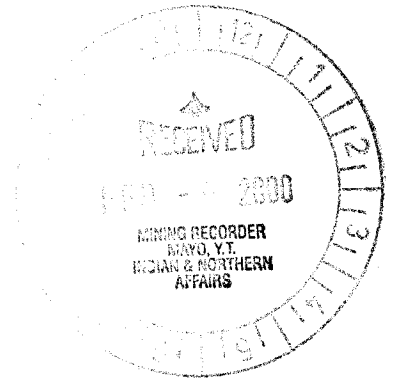


095285



**Andrew Claim Group**

**Trenching Report**

Mayo Mining District  
NTS 105K-16  
Yukon Territory

Longitude 132 14' W  
Latitude 62 57' N

Field work done during the period of July 20th to 27th, 1999

By: R.S. Berdahl B.Sc.  
December, 1999

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## Summary

The Andrew 1 - 10 claims were staked in July 1996 to cover a portion of a heavily mineralized structure. The structure and mineralization extend over four kilometers. Two separate claim blocks were staked.

The area was originally staked in 1967 by Atlas Exploration during the Faro rush. Their target was base metals. Over the next two years an aggressive program of line cutting, mapping, geochemical surveys, geophysical surveys (ground and air), bulldozer trenching, road building and airstrip construction was completed. This work resulted in the discovery of at least fourteen separate Pb, Zn, Cu, Ag etc. showings, most described as either vein or skarn. In 1977 Cima Resources, an Atlas descendant, drilled two very shallow holes on one of the skarns that failed to reach their designated targets.

The GSC released Open File #2174, a regional geochemical survey, in 1989 for the east half of the 105K NTS sheet. This confirmed the entire 105 K-16 map sheet to be highly anomalous in numerous base and precious metals, as well as many indicator elements.

This outstanding anomalous fingerprint along with the numerous mineral occurrences and favorable geology prompted the initial investigation of the area, and subsequent staking of the Andrew Claims. The 1996 work revealed "economic" Zn values from several showings.

Geology consists of typical Selwyn Basin stratigraphy of 'Grit Unit' overlain by Road River and Earn Group sequences. Additionally several variable sized Cretaceous bodies intrude the immediately adjacent area. Thus, one has the possibilities of deposit types ranging from Sedex Pb/Zn to Ft Knox-style Au's.

The emphasis of work during 1999 was to delineate the extent of the zinc mineralization on the "J" showing utilizing small blast pits and trenches.

### Claim Summary :

<u>Andrew Claims</u>	<u>Staked</u>	<u>Expiry Date*</u>
1 - 2 YB65796 - YB65797	July 28, 1996	August 16, 2000
3 - 10 YB65798 - YB65805	July 28, 1996	August 16, 2004

\* if applied for assessment work is approved

### Location and Access:

The claim area is located approximately 65 air miles north of Ross River within the Mayo Mining District on NTS map sheet 105K-16. It is located east of the confluence of, and between, the North and South Macmillian Rivers.

A winter road was constructed by Atlas from the North Canol Road at Dragon Lake. It's length is about 38 miles from the Canol to the claim area. Roads in the area of Atlas's work are in reasonable shape, passable by ATV. Two airstrips (1,300 and 1,000 feet) were built. The 1,000 foot strip located just north of the claims maybe suitable for use. Some brushing may be required. The lakes in the area are suitable but marginal for float plane use. Access in 1999 was via helicopter from Ross River.

### **Topography /Vegetation:**

Elevations in the claim area range from 1,000m to 1,800 m with tree line at about 1,500m. Topography grades from relatively gentle areas to the north of the claims and on small 'plateaus' to steep canyons and valleys. Below 1,500m vegetation is moderate to heavy with white and black spruce, buckbrush and willows predominating. The latter three being most prevalent on north facing slopes. Sphagnum moss is common as is permafrost, especially on north and east facing slopes. The country is moderately difficult to traverse. Bedrock is rare outside creek beds. The lakes in the immediate claim area are set in deep canyons making their utilization by floatplane less than ideal. The "J" showing consists of an intermittent 75m X 150m biological kill zone surrounded by typical white spruce forest and understory.

### **Regional Geology:**

The Andrew Claims are situated within the Selwyn Basin, part of the Ominica Belt (Wheeler et.al.,1991). The geology of the area has most recently been mapped by Gabrielse et.al., 1980 at a scale of 1:1,000,000. The Selwyn Basin is imperfectly defined and is used here to describe that part of the cordilleran miogeocline comprised of a prism of sedimentary rocks, of Precambrian to Jurassic age, deposited along the western margin of ancestral North America. The eastern margin of the basin is marked by the Paleozoic shale - carbonate transition zone while the western margin is defined by the Teslin Fault. The sedimentary basin was active from the late Proterozoic to Mid Jurassic. Widespread thin mafic volcanic flows, breccias, and tuffs are found throughout the Basin. All of the large SEDEX Pb/Zn deposits in the northern cordillera are found within the Selwyn Basin.

Sedimentation ceased in the Mid Jurassic in the outer miogeocline with the collision of a Mesozoic island arc, the Yukon -Tanana Terrane. The collision spread eastward with the miogeocline being over thrust by oceanic rocks and the entire package being deformed.

Two suites of granitoid intrusives, ranging from Paleozoic to Cenozoic age, related to the underplating and or subduction, are found on both sides of the Tintina Fault. The Selwyn Plutonic Suite of granitoid intrusives are distributed along a northwest trending arcing belt within the Basin. These are mainly granitic in nature and are associated with tin, tungsten, and molybdenum mineralization.

## Table of Geologic Formations

### Mesozoic

#### Cretaceous

KQM - Quartz monzonite, granodiorite; alaskite

-----intrusive contact-----

### Paleozoic

#### Devonian-Mississippian

DME - Earn Group: chert arenite, shale, conglomerate

#### Ordovician, Silurian and Devonian

OSDR - Road River : black grapholitic shale, chert

-----unconformity or fault-----

### Proterozoic

#### Hadrynian

HQP - Hyland Group: Gritty quartzite, argillite, shale, phyllite

## Property Geology:

The area is underlain mainly by quartzites, phyllites and limestones of supposed Proterozoic age (Grit or Hyland Group). Folded into this package are Ordovician to Devonian Road River rocks and Devonian to Mississippian Earn Group suite.

The Road River package consists of graptolitic shales, calcareous to non - calcareous black shales, graphitic shales, silty limestones and cherts. The Earn Group is distinguished by 'gun blue' weathering siliceous shales, chert, brown weathering shale and resistant chert pebble conglomerates.

Cretaceous quartz monzonites intrude three miles to the west and a much smaller stock equidistant to the east of the claim block.

Structures and regional attitude of the sediments strike northwest/southeast. Sulphide 'veins' run from parallel to perpendicular to this general trend.

The most commonly exposed lithology is quartzites, probably of the Hyland Group. It is the host of several of the galena veins though black shale of unknown age host the "O" showing just southeast of the 'J' showing. Some beds of maroon shales are also locally common.

The "J" showing mineralization appears to be stratabound between a possible repeated sequence of "hangingwall" grey shale and "footwall" quartzite. Outcrop in the kill zone consists of quartzite, shale (northwest strike, vertical dip) and minor brecciated  $\text{CaCO}_3$  matrix. Minor intermittent galena veins (to 9") strike NW across the kill zone. Some are associated with calcite gangue. The main zinc mineral appears to be smithsonite,  $\text{ZnCO}_3$  (dry bone ore).

**Past Work Results:**

Atlas Exploration worked the Lad Claims during the period 1967 -1969. Sixty three km. of grids were cut. These grids or portions thereof were used for geophysical(mag and EM) and geochemical(Pb, Zn, Cu) surveys. An airborne EM survey was also flown. A D-7 cat dug 18 trenches on various showings and geological anomalies with mixed results. A 1968 report emphasized the difficulty caused by the lack of outcrop, yet the substantial number of sulphide showings discovered. The final Atlas report, in 1969 concluded " the extent of the sulphide mineralization was shown, in every case, to be much too limited to have any economic potential." In 1977 Cima drilled two aborted holes in a skarn. Mineralization (5.3%Pb, 4.7% Zn, 3.9opt Ag over 1.2m) was cut in both holes. Despite Atlas's conclusion very few of the showings found were investigated thoroughly.

The 1996 work revealed several showings, North and South of "J" showing creek with multi-percent Zn numbers. Values to 19.2% were found on the "J" showing. Galena veins were widespread and contained Ag values to 4.32 opt.

**Current Program :**

A small trenching program was designed to attempt to determine the source and extent of the Zn mineralization discovered in 1996. Two trenches and a blast pit were dug. The blast pit located at the top of the kill zone revealed galena mineralization in a calcitic vein, associated with limonite and smithsonite in a shale float/subcrop.

Trench 2 was 6m long and cut through a mixture of shale, white clay alteration and orange (presumably smithsonite-rich) soil over its entire length (D-64). Three small galena veins cross cut the trench. These strike at  $306^{\circ}$  and apparently dip N greater than  $60^{\circ}$ . Silicified shale or chert was also present. Sample D-63 was a 2m chip sample of a clay altered section in the trench. Solid bedrock was not reached in this or subsequent trenches.

Trench 3 was 8m long and cut 1m of heavy clay altered material (D-79) and several galena veins and pods with calcite. The upper end of the trench is in shale/chert. Minor malachite staining is present. Trench samples were continuous chip samples from the mid-portion of the trench walls. Some re-sampling of 1996 showings South of "J" creek was done to reconfirm Zn values (R-59, R-67).

Rock samples (R-prefix) were analyzed for Au + 6 by FA/AAS while soils (D-prefix) and silts (S-prefix) were analyzed using 32-element ICP.

## Results

Zn values on the "J" showing kill zone were impressive. A continuous 25m soil sample composite grab (D-65) returned 17.3% Zn (see key map). In trench #2, samples returned values of 19.9% Zn (D-64) over its entire 6m length, with a 6ft interval of 24% Zn (D-63). Interestingly, grab samples in the same trench ran much lower values (R-60, 61, 62, 66).

Values from showings one claim length SE of the kill zone confirmed Zn values from the 1996 program, for example, R-59 and R-67. Where analyzed for, kill zone samples were also highly anomalous in Cd (2000ppm, D-70); this also roughly corresponds to Zn concentrations. Hg levels were also very anomalous with values to 582ppm (D-63). As and Ag were variable with Cu and Pb at anomalous but subeconomic values.

Sr and Ba were anomalously low in soils. Rocks were not analysed by ICP while Ba does not fully digest.

## Conclusions and Recommendations:

Work in 1999 confirmed high Zn values on the "J" showing kill zone. However, trenching failed to reach bedrock, thus the nature and extent of the high grade mineralization remain unknown. Preliminary investigation of the kill zone suggest that the mineralization, primary or secondary smithsonite, may be strata bound between quartzite and shales, possibly in a repeating sequence. One hypothesis is that the kill zone represents the upper exposure of a near vertical deposit that has sloughed downslope.

The correlation, if any, between the showing and the 4km mineralized NW striking structure, immediately NE of the kill zone is unknown. The morphology of the mineralized zone cannot be ascertained without a more aggressive trenching program.

It is recommended that:

1. Samples collected in autumn 99 on J showing and kill zones south of "J" creek be analysed.
2. A tight grid be designed and soil sampled over the kill zone south of "J" creek.
3. The kill zone and other anomalies, if present, be trenched by Kubota.
4. Geological mapping be conducted.

## References

- 1968. Adamson, T.J. "Lad Group Showings Report." Atlas Exploration Ltd. AR#19012.
- 1968. Brock, J.S. "Lad Group Ground/Airborne Geophysics Report." Atlas Exploration Ltd. AR#019011.
- 1969 Adamson, T.J. "Lad Group Trenching Report." Atlas Exploration Ltd. AR#060718.
- 1977 Cima Drill Logs.

**APPENDIX A**  
**ROCK AND SOIL SAMPLE DESCRIPTIONS**



## Rock and Soil Sample Descriptions

- D-40 orange soil sample from 1
- R-66 limonitic, dark quartzite w/ galena, manganese & quartz veins
- R-58 galena, "S" showing
- R-59 float of white quartz/mafic quartzite w/ limonitic vugs
- R-60 vuggy limonitic quartzite w/ white qtz veins & trace black shale & manganese stains
- R-61 limonitic quartzite w/ minor carbonates, quartz crystals
- R-62 conglomerate shale w/ manganese staining and minor limonite
- R-63 6' channel sample through "clay" altered zone in Trench # 2; clay is white/red/orange soil from W wall
- R-64 total length chip sample, Trench # 2, 6m, W wall
- R-65 25m continuous soil sample from W edge of kill zone to middle of Trench # 1
- R-67 white qtz. breccia w/ minor disseminated sulfide & malachite
- R-69 shale breccia from kill zone
- D-70 Trench # 3 about 1m of white altered clay, juxtaposed by 0.3m of red clay

**APPENDIX B**  
**ASSAYS**







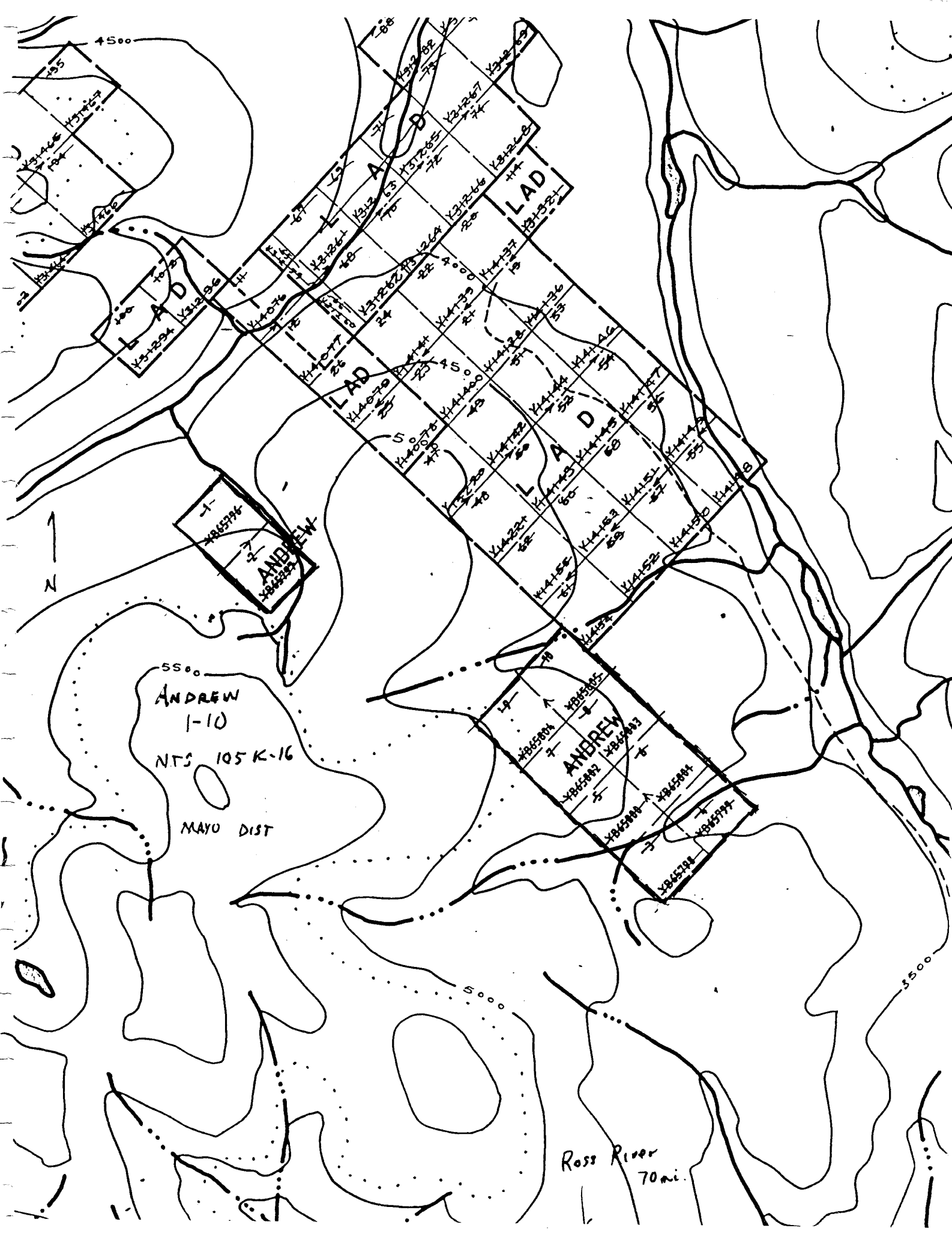








**APPENDIX C  
CLAIM MAP**



4500

15-2294

15-2294

1-  
15-2294

ANDREW

1-10

NTS 105 K-16

MAYO DIST

5500

ANDREW

1-10

NTS 105 K-16

MAYO DIST

5000

ANDREW

1-10

NTS 105 K-16

MAYO DIST

5500

ANDREW

1-10

NTS 105 K-16

MAYO DIST

5000

Ross River  
70 mi.

**APPENDIX D**  
**KEY MAP**