#2-YB16742&3	D090920B	448057	6810624	1169	447971	6810811	1109	132	132	100
Claim Posts	#1-YB16744&5	#2-YB16742&3	D090920A	448059	6810623	1163	447963	6810814	1156	130	130	100
Claim Posts	#1-YB16728&9	#2-YB16726&7	D090917A	448236	6809037	1217	448137	0.68	1241	130	130	100
Claim Posts	#1-YB16728&9	#2-YB16726&7	R090917C	448236	6809037	1215	448155	6809250	1192	135	135	100
Claim Posts	#1-YB16728&9	#2-YB16726&7	R090917A	448238	6809036	1213	448139	6809273	1147	149	149	100
Claim Posts	#1-YB16742&3	#2-YB16740&1	R090919D	448337	6810268	1153	448246	6810449	1100	130	130	100
Claim Posts	#1-YB16742&3	#2-YB16740&1	D090919D	448340	6810266	1155	448239	6810423	1123	126	126	100
Claim Posts	#1-YB16742&3	#2-YB16740&1	R090919C	448341	6810266	1154	448211	6810490	1143	135	135	100
Claim Posts	#1-YB16726&7		R090918A	448520	6808695	1181	448443	6808905	1093	148	148	100
Claim Posts	#1-YB16726&7		D090917B	448521	6808699	1178	448423	6808895	1162	123	123	100
Claim Posts	#1-YB16726&7		R090917D	448524	6808698	1185	448483	6808895	1024	164	164	100
Claim Posts	#1-YB16740&1	#2-YB16738&9	D090919B	448620	6809929	1152	448533	6810138	1139	123	106	86
Claim Posts	#1-YB16740&1	#2-YB16738&9	R090919B	448621	6809928	1149	448544	6810107	1199	126	16	13
Claim Posts	#1-YB16740&1	#2-YB16738&9	D090919C	448623	6809928	1149	448540	6810106	1116	126	6	5
Claim Posts	#1-YB16738&9	#2-YB16736&7	R090919A	448923	6809584	1147	448805	6809771	1187	132	132	100
Claim Posts	#1-YB16738&9	#2-YB16736&7	R090918D	448924	6809589	1150	448810	6809773	1134	128	128	100
Claim Posts	#1-YB16738&9	#2-YB16736&7	D090919A	448925	6809585	1148	448857	6809774	1170	123	123	100
Claim Posts	#1-YB16736&7		D090918B	449216	6809235	1124	449100	6809450	1126	125	125	100
Claim Posts	#1-YB16736&7		D090918A	449216	6809236	1127	449114	6809467	1262	125	125	100
Claim Posts	#1-YB16736&7		R090918C	449218	6809236	1128	449122	6809429	1206	141	141	100

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APPENDIX II

3D GEO-ELECTRIC SURVEY

ATNA RESOURCES LTD.

70324	Mon97-9	4.0	4.5	0.5	1	2476	3	192	0.3	3
70325	Mon97-9	4.5	5.7	1.2	1	616	3	138	0.3	5
70326	Mon97-9	11.0	11.5	0.5	1	732	3	94	0.3	1
70327	Mon97-9	14.5	15.5	1.0	1	631	3	119	0.3	1
70328	Mon97-9	15.5	15.9	0.4	1	4862	3	144	0.3	3
70329	Mon97-9	15.9	16.9	1.0	1	1044	3	120	0.3	2
70330	Mon97-9	16.9	18.2	1.3	1	1319	3	150	0.3	5
70331	Mon97-9	18.2	18.5	0.3	2	5759	3	156	0.3	5
70332	Mon97-9	18.5	19.5	1.0	1	577	3	123	0.3	2
70333	Mon97-9	37.4	37.9	0.5	5	1345	16	805	0.8	22
70334	Mon97-9	45.6	46.6	1.0	1	109	3	94	0.3	5
70335	Mon97-9	46.6	47.6	1.0	3	111	5	266	0.5	13
70336	Mon97-9	85.7	86.7	1.0	1	103	3	58	0.3	4
70337	Mon97-9	112.5	113.0	0.5	1	145	22	753	1.4	43
70338	Mon97-9	116.8	117.5	0.7	1	93	5	67	0.3	4
70339	Mon97-9	134.7	135.0	0.3	1	152	17	889	0.9	5
		Whole Rock check samples								
70960	Mon97-9	7.0	14.9	7.9	1	197	3	84	0.3	1
70961	Mon97-9	20.8	35.1	14.3	1	209	3	85	0.3	2
70962	Mon97-9	42.5	69.5	27.0	1	126	3	69	0.3	1
70963	Mon97-9	74.2	104.3	30.1	1	120	3	65	0.3	2
70964	Mon97-9	104.3	130.8	26.5	1	96	3	56	0.3	1
70965	Mon97-9	136.5	139.0	2.5	1	58	3	75	0.3	1
70966	Mon97-9	143.4	152.4	9.0	1	117	3	52	0.3	1
70967	Mon97-9	155.0	164.3	9.3	1	85	3	96	0.3	2
Mon97-10										
70340	Mon97-10	60.7	61.5	0.8	1	102	3	109	0.3	1
70341	Mon97-10	61.5	62.1	0.6	3	105	20	268	0.3	53
70342	Mon97-10	62.1	63.1	1.0	1	131	3	115	0.3	4
70343	Mon97-10	216.1	219.2	3.1	1	31	3	56	0.3	2
		Whole Rock check samples								
70968	Mon97-10	14.9	30.2	15.3	1	118	3	44	0.3	1
70969	Mon97-10	20.2	45.4	25.2	1	112	3	51	0.3	1
70970	Mon97-10	45.4	60.7	15.3	1	104	3	55	0.3	1
70971	Mon97-10	60.7	75.9	15.2	2	101	3	53	0.3	1
70972	Mon97-10	75.9	100.3	24.4	1	91	3	45	0.3	1
70973	Mon97-10	100.3	130.8	30.5	1	99	3	46	0.3	1
70974	Mon97-10	150.4	182.7	32.3	1	50	3	66	0.3	1
70975	Mon97-10	200.3	209.2	8.9	1	90	3	48	0.3	1

70976	Mon97-10	218.7	234.4	15.7	1	100	3	62	0.3	1
Mon97-11										
70344	Mon97-11	68.6	69.5	0.9	1	122	3	81	0.4	15
70345	Mon97-11	83.6	84.6	1.0	2	450	22	1603	1.2	43
70346	Mon97-11	107.3	107.8	0.5	1	318	3	399	0.3	6
70347	Mon97-11	116.4	116.9	0.5	1	168	3	90	0.4	2
70348	Mon97-11	120.5	120.8	0.3	1	164	3	397	0.4	5
70349	Mon97-11	123.2	123.5	0.3	1	62	4	157	0.3	2
70350	Mon97-11	129.2	130.9	1.7	1	85	3	95	0.3	4
71000	Mon97-11	158.5	159.0	0.5	2	105	3	64	0.4	2
		Whole Rock check samples								
70977	Mon97-11	23.9	51.3	27.4	1	101	3	52	0.3	2
70978	Mon97-11	52.0	81.0	29.0	2	91	3	64	0.3	1
70979	Mon97-11	82.6	103.3	20.7	2	87	4	294	0.4	5
70980	Mon97-11	104.3	125.5	21.2	2	57	3	79	0.3	1
70981	Mon97-11	126.7	143.1	16.4	1	83	3	75	0.3	2
70982	Mon97-11	149.0	161.2	12.2	1	124	3	59	0.3	1
70983	Mon97-11	161.2	167.3	6.1	1	275	3	45	0.3	130

ATNA RESOURCES LTD.

ELEMENT SAMPLE	HOLE #	FROM meters	TO meters	WIDTH meters	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au* ppb
Mon97-8										
70301	Mon97-8	83.5	84.5	1.0	2	207	41	163	0.3	10
70302	Mon97-8	84.5	85.2	0.7	16	1744	101	189	26.1	750
70303	Mon97-8	85.2	86.2	1.0	3	690	74	1689	2.6	80
70304	Mon97-8	86.2	87.2	1.0	1	3724	6	2109	0.3	8
70305	Mon97-8	117.0	118.0	1.0	3	65	3	167	0.3	4
70306	Mon97-8	118.0	119.2	1.2	2	237	8	1322	0.6	6
70307	Mon97-8	119.2	120.7	1.5	8	616	19	879	0.7	16
70308	Mon97-8	120.7	121.3	0.6	38	4425	41	1918	4.6	75
70309	Mon97-8	121.3	122.3	1.0	20	458	35	912	0.8	29
70310	Mon97-8	122.3	123.3	1.0	7	707	31	1820	0.8	20
70311	Mon97-8	123.3	124.8	1.5	1	241	8	781	0.4	5
70312	Mon97-8	124.8	126.3	1.5	1	274	6	1119	0.4	11
70313	Mon97-8	126.3	127.4	1.1	9	626	17	699	1.2	43
70314	Mon97-8	127.4	128.4	1.0	5	531	17	480	0.5	18
70315	Mon97-8	128.4	129.4	1.0	1	316	6	300	0.3	1
70316	Mon97-8	223.0	224.0	1.0	1	194	4	177	0.3	2
70317	Mon97-8	224.0	224.9	0.9	8	6649	64	1688	3.9	70
70318	Mon97-8	224.9	225.7	0.8	2	872	14	627	0.8	11
70319	Mon97-8	246.1	247.1	1.0	2	108	3	1203	0.3	1
70320	Mon97-8	247.1	247.4	0.3	2	969	17	909	0.5	15
70321	Mon97-8	247.4	248.4	1.0	1	135	3	166	0.3	1
		Whole Rock check samples								
70951	Mon97-8	15.0	27.4	12.4	1	127	3	94	0.3	2
70952	Mon97-8	32.8	56.5	23.7	1	116	3	66	0.3	1
70953	Mon97-8	56.5	78.3	21.8	1	190	3	89	0.3	4
70954	Mon97-8	89.5	104.5	15.0	1	91	3	383	0.3	1
70955	Mon97-8	105.6	117.9	12.3	1	56	3	110	0.3	1
70956	Mon97-8	131.0	149.7	18.7	1	123	3	59	0.3	1
70957	Mon97-8	166.7	192.2	25.5	1	134	3	68	0.3	1
70958	Mon97-8	197.9	220.0	22.1	1	105	3	43	0.3	1
70959	Mon97-8	227.0	258.9	31.9	1	123	3	100	0.3	1
Mon97-9										
70322	Mon97-9	2.3	3.5	1.2	1	351	3	136	0.3	1
70323	Mon97-9	3.5	4.0	0.5	1	2811	3	141	0.3	3

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APPENDIX III

DRILL CORE GEOCHEMICAL RESULTS

PIONEER LABORATORIES INC. 5-730 EATON WAY NEW WESTMINSTER, BC CANADA V3M 6J9 TELEPHONE (604)522-3830

GEOCHEMICAL ANALYSIS CERTIFICATE

ATNA RESOURCES LTD.

Project:

Sample Type: Cores

Multi-element ICP Analysis - .500 gram sample is digested with 3 ml of aqua regia, diluted to 10 ml with Water. This leach is partial for Mn, Fe, Ca, P, La, Cr, Mg, Ba, Ti, B, W and limited for Na, K and Al. Detection Limit for Au is 3 ppm. *Au Analysis- 10 gram sample is digested with aqua regia, MIBK extracted, graphite furnace AA finished to 1 ppb detection.

Analyst RSain

Report No. 9782384

Date: October 17, 1997

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
SAMPLE	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb
70301	2	207	41	163	.3	24	8	378	5.03	4	10	ND	6	6	.3	3	3	49	.07	.042	40	18	.34	98	.01	3	.72	.01	.28	2	10
70302	16	1744	101	189	26.1	25	72	82	19.70	34	8	ND	2	1	1.4	3	4	3	.01	.001	1	15	.03	3	.01	3	.04	.01	.01	2	750
70303	3	690	74	1689	2.6	39	40	1434	8.82	11	11	ND	2	17	1.7	3	3	95	.22	.064	17	60	2.15	101	.03	3	2.65	.01	.33	2	80
70304	1	3724	6	2109	.3	58	51	2197	7.10	2	8	ND	2	4	27.5	3	3	111	1.60	.061	3	127	3.97	111	.41	3	3.76	.01	.20	2	8
70305	3	65	3	167	.3	40	47	972	6.77	2	8	ND	2	44	.2	3	3	153	3.54	.083	5	23	3.68	39	.36	3	3.22	.01	.13	2	4
70306	2	237	8	1322	.6	119	77	999	7.87	3	8	ND	2	7	1.5	3	3	159	.59	.071	6	116	4.14	29	.25	3	3.51	.01	.10	2	6
70307	8	616	19	879	.7	110	64	576	7.68	12	8	ND	2	1	10.6	3	3	53	.31	.046	3	137	2.20	19	.15	3	1.77	.01	.15	2	16
70308	38	4425	41	1918	4.6	66	83	129	21.56	56	8	ND	2	1	12.8	3	5	16	.07	.013	1	91	.31	6	.01	3	.53	.01	.13	2	75
70309	20	458	35	912	.8	121	91	228	11.99	26	8	ND	2	1	6.9	3	3	24	.18	.039	2	77	.92	13	.02	3	1.06	.01	.19	2	29
70310	7	707	31	1020	.8	118	72	314	8.98	13	8	ND	2	1	9.7	3	3	32	.17	.043	4	93	1.37	18	.01	3	1.34	.01	.17	2	20
70311	1	241	8	781	.4	113	44	1043	5.43	2	8	ND	2	3	2.8	3	3	83	.13	.043	4	229	4.35	27	.01	3	3.32	.01	.17	2	5
70312	1	274	6	1119	.4	122	62	1227	6.04	3	8	ND	2	9	5.1	3	3	87	1.69	.045	4	231	4.11	30	.07	3	3.18	.01	.16	2	11
70313	9	626	17	699	1.2	73	38	289	8.35	12	8	ND	2	7	2.8	3	3	33	.11	.022	3	100	1.04	20	.01	3	1.09	.03	.19	2	43
70314	5	531	17	480	.5	55	19	419	9.51	10	8	ND	2	8	.7	3	3	91	.31	.046	4	166	1.54	156	.01	3	2.11	.02	.18	2	18
70315	1	316	6	300	.3	109	51	875	4.16	2	8	ND	2	29	1.7	3	3	79	2.80	.045	2	188	2.92	60	.40	3	2.84	.01	.13	2	1
70316	1	194	4	177	.3	83	44	755	5.22	14	8	ND	2	13	.2	3	3	127	3.25	.032	1	204	2.72	30	.37	3	3.07	.02	.10	2	2
70317	8	6649	64	1688	3.9	98	78	172	15.17	138	8	ND	2	4	7.7	6	3	56	.55	.020	1	51	.49	8	.19	3	.98	.01	.23	2	70
70318	2	872	14	627	.8	72	48	852	7.22	19	8	ND	2	10	1.7	3	3	174	2.29	.056	3	134	3.55	37	.49	3	3.65	.01	.09	2	11
70319	2	108	3	1203	.3	53	36	711	5.66	5	8	ND	2	8	.3	3	3	116	1.49	.046	3	81	2.50	25	.37	4	3.11	.02	.08	2	1
70320	2	969	17	909	.5	67	50	496	6.81	26	8	ND	2	8	6.1	3	3	113	1.12	.045	3	117	1.75	32	.45	3	2.14	.02	.11	2	15
70321	1	135	3	166	.3	66	37	799	4.86	2	8	ND	2	12	.2	3	3	135	2.63	.044	2	171	2.51	65	.51	3	2.82	.03	.03	2	1
70322	1	351	3	136	.3	48	37	608	4.53	2	8	ND	2	18	.2	3	4	106	1.47	.058	2	134	2.23	104	.57	3	2.13	.02	.15	2	1
70323	1	2811	3	141	.3	50	80	889	3.69	2	8	ND	2	19	.8	3	3	87	1.86	.044	2	115	1.91	256	.53	3	2.43	.01	.23	2	3
70324	1	2476	3	192	.3	62	97	1220	5.03	2	8	ND	2	16	.9	3	3	109	1.89	.044	3	161	2.80	1269	.56	3	3.02	.02	.15	2	3
70325	1	616	3	138	.3	57	49	590	6.18	2	8	ND	2	14	.2	3	3	130	1.01	.055	2	154	2.44	1745	.61	3	2.31	.02	.15	2	5
70326	1	732	3	94	.3	44	43	737	3.64	2	8	ND	2	11	.2	3	3	75	2.69	.064	1	111	2.34	116	.54	3	2.29	.02	.23	2	1
70327	1	631	3	119	.3	50	48	875	5.81	2	8	ND	2	30	.2	3	3	115	2.23	.073	2	71	4.29	49	.61	3	3.66	.01	.09	2	1
70328	1	4862	3	144	.3	84	62	935	5.20	2	8	ND	2	23	.4	3	3	135	3.99	.046	5	240	4.22	96	.47	3	3.89	.01	.05	2	3
70329	1	1044	3	120	.3	47	50	674	4.55	2	8	ND	2	56	.3	3	3	90	2.09	.069	3	73	3.64	32	.63	3	3.17	.01	.08	2	2
70330	1	1319	3	150	.3	68	83	1064	5.72	2	8	ND	2	30	.5	3	3	127	2.93	.061	2	187	4.83	36	.59	3	3.99	.01	.07	2	5

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au
SAMPLE	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb
70331	2	5759	3	156	.3	49	72	709	2.27	2	8	ND	2	37	1.8	3	3	51	5.54	.022	8	185	1.99	21	.21	3	2.13	.01	.01	2	5
70332	1	577	3	123	.3	66	52	776	5.61	2	8	ND	2	10	.3	3	3	139	.97	.054	2	256	4.99	19	.66	3	4.01	.01	.06	2	2
70333	5	1345	16	805	.8	104	107	1349	10.27	9	8	ND	2	2	2.1	3	3	104	.47	.033	2	217	5.56	21	.43	3	4.31	.01	.12	2	22
70334	1	109	3	94	.3	66	50	669	4.64	3	8	ND	2	13	.2	3	3	93	2.35	.038	1	138	3.34	24	.50	3	2.72	.02	.10	2	5
70335	3	111	5	266	.5	72	48	594	5.34	3	8	ND	2	6	.2	3	3	93	1.32	.035	1	136	3.29	31	.40	3	2.60	.01	.15	2	13
70336	1	103	3	58	.3	48	42	915	5.86	2	8	ND	2	15	.2	3	3	149	3.77	.036	2	107	3.18	25	.35	3	3.25	.02	.04	2	4
70337	1	145	22	753	1.4	49	42	341	8.48	23	8	ND	2	8	5.3	3	3	128	1.23	.037	1	67	1.07	20	.53	3	1.77	.03	.11	2	43
70338	1	93	5	67	.3	48	45	1015	6.45	3	8	ND	2	12	.2	3	3	146	4.71	.040	1	96	2.63	16	.40	3	2.89	.02	.02	2	4
70339	1	152	17	889	.9	67	48	1319	8.00	11	8	ND	2	10	2.2	3	3	148	4.28	.041	1	165	3.35	18	.34	3	3.00	.02	.10	2	5
70340	1	102	3	109	.3	51	45	1054	5.77	2	8	ND	2	11	.2	3	3	164	3.22	.045	1	116	3.26	32	.55	3	3.63	.02	.07	2	1
70341	3	105	20	268	.3	51	33	559	6.48	6	8	ND	2	21	.4	3	3	138	1.11	.060	3	62	2.23	46	.56	3	2.38	.02	.11	2	53
70342	1	131	3	115	.3	63	42	1038	5.65	2	8	ND	2	16	.2	3	3	138	4.18	.048	2	166	3.43	32	.49	3	3.29	.02	.09	2	4
70343	1	31	3	56	.3	53	23	505	2.01	2	8	ND	2	29	.2	3	3	48	6.72	.036	1	54	1.27	34	.46	5	1.45	.01	.16	2	2
70344	1	122	3	81	.4	74	46	1037	5.49	2	8	ND	2	5	.2	3	3	102	.97	.040	2	180	2.64	75	.46	3	2.65	.01	.18	2	15
70345	2	450	22	1603	1.2	53	47	998	7.67	9	8	ND	2	9	6.9	3	3	225	.92	.076	4	47	4.15	97	.65	3	3.59	.02	.09	2	43
70346	1	318	3	399	.3	62	43	1315	7.28	2	8	ND	2	6	.2	3	3	185	.79	.065	3	140	5.87	19	.10	3	4.80	.01	.08	2	6
70347	1	168	3	90	.4	70	48	1371	6.10	2	8	ND	2	22	.2	3	3	112	7.81	.025	2	227	4.66	9	.16	3	4.05	.01	.05	2	2
70348	1	164	3	397	.4	69	50	1100	7.47	15	8	ND	2	9	1.8	3	3	133	3.57	.036	1	202	5.43	10	.18	3	4.17	.01	.07	2	5
70349	1	62	4	157	.3	80	45	968	6.17	8	8	ND	2	11	.2	3	3	137	4.29	.035	1	245	4.69	11	.31	3	3.68	.01	.05	2	2
70350	1	85	3	95	.3	83	54	1233	6.87	2	8	ND	2	8	.2	3	3	183	4.08	.033	1	291	5.96	10	.32	3	4.48	.01	.03	2	4
70951	1	127	3	94	.3	78	45	1114	5.43	2	8	ND	2	4	.2	3	3	151	1.55	.046	2	212	3.87	54	.45	3	3.86	.02	.04	2	2
70952	1	116	3	66	.3	54	35	739	4.34	2	8	ND	2	6	.2	3	3	128	2.29	.063	2	144	3.38	42	.49	3	2.76	.02	.07	2	1
70953	1	190	3	89	.3	39	42	967	5.84	2	8	ND	2	20	.2	3	3	148	1.98	.077	3	47	3.69	139	.42	3	3.01	.01	.17	2	4
70954	1	91	3	383	.3	48	35	1251	5.50	2	8	ND	2	8	.2	3	3	131	1.34	.065	2	109	4.05	268	.42	3	3.35	.02	.14	2	1
70955	1	56	3	110	.3	29	36	643	6.01	2	8	ND	2	17	.2	3	3	135	1.80	.084	3	13	2.73	51	.57	3	2.32	.02	.21	2	1
70956	1	123	3	59	.3	73	40	746	4.08	2	8	ND	2	25	.2	3	3	110	3.53	.033	1	115	2.91	337	.33	3	2.80	.02	.10	2	1
70957	1	134	3	68	.3	53	41	903	5.90	2	8	ND	2	9	.2	3	3	170	2.49	.044	2	133	4.21	23	.46	3	3.88	.02	.04	2	1
70958	1	105	3	43	.3	56	31	629	3.86	2	8	ND	2	14	.2	3	3	89	3.14	.041	1	149	2.56	31	.34	4	2.75	.02	.11	2	1
70959	1	123	3	100	.3	42	33	672	4.29	2	8	ND	2	8	.4	3	3	118	3.09	.044	1	103	2.18	67	.39	3	2.50	.03	.06	2	1
70960	1	197	3	84	.3	36	31	571	3.74	2	8	ND	2	6	.2	3	3	77	1.26	.078	1	97	2.73	54	.48	3	2.37	.01	.23	2	1
70961	1	209	3	85	.3	66	41	788	5.26	2	8	ND	2	8	.2	3	3	119	1.53	.046	2	160	4.61	35	.58	3	3.63	.02	.03	2	2
70962	1	126	3	69	.3	63	39	771	4.97	2	8	ND	2	10	.2	3	3	132	2.63	.045	2	127	3.50	22	.47	3	3.36	.02	.06	2	1
70963	1	120	3	65	.3	53	43	875	5.62	2	8	ND	2	13	.2	3	3	176	3.58	.043	2	97	3.22	25	.41	3	3.93	.03	.03	2	2
70964	1	96	3	56	.3	47	38	923	5.05	2	8	ND	2	10	.2	3	3	158	3.09	.044	2	123	3.22	30	.45	3	3.40	.02	.05	2	1
70965	1	58	3	75	.3	44	35	962	4.89	2	8	ND	2	13	.2	3	3	112	2.06	.043	2	111	3.27	11	.31	3	3.07	.02	.01	2	1

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au
SAMPLE	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb
70966	1	117	3	52	.3	48	38	951	5.34	2	8	ND	2	11	.2	3	3	156	2.90	.042	2	147	3.58	14	.42	3	3.36	.03	.03	2	1
70967	1	85	3	96	.3	60	40	1081	6.16	2	8	ND	2	17	.2	3	3	155	4.65	.033	1	240	4.84	10	.29	3	3.93	.02	.03	2	2
70968	1	118	3	44	.3	52	32	578	3.52	2	8	ND	2	7	.2	3	3	94	2.85	.039	1	115	2.65	23	.41	3	2.31	.03	.09	2	1
70969	1	112	3	51	.3	55	36	705	4.33	2	8	ND	2	5	.2	3	3	116	2.30	.046	1	124	3.10	18	.40	3	2.88	.03	.03	2	1
70970	1	104	3	55	.3	70	36	876	4.65	2	8	ND	2	6	.2	3	3	97	2.73	.035	1	117	3.33	27	.42	3	3.15	.02	.13	2	1
70971	2	101	3	53	.3	46	27	671	4.15	2	8	ND	2	7	.2	3	3	104	1.43	.044	2	97	2.63	24	.37	3	2.64	.02	.08	2	1
70972	1	91	3	45	.3	47	30	622	3.46	2	8	ND	2	7	.2	3	3	94	2.47	.043	1	146	2.67	19	.34	3	2.15	.03	.05	2	1
70973	1	99	3	46	.3	47	29	570	3.03	2	8	ND	2	9	.2	3	3	74	1.51	.045	2	132	2.45	31	.42	3	1.98	.02	.13	2	1
70974	1	50	3	66	.3	23	29	624	4.39	2	8	ND	2	5	.2	3	3	104	1.13	.037	2	21	2.66	35	.44	3	2.00	.02	.16	2	1
70975	1	90	3	48	.3	28	22	568	3.20	2	8	ND	2	5	.2	3	3	73	.94	.066	1	62	2.02	64	.36	3	1.80	.01	.29	2	1
70976	1	100	3	62	.3	55	33	837	3.61	2	8	ND	2	5	.2	3	3	59	2.12	.056	1	65	2.40	28	.34	3	2.14	.02	.16	2	1
70977	1	101	3	52	.3	63	31	726	4.31	2	8	ND	2	7	.2	3	3	114	2.37	.047	3	100	2.74	25	.38	3	3.01	.02	.08	2	2
70978	2	91	3	64	.3	61	29	774	4.06	2	8	ND	2	6	.2	3	3	119	2.41	.061	2	123	2.96	30	.39	3	2.70	.02	.08	2	1
70979	2	87	4	294	.4	47	35	767	3.88	2	8	ND	2	7	.7	3	3	109	1.82	.071	2	60	2.95	61	.38	3	2.32	.02	.13	2	5
70980	2	57	3	79	.3	45	31	713	3.86	2	8	ND	2	7	.2	3	3	96	2.67	046	2	150	3.19	14	.30	3	2.48	.02	.06	2	1
70981	1	83	3	75	.3	69	41	1073	5.70	2	8	ND	2	10	.2	3	3	149	3.39	.043	2	224	4.62	11	.35	3	3.64	.02	.03	2	2
70982	1	124	3	59	.3	76	35	756	4.75	2	8	ND	2	10	.2	3	3	106	2.44	.051	2	165	3.39	13	.39	3	3.05	.02	.09	2	1
70983	1	275	3	45	.3	51	22	301	1.91	17	8	ND	2	8	.2	3	3	39	1.40	.040	1	73	1.41	35	.29	3	1.41	.01	.27	2	130
71000	2	105	3	64	.4	83	39	970	5.80	2	8	ND	2	49	.2	3	3	136	7.55	.065	1	259	3.81	6	.20	3	3.37	.01	.05	2	2

APPENDIX IV

DRILL LOGS

ATNA RESOURCES LTD.

DRILL LOG

PROJECT: MONEY	COLLAR ELEVATION: 1478m
HOLE: MON97-8	AZIMUTH: 230°
LOCATION: L44+00N 51+62E	DIP: -50°
LOGGED BY: R.G. WILSON	LENGTH: 261.8
DRILLED BY: BOISVENU DDH	HORIZONTAL PROJECTION: 168.3m
ASSAYED BY: PIONEER LABORATORIES	VERTICAL PROJECTION: 200.6m
CORE SIZE: NQ	
DATE STARTED: SEPT 23/97	DATE COMPLETED: SEPT 26/97

DIP TESTS BY: ACID

DEPTH	DIP	AZIM	DEPTH	DIP	AZIM
66.1	43°				
97.2	FAILED TEST				
200.9	39°				

ALTERATION SCALE

absent
slight
moderate
intense

SULPHIDE SCALE

traces only
< 1%
1% – 3%
3% – 10%
> 10%

OBJECTIVE

TEST LOW RESISTIVITY ANOMALY (E-SCAN) IN STRATIGRAPHIC SECTION HOSTING MASSIVE Py ± Cp IN BOULDER CK.

SUMMARY LOG

This hole (MON97-8) encountered a series of basaltic? pillow lavas, pillow breccias, crystal tuffs and crystal lapilli tuffs. A narrow (5m) sequence of maroon mudstones preceded a 0.7m massive sulphide (py only) which may be related to the massive py found in Boulder Ck.

A 10m section of pyritic crackle breccias and a highly fractured lapilli tuff are the likely causes of low resistivity seen in the E-Scan survey. This breccia may represent a stockwork zone, or as a pseudo-breccia due to alteration.

 PROJECT Money HOLE MON 97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	METRES	GEOLOGICAL DESCRIPTION	Ep	Ca	Hm Jsp	Ms	Cl	Qz	FRACTURE INTENSITY
							HABIT / %						
					0 - 10.7	OVB Casing to 11.6 m. Recovered talus & [illegible] with occ. 10 cm lengths of solid core. Rock is mainly BSLT with ep. + hm. Core [illegible] for [illegible] to determine [illegible].							
					10.7 - 13.2	BSLT tf? + bx med - dk green, med grained, banded to massive. Core highly broken to rubbled. Fracture surfaces are brn - blk (Mn?) Contact with below in rubbled core.	P 10						
					13.2 - 32.4	BSLT tf? med green, f.g. [illegible] with zones of tan to white [illegible] patchy alteration to clay. Tuff banding seen occasionally as at: Banding 55° to core axis (CA) @ 13.8 Banding 70° CA @ 16.4 Banding 50° CA @ 22.0 minor zones of breccia. Dendritic manganese occasionally seen as at 15.4 and 23.0 - 24.1 m.	P 10		L <3				
						13.2 - 14.6 Zone of strong clay alt^n. Bottom contact 10 cm of fault gouge			Pt 5	Pt 30			
						14.6 - 24.1 Clay alt^n occurs as 1-10 cm bands at regular intervals	P 5	F 4		L 10			
						24.1 - 27.8 Unit is slightly more massive but tuff banding still present at regular intervals (10 - 50 cm)							
						27.8 - 28.0 Qtz vein, highly fractured, coated [illegible]	Mn 10					V 90	

 PROJECT MONEY HOLE MON97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM m.	TO m	WIDTH	SAMPLE NUMBER	ASSAYS					
minor diss. py in breccia frag. @ 14.0	<1										
WHOLE ROCK		15.0	27.4	12.4	70951						

 PROJECT MONEY HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	Ep	Ca	Hm Jsp	Ms	Cl	Qz	FRACTURE INTENSITY
						28.0-28.7 As 24.1-27.8							
						28.7-32.4 Zone of grey clay alt^n giving core a pale green to rusty brown and tan color. Alt^n strongest from 31.2-31.9							
						Contact with below sharp @ 52° CA							
					32.4-56.5	BSLT pw ± px	SL 10	SL 5					
						Grey green to med green f-med grained (aphanitic with epidote ± Ca pillow selvages. Pillows are to 1 m in dia. and rock appears massive in places. Core is more competent generally with occasional fracture zones 50cm long. Some fracture surfaces are ca ± qtz healed. Unit is in part a pillow breccia. Contact with below at start of hematite / jasper							
					56.5-79.4	BSLT pw ± px (he ± js)	SL 10	SL <5	P? SL 10				
						Med green, f.g. aphanitic groundmass with marked increase in hematite & jasper as pillow selvages and breccia healing with no decrease in epidote and calcite. Hematite and jasper are pervasive and as selvages and are maroon to red. Zones of qtz-carb. veining are sporadic and are <1m.							
						72.8-74.6 Zone of ankeritic alteration (tan to orange brown) includes 10cm fault gouge @ 73.2m.		P 50					
						Contact with below over 15cm of carbonate veined fracture zone							

PAGE 5 OF 21 | PROJECT MONET | HOLE MON 97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
WHOLE ROCK		32.8	56.5		70952	
WHOLE ROCK		57.0	78.3		70953	

PROJECT MONEY

HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ep	Cm	He Jsp	Ms	Cl	Qz	FRACTURE INTENSITY
79.4-84.5					MDST mc Maroon, maroon-green and grey-brown, fg, thinly to very thinly bedded. Bedding is v. fissile regular with rare qtz-carb veinlets. Bedding: 76° to CA @ 79.2 59° to CA @ 84.1 75.6-77.6 Irregular calcite healed fractures, in chaotic mega zone @ 77.2 (10 cm) ↓ Contact with below shown in broken core. ~at 20cm with yellow-orange, very soft clay alt'n.							
84.5-85.2					MSSX Massive, light grey pp with fine silica. Top .5m is completely fractured crumbling to fine fg sand. ~at .2m core is light fractured. No other mineralization distinguishable Contact with below sharp @ 53° CA in orange-tan clay 'gouge'.						P 10	
85.2-105.8					BSLT tf; ox Medium to dark green, f-mg aphanitic; medium bedded, seen as regular banded ep-hem. laminations. 85.2-85.8 Tectonic breccia Top 15 cm is orange-tan clay 'gouge' which grades to a tectonic breccia where fragments are	L 10		L 10		L 5		

PAGE 7 OF 21 | PROJECT MONEY | HOLE MON-97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
Check sample above py zone, no su's seen.		83.5	84.5	1.0	70301	
Massive py with minor silica. No associated minerals seen.	75	84.5	85.2	0.7	70302	
Check sample below py zone, tr. py	TR	85.2	86.2	1.0	70303	
86.9 Minor malachite in fractured core that is slightly rusty		86.2	87.2	1.0	70304	

PROJECT MONEY

HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ep	Ca	Hc Disp	ms	Cl	Qz	FRACTURE INTENSITY
					elongated and rotated into a foliation? @ 45° CA @ 85.5. Common fracture surfaces continue to 87.0 m. Minor malachite seen @ 86.9							
					88.2 Banding @ 45° CA 90.7 - 91.2 Core well fractured 94.8 - 94.9 Fracture with minor clay "gouge" and qtz-carb healing. 101.6 ~5cm clay "gouge" 103.2 - 103.8 Core well fractured and rough, fracture surfaces are weakly oxidized.							
					104.6 Banding @ 59° CA Contact with felsic dyke @ 48° CA							
105.8 - 118.0					BSLT brx (he) med-dk green, fg, clast supported fragmental with minor hematitic rim. Matrix is fine basalt, chlorite and minor hematite. Calcite healed fractures are present but less common than unit above, avg 1 per 20 cm. Unit has rounded fragments from ~mm - 5cm which are generally unoriented and are elongated and in part rotated into a fabric direction as at 108.9 (46° CA), and 109.5 (60° CA). Contact with felsic below at start of highly broken core.	M <5	ST <5	Sm 15		m 10		

PAGE 9 OF 21 | PROJECT MONEY | HOLE mon97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
WHOLE ROCK		89.5	104.5	15.0	70954	
117.0 - 118.0 Bombing sample for sulphides seen.		117.0	118.0	1.0	70305	
WHOLE ROCK		105.6	117.9	12.3	70955	

PROJECT MON 24

HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	Ep	Ca	He Sp	Ms	Cl	Qz	FRACTURE INTENSITY
					113.0 - 127.4	BSLT ? PSEUDOBRECCIA				p	p	p	
						Mottled lt green to cold green f.g. breccia with strong sericite and weak chlorite alt[n] and py-silica matrix. Breccia w/ clasts [illegible] with fragments from 5mm - 3cm, sub-round, sub-ovoid, [illegible] weak [illegible] into a fabric (55° CA @ 121.3) direction. Py occurs in [illegible] & silicious [illegible] and as fragment rims. Fragments are relat. [illegible] and may be altered mafic [illegible] (bleached). Calcite [illegible] [illegible] are absent.				30	<5	<5	
						This unit, with its interconnected pyritic fractures may, in part, be the cause of the "E-Scan" low resistivity zone.							
						Contact with [illegible] taken at start of fault zone.							
					127.4 - 128.4	FLTZ							
						Sheared fault zone including 10 cm of clay gouge and ground rock at centre.							
					128.4 - 152.8	BSLT px							
						Lt to dk green, f.g. displaying epidote - chlorite - carbonate altered pillows and breccia selvages as well as pervasive ep-Cl alt[n] of the pillows and breccia fragments (which are generally > 5 cm diameter). Jasper & hematite are seen as [illegible] in [illegible] and matrix component to 130.7 m and [illegible]							

PAGE 11 OF 21 | PROJECT MONEY | HOLE MON97-8

MINERALIZATION DESCRIPTION	% TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
Py in stringers, "breccia" only weakly developed.	<2	118.0	119.2	1.2	70306	
Py in stringers & veining & fragments.	10	119.2	120.7	1.3	70307	
Semi-massive py with silica (60%)	40	120.7	121.3	0.6	70308	
Py in stringers & veining "fragments"	10	121.3	122.3	1.0	70309	
Py (no chrom) decreases but silica continues. Whole rock.	5	122.3	123.3	1.0	70310	
Silica, bleaching and "brecciation" decreases	2	123.3	124.8	1.5	70311	
As 124.8-126.3 but core less broken	2	124.8	126.3	1.5	70312	
Silicification and "brecciation" increases with minor py increase.	5	126.3	127.4	1.1	70313	
Fault and shear zone. Orangy-brown, no sulphides.		127.4	128.4	1.0	70314	
Pillow basalt with jasper, epidote and some calcite stringers	0	128.4	129.4	1.0	70315	
Disseminated py 133.7-133.8 (3%), otherwise mostly devoid of sulphide.						

 PROJECT Mousey HOLE Mar97-2

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	Ep	Ca	He / Isp	Ms	Cl	Qz	FRACTURE INTENSITY
					below that. Calcite healed fractures are common throughout unit. At 140.5 there is [illegible] change in [illegible] [illegible] style and [illegible] [illegible] contact							
					128.4 - 140.5 Rock dominated by epidote alteration with chlorite common on pillow selvages. Subunit contact below is distinguished by marked decrease in pervasive epidote.	F 20	SL 5	SL	P 5	SL 5		
					140.5 - 150.1 Subunit is marked by distinct decrease in epidote and by several narrow fracture-fault zones. Rock is a mottled pale to medium green fine grained and internally well fractured. The unit continues to be a basalt pillow breccia. A variolitic pillow basalt (quench texture) is seen @ 140.4 m. Clay gouge @ 143.8 and 145.8 ([illegible]). Contact with below in subunit at start of Fe-carb alt'n.	SL <5	ST 5		P 5	SL 5		
					150.1 - 152.8 Rock is as 140.5-150.1 with marked increase in iron carb alt'n and is mainly a pillow breccia. Clay gouge @ 151.7 (20cm). Contact with below at start of clay gouge fault zone.	P <1	ST 5		P 15	PL 25		
152.8-153.3					FLTZ Fault zone, clay gouge and carbonate alt'n.		P 30		P 30			

PAGE 13 OF 21 | PROJECT MONEY | HOLE MON 97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
WHOLE ROCK		131.0	149.7		70956	

PROJECT MONEY

HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	HEM JSP	MS	CL	QZ	FRACTURE INTENSITY
153.8					BSLT tf + bx							
159.3							ST		P	P		
							<5		20	<5		
					may in part be pillowed. Med-dk green, fine to very fine grained; core highly broken to rubbled. Fracture surfaces are dk brn-blk (Mn?) coated. Appears massive bedded. This unit may be in part the resistivity low of the E-W seam. If the zone is wet due to the fracturing present, it could show as a resistivity low.							
					Bottom 30 cm of unit has distinct increase in pervasive epidote to 20%. Contact with below is somewhat arbitrary and taken to be at gradational onset of fragments in rock.							
159.3					BSLT? tf & lt							
208.6					Pale green, fine to very fine grained generally matrix supported, poorly sorted fragments in a med to fine grained fs-px? phyric tuff/coarse matrix. Crystals are highly broken. Fragments are sub-rounded to sub-round 2mm - 5 cm diameter, and are soft (sericite-talc?), fs-px phyric. Unit is an interbedding of fine to med grained tuffs and lapilli tuffs.							
					159.3 - 165.0 Highly fractured lapilli tuff.	P 15	ST <1			F <5		
					165.0 - 166.6 Competent core lapilli tuff Weak fabric @ 50° CA @ 166.0 mm	P <5	ST <1		P 10			
					166.6 - 168.0 Fine tuff and qtz vein (5cm) @ 167.1m	P <5	ST <1		F 10		V <1	

PAGE 15 OF 21 | PROJECT MONEY | HOLE MON97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
Unit is virtually devoid of sulphides.						
WHOLE ROCK		166.7	192.2		70957	

PROJECT MONEY

HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION CP	CA	HE JSP	MS	CL	QZ	FRACTURE INTENSITY
					168.0 - 175.1 Lapilli tuff, sheared with clay gouge 169.8 - 170.4; 172.0 - 172.6. Weak fabric @ 174.0 cm	P <5			P 10	Bm <5		
					175.1 - 179.0 F-mg. tuff? The coarser sections have a shallow intrusive equi-crystalline appearance, but the finer sections at top & bottom of section do not appear to be chilled margins but rather gradational contacts into lapilli tuffs above + below. Dendritic mn growths on fracture surfaces	P 10	ST <5		P 10	P 5		
					179.0 - 186.3 Lapilli tuff. Weak fabric (bedding) @ 48° CA. @ 180.0	P 10	Bm 5		P 10	Bm 5		
					186.3 - 194.8 Thickly bedded tuff and lapilli tuff. Top 30 cm is sheared and clay "gouge" @ 34° CA @ 186.4	P 20	ST 3		P 10	Bm 2	✓ 1	
					194.8 - 196.9 Section of high shearing and clay-gouge. Fault-fracture zone. Fe-carb. alteration	P 5	P 10		P 30			
					196.9 - 205.7 Lapilli tuff. Matrix as (175.1 - 179.0) Fracture zone with clay gouge @ 201.1 - 201.4	P 10	P 5		P 10	P 5		
					205.7 - 207.0 Sheared lapilli tuff as 196.9 - 205.7. Shearing @ 52° C @ 206.0.	P 10	P 5		P 20	P 5		
					207.0 - 208.6 F-mg. tuff? as (175.1 - 179.0).	P 10	ST <5		P 10	P 5		
					Contact with below somewhat arbitrary and taken where pillows always become more common.							

PAGE 17 OF 21 | PROJECT MONEY | HOLE MON97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
WALL ROCK		197.9	220.0		70958	

PROJECT MONEY

HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION: EP	CA	HE JSP	MS	CL	QZ	FRACTURE INTENSITY
208.6 - 224.0					**BSLT px** Mottled pale to med. green fine to med. grained pillow and pillow breccia section. Pervasive epidote-chlorite-carbonate alt° increases over above unit. Fracture zone with gouge 213.2-213.4 and 212.0-212.3. In places the rocks resembles the lapilli tuff in the unit above but distinguished by more frequent pillow selvages, multiple events are represented, and unit is quite complex. Mn coatings on fracture surfaces are common.	P 20	P ST 10		P 45	P 10	V 3	
					Last 15 cm is a lapilli tuff (contact @ 62° CA) Contact with below sharp @ 74° CA.							
224.0 - 224.9					**PYTF** med-dk grey, f. grained tuff, showing soft sediment deformation (gentle warping) with pale green rare fragments to 1 cm diameter. (tuff pieces) Py occurs with silica and reaches massive sulphide concentration (>60%) over 10 cm at 224.6-224.7. No other sulphides seen.				P 10		P 15	
					Contact with below sharp @ 56° CA.							
224.9 - 239.8					**BSLT px** Light grey-green to medium green, fine to medium grained pillows and pillow breccias.							

PAGE 19 OF 21 | PROJECT MONEY | HOLE MON97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
No sulphides noted		223.0	224.0	1.0	70316	
Py - Silica as nodules and massive + dissemination forms.	Py 20	224.0	224.9	0.9	70317	
WALLS ROCK		227.0	258.9		70959	
		224.9	225.7		70318	

PROJECT MONEY

HOLE MON97-8

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION Ep	Ca	Hc Sp	Ms	Cl	Qz	FRACTURE INTENSITY
					224.9 - 239.8 Similar to (208.6-224.0) but Fractures and pillow selvages are goscamp-bolas the zone, gradually decreasing until 233.5m 237.7 - 238.4 Slight chlorite Contact with below sharp @ 5° CA.	P	ST		P		V	
						15	1-2		5		1-2	
239.8 - 246.1					BSLT? ±f med green, med. grained equi-granular Fs-Bi ±Px ? x-tals in a thick bedded tuff. Fmnt Contact 58° CA @ 244.3m. Qtz vein 28° CA @ 242.0 ± 242.4 (5cm). Contact with below gradational over 20 cm.	P	ST		P		V	
						5	3		<5		2	
246.1 - 261.8					BSLT px Pale to med green, f-m.g. with pillow fragments sub-round and 1-10 cm diameter. Epidote altered pillows and pillow breccia selvages become prominent below 250.5.	SL	±f	SL	f	SL		
						15	5	Tr	10	<5		
					247.1 - 247.4 PYTF Pyritic tuff with pervasive silica alt'n. Contacts @ 50° CA.							
					Quartz veins @ 30° CA @ 248.7 (10cm). In places the rock resembles a lapilli tuff, poorly sorted (towards bottom of hole). No sulphide. Called pillow breccia due to lack of contacts and pillow selvage alt'n.							
261.8					END OF HOLE Casing pulled							

PAGE 21 OF 21 | PROJECT MON97 | HOLE MON97-8

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
Trace Py along stringers and disseminated.	<1					
237.7-238.4 - Py in sheared and gossanous zone. (~1%)						
		246.1	247.1	1.0	70319	
		247.1	247.4	0.3	70320	
Py 247.1 - 247.4	5-7	247.4	248.4	1.0	70321	

ATNA RESOURCES LTD.

DRILL LOG

PROJECT: MONEY	COLLAR ELEVATION: 1448 m
HOLE: MON-97-09	AZIMUTH: 230°
LOCATION: L 48N 50+50 E	DIP: -45°
LOGGED BY: J. W. Pickett	LENGTH: 164.3 m
DRILLED BY: Boisvenu	HORIZONTAL PROJECTION: 116.2
ASSAYED BY: Pioneer Laboratories	VERTICAL PROJECTION: 116.2
CORE SIZE: N/Q	
DATE STARTED: Sept 26, 1997	DATE COMPLETED: Sept. 28, 1997

DIP TESTS BY

DEPTH	DIP	AZIM	DEPTH	DIP	AZIM
0	-45°		41		
82 m	-39°		123.2		
164.3m	-34°	Note Test	may not be	Accurate	

OBJECTIVE: Test Resistivity low ~ NW of Boulder creek showing

ALTERATION SCALE

absent
slight
moderate
intense

SULPHIDE SCALE

traces only
< 1%
1% – 3%
3% – 10%
> 10%

SUMMARY LOG

PAGE 2 OF 11 | PROJECT MONEY | HOLE MON-97-9

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	FROM–TO	GEOLOGICAL DESCRIPTION	EP	Ca	HE / JSP	TC / MS	CL	Qz	FRACTURE INTENSITY
					0.0M -2.3M	Overburden OVB							
					2.3M 5.9m	Broken core [illegible] Pebbles + ferricrete							
						BSLT pw+px							
10					2.3 M -15.7m	Pillowed BASALT + Pillow BX Medium grey green, fine grained Pillows intermixed with isolated pillow breccia section with 1-3 cm rounded "fragments" and other section containing angular fragments e.g. from 8.7-9.6m in a [illegible] / [illegible] matrix Cl + hm + ep + cherty selvages and veins - Much of section [illegible] chloritized [illegible]?	P/ST 5-10	ST 5-10	ST 5-10	TC? P 10	P ST 15		
20, 30					15.7m	4cm chlorite gouge							
						BSLT tf+bx							
40					15.7 18.1	MAFIC BRECCIA / TUFF Medium grey green / Maroon angular in places "wispy" fragments 1-3cm in chlorite or [illegible] matrix @ 17.4m Bedding (60° to C.A) 17.6 - 18.1 Chl Gouge	P/ST 10	V/ST 10	ST/BM / PY 20	P/ 10	P/BM 15		
50, 60						QTZV							
					18.1 18.5	Quartz / CHLORITE / EPIDOTE COMPOSITE VEIN	V/30	V/10			V/20	V/40	
						MDST							
70					18.5 ~20.0	TUFFACEOUS SILTSTONE Medium grey green Laminations @ 65° to C.A				TC? P/90	P/15		
						BSLT pw+px							
80					~20.0 37.2	ISOLATED BASALTIC PILLOW BRECCIA / PILLOWED BASALT Medium grey green Locally [illegible] stained particularly to 21M + 24.7 to 25M 24.55M - 5cm Qz Vein	P/S 10	V/5		TC/P/90	P/10 SL-V 5		
90													

PAGE 3 OF 11 | PROJECT MONEY | HOLE MON97-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM m	SAMPLES TO m	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
3.7 - 3.8m Malachite stained <1%.		2.30	3.50	1.20	70322	
@ ~ 4.3 m Malachite stained <1%		3.50	4.00	0.50	70323	
		4.00	4.50	0.50	70324	
@ 11.3m Malachite staining		4.50	5.65	1.15	70325	
		11.00	11.50	0.5	70326	
15.48 - 15.75 m malachite + azurite		14.50	15.45	1.45	70327	
Pyrite (<1%)		15.45	15.85	0.40	70328	
WHOLE ROCK		7.0	14.9	7.9	70960	
		15.85	16.85	1.0	70329	
		16.85	18.2	1.35	70330	
		18.2	18.5	0.3	70331	
		18.5	19.5	1.0	70332	
18.2 18.5 Malachite + azurite stained (1-2%)						
WHOLE ROCK		20.8	35.1	14.3	70961	

PROJECT: MONEY

HOLE: MON 97 9

DEPTH (M)	GEOLOGICAL DESCRIPTION	EP	CA	HE JSP	TC MS	CL	QZ	FRACTURE INTENSITY
~20.– 37.2 (CONT)	few angular pillow breccia zones. Minor mafic tuff between pillow breccia zones e.g. 4cm thick section at 27.9m 1cm Py fragment @ 27.6 11cm Qz vein @ 29m 14 cm gouge (cl) @ 32.7m, gouge 55° C.A 35.4 – 35.7 Mafic Xl tuff 36.4 – 37.3 Mafic Xl tuff							
37.2 – 40.8	MAFIC TUFF / JASPER [BSLT tf (js)] Medium grey / red tuff? is very fine grained, soft Magnesium pink?, very chlorite several angular fragments ~2-3mm that ~1cm in long diameter 39.2 – 39.4 Jasper pod ~1% py 39.6 – 39.7 Irregular jasper mass 40.5 – 40.6 Irregular jasper mass fragments aligned ~70° C.A			10	P/5	P/20	V/2	
	[BSLT pw+px]							
40.8 – 54	PILLOWED BASALT / ISOLATED PILLOW BRECCIA / PILLOW BRECCIA Medium grey green 40.8 – 42.8 very fine grained tuff chlorite, mostly breccia 42.8 – 54 Pale grey green typically pervasively epidotized 20cm – 1m pillows in epidote/chlorite selvages ~50% pillow breccia 42.8 – 48 47.8 – 48.2 – gouge, mostly chlorite gouge @ 45° C.A 48.2 – ~20% pillow breccia 51 – 51.1 Qz vein flooded by Qz/cc	P/A S/1M / 15	V/2			P/SL/15	V/LAM/5	
54 – 82	PILLOW BASALT [BSLT pw] @ 58.9m cc + ep qz vein / 5cm	P/SL 10	V/5			P/a 15	V 2	
70 – 82	@67.3m 12cm mafic gouge? shards in interpillow area 70 – 82 (fewer selvages broken core)							
	71.5 – 73.8 broken core loosely selvages	P/N 5	V 2			P/SL/15	P/1	

PAGE 5 OF 11 | PROJECT MONEY | HOLE MON97-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
@ 27.6M 1cm Wide Py fragments						
37.4-37.7 ~2% diss + Stringer Py		37.4	37.9	0.5	70333	ASSAY + WR
WHOLE ROCK		42.5	69.5	27.0	70962	
45.7-47.6 1-5% Py in matrix to fragments, grey matrix with Py May contain hydrothermal		45.6	46.6	1.0	70334	ASSAY + WR
		46.6	47.55	0.95	70335	
52.3-52.4 1% m.g. Py in Chl Selvage						
67.1-67.2 ~1% Py in Py/Qz/cc Stringer						
WHOLE ROCK		74.2	104.3	30.1	70963	

PROJECT MONEY

HOLE MON 97-9

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	EP	CA	HE / JSP	TC / MS	CL	Qz	FRACTURE INTENSITY
					BSLT pw+px							
82- 101.7					82-101.7 Pillow BASALT, Pillow BX Medium grey green Chlorite amygdules locally @ 88 m 15 cm gouge 88.2 - 91.5 Pale green + grey variolitic globules, 'variole-like' masses in pillows; 'glassy' chl-rich selvages 91.5- as above but without globular masses @ 95.5m Chl-rich gouge @ ~30° C.A (20 cm) @ 97.9m 5 cm gouge	P/V 2	V/ST 5			P/SL 10		
					BSLT pw							
101.7 121.0					Pillowed BASALT Medium grey green Abundant 1-2 cm chl amygdules @ 109.6 aligned fragment interpillow area @ 55° to C.A 109.4-109.7 interpillow breccia ~~frag~~ - unit contains few 20-30 cm interpillow breccia zones typically containing Py stringers + patches	P/V 2	V/ST 5			P/SL BX 15	P/V 2	

 PROJECT MONEY HOLE MON97-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
@ 84m 12 cm section 1-2% Py/Po stringers in breccia matrix						
@ 86.1 10cm section 1-2% Py and		85.7	86.7	1.0m	70336	
@ 86.6 5cm section as above						
88.7-89m 2% Py/CC/Po stringers in pulled fragments						
WHOLE ROCK		105.3	130.8	25.5	70964	
@ 108.5 6cm wide Chl/CC/Qz selvage containing Py stringers	10%					
@ 109.5 10 cm wide zone containing Py veins, patches and stringers in intrapillow breccia. 2-4cm long sulphide fragments are pulled	15%					
112.5-112.9 intrapillow breccia containing bleached fragments + Py stringers & patches	20	112.5	113.0	0.5	70337	
114.0-114.3 Py veins in matrix to breccia	10					
114.6-114.7 Py stringers and fracture filling	10					
115.7-115.9 Py in breccia matrix and stringers	15					
116.2-116.4 Py stringers	5					
116.8-117.5 Py in stringer veins and breccia matrix. CC, Cl + Qz occur with Py in vein from 117.1-117.5	15	116.8	117.5	0.7	70338	
120-120.2 Py stringers + breccia matrix	5					

PROJECT MONEY

HOLE MON 97-9

DEPTH (M)	GEOLOGICAL DESCRIPTION	EP	CA	HE JSP	TC MS	CL	QZ	FRACTURE INTENSITY
	BSLT pw+px							
121.0 – 127.8	PILLOW BRECCIA / LAPILLI TUFF		V/ST 5		P/ 10	P/S / BM / 20		
	PILLOW BASALT							
	Light grey green							
	Breccia sections contain ~50% subrounded to angular 1-5cm fragments in chl-rich [illegible] matrix							
	- rock is [illegible] [illegible] [illegible] Talcose?							
	- @ 122.4 fragment aligned 50° to C.A							
	@ 124.4 10 cm chl gouge							
	BSLT pw+Lf							
127.8 – 135.1	PILLOWED BASALT / MASSIVE BASALT / Pillow Breccia	P/DT 5	V 5		P/ 5	P/SL / 15		
	Med grey green							
	@ 130.3 5cm gouge zone							
	@ 131.3 fragment aligned 45° C.A.							
	@ 134.25 2cm gouge @ 60° C.A							
	BSLT Lf							
135.1 – 142.9	Massive BASALT / DIABASE	P/ST / ST 15	V/ST 5			P/ 15	V LATE / 5	
	medium grey-green Medium to Coarse grained flows							
	ophitic plag. + pyroxene (altered to actinolite?)							
	@ 138m 10 cm wide Qz vein							
	BSLT pw							
142.9 – 155.0	PILLOWED BASALT	P/M / ST 15	V/ST 5			P/SL 20	V LATE 5	
	Medium grey green							
	few chl amygdules							
	148.35 - 148.5 CC/Qz vein							
	154.8 – 155.6 Broken core							
	Sheared Chl ± Qz ± CC gouge zone							
	FAULT							
	Slickensides on Plane @ 10° CA							
	Rake of slickensides 45° CA along plane							

PAGE 9 OF 11 | PROJECT MONEY | HOLE MON97-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
131.3 - 131.5 Py [illegible] Diorite and in breccia matrix	10					
132.75 - 132.95 as above	10					
at 133 m 5cm [illegible] as above	5					
133.5 - 133.7 as above	5					
134.5 - 134.85 as above	5	134.65	134.85	0.3	70339	
135.3 - 135.4 as above	5					
WHOLE ROCK	5	136.5	139.0	2.5	70965	
135.75 - 135.85 as above						
In general Py occurs with Cc + Qz						
WHOLE ROCK		143.4	152.4	9.0	70966	
153.4 - 153.5 as above	5					

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PROJECT MONEY

HOLE MON-97-9

BSLT bf + lt

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	HE JSP	TC MS	CL	Qz	FRACTURE INTENSITY
155.0					MAFIC LAPILLI TUFF / PILLOW	P/ST	V/ST			Pf/L		
164.3					BRECCIA / PILLOW BASALT	5	10			/BM		
					Medium grey Green					20		
					Typ. Section consist of 0.5-2 cm rounded to angular fragments in chl. matrix. Irregular Metric							
					@ 158.15 Fault at 40° to C.A							
					Slickenlines @ 80° to C.A on Fault PLANE							
					164.3M E.O.H.							

PAGE 11 OF 11 | PROJECT MONEY | HOLE MON97-9

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
WHOLE ROCK		155.0	164.3	9.3	70967	

ATNA RESOURCES LTD.

DRILL LOG

PROJECT: MONEY	COLLAR ELEVATION: 1368 m
HOLE: MON 97-10	AZIMUTH: 230°
LOCATION: 49+21 N / 53+50 E	DIP: -55°
LOGGED BY: R.G. WILSON	LENGTH: 234.4 m
DRILLED BY: BOISVENU DIAMOND DRILLING	HORIZONTAL PROJECTION: 134.4
ASSAYED BY: PIONEER LABORATORIES	VERTICAL PROJECTION: 192.0
CORE SIZE: NQ	
DATE STARTED: SEPT 28/97	DATE COMPLETED: OCT 1/97
DIP TESTS BY: ACID TEST	

DEPTH	DIP	AZIM	DEPTH	DIP	AZIM
118.6	-48				
234.4	-45°				

OBJECTIVE

TEST AN ELEVATED IP CHARGEABILITY EFFECT IDENTIFIED IN AN E-SCAN SURVEY

ALTERATION SCALE

absent
slight
moderate
intense

SULPHIDE SCALE

traces only
< 1%
1% – 3%
3% – 10%
> 10%

SUMMARY LOG

This hole (MON97-10) cored a thick sequence (116 m) of pillow basalt and pillow breccia, several sections of which are vesicular. The unit is virtually devoid of sulphides except for narrow <.6 m intervals of banded pyritic tuff. A 1m zone of interbedded mudstones with no associated sulphide layers represents the same stratigraphic horizon hosting the Boulder Ck sulphide showing. A 2.5 m quartz vein is found where the sulphides should be and this is underlain by 15.6 m of interbedded hematitic tuffaceous basalt and tuffaceous mudstone. Three units of hematized pillow basalt, mudstone, tuff, and pillow breccia (interbedded) characterize the chargeability zone and the hematitic nature of the rocks is the likely cause of the anomaly.

A non-hematitic pillow basalt and pillow breccia underlies the anomaly through to the end of the hole.

PROJECT MONEY

HOLE MON97-10

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	EP	CA	HE JSP	MS	CL	QZ	FRACTURE INTENSITY

0 – 15.0 **OVB**

Casing to 15.5m. Recovered core is from large block talus covering bedrock.

15.0 – 131.3 **BSLT pw+px**

EP	CA	HE JSP	MS	CL	QZ
SL	SC	[illegible]	P	SL	ST
P	ST	Gm	5		SL
15	5	<1			3

Mottled Light to medium green, fine to medium grained pillows and pillow breccia with short intervals of more massive flow? material (intervals noted below).

Pillow selvages are characterized by the presence of epidote and lesser chlorite plus carbonate (calcite) and minor qtz. Pillow sizes vary from mini pillows (3-5cm dia) to >1m. Inter-pillow brecciated material is common, composed of epidote, calcite, chlorite and minor quartz.

Jasper/hematite is seen intermittently over sections generally less than 1.5m in length (intervals noted below).

This unit is virtually devoid of sulphides except for short sections as noted.

(26.0 - 27.2, 28.1 - 28.6, 43.8-44.0, 45.3-46.1, 54.6-55.3, 57.3-58.9, 108.0 - 112.7, 122.4-123.9) Increase in jasper over these intervals, occurring mainly in pillow and breccia selvages and in stringers healing fractures.

(contact 78°CA, 84°CA, 73°CA)

32.0-32.2 Fine grained intrusive? or inter pillow flow with sharp contacts 82 & 56° CA.

PAGE 3 OF 17 | PROJECT MONEY | HOLE MON97-10

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM m	SAMPLES TO m	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
Sulphides are absent from this unit over most of its length. Rare + isolated grains of py are seen but are <<< 1%						
WHOLE ROCK.		14.9	30.2	15.3	70968	
" "		30.2	45.4	15.2	70969	
" "		45.4	60.7	15.3	70870	
" "		60.7	75.9	15.2	70971	
" "		75.9	100.3	24.4	70972	
" "		100.3	130.8	30.5	70973	

PROJECT MONEY

HOLE MoN97-10

DEPT	% CORE REC	% RQD			LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	JSP HE	HS	CL	QZ	FRACTURE INTENSITY

Fracture/Fault zones occurs as noted. Generally the rock is competent.

-18.8 (2cm) clay gouge.
-35.2-35.6 moderately broken core.
-54.1-54.6 " " "
-60.7-61.5 " " "
-82.0-82.1 broken core; clay gouge.
-85.0-86.3 broken core; calcite healed fractured core.
87.2-94.2 broken core, sections of clay gouge, hydrothermally altered rock, rubbled core, silica flooded sections (<10 cm). Fault zone.
123.9-124.3 Fractured core, minor gouge Quartz vein zones (enclosed rock has slight pink coloration)
70.9-71.4

58.9-60.7 Px-porphyritic (input ep. altered) section, indistinct contacts at end of jasper section and at start of fault. (section is pillowed).

61.5-62.1 Pyritic section of banded tuff? Banding @ 54-60° C.A. (also contacts).

Below 94.2m py increases in abundance and remains constant through to the end of the unit

125.0-128.0 moderately broken core, quartz filling voids, clay gouge (127.7) and is gossanous over 30cm sections.

Contact with below gradational over 30 cm is sheared, carbonate - silica healed interbedded mudstone

PAGE 5 OF 17 | PROJECT MONEY | HOLE MON97-10

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
94.2 - Py increases in abundance to 1-2% below the fault zone, occurring as stringers in selvage zones and .2-5 mm dia. disseminations						
Check sample above	<1	60.7	61.5	0.8	70340	
Pyritic, banded tuff	3-5	61.5	62.1	0.6	70341	
Check sample below	<1	62.1	63.1	1.0	70342	

PROJECT MONEY

HOLE MON97-10

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	HE JSP	MS	CL	QZ	FRACTURE INTENSITY
					and basalt. Banding within this zone is @ 50° CA.							
131.3 - 132.3					MDST mr Reddish brown and green, fine grained thinly bedded mudstone (and minor basalt). Sericite - talcose, with a strongly sheared section 131.8 - 132.1. - Bedding @ 74° CA @ 132.2 m				P 20			
					Contact with below sharp, but irregular.							
132.3 - 134.8					QTZV Contains rip-up clasts of below unit. White massive in places slightly smoky, and internally fractured. A calcite clast is seen @ 134.2 m (10 cm). Secondary chlorite is seen along fractures.		8+ 2			5 5	V 90	
					Contact with below sharp @ 54° CA							
134.8 - 150.4					BSLT tf (he+js) & MDST tf (he+js) Interbedded basalt and Dusky red (hematitic), moderate reddish brown (mudstone) and pale green to greyish green (basalt),							

PAGE 7 OF 17 | PROJECT MONEY | HOLE MON97-10

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS					

PROJECT MONEM

HOLE MON97-10

DE (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	SSP ME	MS	CL	QZ	FRACTURE INTENSITY
					fine to very fine grained, medium interbedded (10-30 cm). The volcanic sections are pillow-breccias and contain fragments of the sediments. The sedimentary layers may, in part, be tuffaceous. Sporadic exhalite layers are also seen, containing lensoidal quartz (1-2 mm) as at 136.9, 147.5 and 149.9-150.4.							
					Bedding 58° CA. @ 136.8 m							
					Cross bedding? seen at 139.0 as well as flame structures. Swirled bedding and breccia clasts @ 146.7.	Bm 3	Bm 3	P 40	P 10	Bm 5	St 3	
					Bedding (2 mm interlayer) 70° CA @ 141.1							
					Bedding 66° CA. @ 146.0 m							
					Bedding 58° CA @ 148.8 m							
					This unit is mainly sedimentary in nature, tuffs and mudstones. Only a few pillow structures were seen.							
					Contact with below taken where reddish brown mudstone interbeds stop and pillow breccias become prominent. Bedding is 35° CA.							
					150.4-182.7 BSLT px + tf (he)							
					Dusky red, and greyish green, fine to medium grained mini-pillows & pillow breccias and very							

PAGE 9 OF 17 | PROJECT MONEY | HOLE MON97-10

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
		150.4	182.7	32.3	70974	

PROJECT MONEY

HOLE MON97-10

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	JSP Hte	MS	CL	Qz	FRACTURE INTENSITY
					minor tuffaceous basalt? Pillows and breccias are hematized and non-hematized (red+green) and are rimmed by hematitic matrix.	SL 5	SL 3	SL 30		SL 5	SL 3	
					167.2-167.7 quartz vein with chlorite along fractures and fragments (rip-up) of host within. other mind (<10 cm) quartz veins @ 153.0, 164.5, 167.9 175.0							
					Contact with felsic sharp at first sedimentary interbed. Contact @ 78° CA (Bedding)							
					182.7-193.2 MDST tf? (he)							
					Dusky red to very dark red and medium green, fine to very fine grained, generally thickly bedded (30-100 cm) tuffaceous mudstone. An orange-red siliceous sediment (jasperoid) bed 25cm thick into this unit. All rocks are hematized, but no sulphides are seen.		SE 1	L 40	P 10	5		
					183.1-187.9 Core is highly broken with some clay gouge							

PAGE 11 OF 17 | PROJECT MONEY | HOLE MON97-1C

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
No sulphides are seen within this unit.						

PROJECT MONEY

HOLE MON 97-10

DEPTH (m)	% CORE REC	% RQD			LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION LEP	CA	JSP HE	MS	CL	QZ	FRACTURE INTENSITY
							Bedding @ 61° CA @ 171.4 m							
							Contact with below chosen at point where pillow? breccia starts, although rock is interbeds of above and below units over much of this unit's length. Contact is distinct but irregular.							
193.2 -200.3							BSLT px + tf (hc) & MDST tf? (hc)	Bm 5	Bm 3	Bm 30	D 3	Bm 5	ST 3	
							Dark red to very dark red and medium to dark grey green, fine to medium grained interbeds of basaltic pillow breccia and tuffaceous? mudstone. The pillow breccias are in part hematized, rimmed with hematitic matrix and the sediments are totally hematized.							
							Bedding 63° CA. @ 196.4 m							
							The pillow breccias are generally massive bedded and the mudstones, which form < 20 % of the unit are thinly (3-10 cm) bedded.							
							Contact with below sharp @ 48° C.A. at point where hematite decreases dramatically.							

PAGE 13 OF 17 | PROJECT MONEY | HOLE MON 97-10

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS					

PAGE 14 OF 17 | PROJECT Money | HOLE MON97-10

DE. TH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	SSP HE	MS	CL	Qz	FRACTURE INTENSITY
					200.3 - 209.2 BSLT pw+px (he)	SL 7	SL 5	SL/L 10		SL 5	SL 5	

Grey-green to medium green fine to medium grained pillows and pillow breccias with green to dusky red (hematized) fine grained matrix.
Interbeds of glucose, orange-red fine grained jasper, exhibits with angular fragments of pillow breccia

No sulphides seen.

Contact with below gradational over 10 cm where jasper dies out. (starts stratigraphically).

					209.2 - 234.4 BSLT pw+px	SL/p 20	SL ≤	Bm 5	P ≤ 5	SL 3	SE 2	

Light to medium green, fine to medium grained pillows and pillow breccia. Red jasper is present as matrix fillings in breccia sections, especially 215.0 - 221.7 m. Below 221.7 jasper diminishes gradually, until 227.8, below which # is only seen rarely until the end of the hole.

(215.0 - 221.7) Clast-matrix supported fragmental and may represent a debris flow. Fragments are angular, from 4 mm - 10 cm in diameter and are unsorted. They are basaltic? in composition and are in part supported by jasper and fine grained green matrix

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
		200.3	209.2		70975	
CHECK SAMPLE IN BRECCIA		216.1	219.2	3.1	70343	
WHOLE ROCK		218.7	234.4	15.7	70976	

PAGE 16 OF 17 | PROJECT MONEY | HOLE MON97-10

DEPTH (M)	% CORE REC	% RQD			LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION EP	CA	JSP ITE	MS	CL	QZ	FRACTURE INTENSITY
							(221.7 - 234.4) ~~mainly~~ pillow and pillow breccia. Epidote, and lesser chlorite and calcite are common alteration minerals.							
							216.2 - 10 cm quartz vein.							
							Unit is massive bedded and volcanic event contacts are rare, but seen @ 215.1 m - 59° CA							
							234.4 END OF HOLE							
							Casing pulled.							

PAGE 17 OF 17 | PROJECT MONEY | HOLE MON97-

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
VIRTUALLY NO SULPHIDES SEEN IN THIS HOLE						

ATNA RESOURCES LTD.

DRILL LOG

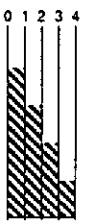
PROJECT: MONEY	COLLAR ELEVATION: 1480m
HOLE: MON-97-11	AZIMUTH: 230°
LOCATION: 5495N 4962E	DIP: -50°
LOGGED BY: J.W. PICKETT	LENGTH: 167.3m.
DRILLED BY: BOIS VENU	HORIZONTAL PROJECTION: 107.5m
ASSAYED BY: PIONEER LABORATORIES	VERTICAL PROJECTION: 128.2m
CORE SIZE: NQ	
DATE STARTED: October 2, 1997	DATE COMPLETED: Oct. 5, 1997
DIP TESTS BY:	

DEPTH	DIP	AZIM	DEPTH	DIP	AZIM
NONE TAKEN					

ALTERATION SCALE

absent
slight
moderate
intense

SULPHIDE SCALE



traces only
< 1%
1% – 3%
3% – 10%
> 10%

OBJECTIVE: Test low resistivity zone accompanied by weak chargeability

SUMMARY LOG

PAGE 2 OF 7 | PROJECT MONEY | HOLE MIN-97-11

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	EP	CA	HE JSP	TC MS	CL	Qz	FRACTURE INTENSITY
					0- 6.1	NO CORE							
						BSLT pw+Ef							
					6.1 21.0	BROKEN CORE - TALUS BOULDERS OF PILLOWED BASALT	P/V/10	V/2	V/SL/5		P/V/SL/15	V/2	
						Pale gray green, locally rusty e.g. 17.0 - 17.7 m							
						BSLT pw+Ef							
					21.0- 56.0	PILLOWED BASALT MASSIVE BASALT	P/V/SL/15	V/5	V/SL/5		P/V/SL/15	V/P/5	
						PALE GREY GREEN							
						Unit has sections with abundant Pillow selvages and other more massive Sections with few selvages, abundant epidote and chlorite veins and few calcite + Qz vein, locally Silicified, ...							
						- epidote and locally jasper in Selvages accompanied by abundant chlorite, etc							
						- abundant tiny white feldspar Phenocrysts locally							
						- 43.9 M - 2 cm gouge							
					56.0 161.3	PILLOWED BASALT							
						BSLT pw							
						As above but Selvages more common - several 20 cm breccia zones between Pillows, in places Pale grey chert occurs with chlorite in interpillow breccia zones							
						62.5-66.5 several 5-7 cm grey chert masses between Pillows, Chert contains ~ 2% diss Py / 65.1 m has laminations @ 75° CA							
						@ 69.5 m Rusty gouge zone @ 60°	P/V/20	V/SL/10	SL/V/5		P/V/10/15		
						73-73.3 grey discontinuous chert masses							
						@ 75.2 7 cm gouge @ 65° C.A							
						83.7-84.7 MAFIC TUFF							
						green to rust-coloured, well foliated, faulted, foliation at 65° C.A.							
						NOTE. Silicification more below 60 m.							

PAGE 3 OF 7 | PROJECT MONEY | HOLE MON97-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM m	SAMPLES TO m	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
(W) HOLE ROCK		23.9	51.3	27.4	70977	
W HOLE ROCK		52.0	81.0	29.0	70978	
@ 66.6 m 3 cm rusty Pyrite veinlet	5					
@ 68.6M - 69.7m Several rusty Pyrite veinlets	5	68.6	69.5	0.9	70344	
(W) HOLE ROCK		82.6	103.3	20.7	70979	
83.7 - 84.6 Rusty, diss Py	5	83.6	84.6	1.0	70345	
84.6 - 94.7 Brecciated, rusty diss Py	5					

PROJECT MONEY

HOLE MON-97-11

DEPTH (m)	% CORE REC	% RQD			LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION FP	CA	HE JSP	TC MS	CL	QZ	FRACTURE INTENSITY
							@ 88.1 4cm feldspar chl. fault gouge at 50° C.A.							
							92.7 - 118.6 Several sections of broken core, gouge, tectonic breccia	P/V 10	V 5	5+/M 5		P/SV/M 30		
							93.8 - 95.3 - 70% broken core/gouge							
							97.3 - 98.8 - ~70% broken core/gouge							
							100.3 - 101.3 moderately fractured							
							105.8 - 106.5 - ~80% broken core/gouge							
							107.2 - 108.0 Tectonic Breccia 1-3cm fragments in chl-mud gouge							
							108.2 - 108.9 JASPAR-rich intrusive breccia							
							112.2 - 117.2 90% Tectonic Breccia							
							117.5 - 118.6 90% Tectonic Breccia							
							@ 123.4 3cm chl gouge at ~60° C.A.							
							@ 127.6 2cm chl gouge							
							Note: below 128 2-3cm chl-rich breccia 2mm comm. between Pillows							
							@ 130.5 & 130.55 2cm chl, clay gouge							
							135.4 - 135.5 chl. clay gouge							
							136.2 - 147.5 Most of Section is chlorite rich clay gouge and tectonic breccia							
							136.5 - 138.0 chl - rich clay gouge tectonic breccia							
							139.5 - 139.8 as above							
							142.0 - 142.6 as above							
							143.6 - 147.5 as above							
							In general tectonic breccia gouge is light gray green, and consists of 5 - 2cm angular to subrounded fragments in clay - chlorite matrix							
							at 147.5 bottom of gouge and fault zone @ 30° to C.A.							

 PROJECT MONEY HOLE MON97-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	TO	WIDTH	SAMPLE NUMBER	ASSAYS					
WHOLE ROCK		104.3	125.5	21.2	70980						
107.3-107.8 Rusty gouge		107.3	107.8	0.5	70346						
116.4-116.9 dis Py in chl+cc gouge +	2	116.4	116.9	0.5	70347						
120.5-120.8 dis Py in chl+cc gouge		120.5	120.8	0.5	70348						
@ 123.3 5cm Qz+cc vein containing ~2% Py cubes and blebs up to 4mm across		123.2	123.5	0.3	70349						
WHOLE ROCK		126.7	143.1	16.4	70981						
129.2-130.9 ~2% dis. Py + Py veinlets	2	129.2	130.9	1.7	70350						
136.5 3cm section containing dis. Py + ~~[illegible]~~ stringers w/ cc in intergallery breccia	2										

 PROJECT MONEY HOLE MON97-11

DEPTH (M)	% CORE REC	% RQD	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	EP	CA	HE JSP	TC MS	CL	QZ	FRACTURE INTENSITY
						147.5 - 159.7 Several calcite ± qz ± epidote veins	P/V/SL 10	V/15			P/SL /V/15	V 5	
						@ 149.4 20cm cc+Qz+ep vein							
						@ 151.1 14 cm cc+Qz+ep vein							
						@ 155.5 20 cm cc+Qz vein							
						158.2-159.3 ~ 70% qz [illegible] in breccia							
						159.6 - 160 - [illegible]							
						BSLT pw (js)							
					161.3 - 167.3	PILLOWED AMYGDALOIDAL BASALT WITH JASPER	P/V/SL AMYG 20	V/2	SL/10		P/V/SL AMYG 20		
						Pale green grey to reddish brown [illegible] 1-3mm irregular chlorite or epidote filled amygdules and irregular [illegible] interconnected masses							
						- several .5-1cm [illegible] jasper lenses & layers [illegible] [illegible] masses between pillows							
					167.3	EOH							
						Casing pulled.							
						Very difficult drilling in clay material. Hole was nearly lost on several occasions.							

GE 7 OF 7 | PROJECT MONEY | HOLE MON97-11

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS
158.5 - 159.0 diss Py	2	158.5	159.0	0.5	71000	
WHOLE ROCK		149.0	161.2	12.2	70982	
WHOLE ROCK		161.2	167.3	6.1	70983	

APPENDIX V

WHOLE ROCK GEOCHEMISTRY

PIONEER LABORATORIES INC. 5-730 EATON WAY NEW WESTMINSTER, BC CANADA V3M 6J9 TELEPHONE (604) 522-3830

GEOCHEMICAL WHOLE ROCK ANALYSIS

ATNA RESOURCES LTD.

Project:

Sample Type: Pulps

.200 gram sample is fused with LiBO2, disolved in 100 mls 5% HNO3 and is finished by ICP/ES.

Analyst R Sam

Report No. 9792398

Date: November 17, 1997

SAMPLE No.	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	LOI %	SUM %
70310	50.12	15.67	13.43	3.80	.31	2.57	3.35	1.18	.12	.05	.042	332	10	47	22	10	9.4	100.11
70952	48.74	15.09	9.39	7.96	7.59	3.35	.85	1.36	.16	.14	.025	207	58	78	21	11	5.1	99.81
70953	48.58	15.32	11.01	7.60	4.96	2.34	2.55	1.67	.20	.16	.007	544	63	84	25	10	5.8	100.29
70954	48.49	15.32	10.92	8.99	4.76	2.61	2.07	1.55	.18	.21	.020	665	65	80	22	10	5.0	100.23
70955	48.40	14.25	12.43	7.21	5.94	2.42	2.54	1.93	.20	.13	.005	337	128	94	31	10	4.8	100.34
70956	47.21	15.36	9.22	6.96	9.62	2.38	1.22	1.15	.09	.15	.028	454	77	50	19	10	6.6	100.07
70957	46.75	15.12	10.68	9.41	6.79	3.25	.36	1.38	.12	.16	.035	60	68	60	24	10	5.8	99.90
70959	48.73	14.12	9.62	6.86	9.74	3.37	.59	1.37	.12	.15	.022	150	60	63	23	10	5.2	99.94
70960	50.40	15.36	9.93	7.64	5.26	2.10	3.10	1.55	.23	.12	.028	471	91	74	25	10	4.6	100.41
70962	47.96	14.89	9.69	8.22	8.47	2.97	.58	1.34	.12	.15	.025	80	85	56	24	10	5.4	99.86
70965	45.90	14.96	11.37	8.41	9.50	2.88	.12	1.46	.12	.20	.016	29	184	75	25	10	4.8	99.79
70969	48.62	14.39	9.36	9.03	8.24	3.67	.32	1.32	.14	.15	.029	39	41	56	23	10	4.7	100.00
70973	47.26	15.64	9.94	7.86	9.98	2.31	1.39	1.29	.13	.15	.031	218	100	59	20	10	4.0	100.04
70974	49.80	14.83	10.54	7.92	5.78	3.20	2.01	1.93	.24	.14	.005	293	63	95	31	10	3.8	100.26
70976	46.54	16.02	9.93	7.28	8.94	2.68	2.00	1.41	.16	.19	.018	175	56	67	21	10	5.0	100.22
70977	46.99	15.67	9.56	8.22	9.37	2.75	.95	1.33	.13	.17	.032	146	62	58	21	10	4.9	100.12
70980	48.15	13.51	9.03	9.64	8.75	2.86	.81	1.28	.14	.16	.024	130	67	54	21	10	5.7	100.10
70982	46.81	14.99	10.17	8.67	8.67	2.58	.98	1.36	.13	.16	.041	73	73	67	24	10	5.4	100.01
70983	47.88	17.96	8.33	6.06	9.26	1.51	3.67	1.14	.12	.11	.037	251	102	54	19	10	4.2	100.34

PIONEER LABORATORIES INC 5-730 EATON WAY NEW WESTMINSTER, BC CANADA V3M 6J9 TEL.(604)522-3830

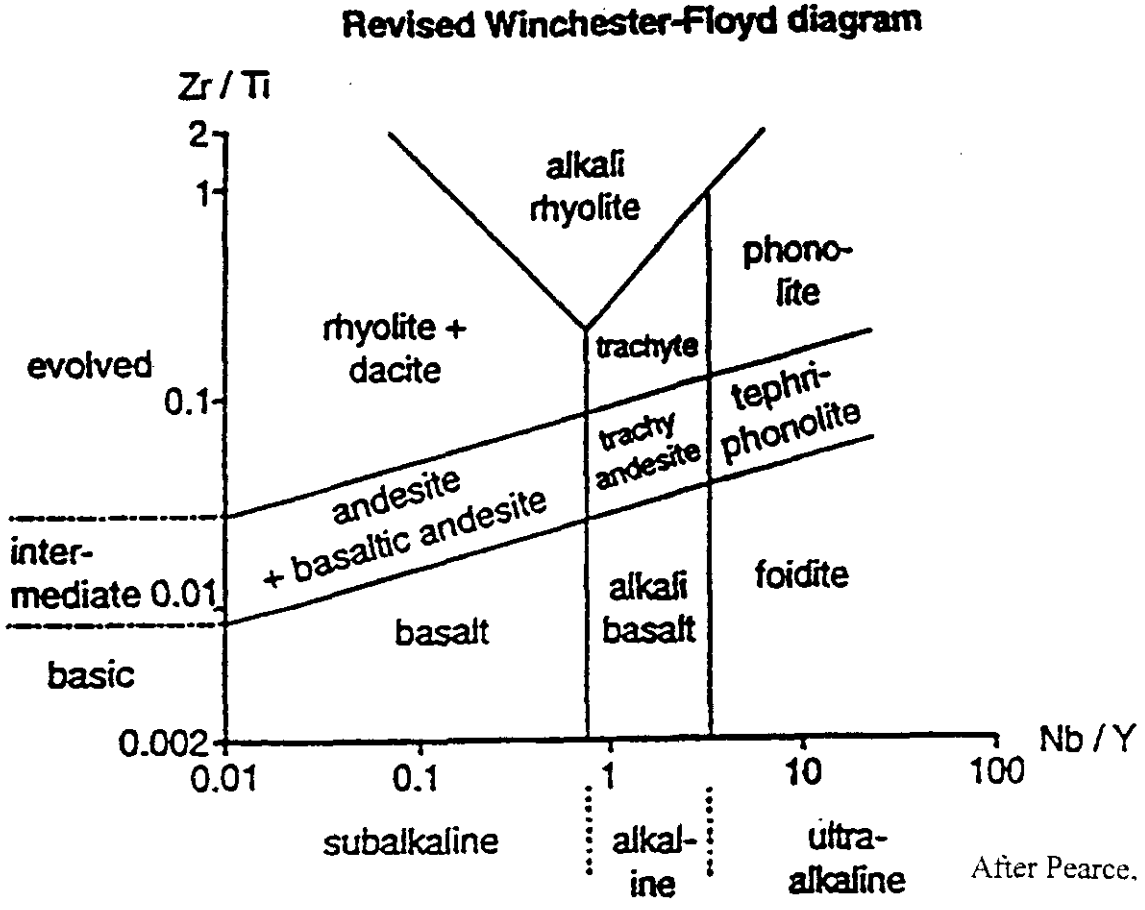
G E O C H E M I C A L A N A L Y S I S C E R T I F I C A T E

Total C & S Analysis by LECO

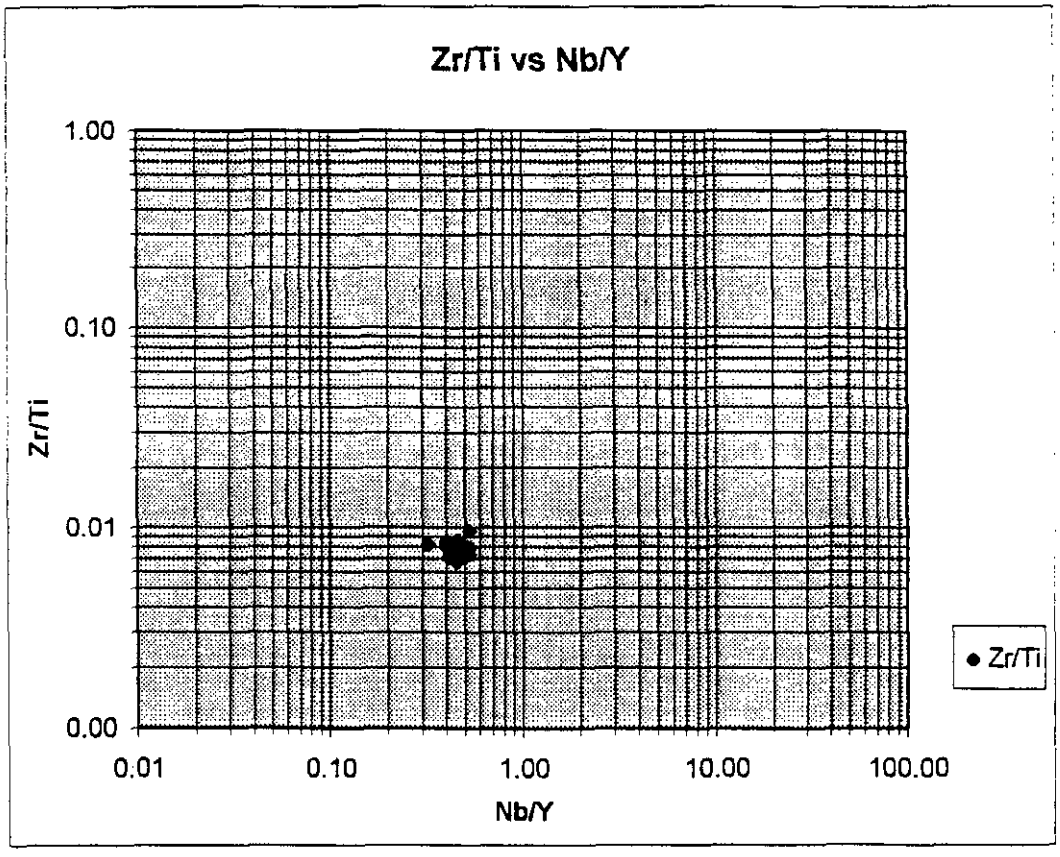
ATNA RESOURCES LTD.
Project:
Sample Type: Pulps

Analyst R Sam
Report No. 9792398X
Date: November 17, 1997

SAMPLE	C %	S %
70310	.03	9.23
70952	.48	.01
70953	.42	.01
70954	.21	.01
70955	.32	.01
70956	.84	.05
70957	.46	.01
70959	.67	.26
70960	.16	.01
70962	.45	.11
70965	.39	.06
70969	.42	.07
70973	.25	.12
70974	.16	.01
70976	.50	.01
70977	.27	.01
70980	.66	.10
70982	.46	.10
70983	.29	.03



After Pearce, 1996.



Plot of Nb/Y vs Zr/Ti. Money rocks cluster tightly within the subalkaline basalt field.

APPENDIX VI

STATEMENT OF EXPENDITURES

ATNA RESOURCES LTD.

Statement of Expenditures

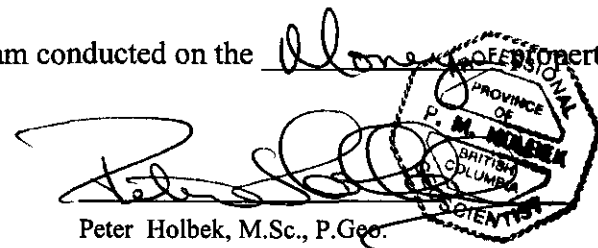
Money Project 1997

	906 Money (1550 YGC Properties)
Other Expense	
8000 · Project Acquisition	40,000.00
8020 · Assessment & Recording Fees	937.5
8100 · Professional Fees & Wages	56,227.08
8210 · Drafting	2,906.66
8220 · Geophysics	77,618.00
8230 · Grid & Line Cutting	0
8300 · Drilling	81,844.10
8400 · Assays/Geochemical Analyses	1,715.00
8500 · Field Costs	90,111.13
8600 · Maps & Publications	5,355.38
8610 · Supplies	31.5
8620 · Communications	606.3
8700 · Travel Expenses	7,853.10
8800 · Project Administration	812.5
Total Other Expense	366,018.25

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 [illegible] property as described in this report.



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

Feb 1, 1998

ATNA
RESOURCES LTD.

GEOLOGIST'S CERTIFICATE

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 personally completed and/or directly supervised between August 1 and October 5, 1997. (MONEY PROPERTY)

DATED at Vancouver, British Columbia, this 1st day of FEBRUARY, 1998.

Robert G. Wilson, P.Geo.

MONEY 28 YB51933
MONEY 27 YB51932
MONEY 26 YB51931
MONEY 25 YB51930
MONEY 24 YB51929
MONEY 46 YB51951
MONEY 45 YB51950
MONEY 23 YB51928
MONEY 22 YB51927
MONEY 52 YB90526
MONEY 44 YB51949
MONEY 21 YB51926
MONEY 43 YB51948
MONEY 51 YB90525
MONEY 10 YB16735
MONEY 20 YB16745
MONEY 19 YB16744
MONEY 18 YB16743
MONEY 17 YB16742
MONEY 16 YB16741
MONEY 9 YB16734
MONEY 8 YB16733
MONEY 15 YB16740
MONEY 42 YB51947
MONEY 40 YB51945
MONEY 50 YB90524
MONEY 41 YB51946
MONEY 14 YB16739
MONEY 7 YB16732
MONEY 6 YB16731
MONEY 13 YB16738
MONEY 39 YB51944
MONEY 38 YB51943
MONEY 49 YB90523
MONEY 12 YB16737
MONEY 5 YB16730
MONEY 4 YB16729
MONEY 37 YB51942
MONEY 36 YB51941
MONEY 48 YB90522
MONEY 11 YB16736
MONEY 3 YB16728
MONEY 35 YB51940
MONEY 34 YB51939
MONEY 47 YB90521
MONEY 2 YB16727
MONEY 32 YB51937
MONEY 1 YB16726
MONEY 33 YB51938
MONEY 31 YB51936
MONEY 30 YB51935
MONEY 29 YB51934
1981 CAMP
1996 CAMP (Core Storage)
1883.0
1941.5
1842.0
1254.5
6812000 N
6811500 N
6811000 N
6810500 N
6810000 N
6809500 N
6809000 N
6808500 N
6808000 N
445500 E
446000 E
446500 E
447000 E
447500 E
448000 E
448500 E
449000 E
449500 E
61° 21'
130° 00'

LEGEND

- Claim Line & Post with Post Numbers
- Historic Camp Site
- 1800 Topographic Contour (metres)
- 1842.0 Spot Elevation (metres)
- Creek
- Lake
- Marsh

(True N 1° E of UTM N)

0 500
metres

SCALE: 1:5000

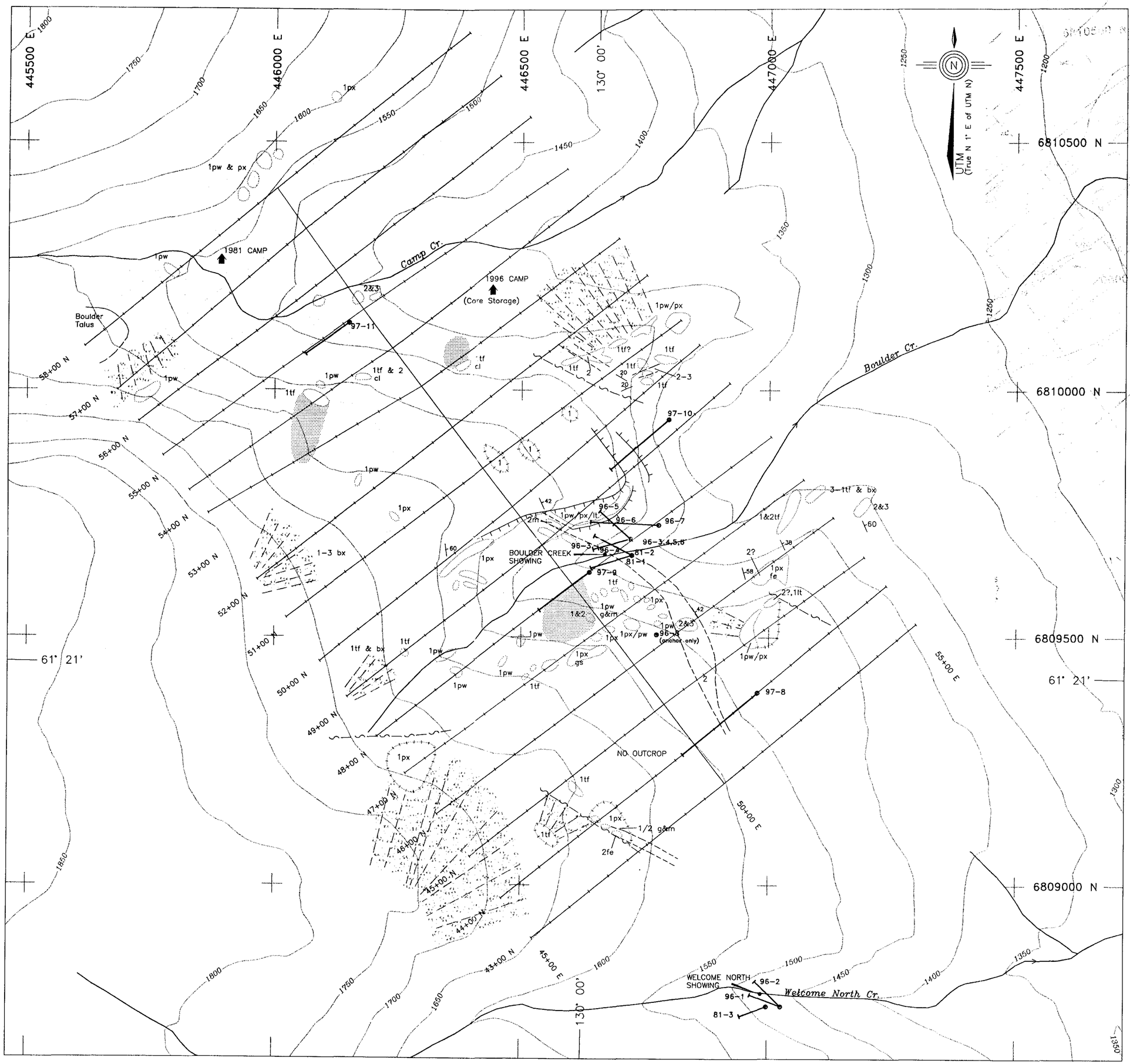
093960

ATNA RESOURCES LTD.

MONEY PROPERTY
YUKON

CLAIMS & GRID LOCATION

NTS: 105H/5 & 105G/8		DATUM: NAD27
DATE: DEC. 12/97	FILE: MNCLAIM3.DWG	JAWORSKI Mapping & GIS
FIGURE: 5	XREF: MNTOPO27.DWG	



LEGEND

SLIDE MOUNTAIN TERRANE

1. BASALT
   - pw pillow lava
   - px pillow breccia
   - bx breccia
   - tf massive (tuffaceous?)
   - lt lapilli tuff
2. MUDSTONE (SHALE)
3. CHERT
   - bx breccia

Modifiers

- g&m green & maroon
- m maroon
- fe iron formation (jasper)
- cl strong chlorite alteration
- gs gossanous

Geologic Contact (Approximate)

Cliff

Creek

Diamond Drill Hole

Topographic Linear

Historic Camp Site

58 Bedding Orientation & Dip

Outcrop

Subcrop (not in place, but not far moved)

Gossan

Talus Area

1800 Topographic Contour (100 m interval)

Grid Control by Differential GPS Survey

093960

0 500

metres

SCALE: 1:5000

ATNA RESOURCES LTD.

MONEY PROPERTY
YUKON

GRID GEOLOGY

NTS: 105H/5 & 105G/8		DATUM: NAD27
DATE: DEC. 19/97	FILE: MNGEOCOL.DWG	JAWORSKI Mapping & GIS CAD & GIS for the Mineral Industry
FIGURE: 6	XREF:	