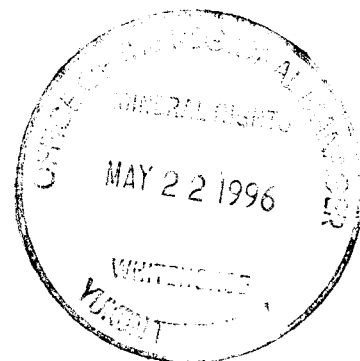
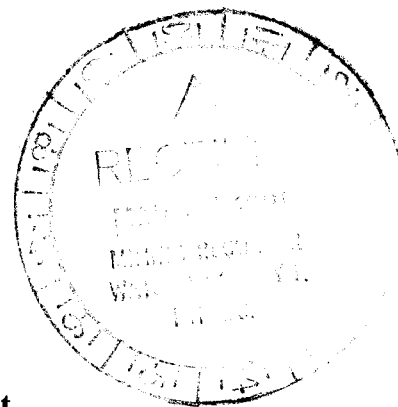


0931139

**Geological, Rock and Soil Geochemical Survey  
Argus Mineral Claims  
Watson Lake Mining District  
Yukon, Territory  
NTS Map Sheet 105 G/12  
Latitude 61 33'N Longitude 131 33' W  
Work conducted July 15-July 25, 1995**



**Prepared for  
Atna Resources Ltd.**



**Prepared by  
Paul Kallock, Consulting Geologist**

**January 6, 1996**

**DATE DUE**

[Empty rectangular box for date due]

This report has been examined by  
the Geological Engineering Board  
under Section 57 of the  
Mining Act and has given a  
representation that the amount

of \$ 13,400

*M. B. H.*

for Regional Mining Regulation and  
Geological Engineering Commission  
of Yukon Territory

## Summary

Geological mapping and rock geochemical sampling of the Argus Property has confirmed the presence of banded sphalerite with lesser galena and pyrite in laminated quartzite, chert or siliceous exhalite and calcareous phyllitic quartzite of Devonian-age. These rocks have been assigned to the Layered Metamorphic Sequence, one of six major lithologic packages of Yukon-Tanana terrane which is present northeast of the Tintina Fault.

During the 1995 exploration program, rock chip samples collected from bedrock exposures in the "A" trench area excavated in 1973, assay up to 7.89% zinc. Float boulders from this area assay up to 10.43% lead, 16.64% zinc and 8.09 oz./ton silver. East of the main trench area, float boulders discovered near 1993 auger drill hole anomalies assayed up to 30.72% zinc.

During 1995, soil geochemical surveys were confined to two areas of the property. In the southwest part of the claims soil samples containing up to 794 ppm zinc were encountered. In the southeast quarter of the claims extensive soil sampling did not detect elevated metal values.

The Argus Property is a sedimentary-exhalative (sedex) lead-zinc-silver-barite exploration target. Mineralization is associated with a siliceous exhalite horizon or multiple horizons. The "A" trench area is located in the central part of the claims where prior exploration has exposed up to 0.5 m of subhorizontal mineralization grading 1600 ppm lead, 4.33% zinc and 4.4 ppm silver. One large block of folded and broken phyllitic quartzite (siliceous exhalite?) was reported from 1993 exploration to assay 1.8% lead, 3.98% zinc and 33.3 ppm silver across a true width of 3.5 m.

Gross similarities exist between the "A" trenches and the "E" trench area, which is located in the northwest quarter of the property. Locally brecciated, laminated, sucrosic chert or siliceous exhalite with up to 5% sphalerite is poorly exposed in a 25 m section of Trench E-2. Diamond drilling in the "E" trench area in 1973 encountered 47.71 m of 0.72% zinc which included narrower intervals of up to 3.87% zinc across 3.96 m.

Additional trenching and diamond or percussion drilling at the A and E Trench areas plus trenching at several other less defined targets are recommended. To aid in target selection, a programme of test geophysical surveys including IP and EM should be used to determine if the mineralized zones can be detected.

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### **Property, Location and Access**

The Argus claims are located approximately 62 km southeast of Ross River, Yukon, Territory (Figure 1). The property lies on the north side of the Hoole River, 20 km south of the Pelly River. Coordinates Lat. 61°33'N, Long. 131° 33'W cross the property. The claims are situated in the Watson Lake Mining District on map sheet 105 G/12. Elevation ranges between 1050 and 1457 metres.

The Argus property consists of 100 mineral claims, covering approximately 2027 hectares (Figure 2). Claim data are as follows:

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u>	<u>Ownership</u>
Argus 1-28	YB35082-35109	18/3/1998	100% YGC
Argus 31-106	YB45845-45920	18/3/1999	100% YGC
Argus 107-108	YB46289-46290	18/3/1996	100% YGC
<del>Argus 107-110</del>	<del>YB60244-60247</del>	<del>pending</del>	<del>100% Atna</del>

The claims are currently under option agreement to Atna Resources Ltd. from YGC Resources Ltd.

Access to the property is possible by ATV (All Terrain Vehicle) on an old access road commencing from the Robert Campbell Highway at Mink Creek, 25 km to the old campsite. Helicopter service is also available from Ross River, Yukon, 62 km to the northwest. Numerous dozer roads provide access to many parts of the claims. An airstrip constructed in 1973 adjacent to the southwest side of the property is suitable for light fixed wing aircraft, but access to the property is hampered by an intervening swamp.

### **History**

The general area currently covered by the Argus claims has changed ownership several times since initial discovery of zinc-bearing limestone float by K.G. Sanders and J. Ryan of Newmont in 1955. The property was staked in 1966 as the Hoo claims by Northlake Mining Limited and restaked in 1972 as the HoHo claims by South Yukon Joint Venture (Straus Exploration Limited, Marietta Resources International Limited, Union Oil Co. of Canada Limited, Chevron Oil Company). Archer, Cathro managed and carried out the exploration program on behalf of South Yukon Joint Venture (Archer 1979). Exploration at various locations on the property has consisted of trenching, soil and rock geochemical surveys and limited diamond drilling. In 1992 and 1993, YGC Resources Ltd. acquired the ground by staking. Kennecott Canada Inc. optioned the property from YGC in December 1992. Archer, Cathro carried out mapping, sampling and overburden auger drilling in 1993 for Kennecott. Atna Resources optioned the property from YGC in 1995 and carried out geological mapping and a soil geochemical survey in July 1995 which is described herein.

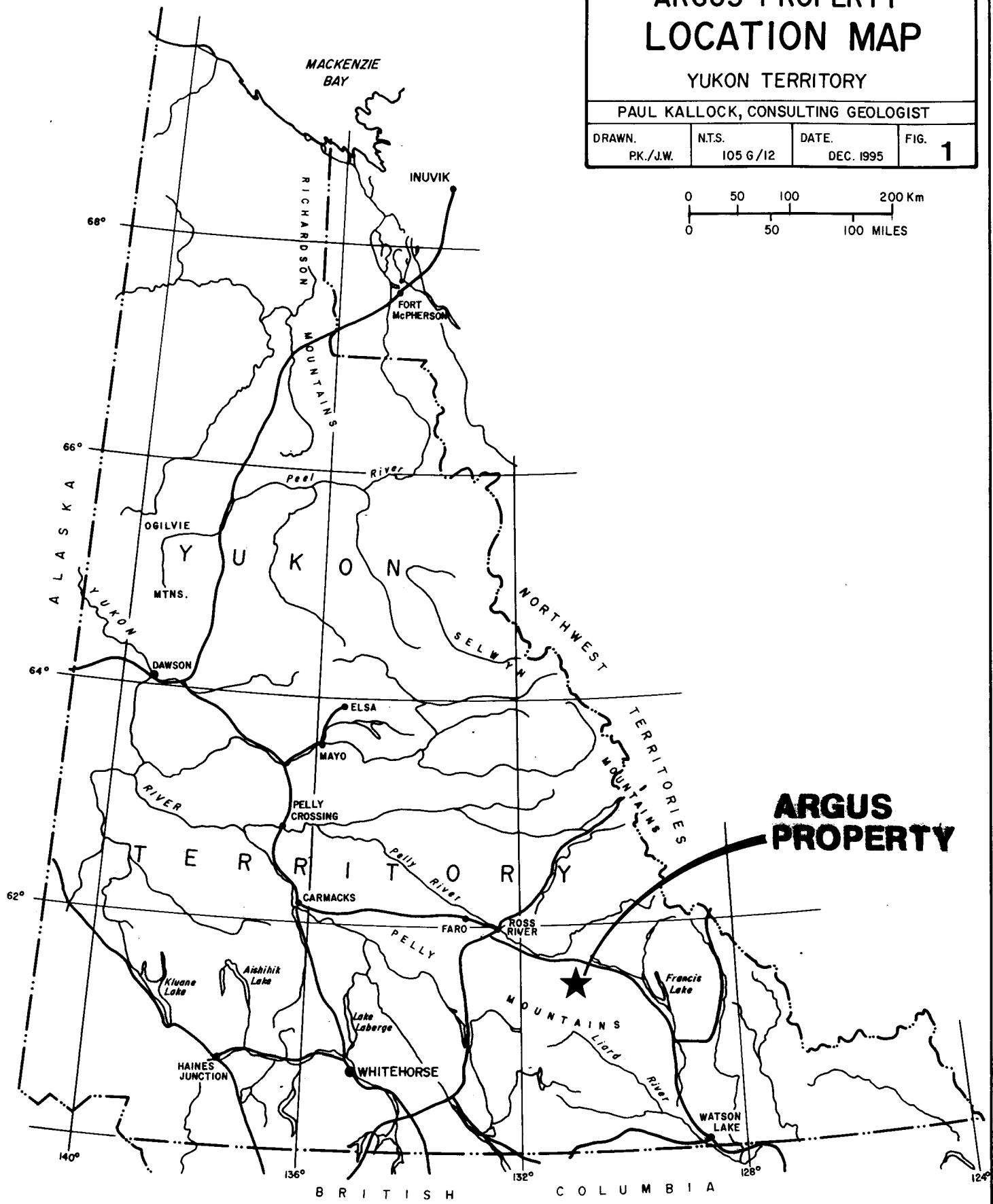
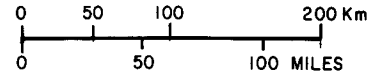
ATNA RESOURCES LTD.

# ARGUS PROPERTY LOCATION MAP

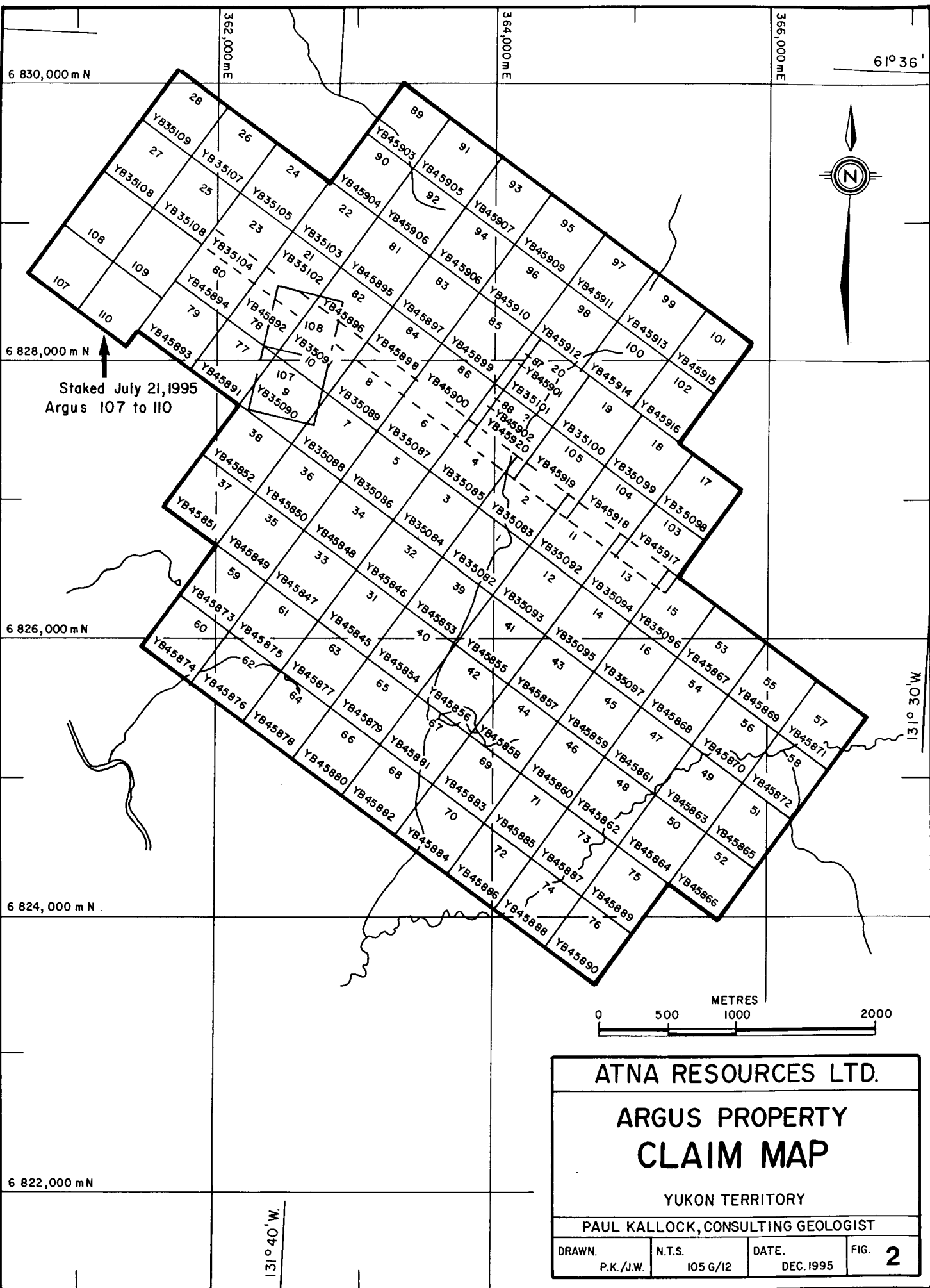
YUKON TERRITORY

PAUL KALLOCK, CONSULTING GEOLOGIST

DRAWN. PK./J.W.	N.T.S. 105 G/12	DATE. DEC. 1995	FIG. <b>1</b>
--------------------	--------------------	--------------------	------------------



**ARGUS  
PROPERTY**



61° 36'



6 830,000 m N

6 828,000 m N

6 826,000 m N

6 824,000 m N

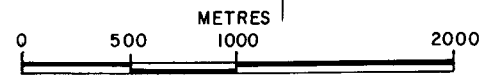
6 822,000 m N

362,000 m E

364,000 m E

366,000 m E

Staked July 21, 1995  
Argus 107 to 110



<b>ATNA RESOURCES LTD.</b>			
<b>ARGUS PROPERTY CLAIM MAP</b>			
YUKON TERRITORY			
PAUL KALLOCK, CONSULTING GEOLOGIST			
DRAWN. P.K./J.W.	N.T.S. 105 G/12	DATE. DEC. 1995	FIG. <b>2</b>

131° 40' W

## **Regional Geology**

Regional geology has been mapped and compiled by Tempelman-Kluit (1977), and Mortensen (1985). Hulstein (1993) has also compiled the pertinent data which follows.

The Argus property is located on the northwestern edge of the Nisutlin Allochthon, part of the Yukon-Tanana Terrane (YTT). The Yukon-Tanana Terrane is composed of an allochthonous sequence of clastic sedimentary, volcanic and igneous protoliths that represent a displaced volcanic arc.

The Nisutlin Allochthon is bounded on the southwest by the Tintina Fault, a major fault with over 450 km of dextral transcurrent movement (Templeman-Kluit, 1981). The fault underlies the Hoole River valley, 2-4 km southwest of the property. The Allochthon is underlain by a thrust fault placing it over Selwyn Basin clastics deposited on the continental shelf of ancestral North America. The structural trend of the region southwest of the Tintina Fault is parallel to the thrust fault. North of the fault, northeasterly-directed thrust faulting predominates. Lithologies of the Nisutlin Allochthon range in age from Upper Proterozoic to Triassic (Wheeler and McFeely, 1991). Near the property the oldest rocks are Windermere (?) biotite-muscovite-quartz-feldspar augen gneiss of quartz monzonite composition with minor interfoliated biotite-muscovite-quartz schist (Templeman-Kluit, 1977). These lithologies are found on both sides of the Hoole River and on the northwest property boundary.

The above lithologies are overlain by rocks of presumed Devonian age (Carne, 1992) which compromise the bulk of the Nisutlin Allochthon. Northeast of the Tintina Fault, rocks of the YTT (Nisutlin Allochthon) have been divided into six major lithologic packages by Mortensen and Jilson (1985). The area of the Argus claims is comprised mainly of the lowermost of these units which has been designated the Layered Metamorphic Sequence (LMS).

Mortensen and Jilson (1985), has divided the LMS into three units:

- 1.) Pre-Late Devonian quartz-mica schist, micaceous feldspar quartzite and marble with calcareous schist
- 2.) Late Devonian to Mid Mississippian assemblage of dark gray to black siliceous phyllite to quartzite, locally with medium-gray calcareous phyllite toward its base. The calcareous rocks are interlayered with abundant mafic metavolcanic and lesser felsic metavolcanic rocks. In the upper part of this unit are abundant chloritic quartz grits, locally with bluish opalescent quartz granules.
- 3.) An upper unit of Early Pennsylvanian to Early Permian white carbonate and quartzite.

Trench mapping on the Argus property had located exposures of light tan, gritty, micaceous quartzite-phyllite with distinctive blue quartz clasts. The presence of these distinctive blue quartz clasts in the phyllitic quartzite places this unit within Mortensen's middle unit of the LMS.

Cretaceous quartz monzonite plutons lie 15 km east and 25 km. southeast of the property. Carboniferous and Permian (and possibly older) mafic, ultramafic and associated submarine clastic rocks of the Anvil Campbell Allochthon - Slide Mtn. are found as a klippe on the ridge 5 km to the southwest. Boulders of these mafic, ultramafic and granitoid rocks are present throughout the property in glacial till.

### **Property Geology**

During the 1995 programme, geological mapping was undertaken in the "A" Trench area, in the vicinity of the auger drill holes, the area north of the "B" Trenches, and southwest of Trench 78-5 along the road to the airstrip. These areas are shown on the 1:5000 scale Geology Map, Figure 3 in the pocket of this report. A 1:1000 scale Geology Map of the "A" Zone Trenches is also included as Figure 4.

The lithologies described at the property have been divided into 11 units by Archer, (1973). In order to accentuate their inherent mineralization, two of these units, 11 and 6, have been subdivided and are described in "Mineralization and Rock Geochemistry". Control for geological mapping was aided by topographic maps constructed from aerial photos and by accurate auger drill hole locations plotted by Archer, Cathro/Kennecott in 1993.

As noted by Hulstein (1993), a thin veneer of glacial till covers the upper portions of the property, thickening toward the Hoole River in the southwest and to the east. Outcrop, less than 1% overall, is generally restricted to ridges. Pebble orientation studies on till deposits yielded an average azimuth of 300-310°, which agreed with regional orientation of glacial bedforms indicating that the most recent advance in Pleistocene glaciation moved from southeast to the northwest (Jackson, 1993). Hence, mineralized boulders are thought to have been transported northwest from their source area.

During 1995, most of the previous dozer exploration trenches were examined and geology noted. Much sluffing of trench walls has occurred but, in general, the previous mapping could be confirmed. All sites of the auger drill hole programme were examined and major lithologies of drill cuttings at the sites were noted.

### Stratigraphy

Sedimentary and volcanic rocks of presumed Devonian age underlie most of the area of exploration. Quartzite with variable amounts of carbonate, chlorite, muscovite, or graphite is the most common rock at the property. Gray to white, fine-to medium-grained crystalline

limestone is also present. Accessory minerals distinguish several of the lithologic units in the map legend. However, it should be noted that there is evidence of subtle gradational changes both vertically and laterally between units. Furthermore, alteration, particularly orange iron carbonate and limonite, also obscure original composition. The following table of property lithologies is modified from Archer (1973).

## *Lithology*

<u>Unit</u>	<u>Description</u>
10	phyllite; grey, brown or black, +/-graphite, +/-carbonaceous
9	phyllite; non-carbonaceous
8	limestone; dark to medium grey
7	dolomite; green, chloritic
5	quartzite; clean, grey to brown
4	quartzite; phyllitic, laminated with muscovite, +/-chlorite; cherty?
3	carbonate; chlorite, phyllite; minor magnetic, hematite, <25%quartz
2	chlorite wacke or chlorite grit; occasional beds of quartzite
1	quartz grit; calcareous or phyllitic, +/-sericite, +/-chlorite

At each auger drill hole site the predominant rock types were noted. Most of the cuttings represent glacial till, both an upper and lower, basal or lodgement till. Chips of bedrock may also have been cut. Drawing of geologic contacts solely on the basis of these drill cuttings is questionable, therefore the interpretive geological map contacts of the "A" Trench area is speculative.

Laminated quartzite, which occurs in units 6, 4 and possibly 10, could be metamorphosed chert beds. They are often closely associated with limestone and may represent an abrupt facies change within the carbonate units. An example is exhibited in Trench A-1 where limestone overlies sphalerite-bearing, quartzite/chert. Excellent exposures of limestone with narrow interbedded quartzite or chert are present in bluffs west of the road to the airstrip at 25850N, 62400E.

Regionally, mafic metavolcanic and lesser felsic metavolcanics occur within the middle unit of the LMS, (Mortensen 1985). Chlorite wacke or chlorite grit of unit 2 has a tuffaceous component, (Hulstein 1993). Biotite, magnetite and carbonate are visible within this unit. Quartz grit of unit 1, which locally has sericite, chlorite and/or quartz "eyes", may represent a felsic metavolcanic.

## Structure

In the central part of the "A" Trench area, at Trench A-2 and A-8, subhorizontal attitude of bedding plane foliation in outcrop and in core from DDH A-1 is present. However, steeper dips are seen to the west in Trenches A-4 and A-3. Furthermore, in Trench A-3 folding and faulting are seen. The fold showing in the east wall of Trench A-3 is tight with a horizontal axial fold plane. The fault trends east-west with a 60° south dip.

## Mineralization and Rock Geochemistry

Two map units are included on the Geology Map (Figure 5) under the heading of Mineralization.

<i>Mineralization</i>	
<u>Unit</u>	<u>Description</u>
11	limonitic, iron carbonate (also dolomitic?)
6	"A" Zone: interlaminated quartzite(chert)? and shaly carbonaceous material, calcareous, banded sphalerite, galena with recrystallized carbonate, disseminated pyrite.

Unit 11, limonite with iron carbonate, is often associated with sulfide mineralization and limestone.

Unit 6 represents sedimentary exhalite mineralization which occurs in discontinuous, stratiform horizons. The siliceous rocks are often dark, locally carbonaceous, and often display a sucrosic texture. The sulfides which occur within these siliceous rocks are also laminated. Brown sphalerite is dominant, pyrite is common and lesser amounts of galena are usually present.

The location of six rock samples which were collected at the Argus Property are shown on the geology maps in the back of this report.

- 1.) Rock sample descriptions are given in Appendix A.
- 2.) Analysis was carried out by Acme Analytical Labs of Vancouver, B.C. Certificates of analyses and procedures are included in Appendix B.

Rock chip samples collected from the main exploration area, "A" Trenches, contained up to 10.43% lead, 16.64% zinc and 8.09 ozs. per ton silver.

Sphalerite mineralization occurs as:

- 1.) laminate beds within chert/siliceous exhalite
- 2.) as irregular replacement (?) in limestone at iron carbonate-altered areas, often associated with laminated chert beds.

The iron carbonate alteration is present in and near sphalerite mineralization and may form a perimeter or halo adjacent to sulfides. Limonite and iron carbonate often form a rind to high sulfide-bearing boulders or outcrops.

Massive barite was seen as several massive float cobbles in the road-cut east of the "B" Trenches, more specifically between 365,540 to 365,550E at 826,640N. No outcrops of barite were seen.

Brief examination was made of the B, D and E trenches where mineralization appears to be similar to the A trench area.

The E Trench area, located 3.5 km northwest of the A trenches, displayed the strongest mineralization. Trench E-2 shows fine-grained sucrosic quartzite/chert with up to 5% banded sphalerite. Local brecciation and iron carbonate alteration is also present. The laminated sulfide-bearing chert is discontinuously exposed along a 25 m section of trench. Approximately 100m southeast of Trench E-2, diamond drill hole E-1, cored in 1973 encountered 47.71 m of 0.72% zinc which included narrower intervals of up to 3.87% zinc across 3.96m. The strongest mineralization was hosted in limestone with interbedded quartzite and phyllitic (Archer, 1973).

During geological mapping, sulfide-bearing float boulders were found in the road cut between auger drill holes 24 and 26, which is 700 m east of the main exploration area. Samples of banded sphalerite in white carbonate(smithsonite?) returned up to 30.87% zinc. Exploration during 1993 returned 2370 ppm zinc from quartzite chip cuttings from Auger Drill Hole-24 (ADH-24). Soil from the area is also anomalous in zinc.

### **Soil Geochemical Survey**

During July 1995 a soil geochemical survey was carried out which extended the previous grid toward the southeast. A single survey line beginning on the airstrip road near Trench 78-5 was also established west of the old grid at line 49+00 W. Soil sample locations with zinc values are shown on the 1:5000 scale Soil Geochemical Survey Map, Figure 5. Topographically, the grid area slopes gently toward the south and is bisected by small streams which drain into the Hoole River. Tree covered rolling hills and scattered muskeg form the landscape. The grid was surveyed by hip chain and compass. Flagging was used to mark the lines and sample sites. Line separation was 200 m with sample stations spaced at 50 m intervals. A total of 6.6 km of grid line was established for the geochemical survey. A total of 124 soil samples were collected and analyzed for 32 elements by ICP method. Samples were collected from 25 to 50 cm below the surface with a mattock and transported in Kraft manila envelopes. Analysis was carried out by Acme Analytical Labs of Vancouver, B.C. Certificates of analyses and procedures are included in Appendix C.

Results of the soil survey show no values over 200 ppm zinc in the eastern grid area. On line 49+00W, which runs parallel to the airstrip road, a high value of 794 ppm zinc was encountered west of Trench 78-5. Seven samples contained between 200 and 500 ppm zinc.

### **Discussion**

On Figure 4, the Geology Map of the "A" Trenches, exposures of sphalerite mineralization are shown in Tr A-1, A-3, A-8 and in the road crossing of A-4. Sphalerite-bearing float in overburden extends as a boulder train from Tr A-1 and Tr A-8 approximately 1.0 km to the northwest. The greatest concentration of mineralized float occurs along the road to DDH A-3 west of Tr A-8. Stratiform mineralization in Tr A-8 may extend subhorizontally to the sulfide intersection in DDH A-1 (1.09 m of 4.33% Zn).

From Tr A-8 near-surface mineralization (0.5 m of 1600 ppm Pb, 4.33% Zn, 4.4 ppm Ag, Hulstein, 1993 Sample #S7220) may extend to the exposure in Tr A-3, however at this location, faulting and folding are present and near-surface dissolution of carbonate strata may have caused dislocation of large blocks. Assays in 1993 from this folded and possibly displaced block of mineralization averaged 1.8% lead, 3.98% zinc and 33.3 ppm silver across a true width of 3.5 m. From Tr A-3 mineralization may extend to the southwest beyond Tr A-4 or north toward sulfide mineralization exposed in the road crossing in Tr A-4.

Extension of mineralization in Tr A-8 may also trace southeast toward anomalous values encountered in ADH 94 and 95 or it may trend due south to anomalies in ADH 86, 87 and 88. East of Tr A-8, sphalerite mineralization is present at Tr A-1 where 15 m of the southwest end of the trench exposes rubble and float which is weathering in-place. Attitude and thickness could not be measured.

There are no surface exposures adjacent to Tr A-1 however, if a subhorizontal east-west striking mineralized horizon is assumed, then mineralization encountered in ADH-70 which is 150 m due east of Tr A-1, may represent this horizon. This auger drill hole showed iron carbonate mineralization associated with the contact zone between quartz grit to the north and limestone to the south. A value of 0.11% Zn was reported from this hole in 1993. 500 m farther east from ADH-70 are anomalous zinc values in ADH-24 and newly discovered float cobbles with up to 30% zinc.

MacIntyre (1991), discusses the characteristics of sedex deposits in the Canadian Cordillera. The Argus Property exhibits a wide range of features which are typical of sedimentary exhalative deposits. These include:

- 1). The predominant sulfides are layered sphalerite, pyrite, galena.
- 2). Devonian age with presence of peripheral barite.
- 3). Graphite or carbonaceous phyllite or chert suggesting fluids discharged into starved deep water anoxic seafloor sub-basin.
- 4). Carbonate-hosted sulfides which suggest fluids discharged into shallow water shelf or lagoonal environment.

Rocks at the Argus Property meet MacIntyre's criteria for Sedex-type deposits.

## Conclusions

Glacial till mantles most of the Argus Property. Past studies of glacial deposits has shown that the last ice advance moved toward the northwest. Mineralized float which may have originated in the area of the A Trenches extends more than 1 km toward the northwest. Four relatively small exposures of sphalerite-bearing laminated quartzite or chert in the A-4, A-3, A-8 and A-1 Trenches are similar in grade and appearance to the float boulders but in themselves do not appear to be large enough to have accounted for the large volume of float. Therefore additional occurrences of near-surface mineralization are suggested.

Sedimentary exhalative-type mineralization consists of banded sphalerite with lesser pyrite and galena which occur as laminate within quartzite or graphitic quartz phyllite. Samples of bedrock exposures assayed up to 7.89% zinc. In addition to bedded sphalerite, irregular sulfide replacement in the limestone accounts for some of the mineralization.

The stratigraphic section and type of sphalerite mineralization in the A Trenches is similar to many of the other trench areas which are broadly dispersed across a 3.0 x 4.5 km area of the property. At Trench E-2, laminated sucrosic chert contains up to 5% sphalerite in a 25 m long exposure. Drilling to the southeast of this trench in 1973 intersected over 47 m of 0.72% zinc with higher grade sections up to 3.87% zinc across nearly 4 metres.

At the opposite end of the property, west of the A Trenches near auger drill hole 24, significant mineralized float has been found with up to 30% zinc. A zinc soil anomaly and anomalous cuttings from the auger holes also indicate mineralized bedrock could be present below the overburden. Approximately 600 m north of this are, massive barite was seen in the float along the access road. Limestone outcrops near the barite float.

## Recommendations

Orientation test geophysical surveys, both electromagnetic and induced polarization, should be conducted over the mineralized zones to determine if the response would be useful for further exploration at the Argus Property. At the E Trenches, IP may be useful because broad (47 metres) low sulfide bearing strata could produce an electrical response. At the A Trenches conductors such as the mineralized chert laminate and the graphitic unit have been partially defined by surface trenching and drilling. Electromagnetic surveys could delineate extensions of these two units.

Auger drilling in areas of shallow overburden, particularly in the trench areas where bedrock is close to the surface has been effective in delineating major float and to a lesser extent bedrock lithologies and expanding geochemical anomalies in the up-ice direction. It appears to have been hampered by permafrost and is less useful in areas of deeper overburden. Emphasis in the next exploration phase should be placed on trenching and diamond drilling.

Trenching with a large excavator or back-hoe capable of ripping permafrost would be the most effective method of reaching and exposing bedrock. Areas of high priority for trenching include:

- 1.) Cleaning of Tr A-3, southern A-1 and upper and lower A-8.
- 2.) East and south of Tr A-3 and west of Tr A-8.
- 3.) Deepen and extend southern Tr A-1
- 4.) East of the south end of Tr A-1 following contact toward ADH-70.
- 5.) East of ADH-70 if possible
- 6.) At ADH-24 and adjacent soil anomaly

After trenching, a shallow diamond or percussion drilling program is recommended. A relatively shallow (<75 m) track-mounted drill program should be centered in the areas of Zone A and also Zone E and expanded on a "grid" patterned up-ice (southeast). Close spaced drilling would provide an ability to delineate the trend on the mineralized horizon and follow it to areas where the width and grade would be attractive.

**STATEMENT OF EXPENDITURES  
ARGUS 1-110 MINERAL CLAIMS**

CANADA     )  
              )     In the matter of an evaluation program on the  
                          Argus 1-110 Mineral Claims

I, Peter R. DeLancey, for Atna Resources Ltd., #900 - 409 Granville Street, Vancouver, British Columbia do solemnly declare that a program consisting of geological mapping and geochemical survey work carried out on the Argus 1 - 110 Mineral Claims during the period of July 15 to July 25, 1995.

The following expenses were incurred during the course of this work and in the compilation and reporting of the results.

**Geological, Rock and Soil Geochemical Survey  
July 15 - 25, 1995**

**PROFESSIONAL FEES AND WAGES:**

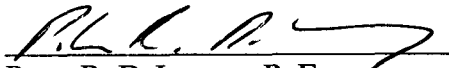
Peter R. DeLancey, P.Eng.			
#900-409 Granville St., Vancouver, B.C.			
8 days @\$300/day		\$2,400.00	
Paul Kallock, F.G.A.C.			
29031 Pioneer Hwy., Stanton, WA., USA			
11 days @\$350/day		3,850.00	
William Kahlert, Field Assistant			
#900-409 Granville St., Vancouver, B.C.			
11 days @ \$150/day		<u>1,650.00</u>	\$7,900.00

**EXPENSES: (expenses prorated)**

Assays		3,035.60	
Camp Supplies(Groceries)		370.42	
Equipment Rental			
Camp/Tool/Field Equipment			
11 days @\$25/day	\$275.00		
Chain Saw			
11 days @\$8/day	88.00		
Generator			
11 days @\$10/day	110.00		
Radio Telephone			
11 days @\$10/day	110.00		
VHF Radios(3 units)			
11 days @\$3.5/unit/day	115.50	698.50	
Vehicle Rental-Chevrolet Suburban 4WD			
11 days @\$60/day		660.00	
Helicopter		1,715.00	
Telephone		128.40	
Travel			
Board & Room	535.45		
Gas	335.52		
Meals	180.10		
Transportation	<u>792.26</u>	<u>1,863.33</u>	<u>8,471.25</u>
<b>TOTAL:</b>			<u>\$16,371.25</u>

**Notes:**

1. Wages are based on actual man days spent on the property.
2. Helicopter charged are based on actual hours flown.
3. Assay charges are based on actual numbers of samples from the property.
4. General expenses (all other costs) are prorated according to man days allocated to each property.



Peter R. DeLancey, P. Eng.

President

Atna Resources Ltd.

Date : January 6, 1996

## GEOLOGIST'S CERTIFICATE

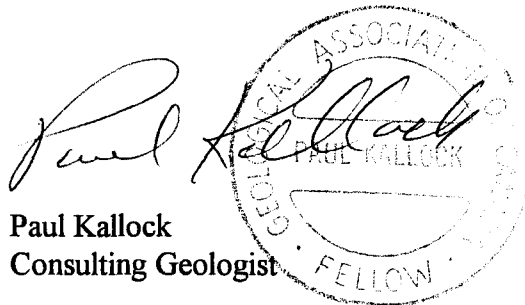
I, Paul Kallock, do state that I am a Consulting Geologist, and reside at 29031 Pioneer Hwy. Stanwood, Washington, USA.

I further state that:

1. I have a Bachelor of Science degree in Geology from Washington State University. I am a Fellow of the Geological Association of Canada and a member of the American Institute of Mining Engineers.
2. I have been engaged in mineral exploration since 1970, both for major mining and exploration companies and as an independent geologist.
3. I have authored the report entitled "Geological, Rock and Soil Geochemical Survey, Argus Mineral Claims, Yukon Territory". The report is based on my fieldwork carried out on the property and on previously accumulated geologic data.
4. I have no direct or indirect interest in any manner in either the property or securities of Atna Resources Ltd. or its affiliates, nor do I anticipate to receive any such interest.
5. I consent to use this report in a prospectus or in a statement of material facts related to the raising of funds.

Vancouver, B.C.  
January 6, 1996

Paul Kallock  
Consulting Geologist



## References

- Archer, A.R. 1973. Hoo Joint Venture, Final Report, HoHo 1-272 Claims. Private Report by Archer Cathro & Assoc. (1981) Limited, Vancouver, B.C. for the South Yukon Joint Venture.
- Archer, A.R. 1979. Assessment Report, HoHo 1-48, 57, 58, 67-78, 174, 176, 178, 180, 189-190, 250FR-272FR. Assessment report by Archer, Cathro & Associates (1981) Limited, Vancouver, B.C. Assessment Report 091161.
- Carne, R.C. 1992. Stratiform (Sedex) Base Metal Potential of East-Central Yukon. Exploration proposal by; Archer, Cathro & Associates (1981) Limited, Vancouver, B.C.
- Hulstein, R., 1993. Assessment Report on the 1993 Geological and Geochemical Investigation of the Argus Property, Watson Lake Mining Dist., Yukon Territory, Owner: YGC Resources Ltd., Operator: Kennecott Canada Inc.
- Jackson, L.E. Jr., 1993. Surficial Geology, Hoole River, Yukon River, Yukon Territory; Geological Survey of Canada, Map 1794A, scale 1:100,000.
- MacIntyre, D.G., 1991. Sedex, Sedimentary-Exhalative Deposits, in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, B.C.M.E.&P.R., Paper 1991-4, pp. 25-70.
- Mortensen, J.K. and Jilson, G.A. 1985, Evolution of the Yukon-Tanana terrane: Evidence from Southeast Yukon Territory. *Geology*. Vol. 13, pp. 806-810.
- Tempelman-Kluit, D., 1977. Geology of Quiet Lake (105 F) and Finalyson Lake (105 G) map areas, Yukon Territory; Geological Survey of Canada, Open File Report 486.
- Tempelman-Kluit, D., 1981. Geology and Mineral Deposits of the Souther Yukon; in Yukon, Geology and Exploration 1979-1980, Exploration and Geological Services Division, Yukon, Dept. of Indian and Northern Affairs Canada.
- Wheeler, J.O. and McFeely, P., 1991. Tectonic Assemblage Map of the Canadian Cordillera and Adjacent Parts of the United States of America. Geological Survey of Canada, Map 1712A, scale 1:200,000.

**APPENDIX A**  
**Rock Samples Descriptions**

**ROCK SAMPLE DESCRIPTIONS**  
**Argus Project, Yukon**

**ROCK SAMPLE DESCRIPTIONS**

		<u>Pb%</u>	<u>Zn%</u>	<u>Ag oz./t</u>
<b>PK ARG 95-01</b>		2.02	16.64	1.54
	Chips of 10 mineralized float(?) boulders average 10% sphalerite, 1% galena, trace pyrite in quartzite(meta-chert?) associated with limestone and orange carbonate.			
<b>PK ARG 95-02</b>	Trench A-4 in mid-road crossing	0.69	8.72	0.89
	chips of outcrop(?) of iron carbonate with brown quartz, ~10% sphalerite.			
<b>PK ARG 95-03</b>	Trench A-8	0.13	7.89	0.23
	Probable outcrop in east wall, maroon brown hematitic quartzite with 10% sphalerite, trace pyrite; adjacent to grey limestone.			
<b>PK ARG 95-04</b>	Trench A-6	10.43	6.93	8.09
	Chips of one boulder; 10% sphalerite, 5% galena in quartz-carbonate rock which has 3 cm. orange iron oxide rind, moderate quartz as pods and grains possibly quartzite with moderate carbonate; boulder is slightly rounded.			
<b>PK ARG 95-05</b>	10 m. SE of ADH#24;	0.11	3.71	0.04
	Float cobbles of white carbonate, orange rind/rim has narrow bands of sphalerite up to 5-10%.			
<b>PK ARG 95-06</b>	50 m. SE of PK ARG 95-05	0.02	30.87	0.08
	Float boulder with 30% sphalerite in white carbonate with orange oxide coating.			

**APPENDIX B**  
**Geochemical Analyses - Rocks**

## GEOCHEMICAL/ASSAY CERTIFICATE

**Atna Resources Ltd. PROJECT ARGUS File # 95-2758 Page 1**  
 900 - 409 Granville St., Vancouver BC V6C 1T2



SAMPLE#	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	Tl	Hg	Au*	Ba*	Pb	Zn	Ag
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppb	ppm	%	%	oz/t	
PK-ARG-95-01	<1	23	14709	99999	57.8	23	30	5733	9.31	32	<5	<2	<2	29	328.8	46	6	2	2.90	.048	3	6	.56	10<.01	<3	.17<.01	.01	<2	<5	5	5	191	2.02	16.64	1.54		
PK-ARG-95-02	2	8	5741	89627	36.1	19	19	4771	4.33	38	<5	<2	<2	80	135.8	23	<2	2	7.11	.040	2	4	.59	38<.01	<3	.07	.01	.01	<2	<5	3	2	137	.69	8.72	.89	
PK-ARG-95-03	<1	38	1150	81174	12.5	19	19	3183	3.90	14	<5	<2	<2	67	141.8	7	<2	1	4.24	.062	4	6	1.11	7<.01	3	.07	.01	.03	<2	<5	3	9	294	.13	7.89	.23	
PK-ARG-95-04	1	26	15772	70964	272.0	14	10	5549	5.54	30	<5	<2	<2	83	122.0	238	<2	2	4.82	.034	3	7	.80	47<.01	<3	.02<.01	.01	<2	<5	2	24	50	10.43	6.93	8.09		
PK-ARG-95-05	1	35	707	35515	2.4	9	15	2786	1.55	13	<5	<2	<2	364	206.1	3	<2	2	17.74	.011	3	4	.42	45<.01	4	.05<.01	.03	<2	<5	5	12	616	.11	3.71	.04		
PK-ARG-95-06	<1	12	173	99999	<.3	14	74	1378	1.89	68	<5	<2	<2	221	1589.7	<2	<2	<1	11.99	.003	2	3	.07	9<.01	5	.01<.01	<.01	3	92	37	30	131	.02	30.87	.08		
RE PK-ARG-95-06	<1	13	158	99999	<.3	15	80	1426	1.93	70	<5	<2	<2	229	1620.4	<2	<2	<1	12.52	.003	2	2	.07	18<.01	5	.01<.01	<.01	5	99	36	26	133	.02	30.72	.07		

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

PB ZN & AG BY REGULAR ASSAY ICP.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB

- SAMPLE TYPE: P1 ROCK P2 TO P5 SOIL BA\* - LIBO2 FUSION, ANALYSIS BY ICP.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 8 1995

DATE REPORT MAILED: Aug 24/95

SIGNED BY: C. Leong, J. Wang; CERTIFIED B.C. ASSAYERS

**APPENDIX C**  
**Geochemical Analyses - Soils**



SAMPLE#	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	Tl	Hg	Ba*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	
PK-ARG-96-07	2	62	16	187	.4	118	16	529	3.48	119	<5	<2	7	78	1.7	4	<2	65	1.80	.118	23	61	1.28	529	.03	<3	1.47	.01	.23	<2	<5	2	2124
ARG L49+00W 36+50N	2	14	28	336	<.3	25	8	316	2.27	25	6	<2	<2	15	.6	2	<2	33	.24	.051	19	31	.38	231	.01	<3	.87	.01	.05	<2	5	2	1079
ARG L49+00W 36+00N	1	19	123	794	.6	46	11	280	3.29	25	<5	<2	4	14	1.2	5	<2	39	.19	.081	22	52	.58	210	.02	<3	1.32	.01	.07	<2	<5	1	991
ARG L49+00W 35+50N	2	7	20	286	<.3	19	5	177	1.81	14	<5	<2	4	11	.9	<2	<2	38	.16	.026	29	28	.40	222	.03	<3	.95	<.01	.07	2	<5	2	1352
ARG L49+00W 35+00N	3	15	35	351	<.3	41	11	687	3.21	23	<5	<2	<2	8	1.7	2	<2	39	.08	.075	15	46	.25	230	.01	<3	.74	.01	.06	<2	<5	<1	1169
ARG L49+00W 34+50N	2	24	24	214	<.3	33	11	483	2.58	22	<5	<2	2	18	.9	2	<2	44	.24	.067	24	37	.45	379	.02	<3	1.12	<.01	.09	<2	<5	2	1536
ARG L49+00W 34+00N	1	15	10	155	<.3	34	9	314	2.16	13	<5	<2	2	19	.6	<2	5	38	.33	.059	20	41	.54	348	.02	<3	1.03	<.01	.07	<2	<5	<1	1319
ARG L49+00W 33+50N	1	11	11	114	<.3	29	7	270	1.91	7	<5	<2	3	15	<.2	2	<2	33	.22	.047	19	40	.51	248	.02	<3	.97	<.01	.06	<2	<5	<1	1095
ARG L49+00W 33+00N	2	24	21	203	<.3	31	9	402	2.40	20	7	<2	4	25	1.2	<2	<2	45	.43	.062	25	38	.52	488	.02	<3	1.22	.01	.09	<2	<5	<1	1649
ARG L49+00W 32+50N	1	20	9	143	<.3	43	7	728	1.59	15	8	<2	<2	38	.8	<2	<2	32	.66	.078	16	32	.46	487	.02	<3	.99	.03	.09	<2	<5	1	1403
ARG L49+00W 32+00N	2	28	14	100	<.3	53	10	315	2.61	17	<5	<2	5	12	.8	3	5	42	.18	.039	25	52	.59	247	.02	<3	1.36	.01	.09	<2	<5	<1	1169
ARG L49+00W 31+50N	2	14	21	81	<.3	70	13	473	3.80	91	<5	<2	4	14	<.2	4	<2	40	.22	.071	18	46	.41	399	.01	<3	1.35	<.01	.08	<2	<5	<1	1329
ARG L49+00W 31+00N	1	17	9	67	<.3	72	13	661	2.73	36	<5	<2	3	33	.8	3	3	28	.73	.076	20	49	.60	434	.02	<3	.77	<.01	.05	<2	<5	2	1381
ARG L49+00W 30+50N	1	12	5	157	<.3	37	8	355	2.36	25	<5	<2	3	18	<.2	<2	<2	43	.27	.017	16	48	.45	400	.02	<3	1.32	<.01	.04	<2	<5	1	1227
ARG L49+00W 30+00N	1	21	12	131	<.3	58	11	375	2.63	19	5	<2	7	18	.7	2	7	45	.31	.014	26	52	.54	471	.01	<3	1.33	.01	.08	<2	<5	1	1388
ARG L49+00W 29+50N	2	23	18	252	.3	79	13	417	3.15	44	<5	<2	<2	96	<.2	3	2	36	1.63	.079	22	71	.62	652	.01	3	1.08	.01	.08	<2	<5	<1	2407
ARG L49+00W 29+00N	1	20	8	78	<.3	68	10	395	2.22	23	6	<2	4	22	<.2	2	8	37	.30	.030	20	70	.61	305	.03	<3	1.01	.01	.08	<2	<5	1	1138
ARG L49+00W 28+50N	1	57	16	221	.5	109	23	1274	3.61	37	<5	<2	<2	104	.2	3	<2	40	1.99	.091	21	48	.36	489	<.01	3	.90	.01	.10	<2	5	<1	1849
ARG L31+00W 45+00N	2	25	22	164	<.3	50	12	821	2.66	17	<5	<2	2	81	.2	2	<2	45	1.43	.069	19	46	.71	332	.02	3	1.11	.01	.12	<2	<5	2	1394
ARG L31+00W 42+50N	1	7	9	50	<.3	35	6	268	2.55	28	<5	<2	2	9	.2	2	<2	45	.14	.041	15	65	.67	155	.04	4	1.04	<.01	.05	<2	<5	<1	869
ARG L30+00W 45+00N	2	20	13	157	<.3	56	21	652	3.45	30	6	<2	4	46	1.6	<2	3	42	.65	.101	17	49	.59	363	.02	<3	.88	<.01	.08	<2	<5	1	1308
ARG L30+00W 44+50N	1	32	11	160	<.3	63	15	679	3.70	26	<5	<2	3	57	.8	3	2	46	.84	.087	20	48	.67	361	.02	6	1.09	<.01	.11	<2	<5	<1	1490
ARG L30+00W 44+00N	1	39	13	127	.3	68	11	132	2.21	12	<5	<2	4	46	1.1	<2	<2	42	.63	.083	21	48	.58	344	.02	<3	1.00	.01	.09	<2	<5	<1	1364
ARG L30+00W 43+50N	1	22	11	45	<.3	43	7	265	1.98	27	<5	<2	<2	51	.3	<2	<2	31	.68	.067	11	42	.46	485	.02	<3	.91	.02	.05	<2	<5	1	1397
RE ARG L30+00W 43+50N	1	22	5	49	<.3	42	7	286	2.12	29	<5	<2	<2	55	.3	<2	<2	33	.73	.075	11	46	.49	513	.02	<3	.98	.02	.05	<2	<5	1	1402
ARG L30+00W 43+00N	1	6	4	38	.3	28	6	229	2.24	24	<5	<2	3	12	<.2	<2	<2	42	.18	.035	18	55	.56	255	.03	<3	1.20	<.01	.05	<2	<5	<1	1005
ARG L30+00W 42+00N	1	8	9	41	<.3	46	6	237	1.87	30	<5	<2	3	11	<.2	<2	2	32	.17	.038	12	64	.57	215	.03	<3	.76	<.01	.04	<2	<5	<1	934
ARG L30+00W 41+50N	1	18	7	56	<.3	91	10	252	1.97	29	<5	<2	3	30	.4	2	<2	26	.52	.070	14	95	.74	163	.02	4	.64	<.01	.06	<2	<5	<1	1024
ARG L30+00W 41+00N	2	32	17	95	<.3	86	14	1077	2.32	45	6	<2	2	53	.4	2	<2	40	.89	.077	15	67	.75	341	.01	<3	1.02	.01	.09	<2	<5	<1	1338
ARG L30+00W 40+50N	1	26	12	87	<.3	102	10	397	2.06	31	6	<2	<2	43	.8	2	3	33	.71	.075	15	75	.75	268	.02	7	.82	.01	.08	<2	<5	1	1237
ARG L30+00W 40+00N	1	22	6	64	<.3	117	11	496	2.02	28	<5	<2	3	24	.3	3	<2	31	.38	.067	13	83	.75	189	.03	<3	.68	<.01	.05	<2	6	<1	932
ARG L30+00W 39+50N	1	18	7	44	<.3	116	11	299	1.73	15	<5	<2	2	20	<.2	5	3	25	.40	.039	12	75	.70	204	.02	<3	.63	<.01	.04	<2	<5	<1	972
ARG L30+00W 39+00N	2	24	12	115	<.3	66	12	566	1.92	19	5	<2	<2	39	.8	2	<2	37	.76	.055	16	45	.49	327	.02	<3	.85	<.01	.09	<2	<5	<1	1444
ARG L30+00W 38+50N	1	17	9	86	<.3	108	9	345	2.11	15	5	<2	3	32	.6	2	<2	32	.46	.104	16	110	.90	155	.03	4	.69	.01	.07	<2	<5	1	1073
ARG L30+00W 38+00N	3	24	13	127	<.3	101	12	2769	2.90	67	<5	<2	<2	54	1.3	3	<2	33	.91	.086	12	47	.57	428	.02	3	.76	.01	.06	<2	<5	1	1288
STANDARD C/SO-15	17	58	37	132	6.2	64	30	1044	3.68	42	19	6	33	46	15.7	16	18	62	.47	.085	40	58	.85	163	.08	28	1.72	.06	.14	9	<5	2	2185

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



SAMPLE#	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	Tl	Hg	Ba*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm
ARG L30+00W 37+50N	1	18	18	40	<.3	94	12	343	1.95	19	6	<2	3	31	<.2	5	5	33	.50	.024	16	72	.47	391	.02	3	.98	<.01	.04	2	<5	2	1014
ARG L30+00W 37+00N	1	14	7	46	<.3	51	10	299	2.00	22	<5	<2	4	14	<.2	2	4	33	.22	.056	14	59	.55	231	.04	<3	.83	<.01	.06	<2	<5	1	920
ARG L30+00W 36+50N	1	31	16	34	<.3	77	9	434	1.55	22	9	<2	<2	44	.2	6	3	28	.62	.029	13	38	.38	384	.02	3	.85	.03	.06	<2	<5	1	1273
ARG L30+00W 36+00N	<1	24	5	35	<.3	74	7	159	1.46	23	9	<2	3	20	<.2	4	6	22	.31	.051	13	62	.56	152	.03	<3	.49	.01	.03	<2	<5	1	753
ARG L30+00W 35+00N	<1	36	12	50	<.3	86	12	318	2.31	27	<5	<2	5	13	.5	5	<2	34	.21	.043	17	70	.67	189	.04	4	.94	<.01	.07	2	<5	<1	1075
ARG L30+00W 34+50N	2	12	10	65	<.3	37	8	266	2.61	30	<5	<2	4	7	.4	4	6	41	.08	.044	19	54	.36	137	.03	3	.83	.01	.05	<2	<5	<1	1124
ARG L30+00W 34+00N	3	9	14	83	<.3	30	9	296	2.52	12	<5	<2	4	12	<.2	3	<2	38	.17	.056	26	39	.47	128	.04	<3	.83	<.01	.06	<2	<5	1	1565
ARG L30+00W 33+50N	1	31	16	37	<.3	92	12	207	2.21	46	5	<2	4	11	<.2	4	<2	31	.14	.019	16	57	.49	347	.02	5	1.30	<.01	.03	<2	<5	<1	1096
ARG L30+00W 33+00N	1	23	6	53	.9	24	5	87	1.35	3	<5	<2	<2	41	.9	3	4	28	.41	.051	28	25	.16	886	.01	<3	1.55	.01	.04	<2	<5	1	1787
ARG L30+00W 32+50N	1	6	6	36	<.3	17	4	139	1.33	13	<5	<2	<2	12	<.2	<2	<2	37	.18	.045	20	25	.30	281	.03	3	.87	<.01	.05	<2	<5	<1	1237
ARG L30+00W 32+00N	1	5	7	34	<.3	12	4	143	1.29	8	<5	<2	2	11	.7	<2	<2	35	.18	.037	18	27	.32	259	.04	<3	.79	<.01	.05	<2	<5	2	1132
ARG L30+00W 31+50N	1	7	6	70	<.3	31	8	335	2.12	11	<5	<2	2	13	<.2	3	2	41	.20	.068	15	44	.40	268	.03	3	.87	.01	.07	<2	<5	2	1085
ARG L30+00W 31+00N	1	26	6	60	<.3	55	9	258	1.98	12	<5	<2	4	19	.5	<2	<2	34	.31	.074	19	60	.59	233	.04	3	.85	<.01	.06	<2	<5	<1	992
ARG L30+00W 30+50N	1	15	6	48	<.3	35	7	201	2.03	9	<5	<2	3	12	<.2	<2	<2	35	.21	.063	14	53	.50	145	.04	<3	.87	<.01	.07	<2	<5	2	797
ARG L30+00W 30+00N	2	27	11	82	<.3	45	9	247	2.11	11	6	<2	2	22	<.2	2	<2	43	.32	.048	22	38	.48	308	.02	5	.92	.01	.09	<2	<5	<1	1335
ARG L29+00W 45+00N	2	47	26	65	.4	116	18	724	2.86	36	<5	<2	<2	53	<.2	4	<2	38	.86	.053	34	96	.55	362	.02	<3	1.06	<.01	.09	<2	<5	1	1415
ARG L29+00W 44+50N	2	52	20	92	.3	131	19	794	3.38	64	<5	<2	<2	71	.5	2	<2	48	1.02	.058	23	79	.76	382	.02	<3	1.29	.02	.10	2	<5	1	1444
ARG L29+00W 44+00N	1	24	15	129	<.3	59	10	391	2.25	5	<5	<2	2	54	.3	2	5	42	.84	.098	20	52	.65	286	.02	3	1.00	.01	.11	<2	<5	2	1231
ARG L29+00W 43+50N	2	28	7	117	.4	69	10	518	2.29	7	<5	<2	3	50	.3	2	<2	52	.68	.108	22	56	.74	328	.03	6	1.08	.01	.11	<2	<5	1	1515
ARG L29+00W 43+00N	1	19	11	75	.4	63	9	315	1.86	21	<5	<2	<2	64	.3	<2	4	38	1.13	.090	15	51	.66	424	.02	<3	.93	.01	.09	<2	<5	<1	1322
RE ARG L29+00W 43+00N	1	21	13	81	.3	67	10	332	1.98	15	<5	<2	<2	68	.3	3	5	40	1.19	.095	16	52	.70	449	.02	<3	.98	.01	.09	<2	<5	1	1317
ARG L29+00W 42+50N	<1	26	13	39	<.3	96	13	456	2.01	18	6	<2	<2	42	<.2	<2	4	36	.90	.039	15	73	.68	533	.02	<3	.95	<.01	.05	<2	<5	<1	1140
ARG L29+00W 42+00N	2	28	11	122	<.3	63	8	272	2.25	15	<5	<2	<2	41	.3	<2	<2	57	.65	.076	17	50	.69	345	.02	7	1.14	.01	.14	<2	<5	1	1556
ARG L29+00W 41+50N	1	26	9	70	<.3	158	13	352	2.35	31	<5	<2	3	38	<.2	3	<2	39	.69	.075	18	89	1.09	300	.04	4	.91	.01	.08	<2	<5	1	1113
ARG L29+00W 41+00N	2	42	14	134	.4	250	16	689	2.82	28	<5	<2	5	51	<.2	4	<2	56	.77	.098	23	115	1.91	383	.03	8	1.29	.01	.18	2	<5	2	1693
ARG L29+00W 40+50N	<1	35	17	126	<.3	169	16	367	2.16	2	<5	<2	3	50	.3	3	2	51	.81	.098	24	96	1.37	432	.03	8	1.23	.01	.13	2	5	1	1574
ARG L29+00W 40+00N	1	20	12	86	<.3	103	11	769	2.42	27	<5	<2	2	38	<.2	2	8	49	.57	.105	21	85	.86	392	.02	5	1.08	<.01	.09	<2	<5	1	1437
ARG L29+00W 39+50N	1	24	13	62	<.3	167	12	320	2.01	28	<5	<2	3	30	<.2	4	<2	29	.52	.081	16	103	.99	159	.04	3	.59	.01	.05	<2	<5	<1	863
ARG L29+00W 39+00N	1	43	14	80	<.3	172	16	916	2.17	16	<5	<2	<2	72	<.2	4	6	40	1.23	.091	15	72	.95	417	.03	<3	.91	.01	.06	<2	<5	<1	1255
ARG L26+00W 45+00N	2	9	16	93	<.3	64	11	363	2.55	17	<5	<2	2	17	.3	2	<2	36	.23	.025	18	94	.82	217	.03	3	.94	<.01	.06	<2	<5	1	1336
ARG L26+00W 44+50N	2	60	18	96	<.3	78	11	315	2.58	90	<5	<2	<2	42	<.2	3	<2	37	.72	.089	28	45	.64	282	.03	<3	.99	<.01	.08	<2	<5	1	1792
ARG L26+00W 44+00N	2	44	15	107	.3	59	15	527	3.18	106	7	<2	2	56	<.2	<2	<2	47	.98	.072	21	50	.75	314	.02	<3	1.19	.01	.08	<2	<5	3	1608
ARG L26+00W 43+50N	1	27	19	63	<.3	90	12	478	2.98	93	<5	<2	<2	44	.9	2	<2	37	.72	.050	16	102	.93	208	.02	<3	1.05	.01	.07	<2	<5	<1	1264
ARG L26+00W 43+00N	2	20	25	61	<.3	101	19	525	4.14	190	<5	<2	<2	58	.3	4	2	54	.98	.062	16	148	.79	510	.01	<3	1.16	<.01	.07	<2	<5	1	1681
ARG L26+00W 42+50N	1	32	20	91	<.3	136	15	401	3.39	96	<5	<2	2	44	.7	4	<2	40	.75	.098	21	119	.97	318	.03	<3	1.03	.01	.08	3	<5	1	1679
STANDARD C/SO-15	18	56	40	131	6.7	67	31	1068	3.67	41	20	7	34	48	16.9	15	18	65	.48	.088	41	61	.87	167	.08	30	1.72	.05	.15	12	<5	2	2220

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



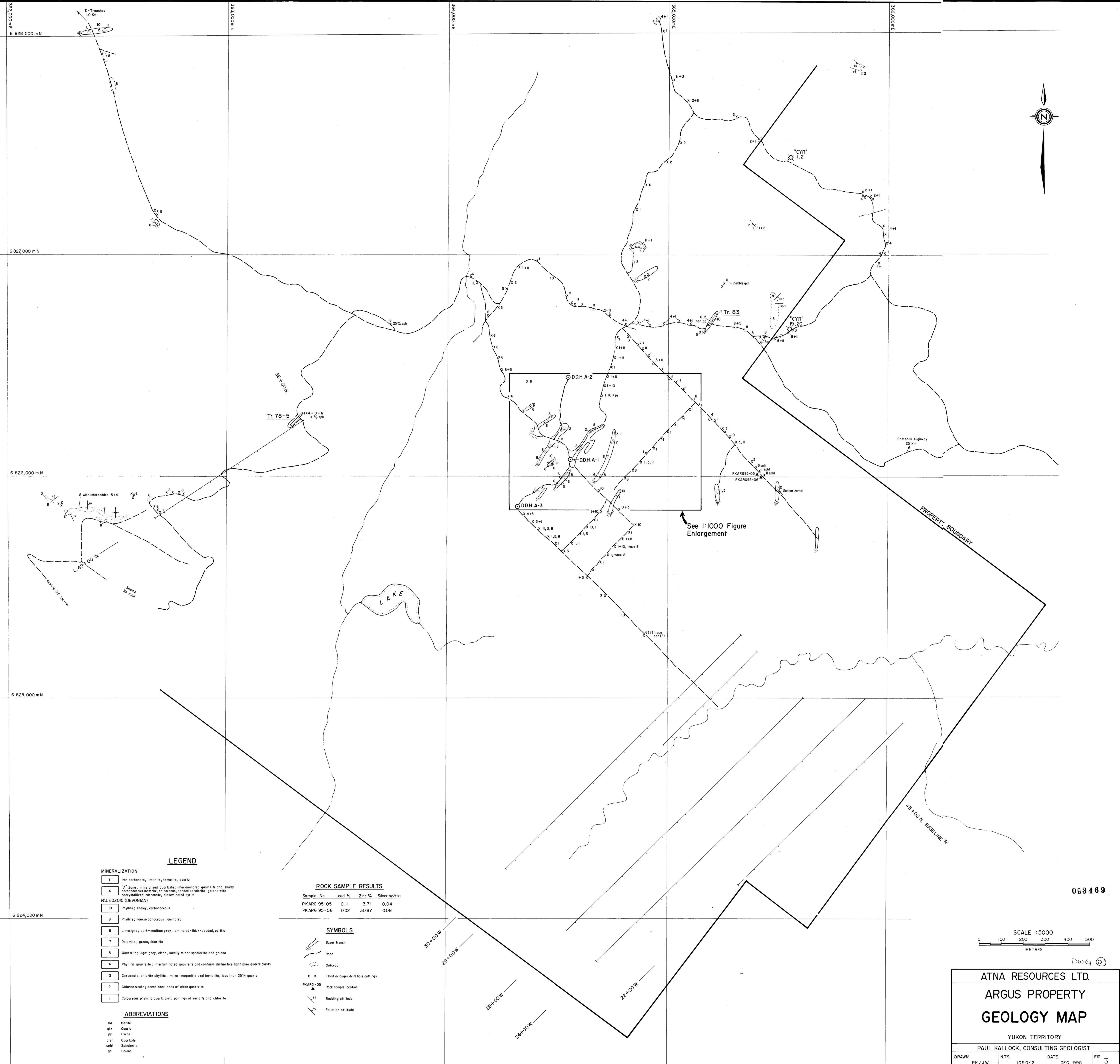
SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Tl	Hg	Ba*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	
ARG L26+00W 42+00N	2	27	11	78	<.3	46	7	343	2.50	34	<5	<2	<2	26	<.2	<2	<2	34	.42	.028	28	37	.51	234	.03	<3	.90	<.01	.06	<2	<5	<1	1692
ARG L26+00W 41+50N	<1	19	8	92	<.3	73	14	614	2.23	39	<5	<2	<2	36	.4	<2	<2	29	.62	.092	18	92	.90	191	.02	<3	.81	<.01	.04	<2	<5	<1	1211
ARG L26+00W 41+00N	1	40	14	75	.3	63	9	417	2.46	82	<5	<2	<2	48	<.2	<2	<2	31	.89	.070	22	46	.57	297	.02	<3	.77	<.01	.06	2	<5	<1	1753
ARG L26+00W 40+50N	2	41	14	83	<.3	93	16	1279	3.84	111	<5	<2	2	36	<.2	<2	9	35	.63	.040	24	80	.70	344	.02	<3	.96	<.01	.10	<2	<5	<1	1793
ARG L26+00W 40+00N	1	46	11	107	.3	142	15	738	3.30	111	<5	<2	4	28	<.2	<2	<2	42	.50	.091	25	89	1.04	274	.03	<3	1.17	<.01	.08	<2	<5	<1	1822
ARG L26+00W 39+50N	1	34	13	75	<.3	103	9	214	1.64	22	<5	<2	2	41	<.2	<2	<2	31	.82	.082	16	61	.65	298	.03	<3	.78	.01	.06	<2	<5	1	1247
ARG L26+00W 39+00N	2	31	7	64	<.3	75	14	713	2.76	99	<5	<2	2	31	<.2	<2	<2	36	.43	.051	22	89	.72	312	.02	<3	.96	<.01	.06	<2	<5	<1	1609
ARG L26+00W 38+50N	2	32	10	70	<.3	47	15	875	2.95	101	<5	<2	<2	49	<.2	<2	2	28	.66	.073	14	48	.50	373	.01	<3	.79	<.01	.10	<2	<5	<1	1914
ARG L26+00W 38+00N	3	12	10	79	<.3	18	10	498	2.35	48	<5	<2	2	14	<.2	<2	<2	42	.13	.024	22	37	.33	210	.03	<3	.90	<.01	.06	<2	<5	<1	1519
ARG L26+00W 37+50N	2	13	8	69	.3	43	9	495	3.36	64	<5	<2	3	8	.3	<2	<2	51	.06	.025	20	72	.37	118	.03	<3	1.07	<.01	.06	<2	<5	<1	1336
ARG L26+00W 37+00N	1	38	7	80	<.3	80	14	778	3.07	67	<5	<2	2	60	<.2	<2	<2	47	1.00	.100	18	86	1.00	290	.05	5	1.27	.01	.08	<2	<5	<1	1525
RE ARG L26+00W 37+00N	<1	39	11	78	<.3	75	14	778	3.10	68	<5	<2	<2	61	.3	<2	<2	47	1.01	.097	19	85	1.00	292	.05	<3	1.26	.01	.08	<2	<5	<1	1546
ARG L26+00W 36+50N	1	83	9	140	.4	112	13	535	3.16	85	<5	<2	4	45	<.2	<2	<2	57	.62	.075	27	62	1.00	360	.02	4	1.62	<.01	.14	<2	<5	<1	1953
ARG L26+00W 36+00N	2	17	18	104	<.3	41	15	970	3.32	80	<5	<2	2	13	.4	<2	<2	51	.12	.038	22	64	.55	292	.02	3	1.27	<.01	.07	<2	<5	<1	1640
ARG L26+00W 35+50N	2	46	10	73	.4	67	13	575	2.90	56	<5	<2	2	35	<.2	<2	4	37	.47	.042	27	54	.60	294	.02	<3	1.09	<.01	.07	<2	<5	<1	1659
ARG L26+00W 34+50N	1	24	7	70	<.3	72	9	1033	1.96	55	<5	<2	<2	68	.2	<2	<2	30	1.05	.084	15	47	.69	405	.02	5	.89	.01	.07	<2	<5	<1	1290
ARG L26+00W 34+00N	1	32	<3	41	<.3	52	7	373	1.21	17	<5	<2	<2	63	<.2	<2	<2	25	1.20	.073	14	41	.65	457	.02	8	.71	.01	.06	<2	<5	<1	1334
ARG L26+00W 33+50N	<1	14	7	49	<.3	31	4	345	1.23	2	<5	<2	2	37	<.2	<2	<2	25	.60	.085	14	35	.44	298	.03	<3	.59	<.01	.04	<2	<5	<1	997
ARG L26+00W 32+50N	1	19	7	61	<.3	54	10	443	1.80	36	<5	<2	3	37	<.2	<2	<2	28	.49	.089	17	53	.64	505	.03	<3	.79	<.01	.05	<2	<5	<1	1367
ARG L26+00W 31+00N	1	12	4	55	<.3	44	7	917	1.44	19	<5	<2	2	26	.3	<2	<2	21	.39	.083	14	48	.53	313	.03	<3	.52	<.01	.04	2	<5	<1	1007
ARG L26+00W 30+50N	<1	16	10	49	<.3	40	8	260	1.88	6	<5	<2	3	31	.3	<2	<2	30	.58	.067	17	52	.71	264	.03	3	.90	<.01	.05	<2	<5	<1	1127
ARG L26+00W 30+00N	1	7	4	34	<.3	15	3	232	1.67	4	<5	<2	2	8	<.2	<2	<2	45	.13	.023	24	29	.36	282	.04	<3	1.15	<.01	.05	2	<5	<1	1343
ARG L24+00W 47+00N	1	12	8	46	<.3	35	8	253	2.12	11	<5	<2	2	19	<.2	<2	<2	44	.26	.022	16	51	.67	376	.03	<3	1.36	.01	.06	<2	<5	<1	1212
ARG L24+00W 46+50N	1	12	10	43	<.3	36	7	229	2.60	11	6	<2	3	9	.2	<2	<2	45	.15	.032	15	51	.60	227	.04	<3	1.20	<.01	.05	2	<5	<1	1045
ARG L24+00W 46+00N	2	9	11	89	<.3	30	7	424	2.83	17	<5	<2	3	6	<.2	<2	<2	59	.06	.016	23	50	.31	159	.04	<3	1.08	<.01	.05	<2	<5	<1	1338
ARG L24+00W 45+50N	2	33	11	53	.3	59	9	454	2.36	19	<5	<2	<2	36	.2	2	<2	35	.59	.045	37	69	.61	395	.02	<3	1.03	<.01	.06	2	<5	<1	1670
ARG L24+00W 45+00N	3	17	17	83	<.3	55	11	300	3.33	49	9	<2	3	27	<.2	<2	<2	53	.40	.023	21	85	.58	285	.01	<3	1.31	<.01	.05	<2	<5	1	1287
ARG L24+00W 44+50N	2	21	24	78	.3	71	15	1054	3.89	213	<5	<2	2	35	.3	<2	<2	32	.57	.061	17	94	.69	292	.01	<3	.88	<.01	.07	<2	<5	<1	1405
ARG L24+00W 44+00N	1	88	13	60	.8	93	12	1723	3.20	41	20	<2	2	90	<.2	<2	<2	47	1.69	.135	24	52	.54	677	.01	<3	1.34	<.01	.10	<2	<5	2	1952
ARG L24+00W 43+50N	1	23	13	146	<.3	113	19	1215	3.92	121	11	<2	<2	52	.4	<2	2	41	.88	.139	15	132	.86	373	.02	<3	1.19	<.01	.09	<2	<5	<1	1446
ARG L24+00W 43+00N	1	62	23	136	.6	74	12	626	2.72	147	11	<2	2	44	1.2	<2	<2	38	.76	.064	22	53	.57	425	.01	4	1.21	.01	.10	<2	<5	<1	1653
ARG L24+00W 42+50N	1	105	23	44	.7	88	9	1155	2.28	199	6	<2	<2	43	<.2	<2	<2	20	.79	.083	49	35	.31	534	.01	4	.94	<.01	.08	<2	<5	<1	2059
ARG L24+00W 42+00N	1	24	14	52	<.3	48	9	387	2.42	103	<5	<2	3	17	<.2	<2	<2	31	.25	.030	27	50	.60	277	.02	3	.92	<.01	.06	<2	<5	<1	1583
ARG L24+00W 41+50N	2	54	20	51	.5	70	8	549	2.07	82	8	<2	<2	50	.2	<2	<2	28	.88	.080	30	34	.36	839	.01	<3	.96	<.01	.06	<2	<5	<1	2135
ARG L24+00W 41+00N	1	29	10	65	<.3	79	14	633	2.74	101	10	<2	4	25	.5	<2	<2	36	.41	.057	23	74	.79	334	.02	<3	1.06	.01	.07	<2	<5	<1	1737
STANDARD C/SO-15	18	57	37	122	6.7	67	28	1098	3.84	41	18	6	34	50	16.4	18	22	65	.50	.090	42	57	.91	184	.08	24	1.85	.06	.15	11	<5	<1	2194

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



SAMPLE#	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	Tl	Hg	Ba*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	
ARG L24+00W 40+50N	2	122	27	74	.4	105	16	829	3.15	62	7	<2	4	57	.4	3	<2	37	.98	.091	27	59	.74	845	.01	3	1.34	.01	.06	<2	5	<1	2112
ARG L24+00W 40+00N	2	36	21	91	<.3	64	11	593	2.81	146	<5	<2	3	26	.8	2	<2	32	.45	.042	25	39	.55	338	.02	<3	1.00	.01	.07	<2	<5	<1	1717
ARG L24+00W 39+50N	1	57	13	82	<.3	71	13	371	2.86	160	<5	<2	5	31	.6	2	<2	33	.56	.070	25	46	.66	290	.03	<3	.91	.01	.06	<2	<5	<1	1709
ARG L24+00W 39+00N	2	20	16	81	<.3	60	14	959	3.60	111	<5	<2	6	32	.3	3	<2	31	.47	.068	21	53	.56	594	.01	3	.93	<.01	.10	<2	6	<1	2338
RE ARG L24+00W 39+00N	2	22	17	82	<.3	57	14	948	3.66	110	<5	<2	6	33	.5	2	<2	32	.47	.068	20	55	.58	629	.02	<3	.96	.01	.11	<2	<5	1	2273
ARG L24+00W 38+50N	2	59	25	57	<.3	93	17	1112	2.54	131	<5	<2	2	55	.9	2	3	30	.96	.056	22	47	.61	508	.02	4	.96	.01	.06	<2	<5	1	1805
ARG L24+00W 38+00N	3	30	16	52	<.3	87	19	769	3.76	84	<5	<2	5	37	.4	<2	<2	30	.62	.081	22	51	.63	414	.01	<3	.99	.01	.08	<2	<5	1	1511
ARG L24+00W 37+00N	1	14	14	111	<.3	22	8	597	2.16	70	<5	<2	4	28	.7	<2	2	46	.37	.023	19	49	.50	278	.03	3	1.17	.01	.09	<2	<5	1	1509
ARG L24+00W 36+00N	1	25	10	73	<.3	103	14	1070	2.70	58	<5	<2	5	47	.3	<2	<2	37	.68	.086	19	94	1.38	352	.03	5	1.31	.01	.07	<2	<5	<1	1509
ARG L24+00W 35+50N	1	17	7	43	<.3	62	11	363	2.41	55	<5	<2	8	23	.5	2	<2	28	.40	.071	24	69	.76	240	.04	3	.91	<.01	.05	<2	<5	1	1137
ARG L24+00W 35+00N	1	25	12	52	<.3	63	11	363	2.30	39	<5	<2	7	21	<.2	<2	2	28	.38	.067	21	57	.67	286	.04	5	.86	.01	.05	<2	<5	1	1115
ARG L24+00W 34+50N	1	13	8	59	<.3	54	10	344	2.00	37	<5	<2	5	32	<.2	<2	<2	27	.48	.068	16	59	.71	202	.03	6	.86	<.01	.06	<2	<5	<1	1341
ARG L24+00W 34+00N	1	31	10	75	<.3	61	8	813	1.91	56	<5	<2	3	58	.4	<2	<2	28	.85	.095	15	46	.59	409	.02	6	.86	.01	.07	<2	<5	<1	1185
ARG L24+00W 33+50N	<1	29	10	52	<.3	69	10	312	1.92	25	<5	<2	5	22	.6	2	<2	24	.41	.081	15	66	.71	156	.05	4	.65	.01	.04	2	<5	<1	896
ARG L24+00W 33+00N	1	29	11	51	<.3	72	11	267	2.05	26	<5	<2	4	29	.2	<2	2	26	.47	.075	17	63	.71	400	.05	<3	.74	.01	.06	<2	<5	<1	1301
ARG L24+00W 32+50N	3	58	15	68	<.3	99	18	1555	4.34	73	<5	<2	4	64	.5	2	<2	34	1.08	.075	16	60	.86	861	.03	6	1.03	.01	.07	<2	6	<1	2023
ARG L24+00W 30+50N	1	52	11	84	<.3	67	14	416	2.41	13	<5	<2	7	38	.5	<2	3	37	.76	.085	21	71	.92	496	.06	<3	1.04	.01	.08	<2	<5	<1	1612
ARG L24+00W 30+00N	1	47	7	76	<.3	98	14	406	2.80	20	<5	<2	8	25	.7	<2	<2	42	.57	.080	24	114	1.36	273	.07	<3	1.29	<.01	.09	<2	<5	2	1389
ARG L22+00W 47+50N	2	15	18	105	<.3	33	10	391	2.33	22	<5	<2	2	35	.4	3	3	42	.55	.036	19	48	.46	386	.03	<3	.93	.01	.07	<2	<5	<1	1614
ARG L22+00W 46+50N	1	110	17	78	.3	127	10	205	2.10	14	<5	<2	4	58	.6	3	5	32	1.00	.078	25	97	1.02	267	.03	3	1.02	.01	.07	<2	<5	1	1414
ARG L22+00W 45+50N	2	29	18	72	<.3	176	22	1061	3.36	36	<5	<2	5	54	.4	2	<2	38	.74	.071	26	142	1.50	304	.04	3	1.23	.02	.08	2	<5	1	1242
ARG L22+00W 45+00N	2	33	15	113	<.3	79	14	416	2.51	19	<5	<2	3	44	.2	2	<2	39	.66	.031	25	54	.56	328	.05	3	1.00	.01	.08	2	<5	1	1517
ARG L22+00W 44+50N	2	32	12	74	<.3	90	14	512	3.08	29	<5	<2	3	33	.3	<2	<2	38	.51	.038	25	76	.68	313	.03	<3	1.07	.01	.06	<2	<5	1	1433
ARG L22+00W 44+00N	1	71	12	40	.3	155	9	471	1.40	14	10	<2	<2	110	.8	3	<2	23	2.25	.065	10	60	.40	662	.02	4	.67	.02	.04	<2	<5	1	1406
ARG L22+00W 43+50N	1	37	15	48	<.3	82	15	550	2.59	36	<5	<2	2	47	.2	2	5	31	.74	.048	20	94	.67	489	.01	<3	1.09	.01	.05	<2	<5	2	1464
ARG L22+00W 43+00N	1	23	11	61	<.3	115	17	400	3.16	30	6	<2	4	25	.5	<2	7	41	.38	.033	22	168	1.02	441	.02	3	1.32	.01	.05	3	<5	<1	1361
ARG L22+00W 42+50N	<1	15	12	42	<.3	36	10	418	1.86	10	<5	<2	4	18	<.2	<2	3	37	.31	.038	13	48	.62	306	.05	<3	.95	.01	.05	<2	<5	1	1051
ARG L22+00W 42+00N	1	12	5	43	<.3	38	9	265	1.78	10	<5	<2	4	21	<.2	<2	3	30	.38	.067	15	50	.66	238	.06	3	.83	.01	.04	2	<5	1	1024
ARG L22+00W 41+00N	1	11	8	43	<.3	30	7	282	2.14	11	<5	<2	4	18	.2	<2	<2	45	.29	.035	15	53	.60	295	.04	4	1.09	.01	.06	<2	<5	1	1056
ARG L22+00W 40+50N	1	14	15	61	<.3	57	14	306	2.91	28	<5	<2	7	24	<.2	<2	<2	41	.39	.039	23	60	.90	340	.04	5	1.27	.01	.06	2	<5	1	1690
ARG L22+00W 40+00N	2	35	19	82	<.3	119	24	1045	3.48	63	<5	<2	3	41	.7	2	3	38	.64	.061	20	146	1.15	394	.02	5	1.19	.01	.08	<2	<5	2	1567
ARG L22+00W 39+50N	3	17	22	87	<.3	91	20	535	4.53	101	<5	<2	6	25	.6	3	5	52	.38	.042	18	162	.88	247	.03	<3	1.19	<.01	.07	<2	<5	<1	1414
ARG L22+00W 39+00N	2	19	22	75	<.3	63	16	529	3.31	90	<5	<2	6	26	<.2	<2	<2	41	.29	.026	21	92	.71	433	.02	<3	1.29	.01	.06	<2	<5	2	1679
ARG L22+00W 38+50N	2	8	12	80	<.3	41	10	526	2.48	39	<5	<2	5	10	.4	2	<2	44	.11	.032	22	78	.62	116	.04	4	.89	<.01	.09	<2	<5	1	1479
ARG L22+00W 38+00N	2	83	30	63	.3	150	22	843	3.57	386	<5	<2	5	54	.8	4	3	41	.77	.064	26	96	.87	431	.03	4	1.29	.02	.09	2	<5	1	1614
ARG L22+00W 37+00N	1	55	21	57	.3	91	15	638	2.77	239	<5	<2	3	97	<.2	<2	<2	31	1.33	.088	16	71	.81	401	.01	<3	.97	.01	.07	<2	<5	2	1293
STANDARD C/SO-15	19	59	40	128	6.8	68	33	1139	3.93	44	18	7	38	52	17.7	18	20	62	.52	.092	40	62	.94	190	.08	31	1.87	.06	.15	11	<5	3	2127

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



**LEGEND**

- MINERALIZATION**
- 11 Iron carbonate, limonite, hematite, quartz
  - 6 "X" Zone: mineralized quartzite, intermineralized quartzite and shaly carbonaceous material, calcareous, banded sphalerite, galena with recrystallized carbonate, disseminated pyrite
- PALEOZOIC (DEVONIAN)**
- 10 Phyllite; shaly, carbonaceous
  - 9 Phyllite; noncarbonaceous, laminated
  - 8 Limestone; dark-medium grey, laminated-thick bedded, pyritic
  - 7 Dolomite; green, chloritic
  - 5 Quartzite; light grey, clean, locally minor sphalerite and galena
  - 4 Phyllitic quartzite; alternating quartzite and contains distinctive light blue quartz clasts
  - 3 Carbonate, chlorite phyllite; minor magnetite and hematite, less than 25% quartz
  - 2 Chlorite wecks; occasional beds of clear quartzite
  - 1 Calcareous phyllitic quartz grit; partings of sericite and chlorite

- ABBREVIATIONS**
- Ba Barite
  - qtz Quartz
  - py Pyrite
  - qtz1 Quartzite
  - sph Sphalerite
  - ga Galena

**ROCK SAMPLE RESULTS**

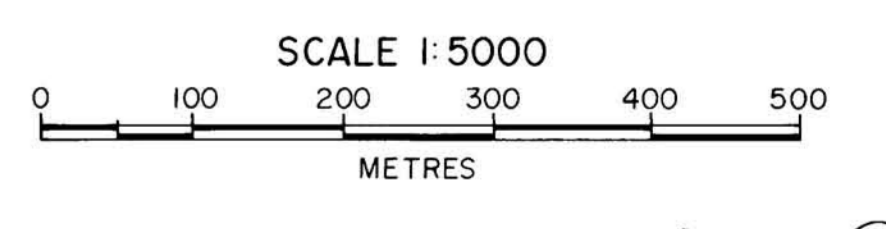
Sample No.	Lead %	Zinc %	Silver oz/ton
PKARG 95-05	0.11	3.71	0.04
PKARG 95-06	0.02	30.87	0.08

**SYMBOLS**

- Dicer trench
- Road
- Outcrop
- Flot or auger drill hole cuttings
- Rock sample location
- Bedding attitude
- Foliation attitude

See 1:1000 Figure Enlargement

093469

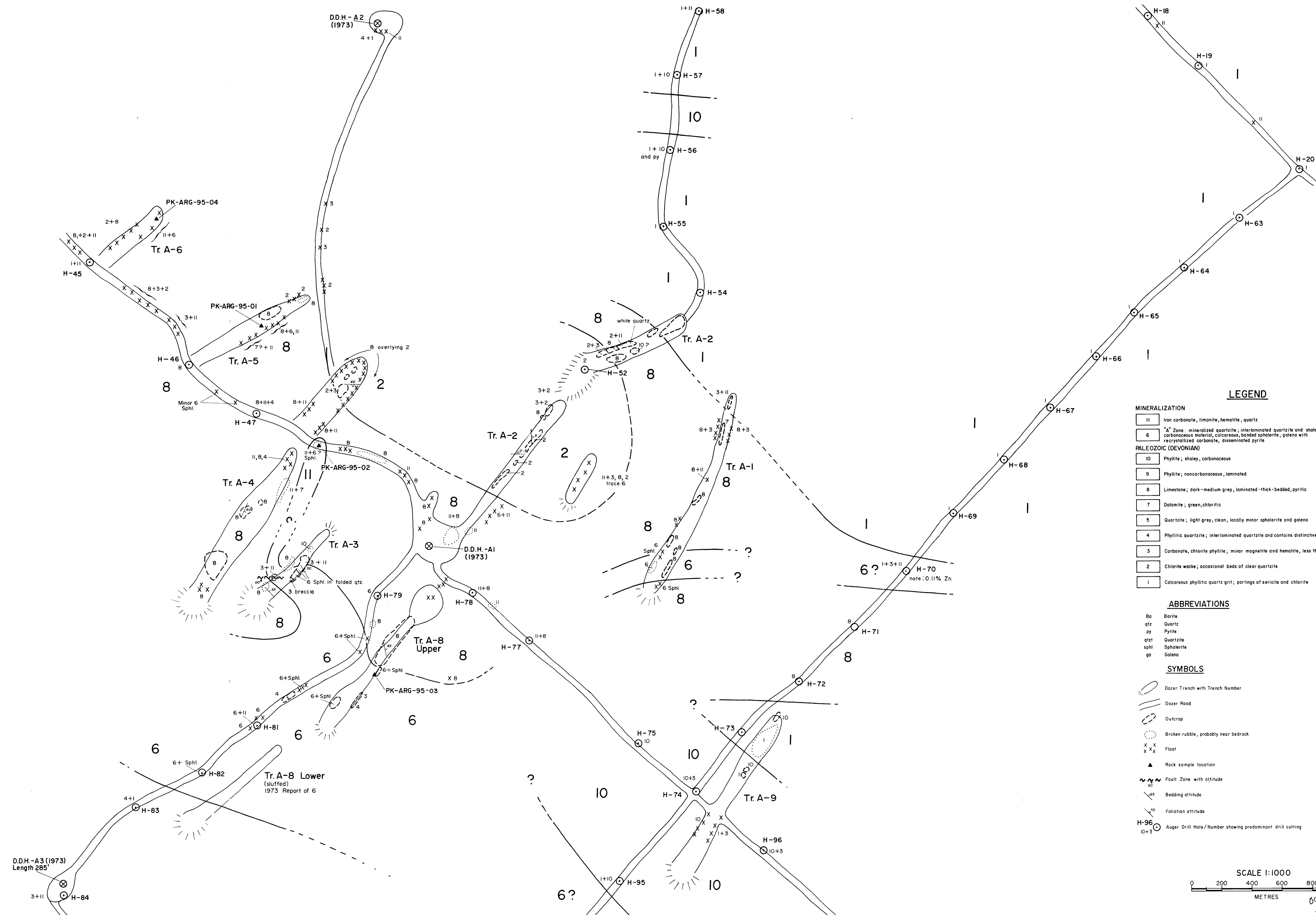
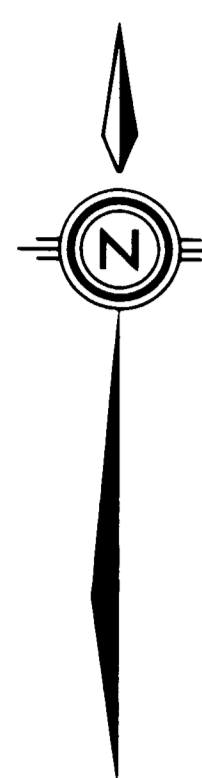


Dwg 2

**ATNA RESOURCES LTD.**  
**ARGUS PROPERTY**  
**GEOLOGY MAP**

YUKON TERRITORY  
PAUL KALLOCK, CONSULTING GEOLOGIST

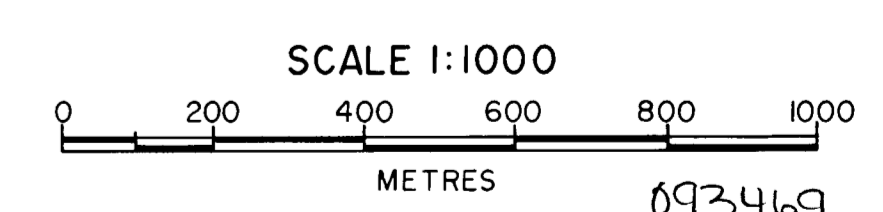
DRAWN	N.T.S.	DATE	FIG
PK./J.W.	105.6/02	DEC 1995	3



- LEGEND**
- MINERALIZATION**
- 11 Iron carbonate, limonite, hematite, quartz
  - "A" Zone: mineralized quartzite; interaminated quartzite and shaly carbonaceous material, calcareous, banded sphalerite, galena with recrystallized carbonate, disseminated pyrite
- PALEOZOIC (DEVONIAN)**
- 10 Phyllite; shaley, carbonaceous
  - 9 Phyllite; noncarbonaceous, laminated
  - 8 Limestone; dark-medium grey, laminated-thick-bedded, pyritic
  - 7 Dolomite; green, chloritic
  - 5 Quartzite; light grey, clean, locally minor sphalerite and galena
  - 4 Phyllitic quartzite; interlaminated quartzite and contains distinctive light blue quartz clasts
  - 3 Carbonate, chlorite phyllite; minor magnetite and hematite, less than 25% quartz
  - 2 Chlorite wacke; occasional beds of clear quartzite
  - 1 Calcareous phyllitic quartz grit; partings of sericite and chlorite

- ABBREVIATIONS**
- Ba Barite
  - qtz Quartz
  - py Pyrite
  - qtzt Quartzite
  - sphl Sphalerite
  - ge Galena

- SYMBOLS**
- Dozer Trench with Trench Number
  - Dozer Road
  - Outcrop
  - Broken rubble, probably near bedrock
  - Float
  - Rock sample location
  - Fault Zone with attitude
  - Bedding attitude
  - Foliation attitude
  - Auger Drill Hole/Number showing predominant drill cutting



**ROCK SAMPLE RESULTS**

Rock Sample Number	Location	ASSAYS		
		Lead %	Zinc %	Silver oz/ton
PK ARG 95 - 01	Tr A-3	2.02	16.64	1.54
PK ARG 95 - 02	Tr A-4	0.69	8.72	0.89
PK ARG 95 - 03	Tr A-8	0.13	7.89	0.23
PK ARG 95 - 04	Tr A-6	10.43	6.93	8.09

ATNA RESOURCES LTD.

**ARGUS PROPERTY**

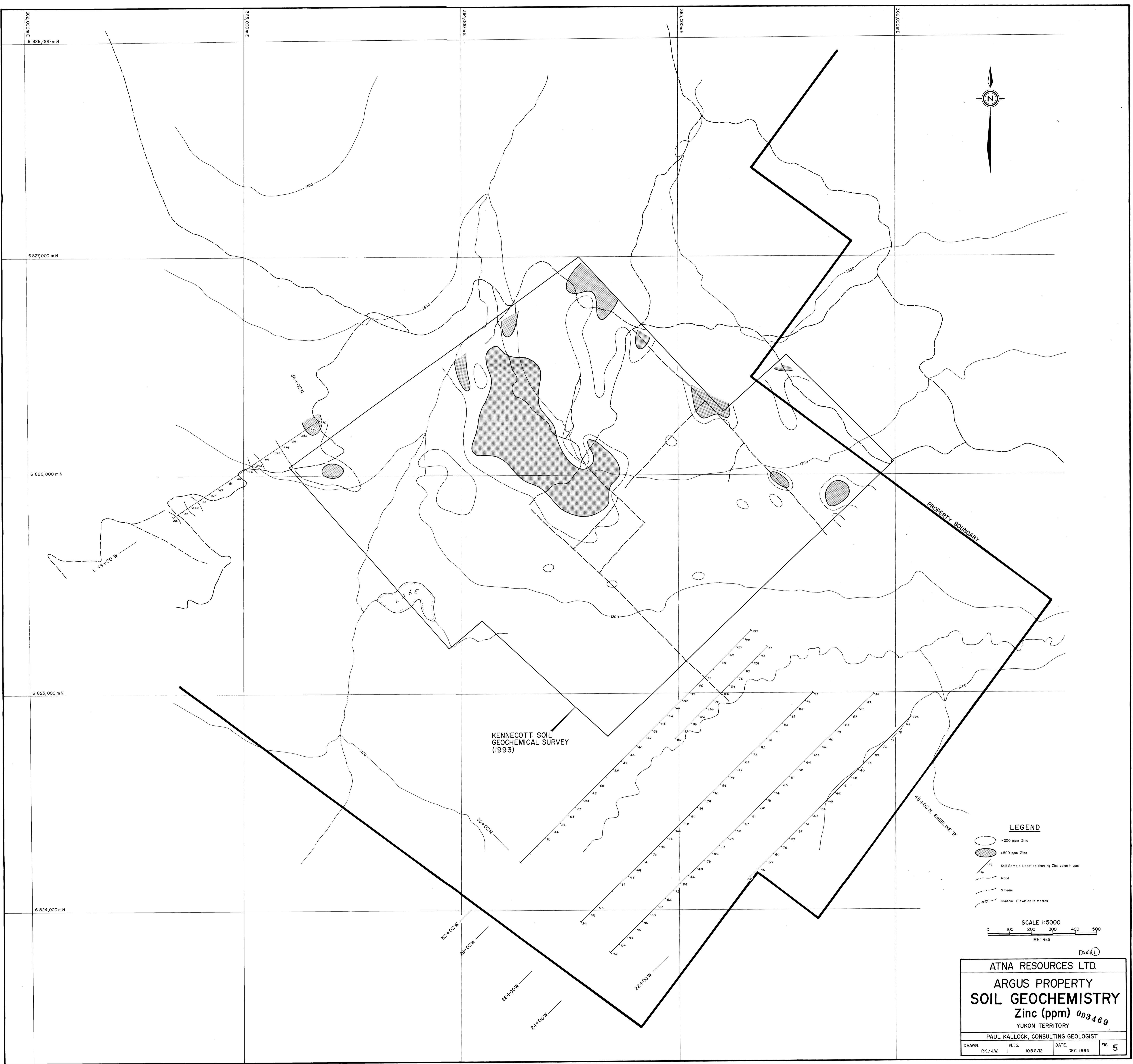
**"A" ZONE**

**GEOLOGY MAP**

YUKON TERRITORY

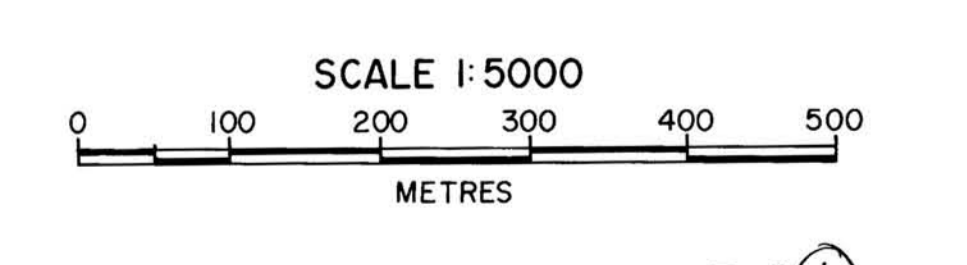
PAUL KALLOCK, CONSULTING GEOLOGIST

DRAWN	PK / J.W.	NTS.	1056/12	DATE	DEC. 1995	FIG	4
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**LEGEND**

- >200 ppm Zinc
- >500 ppm Zinc
- Soil Sample Location showing Zinc value in ppm
- Road
- Stream
- Contour Elevation in metres



D:\4\1

**ATNA RESOURCES LTD.**

**ARGUS PROPERTY**  
**SOIL GEOCHEMISTRY**  
**Zinc (ppm) 093469**  
 YUKON TERRITORY

PAUL KALLOCK, CONSULTING GEOLOGIST

DRAWN PK./JW	NTS. 105 G/12	DATE DEC. 1995
		FIG <b>5</b>