

2000 Project Report: Geology, Geochemistry

ON THE TY CLAIMS

TY 1 - 38 (YB56230 - YB56267)

094237

August 5 - August 9, 2000

105G/01
61°10'N 130°10'W
Watson Lake Mining District

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Atna Resources Ltd.
September 25, 2001



This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 11,402.

M. B. ...
Regional Manager, Exploration and
Geological Services for Commissioned
of Yukon Territory.



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EXECUTIVE SUMMARY

The TY property, consisting of 38 mineral claims covering an area of 794 ha, is situated in southeastern Yukon, approximately 135 km northwest of Watson Lake. The property covers a small area of volcanic and sedimentary rocks of the Finlayson Lake Belt, an assemblage of rocks which hosts a number of significant, polymetallic, volcanogenic massive sulphide deposits, and is favourable for VMS exploration. The nearest known VMS deposit to the TY property is the Wolverine deposit (6.2Mt grading 12.7%Zn, 1.3%Cu, 1.6% Pb, 370.9g/t Ag and 1.76 g/t Au, (Bradshaw *et al*, 2001)) located 35 km to the north.

Past exploration on the TY property has included: geological mapping, soil geochemical surveys, airborne and ground geophysical surveys, and diamond drilling; a majority of this work was carried out by Westmin Resources Ltd. during 1996 and 1997. This work defined two prospective areas on the north and south ends of the property. The current program consisted of geological mapping with an emphasis of structure as it was felt that the structural history of the area and resulting fold geometry has a direct influence on the exploration potential of the property, particularly the north end of the property.

Detailed mapping was able to interpret the structural history of the property but the mapped area was not large enough to determine the location of major fold axes and whether or not the favourable stratigraphy on the north end of the property was overturned. Geochemical analyses of rock samples support the possibility that the stratigraphy is overturned but also indicate that the claim area should be expanded prior to investing in further exploration.

1. INTRODUCTION

This report documents work performed on the TY claims during August 2000. The report is in support of the Application for a Certificate of Work - Form 5 (Sec. 53) filed March 28, 2001 for the TY 1-38 Claims.

The TY claims are within the Finlayson Lake belt rocks and are thought to contain similar stratigraphy to that hosting the Wolverine deposit. The 2000 project included geological mapping with a structural focus, and associated geochemical rock sampling.

1.1 LOCATION & ACCESS

The TY property is located approximately 135 km NW of Watson Lake and 270 km ENE of Whitehorse, Yukon (figure 1.1). The center of the claims is at UTM coordinates 437500E, 6783500N on NTS mapsheet 105G/1. Access to the property is by helicopter with the nearest base being Trans North Helicopters out of Watson Lake. One way travel time to the property from Watson Lake by Bell 206 helicopter is approximately 60 minutes. Several landing sites exist on the property. The Robert Campbell Highway between Watson Lake and Ross River lies 35 km NE of the property (figure 1.2).

1.2 PHYSIOGRAPHY

The TY claims are within the Simpson Range of the Pelly Mountains, a sub-division of the Yukon Plateau physiographic region of the Northern Cordillera. The Simpson Range, which lies between 1000 and 2350 metres above sea level (ASL), is bounded by the Tintina Fault to the SW, Ross Lowland to the NW, and Liard Plateau to the SE. This portion of the Yukon was glaciated resulting in cirque development and broad valleys filled with glacial sediments.

The TY property is primarily situated on a south-facing slope between 1000 and 1900m ASL with a small portion lying within the valley bottom and on the opposing north facing slope. Glacialofluvial deposits within the bisecting valley are reported to be greater than 5m thick. Treeline ranges between 1400 and 1500 metres ASL, above which sparse alpine vegetation grows between areas of outcrop and talus and below which black spruce and balsam fir mask the limited outcrop.

1.3 CLAIMS

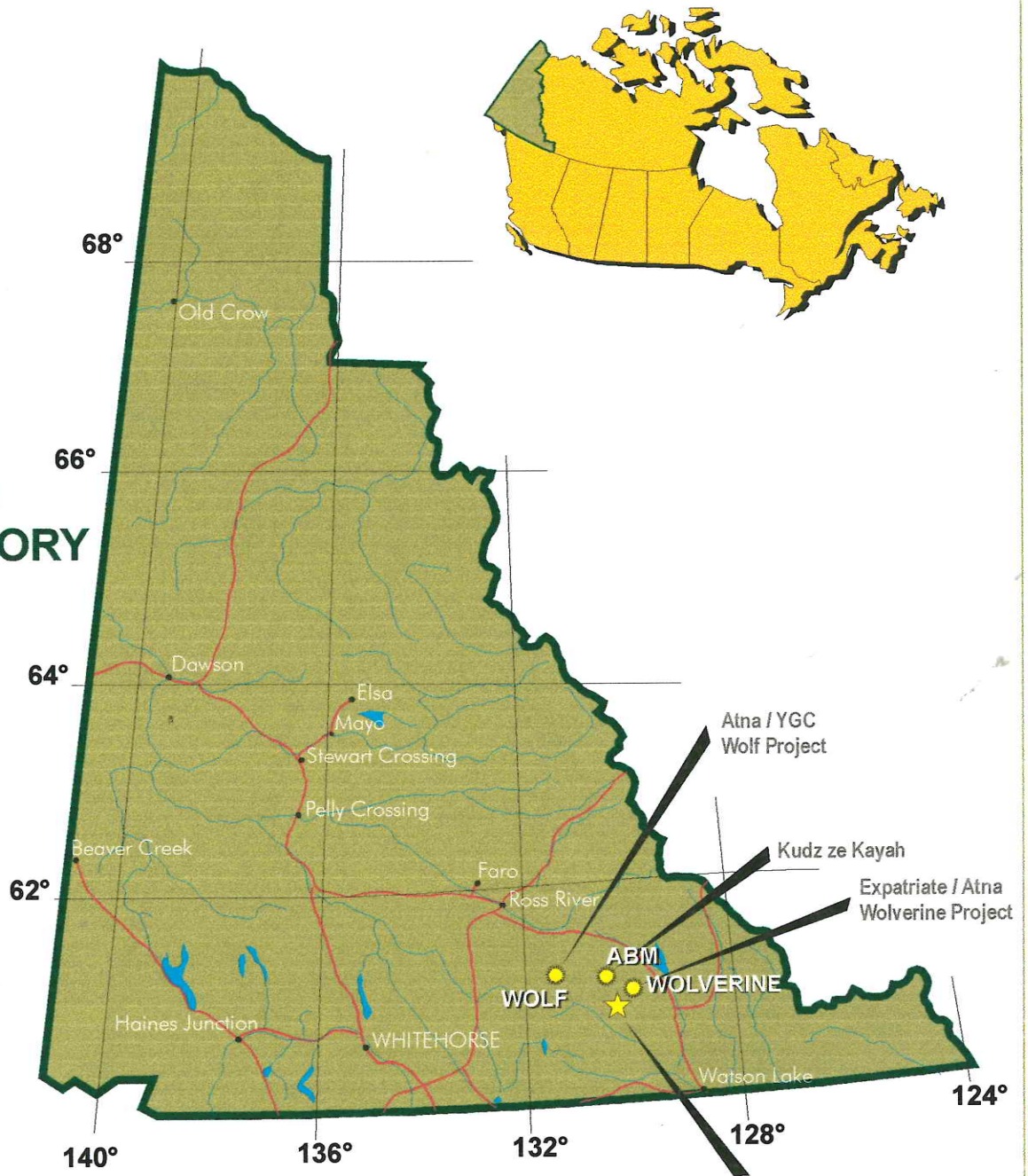
The TY property consists of the TY 1-38 claims totaling approximately 794 ha. (figure 1.3). Claim names, grant numbers, expiry dates and claim owners are shown in the following table.

Table 1: Claim Table

Claim Name	Grant #	Expiry	Claim Owner
TY 1 - 38	YB56230 – YB56267	April 3, 2008*	Pacific Bay Minerals Ltd.

* Pending acceptance of assessment reporting.

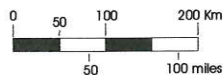
YUKON TERRITORY

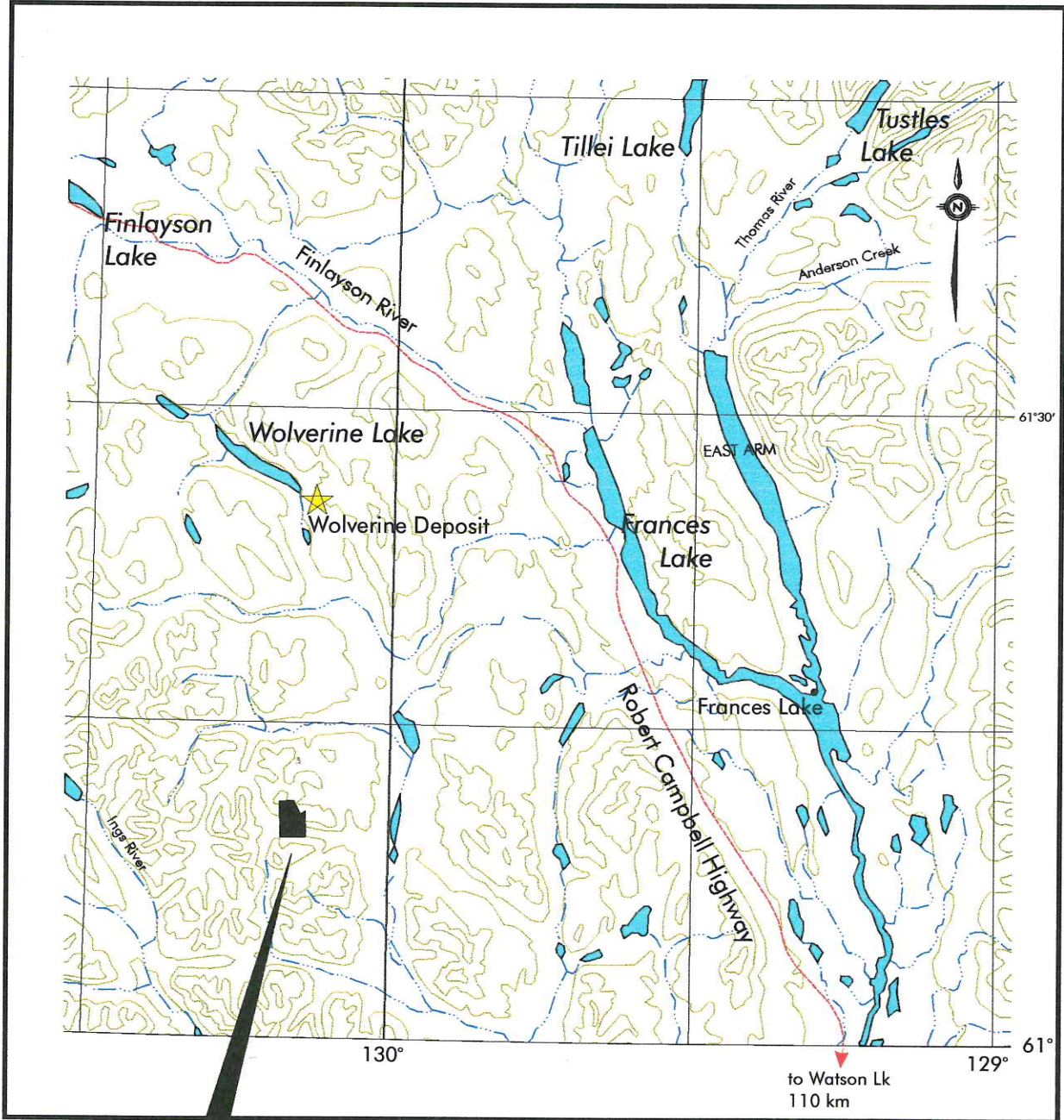


**ATNA Resources
TY Project**

Figure 1.1

LOCATION MAP
TY CLAIMS
SIMPSON RANGE
YUKON TERRITORY



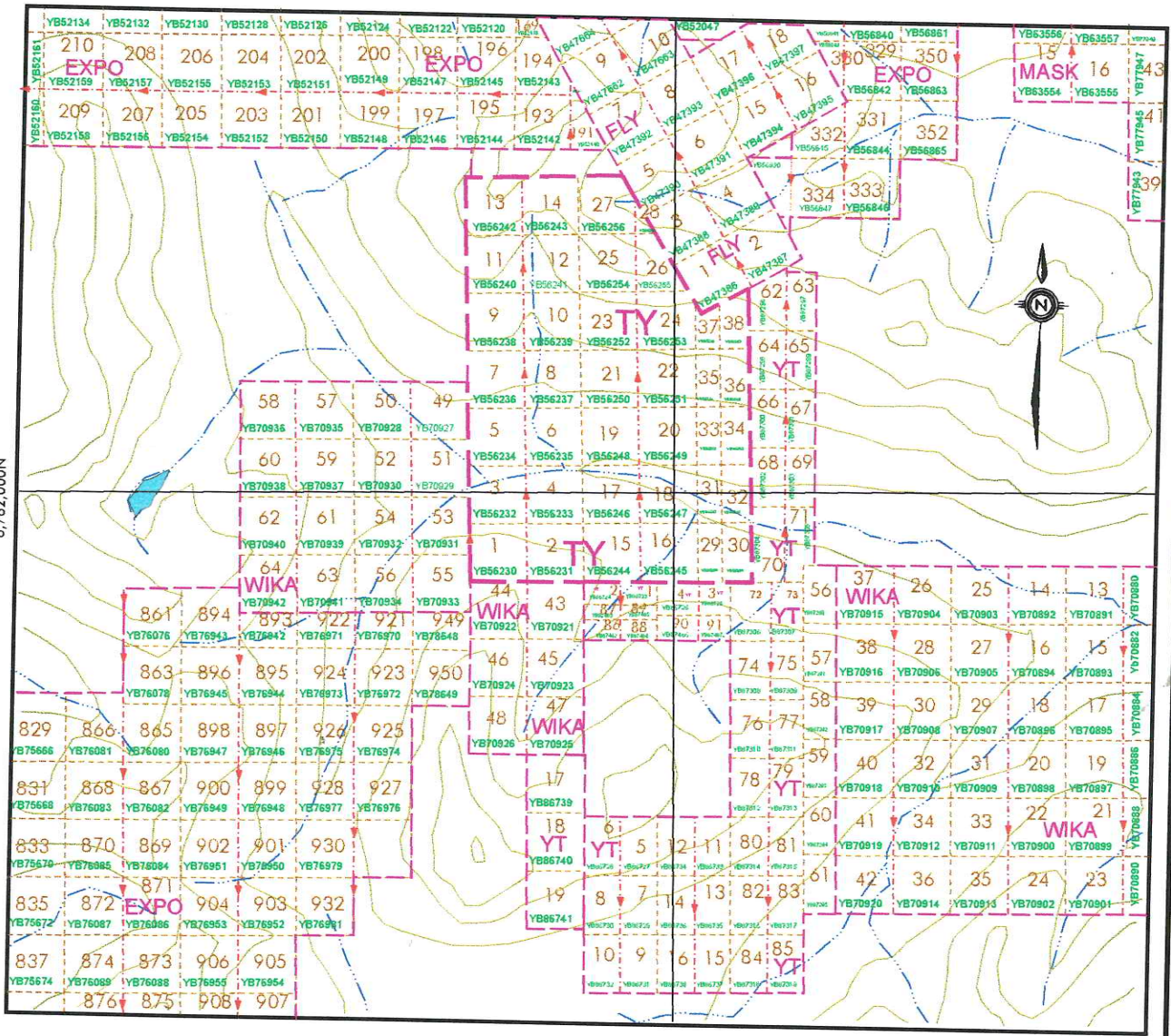


TY Claim Block



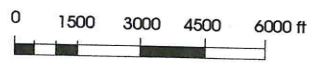
ATNA RESOURCES LTD.			
TY Property ACCESS MAP			
NTS	105G&H		Date Oct/00
Scale	As Shown	DWG by RGW	Figure 1.2

6,782,000N



438,000E

Scale 4500 ft = 1 inch



ATNA RESOURCES LTD.
TY Property
CLAIM MAP

Update: JUNE 27, 2000
 WATSON LAKE MINING DISTRICT



NTS	105G/01		Date	Oct/00
Scale	As Shown	DWG by	RGW	Figure 1.3

1.4 HISTORICAL WORK

The TY property history has been summarized from Terry and Gale (1998). Cyprus Anvil Mining Corporation staked the PY claims over the property area in 1975 while following-up a 1000 ppm Cu regional stream sediment survey anomaly. Cyprus carried out a program of mapping, soil sampling, and EM plus IP geophysical surveys. The geophysics failed to locate a target for Cu soil anomalies and the claims were allowed to lapse. Northern Dynasty re-staked the area as the Lion claims to cover gold and arsenic stream sediment anomalies reported in G.S.C. OF 1648. The anomaly's source was never located and the claims lapsed.

Pacific Bay Minerals staked the TY claims in 1994 on the northern part of the original PY claims. A reconnaissance soil grid completed the following year over the property's southern half yielded several Cu, +/- Pb, Zn, Ag anomalies. Westmin Resources Ltd. optioned the property on November 1, 1995, and completed airborne geophysics as part of a larger survey. During 1996, Westmin completed geological mapping, soil sampling, and ground geophysical Mag/VLF surveys that outlined targets within the gridded area. Three diamond drill holes were completed for 721.1m. In 1997, Westmin completed a second program of line cutting, grid soil sampling, and ground magnetics plus MaxMin EM geophysical surveying. Westmin transferred claims ownership back to Pacific Bay in October 1998.

As a debt settlement between Atna Resources Ltd. and Pacific Bay, an agreement was reached in April 2000 whereby Atna was granted 30% ownership in the TY claims with an option to earn an additional 30% through work expenditures on the property.

1.5 WORK COMPLETED

The 2000 TY project included structural geological mapping and rock geochemistry. The project started August 5 and finished August 11, 2000 for 14 man-days worked.

Structural geological mapping by D. Copeland was completed over the western half of the property at a 1:5000 scale to augment historical mapping. Rock samples were collected in conjunction with geological mapping, with 19 samples being collected. The samples were shipped to Acme Analytical Laboratories in Vancouver, B.C. for 9 element ICP-ES and whole rock analysis.

Work on the property was based out of a two person fly camp. The fly camp consisted of a lightweight 'backpack' style tent and a tarped kitchen area. All traces of the camp and resulting garbage were removed at the completion of the program.

1.6 PERSONNEL

The contract field crew consisted of David Copeland, M.Sc., and Nick Mitchel, with project supervision by P.M. Holbek, P.Geo. and R.G. Wilson P.Geo. of Atna Resources Ltd., Vancouver. Transport to and from the property was by Trans North Helicopters out of Watson Lake, Yukon Territory. Groceries and other field consumable items were obtained from local Yukon merchants.

2. GEOLOGY

2.1 REGIONAL GEOLOGY

The claims are located within the Finlayson Lake Belt (FLB) of south-eastern Yukon, which is host to several recently discovered polymetallic massive sulphide deposits including Kudz Ze Kayah (1994), Wolverine (1995), Fyre (1996) and Ice (1996). Regional mapping of the FLB has been completed by Tempelman-Kluit et al (1976), Mortensen (1985, 1992), and Plint & Gordon (1996). While this summary is derived mainly from these sources, it is recognized that many authors have contributed to the understanding of the region's geological history.

The Finlayson Lake Belt lies northeast of the Tintina fault and southwest of Finlayson Lake fault zone (Figure 2.1). 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 over-thrust onto YTT and consists of Late Devonian to Late Triassic massive greenstone, mafic to ultramafic intrusives, and related sedimentary rocks.

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

The SMT overlies the YTT and is a sequence of ultramafic rocks, greenstone, metachert, argillite, metasilstone and leucogabbro. Regional mappers have interpreted the SMT to be an over-thrust and dismembered ophiolite, the remnants of oceanic crust that separated YTT from North America. Geologists working within the YTT on the Wolverine deposit, however, have not identified a thrust contact and have suggested that rocks east of the Wolverine 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.

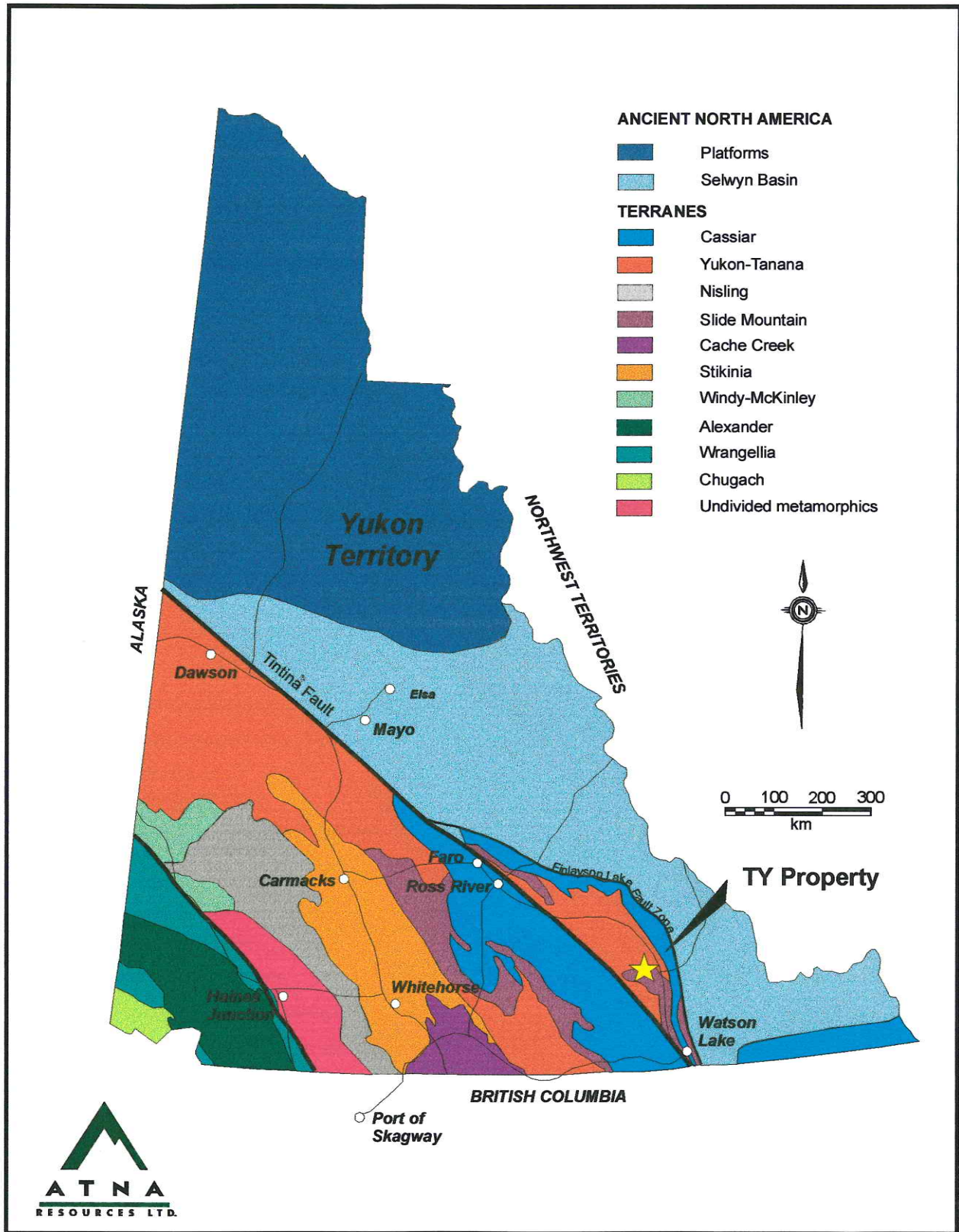
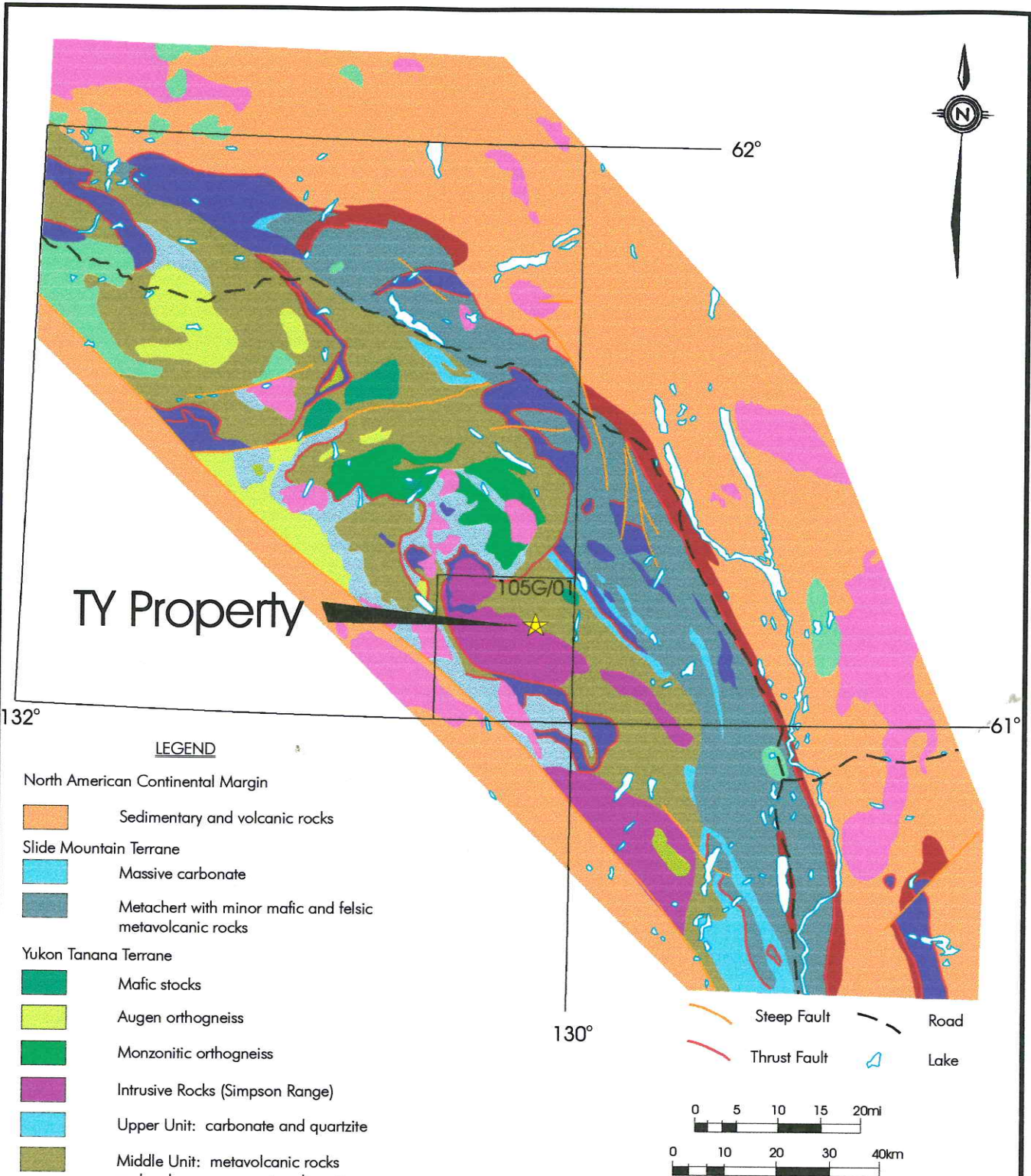


Figure 2-1. Location of the TY Property and tectonic assemblages of the northern Canadian Cordillera.

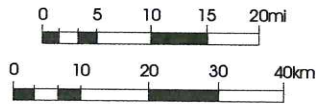


TY Property

LEGEND

- North American Continental Margin
 - Sedimentary and volcanic rocks
- Slide Mountain Terrane
 - Massive carbonate
 - Metachert with minor mafic and felsic metavolcanic rocks
- Yukon Tanana Terrane
 - Mafic stocks
 - Augen orthogneiss
 - Monzonitic orthogneiss
 - Intrusive Rocks (Simpson Range)
 - Upper Unit: carbonate and quartzite
 - Middle Unit: metavolcanic rocks and carbonaceous metasediments
 - Lower Unit: Quartzite and minor marble
 - Cretaceous and Tertiary volcanic rocks
 - Mid-Cretaceous felsic intrusive rocks
 - Late Triassic clastic sediments
 - Ultramafic rocks, greenstone and chert

- Steep Fault
- Thrust Fault
- Road
- Lake



ATNA RESOURCES LTD.
TY Property
Regional Geology



After Mortensen & Jilson, 1985

N/S 105A,B,G,H		Date Oct. 2000
Scale As shown	DWG by RGW	Figure 2.2

2.2 PROPERTY GEOLOGY

Geological mapping and prospecting was carried out over the course of four days in order to re-assess the structural and volcano-sedimentary setting of the area. Geological mapping at a scale of 1:5,000 and descriptions of the claim stratigraphy was covered by Terry et al. (1996) and Terry and Gale (1998).

2.2.1 Lithology

The TY claims are underlain by Mississippian metavolcanic and metasedimentary rocks that were intruded by monzonite, diorite to granodiorite (Terry and Gale, 1998). These lithologies are described below and outlined on the geological map (Fig. 2.3, at back).

Tgd

The youngest rocks on the TY claims are monzonite to granodiorite intrusive rocks that generally parallel the trend of metavolcanic and metasedimentary rocks in the area. Locally, the plutonic rocks crosscut primary and secondary fabrics within the country rocks and are composed of a fine to medium grained assemblage of plagioclase, quartz, biotite, hornblende and chlorite, plus accessory phases. The larger intrusive bodies are internally foliated and range in size from 10 cm thick dykes to bodies up to 100 metres thick and many 100's of metres in length. In general, the larger intrusive bodies are oriented parallel to bedding and/or foliation. Modal composition of these rocks varies from monzonite to granodiorite.

DMas

Highly quartzose metasedimentary and/or exhalative rocks form conspicuous layers within the stratigraphy on the TY claims. These rocks are composed of fine to medium grained quartz (80%) with approximately 10% micaceous minerals and graphite, and 10% plagioclase. These rocks are thought to be arenaceous metasandstones and quartzites, but may also include silica exhalites as suggested by geochemical analyses of similar rocks on the adjacent Expo claims. The chemical analyses of these siliceous rocks on the Expo claims indicate that the rocks are 90 to 94% SiO₂ and contain anomalous levels of Zn, Cu, As, Ag and other metals.

The quartzose rocks are foliated and can be compositionally layered on the 10 cm scale, with local argillaceous interbeds that are reminiscent of primary bedding. Younging direction could not be established. Intercalated argillites and metatuffaceous rocks are a common feature; especially near map-scale lithological contacts. Typical thickness of the siliceous units ranges from 10 to 90 m and the units are laterally extensive, commonly being traceable for many kilometres.

DMvs

Quartz-sericite phyllitic rocks that locally contain medium-grained equant blue quartz grains are interpreted to be felsic metatuffaceous rocks. These rocks are fine to medium grained and pervasively foliated. Primary volcanic textures are typically lacking in outcrop, but fragmental textures can be observed on some weathered surfaces. Additionally, thin compositional layers commonly observed, may represent airfall ash or submarine pyroclastic-flow layering. Metatuffaceous rocks are commonly interlayered with argillaceous rocks on the outcrop scale (cm to m) indicating volcanic activity within a basinal environment with influx of more siliceous detritus during active volcanism.

Earn Group felsic metavolcanic rocks are thought to be mainly pyroclastic flows based on their lateral extent (kilometres) relative to thickness, limited compositional variation, fragmental textures and lack of broken phenocrysts. These features may suggest volcanic derivation from a regional felsic dome or intrusive complex.

DMbr

Laterally restricted zones of massive barite with minor carbonate comprise this unit. Barite appears to be bedded and reaches a maximum thickness of 5 metres over a 40 metre strike length on the north side of the property. Thin, pyritic laminae occur discontinuously within the barite.

DMrl

Yellow weathering, weakly foliated, fine grained feldspar-phyric rhyolite to dacite intrusive (?) rocks form this unit. Fine to very fine white feldspar crystals are set in a vitreous, aphanitic matrix. Very fine grains of disseminated pyrite occur throughout. Outcrops are massive and competent suggesting subvolcanic intrusive or possibly, flow-dome type of origin.

DMps

Graphitic argillites are fine-grained, foliated, graphite-rich (40%) metasedimentary rocks that occur as 100 m thick units on the TY claims. These rocks are commonly intercalated (1 to 10 metre intervals) with metatuffaceous and arenaceous metasandstones. The presence of graphitic argillite indicates a marine basin environment of deposition.

2.2.2 Structure and Metamorphism

The rocks underlying the TY claims were deformed during Jurassic to Cretaceous orogeny along the northern Canadian Cordillera. The metamorphic grade of the rocks underlying the claims is lower to middle greenschist-facies. This is evidenced by the abundance of chlorite and sericite as metamorphic minerals within most lithologies.

The claims are underlain by bedrock that dips gently (20 degrees) to the south with the majority of linear structural elements plunging shallowly to the northeast. Lithologies are deformed by a penetrative phyllitic foliation (S1) that is defined by platy greenschist-facies minerals. This phase of foliation development has transposed primary sedimentary and volcanic textures and structures (S0). Transposition of the S0 is variable and in places primary sedimentary textures (graded bedding), or vestiges thereof, are preserved. Rare isoclinal folds are associated with S1 foliation development.

The S1 foliation is deformed by tight folds (F2). These folds are easterly (070 degrees) vergent and plunge moderately to the north-northeast (030 degrees). Mineral intersection lineations (L2) and a second-generation spaced cleavage (S2) are associated with F2 folds. Mineral lineations are defined by the intersection of the S1 and S2 cleavage planes. Second generation folds are nearly recumbent in aspect and have one (lower) overturned limb. Property scale F2 folds may be present on the north part of the property. However, outcrop was poor near the presumed fold closure and time constraints were such that it was not properly mapped out.

The property scale structure may have significant implication for the geometry of the volcanic edifice and associated base metal mineralization existent at the same structural and stratigraphic level as the exhalative barite horizon. It remains a possibility that the volcanic edifice and possible volcanic dome and associated stratigraphy are overturned. This might imply that base metal mineralization, broadly at the structural stratigraphic level of the barite horizon, is present directly beneath the volcanic pile at the top of the north ridge.

Both generations of structures are thought to be associated with northeasterly vergent deformation during Cordilleran deformation and accretion.

2.2.3 Mineralization

Mineralization discovered on the property thus far consists of an approximate one metre exposure of pyrite along a creek draining the southern part of the property. This was the target of drilling by Westmin (Terry et al., 1996; Terry and Gale, 1998). No significant sulphide mineralization was discovered during mapping and prospecting; the majority of which was conducted on the north end of the property. No additional mineralization beyond that described by Terry et al. (1996) and Terry and Gale (1998) could be found on the north end of the property, including areas proximal to the exhalative barite horizon. However, along strike from the barite showing, the contact between sericite schist and argillite is rusty, presumably due to oxidized sulphides, and appears to be the source of the base metal soil anomaly described by Terry (et al., 1996).

3. GEOCHEMISTRY

Representative rock grab samples were collected from several outcrops within the mapped area. A total of 19 rock samples were collected on the TY claims, placed in 6 mil plastic bags, labeled, and shipped to Acme Analytical Laboratories in Vancouver, B.C. for nine element geochemical ICP-ES analysis. The samples were also analyzed for thirty element rare earth elements by ICM/MS and for major oxides by whole rock ICP-ES analysis. Refer to Figure 2.3 for station locations and a Table of Field Stations vs Sample Numbers in Appendix I. Geochemical Certificates of Analysis, which include analysis technique summaries, are contained within Appendix I.

3.1 ROCK GEOCHEMISTRY

Whole rock and trace element analyses are tabulated in Appendix I. Whole rock chemistry provides evidence of chemically distinct lithologies. In general, the Al_2O_3 and SiO_2 contents provide the easiest classification of rock types. The sandstones and quartzites (+/- exhalites) have low alumina and SiO_2 contents of greater than 90%, the rhyolites have moderate alumina and SiO_2 contents of between 75 and 85%, felsic pyroclastic rocks have SiO_2 contents in the 70-80% range, and the intrusive rocks have a silica content of less than 60%. The presence of moderate zirconium content and lack of anomalous base metals within samples with greater than 90% silica indicate that these rocks are most probably quartzites and not silica exhalites. It would appear, based on chemical analyses, that some of the outcrops were mis-classified during mapping and further investigation is required.

Sodium to potassium ratios within the volcanic rocks generally gives an indication of the level of alteration with potassium increasing and sodium decreasing with greater intensity of alteration. On this basis, the volcanic rocks display evidence of alteration with this alteration reaching a maximum intensity in the samples collected adjacent to the barite horizon. Elevated Cu, Pb, and Zn values in these rocks support the premise that this alteration is related to a volcanogenic mineralization. Maximum Cu enrichment above the barite horizon and Zn and barite enrichment below the horizon suggests that the horizon is overturned but further sampling is required to support this theory.

Relatively high Ni and Cu values in sample 73469 (station 328) suggests that this unit may be a mafic volcanic rather than a diorite has mapped.

4. DISCUSSION

Detailed structural mapping on the TY property indicates that the stratigraphic sequence exposed on the property has undergone two phases of folding. Early phase folds are isoclinal and have been refolded by tight, easterly vergent, moderately northeasterly plunging folds. The mapped area is not large enough to define major fold axes, and should be expanded so that the geometry of the various, potential VMS bearing horizons, can be understood. Once the geometry of the potential VMS horizons is known, then applied prospecting, geophysics and lithogeochemistry can be used to target the best areas for drill testing. Sufficient work has been done in the district to indicate that there is a low probability of locating a near surface deposit of significant size. However, the majority of the area of favourable stratigraphy is preserved at depth beneath the 'hilltops' as the stratigraphy is flat-lying to gently dipping. Investigation of the exposed 'edge' areas of these horizons may provide enough evidence to warrant testing the horizon at depth.

The sedimentary-volcanic contact with associated soil geochemical anomalies, particularly Zn, Pb, Cu and Se (Terry and Gale, 1998) and the bedded barite lens, near the northern edge of the TY property is indicative of a weakly mineralized, probably distal, VMS horizon. Lithogeochemical sampling of this horizon may provide vectors towards more intense alteration and improving mineralization. If the stratigraphy is overturned, then the geological setting may be that of a major contact on the margin of a rhyodacite flow-dome complex. However, only a limited area of this potentially favourable setting is available on the TY claims.

5. CONCLUSIONS & RECOMMENDATIONS

Exploration work carried out to date on the TY property has identified two prospective target areas on the north and south edges of the claim area. The southern target area, which consists primarily of a stratabound concentration of pyrite, has been extensively explored and drill tested. Results of exploration work in the southern target area are not encouraging and there is little data that warrants further follow-up work.

The northern target area consists of a potential VMS 'horizon' marked by a lens of bedded barite and soil and rock geochemical anomalies associated with a sedimentary-volcanic contact. The lack of sulphide mineralization, limited alteration and low tenor of the geochemical anomalies suggests that the area exposed is distal to a hydrothermal vent zone. This same horizon has been drill tested by Cominco approximately 1.5 km to the east with generally negative results. Only a small area of the target horizon to the west and north (down-dip) of the barite lens is present on the claims due to topography and the northern claim boundary. The potential of this horizon appears to be restricted in the down-dip direction by the feldspar porphyry (rhyodacite) intrusion. However, if the stratigraphy is overturned and the feldspar porphyry represents the remnant of a flow-dome complex (like the top of an overturned mushroom cap), then the down-dip area, claim boundaries notwithstanding, is open and enhanced from a geological setting/environment point of view.

On the basis of the high selenium values in the soil geochemical surveys carried out by Westmin (Terry and Gale, 1998), it is highly probable that any mineralization associated with the northern VMS horizon would be selenium-enriched like the Wolverine deposit.

Further work on the TY property should be contingent on increasing the claim area in a northern direction. If additional ground can be obtained, then litho-geochemical sampling and analysis of the VMS horizon may provide a vector towards the most intensely altered and best mineralized area of the horizon.

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APPENDIX I
CERTIFICATES OF ANALYSIS

Table of Field Stations vs Sample Numbers

Field Station Number	Geochemical Sample Number
0DC327	73451
0DC306	73452
0DC453	73453
0DC309	73454
0DC304A	73455
0DC330	73456
0DC307	73457
0DC305A	73458
0DC337B	73459
0DC335	73460
0DC336	73461
0DC334	73462
0DC337A	73463
0DC304B	73464
0DC336B	73465
0DC305B	73466
0DC329	73467
0DC323	73468
0DC328	73469

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PHONE (604)253-3158 FAX(604)253-1716



GEOCHEMICAL ANALYSIS CERTIFICATE



Atna Resources Ltd. PROJECT TY File # A003101 (b)

1550 - 409 Granville St., Vancouver BC V6C 1T2 Submitted by: Rob Wilson

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	As ppm	Cd ppm	Sb ppm	Bi ppm
A 73451	4	16	6	17	9	3	<.2	1.3	<.5
A 73452	1	354	11	47	10	21	.2	13.5	<.5
A 73453	2	37	7	68	5	45	.2	<.5	<.5
A 73454	1	7	55	42	9	85	.5	2.8	<.5
A 73455	3	9	5	17	7	8	<.2	1.3	<.5
A 73456	1	17	5	31	18	5	<.2	1.7	<.5
A 73457	4	4	3	1	6	9	<.2	2.2	<.5
A 73458	5	133	<3	213	111	6	1.3	3.0	.7
A 73459	2	12	10	68	6	<2	.4	<.5	<.5
A 73460	2	22	120	17	3	4	<.2	1.2	1.5
A 73461	7	29	16	59	21	15	<.2	<.5	<.5
A 73462	1	31	43	22	4	3	<.2	<.5	.6
A 73463	1	77	<3	75	193	7	.2	<.5	<.5
RE A 73463	1	75	<3	74	189	8	.2	<.5	<.5
A 73464	3	27	4	33	6	3	<.2	<.5	<.5
A 73465	2	43	3	99	39	5	<.2	<.5	<.5
A 73466	<1	2	<3	11	2	2	.3	2.5	<.5
A 73467	<2	9	<3	45	38	3	<.2	<.5	<.5
A 73468	<1	8	7	80	42	<2	.4	<.5	<.5
A 73469	2	111	<3	84	787	<2	.2	1.3	<.5
STANDARD C3	28	70	36	168	38	61	21.0	14.8	24.9
STANDARD G-2	2	3	3	44	7	<2	<.2	<.5	<.5

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK R150 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 18 2000

DATE REPORT MAILED:

Sept 5/00

SIGNED BY: *Ch* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD.
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852 E. HASTINGS ST. VANCOUVER BC V6A 1R6

PHONE (604) 253-3158 FAX (604) 253-1716



GEOCHEMICAL ANALYSIS CERTIFICATE



Atna Resources Ltd. PROJECT TY File # A003101 (a)

1550 - 409 Granville St., Vancouver BC V6C 1T2 Submitted by: Rob Wilson

SAMPLE#	Co	Cs	Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	Tl	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
A 73451	.7	.4	3.8	.7	2.0	19.7	2	4.9	.4	1.2	.4	.7	49	2	23.1	2.0	3.8	5.7	.67	2.3	.4	.07	.26	.04	.24	.06	.20	<.05	.31	.06
A 73452	1.2	3.7	9.1	3.0	5.6	62.0	1	97.7	.6	9.5	.3	2.5	75	5	101.3	10.0	17.2	31.8	3.81	13.7	3.2	.59	2.51	.36	1.89	.36	.99	.14	1.01	.18
A 73453	13.1	2.7	20.7	5.0	13.7	78.4	1	888.3	.8	3.0	.6	1.2	165	1	186.5	20.9	26.9	51.9	6.33	24.3	4.5	1.57	3.94	.59	3.30	.72	2.00	.30	1.92	.29
A 73454	6.4	.4	29.9	2.3	8.5	2.0	11	648.0	.7	4.0	.1	2.1	95	5	72.2	11.7	11.7	21.4	2.50	9.4	1.9	.86	1.91	.29	1.71	.38	1.08	.16	1.13	.19
A 73455	.7	.8	5.3	.9	2.5	39.5	2	20.2	.4	1.5	.4	.7	35	1	28.4	6.5	7.3	15.0	1.73	6.3	1.4	.21	1.37	.19	1.18	.23	.70	.10	.66	.09
A 73456	3.0	.7	4.0	1.7	2.3	26.0	1	13.4	.3	2.8	.2	.8	22	10	56.9	6.7	10.6	20.3	2.32	8.3	1.6	.33	1.48	.21	1.29	.23	.68	.09	.67	.09
A 73457	.7	.8	4.5	1.8	2.4	26.8	2	4.8	.3	2.3	.3	.9	26	7	64.9	4.8	8.8	17.4	1.94	6.9	1.4	.20	.98	.13	.89	.18	.55	.07	.53	.08
A 73458	7.5	.4	6.9	2.1	5.0	24.5	4	76.3	1.0	3.4	.3	6.5	152	3	62.8	19.3	11.2	14.9	2.61	10.3	2.5	<.05	2.61	.38	2.53	.58	1.67	.25	1.78	.26
A 73459	2.4	1.6	14.8	4.1	11.9	141.9	8	128.9	1.5	31.7	.5	3.7	16	1	116.7	20.7	60.7	101.8	10.16	31.0	5.0	.72	3.81	.57	3.27	.64	1.96	.27	1.93	.30
A 73460	2.9	3.0	14.2	4.2	14.3	197.6	6	110.1	1.6	37.4	.6	7.1	14	5	124.7	24.0	55.4	98.7	9.94	31.6	5.6	.61	3.96	.60	3.57	.78	2.37	.35	2.51	.38
A 73461	10.7	1.9	9.8	1.9	9.3	80.7	5	19.4	.8	5.4	.6	2.0	74	2	62.5	10.8	7.5	22.5	1.73	6.2	1.5	.25	1.43	.25	1.62	.35	1.06	.15	1.06	.16
A 73462	2.5	1.4	13.7	4.2	12.7	133.0	5	58.6	2.0	33.4	.5	4.8	8	4	104.7	16.0	23.3	75.9	4.24	14.0	2.5	.27	2.08	.37	2.43	.52	1.63	.26	1.80	.26
A 73463	40.9	2.5	17.8	1.9	6.1	67.1	4	95.1	.5	1.0	.5	.3	175	7	52.0	14.9	6.7	11.7	1.68	7.3	2.0	.85	2.69	.44	2.77	.54	1.47	.22	1.30	.18
RE A 73463	42.8	2.5	19.3	1.7	6.4	68.3	3	98.7	.4	1.0	.4	.4	180	1	49.5	15.1	6.8	12.2	1.68	7.7	2.3	.86	2.79	.47	2.81	.52	1.49	.20	1.17	.18
A 73464	1.4	1.5	14.3	4.5	16.9	76.7	3	181.8	1.4	9.8	.4	4.7	81	4	156.9	18.2	26.6	54.7	6.60	23.0	4.5	.31	3.80	.54	3.12	.63	1.80	.26	1.79	.27
A 73465	8.0	1.2	11.4	3.0	21.9	18.4	2	36.2	1.8	6.3	.6	2.9	67	1	111.7	17.3	26.0	47.7	5.67	21.8	4.2	1.04	3.48	.54	2.97	.61	1.71	.25	1.53	.23
A 73466 *	<.5	<.1	<.5	2.4	.8	<.5	<1	1537.0	6.0	<.1	.3	.2	17	<1	1.3	2.9	9.6	.9	.13	.5	1.7	.18	4.47	.07	2.74	<.05	.06	<.05	.76	.05
A 73467	8.5	1.4	9.7	2.0	11.1	41.8	2	44.3	.9	4.3	.4	.7	55	1	65.4	9.5	16.6	30.5	3.62	12.8	2.3	.54	2.00	.29	1.83	.34	.98	.16	.96	.15
A 73468	10.9	2.2	13.9	3.0	19.2	69.2	2	58.6	1.5	5.5	.5	1.2	87	3	102.0	13.5	13.6	31.7	3.31	12.0	2.8	.44	2.19	.38	2.41	.48	1.47	.21	1.36	.20
A 73469	85.7	3.2	16.1	4.0	23.9	36.0	5	69.2	1.5	2.0	.6	.7	211	<1	141.8	20.1	19.4	42.2	5.46	23.4	5.3	1.78	4.77	.71	3.99	.74	2.01	.26	1.39	.18
STANDARD SO-15	21.7	2.6	16.5	27.0	29.8	65.3	18	399.3	1.7	23.7	.8	20.7	145	19	1048.0	23.0	29.5	57.5	6.26	22.6	4.5	1.06	3.86	.61	3.72	.78	2.40	.36	2.49	.40

GROUP 4B - REE - LIBO2 FUSION, ICP/MS FINISHED.
- SAMPLE TYPE: ROCK R150 60C
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 18 2000 DATE REPORT MAILED: *Sept 6/00* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

* Bad interferes on Eu.

ACME ANALYTICAL LABORATORIES LTD.
(ISO 9002 Accredited Co.)

852 E. HASTINGS ST. VANCOUVER BC V6A 1R6

PHONE (604) 253-3158 FAX (604) 253-1716



WHOLE ROCK ICP ANALYSIS



Atna Resources Ltd. PROJECT TY File # A003101

1550 - 409 Granville St., Vancouver BC V6C 1T2 Submitted by: Rob Wilson

SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	TOT/C	TOT/S	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
A 73451	94.79	1.79	1.07	.22	.02	.17	.52	.12	.05	<.01	.005	1049	31	<10	23	<10	<10	3	1.1	.22	.07	99.98
A 73452	72.85	6.76	12.48	.30	.01	.02	1.37	.33	.32	<.01	.004	1665	35	95	99	<10	<10	6	5.2	.19	.07	99.86
A 73453	53.41	16.63	10.03	3.98	7.10	2.07	2.08	1.01	.28	.21	.003	1006	20	826	169	18	13	17	3.0	.04	.03	100.04
A 73454	52.13	14.49	12.92	1.78	10.86	.01	<.04	.62	.09	.19	.019	28	25	635	69	11	<10	21	6.7	.03	4.49	99.92
A 73455	93.81	2.83	.85	.23	.04	.04	.87	.14	.07	<.01	.002	1472	25	19	36	<10	<10	4	1.0	.07	.02	100.06
A 73456	93.95	2.33	1.23	.21	.22	.02	.68	.12	.03	.02	.001	473	45	13	66	<10	<10	2	1.0	.10	.03	99.88
A 73457	94.67	2.64	.48	.09	<.01	.02	.67	.13	.02	<.01	.002	461	25	<10	68	<10	<10	2	1.1	.20	<.01	99.89
A 73458	85.49	4.24	1.81	.91	.67	.06	1.00	.27	.06	.02	.019	33300	122	74	64	19	<10	5	1.5	.04	.23	99.80
A 73459	73.65	12.71	1.62	.66	1.04	2.24	5.69	.24	<.01	.06	<.001	1643	27	131	114	20	<10	3	1.9	.29	<.01	100.03
A 73460	74.76	12.06	1.55	.91	1.68	.81	4.92	.25	.02	.06	<.001	976	26	117	120	23	12	3	2.8	.41	.04	99.97
A 73461	83.37	6.98	3.36	1.63	.13	.05	2.03	.39	.08	.05	.004	664	38	19	60	10	<10	7	1.7	.04	.33	99.87
A 73462	76.24	12.22	1.66	.38	.06	2.31	5.05	.19	<.01	.02	<.001	1198	<20	67	111	17	10	2	1.4	.09	.07	99.69
A 73463	48.58	14.31	10.87	10.48	5.12	2.34	1.63	1.29	.11	.22	.058	591	223	101	51	14	10	21	4.8	.07	<.01	99.93
RE A 73463	48.84	14.27	10.56	10.50	5.13	2.36	1.74	1.27	.15	.21	.055	589	209	102	45	15	10	21	4.8	.06	.01	100.00
A 73464	74.12	10.74	3.01	1.57	1.06	2.35	3.06	.80	.18	.03	.005	8053	29	186	155	17	18	7	2.2	.03	.06	100.08
A 73465	74.97	8.00	5.61	3.96	.24	1.70	.56	.81	.24	.16	.003	268	67	38	112	16	17	8	3.6	.07	.08	99.92
A 73466	2.70	.07	.08	.15	1.75	.01	<.04	.01	<.01	<.01	.006	564852	<20	1469	<10	<10	<10	1	1.2	.02	11.90	69.22
A 73467	81.95	6.83	3.70	1.76	.35	1.01	1.11	.54	.11	.04	.005	2475	61	44	57	<10	<10	8	2.2	.25	.02	99.91
A 73468	74.33	9.19	5.18	3.11	.57	.86	1.95	.90	.11	.06	.006	9006	53	57	90	12	15	10	3.0	.02	.15	100.30
A 73469	44.52	8.55	13.38	14.91	10.12	.35	.81	2.11	.27	.18	.125	657	630	69	128	17	24	26	4.6	.02	1.51	100.11
STANDARD SO-15/CSB	49.29	12.58	7.30	7.34	5.92	2.42	1.86	1.71	2.71	1.39	1.052	1940	78	396	973	21	25	12	5.9	2.40	5.31	99.88

GROUP 4A - 0.200 GM SAMPLE BY LIBO2 FUSION, ANALYSIS BY ICP-ES. LOI BY LOSS ON IGNITION.
TOTAL C & S BY LECO. (NOT INCLUDED IN THE SUM)
- SAMPLE TYPE: ROCK R150 60C
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 18 2000 DATE REPORT MAILED: *Sept 5/00* SIGNED BY: *C.L.* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

APPENDIX II
STATEMENT OF EXPENDITURES

Statement of Expenditures

TY Project 2000

The following costs apply to the claims worked as noted in the Application for a Certificate of Work and have been pro-rated where appropriate.

Wages

P. Holbek	2 days @ \$450/day	900.00	
R. Wilson	2 days @ \$350/day	700.00	
D. Copeland	7 days @ \$220/day	1540.00	
N. Mitchell	7 days @ \$180/day	<u>1260.00</u>	
		4400.00	4400.00

Accommodation & Camp Costs

Accommodation & meals			402.08
Food, fuel, supplies & camp rental			435.98

Geochemical Surveys

Shipping		27.26	
Rock Samples: 19 samples @ \$29.33/sample		<u>596.28</u>	
		623.54	623.54

Transportation

Helicopter			3959.85
Truck: 908 km x 0.36/km & 4 days @ 68.28/day			600.00

Communications

Hand-held radios & satellite phone rentals			
Pro-rated			128.22

Supplies

Field consumables & field map prints			56.00
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Reporting

Drafting: DC 3 days & RGW 5 days		2410.00	
Writing & editing: DC 3 days, RGW 1 day, PMH 1 day		1460.00	
Printing/Collation/Binding: RGW 1 day		350.00	
Map colour plotting		108.00	
		<u>4328.00</u>	

Totals			<u><u>\$14,933.67</u></u>
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APPENDIX III
GEOLOGIST CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

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

1. I am a professional geologist registered under the Professional Engineers and Geoscientists Act of the Province of British Columbia and a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
2. I am a graduate of The University of British Columbia with a B.Sc. in geology 1980 and an M.Sc. in geology, 1988.
3. I have practiced my profession continuously since 1980.
4. I am Vice President of Atna Resources having a business address as given above.
5. I provided overall supervision for the work program conducted on the Marg Property as described in this report.



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

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 provided overall supervision for the work program conducted on the Marg Property as described in this report.

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

CERTIFICATE OF QUALIFICATIONS

I, Robert G. Wilson, with a business address of 1550 – 409 Granville Street, Vancouver, V6C 1T2 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 on property work I directly supervised as described in this report.

DATED at Vancouver, British Columbia, this 25th day of August, 2001.



Robert G. Wilson, P. Geo.

CERTIFICATE OF QUALIFICATIONS

I, Robert G. Wilson, with a business address of 1550 – 409 Granville Street, Vancouver, V6C 1T2 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 on property work I directly supervised as described in this report.

DATED at Vancouver, British Columbia, this 25th day of August, 2001.

Robert G. Wilson, P.Geo.

CERTIFICATION

I DAVID A COPELAND OF 10440 64 AVENUE, EDMONTON, ALBERTA, CERTIFY THAT I AM A GRADUATE OF THE UNIVERSITY OF NEW BRUNSWICK WITH A B.SC. IN GEOLOGY (1995) AND AN M.SC. IN STRUCTURAL GEOLOGY (1999). I AM REGISTERED AS A GEOLOGIST IN TRAINING WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF ALBERTA.

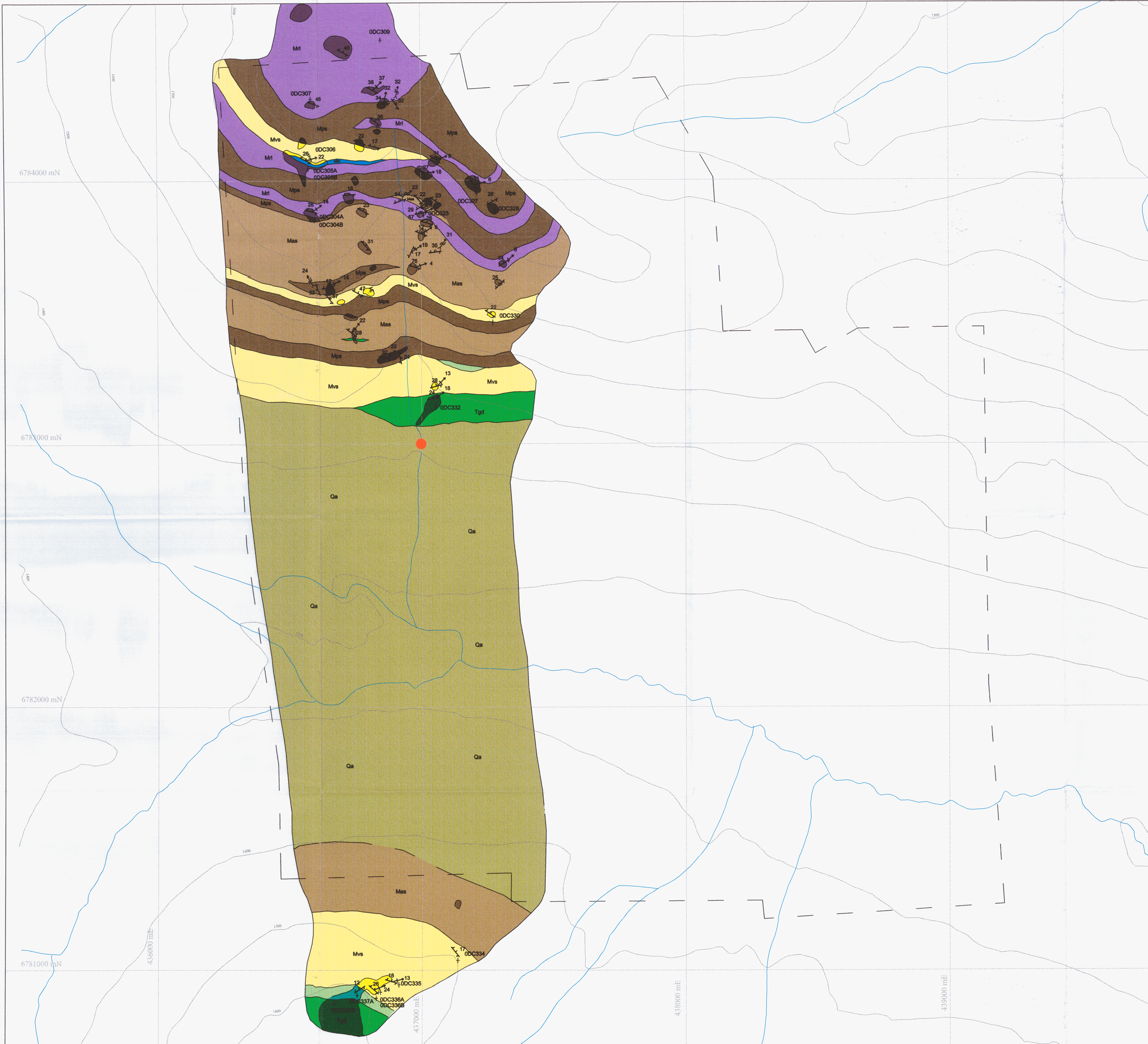
MY EXPERIENCE INCLUDES SERVICE AS A JUNIOR GEOLOGIST WITH THE GEOLOGICAL SURVEY OF CANADA DURING 1995 and 1996. I HAVE WORKED AS AN EXPLORATION GEOLOGIST WITH JUNIOR EXPLORATION AND MINING COMPANIES AND SINCE 1997, AND AS A CONSULTANT WITH APEX GEOSCIENCE LTD. SINCE 1998. AS SUCH I HAVE CONDUCTED PROPERTY EXAMINATIONS, PROPERTY EVALUATIONS AND EXPLORATION PROGRAMS PROVIDING GEOSCIENTIFIC CONSULTING TO BOTH PRIVATE INDUSTRY AND TO GOVERNMENT AGENCIES.

THIS REPORT IS BASED UPON STUDY OF PUBLISHED AND UNPUBLISHED DATA. I HAVE PERFORMED A FIELD EVALUATION OF THE TY CLAIMS.



DAVID A. COPELAND, M.SC., G.I.T.

MARCH, 2001
EDMONTON, ALBERTA



LEGEND

- Quaternary to Recent**
- Qa alluvium, colluvium
- Triassic (?)**
- Tgd Granodiorite to diorite dykes and sills with intrusive relationships with older stratigraphy, massive to foliated, fine to coarse grained, occasionally K-feldspar-crystic
- Devonian to Mississippian**
- DMas Arenaceous metasandstone
 - DMvs 1-30m intercalations of graphitic argillite and metaultrafine rocks
 - DMvs Metavolcanic and metasedimentary (metagreywacke) with occasionally blue quartz eye bearing sericite-bearing phyllite
 - DMx Barite, bedded and foliated with clots and intercalations of carbonate barite-carbonate exhalite
 - DMr Rhyolite, dacite, andesite
 - DMps Argillaceous metasedimentary rocks, abundant graphite, with minor intercalations of quartz-arenite and metaultrafine rocks

- Structural Geology**
- Generation 1 (S1) foliation, typically phyllitic, greenschist-facies fabrics
 - Axial trace of F2 folds, spaced S2 cleavage
 - L1 lineation, mineral, intersection lineation, greenschist-facies
 - Plunge of F2 fold hinges, z-symmetry
 - Plunge of F2 fold hinges, s-symmetry
 - Geological contact, observed
 - Geological contact, inferred
 - Rock grab sample

Topographic contour interval 100 metres
 Projection: Universal Transverse Mercator
 Datum: North American Datum 1927, Zone 9
 Geology by D.A. Copeland and N. Mitchell

ATNA RESOURCES LTD.

NTS 105G/1
 Watson Lake Mining District
 TY PROPERTY, YUKON
DETAILED GEOLOGY

Scale 0 100 200 300 400 500 metres
 1:5,000

Vancouver, British Columbia **FIGURE 2.3** October, 2000

094237