

093 825

**EVALUATION REPORT**  
ON THE  
**BIGTOP PROPERTY**

Sidney Creek Area

NTS 105 C-14  
Lat. 60° 52' N, Long. 133° 19' W  
Whitehorse Mining District

For: 15053 Yukon Inc.  
P.O. Box 4375  
Whitehorse, Y.T.  
Y1A 3T5

By: G.S. Davidson, P. Geol.  
S. Traynor, B.Sc.  
December 15, 1997

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 \$ 50,900.00 .

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

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## SUMMARY

This report prepared for 15053 Yukon Inc. summarizes exploration undertaken on the Bigtop property in 1996 and 1997 and provides recommendations for future exploration programs. The Bigtop consists of 174 claims (3,523 hectares) located on Sidney Creek, 80 kilometers east of Whitehorse and 50 kilometers north of the Alaska Highway on the Teslin map sheet in the south-central Yukon Territory. Access is by bush road from kilometer 51 of the South Canal Road which connects to the Alaska Highway at Johnson's Crossing. The claims start about 12 kilometers west of the South Canal Road and camp is located on Iron Creek accessible by a 16 kilometer bush road. Supplies, equipment and government services are available in Whitehorse, 190 kilometer driving distance from the property.

The Bigtop is within the Yukon-Tanana terrane, a metamorphic sequence of Paleozoic and Mesozoic sedimentary and volcanic rocks north of the Teslin Suture on the western margin of the North American craton. The Yukon-Tanana terrane is being explored for massive sulfide deposits formed in volcanogenic settings since the discovery of the Kudze Kayah deposit of Cominco and the Wolverine deposit of Atna/Westmin. Cominco's Kudze Kayah deposit has reported reserves of 14 million tonnes at 1.1% Cu, 1.5% Pb, 6.1% Zn, 140gpt Ag and 1.3gpt Au.

The Bigtop and Bozo claims were staked for 13744 Yukon Inc. after a regional reconnaissance program under the direction of S. Traynor (geologist) identified promising zinc bearing samples near the confluence of Iron and Sidney Creeks. Follow-up prospecting and mapping found volcano-sedimentary lithologies comparable to those hosting massive sulfide mineralization elsewhere in the Yukon-Tanana terrane.

The target models for the Finlayson type of massive sulfide deposit are the Kudze Kayah deposit, a volcanogenic massive sulfide body in Devonian-Mississippian metasedimentary and metavolcanic rocks and the Wolverine Lake deposit, a strataform Pb-Zn-Cu massive sulfide occurring at the base of a felsic volcanic sequence. The model consists of massive to broken sulfides occurring in a carbonaceous metasedimentary to felsic metavolcanic and volcanoclastic horizon overlain by massive subvolcanic domes or sills of mafic to felsic volcanic rock. The sulfide mineralization is in fairly narrow elongated lenses in argillaceous horizons which contain variable amounts of magnetite. Electromagnetic and magnetic geophysical surveys are the primary exploration techniques used for locating drill sites.

Previous activity in the Sidney Creek region includes several claim blocks staked in the 1980's on a reported silver showing and periodic placer mining and prospecting on Iron Creek. Placer gold is reported to occur in a deeply buried patchy channel as flour sized grains with a few small nuggets. Portions of the Teslin map sheet covering the property were mapped by S. Gordey et al of the Canada-Yukon Geoscience Program and published as Open Files 2768 and 2886.

Exploration on the Bigtop property started with grid development and a soil geochemical survey in August, 1996 which located three Cu-Ag-Pb-Zn anomalies along a southeast-northwesterly trending ridge that rises to the northwest from the Iron Creek valley. Geological mapping and prospecting outlined carbonaceous shales and argillites interbedded with felsic volcanic and tuffaceous units. Outcrop is limited to the ridge crest and rock samples from a 1,500 meter long trend contained up to 10% pyrite and assayed elevated zinc-lead-silver-copper values.

In the spring of 1997 an investors syndicate was formed to fund exploration on the Bigtop and claim title was transferred to 15053 Yukon Inc. Aerodat Ltd. was contracted to fly an airborne geophysical survey of 550 line kilometers in May, 1997. Strong electromagnetic responses were outlined along the stratigraphic contacts of the carbonaceous and argillaceous units. The magnetic signature delineates a more magnetic response from mafic units, likely a diorite and the less magnetic response marks metasediments and felsic volcanics. The positive airborne geophysical results precipitated further ground acquisition, grid expansion and additional soil geochemistry.

To facilitate geological mapping a series of backhoe trenches were excavated over a 1500 meter distance along the ridge featuring the anomalous trend. The units exposed were mainly shales and silicified argillites with interbedded felsic rocks either meta-rhyolite or felsic tuff. The lithologies are variably altered often containing chlorite. A chloritized quartz biotite schist found to the south of the ridge is consistent with a dioritic source rock. Structurally, the lithologies have been subjected to penetrative ductile deformation producing tectonites and a later compressional period causing crenulation folding and deformation fabrics. Sulfide mineralization consists of disseminated blebs and veinlets of pyrite and pyrrhotite with minor sphalerite, galena, chalcopyrite and magnetite. In the better mineralized horizons pyrite concentrations reach 20% and the host rocks are variably silicified and sericitized. Rock samples at the west end of the grid along the anomalous trend contained >2000 ppm barium.

The writer examined the trenches on Sept. 5, 1997 escorted by S. Traynor who has supervised the work programs on the Bigtop. Mr. Traynor supplied geological, geochemical and geophysical maps, and rock sample results reviewed in this report. The initial work program on the Bigtop property has discovered disseminated sulfide mineralization coincidental with copper-lead-zinc-silver-barium geochemical anomalies and airborne geophysical electromagnetic conductors in a promising geological environment. A series of conductors and geochemical features along and north of the grid are considered priority targets for drilling and are designated Zones A-E. There is good potential for finding volcanogenic massive sulfide mineralization in this area. Prior to diamond drilling a max-min geophysical survey is recommended over the five zones. Interpretation of the surface EM results combined with the present exploration data would facilitate selection of drill sites for a 500 meter drill program. A two phase exploration program of line-cutting and ground geophysics followed by diamond drilling at a proposed budget of \$160,000 is recommended for the Bigtop property.

## **INTRODUCTION**

The Bigtop property consists of 174 claims located in the south-central Yukon Territory near Sidney Creek in the Teslin Mountains and the Whitehorse Mining District. The claims cover moderate topography, below treeline, on the north side of the Sidney Creek valley. The sulfide bearing rocks are located along a northwesterly trending ridge that rises from the Iron Creek valley. A cat trail has been pushed along the ridge for 2.5 kilometers through the grid area. Exploration programs in 1996 and 1997 consisting of surface exploration and airborne geophysics were supervised by S. Traynor, geologist. This report reviews data collected by Mr. Traynor and Aerodat Ltd. The report is prepared on behalf of 15053 Yukon Inc. and may be used for any purpose normal to the business of the company.

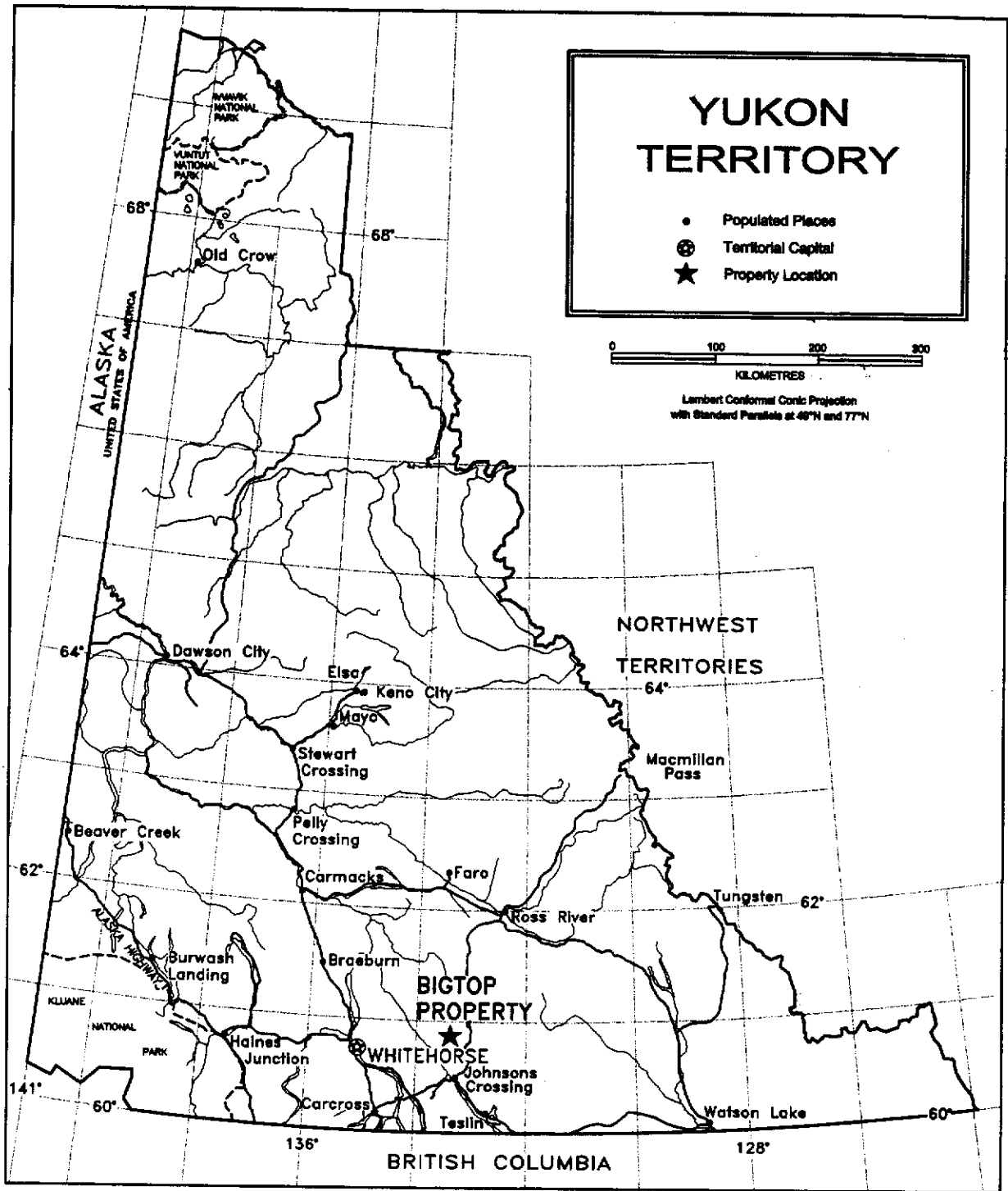
## **LOCATION AND ACCESS**

The Bigtop property is located 80 kilometers east of Whitehorse and 12 kilometers west of the South Canal Road on Sidney Creek at the confluence with Iron Creek on NTS Map Sheet 105 C 14 at geographical co-ordinates 60° 52' N and 133° 19' W. The Bigtop was accessed by bush road from kilometer 51 on the South Canal Road. An all weather camp is located at 1,000 meters elevation on the bank of Iron Creek, 16 kilometers along the bush road from the South Canal Road. Several 4 wheel drive roads and ATV trails provide good access to the most areas of the claim block. Figures 1 and 2 show the property location. Logistically, Whitehorse provides supplies, equipment and government services for the district.

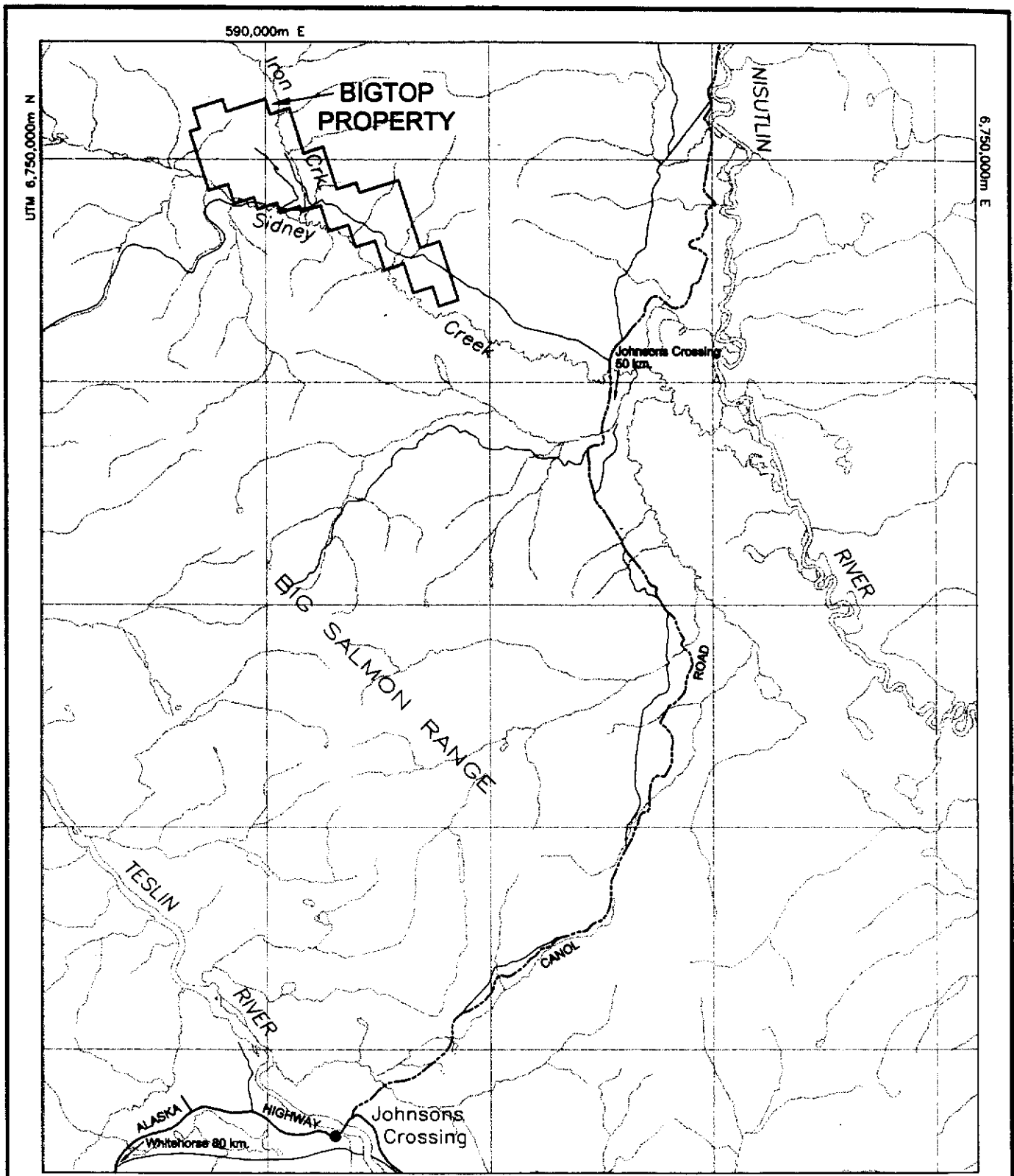
## **PHYSIOGRAPHY**

The Sidney Creek region lies in the northern Cordillera in the Big Salmon Range of the Yukon Plateau. The Bigtop covers the north side of the Sidney Creek valley on a south facing slope that rises from 1,000 meters to 1,500 meters elevation. Topographically the Sidney Creek valley is wide and the south facing slope is gradual to moderately steep with a series of benches formed by glacial deposits and the weathering of rocks of differing resistance. The Iron Creek valley is a fairly narrow steep sided depression that cuts through the middle of the claim block. Small cliffs and outcrops are found along the banks of Iron Creek but elsewhere outcrop is limited to ridge crests. The showings are located along a ridge that rises to the northwest.

Glaciation in the McConnell period covered the district with broad northwesterly moving ice sheets. Evidence of glaciation in the Sidney Creek valley includes lacustrine, fluvioglacial and alluvial deposits in benches and paleo beaches. Glacial overburden is up to 80 meters thick below 1,000 meters of elevation in the main valley. At higher elevations overburden averages 5 meters on north facing exposures and 3 meters on south facing hillsides.

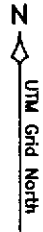


15053 YUKON INC.		
<b>BIGTOP PROPERTY</b> Location Map		
TANANA EXPLORATION <i>Steve Traynor, Geologist</i>		
SCALE: 1 : 6,000,000		DATE: 97.12.08
NTS: 105 C/14	DRAWN:	FIGURE 1



**LEGEND**

- stream, creek
- road, trail
- all weather road
- claim group boundary



<b>15053 YUKON INC.</b>		
<b>BIGTOP PROPERTY</b>		
<b>Regional Map</b>		
<i>TANANA EXPLORATION</i>		
<i>Steve Traynor, Geologist</i>		
SCALE: 1 : 250,000	FILE: 243_2	DATE: 97.12.08
NTS: 105 C	DRAWN:	FIGURE 2

The district has an interior climate marked by long cold winters and moderate annual precipitation. Periodically high winds modify the winter temperatures and bring snowfall. Exploration on the property can be performed from May until October.

**PROPERTY**

The Bigtop consists of 174 contiguous mineral claims, as shown in Figure 3 and listed in Table 1. The Bigtop 1-30 and Bozo 1-24 claims were staked in June, 1996 and 120 additional claims were staked in the 1997 field season. The writer has not inspected the claim posts and lines. Mr. Traynor has supervised the tagging of the 1996 claims.

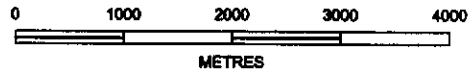
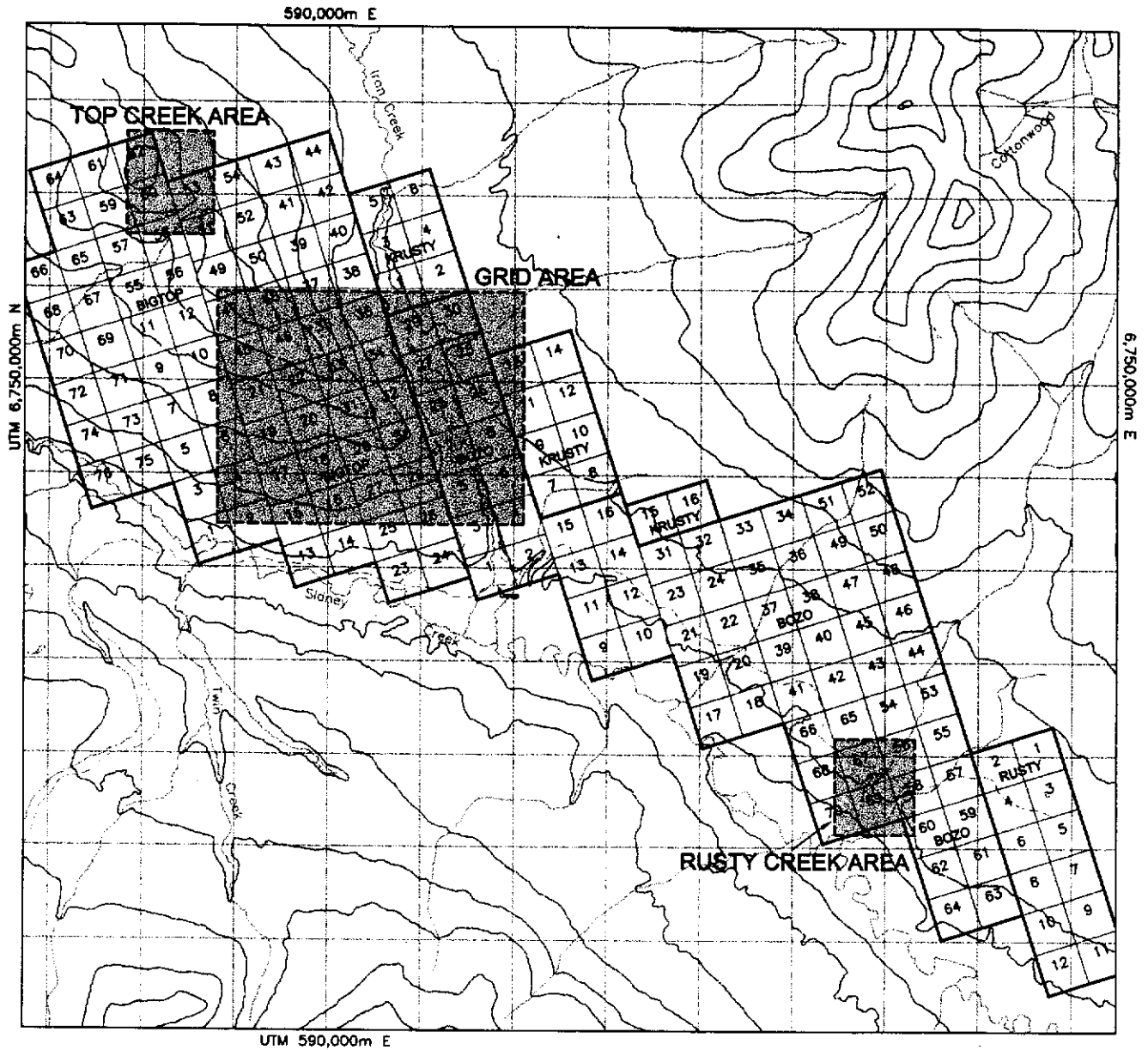
**TABLE 1  
Claim Data**

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date</u> (* applied for)
BOZO 1-8	YB67080-87	JUNE 17, 2002*
BOZO 9-24	YB67298-313	JULY 10, 2002*
BOZO 25-38	YB97749-62	JUNE 5, 1998
BOZO 39-42	YB97845-48	JULY 15, 1998
BOZO 43-52	YB97849-58	JULY 14, 1998
BOZO 53-70	YC08057-74	AUG. 11, 1998
BIGTOP 1-30	YB67268-97	JULY 10, 2002*
BIGTOP 31-58	YB97721-48	JUNE 5, 1998
BIGTOP 59-64	YC08075-80	AUG. 11, 1998
BIGTOP 65-76	YC08270-81	SEPT. 23, 1998
RUSTY 1-12	YC08258-69	SEPT. 23, 1998
KRUSTY 1-16	YC08282-97	SEPT. 23, 1998

Collectively the claims are known as the Bigtop property and are owned by 15053 Yukon Inc. It is recommended to bring the claim expiry dates to a common date on the next assessment filing.

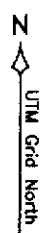
**ENVIRONMENT**

No special environmental concerns are known for this area. The Department of Indian and Northern Affairs is implementing land use regulations (Nov. 1997?) in the Yukon Quartz Mining Act. Under these regulations, approval of a land use permit will be required prior to commencing exploration on a claim group. It is recommended that a Land Use Application be submitted at least 90 days prior to mobilization.



**LEGEND**

- elevation contour interval, (100 metres) 3500
- stream, creek
- road, trail
- claim group boundary
- claim line



<b>15053 YUKON INC.</b>		
<b>BIGTOP PROPERTY</b>		
<b>Claim Plan and Key Map</b>		
<i>TANANA EXPLORATION</i>		
<i>Steve Traynor, Geologist</i>		
SCALE: 1 : 70,000	FILE: 243_3	DATE: 97.12.08
NTS: 105 C/14	DRAWN:	FIGURE 3

## REGIONAL GEOLOGY

The rocks underlying the Sidney Creek valley are mainly metasedimentary and include argillites, phyllites, limestones, cherts, slates, schists and quartzites of upper Proterozoic to Mississippian age of the Nisutlin subterrane. Interbedded in the metasediments are felsic to mafic volcanic and tuffaceous horizons, and meta-plutonic units. The volcano-sedimentary sequence is part of the broad Yukon-Tanana terrane which lies northeast of the complex Teslin Suture zone. North and south of the Sidney Creek area large bodies of Cretaceous granite intrude the layered rocks. Conformable lenses and sills of greenstone, probably Triassic in age, occur in profusion in places in the metasediments and a few narrow lamprophyre, diorite and quartz-porphyry sills, probably Jurassic or younger, are present locally. Near the granitic intrusions, characteristic replacement mineralization is developed in calcareous rocks. In the late Mesozoic extensive thrust faulting along the Teslin Suture caused regional ductile deformation forming tectonites. A later compressional episode caused deformation and folding.

The Yukon-Tanana terrane hosts massive sulfide mineralization in volcanogenic settings consisting of interbedded felsic to mafic volcanics and carbonaceous argillites. The deposits are narrow strataform bodies that occur within a tuffaceous and/or argillaceous horizon towards the base of a felsic volcanic sequence (Kudz ze Kayah and Wolverine) or alternately occur in more mafic volcano-sedimentary horizons (Fire Lake, Money). Sulfide mineralization is disseminated to banded and massive often containing accessory magnetite which is an important geophysical parameter. The deposits have been discovered by a combination of geochemistry, surface and airborne geophysics and prospecting. Electromagnetic and magnetic anomalies are important in selecting drill sites.

Metasedimentary rocks in the Sidney Creek area strike  $120^{\circ}$  and dip  $40-80^{\circ}$  northeast. The most recent geological maps of the area were compiled by S. Gordey of the Canada-Yukon Geoscience office as Open Files 2768 and 2886. Figure 4 shows the regional geology and the Table of Formations is presented in Table II.



## HISTORY

Exploration of the Teslin River-Quiet Lake district centers around placer prospecting and mining starting in the early 1900's and the discovery of porphyry molybdenum mineralization at Red Mountain in the mid 1960's. Placer activity started in 1905 on Iron Creek and continued periodically with the busiest period from 1932-1936 when a flume was constructed along the west side of the Iron Creek valley. Overburden was removed by monitoring the thick glacial deposits overlying the pay gravels. About 20 men were employed at the operation in 1934 and 75,000 cubic yards of gravel was processed. Mining ceased in 1936 due to uneconomical ground conditions. Placer prospecting and mining was again active in the late 1980's with no records of gold production. Placer claims and leases currently cover the lower 10 km of Iron Creek

Modern mineral exploration started in the 1960' with a small staking rush to the Boswell River area after the discovery of molybdenum mineralization at Red Mountain. The district was fairly active through the 1960's and 1970's, when numerous small gold and silver showings were found by prospectors. Several of the major mining companies performed regional surveys of the area during this period. The confluence of Sidney and Iron Creeks was first staked as mineral claims in 1967 by Mt. Grant Mines Ltd. who pushed several bulldozer trenches on a reported silver occurrence (Minfile #105 C-021). Restaked in 1981 by McCrory Holdings, in 1988 by T. Morgan and in 1989 by R. Hammel, no significant work was reported. Mr. Hammel has an assay certificate from samples collected near Iron Creek within the Bigtop; one sample assayed >20,000 ppm barium and another ran 3000 ppb gold. He will try to supply a map giving sample locations.

The Yukon-Tanana terrane became the focus of mining companies when Cominco discovered volcanogenic massive sulfide mineralization in 1993 and delineated the Kutz ze Kayah massive sulfide deposit in 1994-1995. In the Finlayson Lake district a staking rush ensued in 1995 with about 10,000 new claims. Westmin Resources Ltd./Atna Resources Ltd. subsequently outlined the Wolverine deposit in 1995-1996. Other promising massive sulfide occurrences include the Wolf, Monney, Fire Lake and Ice properties. Exploration for volcanogenic massive sulfides accounted for about 60% of the exploration expenditures in the Yukon from 1995-1997.

The Bigtop claims were staked by 15053 Yukon Inc. after a regional reconnaissance program under the direction of S. Traynor identified promising zinc bearing samples near the confluence of Iron and Sidney Creeks. Follow-up prospecting and mapping found volcano-sedimentary lithologies comparable to those hosting massive sulfide mineralization elsewhere in the Yukon-Tanana terrane. The Bigtop property was staked and surface exploration was initiated in 1996.

## TABLE II - TABLE OF FORMATIONS

(adapted from Gordey, S.P. et al, 1994)

### Quaternary

Q-Undifferentiated, unconsolidated gravels, sands and clays

### Cretaceous

Kg-Porphyrific biotite granite and quartz monzonite, buff to grey dykes, sills and plugs of aplite and granite; locally quartz, feldspar and/or biotite phyrific.

### **NISUTLIN SUBTERRANE**

#### Paleozoic and/or Mesozoic

PMgr-Foliated actinolite-chlorite-epidote quartzofeldspathic schist and greenstone

PMgrc-Marble

PMga-Massive to foliated meta-gabbro

PMh-Sheared hornblende meta-diorite and meta-gabbro

#### Devonian-Mississippian

DMg-Massive to mylonitic tonalite and quartz diorite (Unit 1, below)

#### Proterozoic to Mississippian

PMgp-Rusty red to black graphite-muscovite phyllite, locally calcareous (Unit 2 and 3)

PDsq-Mylonitic quartz-mica schist and quartzite (Unit 4)

PDsqc-Quartz-muscovite marble and calcareous schist

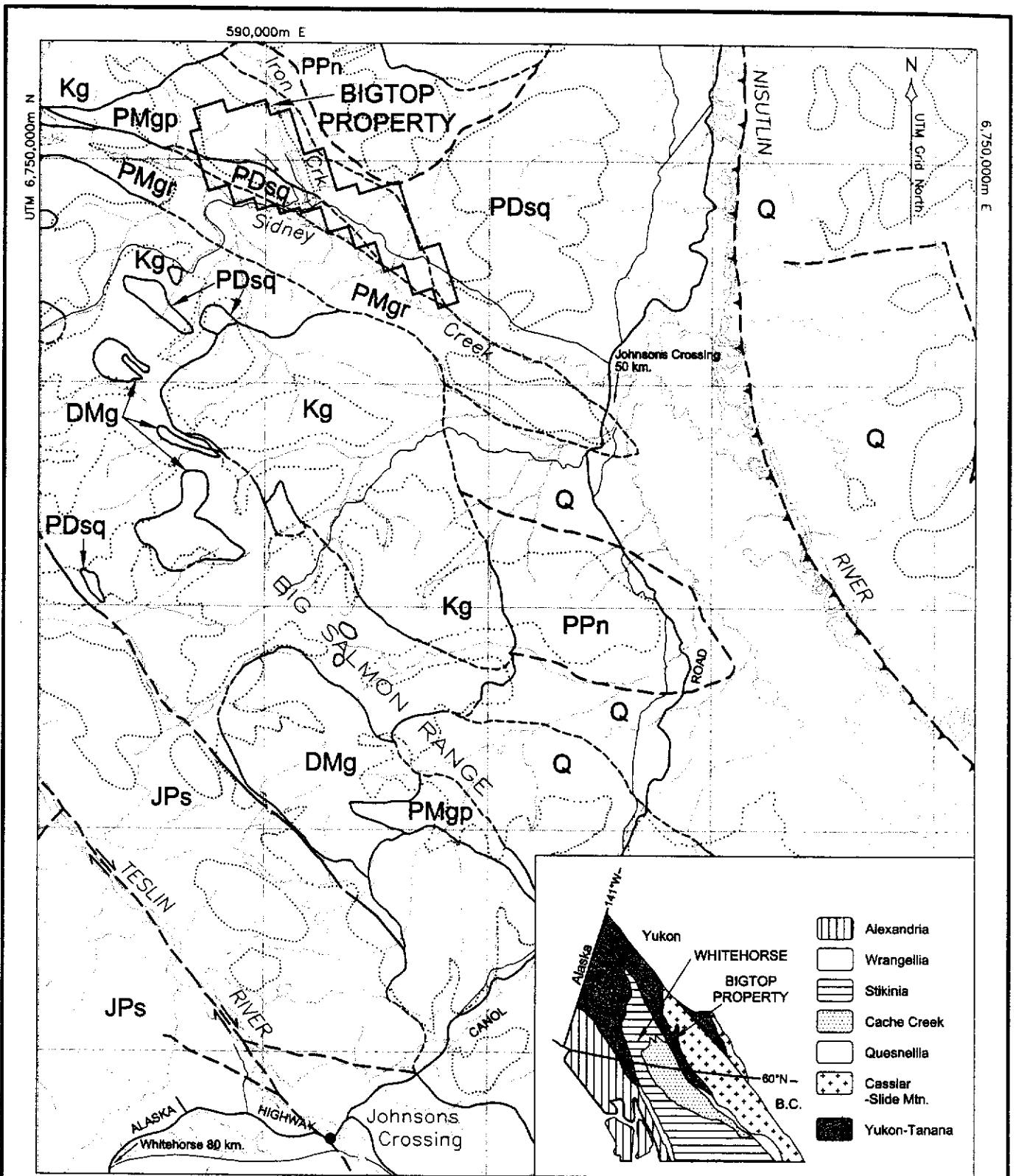
#### Property Geology Map Units

Unit 4- Felsic metavolcanic rocks, quartz muscovite schist, meta-rhyolite, highly fractured buff weathering dykes and sills

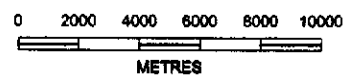
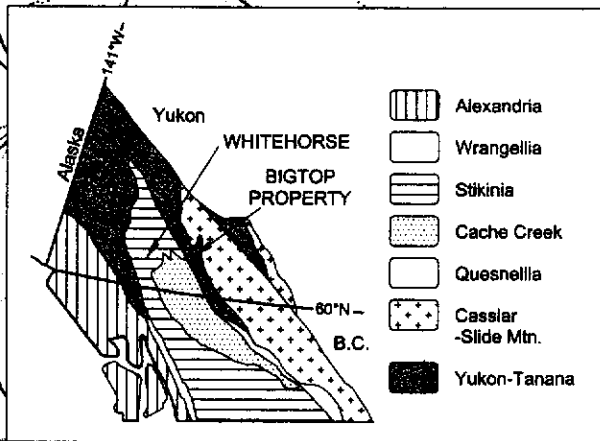
Unit 3-silicified carbonaceous argillite, tuffaceous and rhyolitic component, quartz-carbonate veining

Unit 2- carbonaceous phyllite, rusty red to black weathering, rhyolitic component

Unit 1- mafic metavolcanic rocks, biotite-chlorite-plagioclase schist, meta-diorite, carbonaceous argillite, limestone clasts



- UTM 590,000m E
- GEOLOGICAL LEGEND**
- |  |   |
|--|---|
| <b>Q</b> Glacial and alluvial deposits | <b>PDsq</b> Felsic metavolcanics        |
| <b>Kg</b> Quartz monzodiorite          | <b>PPn</b> Quartz rich schist to gneiss |
| <b>Jps</b> Laberge group metasediments |   |
| <b>PMgr</b> Greenstone                 |   |
| <b>DMg</b> Quartz diorite              |   |
| <b>PMgp</b> Carbonaceous metasediments |   |
- SYMBOLS & PHYSICAL FEATURES**
- |         |   |
|---------|---|
| -----   | Geological contact (known, approximate) |
| -----   | Fault (known, approx.)                  |
| .....   | Limit of outcrop                        |
| ~~~~~   | Stream, creek                           |
| —+—+—+— | 4-wheel drive road                      |
| —+—+—+— | Claim group boundary                    |



<b>15053 YUKON INC.</b>		
<b>BIGTOP PROPERTY</b>		
<b>Regional Geology</b>		
<i>TANANA EXPLORATION</i>		
<i>Steve Traynor, Geologist</i>		
SCALE: 1 : 250,000	FILE: 243_4	DATE: 97.12.08
NTS: 105 C/14	DRAWN:	FIGURE 4

## 1996-1997 EXPLORATION PROGRAMS

### INTRODUCTION

In the summer of 1996 an exploration crew from 13744 Yukon Inc. conducted a reconnaissance program in the Sidney Creek area directed at finding potential massive sulfide bearing rocks of the Yukon-Tanana terrane. A pyritic argillite unit striking 120° was found west of Iron Creek and traced along a ridge for over a kilometer. Felsic volcanic rocks were interbedded in the metasediments. Initial rock samples returned favorable values in copper, zinc and silver. 13744 Yukon Inc. proceeded with claim staking followed by grid development and soil geochemistry. A 1.8 kilometer baseline at a bearing of 130° was run with Iron Creek at the midpoint of the baseline. Flag-lines (total of 7.5 km) were established normal to the baseline from 100 meter centers and station intervals were marked every 50 meters (see Figure 5-Grid Map). A total of 220 soil samples were collected but only 109 samples from the western half of the grid were analyzed. The eastern half of the grid was in part underlain by glacial till and it was decided not to submit these samples. Fifty rock samples were collected and 27 submitted for analysis. Soil and rock sample results are reviewed in the Geochemistry and Mineralization sections of this report.

A funding agreement with an investors syndicate was arranged in the spring of 1997. The writer has not examined this agreement. Aerodat Inc. was contracted to fly the area of interest in a irregular rectangular block totaling 550 flight line kilometers. The parameters and results of the airborne survey are covered in a report by R. W. Woolham, P. Eng. dated July 10, 1997. A summary of the results is presented in the Airborne Geophysics Summary section of this report.

On interpretation of the airborne survey results an additional 120 claims were staked and mapping and prospecting ensued. The baseline was expanded by 2.6 kilometers to the grid west with another 12.5 kilometers of flag-line established and 230 soil samples were collected on new gridlines at the west end of the grid. In August-September, 1997 a Kubota back-hoe was contracted to upgrade an access trail from the Sidney Creek road to the grid area and to excavate a series of trenches to facilitate geological mapping. Approximately 1,200 meters of excavations were completed in trenches and an additional 200 meters in small pits. Mr. Traynor mapped the grid area at a scale of 1:5,000 and sampled sulfide bearing rocks in the trenches collecting 115 rock samples of which 66 were submitted for analysis (see Figure 6-Grid Area Geology). Time periods and personnel working on the property were as follows:

**Aug.18-Sept.17, 1996;** Prospecting, grid development, geological mapping,  
geochemistry. S.Traynor (Geologist), C.Wilson and W. Carrell  
(Prospectors)

**May 6-12,1997;** Airborne geophysical survey, Aerodat Inc.

**May 23-24, 29-30, 1997;** Prospecting and sampling

S. Traynor (Geologist), C. Wilson and W. Carrell (Prospectors)

**June-July, 1997;** Prospecting, grid development, geological mapping and geochemistry

S. Traynor (Geologist), C. Wilson and W. Carrell (Prospecting and Sampling), B. Stehelin (Helper)

**August - September, 1997;** Geological mapping, sampling back-hoe trenching and road

building. S. Traynor (Geologist), C. Wilson (Equipment operator), W. Carrell (Prospecting and sampling)

## **PROPERTY GEOLOGY**

The rocks exposed on the Bigtop are carbonaceous shales and argillites, minor recrystallized limestone and a variety of quartz-mica schists of Devonian-Mississippian age. The quartz-mica schists are metamorphosed mafic intrusive and felsic volcanic rocks and tuffaceous units. Granitic rocks are not found in the property area but some of the mafic schists are believed to be dioritic in origin. The four main units are described as follows:

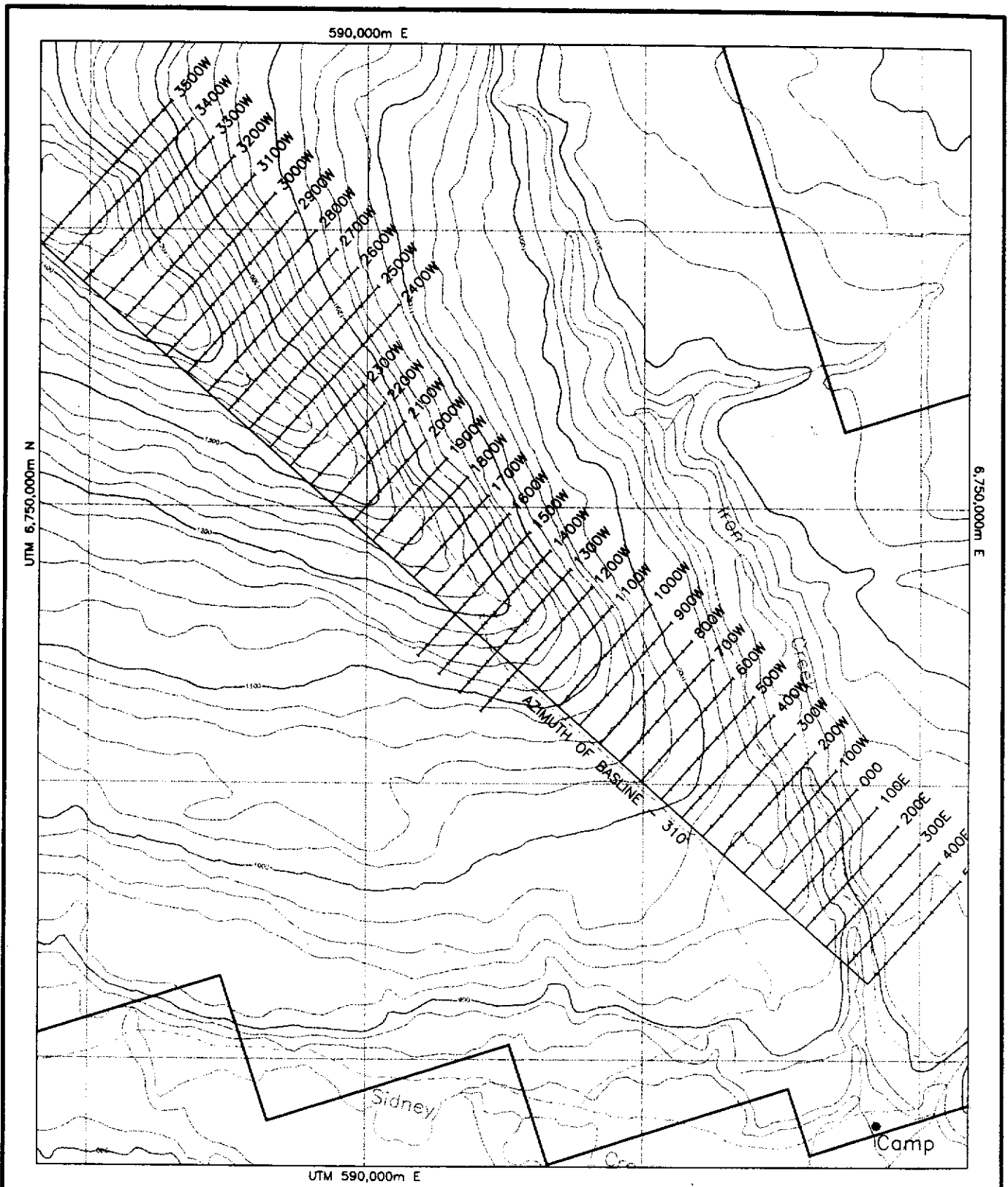
**Mafic intrusives (Unit 1):** Mafic tuff and breccia, porphyritic andesite tuff, calcite veins, coarse diorite, argillite and limestone clasts form up to 20% of the rock. Variable amounts of pyrite up to 20% in some trenches. Often overlain by a ferrocrete layer of overburden.

**Carbonaceous shales (Unit 2):** Rusty red to black weathering shale with variable silicification, pyritization and calcite veining. Argillaceous horizons and felsic volcanic component.

**Argillites (Unit 3):** Grey to black silicified sediments with disseminated to patchy pyrite; graphitic fracture faces, locally brecciated with minor white quartz and carbonate veining, weak to heavy limonite staining. May have a tuffaceous and rhyolitic component. Pyrite content is up to 10% with minor magnetite, pyrrhotite, galena, chalcopyrite and sphalerite.

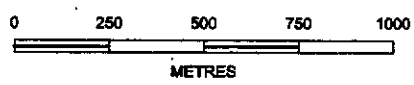
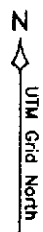
**Felsic volcanics (Unit 4):** Meta-rhyolite and tuff, highly fractured buff weathering dykes and sills of quartz-mica schist. Fresher samples have quartz eye and feldspar phenocrysts with some flow banding. Variable biotite, sericite and chlorite content with up to 5% pyrite and minor accessory sulfides.

Structurally the lithologies are tectonized, evident as linear fractures. Also, the units are folded and deformed by normal faults, thrust faulting, intrusion and soft sediment deformation. Greenschist alteration is pervasive with localized silicification, sericitisation and carbonatisation. Figure 7 shows trench and rock sample locations for the grid. Rock samples were collected in two other areas, shown in Figures 8 and 9 (see Appendix I).



**LEGEND**

- elevation contour interval, (20 metres)
- stream, creek
- road, trail
- claim group boundary
- claim line



<b>15053 YUKON INC.</b>		
<b>BIGTOP PROPERTY</b>		
<b>Grid Map</b>		
<i>TANANA EXPLORATION</i>		
<i>Steve Traynor, Geologist</i>		
SCALE: 1 : 20,000	FILE: 243_5	DATE: 97.12.08
NTS: 105 C/14	DRAWN:	FIGURE 5

## MINERALIZATION

S. Traynor has submitted 93 rock samples for analysis and a selection of significant results are presented in Table III. Descriptions and results for all the samples are presented in Appendix II and the Certificates of Analysis are presented in Appendix III. Pyrite is the dominant sulfide mineral occurring as fine grained veinlets and disseminations in all the units. Chalcopyrite, sphalerite and galena occur as fine blebs and veinlets in silicified argillite.

At the west end of the grid shales and felsic volcanic rocks contain barium in a white mica mineral. The barium content is significant in these horizons as they occur along strike of airborne electromagnetic conductors.

## AIRBORNE GEOPHYSICAL SURVEY

(from R.W. Woolham, 1997)

Magnetic Survey Results and Conclusions-"The magnetic background is interpreted to be approximately 57,750 nT. Amplitudes range from about 300 nT below background to 1,750 nT above background. On the Interpretation Map the relatively higher amplitude magnetic horizons and trends are indicated with thick lines while lower amplitude more subtle linears are shown with thinner lines. These linears and trends probably reflect mafic intrusive and extrusive rocks related to mafic volcanic units, sills and dyke structures (Unit 1 Diorite). Below background non-magnetic zones are outlined with thick dashed lines and depression symbols. Such zones usually map felsic (Unit 4) or sedimentary rocks (Units 2 & 3). Local smaller negative zones can also indicate possible alteration effects, felsic intrusives or diatremes.

The higher amplitude responses are at locations A, B, C1, C2 and D on the Geophysical Interpretation Map (see Aerodat Report). Anomaly A, in the extreme south central part of the survey block, has the highest amplitude at over 1,750 nT above background while the other higher amplitude horizons are about 400 to 1,000 nT above background. Anomaly A is a circular feature and has the characteristics typical of an intrusive vertical plug-like body. It flanks a small topographic peak just to the south of the survey area suggesting a possible topographic association with the anomaly and the source of the anomaly may be readily investigated by prospecting. This is also true to some extent for anomalous areas B, C1, and D which flank or cross topographic highs.

Anomaly areas B and D are part of a larger area of contorted sinuous magnetic trends which flank a central zone of long linear horizons, containing linears C1 and C2 as well as long formational conductive horizons, which follow the Sidney Creek valley. The central zone of formational horizons probably maps mafic volcanic flows and tuff. The more contorted magnetics either side of this zone may reflect later stage mafic extrusive or intrusive activity.

Electromagnetic Survey Results and Conclusions—"There are a great many conductive intercepts throughout the survey block. Suggested line to line continuity is indicated for intercepts with continuity across more than two lines using short dashed line segments. Many of these conductive trends are quite long and form several parallel horizons suggesting a conductive sedimentary origin. An example is the cluster of conductive horizons in the north part of the property northeast of the long high amplitude magnetic horizon. Of possible interest are the conductive horizons which correlate with magnetic linears or have a close spatial association with them. The linear conductors paralleling the magnetic linears form a belt about 2,000 meters wide. Note there are very few conductive horizons on the southwest side of the magnetic linear zone suggesting possible volcanic rocks dominate this area. In fact the below background non-magnetic zone further to the southwest may map felsic rocks.

To the north and south of the main conductive belt the few conductive zones associated with magnetic areas B and D have much poorer conductivity and are more contorted and discontinuous. This again suggests a different geological environment exists to the north and south of the main central formational magnetic/conductive zone.

An orebody of the type associated with those present in the Finlayson Lake area would be expected to have a high conductivity signature. Graphitic sediments can have the same type of signature. Thus an orebody could be hidden anywhere within the numerous conductive horizons within the central conductive/magnetic zone. A specific horizon, however, may have more geological potential for hosting an orebody. Therefore a number of areas along the conductive horizons are circled and designated for investigation. Selection is based on sampling as many horizons as possible with the best conductivity. Examples are numbers 1 to 7 and 13. Admittedly, an orebody could be present having poor conductivity and therefore some of the lower conductivity zones are also designated for investigation as well as a few of the poorer conductors outside the main central zone."

Interpretation-There are seven conductive zones designated as first priority on the Compilation Map with six second priority targets and five third priority responses (see Figure 11). The conductors are numbered 1 to 18; conductors 4,5 and 11 have direct magnetic correlation while 1,2,6,8 and 10 have spatial associations with magnetic responses. The main conductive zone defines the volcano-sedimentary belt of interest. Magnetic Anomaly A, a circular magnetic high, was found to be an ultramafic sill of pyroxenite, possibly occurring along a thrust fault.



## ROCK AND SOIL GEOCHEMISTRY

Soil geochemical data from 1996-1997 is shown in color shade plots for zinc, lead, silver and copper in Figures 11, 12, 13 and 14. Also a coincident lead-zinc-copper geochemical map was prepared as Figure 10. Zinc is the most responsive element reaching a peak of 3361 ppm, the maximum for lead is 669 ppm and copper and silver reach peak values of 351 ppm and 8.9 ppm respectively. The rock and soil geochemistry outlines five areas of interest which are coincidental with electromagnetic conductors and somewhat coincidental with magnetic highs. These zones are labeled A-E on the Compilation Map, Figure 15 and described as follows:

Zone A-a 200 x 400 meter area of elevated barium values (>2000 ppm) in rock samples coincides with a series of parallel EM conductors and a magnetic high. The center of the zone is at 30+00W 3+00N.

Zone B-a 200 x 500 meter multielement soil anomaly coincident and downslope of a series of strong EM conductors. The center of the soil anomaly is at 26+00W 4+00N. Rock samples of silicified argillite contain abundant pyrite with minor chalcopyrite, sphalerite and arsenopyrite. The EM airborne geophysical anomalies and a magnetic high are centered at 26+00W 2+50N.

Zone C-a 150 x 800 meter multielement geochemical response coincident with airborne geophysical conductors. This zone is centered at 19+00W 3+00N.

Zone D-a 100 x 500 meter area of coincidental EM conductors and a soil geochemical anomaly centered at 14+00W 2+00N.

Zone E-a 100 x 300 meter geochemical anomaly centered at 7+00W 1+75N with associated EM conductors and felsic horizon at 1+50N.

Prospecting and sampling along strike of the main grid identified two other areas of interest described below:

**TOP CREEK AREA**-Gossan zones located along trend to the west of the main grid area were sampled (see Figure 8). Silicified felsic metavolcanics and carbonaceous sediments contain up to 10% pyrite with elevated values in Cu-Zn-Ba. The airborne survey shows electromagnetic conductors and a magnetic high in close proximity to the gossans.

**RUSTY CREEK AREA**-Located at the eastern end of the property, the metavolcanic and metasedimentary horizons in this area are coincident with electromagnetic conductors (see Figure 9). Variable silicification and pyritization were evident in outcrop.

Table III Selected Rock Sample Results

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	SELECTED RESULTS (Au in ppb, all other elements in ppm)									
			Au	Ag	Cu	Pb	Zn	Cd	As	Ba		
96R013-02	175E/210N	Argillite, with thin, semicontinuous laminated sulfides	32	2.6	148	25	438	3.2	88	16		
96R018-03	025E/325N	Thinly laminated, shaly argillite with thin, distinct sulfide bands	9	0.2	122	<2	1612	21.6	<5	36		
96R025	122E/225N	Shaly, argillite with semi-massive pyrite laminations. This unit is very magnetic and contains minor felsics.	10	1.5	175	15	1035	4.6	65	26		
96R026	120E/240N	Thickly laminated, well silicified argillite, very magnetic.	18	0.9	152	29	1248	7.7	59	24		
96R027	125E/210N	Well laminated, heavily sulfidized argillite. 10 m. grab sample	-	2.3	235	32	1181	10.9	60	30		
96R033	700W/125N	Thinly laminated, heavily silicified argillite with up to 10% sulfides.	20	4.5	649	28	133	1.3	58	246		
97R018	760W/125N	Carbonaceous, very silicified argillite with up to 10% sulfides.	14	1.6	197	9	7656	82.3	<5	30		
97R019	~2500W/300N	Argillic, silicified black sediment with minor graphite and sulfides.	22	3.2	103	541	588	32	8	43		
97R021	~3120W/240N	Felsic tuff, pink due to alteration of hornblende or biotite. Stratiform mineralization is 1% higher where fracture filled	12	0.9	123	20	180	1	9	>2000		
97R022	~3060W/260N	Very fine grained shaly black sediment, massive texture with sulfides on fracture planes. Pale mica similar to 97R096.	14	0.9	130	16	160	6	19	>2000		
97R065	760W/124N	Chip sample (over 1meter) of well silicified, at times shaly argillite that is well sulfidized and gossanous.	-	0.7	131	9	5492	52.6	<5	29		
97R096	2850W/150N	Thinly laminated, shaly to somewhat silicified black sediment. Pale whitish mica, may be source of high Ba.	8	1.0	35	5	69	<1	7	>2000		
97R243	2100W/310N	Somewhat graphitic, massive argillite, well mineralized with sulfides.	14	1.4	148	21	1736	21.5	37	18		
97R 254	1400W/100N	Massive felsic with 2% sulfides, that is somewhat oxidized.	<5	1.0	37	153	294	10	36	303		
97R 264	1130W/175N	Somewhat oxidized, siliceous felsic with up to 10% sulfides, especially on fractures.	<5	<0.5	30	49	1833	25	18	141		
97R267	2317W/259N	Black, somewhat altered, thinly laminated, very carbonaceous argillite. Moderately silicified.	20	2.9	243	23	672	13	30	312		

## DISCUSSION AND RECOMMENDATIONS

The Bigtop property covers favorable volcano-sedimentary stratigraphy featuring multielement geochemical anomalies and coincident airborne electromagnetic conductors. There is good potential for discovering massive sulfide style mineralization on the Bigtop. Geophysical surveys are the most effective methods of defining the five zones of interest and advancing the property to the drill stage. Exploration has concentrated on the grid area but the stratigraphy continues to the northwest and southeast, preliminary evaluation of these areas produced good results.

It is recommended that two grid lines be cut over each zone and that a max-min survey (electromagnetic) be performed on these cut lines. A magnetometer survey is recommended over the entire grid. Additional grid soil sampling should be performed to close off any anomalies along the margins of the grid area.

A two Phase exploration program is recommended; Phase I to include grid development and geophysical surveys at a budget of \$28,000 and Phase II a diamond drill program at a budget of \$132,000.

The following program is proposed for Phase I:

1. Line cutting from baseline to 5+00N of grid lines 7+00W, 8+00W, 13+00W, 14+00W, 19+00W, 20+00W, 25+00W, 26+00W, 30+00W and 31+00W for a total of 5 km of cut line. Max-min survey of these lines. Magnetometer survey of the whole grid area.
2. Geochemistry to close off any anomalies along the margins of the grid and in the Top Creek and Rusty Creek areas.
3. Interpretation and prioritization of the airborne geophysical anomalies by a geophysicist.

## PROPOSED EXPLORATION BUDGET

The following budget is recommended to evaluate the Bigtop property. Phase II is contingent on the results of the Phase I program.

<b>PHASE I</b>	<b>Geological mapping &amp; supervision</b>	<b>2,500.00</b>
	<b>Line-cutting, 5 kilometers</b>	<b>3,000.00</b>
	<b>Max-min and magnetometer surveys</b>	<b>7,500.00</b>
	<b>Geochemistry, 150 samples</b>	<b>4,000.00</b>
	<b>Camp, supplies and support</b>	<b>3,000.00</b>
	<b>Transportation</b>	<b>1,500.00</b>
	<b>Geophysical interpretation and report</b>	<b><u>4,000.00</u></b>
	<b>Sub Total</b>	<b>\$25,500.00</b>
	<b>Contingency, 10%</b>	<b>2,500.00</b>
	<b>TOTAL PHASE I</b>	<b>\$28,000.00</b>
<b>PHASE II</b>	<b>Diamond drilling, 500 meters at \$100/m</b>	<b>50,000.00</b>
	<b>D-7 Cat, 100 hr. at \$ 140/hr</b>	<b>14,000.00</b>
	<b>Geological supervision and management</b>	<b>10,000.00</b>
	<b>Geological assistant</b>	<b>6,500.00</b>
	<b>Camp, supplies and support</b>	<b>20,000.00</b>
	<b>Transportation, mob &amp; demob</b>	<b>10,000.00</b>
	<b>Geochemistry, assays</b>	<b>2,000.00</b>
	<b>Report, maps &amp; assessment</b>	<b><u>7,500.00</u></b>
	<b>Sub Total</b>	<b>\$120,000.00</b>
	<b>Contingency, 10%</b>	<b>12,000.00</b>
	<b>TOTAL PHASE II</b>	<b>\$132,000.00</b>
	<b>TOTAL PHASES I &amp; II</b>	<b>\$160,000.00</b>

**CERTIFICATE**

I, GRAHAM DAVIDSON, of the City of Whitehorse in the Yukon Territory, HEREBY CERTIFY:

1. That I am a consulting geologist and that I reviewed information and data provided by S. Traynor and that I visited the property on September 15, 1997 and examined back-hoe trenches and outcrops in the grid area.
2. That I am a graduate of the University of Western Ontario (H. BSc., Geology, 1981).
3. That I am registered as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (No.42038).
4. That I have been engaged in mineral exploration for fourteen years in the Yukon, the Northwest Territories and British Columbia.
5. That I have no interest in the property or in 15053 Yukon Inc. and this report may be used for any purpose normal to the business of 15053 Yukon Inc.

SIGNED at Whitehorse, Yukon, this 15th day of December, 1997.

G.S. DAVIDSON, P. Geol.

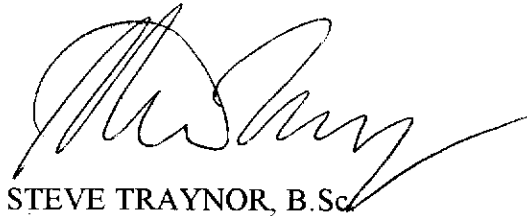


**CERTIFICATE**

I, STEVE TRAYNOR, of the City of Whitehorse in the Yukon Territory, HEREBY CERTIFY:

1. THAT I am a Geologist with 15053 Yukon Inc. in Whitehorse, Yukon.
2. THAT I am a graduate of Queen's University(1982), Kingston, Ontario with a B.Sc.(Honours) degree in Geology.
3. THAT I have been engaged in mineral exploration for twelve years in the Yukon, Manitoba, Ontario and Quebec.
4. THAT this report is based in part on property work that I completed ,supervised or contracted during the period from May to September 1997 on the Bigtop Property.

SIGNED at Whitehorse, Yukon Territory, this 15th day of December, 1997.



STEVE TRAYNOR, B.Sc.

## REFERENCES

Exploration and Mining Geology, 1996; Volcanogenic Massive Sulfide Deposits of the British Columbia Cordillera in CIM Journal

Gordey S.P. et al, 1994; Geology of the 105 C Map Sheet, Open File 2886, GSC Publication

Hunt J.A. et al, 1997; Massive Sulfide Deposits in the Yukon-Tanana and adjacent Terranes in YEG 1996.

Johnston S. & Mortenson J.,1994; Regional setting of porphyry Cu-Mo deposits, volcanogenic massive sulfide deposits, and mesothermal gold deposits in the Yukon-Tanana Terrane, Yukon

Murphy D.C. et al, 1997; Preliminary Geology of the Grass Lakes Map Area in YEG, 1996

Traynor S., 1997; Geochemical Survey and Helicopter-Borne Geophysical Survey on the Bozo 1-24 and Bigtop 1-30 Claims

Yukon Minfile, DIAND, 1996

## STATEMENT OF EXPENDITURES

**CANADA --** In the matter of geochemical survey and sampling work, prospecting and geological mapping and trenching assessment work filed on the BOZO 1 - 70, BIGTOP 1 - 64 and KRUSTY 1 - 16 mineral claims.

I, Steve Traynor a geologist with 15053 Yukon Inc. of Whitehorse, Yukon do solemnly declare that a program consisting of geochemical survey and sampling work, prospecting and geological mapping and trenching was carried out on the BOZO 1 - 70, BIGTOP 1 - 64 and KRUSTY 1 - 16 mineral claims during the period from June 1, 1997 to October 2, 1997.

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

**Geological mapping and supervision:**

S. Traynor, Geologist, 4 months @ \$5,000.00	\$20,000.00
B. Stehelin, Assistant, 2 months @ \$2,000.00	4,000.00

**Prospecting and geochemical surveying and sampling:**

Wade Carrell, Prospector, 4 months @ \$3,000.00	12,000.00
C. Wilson, Prospector, 2 months @ \$3,000.00	6,000.00

**Trenching:**

Equipment Rental and Operation	11,308.90
C. Wilson, Operator, 2 months @ \$3,000.00	6,000.00

**Camp, Supplies and Support:** 4 months @ \$ 3,000.00 12,000.00

**Transportation:** Company vehicles, 4 months @ \$ 2,500.00 10,000.00

**Assay and Analysis:**

Rock samples	5,406.75
Soil samples	3,604.48

**Report Preparation and Maps:** 5,183.08

**TOTAL COST** \$95,503.21

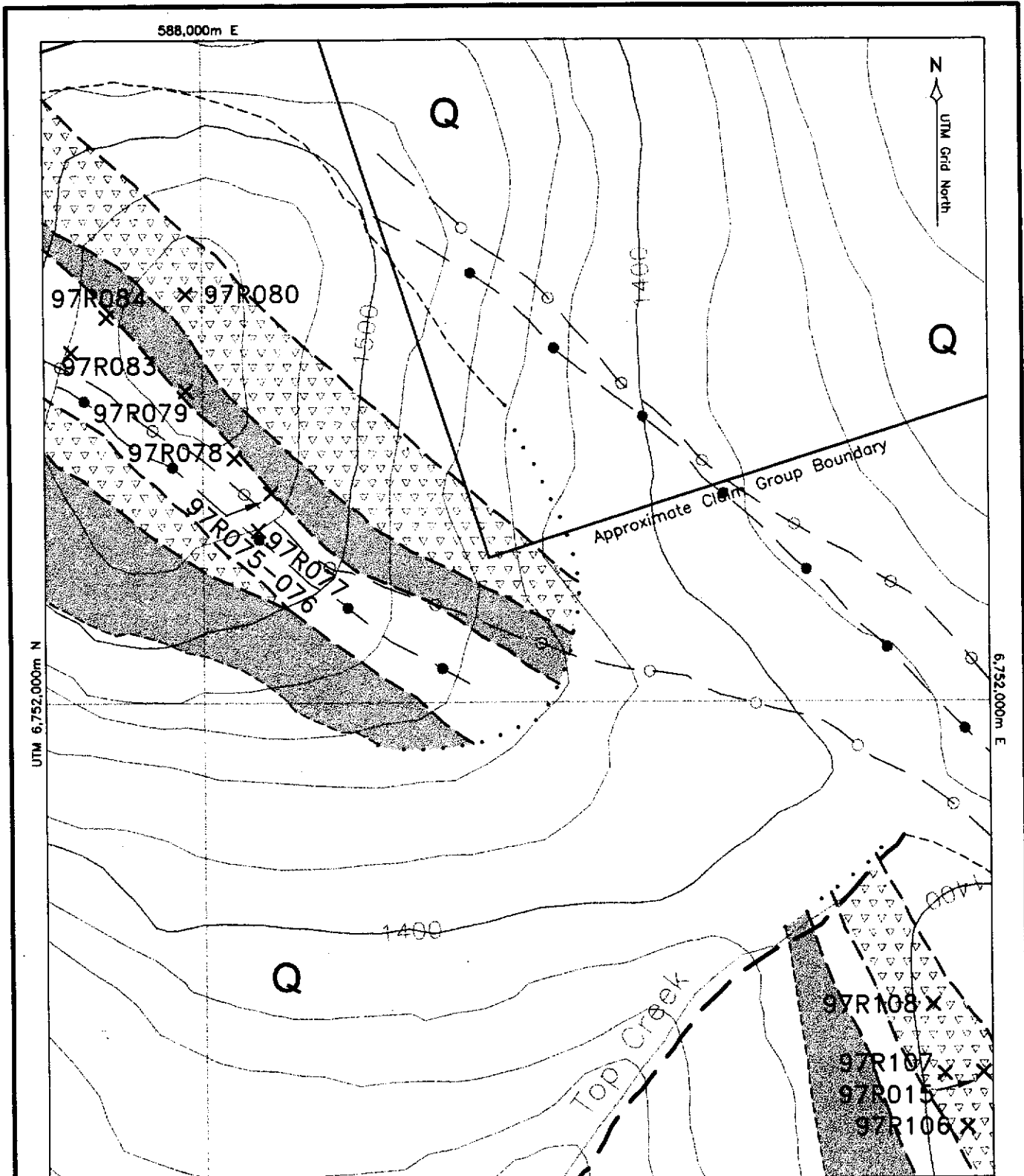
And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Dated at Whitehorse in the Territory of the Yukon this 16<sup>th</sup> day of April, 1998.

  
\_\_\_\_\_  
Steve Traynor, Geologist



**APPENDIX I**  
**FIGURES 8-14**



UTM 6,752,000m N

588,000m E

6,752,000m E

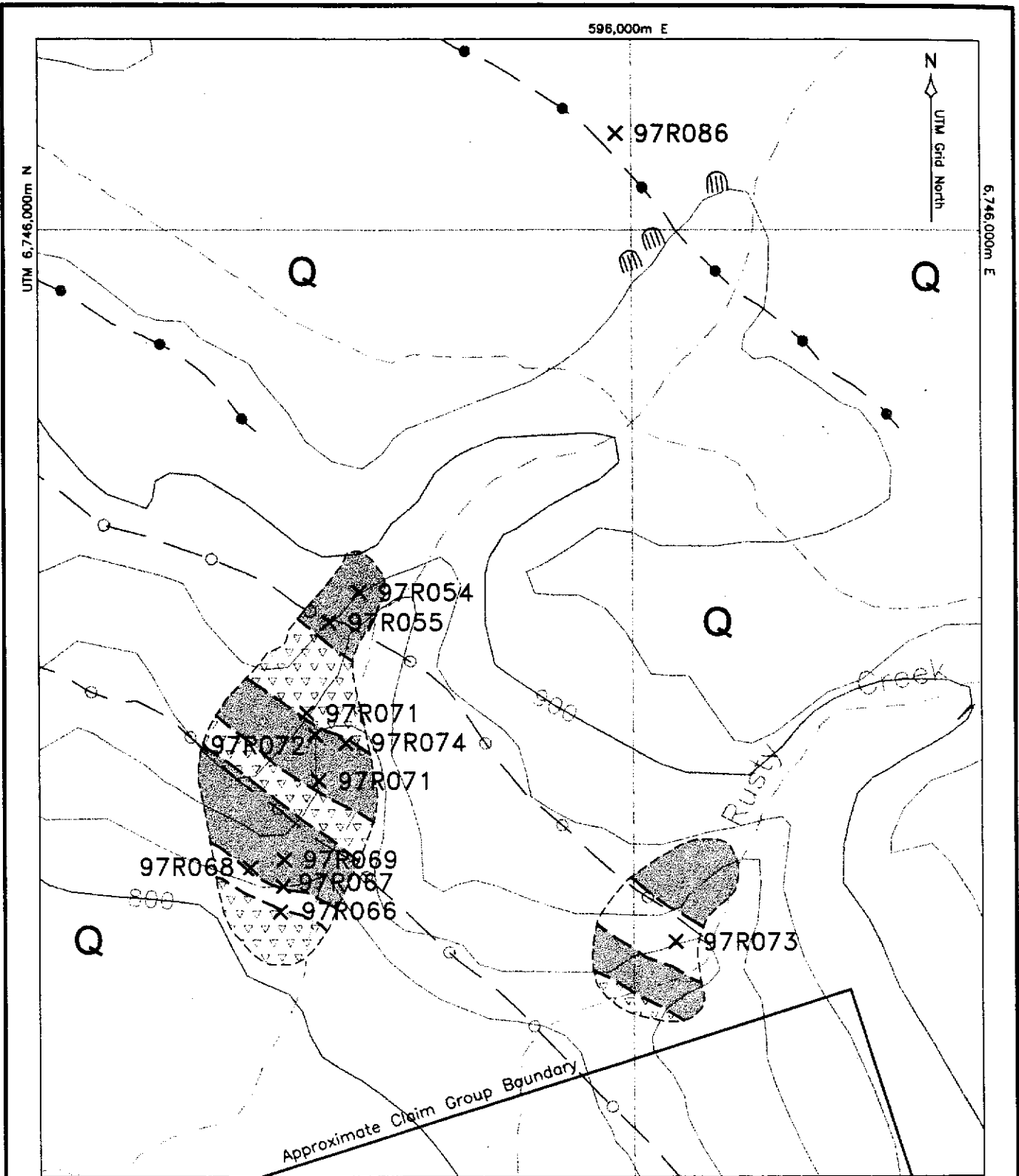
UTM 588,000m E

- GEOLOGICAL LEGEND**
- Colluvial and till deposits, partially reworked by recent activity.
  - Metamorphosed quartz-diorite, includes abundant interbeds of felsic volcanic rocks.
  - Black, fine grained often fissile, carbonaceous shale. Weathers to a rusty red gossan when pyritic.
  - Silicified, fine grained grey to black, often carbonaceous argillite. Occasionally very shaly.
  - Altered felsic volcanic rocks, present as exhalites, locally abundant tuffaceous rock.

- SYMBOLS & PHYSICAL FEATURES**
- Outcrop
  - Geological contact
  - Fault
  - Interpreted EM conductor
  - Magnetic trend
  - Rock sample location, no. Excavator trench PII
  - Rock sample location, no. Excavator trench PII
  - Survey grid
  - Elevation contour interval, (20 metres)
  - Stream, creek
  - 4-wheel drive road
  - Claim group boundary

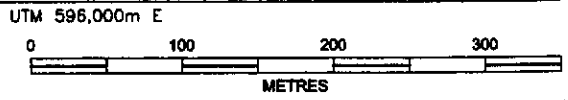


<b>15053 YUKON INC.</b>		
<b>BIGTOP PROPERTY</b>		
Geology & Sample Locations, Top Creek Area		
TANANA EXPLORATION		
Steve Traynor, Geologist		
SCALE: 1 : 5,000	FILE: 243_8	DATE: 97.12.08
NTS: 105 C/14	DRAWN:	FIGURE 8



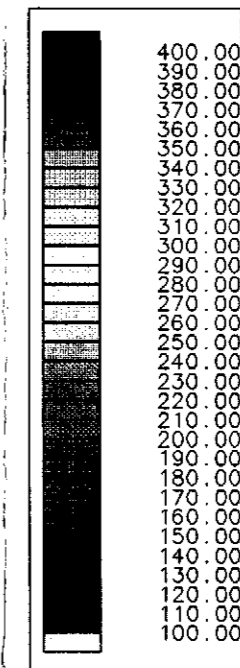
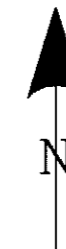
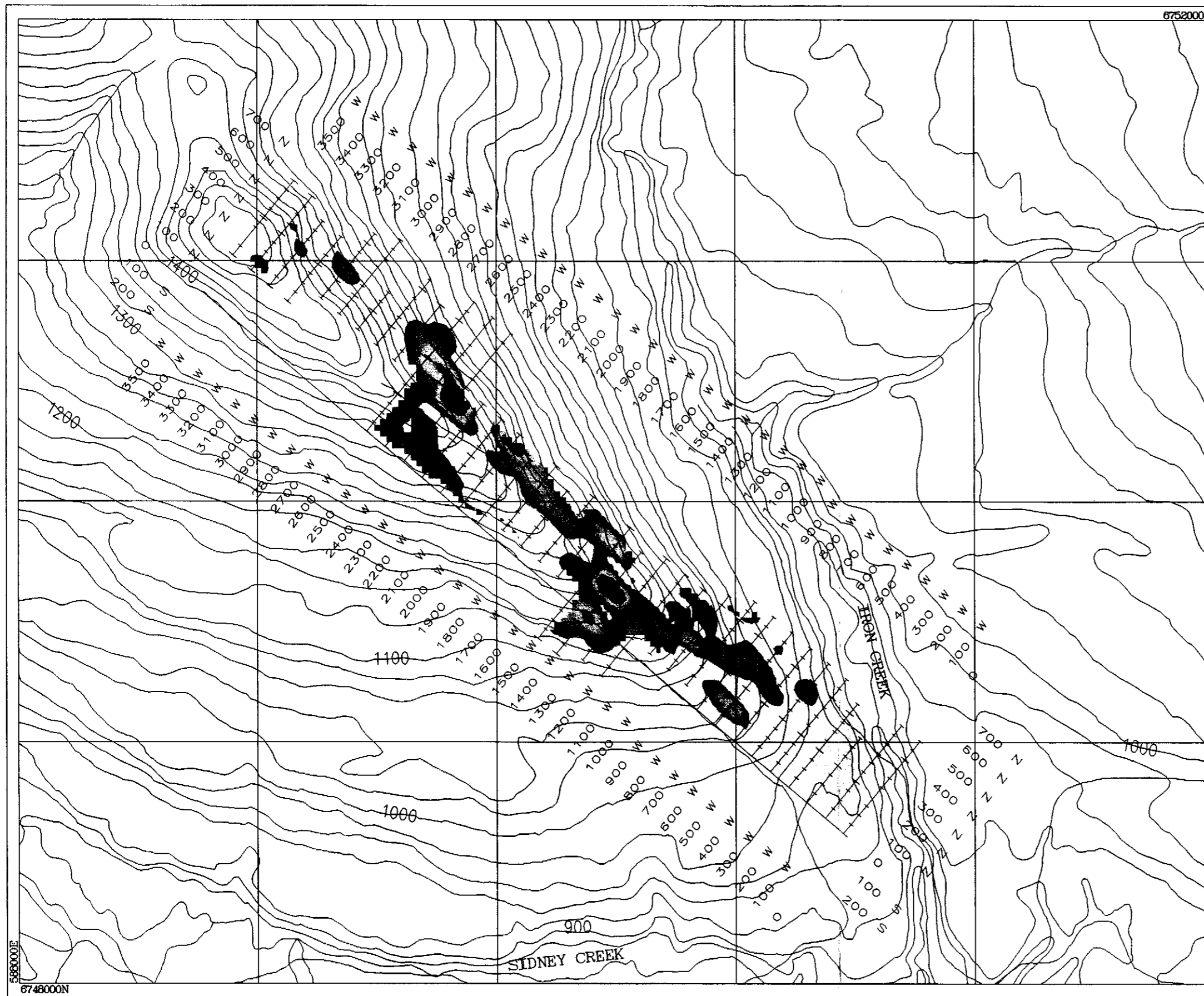
- GEOLOGICAL LEGEND**
- Colluvial and till deposits, partially reworked by recent activity.
  - Metamorphosed quartz-diorite, includes abundant interbands of felsic volcanic rocks.
  - Black, fine grained often fissile, carbonaceous shale. Weathers to a rusty red gossan when pyritic.
  - Silicified, fine grained gray to black, often carbonaceous argillite. Occasionally very shaly.
  - Altered felsic volcanic rocks, present as exhalites, locally abundant tuffaceous rock.

- SYMBOLS & PHYSICAL FEATURES**
- Outcrop
  - Geological contact
  - Fault
  - Interpreted EM conductor
  - Magnetic trend
  - Rock sample location, no.   
 x 97R021
  - Excavator trench
  - Pit
  - Survey grid
  - Elevation contour interval, (20 metres)   
 1000
  - Stream, creek
  - 4-wheel drive road
  - Claim group boundary



<b>15053 YUKON INC.</b>		
<b>BIGTOP PROPERTY</b>		
Geology & Sample Locations, Rusty Creek Area		
TANANA EXPLORATION		
Steve Traynor, Geologist		
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Normalized Cu+Pb+Zn  
(percent)



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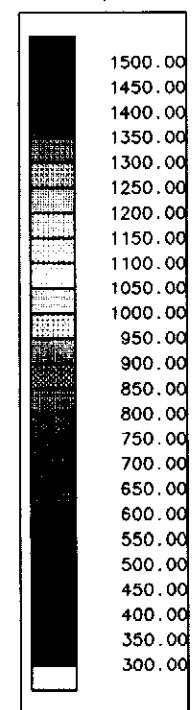
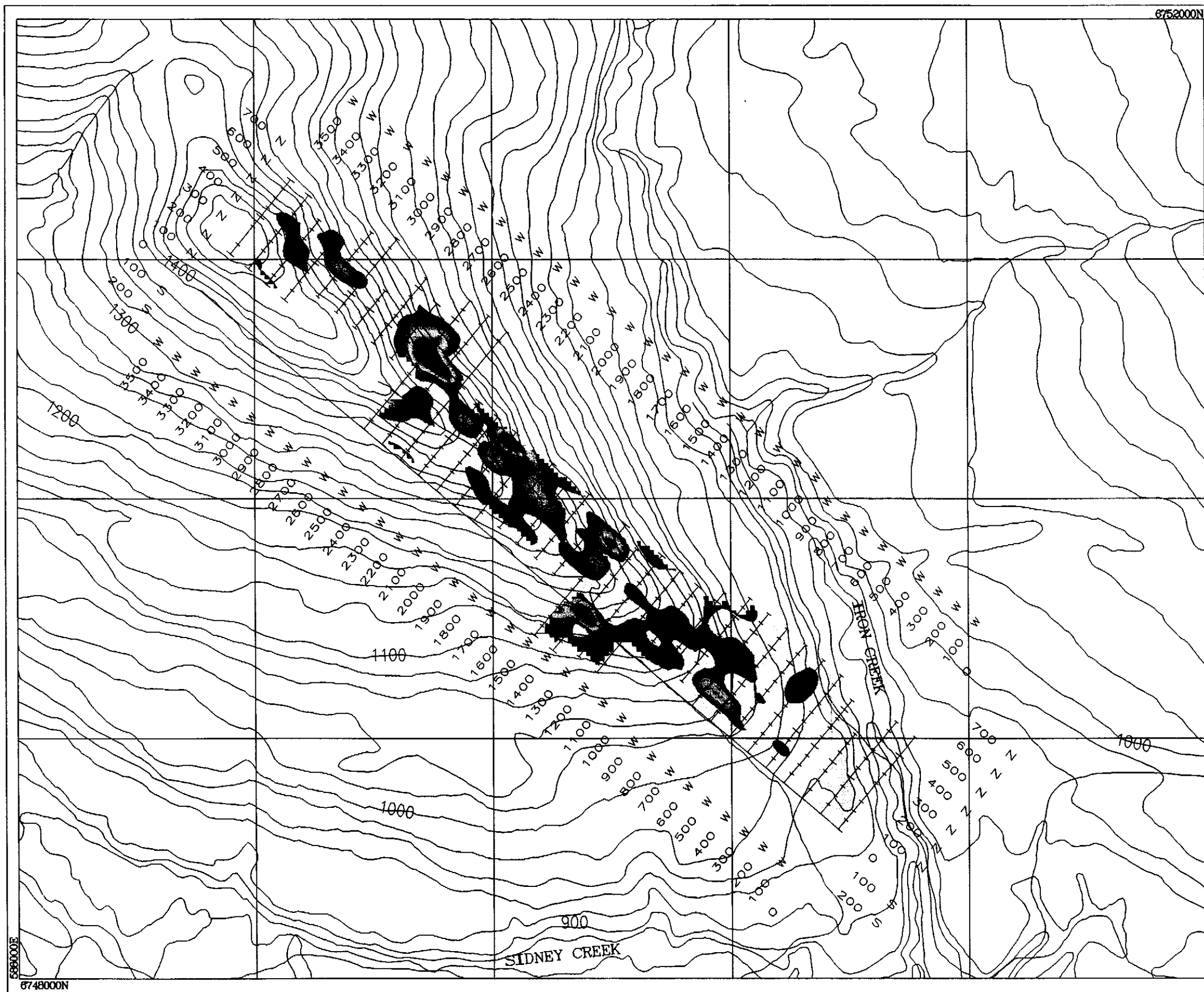
BIGTOP PROJECT  
(NTS 105 C/14)

SOIL GEOCHEMISTRY

COINCIDENT Pb-Zn-Cu

AMEROK GEOSCIENCES LTD.

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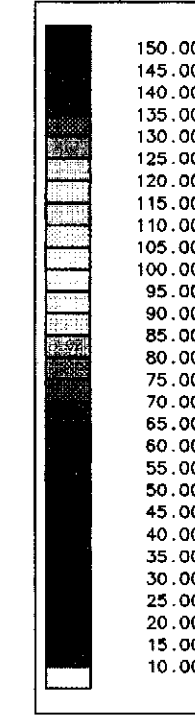
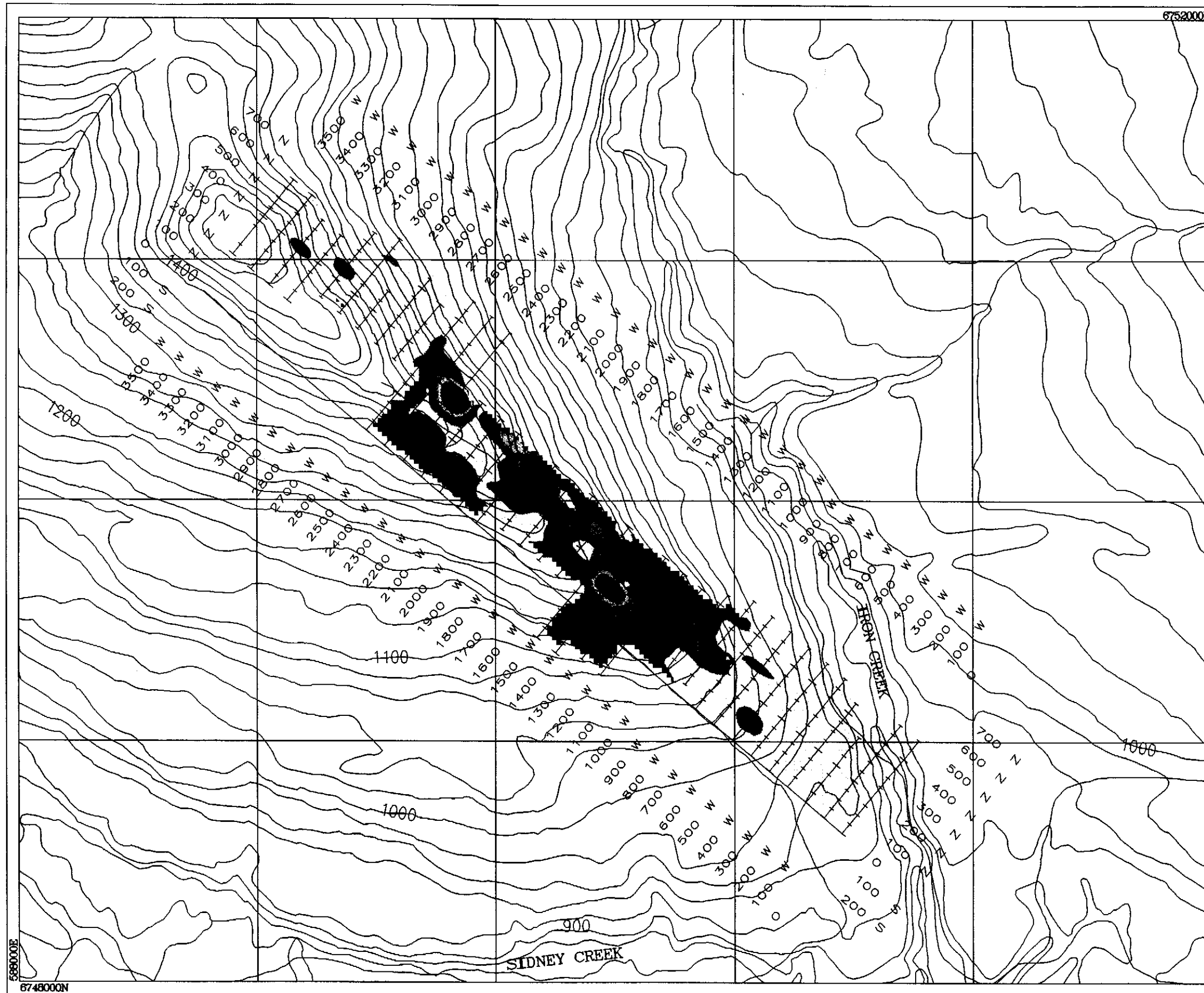
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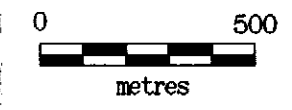
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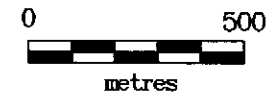
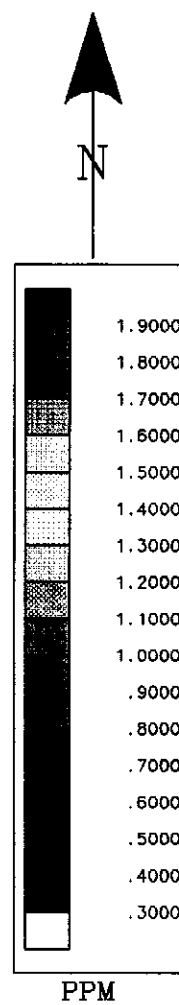
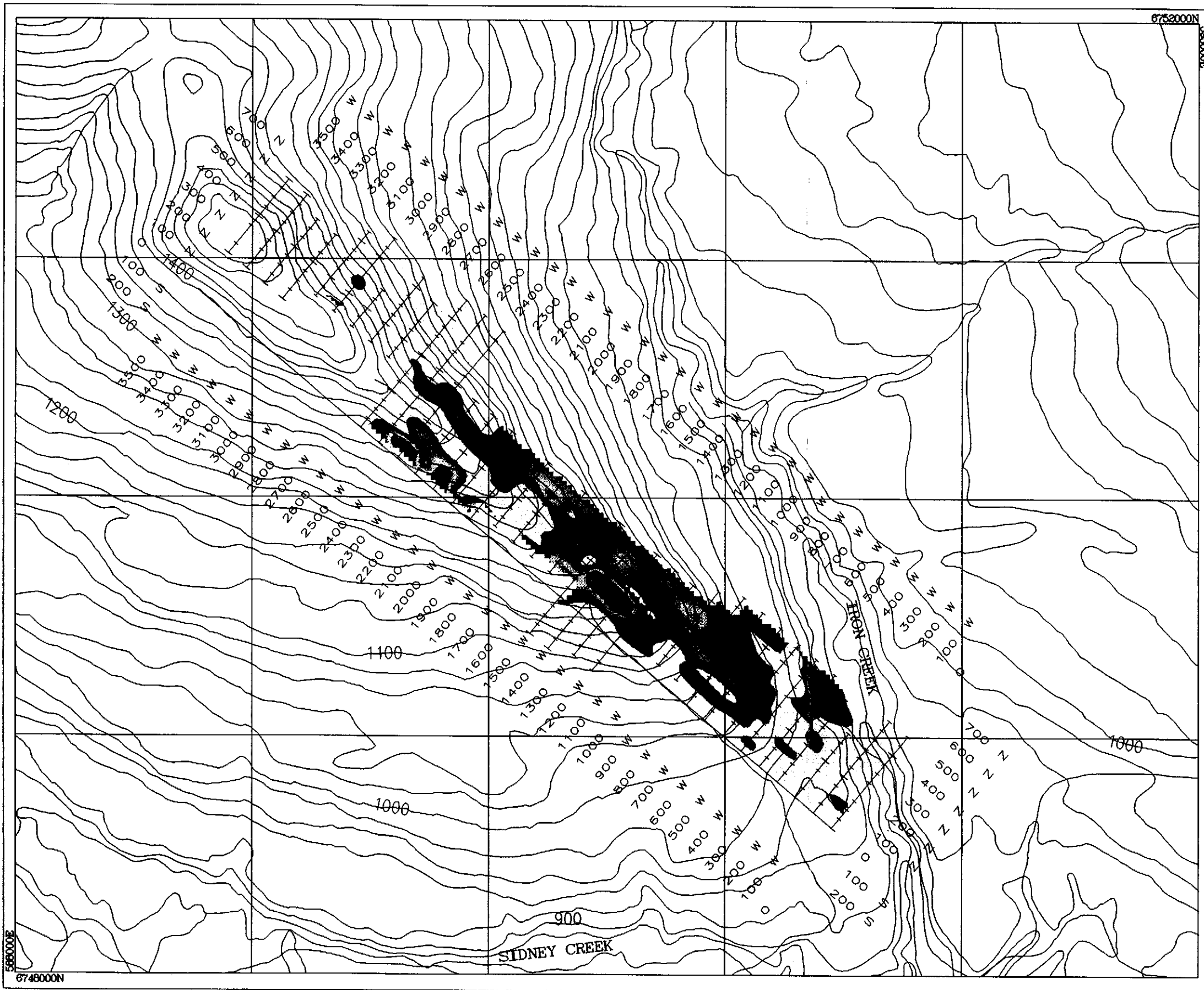
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15053 YUKON INC.

BIGTOP PROJECT  
(NTS 105 C/14)  
SOIL GEOCHEMISTRY

LEAD

AMEROK GEOSCIENCES LTD.

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15053 YUKON INC.

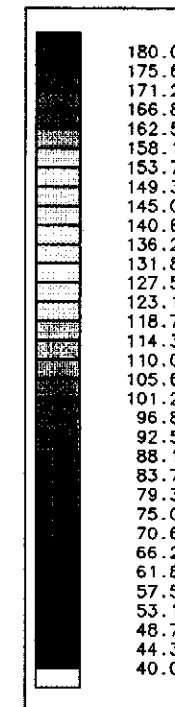
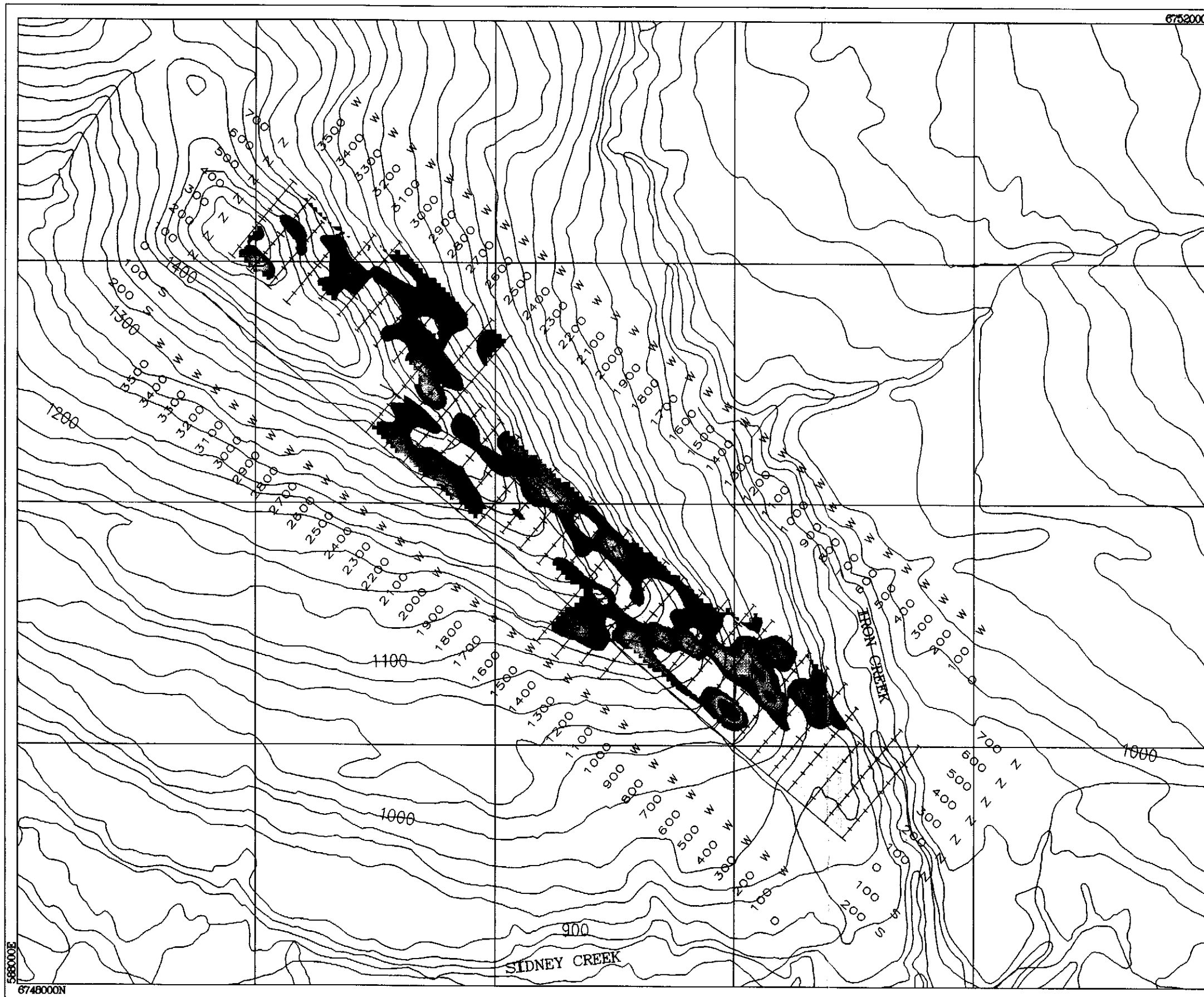
BIGTOP PROJECT  
(NTS 105 C/14)

SOIL GEOCHEMISTRY  
SILVER

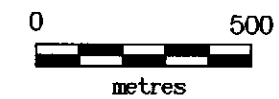
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SCALE: 1:17,500

15053 YUKON INC.

BIGTOP PROJECT  
(NTS 105 C/14)

SOIL GEOCHEMISTRY

COPPER

AMEROK GEOSCIENCES LTD.



**APPENDIX II**  
**ROCK SAMPLE REPORT**



ROCK SAMPLE REPORT FOR BIGTOP PROJECT 1997

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	ANALYTICAL RESULTS (Partial) (Au in ppb, Fe in %, all other elements in ppm)									
			Au	Ag	Cu	Pb	Zn	Mo	Cd	As	Fe	Ba
97R027	~090E/165N	Similar to 26, but with more greenish color	13	1.0	59	88	560	5	4	100	>10.00	72
97R029	~200E/200N	Massive siliceous felsic volcanic(?) with minor sulfides. Alternating with with band of semi-massive pyrite up to 1cm.	-	0.4	76	77	547	12	6.7	55	>10.00	7
97R033	1303W/480N	Very fine grained, black shaly sediment, silicified and mixed with felsic tuffs. Appears to contain significant sulfides.										
97R034	1400W/279N	Shaly black sediment, somewhat silicified and thinly laminated with felsics and 3 - 5 % sulfides	12	0.7	19	20	60	86	1.1	91	2.33	55
97R035	1420W/115N	Very siliceous, pyritic felsic flow(?), contains some chloritic alteration products.	<5	<.5	35	20	46	4	<1	7	1.77	104
97R050	Iron Creek	Talc chlorite schist that is well weathered and bleached.										
97R051	Iron Creek	Similar to 050, but less bleached and friable.										
97R052	Iron Creek	Schistose mafic greenstone with medium grained recrystallized hornblende (to 1cm.)										
97R053	~170E/210N	Black, somewhat shaly sediment with numerous minor crosscutting quartz structures and up to 10% sulfides.										
97R054	Lusty Creek	Greyish, very siliceous felsic flow rock that appears somewhat porphyritic. Sulfides show selective removal by oxidation.										
97R055	Lusty Creek	Shaly, somewhat silicified black sediment with 5% sulfides. Somewhat argillic.										
97R056	650W/115N	Very silicified black sediment with minor sulfides and graphite.	-	1.5	115	21	171	2	1.2	23	6.09	67
97R057	650W/115N	Black, fine grained sediment that is somewhat shaly. Show bright orange gossan due to sulfide oxidation.	-	2.4	24	43	17	6	<0.2	44	2.73	103
97R058	725W/150N	Thinly to thickly laminated quartz rich felsic(?) that shows a somewhat sugrosic texture.	-	0.4	63	13	386	7	4.4	44	4.01	50
97R059	700W/120N	Chip sample of well sulfidized, at times shaly argillite with a drusy texture. Outcrop has good gossanous show.	-	1.9	90	46	371	7	1.5	85	>10.00	75



ROCK SAMPLE REPORT FOR BIGTOP PROJECT 1997

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	ANALYTICAL RESULTS (Partial) (Au in ppb, Fe in %, all other elements in ppm)																	
			Au	Ag	Cu	Pb	Zn	Mo	Cd	As	Fe	Ba								
97R075	W of Top Creek	Carbonaceous, very silicified argillite with up to 10% sulfides.	<5	2.5	243	21	662	33	11.2	73	0.89	53								
97R076	W of Top Creek	similar to 075, but with prominent quartz rich(felsic?) laminations.																		
97R077	W of Top Creek	Similar to 073. May contain what represent quartz veinlets flattened into the plane of schistosity.																		
97R078	W of Top Creek	Similar to 073, but with neat aphyric texture..	<5	1.0	130	5	668	21	11.0	14	2.69	47								
97R079	W of Top Creek	???Thinly laminated black sediment and felsics(?) showing possible fragmental or flow textures. Moderately schistose.																		
97R080	W of Top Creek	Similar to 079, except more silicified.	<5	0.7	90	3	202	15	1.8	6	4.53	41								
97R083	W of Top Creek	Very fine grained, black shaly argillite, with minor graphite and biotite developed. Up to 5% sulfides.	16	<.5	79	17	1015	26	15	<.5	0.99	>2000								
97R084	W of Top Creek	Similar to 083 with more felsic(possibly quartz rich sediment?). Well gossaned and silicified.	16	<.5	94	10	670	.17	9	<.5	2.21	1887								
97R085	Lusty Creek	Medium to coarse grained, quartz-feldspar-biotite porphyry(?) with a few small almandine garnets due to recrystallization.																		
97R086	Lusty Creek	Quartz rich felsic with clasts and interbeds of more mafic material. May represent differential chlorite alteration.																		
97R088	3050W/115N	Thinly laminated, carbonaceous shaly argillite with minor carbonates(?).																		
97R089	3140W/015N	Very oxidized and weathered tuffaceous(?) felsic showing quartz ribbons and crosscutting and massive quartz.																		
97R090	3100W/030N	Similar to 092. Very oxidized and more silicified.																		
97R091	2800W/200N	Greyish, silicified almost schistose fine grained felsic(?).																		
97R092	2600W/147N	Grey, siliceous, thinly laminated quartz sericite schist with 2% sulfides. May represent a tuffaceous unit.	<5	0.4	15	18	174	53	0.5	22	3.34	167								

ROCK SAMPLE REPORT FOR BIGTOP PROJECT 1997

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	ANALYTICAL RESULTS (Partial) (Au in ppb, Fe in %, all other elements in ppm)																	
			Au	Ag	Cu	Pb	Zn	Mo	Cd	As	Fe	Ba								
97R093	2500W/148N	Silicified, black thinly laminated argillite with abundant graphite developed along schistosity. Minor quartz(felsic?) laminations.																		
97R094	3065W/125N	Very graphitic, moderately laminated carbonaceous shale, that appears altered. Presence of pale white mica noted.	6	0.5	11	7	12	6	<0.2	6	0.37	667								
97R095	3056W/054N	Grey to near black, heavily silicified thinly banded felsic. Prominent Fe-ox staining.	8	<.5	23	19	20	22	<1	22	2.41	149								
97R096	2850W/150N	Thinly laminated, shaly to somewhat silicified black sediment. Pale whitish mica, may be source of high Ba.	8	1.0	35	5	69	13	<1	7	1.9	>2000								
97R097	3127W/115N	Very carbonaceous almost schistose argillite showing accumulation of pale mica along foliation.																		
97R098	2317W/260N	Carbonaceous argillite, very similar to 97R267.																		
97R099	2317W/210N	Fine grained, greenish grey very silicified (altered?), possibly a recrystallized diorite(?)																		
97R102	3250W/430N	Altered argillite(?) with quartz rich laminations (felsics or deformed veinlets)																		
97R106	E. of Top Creek	Very silicified, dark grey felsic with up to 5% sulfides. Possibly interbedded with tuff(?)	<5	0.7	70	32	52	2	0.7	16	2.74	58								
97R107	E. of Top Creek	Altered felsic, showing strong silicification and biotization.																		
97R108	E. of Top Creek	Felsic(biotite quartz schist), very thinly laminated and gossanous.																		
97R216	1300W/100N	Chip sample, 4m from middle trench. Oxidized or altered graphitic shale.	9	0.9	25	23	64	33	0.3	57	5.54	73								
97R217	1300W/100N	Chip sample, 3.5m from middle trench. Oxidized or altered graphitic shale.	8	1.2	25	74	45	25	<2	27	4.88	153								
97R218	1300W/100N	Chip sample, 2.5m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	13	0.4	20	41	50	14	<2	11	3.67	135								
97R219	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.6	9	48	39	6	<2	10	2.45	227								

ROCK SAMPLE REPORT FOR BIGTOP PROJECT 1997

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	ANALYTICAL RESULTS (Partial) (Au in ppb, Fe in %, all other elements in ppm)										
			Au	Ag	Cu	Pb	Zn	Mo	Cd	As	Fe	Ba	
97R220	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.8	9	36	16	4	<2	9	2.63	209	
97R221	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.6	8	58	26	3	<2	5	2.10	214	
97R222	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	8	0.3	9	46	49	6	<2	11	2.75	222	
97R223	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.3	12	47	53	7	<2	11	3.17	242	
97R224	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.4	9	82	29	6	<2	7	2.28	273	
97R225	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.4	8	113	63	10	<2	5	1.72	224	
97R226	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.5	6	64	31	8	<2	<5	1.24	177	
97R227	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.4	8	86	42	5	<2	<5	1.37	361	
97R228	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.3	22	35	75	3	<2	27	7.62	107	
97R229	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.4	21	177	144	9	<2	28	3.59	356	
97R230	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.5	12	83	37	6	<2	<5	1.13	204	
97R231	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.6	12	143	39	7	<2	<5	2.04	307	
97R232	1300W/100N	Chip sample, 2m from middle trench. Highly oxidized and siliceously altered, felsic with up to 10% pyrite.	<5	0.5	17	168	91	14	<2	10	3.36	213	
97R233	800W/125N	Very silicified, carbonaceous argillite, abundance of pale white mica on foliation.	-	1.4	82	10	399	21	4.0	<5	0.72	167	
97R238	~1400W/010N	Black graphitic argillite.	9	0.9	77	10	29	7	0.2	<5	2.37	148	





ROCK SAMPLE REPORT FOR BIGTOP PROJECT 1997

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	ANALYTICAL RESULTS (Partial) (Au in ppb, Fe in %, all other elements in ppm)														
			Au	Ag	Cu	Pb	Zn	Mo	Cd	As	Fe	Ba					
97R 257	1700W/115N	Black, very graphitic shaly argillite, with well defined schistosity/Pyrite and pyrohotite(?) very heavy on fracture planes to 5%.	6	0.9	78	7	235	5	2	12	3.15	1022					
97R 258	1710W/110N	Argillite, with apparently low sedimentary component. Shows a greyish alteration and silicification.															
97R 259	1400W/090N	Silicified argillite, with clast or sulfide replacement .															
97R 260	1150W/047S	?Felsic showing fragmental(?) texture. Quartz and biotite in the sample show elongation.															
97R 261	1150W/002N	Biotite rich felsic(?), with what may be fragmental textures.															
97R 262	1150W/053N	Black , shaly argillite with minor felsics or quartz rich sediments. Heavily silicified.	<5	0.4	61	9	271	5	1.4	8	3.86	202					
97R 263	1150W/080N	Very carbonaceous, shaly argillite with 1 - 2% very fine grained sulfides. Thinly laminated and silicified.	16	0.5	84	8	273	53	8.1	<5	0.50	207					
97R 264	1150W/180N	Somewhat oxidized and altered, siliceous felsic with up to 10% sulfides, especially on fractures.	<5	<.5	30	49	1833	58	25	18	2.69	141					
97R 265	1333W/126N	Heavily pyritized felsic(Quartz>sericite schist). Oxidized .	<5	<.5	42	26	44	8	<1	19	7.23	345					
97R 266	1761W/107N	Somewhat shaly argillite.															
97R 267	2317W/259N	Black, somewhat altered, thinly laminated, very carbonaceous argillite. Moderately silicified.	20	2.9	243	23	672	15	13	30	5.72	312					

**APPENDIX III**  
**CERTIFICATES OF ANALYSIS**



# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

REPORT: V97-01542.0 ( COMPLETE )

REFERENCE:

CLIENT: TANAMA EXPLORATION  
PROJECT: IRON CREEK

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 02-JUL-97      DATE PRINTED: 15-JUL-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
970709	1 AuGrav Gold (Grav.)	2	0.17 PPM	FIRE ASSAY	FIRE ASSAY	S SOIL	175	1 -80	175	DRY, SIEVE -80	175
970709	2 Ag Silver	177	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	R ROCK	2	2 -150	2	CRUSH ONLY	2
970709	3 Cu Copper	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA					PULVERIZATION	
970709	4 Pb Lead	177	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	5 Zn Zinc	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	6 Mo Molybdenum	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	7 Ni Nickel	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	8 Co Cobalt	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	9 Cd Cadmium	177	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	10 Bi Bismuth	177	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	11 As Arsenic	177	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	12 Sb Antimony	177	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	13 Fe Iron	177	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	14 Mn Manganese	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	15 Te Tellurium	177	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	16 Ba Barium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	17 Cr Chromium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	18 V Vanadium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	19 Sn Tin	177	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	20 W Tungsten	177	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	21 La Lanthanum	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	22 Al Aluminum	177	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	23 Mg Magnesium	177	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	24 Ca Calcium	177	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	25 Na Sodium	177	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	26 K Potassium	177	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	27 Sr Strontium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	28 Y Yttrium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	29 Ga Gallium	177	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	30 Li Lithium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	31 Nb Niobium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	32 Sc Scandium	177	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	33 Ta Tantalum	177	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	34 Ti Titanium	177	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970709	35 Zr Zirconium	177	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

REPORT COPIES TO: 8 - 4078 4TH AVE.

INVOICE TO: 8 - 4078 4TH AVE.

\*\*\*\*\*  
This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated  
\*\*\*\*\*



**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TANAMA EXPLORATION  
REPORT: V97-01542.0 ( COMPLETE )

DATE RECEIVED: 02-JUL-97 DATE PRINTED: 15-JUL-97 PAGE 1 OF 9 PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT UNITS	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	H	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
97S505		0.5	26	28	69	26	10	1	0.8	<5	82	<5	7.55	84	<10	64	116	378	<20	<20	28	1.30	0.30	0.06	0.13	0.27	220	2	<2	5	3	<5	<10	0.16	5	
97S506		1.0	42	29	58	33	6	<1	0.9	<5	60	<5	7.71	67	<10	119	172	606	<20	<20	26	0.68	0.28	0.03	0.08	0.19	134	8	<2	2	3	<5	<10	0.16	2	
97S507		1.1	70	37	99	16	9	<1	1.0	<5	29	<5	6.16	70	<10	439	87	392	<20	<20	27	1.60	0.16	0.03	0.05	0.12	122	12	<2	3	3	<5	<10	0.12	3	
97S508		0.5	17	60	53	9	6	<1	0.6	<5	21	<5	6.07	53	<10	255	45	260	<20	<20	9	0.59	0.10	0.03	0.06	0.12	197	1	<2	1	2	<5	<10	0.14	2	
97S509		0.4	17	73	47	16	7	<1	0.5	<5	13	<5	7.22	64	<10	165	46	246	<20	<20	8	0.76	0.14	0.04	0.08	0.13	296	1	<2	1	2	<5	<10	0.16	4	
97S510		1.0	27	236	64	18	7	<1	0.5	<5	31	<5	>10.00	57	<10	41	52	309	<20	<20	10	0.88	0.09	0.03	0.24	0.21	783	5	<2	2	<1	<5	<10	0.09	1	
97S511		0.7	17	189	47	16	4	<1	0.7	<5	53	<5	9.48	35	<10	49	45	232	<20	<20	7	1.16	0.03	0.01	0.19	0.28	412	2	<2	2	<1	<5	<10	0.11	4	
97S512-12		0.8	27	319	79	14	10	<1	0.7	<5	30	<5	>10.00	73	<10	58	87	392	<20	<20	12	0.86	0.20	0.03	0.16	0.19	734	3	<2	2	<1	<5	<10	0.06	1	
97S513-13		0.9	12	338	91	23	11	<1	0.5	<5	22	<5	5.30	36	<10	103	43	283	<20	<20	9	0.48	0.06	0.03	0.09	0.15	271	2	<2	<1	1	<5	<10	0.13	6	
97S514		0.4	23	34	46	7	6	<1	0.7	<5	14	<5	3.27	53	<10	369	34	185	<20	<20	7	0.60	0.12	0.04	0.04	0.08	69	3	<2	2	1	<5	<10	0.09	1	
97S515		2.0	36	30	151	12	8	<1	1.3	<5	15	<5	9.20	167	<10	179	85	370	<20	<20	10	1.56	0.62	0.08	0.05	0.20	154	8	<2	7	2	<5	<10	0.09	1	
550W 050N		<2	19	3	71	1	42	11	<0.2	<5	<5	<5	3.66	206	<10	109	60	86	<20	<20	11	3.63	1.21	0.38	0.07	0.11	29	6	<2	19	6	7	<10	0.19	3	
550W 060W		<2	11	9	77	2	33	8	0.4	<5	<5	<5	3.53	226	<10	105	56	101	<20	<20	8	2.04	0.86	0.12	0.01	0.07	10	3	<2	16	4	5	<10	0.19	1	
550W 070W		<2	14	12	165	2	95	19	1.0	<5	<5	<5	4.18	192	<10	69	43	99	<20	<20	6	4.84	1.27	0.52	0.04	0.04	59	4	<2	27	7	7	<10	0.18	2	
550W 080N		<2	8	6	50	1	8	5	0.3	<5	<5	<5	1.23	153	<10	107	15	47	<20	<20	6	1.23	0.72	0.39	0.02	0.03	21	3	<2	11	3	<5	<10	0.12	2	
550W 110W		<2	16	3	220	1	26	8	1.4	<5	6	<5	3.15	267	<10	179	30	65	<20	<20	10	1.86	0.58	0.20	0.02	0.11	16	4	<2	15	3	<5	<10	0.13	3	
550W 120N		<2	10	5	334	2	25	9	1.9	<5	8	<5	2.90	327	<10	108	38	67	<20	<20	10	1.61	0.58	0.26	0.01	0.08	19	3	<2	15	3	<5	<10	0.13	3	
550W 130N		<2	17	5	151	1	30	6	0.9	<5	5	<5	2.54	270	<10	123	33	51	<20	<20	14	1.63	0.58	0.29	0.01	0.08	18	5	<2	10	2	<5	<10	0.11	4	
550W 140N		<2	14	5	74	1	27	7	0.4	<5	6	<5	2.40	271	<10	178	34	55	<20	<20	13	1.75	0.69	0.33	0.02	0.10	20	5	<2	13	2	<5	<10	0.12	5	
550W 150N		<2	10	5	84	1	13	4	0.9	<5	<5	<5	2.00	177	<10	113	27	55	<20	<20	10	1.19	0.37	0.21	0.01	0.06	15	3	<2	8	2	<5	<10	0.11	3	
600W 070N		<2	26	12	419	2	53	8	1.0	<5	<5	<5	1.94	454	<10	236	25	54	<20	<20	4	1.83	1.65	1.16	0.05	0.04	80	4	<2	24	4	<5	<10	0.09	2	
600W 080N		<2	20	5	228	2	14	9	1.0	<5	<5	<5	2.88	266	<10	67	23	104	<20	<20	6	3.60	2.65	0.89	0.09	0.03	62	4	<2	29	7	9	<10	0.19	1	
600W 090N		0.4	11	<2	116	<1	17	4	0.4	<5	<5	<5	0.66	47	<10	47	4	14	<20	<20	2	0.49	0.07	0.37	0.05	0.03	22	2	<2	2	<1	<5	<10	0.04	<1	
600W 100N		0.4	16	6	17	<1	3	1	0.5	<5	12	<5	1.54	28	<10	42	6	27	<20	<20	2	0.21	0.02	0.06	0.03	0.02	13	1	<2	<1	<1	<5	<10	0.03	<1	
600W 120N		<2	6	8	53	1	6	2	1.0	<5	10	<5	2.25	97	<10	61	18	61	<20	<20	8	0.77	0.12	0.13	0.01	0.03	12	2	<2	2	2	<5	<10	0.10	<1	
600W 130N		<2	14	4	122	1	21	6	1.1	<5	6	<5	2.79	218	<10	111	32	69	<20	<20	11	1.81	0.48	0.21	0.01	0.07	15	3	<2	8	3	<5	<10	0.13	4	
600W 140N		<2	14	5	126	1	20	5	1.4	<5	5	<5	2.43	234	<10	101	31	56	<20	<20	12	1.65	0.54	0.25	0.01	0.07	16	4	<2	10	3	<5	<10	0.13	4	
650W 080N		<2	59	6	559	2	79	9	1.2	<5	<5	<5	2.49	785	<10	299	33	58	<20	<20	9	2.30	1.37	1.29	0.07	0.05	121	9	<2	25	5	<5	<10	0.11	2	
650W 110N		1.4	46	55	163	21	6	<1	1.2	<5	36	>10.00	164	<10	260	68	328	<20	<20	15	1.36	0.54	0.04	0.05	0.15	122	8	<2	5	1	<5	<10	0.08	5		
650W 120N		<2	13	5	65	2	16	4	0.5	<5	7	<5	3.75	164	<10	68	30	69	<20	<20	9	1.63	0.35	0.13	<0.01	0.04	11	3	<2	8	2	<5	<10	0.10	4	

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# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION  
REPORT: V97-01542.0 ( COMPLETE )

DATE RECEIVED: 02-JUL-97 DATE PRINTED: 15-JUL-97 PROJECT: IRON CREEK  
PAGE 2 OF 9

SAMPLE NUMBER	ELEMENT	Au Grav	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sh	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	Units			
																																					PPM	PCT		
650M 130N		0.3	11	<2	12	<1	2	<1	0.4	<5	<5	<5	0.50	23	<10	19	2	12	<20	<20	1	0.24	0.02	0.05	0.03	0.02	7	<1	<2	<1	<1	<5	<10	0.02	<1	<1	<5	<10	0.09	2
650M 140N		<2	15	6	93	1	14	4	1.2	<5	<5	<5	2.10	152	<10	68	25	51	<20	<20	9	1.15	0.34	0.17	0.01	0.05	12	3	<2	6	2	<5	<10	0.09	2	<1	<5	<10	0.15	3
650M 150N		<2	16	6	146	1	20	5	1.7	<5	<5	<5	2.61	222	<10	131	34	65	<20	<20	12	2.12	0.81	0.28	0.02	0.08	18	5	<2	13	4	<5	<10	0.12	3	<1	<5	<10	0.19	1
700M 070N		<2	12	5	53	3	22	6	0.6	<5	10	<5	2.35	190	<10	64	26	56	<20	<20	10	1.30	0.48	0.24	0.01	0.08	15	3	<2	9	4	<5	<10	0.12	3	<1	<5	<10	0.19	1
700M 080N		<2	14	3	121	2	21	8	0.4	<5	<5	<5	3.37	299	<10	207	28	96	<20	<20	8	2.30	1.57	0.71	0.02	0.12	34	5	<2	28	5	10	<10	0.19	1	<1	<5	<10	0.19	1
700M 110N		<2	14	7	228	2	23	6	1.2	<5	6	<5	3.46	272	<10	73	37	65	<20	<20	11	1.45	0.49	0.23	0.01	0.07	17	3	<2	11	2	<5	<10	0.14	4	<1	<5	<10	0.14	4
700M 120N		<2	9	7	66	1	13	4	0.7	<5	6	<5	2.47	156	<10	67	27	60	<20	<20	11	1.35	0.37	0.17	<0.01	0.06	13	3	<2	7	3	<5	<10	0.11	3	<1	<5	<10	0.11	3
700M 130N		<2	37	4	109	<1	20	2	2.0	<5	<5	<5	0.98	70	<10	85	12	22	<20	<20	7	0.68	0.13	0.20	0.02	0.04	20	3	<2	3	1	<5	<10	0.05	<1	<1	<5	<10	0.05	<1
700M 150N		<2	9	5	50	1	11	4	0.6	<5	6	<5	2.31	158	<10	69	25	63	<20	<20	10	1.23	0.35	0.18	0.01	0.05	14	3	<2	6	3	<5	<10	0.13	3	<1	<5	<10	0.13	3
750M 080N		<2	20	5	261	9	29	3	1.3	<5	<5	<5	4.47	126	<10	147	26	39	<20	<20	7	0.82	0.23	0.46	0.03	0.08	39	2	<2	5	1	<5	<10	0.07	2	<1	<5	<10	0.07	2
750M 090N		<2	33	4	252	4	41	5	3.1	<5	<5	<5	2.84	311	<10	110	22	43	<20	<20	9	0.95	0.29	0.53	0.01	0.05	35	3	<2	7	2	<5	<10	0.06	<1	<1	<5	<10	0.06	<1
750M 100N		0.3	30	3	138	1	45	2	3.2	<5	6	<5	1.18	59	<10	166	11	20	<20	<20	6	0.60	0.11	0.52	0.02	0.03	37	5	<2	2	<1	<5	<10	0.03	<1	<1	<5	<10	0.03	<1
750M 110N		<2	12	5	79	1	19	6	0.4	<5	<5	<5	2.78	228	<10	130	31	63	<20	<20	10	1.55	0.52	0.26	0.01	0.07	17	3	<2	11	3	<5	<10	0.12	3	<1	<5	<10	0.12	3
750M 120N		<2	9	5	118	2	10	3	1.1	<5	<5	<5	1.50	158	<10	129	21	49	<20	<20	11	1.21	0.36	0.25	0.01	0.05	16	3	<2	7	3	<5	<10	0.11	2	<1	<5	<10	0.11	2
750M 130N		<2	36	6	134	2	24	5	1.2	<5	8	<5	5.09	244	<10	94	43	59	<20	<20	9	1.79	0.55	0.14	<0.01	0.08	11	2	<2	11	3	<5	<10	0.11	4	<1	<5	<10	0.11	4
750M 140N		<2	6	5	50	<1	4	1	1.5	<5	<5	<5	1.05	83	<10	47	13	35	<20	<20	7	0.59	0.09	0.10	0.01	0.03	9	2	<2	1	2	<5	<10	0.09	<1	<1	<5	<10	0.09	<1
750M 150N		<2	14	7	719	7	40	4	2.2	<5	6	<5	2.32	262	<10	106	25	70	<20	<20	10	1.46	0.45	0.22	0.01	0.06	16	3	<2	10	2	<5	<10	0.11	1	<1	<5	<10	0.11	1
800M 050N		<2	50	4	135	4	79	18	1.0	<5	<5	<5	1.57	670	<10	178	21	32	<20	<20	16	1.16	0.38	0.88	0.03	0.06	44	13	<2	8	2	<5	<10	0.05	<1	<1	<5	<10	0.05	<1
800M 060N		0.6	39	<2	94	3	35	3	8.5	<5	<5	<5	0.64	920	<10	261	8	9	<20	<20	6	0.59	0.23	4.05	0.01	0.04	159	8	<2	2	<1	<5	<10	0.01	<1	<1	<5	<10	0.01	<1
800M 110N		0.4	19	<2	281	2	66	3	12.0	<5	<5	<5	0.50	133	<10	217	4	7	<20	<20	4	0.33	0.08	2.46	0.02	0.02	113	6	<2	<1	1	<5	<10	<0.01	<1	<1	<5	<10	<0.01	<1
800M 120N		<2	6	4	62	1	11	4	1.0	<5	<5	<5	2.01	158	<10	59	23	58	<20	<20	11	0.94	0.33	0.20	0.01	0.04	14	3	<2	5	2	<5	<10	0.12	1	<1	<5	<10	0.12	1
800M 130N		<2	26	4	272	3	20	3	6.0	<5	<5	<5	1.31	172	<10	148	16	32	<20	<20	8	0.88	0.23	0.47	0.02	0.05	29	3	<2	5	2	<5	<10	0.06	<1	<1	<5	<10	0.06	<1
800M 140N		<2	19	7	332	3	29	5	2.0	<5	<5	<5	2.00	166	<10	111	25	69	<20	<20	10	1.18	0.33	0.17	0.01	0.06	25	3	<2	8	3	<5	<10	0.09	1	<1	<5	<10	0.09	1
800M 150N		<2	21	5	447	3	42	5	3.2	<5	6	<5	2.05	197	<10	136	27	52	<20	<20	11	1.23	0.41	0.27	0.01	0.06	23	6	<2	10	2	<5	<10	0.08	<1	<1	<5	<10	0.08	<1
850M 050N		<2	20	8	66	2	19	4	1.0	<5	<5	<5	1.25	213	<10	71	21	40	<20	<20	9	0.89	0.26	0.20	0.01	0.05	13	3	<2	3	3	<5	<10	0.09	<1	<1	<5	<10	0.09	<1
850M 070N		<2	10	6	97	2	17	6	1.1	<5	<5	<5	2.42	193	<10	93	27	54	<20	<20	10	1.24	0.41	0.37	0.01	0.12	20	3	<2	10	3	<5	<10	0.11	2	<1	<5	<10	0.11	2
850M 100N		0.4	65	4	1303	4	245	10	17.9	<5	<5	<5	1.79	1058	<10	155	21	31	<20	<20	9	1.23	0.39	1.00	0.02	0.07	57	8	<2	9	2	<5	<10	0.05	<1	<1	<5	<10	0.05	<1
850M 110N		0.3	41	5	427	4	75	29	9.1	<5	<5	<5	1.56	1611	<10	278	17	32	<20	<20	14	1.07	0.31	0.39	0.03	0.07	34	9	<2	5	2	<5	<10	0.04	<1	<1	<5	<10	0.04	<1
850M 120N		<2	15	3	252	2	22	6	5.0	<5	<5	<5	1.26	224	<10	153	16	31	<20	<20	9	0.76	0.21	0.17	0.02	0.05	15	3	<2	4	2	<5	<10	0.05	<1	<1	<5	<10	0.05	<1
850M 130N		<2	12	5	169	2	25	7	1.4	<5	8	<5	2.87	202	<10	150	32	60	<20	<20	12	1.39	0.48	0.28	0.01	0.09	16	4	<2	12	3	<5	<10	0.09	2	<1	<5	<10	0.09	2



# Intertek Testing Services Bondar Clegg

# Geochemical Lab Report

CLIENT: TANAMA EXPLORATION  
REPORT: V97-01542.0 ( COMPLETE )

DATE RECEIVED: 02-JUL-97      DATE PRINTED: 15-JUL-97      PAGE 3 OF 9      PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	AU Grav	PPM	UNITS	Mo	Zn	Pb	Cu	Ag	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
850W 140N		<.2	8	6	329	1	16	9	3.2	<5	2.35	426	<10	168	29	58	<20	10	0.98	0.39	0.27	0.01	0.07	20	3	<2	9	2	<5	<10	0.10	<1
850W 150N		<.2	3	3	47	<1	3	2	0.9	<5	0.70	86	<10	45	7	21	<20	3	0.27	0.06	0.08	0.03	0.03	8	<1	<2	1	<1	<5	<10	0.04	<1
2400 300N		0.9	183	8	217	4	33	4	5.0	<5	2.66	165	<10	86	24	61	<20	11	1.62	0.28	0.13	<.01	0.04	12	7	3	6	2	<5	<10	0.02	<1
2400 350N		0.8	20	482	313	8	23	4	3.0	<5	3.59	215	<10	116	28	125	<20	8	1.37	0.38	0.09	0.02	0.06	18	4	2	8	2	<5	<10	0.10	1
2400 400N		<.2	39	9	269	3	61	8	1.7	<5	2.52	454	<10	164	39	58	<20	16	1.82	0.73	0.40	0.02	0.08	24	9	<2	11	3	<5	<10	0.09	1
2400 450N		0.3	26	3	252	3	16	2	2.0	<5	1.32	106	<10	100	9	36	<20	6	0.92	0.24	0.10	0.03	0.03	14	7	<2	5	1	<5	<10	0.04	<1
2400 500N		<.2	35	4	49	4	11	<1	2.7	<5	1.49	87	<10	189	12	59	<20	6	0.72	0.19	0.17	0.02	0.07	13	4	<2	2	2	<5	<10	0.06	<1
2400 550N		<.2	3	<2	9	<1	<1	<1	0.6	<5	0.43	26	<10	13	1	13	<20	<1	0.11	0.03	0.04	0.04	0.02	7	<1	<2	<1	<1	<5	<10	0.02	<1
2400 600N		<.2	17	3	61	3	10	2	0.8	<5	1.51	131	<10	122	27	52	<20	4	0.70	0.46	0.09	0.02	0.19	8	2	<2	4	1	<5	<10	0.06	<1
2400 650N		<.2	58	7	216	2	45	6	1.3	<5	2.51	332	<10	108	58	69	<20	9	1.91	0.86	0.22	0.03	0.14	15	6	<2	13	3	<5	<10	0.10	<1
2400 700N		<.2	39	8	204	3	41	17	1.3	<5	3.15	867	<10	188	44	84	<20	10	1.97	0.91	0.37	0.03	0.15	25	6	<2	13	3	5	<10	0.11	<1
2400 300N		<.2	10	6	70	2	11	3	0.8	<5	1.77	143	<10	59	21	54	<20	8	1.01	0.29	0.12	0.01	0.05	12	3	<2	5	2	<5	<10	0.08	<1
2500 350N		0.2	37	83	377	11	28	3	2.6	<5	1.97	225	<10	69	11	50	<20	4	0.63	0.16	0.10	0.02	0.03	17	2	<2	3	1	<5	<10	0.04	<1
2500 400N		<.2	93	43	2617	15	86	31	5.6	<5	5.24	1837	<10	119	45	146	<20	15	2.65	1.10	0.27	0.03	0.04	30	18	<2	18	3	5	<10	0.08	<1
2500 450N		<.2	38	8	99	3	19	3	2.3	<5	1.33	110	<10	81	20	38	<20	10	1.13	0.28	0.15	0.01	0.06	13	6	2	4	2	<5	<10	0.05	<1
2500 500N		<.2	25	5	245	3	20	4	1.6	<5	2.49	275	<10	152	21	83	<20	8	1.54	0.58	0.19	0.02	0.09	14	5	<2	9	2	5	<10	0.12	<1
2500 550N		<.2	35	4	248	3	29	9	1.8	<5	2.84	475	<10	186	23	85	<20	9	1.67	0.69	0.26	0.03	0.11	16	7	<2	11	3	6	<10	0.10	<1
2500 650N		<.2	39	6	225	2	43	11	1.1	<5	2.99	562	<10	248	39	66	<20	10	1.83	0.81	0.49	0.02	0.13	27	8	<2	12	4	5	<10	0.10	2
2500 700N		<.2	32	4	151	1	39	9	1.3	<5	2.79	422	<10	223	40	56	<20	13	1.68	0.82	0.70	0.03	0.15	35	8	<2	10	3	5	<10	0.11	3
2600 300N		<.2	40	11	250	6	16	3	1.4	<5	1.95	125	<10	54	20	46	<20	9	1.01	0.26	0.13	0.01	0.04	11	5	<2	5	1	<5	<10	0.03	<1
2600 350N		0.4	138	14	1162	22	23	8	14.2	<5	3.49	643	<10	158	27	58	<20	12	1.28	0.34	0.97	0.02	0.04	64	19	<2	7	2	<5	<10	0.03	<1
2600 400N		<.2	49	12	2489	8	114	10	7.1	<5	2.96	681	<10	89	49	89	<20	12	2.01	1.10	0.63	0.03	0.04	34	13	<2	20	3	<5	<10	0.08	<1
2600 450N		<.2	45	11	1517	6	76	7	7.4	<5	2.27	621	<10	112	30	59	<20	10	1.41	0.66	0.83	0.02	0.04	38	12	<2	13	2	<5	<10	0.05	<1
2600 500N		<.2	43	11	1335	4	75	8	7.2	<5	2.45	643	<10	151	27	63	<20	10	1.55	0.71	0.97	0.02	0.06	37	12	<2	13	2	<5	<10	0.06	<1
2600 550N		<.2	41	6	437	2	56	10	2.5	<5	3.06	557	<10	213	42	67	<20	13	1.75	0.90	0.75	0.03	0.17	35	9	<2	13	3	5	<10	0.11	2
2600 600N		<.2	44	6	77	1	41	10	0.3	<5	3.12	374	<10	417	41	64	<20	14	2.08	0.91	0.48	0.03	0.16	30	9	<2	13	3	6	<10	0.09	3
2600 650N		<.2	40	6	109	1	49	13	1.0	<5	3.32	639	<10	252	44	62	<20	16	1.98	1.02	0.78	0.03	0.23	39	9	<2	14	4	6	<10	0.13	4
2600 700N		<.2	34	5	232	3	37	8	1.4	<5	2.86	402	<10	178	38	67	<20	11	1.88	0.80	0.36	0.02	0.11	24	7	<2	12	3	5	<10	0.09	2
D2600 700N		<.2	35	6	234	3	38	8	1.5	<5	2.76	386	<10	196	37	68	<20	11	1.87	0.77	0.37	0.02	0.11	25	7	<2	12	3	5	<10	0.09	2
2700 300N		<.2	28	5	133	3	19	3	2.4	<5	1.55	142	<10	98	14	43	<20	8	0.72	0.20	0.17	0.01	0.05	15	6	<2	3	2	<5	<10	0.04	<1

s/b  
2500 W 300N  
Reject  
Reject  
Reject

Reject

Reject



# Intertek Testing Services Bondar Clegg

# Geochemical Lab Report

CLIENT: TANAMA EXPLORATION

REPORT: V97-01542.0 ( COMPLETE )

DATE RECEIVED: 02-JUL-97

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PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	UNITS	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
2700 350N			<.2	22	6	415	3	49	9	2.7	<.5	5	<.5	2.38	517	<10	144	34	59	<20	<20	12	1.31	0.62	0.42	0.02	0.08	23	5	<.2	9	3	<.5	<10	0.10	1
2700 400N			<.2	51	5	832	3	75	6	9.1	<.5	<.5	<.5	1.65	349	<10	156	24	38	<20	<20	8	1.22	0.50	1.11	0.02	0.05	39	12	<.2	9	2	<.5	<10	0.04	<1
2700 450N			<.2	84	7	1087	4	85	10	11.7	<.5	6	<.5	2.37	469	<10	179	32	52	<20	<20	11	1.64	0.65	0.75	0.02	0.09	33	14	<.2	12	2	<.5	<10	0.06	<1
2700 500N			<.2	33	5	507	4	41	6	3.6	<.5	<.5	<.5	2.18	278	<10	131	30	53	<20	<20	10	1.42	0.61	0.51	0.02	0.08	24	5	<.2	10	2	<.5	<10	0.07	<1
2700 600N			<.2	50	5	130	2	41	8	1.7	<.5	<.5	<.5	2.48	402	<10	273	30	46	<20	<20	11	1.41	0.70	1.19	0.02	0.15	47	9	<.2	9	3	<.5	<10	0.07	2
2700 650N			<.2	41	6	81	2	44	12	0.4	<.5	7	<.5	3.32	669	<10	339	42	66	<20	<20	15	1.80	1.04	0.67	0.03	0.25	33	10	<.2	13	2	6	<10	0.13	5
2700 700N			<.2	35	5	85	1	33	11	0.5	<.5	6	<.5	3.01	525	<10	261	38	62	<20	<20	15	1.72	0.89	0.56	0.03	0.22	30	8	<.2	12	3	6	<10	0.12	3
2800 300N			<.2	30	6	85	2	29	9	0.5	<.5	5	<.5	2.98	430	<10	268	37	63	<20	<20	12	1.79	0.80	0.35	0.02	0.13	24	5	<.2	11	3	<.5	<10	0.09	<1
2800 350N			<.2	43	7	114	3	34	10	1.1	<.5	7	<.5	3.15	557	<10	267	42	65	<20	<20	13	1.60	0.81	0.47	0.02	0.13	27	6	<.2	12	3	5	<10	0.11	2
2800 400N			<.2	43	7	135	3	35	10	3.4	<.5	6	<.5	2.85	569	<10	289	35	57	<20	<20	13	1.67	0.79	0.59	0.02	0.17	32	8	<.2	11	3	<.5	<10	0.09	1
2800 450N			<.2	37	5	120	2	29	10	1.1	<.5	5	<.5	2.92	555	<10	254	36	62	<20	<20	13	1.75	0.86	0.46	0.02	0.16	25	6	<.2	12	2	5	<10	0.10	1
2800 500N			<.2	45	5	123	2	32	9	0.7	<.5	<.5	<.5	2.52	372	<10	363	33	52	<20	<20	12	1.71	0.64	0.41	0.02	0.14	28	8	<.2	10	4	<.5	<10	0.07	1
2800 550N			<.2	55	5	295	5	38	11	1.3	<.5	7	<.5	4.19	548	<10	526	28	121	<20	<20	8	2.12	0.94	0.30	0.04	0.40	28	8	<.2	15	3	10	<10	0.13	2
2800 600N			<.2	41	6	182	2	39	9	2.4	<.5	5	<.5	2.68	446	<10	304	35	55	<20	<20	12	1.82	0.74	0.66	0.02	0.15	38	9	<.2	10	3	<.5	<10	0.07	1
2800 650N			<.2	42	6	85	1	39	12	0.2	<.5	7	<.5	3.24	634	<10	318	43	66	<20	<20	15	1.89	0.95	0.63	0.03	0.25	31	10	<.2	13	3	6	<10	0.12	4
2800 700N			<.2	36	6	91	1	38	11	0.9	<.5	7	<.5	2.93	540	<10	188	39	56	<20	<20	15	1.66	0.83	0.82	0.03	0.22	35	8	<.2	12	3	5	<10	0.11	4
2900 300N			<.2	43	5	269	3	60	15	2.9	<.5	<.5	<.5	2.39	506	<10	360	28	54	<20	<20	10	1.70	0.59	0.35	0.02	0.11	25	8	2	10	3	<.5	<10	0.04	<1
D2900 300N			0.2	42	5	233	3	51	17	3.6	<.5	<.5	<.5	2.29	564	<10	411	26	49	<20	<20	10	1.67	0.53	0.33	0.02	0.10	24	9	2	9	2	<.5	<10	0.03	<1
2900 350N			<.2	28	3	69	2	23	6	0.4	<.5	<.5	<.5	1.94	257	<10	281	25	39	<20	<20	6	1.39	0.48	0.29	0.03	0.12	21	3	<.2	7	2	<.5	<10	0.05	<1
2900 400N			<.2	27	4	122	1	19	9	2.9	<.5	<.5	<.5	1.97	389	<10	157	25	41	<20	<20	9	1.22	0.49	0.20	0.02	0.13	17	4	<.2	6	2	<.5	<10	0.06	<1
2900 450N			<.2	27	5	104	1	27	10	1.0	<.5	<.5	<.5	2.05	527	<10	180	26	44	<20	<20	9	1.27	0.57	0.34	0.02	0.11	21	5	<.2	8	2	<.5	<10	0.08	<1
2900 500N			0.2	30	7	165	2	23	6	4.6	<.5	<.5	<.5	1.99	247	<10	134	21	44	<20	<20	8	1.03	0.36	0.20	0.02	0.08	17	5	<.2	5	2	<.5	<10	0.04	<1
2900 550N			<.2	40	5	88	1	38	10	0.4	<.5	6	<.5	2.93	564	<10	321	37	60	<20	<20	15	1.70	0.75	0.53	0.02	0.15	31	10	<.2	11	3	6	<10	0.11	3
2900 600N			<.2	30	5	92	2	34	9	0.3	<.5	6	<.5	3.02	515	<10	214	41	63	<20	<20	13	1.75	0.83	0.59	0.03	0.17	30	6	<.2	11	3	6	<10	0.12	5
2900 700N			<.2	31	6	125	3	30	9	0.9	<.5	6	<.5	3.02	444	<10	209	37	76	<20	<20	11	1.57	0.75	0.42	0.03	0.19	26	6	<.2	11	2	5	<10	0.11	2
3000 300N			1.7	48	35	282	12	14	2	4.1	<.5	11	<.5	>10.00	146	<10	104	40	137	<20	<20	6	0.61	0.07	0.03	<.01	0.03	10	3	<.2	<1	<.5	<10	0.02	1	
D3000 300N			1.8	46	32	281	11	14	1	4.9	<.5	10	<.5	>10.00	126	<10	93	40	135	<20	<20	5	0.58	0.07	0.04	<.01	0.03	9	3	<.2	<1	<.5	<10	0.02	<1	
3000 350N			<.2	12	3	31	<1	7	2	1.1	<.5	<.5	<.5	1.08	82	<10	74	13	27	<20	<20	5	0.68	0.14	0.07	0.02	0.04	9	1	2	2	<.5	<10	0.02	<1	
3000 400N			<.2	40	5	146	2	37	10	2.2	<.5	5	<.5	2.54	418	<10	252	34	56	<20	<20	12	1.69	0.62	0.26	0.02	0.12	23	7	<.2	9	2	<.5	<10	0.07	<1
3000 450N			0.4	39	4	383	3	24	4	5.2	<.5	<.5	<.5	2.16	365	<10	181	20	73	<20	<20	7	1.36	0.52	0.19	0.02	0.08	16	6	<.2	9	2	<.5	<10	0.05	<1

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# Intertek Testing Services Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION  
REPORT: V97-01542.0 ( COMPLETE )

DATE RECEIVED: 02-JUL-97    DATE PRINTED: 15-JUL-97    PAGE 5 OF 9  
PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	UNITS	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
3000 500N			0.4	31	3	52	4	10	2	1.7	<5	<5	<5	1.50	80	<10	86	12	58	<20	4	0.73	0.21	0.33	0.03	0.05	16	3	<2	2	1	<5	<10	0.02	<1	
3000 550N			<2	43	5	120	2	39	8	0.5	<5	5	<5	2.71	421	<10	208	43	63	<20	10	1.93	0.80	0.56	0.02	0.09	25	5	<2	12	3	<5	<10	0.08	<1	
3000 600N			<2	25	11	105	2	33	6	0.2	<5	12	<5	2.62	452	<10	125	58	77	<20	9	1.90	0.86	0.14	0.02	0.09	16	4	2	9	3	<5	<10	0.11	<1	
3000 650N			<2	60	8	127	3	38	5	1.2	<5	6	<5	2.68	304	<10	255	46	82	<20	11	1.86	0.89	0.50	0.02	0.22	29	6	<2	12	3	<5	<10	0.08	1	
3000 700N			<2	32	5	113	2	27	6	0.8	<5	<5	<5	2.29	249	<10	175	30	53	<20	10	1.50	0.52	0.32	0.03	0.11	21	5	<2	8	2	<5	<10	0.07	1	
3100 300N			<2	20	6	75	1	23	6	0.4	<5	6	<5	2.50	297	<10	78	32	46	<20	11	1.61	0.58	0.18	0.01	0.06	12	4	<2	10	2	<5	<10	0.07	1	
D3100 300N			<2	23	5	78	2	22	6	0.4	<5	5	<5	3.14	312	<10	75	33	52	<20	10	1.60	0.53	0.16	0.01	0.06	12	4	<2	10	3	<5	<10	0.07	1	
3100 350N			<2	62	6	103	2	25	6	0.4	<5	6	<5	3.39	280	<10	66	40	60	<20	14	1.56	0.62	0.16	0.01	0.07	14	8	<2	8	2	<5	<10	0.08	1	
3100 400N			<2	42	6	158	2	24	5	0.8	<5	<5	<5	2.48	253	<10	74	29	55	<20	11	1.45	0.57	0.16	0.01	0.07	13	5	<2	8	3	<5	<10	0.06	<1	
3100 450N			<2	96	19	1076	5	57	11	6.6	<5	<5	<5	3.28	846	<10	223	30	73	<20	16	2.39	0.82	0.38	0.02	0.08	24	23	2	18	3	<5	<10	0.07	<1	
3100 500N			<2	47	5	103	3	22	4	4.1	<5	<5	<5	1.93	186	<10	136	20	50	<20	9	1.05	0.42	0.34	0.02	0.04	19	7	<2	5	2	<5	<10	0.06	<1	
3100 550N			<2	28	5	91	2	15	6	1.1	<5	<5	<5	2.30	237	<10	96	27	62	<20	9	1.47	0.65	0.19	0.02	0.05	14	4	<2	8	3	<5	<10	0.08	<1	
3100 600N			<2	30	5	66	1	29	11	0.3	<5	<5	<5	2.63	532	<10	219	38	58	<20	13	1.40	0.63	0.39	0.02	0.13	22	7	<2	9	2	<5	<10	0.10	1	
3100 650N			<2	43	7	184	2	38	9	1.9	<5	<5	<5	2.51	461	<10	266	33	56	<20	12	1.68	0.70	1.01	0.02	0.11	35	9	<2	12	3	<5	<10	0.07	<1	
3100 700N			<2	33	6	101	2	36	11	0.5	<5	7	<5	3.02	529	<10	237	43	70	<20	15	1.74	0.94	0.59	0.03	0.25	32	7	<2	13	2	6	<10	0.12	3	
3200 200N			<2	39	3	153	2	33	9	0.5	<5	5	<5	3.99	502	<10	528	35	99	<20	9	2.94	1.00	0.16	0.02	0.08	13	6	<2	17	4	7	<10	0.11	<1	
D3200 200N			<2	30	7	117	2	26	9	1.0	<5	<5	<5	3.03	540	<10	308	31	75	<20	8	1.70	0.53	0.11	0.01	0.07	11	4	2	10	2	<5	<10	0.06	<1	
3200 250N			<2	16	8	56	2	10	3	0.4	<5	<5	<5	2.21	206	<10	112	28	61	<20	8	1.54	0.42	0.11	0.01	0.05	13	3	4	6	2	<5	<10	0.04	<1	
3200 300N			<2	11	5	22	2	4	1	0.6	<5	<5	<5	0.70	48	<10	47	11	25	<20	7	0.52	0.08	0.07	0.01	0.03	9	2	2	1	1	<5	<10	0.03	<1	
3200 350N			<2	31	4	321	2	32	5	1.4	<5	<5	<5	1.99	307	<10	133	24	45	<20	9	1.43	0.60	0.31	0.02	0.07	18	6	<2	12	2	<5	<10	0.06	<1	
3200 400N			<2	20	7	168	2	17	5	0.7	<5	<5	<5	2.01	246	<10	90	23	56	<20	8	1.37	0.52	0.16	0.02	0.07	13	3	2	7	3	<5	<10	0.06	<1	
3200 450N			<2	30	4	278	2	31	7	3.7	<5	<5	<5	2.21	396	<10	174	27	50	<20	9	1.48	0.57	0.44	0.02	0.08	22	5	<2	10	3	<5	<10	0.07	1	
3200 500N			<2	50	7	401	4	44	16	3.0	<5	6	<5	3.75	623	<10	445	36	99	<20	11	2.19	1.03	0.48	0.04	0.28	37	7	<2	15	3	8	<10	0.11	1	
3200 550N			<2	43	7	453	3	43	9	5.1	<5	<5	<5	2.63	399	<10	241	35	58	<20	11	1.79	0.73	0.71	0.02	0.14	36	9	<2	14	3	<5	<10	0.08	<1	
3200 600N			<2	24	5	70	1	26	9	0.4	<5	<5	<5	2.16	466	<10	181	31	48	<20	13	1.12	0.56	0.44	0.02	0.12	24	7	<2	8	2	<5	<10	0.10	2	
3300 200N			<2	23	6	585	2	75	12	0.8	<5	6	<5	3.17	378	<10	172	30	65	<20	11	2.25	0.73	0.16	0.01	0.08	17	6	<2	14	3	<5	<10	0.09	1	
D3300 200N			<2	28	5	555	2	95	14	0.8	<5	5	<5	2.95	385	<10	165	27	63	<20	10	2.18	0.64	0.15	0.01	0.08	18	6	<2	13	3	<5	<10	0.08	<1	
3300 250N			<2	30	4	69	2	19	7	0.6	<5	<5	<5	3.01	305	<10	188	33	58	<20	10	1.95	0.89	0.22	0.01	0.20	15	4	<2	11	3	<5	<10	0.10	<1	
3300 300N			<2	18	6	110	2	13	4	0.6	<5	<5	<5	2.20	257	<10	82	21	57	<20	7	1.33	0.37	0.10	0.01	0.05	11	3	2	7	2	<5	<10	0.05	<1	
3300 350N			<2	29	5	447	2	30	7	2.6	<5	<5	<5	2.51	533	<10	213	28	53	<20	10	1.88	0.64	0.24	0.01	0.08	17	5	3	13	3	<5	<10	0.04	<1	

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# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

CLIENT: TANAMA EXPLORATION  
 REPORT: V97-01542.0 ( COMPLETE )

DATE RECEIVED: 02-JUL-97      DATE PRINTED: 15-JUL-97      PROJECT: IRON CREEK  
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SAMPLE NUMBER	ELEMENT UNITS	Al	Gr	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
3300 400N		<.2	46	17	580	3	49	8	4.0	<.5	<.5	<.5	<.5	2.25	389	<10	179	27	48	<20	13	1.61	0.72	0.49	0.02	0.07	0.26	12	<2	16	3	<.5	<10	0.07	<.1		
3300 450N		0.2	37	4	187	4	27	7	9.3	<.5	<.5	<.5	<.5	1.40	546	<10	249	16	34	<20	7	0.97	0.32	1.13	0.02	0.07	0.61	5	<2	5	2	<.5	<10	0.03	<.1		
3300 500N		<.2	37	4	277	2	36	16	6.9	<.5	<.5	<.5	<.5	2.29	700	<10	236	31	54	<20	9	1.43	0.59	0.45	0.02	0.12	0.30	6	<2	9	2	<.5	<10	0.06	<.1		
3300 550N		<.2	27	4	94	1	24	6	1.6	<.5	<.5	<.5	<.5	2.44	307	<10	172	34	58	<20	10	1.45	0.57	0.23	0.02	0.12	0.18	4	<2	7	3	<.5	<10	0.07	<.1		
3300 600N		<.2	32	5	103	2	33	10	0.6	<.5	<.5	<.5	<.5	2.60	493	<10	234	39	60	<20	14	1.54	0.70	0.45	0.02	0.20	0.24	8	<2	10	3	<.5	<10	0.10	2		
3400 200N		0.2	81	6	170	3	67	12	4.7	<.5	<.5	<.5	<.5	2.46	380	<10	91	22	44	<20	13	1.60	0.33	0.07	<.01	0.05	0.09	7	2	6	2	<.5	<10	0.02	<.1		
D3400 200N		<.2	66	6	179	3	59	13	4.0	<.5	<.5	<.5	<.5	2.57	496	<10	86	23	47	<20	12	1.51	0.38	0.08	<.01	0.05	0.10	6	2	7	2	<.5	<10	0.03	<.1		
3400 250N		0.2	147	3	335	7	61	14	4.7	<.5	<.5	<.5	<.5	3.64	488	<10	434	11	113	<20	7	2.47	0.50	0.19	0.02	0.19	0.24	11	2	9	3	<.5	<10	0.05	<.1		
3400 300N		<.2	18	4	48	2	12	4	0.5	<.5	<.5	<.5	<.5	2.10	489	<10	127	26	54	<20	7	1.28	0.30	0.09	<.01	0.07	0.10	3	4	4	2	<.5	<10	0.02	<.1		
3400 350N		0.3	18	4	40	2	7	10	1.0	<.5	<.5	<.5	<.5	1.22	2010	<10	84	11	28	<20	4	0.77	0.17	0.05	0.02	0.05	0.08	2	2	2	<.5	<10	0.02	<.1			
3400 400N		<.2	10	6	138	3	12	3	1.0	<.5	<.5	<.5	<.5	2.00	309	<10	44	24	62	<20	11	1.21	0.75	0.04	0.01	0.03	0.07	6	3	8	3	<.5	<10	0.08	<.1		
3400 450N		<.2	65	5	533	6	77	36	3.7	<.5	<.5	<.5	<.5	4.79	2259	<10	622	16	108	<20	7	1.96	0.61	0.05	0.02	0.38	0.21	10	<2	12	1	11	<10	0.09	<.1		
3400 500N		<.2	29	4	188	2	38	18	1.0	<.5	<.5	<.5	<.5	2.84	588	<10	237	39	69	<20	12	1.73	0.71	0.29	0.02	0.14	0.21	5	<2	11	4	5	<10	0.12	2		
3400 550N		<.2	21	4	86	2	24	6	0.9	<.5	<.5	<.5	<.5	2.25	304	<10	147	38	60	<20	10	1.40	0.53	0.32	0.02	0.11	0.18	4	<2	8	2	<.5	<10	0.07	<.1		
3400 600N		<.2	79	14	322	3	34	5	1.8	<.5	<.5	<.5	<.5	2.12	230	<10	87	18	57	<20	7	1.36	0.39	0.35	0.02	0.05	0.15	7	2	9	1	<.5	<10	0.02	<.1		
3500 200N		<.2	76	5	181	2	39	8	1.5	<.5	<.5	<.5	<.5	3.24	365	<10	104	37	57	<20	14	2.21	0.75	0.14	0.01	0.12	0.13	7	<2	15	3	<.5	<10	0.06	1		
D3500 200N		<.2	80	5	183	3	39	9	1.6	<.5	<.5	<.5	<.5	3.42	367	<10	112	37	59	<20	14	2.23	0.75	0.14	0.01	0.12	0.14	6	2	15	3	<.5	<10	0.06	1		
3500 250N		0.2	23	4	61	2	22	7	0.4	<.5	<.5	<.5	<.5	2.71	296	<10	153	33	65	<20	10	1.97	0.80	0.23	0.02	0.08	0.16	4	<2	13	3	<.5	<10	0.10	<.1		
3500-300N		0.3	23	5	66	2	17	3	0.5	<.5	<.5	<.5	<.5	2.22	147	<10	135	22	61	<20	6	1.11	0.30	0.11	0.01	0.07	0.15	2	<2	4	2	<.5	<10	0.05	<.1		
3500 350N		<.2	66	4	303	1	42	11	1.3	<.5	<.5	<.5	<.5	2.71	360	<10	132	33	61	<20	12	2.01	0.72	0.20	0.01	0.09	0.16	5	<2	15	3	<.5	<10	0.10	1		
3500 400N		<.2	22	7	186	3	18	2	0.9	<.5	<.5	<.5	<.5	2.14	343	<10	81	17	40	<20	9	1.04	0.23	0.06	0.01	0.06	0.13	3	3	3	1	<.5	<10	0.01	<.1		
3500 450N		<.2	19	6	115	2	21	6	0.6	<.5	<.5	<.5	<.5	3.11	345	<10	95	37	80	<20	10	1.69	0.54	0.15	0.01	0.10	0.14	3	2	10	3	<.5	<10	0.09	<.1		
3500 500N		<.2	28	5	188	4	23	5	1.2	<.5	<.5	<.5	<.5	3.73	316	<10	148	33	83	<20	9	1.88	0.52	0.12	0.02	0.12	0.18	4	2	9	2	<.5	<10	0.07	<.1		
3500 550N		<.2	16	5	93	2	16	4	0.6	<.5	<.5	<.5	<.5	1.89	185	<10	82	21	59	<20	7	1.07	0.36	0.12	0.02	0.06	0.11	3	<2	5	2	<.5	<10	0.06	<.1		
3500 600N		<.2	37	8	207	4	29	7	1.2	<.5	<.5	<.5	<.5	3.15	459	<10	186	31	121	<20	8	1.94	0.70	0.15	0.03	0.17	0.61	4	<2	13	3	6	<10	0.10	1		
97R029		<.17	0.4	76	77	547	12	76	1	6.7	<.5	<.5	<.5	>10.00	230	<10	7	163	187	<20	9	0.23	0.38	2.99	0.02	0.07	0.223	46	<2	2	<.5	<10	0.03	12			
97R104		<.17	0.4	135	9	849	10	95	8	6.7	<.5	<.5	<.5	3.77	200	<10	27	160	401	<20	4	1.00	1.24	0.17	0.06	0.66	11	9	<2	7	3	7	<10	0.07	11		

*Rejed.*

*Rejed*



# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

CLIENT: TANAMA EXPLORATION  
REPORT: V97-01542.0 ( COMPLETE )

DATE RECEIVED: 02-JUL-97      DATE PRINTED: 15-JUL-97      PAGE 7 OF 9      PROJECT: IRON CREEK

STANDARD NAME	ELEMENT	UNIT	AUGRAV	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
BCC GEOCHEM STD 5			- 0.4	86	5	70	1	35	15	<0.2	<5	9	<5	4.59	717	<10	196	46	124	<20	<20	7	3.26	1.70	1.06	0.06	0.32	42	8	<2	25	4	11	<10	0.21	12	
BCC GEOCHEM STD 5			- 0.3	83	5	67	1	33	15	<0.2	<5	9	<5	4.60	690	<10	191	45	119	<20	<20	7	3.19	1.65	1.03	0.06	0.30	40	8	<2	24	4	10	<10	0.20	13	
Number of Analyses			- 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mean Value			- 0.4	85	5	68	1	34	15	0.1	3	9	3	4.60	703	5	193	45	121	10	10	7	3.23	1.68	1.04	0.06	0.31	41	8	1	25	4	11	5	0.21	12	
Standard Deviation			- .05	2	0.1	2	.03	1	1.10	-	-	-	-	0.005	19	-	3	1	4	-	-	-	0.1	0.05	0.03	0.02	.003	.009	1	0.3	-	0.7	0.2	0.3	-	.008	0.6
Accepted Value			- 0.7	90	11	80	2	40	18	0.1	1	8	1	4.74	720	0.2	200	54	133	4	2	5	3.09	1.83	1.08	0.06	0.32	39	9	4	-	1	18	1	-	9	

ANALYTICAL BLANK			- <.2	<1	<2	<1	<1	<1	<1	<0.2	<5	<5	<5	<0.01	<1	<10	<1	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	
ANALYTICAL BLANK			- <.2	<1	<2	<1	<1	<1	<1	<0.2	<5	<5	<5	<0.01	<1	<10	<1	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
ANALYTICAL BLANK			- <.2	<1	<2	<1	<1	<1	<1	<0.2	<5	<5	<5	<0.01	<1	<10	<1	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
ANALYTICAL BLANK			- <.2	<1	<2	3	<1	<1	<1	<0.2	<5	<5	<5	0.01	2	<10	1	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
ANALYTICAL BLANK			- <.2	<1	<2	<1	<1	<1	<1	<0.2	<5	<5	<5	<0.01	<1	<10	<1	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
Number of Analyses			- 5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Mean Value			- 0.1	0.5	1	1	0.5	0.5	0.5	0.1	3	3	3	0.006	0.7	5	0.7	0.5	0.5	10	10	0.5	.005	.005	.005	.005	.005	.005	0.5	0.5	0.5	1	0.5	0.5	3	5	.005	0.5
Standard Deviation			- <.1	-	-	1	-	-	-	<.01	-	-	-	0.003	0.5	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value			0.005	0.2	1	2	1	1	1	0.1	2	5	5	0.05	1	0.1	0.1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	

BCC GEOCHEM STD 4			- 0.8	293	32	222	3	40	7	1.0	<5	27	<5	2.69	562	<10	59	75	7	<20	<20	4	0.81	1.21	1.41	0.06	0.14	39	3	<2	6	1	<5	<10	<.01	10	
BCC GEOCHEM STD 4			- 0.8	288	31	219	3	39	8	0.9	<5	28	<5	2.75	564	<10	61	77	7	<20	<20	5	0.84	1.20	1.43	0.05	0.15	39	3	<2	6	1	<5	<10	<.01	10	
Number of Analyses			- 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mean Value			- 0.8	290	32	221	3	40	8	0.9	3	28	3	2.72	563	5	60	76	7	10	10	4	0.83	1.20	1.42	0.06	0.15	39	3	1	6	1	3	5	.005	10	
Standard Deviation			- .01	4	0.4	2	.02	0.8	0.7	0.08	-	1	-	0.04	1	-	1	1	1	1	1	1	0.02	.007	.010	.001	.004	.06	.01	-	.05	.07	-	-	-	-	
Accepted Value			- 0.8	290	33	255	4	42	9	0.8	1	30	1	2.40	600	0.1	55	80	9	5	1	4	0.77	1.34	1.43	0.04	0.14	39	4	2	7	1	12	1	0.01	8	





**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TANAMA EXPLORATION

REPORT: V97-01542.0 ( COMPLETE )

PROJECT: IRON CREEK

DATE RECEIVED: 02-JUL-97

DATE PRINTED: 15-JUL-97

PAGE 9 OF 9

SAMPLE NUMBER	ELEMENT	UNITS	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	AL	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
975507			1.1	70	37	99	16	9	<1	1.0	<5	29	<5	6.16	70	<10	439	87	392	<20	<20	27	1.60	0.16	0.03	0.05	0.12	122	12	<2	3	3	<5	<10	0.12	3
Duplicate			1.2	73	37	103	16	10	<1	1.1	<5	29	<5	6.23	72	<10	355	90	398	<20	<20	28	1.67	0.17	0.03	0.05	0.12	123	12	<2	4	3	<5	<10	0.11	3
5504 150N			<.2	10	5	84	1	13	4	0.9	<5	<5	<5	2.00	177	<10	113	27	55	<20	<20	10	1.19	0.37	0.21	0.01	0.06	15	3	<2	8	2	<5	<10	0.11	3
Duplicate			<.2	11	5	85	2	13	4	0.9	<5	<5	<5	2.00	178	<10	113	28	57	<20	<20	11	1.21	0.37	0.22	0.01	0.06	16	3	<2	8	3	<5	<10	0.12	3
7504 080N			<.2	20	5	261	9	29	3	1.3	<5	<5	<5	4.47	126	<10	147	26	39	<20	<20	7	0.82	0.23	0.46	0.03	0.08	39	2	<2	5	1	<5	<10	0.07	2
Duplicate			<.2	20	5	263	9	29	2	1.4	<5	<5	<5	4.48	127	<10	149	25	39	<20	<20	7	0.83	0.23	0.47	0.03	0.08	40	2	<2	5	<1	<5	<10	0.07	2
8504 100N			0.4	65	4	1303	4	245	10	17.9	<5	<5	<5	1.79	1058	<10	155	21	31	<20	<20	9	1.23	0.39	1.00	0.02	0.07	57	8	<2	9	2	<5	<10	0.05	<1
Duplicate			0.4	71	4	1358	4	259	10	19.2	<5	<5	<5	1.82	1141	<10	162	21	30	<20	<20	9	1.25	0.39	1.08	0.02	0.07	61	8	<2	9	2	<5	<10	0.04	<1
2500 550N			<.2	35	4	248	3	29	9	1.8	<5	<5	<5	2.84	475	<10	186	23	85	<20	<20	9	1.67	0.69	0.26	0.03	0.11	16	7	<2	11	3	6	<10	0.10	<1
Duplicate			<.2	35	4	262	3	29	10	1.9	<5	<5	<5	2.99	500	<10	197	26	87	<20	<20	8	1.77	0.74	0.28	0.03	0.11	17	7	<2	12	2	7	<10	0.11	1
2700 500N			<.2	33	5	507	4	41	6	3.6	<5	<5	<5	2.18	278	<10	131	30	53	<20	<20	10	1.42	0.61	0.51	0.02	0.08	24	5	<2	10	2	<5	<10	0.07	<1
Duplicate			<.2	35	6	524	4	42	7	3.6	<5	<5	<5	2.28	290	<10	136	32	55	<20	<20	10	1.48	0.63	0.53	0.02	0.09	25	5	<2	11	3	<5	<10	0.08	1
2900 600N			<.2	30	5	92	2	34	9	0.3	<5	6	<5	3.02	515	<10	214	41	63	<20	<20	13	1.75	0.83	0.59	0.03	0.17	30	6	<2	11	3	6	<10	0.12	5
Duplicate			<.2	31	5	95	1	35	10	0.3	<5	6	<5	3.12	522	<10	220	42	64	<20	<20	14	1.79	0.85	0.60	0.03	0.17	31	6	<2	12	3	6	<10	0.12	5
3100 500N			<.2	47	5	103	3	22	4	4.1	<5	<5	<5	1.93	186	<10	136	20	50	<20	<20	9	1.05	0.42	0.34	0.02	0.04	19	7	<2	5	2	<5	<10	0.06	<1
Duplicate			<.2	48	5	104	3	22	4	4.0	<5	<5	<5	1.95	187	<10	133	20	51	<20	<20	9	1.05	0.42	0.33	0.02	0.04	19	7	<2	5	2	<5	<10	0.07	<1
3300 400N			<.2	46	17	580	3	49	8	4.0	<5	<5	<5	2.25	389	<10	179	27	48	<20	<20	13	1.61	0.72	0.49	0.02	0.07	26	12	<2	16	3	<5	<10	0.07	<1
Duplicate			<.2	46	18	574	3	50	8	3.9	<5	<5	<5	2.24	389	<10	180	28	49	<20	<20	13	1.62	0.71	0.49	0.02	0.07	26	12	<2	16	3	<5	<10	0.08	<1
3500 250N			0.2	23	4	61	2	22	7	0.4	<5	5	<5	2.71	296	<10	153	33	65	<20	<20	10	1.97	0.80	0.23	0.02	0.08	16	4	<2	13	3	<5	<10	0.10	<1
Duplicate			<.2	23	4	62	2	22	7	0.4	<5	<5	<5	2.71	296	<10	153	34	66	<20	<20	10	1.96	0.80	0.23	0.02	0.09	15	4	<2	13	3	<5	<10	0.10	<1



**Intertek Testing Services**  
Bondar Clegg

REPORT: V97-01542.1 ( COMPLETE )

REFERENCE:

CLIENT: TANANA EXPLORATION  
PROJECT: IRON CREEK

DATE RECEIVED: 15-JUL-97

SUBMITTED BY: S. TRAYNOR  
DATE PRINTED: 21-AUG-97

DATE APPROVED	ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
970723	1	Au30 Gold	11	5 PPB	Fire Assay of 30g	30g Fire Assay - AA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
S SOIL	11	1 -80	11	SAMPLES FROM STORAGE	11

REPORT COPIES TO: P.O. BOX 4375

INVOICE TO: P.O. BOX 4375

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This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated

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# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION  
REPORT: V97-01542.1 ( COMPLETE )

DATE RECEIVED: 15-JUL-97

PROJECT: IRON CREEK

DATE PRINTED: 21-AUG-97

PAGE 1 OF 3

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
------------------	------------------	-------------

S1 97S505		11
S1 97S506		18
S1 97S507		9
S1 97S508		<5
S1 97S509		<5

S1 97S510		<5
S1 97S511		<5
S1 97S512		<5
S1 97S513		<5
S1 97S514		<5

S1 97S515		5
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Bondar-Clegg & Company Ltd.

130 Pemberton Avenue, North Vancouver, B.C., V7P 2R5, Canada

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# Intertek Testing Services

Bondar Clegg

CLIENT: TANANA EXPLORATION

REPORT: V97-01542.1 ( COMPLETE )

DATE RECEIVED: 15-JUL-97

PROJECT: IRON CREEK

DATE PRINTED: 21-AUG-97

PAGE 2 OF 3

STANDARD NAME	ELEMENT UNITS	Au30 PPB
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ANALYTICAL BLANK		<5
Number of Analyses		1
Mean Value		2.5
Standard Deviation		-
Accepted Value		5

Gannet Standard		201
Number of Analyses		1
Mean Value		201.4
Standard Deviation		-
Accepted Value		192

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Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V97-01542.1 ( COMPLETE )

DATE RECEIVED: 15-JUL-97

PROJECT: IRON CREEK

DATE PRINTED: 21-AUG-97

PAGE 3 OF 3

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
97S508		<5
Duplicate		<5

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# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

REPORT: V97-01694.0 ( COMPLETE )

REFERENCE:

CLIENT: TANANA EXPLORATION  
PROJECT: IRON CREEK

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 18-JUL-97 DATE PRINTED: 12-AUG-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOADER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
970723 1	Au30	7	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	S	29	1 -80	29	DRY, SIEVE -80	29
970723 2	Ag	36	0.2 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA	R	7	2 -150	7	CRUSH/SPLIT & PULV.	7
970723 3	Cu	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 4	Pb	36	2 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 5	Zn	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 6	Molybdenum	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 7	Ni	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 8	Co	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 9	Cd	36	0.2 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 10	Bi	36	5 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 11	As	36	5 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 12	Sb	36	5 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 13	Fe	36	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 14	Mn	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 15	Te	36	10 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 16	Ba	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 17	Cr	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 18	V	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 19	Sn	36	20 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 20	W	36	20 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 21	La	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 22	Al	36	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 23	Mg	36	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 24	Ca	36	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 25	Na	36	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 26	K	36	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 27	Sr	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 28	Y	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 29	Ga	36	2 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 30	Li	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 31	Nb	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 32	Sc	36	5 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 33	Ta	36	10 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 34	Ti	36	0.01 PCT	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						
970723 35	Zr	36	1 PPM	HCL:HN03 (3:1)	INDUC. COUP. PLASMA						

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This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated  
\*\*\*\*\*



# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

CLIENT: TANAMA EXPLORATION  
REPORT: V97-01694.0 ( COMPLETE )

DATE RECEIVED: 18-JUL-97      DATE PRINTED: 12-AUG-97      PAGE 1 OF 4      PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	ALU3O3	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr		
	UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
5504-060N		<.2	85	8	174	3	75	18	1.3	<.5	<.5	<.5	<.5	2.50	521	<10	190	35	44	<20	<20	23	1.62	0.51	0.71	0.02	0.08	33	18	3	11	7	<.5	<10	0.07	4		
5504-090N		<.2	27	8	126	2	43	13	1.1	<.5	5	5	<.5	2.67	701	<10	147	28	63	<20	<20	7	3.21	1.92	2.08	0.03	0.08	122	10	<2	22	11	<.5	<10	0.07	4		
6004-050N		<.2	51	4	25	2	93	4	2.0	<.5	<.5	<.5	<.5	0.59	246	<10	146	10	8	<20	<20	8	0.52	0.13	2.53	0.02	0.03	87	9	<2	1	2	<.5	<10	0.02	3		
6004-060N		<.2	31	7	176	<1	31	15	1.3	<.5	<.5	<.5	<.5	2.68	200	<10	49	28	67	<20	<20	5	3.56	1.04	0.68	0.15	0.06	64	9	6	14	12	6	<10	0.14	4		
6004-090N		<.2	21	7	785	2	66	16	0.7	<.5	<.5	<.5	<.5	2.73	488	<10	174	30	58	<20	<20	6	1.86	0.89	0.69	0.02	0.05	36	4	3	25	9	<.5	<10	0.11	3		
6504-050N		<.2	26	4	12	2	44	3	0.4	<.5	<.5	<.5	<.5	0.54	598	<10	114	5	8	<20	<20	4	0.64	0.08	2.31	0.02	0.02	83	4	<2	<1	2	<.5	<10	0.01	3		
6504-060N		<.2	44	6	188	2	38	9	1.8	<.5	<.5	<.5	<.5	1.22	692	<10	101	18	26	<20	<20	7	0.74	0.30	0.97	0.01	0.04	40	6	<2	6	4	<.5	<10	0.04	2		
6504-070N		<.2	44	5	186	1	44	5	2.3	<.5	<.5	<.5	<.5	0.85	258	<10	128	11	18	<20	<20	5	0.67	0.23	1.12	0.02	0.02	53	6	<2	4	3	<.5	<10	0.03	2		
6504-090N		0.3	26	10	228	3	31	16	1.0	<.5	13	<.5	<.5	4.64	353	<10	111	37	115	<20	<20	6	2.01	0.90	0.20	0.02	0.09	16	3	7	18	15	6	<10	0.16	5		
7004-060N		<.2	12	7	88	1	25	11	0.6	<.5	<.5	<.5	<.5	2.05	169	<10	113	33	45	<20	<20	6	1.18	0.43	0.29	0.02	0.09	17	2	3	9	7	<.5	<10	0.08	3		
7004-100N		<.2	44	6	298	1	47	8	0.8	<.5	6	<.5	<.5	3.74	189	<10	130	37	54	<20	<20	8	1.74	0.50	0.22	0.01	0.07	26	3	4	11	8	<.5	<10	0.10	6		
7504-060N		0.4	59	7	217	3	50	12	1.7	<.5	<.5	<.5	<.5	1.86	470	<10	244	27	40	<20	<20	8	1.12	0.38	1.35	0.01	0.05	60	6	2	10	7	<.5	<10	0.06	3		
8004-070N		<.2	18	7	122	2	35	6	2.2	<.5	<.5	<.5	<.5	1.40	343	<10	164	18	25	<20	<20	7	0.85	0.40	1.65	0.02	0.05	65	5	<2	6	5	<.5	<10	0.04	3		
8004-080N		0.4	28	5	722	5	144	20	16.1	<.5	<.5	<.5	<.5	1.19	1012	<10	310	16	20	<20	<20	4	0.83	0.32	2.35	0.03	0.04	97	2	2	4	4	<.5	<10	0.03	3		
8004-100N		0.7	77	4	1412	11	372	46	13.5	<.5	<.5	<.5	<.5	5.02	1347	<10	488	30	32	<20	<20	9	1.89	0.27	1.40	0.02	0.03	75	13	4	8	5	<.5	<10	0.03	4		
975301		<.2	29	12	332	3	52	11	1.8	<.5	12	<.5	<.5	4.28	263	<10	146	63	111	<20	<20	9	2.33	1.02	0.13	0.01	0.11	14	3	5	21	15	<.5	<10	0.11	4		
975302		<.2	16	10	297	1	52	8	1.8	<.5	<.5	<.5	<.5	2.08	142	<10	67	29	65	<20	<20	5	1.27	0.56	0.09	0.02	0.04	10	2	4	7	9	<.5	<10	0.07	3		
975303		<.2	20	13	486	1	51	27	13.3	<.5	<.5	<.5	<.5	3.12	328	<10	108	45	82	<20	<20	7	1.65	0.69	0.11	0.01	0.06	14	2	6	12	11	<.5	<10	0.11	3		
975304		<.2	18	17	429	3	38	21	7.2	<.5	10	<.5	<.5	3.20	265	<10	112	57	75	<20	<20	6	1.64	0.66	0.15	0.02	0.07	19	2	5	12	10	<.5	<10	0.09	3		
975305		<.2	44	13	684	1	79	22	4.8	<.5	7	<.5	<.5	4.20	259	<10	188	51	104	<20	<20	8	4.02	1.43	0.39	0.06	0.11	30	7	8	21	16	8	<10	0.19	5		
975306		0.3	62	16	357	9	37	9	2.9	<.5	20	<.5	<.5	4.06	200	<10	395	42	133	<20	<20	11	1.83	0.61	0.10	0.03	0.13	74	4	5	17	17	<.5	<10	0.10	4		
975307		0.7	56	26	724	19	46	8	7.8	<.5	45	<.5	<.5	5.33	201	<10	321	50	224	<20	<20	8	1.84	0.91	0.10	0.03	0.15	79	4	6	14	26	<.5	<10	0.13	7		
975308		0.4	41	19	618	13	57	11	3.2	<.5	26	<.5	<.5	4.05	208	<10	263	47	226	<20	<20	7	2.02	0.85	0.12	0.03	0.12	45	4	5	16	26	<.5	<10	0.14	6		
975309		0.5	38	42	430	23	39	8	2.5	<.5	61	<.5	<.5	5.73	182	<10	335	80	346	<20	<20	10	1.88	0.96	0.13	0.06	0.17	101	4	7	18	40	<.5	<10	0.14	8		
975310		0.5	94	26	777	9	99	10	0.9	<.5	13	<.5	<.5	4.02	159	<10	89	54	112	<20	<20	11	4.50	0.64	0.07	0.01	0.04	17	20	3	15	16	7	<10	0.09	8		
975311		0.7	59	24	808	8	92	9	1.7	<.5	13	<.5	<.5	4.41	171	<10	83	47	125	<20	<20	8	3.46	0.79	0.13	0.01	0.04	18	12	4	17	17	6	<10	0.11	5		
975312		<.2	118	20	881	8	102	9	1.6	<.5	8	<.5	<.5	4.14	229	<10	70	50	106	<20	<20	12	4.34	0.97	0.08	0.01	0.05	13	23	3	19	15	10	<10	0.11	6		
975313		<.2	83	29	422	7	39	10	1.4	<.5	9	<.5	<.5	5.67	374	<10	253	48	162	<20	<20	9	3.07	1.91	0.13	0.02	0.36	17	12	5	23	20	13	<10	0.22	7		
975314		0.5	49	72	290	24	39	7	0.9	<.5	34	<.5	<.5	5.49	166	<10	284	63	273	<20	<20	14	2.00	0.62	0.09	0.02	0.13	84	5	7	9	32	<.5	<10	0.13	6		
97F023		6	<.2	155	<2	1238	6	88	5	2.3	5	13	5	>10.00	99	<10	41	21	51	<20	<20	<1	0.57	0.03	<.01	<.01	0.04	<1	6	23	<1	<1	<.5	<10	<.01	15		



**Intertek Testing Services**  
**Bondar Clegg**

**Geochemical**  
**Lab**  
**Report**

CLIENT: TANAMA EXPLORATION

REPORT: V97-01694.0 ( COMPLETE )

PROJECT: IRON CREEK

DATE RECEIVED: 18-JUL-97 DATE PRINTED: 12-AUG-97 PAGE 2 OF 4

SAMPLE NUMBER	ELEMENT AU30		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
97F109	<5	0.9	169	11	29	5	28	17	0.6	<5	<5	<5	<5	4.03	120	<10	30	111	37	<20	<20	2	3.35	0.19	2.07	0.19	0.03	87	7	9	1	6	<5	<10	0.07	4
97R018	14	1.6	197	9	7656	37	513	33	82.3	<5	<5	<5	6	6.42	409	<10	27	100	143	<20	<20	<1	0.53	0.14	0.07	0.02	0.18	2	4	4	2	15	<5	<10	<.01	15
97R103	8	1.0	36	5	210	10	11	5	1.4	<5	31	6	>10.00	60	<10	132	90	153	<20	<20	5	0.43	0.14	0.04	0.02	0.11	32	2	11	1	15	<5	<10	0.05	10	
97R106	<5	0.7	70	32	52	2	24	4	0.7	<5	16	<5	2.74	32	<10	58	198	67	<20	<20	2	0.17	0.09	<.01	0.02	0.05	4	2	2	<1	7	<5	<10	<.01	5	
97R503	6	0.5	64	33	128	9	89	5	1.2	<5	67	7	>10.00	64	<10	16	235	363	<20	<20	14	0.18	0.34	1.77	0.03	0.10	136	61	8	2	38	<5	<10	0.03	19	
97R516	<5	0.8	26	32	31	1	4	3	<0.2	<5	<5	<5	3.34	172	<10	98	96	130	<20	<20	3	0.64	0.57	0.20	0.11	0.08	29	4	2	4	15	<5	<10	0.12	6	







# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

REPORT: V97-01744.0 ( COMPLETE )

REFERENCE:

CLIENT: TANAMA EXPLORATION  
PROJECT: IRON CREEK

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 23-JUL-97 DATE PRINTED: 31-JUL-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
970729 1	Al <sub>2</sub> O <sub>3</sub>	20	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	S SOIL	39	1 -80	39	CRUSH/SPLIT & PULV.	7
970729 2	Ag	47	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	R ROCK	8	2 -150	8	DRY, SIEVE -80	38
970729 3	Cu	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 4	Pb	47	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 5	Zn	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 6	Mo	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 7	Ni	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 8	Co	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 9	Cd	47	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 10	Bi	47	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 11	As	47	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 12	Sb	47	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 13	Fe	47	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 14	Mn	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 15	Te	47	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 16	Ba	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 17	Cr	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 18	V	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 19	Sn	47	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 20	W	47	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 21	La	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 22	Al	47	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 23	Mg	47	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 24	Ca	47	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 25	Na	47	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 26	K	47	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 27	Sr	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 28	Y	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 29	Ga	47	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 30	Li	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 31	Nb	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 32	Sc	47	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 33	Ta	47	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 34	Ti	47	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970729 35	Zr	47	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

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**Intertek Testing Services**  
Bondar Clegg

**Geochemical**  
**Lab**  
**Report**

CLIENT: TANAMA EXPLORATION  
REPORT: V97-01744.0 ( COMPLETE )

DATE RECEIVED: 23-JUL-97      DATE PRINTED: 31-JUL-97      PAGE 1 OF 4      PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	ALU3O3	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
	UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT
1000M-50N		<.2	9	5	156	<1	10	9	4.4	<5	<5	<5	<5	1.45	789	<10	128	15	34	<20	<20	6	0.73	0.24	0.20	0.02	0.06	13	2	3	5	<1	<5	<10	0.07	<1
1000M-100N		<.2	9	7	738	<1	27	14	13.7	<5	<5	<5	<5	1.91	935	<10	258	23	42	<20	<20	9	1.00	0.34	0.30	0.01	0.06	25	3	4	8	<1	<5	<10	0.08	<1
1000M-150N		<.2	5	6	104	<1	7	5	2.4	<5	<5	<5	<5	1.66	137	<10	85	21	42	<20	<20	11	0.72	0.19	0.19	0.01	0.05	13	2	4	3	<1	<5	<10	0.09	<1
1000M-200N		1.0	185	69	616	10	55	5	2.1	<5	8	<5	<5	4.84	148	<10	131	61	96	<20	<20	11	1.78	0.47	0.17	0.02	0.05	26	24	5	11	<1	<5	<10	0.05	<1
1000M-250N		<.2	10	8	282	2	16	8	3.9	<5	<5	<5	<5	2.41	294	<10	155	29	59	<20	<20	11	1.26	0.44	0.22	0.01	0.08	17	3	5	12	<1	<5	<10	0.09	3
1000M-300N		1.9	94	21	300	33	35	4	1.5	<5	8	<5	<5	5.34	154	<10	92	16	109	<20	<20	4	1.20	0.27	0.07	0.02	0.05	26	3	6	5	<1	<5	<10	0.06	1
1000M-400N		0.3	47	13	362	8	33	5	2.5	<5	<5	<5	<5	2.21	172	<10	113	35	96	<20	<20	9	1.35	0.63	0.17	0.01	0.05	17	7	5	9	<1	<5	<10	0.09	1
1000M-450N		<.2	60	8	1188	6	79	11	4.1	<5	<5	<5	<5	3.00	342	<10	217	23	79	<20	<20	8	1.76	0.73	0.39	0.02	0.08	53	8	5	24	<1	5	<10	0.11	1
1000M-500N		0.5	71	10	338	7	56	11	2.7	<5	<5	<5	<5	3.28	320	<10	272	43	85	<20	<20	12	1.74	0.72	0.50	0.03	0.11	61	11	5	11	<1	<5	<10	0.08	1
1100M-50N		0.6	54	14	892	8	61	16	5.2	<5	19	<5	<5	4.29	337	<10	217	45	136	<20	<20	8	2.16	0.75	0.13	0.02	0.11	31	5	7	14	<1	<5	<10	0.13	4
1100M-100N		0.4	28	27	137	10	16	5	1.9	<5	14	<5	<5	4.44	147	<10	367	49	128	<20	<20	9	1.23	0.41	0.12	0.03	0.13	77	3	6	7	<1	<5	<10	0.09	1
1100M-150N		0.7	158	26	558	14	38	3	1.5	<5	6	<5	<5	3.14	111	<10	138	54	92	<20	<20	12	1.35	0.39	0.09	0.01	0.06	33	25	4	6	<1	<5	<10	0.03	<1
1100M-200N		0.3	26	14	359	4	30	10	1.9	<5	7	<5	<5	3.27	241	<10	253	34	95	<20	<20	10	1.22	0.45	0.17	0.02	0.11	43	3	5	11	<1	<5	<10	0.09	1
1100M-250N		0.7	71	15	451	16	25	7	3.0	<5	7	<5	<5	5.73	295	<10	330	40	161	<20	<20	8	1.76	0.78	0.20	0.04	0.20	88	5	6	10	<1	6	<10	0.11	3
1100M-300N		1.3	42	22	127	34	18	3	1.5	<5	28	<5	<5	5.68	86	<10	260	44	137	<20	<20	9	1.68	0.26	0.06	0.06	0.13	104	3	6	5	<1	<5	<10	0.07	3
1100M-350N		0.6	71	22	217	16	28	4	2.4	<5	9	<5	<5	4.80	167	<10	269	44	127	<20	<20	11	1.50	0.59	0.11	0.05	0.18	96	5	5	8	<1	<5	<10	0.08	<1
1100M-400N		0.4	28	12	294	6	36	10	1.8	<5	<5	<5	<5	3.05	319	<10	210	37	87	<20	<20	10	1.64	0.62	0.31	0.02	0.10	31	6	5	10	<1	<5	<10	0.11	2
1100M-500N		0.5	29	10	191	5	32	10	1.3	<5	<5	<5	<5	2.32	662	<10	181	24	66	<20	<20	7	1.03	0.39	0.52	0.02	0.06	30	7	4	5	<1	<5	<10	0.06	<1





# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

CLIENT: TANAMA EXPLORATION  
REPORT: V97-01744.0 ( COMPLETE )

DATE RECEIVED: 23-JUL-97 DATE PRINTED: 31-JUL-97 PAGE 3 OF 4  
PROJECT: IRON CREEK

STANDARD NAME	ELEMENT	AL3O3	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
BCC GEOCHEM STD 6	-	0.3	128	16	120	2	118	31	<0.2	<5	131	<5	6.99	1322	<10	6	168	45	<20	<1	1.83	2.54	3.53	0.01	0.04	74	3	6	19	<1	8	<10	<.01	6		
Number of Analyses	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mean Value	-	0.3	128	16	120	2	118	31	0.1	3	131	3	6.99	1322	5	6	168	45	10	10	0.5	1.83	2.54	3.53	0.01	0.04	74	3	6	19	0.5	8	5	.005	6	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	0.2	140	18	140	4	135	35	0.2	1	145	1	6.50	1450	-	6	170	50	5	12	-	1.80	2.70	4.00	0.01	0.04	70	3	24	2	6	1	.003	5		

ANALYTICAL BLANK	<5	<2	<1	2	<1	<1	<1	<1	<0.2	<5	<5	<5	<5	<0.01	<1	<10	<1	<1	<20	<20	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<1	<2	<1	<1	<5	<10	<.01	<1	
ANALYTICAL BLANK	-	<.2	<1	2	<1	<1	<1	<1	<0.2	<5	<5	<5	<5	<0.01	<1	<10	<1	<1	<20	<20	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<1	<2	<1	<1	<5	<10	<.01	<1	
Number of Analyses	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mean Value	3	0.1	0.5	2	0.5	0.5	0.5	0.1	3	3	3	3	3	0.005	0.5	5	0.5	0.5	10	10	0.5	.005	.005	.005	.005	.005	0.005	0.5	0.5	1	0.5	0.5	3	5	.005	0.5
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Accepted Value	5	0.2	1	2	1	1	1	1	0.1	2	5	5	5	0.05	1	.01	.005	1	1	.01	.01	<.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01
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Gannet Standard	382	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	382	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	394	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BCC GEOCHEM STD 5	-	0.8	97	6	69	1	35	21	<0.2	<5	6	<5	4.95	722	<10	211	51	130	<20	<20	7	3.46	1.75	1.08	0.06	0.33	39	8	9	25	<1	11	<10	0.21	14	
Number of Analyses	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value	-	0.8	97	6	69	1	35	21	0.1	3	6	3	4.95	722	5	211	51	130	10	10	7	3.46	1.75	1.08	0.06	0.33	39	8	9	25	0.5	11	5	0.21	14	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	0.7	90	11	80	2	40	18	0.1	1	8	1	4.74	720	0.2	200	54	133	4	2	5	3.09	1.83	1.08	0.06	0.32	39	9	4	-	1	18	1	-	9	





**Intertek Testing Services**  
**Bondar Clegg**

**Geochemical  
 Lab  
 Report**

CLIENT: TANAMA EXPLORATION  
 REPORT: V97-01744.0 ( COMPLETE )

DATE RECEIVED: 23-JUL-97      DATE PRINTED: 31-JUL-97      PAGE 4 OF 4  
 PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	AU30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
	UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
1000A-250N		<.2	10	8	282	2	16	8	3.9	<5	<5	<5	<5	2.41	294	<10	155	29	59	<20	<20	11	1.26	0.44	0.22	0.01	0.08	17	3	5	12	<1	<5	<10	0.09	3
Duplicate		<.2	10	9	290	2	16	8	4.0	<5	<5	<5	<5	2.44	303	<10	159	29	60	<20	<20	11	1.28	0.45	0.22	0.01	0.08	17	3	5	12	<1	<5	<10	0.08	3

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

REPORT: V97-01911.0 ( COMPLETE )

REFERENCE:

CLIENT: TANAMA EXPLORATION  
PROJECT: IRON CREEK

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 31-JUL-97 DATE PRINTED: 19-AUG-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
970818 1 Au30	Gold	17	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	R ROCK	17	2 -150	17	TOTAL SAMPLE PREP	17
970818 2 Ag	Silver	17	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 3 Cu	Copper	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 4 Pb	Lead	17	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 5 Zn	Zinc	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 6 Mo	Molybdenum	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 7 Ni	Nickel	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 8 Co	Cobalt	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 9 Cd	Cadmium	17	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 10 Bi	Bismuth	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 11 As	Arsenic	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 12 Sb	Antimony	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 13 Fe	Iron	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 14 Mn	Manganese	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 15 Te	Tellurium	17	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 16 Ba	Barium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 17 Cr	Chromium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 18 V	Vanadium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 19 Sn	Tin	17	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 20 W	Tungsten	17	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 21 La	Lanthanum	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 22 Al	Aluminum	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 23 Mg	Magnesium	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 24 Ca	Calcium	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 25 Na	Sodium	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 26 K	Potassium	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 27 Sr	Strontium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 28 Y	Yttrium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 29 Ga	Gallium	17	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 30 Li	Lithium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 31 Nb	Niobium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 32 Sc	Scandium	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 33 Ta	Tantalum	17	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 34 Ti	Titanium	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970818 35 Zr	Zirconium	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

REPORT COPIES TO: P.O. BOX 4375 INVOICE TO: P.O. BOX 4375

\*\*\*\*\*  
This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated  
\*\*\*\*\*

# Geochemical Lab Report

## Intertek Testing Services Bondar Clegg



CLIENT: TAMANA EXPLORATION  
REPORT: V97-01911.0 ( COMPLETE )

DATE RECEIVED: 31-JUL-97 DATE PRINTED: 19-AUG-97 PAGE 1 OF 3  
PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	ALU50	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT
97R216		9	0.9	25	23	64	33	10	4	0.3	<5	57	<5	5.54	72	<10	73	190	620	<20	<20	15	0.82	0.51	0.02	0.13	0.41	157	6	<2	5	<1	<5	<10	0.14	9
97R217		8	1.2	25	74	45	25	6	2	<2	<5	27	<5	4.88	63	<10	153	201	599	<20	<20	15	0.68	0.51	0.03	0.11	0.43	247	5	<2	4	<1	<5	<10	0.13	9
97R218		13	0.4	20	41	50	14	22	3	<2	<5	11	<5	3.67	63	<10	135	407	472	<20	<20	11	0.29	0.33	0.05	0.08	0.28	153	6	<2	2	<1	<5	<10	0.14	13
97R219		<5	0.6	9	48	39	6	9	2	<2	<5	10	<5	2.45	28	<10	227	140	323	<20	<20	7	0.25	0.24	0.02	0.04	0.19	95	5	<2	1	<1	<5	<10	0.12	11
97R220		<5	0.8	9	36	16	4	11	1	<2	<5	9	<5	2.63	42	<10	209	320	121	<20	<20	8	0.15	0.16	0.02	0.04	0.19	209	2	<2	1	<1	<5	<10	0.04	4
97R221		<5	0.6	8	58	26	3	12	1	<2	<5	5	<5	2.10	36	<10	214	276	71	<20	<20	5	0.10	0.12	0.02	0.04	0.13	134	2	<2	<1	<1	<5	<10	0.04	6
97R222		8	0.3	9	46	49	6	10	2	<2	<5	11	<5	2.75	43	<10	222	129	134	<20	<20	4	0.21	0.23	0.16	0.05	0.16	188	5	<2	1	2	<5	<10	0.09	9
97R223		<5	0.3	12	47	53	7	20	2	<2	<5	11	<5	3.17	64	<10	242	433	145	<20	<20	5	0.26	0.33	0.18	0.09	0.17	198	5	<2	1	<1	<5	<10	0.09	10
97R224		<5	0.4	9	82	29	6	9	<1	<2	<5	7	<5	2.28	25	<10	273	137	156	<20	<20	5	0.11	0.14	0.04	0.05	0.15	399	8	<2	<1	<1	<5	<10	0.03	6
97R225		<5	0.4	8	113	63	10	12	<1	<2	<5	5	<5	1.72	67	<10	224	166	117	<20	<20	5	0.12	0.06	0.08	0.03	0.06	124	4	<2	<1	<1	<5	<10	0.03	7
97R226		<5	0.5	6	64	31	8	14	1	<2	<5	<5	<5	1.24	24	<10	177	324	46	<20	<20	3	0.06	0.03	0.01	0.03	0.05	74	2	<2	<1	<1	<5	<10	0.02	4
97R227		<5	0.4	8	86	42	5	10	<1	<2	<5	<5	<5	1.37	19	<10	361	114	51	<20	<20	4	0.06	0.05	0.02	0.03	0.07	75	3	<2	<1	<1	<5	<10	0.02	5
97R228		<5	0.3	22	35	75	3	10	3	<2	<5	27	<5	7.62	92	<10	107	154	186	<20	<20	4	0.62	0.67	0.14	0.05	0.48	216	5	<2	2	<1	<5	<10	0.11	6
97R229		<5	0.4	21	177	144	9	19	3	<2	<5	28	<5	3.59	48	<10	356	145	269	<20	<20	5	0.28	0.31	0.04	0.04	0.07	75	4	<2	1	<1	<5	<10	0.12	14
97R230		<5	0.5	12	83	37	6	12	<1	<2	<5	<5	<5	1.13	24	<10	204	232	36	<20	<20	4	0.06	0.09	0.05	0.03	0.05	84	1	<2	<1	<1	<5	<10	0.02	5
97R231		<5	0.6	12	143	39	7	12	1	<2	<5	<5	<5	2.04	36	<10	307	230	71	<20	<20	4	0.12	0.10	0.03	0.05	0.12	166	2	<2	<1	<1	<5	<10	0.04	5
97R232		<5	0.5	17	168	91	14	21	3	<2	<5	10	<5	3.36	72	<10	213	263	217	<20	<20	7	0.26	0.23	0.04	0.07	0.20	156	5	<2	1	<1	<5	<10	0.11	14



**Intertek Testing Services**  
**Bondar Clegg**

**Geochemical  
 Lab  
 Report**

CLIENT: TANAMA EXPLORATION  
 REPORT: V97-01911.0 ( COMPLETE )

DATE RECEIVED: 31-JUL-97      DATE PRINTED: 19-AUG-97      PAGE 2 OF 3  
 PROJECT: IRON CREEK

STANDARD NAME	EL	AL	SI	FE	MN	NI	CU	ZN	AS	SE	SR	Y	GA	LI	NB	SC	TA	TI	ZR
<b>ANALYTICAL BLANK</b>	<5	<2	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value	3	0.1	0.5	1	0.5	0.5	0.1	3	3	3	0.005	0.5	10	10	0.5	0.005	0.005	0.5	1
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.05	1	0.01	0.01	0.01	0.01	0.01
<b>Gannet Standard 1025</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	1025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	1050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>BCC GEOCHEM STD 6</b>	-	<2	136	13	151	<1	127	29	<2	<5	130	<5	7.34	1331	<10	8	153	43	<20
Number of Analyses	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value	-	0.1	136	13	151	0.5	127	29	0.1	3	130	3	7.34	1331	5	8	153	43	10
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	-	0.2	140	18	140	4	135	35	0.2	1	145	1	6.50	1450	-	6	170	50	5



# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

CLIENT: TAMANA EXPLORATION

REPORT: V97-01911.0 ( COMPLETE )

DATE RECEIVED: 31-JUL-97

DATE PRINTED: 19-AUG-97

PAGE 3 OF 3

PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	PCT	
																																					PPM	PPM
97R217	8	1.2	25	74	45	25	6	2	<2	<5	27	<5	4.88	63	<10	133	201	599	<20	15	0.68	0.51	0.03	0.11	0.43	247	5	<2	4	<1	<5	<10	0.13	9				
Duplicate	6	1.2	26	73	41	26	6	2	<2	<5	27	<5	4.76	61	<10	181	183	600	<20	16	0.68	0.50	0.03	0.10	0.42	254	5	<2	4	<1	<5	<10	0.13	9				



**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

REPORT: V97-01909.0 ( COMPLETE )

REFERENCE:

CLIENT: TANAMA EXPLORATION  
PROJECT: IRON CREEK

SUBMITTED BY: S. TRAYNOR  
DATE RECEIVED: 31-JUL-97 DATE PRINTED: 19-AUG-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
970811 1	Ag	116	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	S SOIL	116	1 -80	116	DRY, SIEVE -80	116
970811 2	Cu	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 3	Pb	116	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 4	Zn	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 5	Mo	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 6	Ni	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 7	Co	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 8	Cd	116	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 9	Bi	116	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 10	As	116	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 11	Sb	116	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 12	Fe	116	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 13	Mn	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 14	Te	116	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 15	Ba	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 16	Cr	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 17	V	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 18	Sn	116	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 19	W	116	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 20	La	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 21	Al	116	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 22	Mg	116	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 23	Ca	116	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 24	Na	116	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 25	K	116	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 26	Sr	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 27	Y	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 28	Ga	116	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 29	Li	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 30	Nb	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 31	Sc	116	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 32	Ta	116	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 33	Ti	116	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970811 34	Zr	116	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

REPORT COPIES TO: P.O. BOX 4375 INVOICE TO: P.O. BOX 4375

\*\*\*\*\*  
This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated.  
\*\*\*\*\*



**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TANAMA EXPLORATION

REPORT: V97-01909.0 ( COMPLETE )

PROJECT: IRON CREEK

DATE RECEIVED: 31-JUL-97 DATE PRINTED: 19-AUG-97 PAGE 1 OF 6

SAMPLE NUMBER	ELEMENT UNITS	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
W1200 010N		<.2	44	24	815	2	107	21	5.9	<5	10	<5	4.33	305	<10	195	66	97	<20	<20	11	2.58	1.01	0.16	0.02	0.14	32	4	6	20	3	5	<10	0.13	5
W1200 020N		<.2	28	17	423	3	64	15	2.4	<5	12	<5	4.48	266	<10	133	74	111	<20	<20	10	2.61	1.08	0.13	0.01	0.11	18	4	7	19	4	6	<10	0.14	4
W1200 050N		0.4	157	19	562	11	113	15	2.2	<5	24	<5	4.64	254	<10	526	64	136	<20	<20	15	3.18	0.85	0.12	0.04	0.20	121	8	5	22	8	6	<10	0.12	6
W1200 150N		0.4	36	41	263	14	33	9	2.2	<5	34	<5	5.56	229	<10	545	67	224	<20	<20	12	1.84	0.64	0.14	0.05	0.19	112	4	7	12	19	<5	<10	0.11	4
W1200 200N		0.3	23	25	335	6	25	9	2.9	<5	11	<5	4.95	277	<10	300	41	157	<20	<20	8	1.58	0.44	0.12	0.02	0.08	33	4	8	10	11	<5	<10	0.13	3
W1200 250N		0.4	21	32	152	11	13	5	6.1	<5	17	<5	4.49	120	<10	361	37	162	<20	<20	9	0.84	0.25	0.17	0.03	0.13	82	3	7	4	9	<5	<10	0.09	2
W1200 300N		0.4	23	32	133	17	10	5	7.2	<5	22	<5	5.22	79	<10	355	39	225	<20	<20	7	0.77	0.16	0.06	0.03	0.10	58	3	9	2	19	<5	<10	0.13	3
W1200 350N		1.2	44	25	157	19	16	5	4.9	<5	14	<5	4.25	99	<10	395	28	150	<20	<20	9	0.87	0.19	0.10	0.04	0.12	71	4	7	2	9	<5	<10	0.12	3
W1200 400N		0.4	35	13	337	6	39	6	2.5	<5	8	<5	2.43	167	<10	190	31	76	<20	<20	11	1.11	0.51	0.17	0.03	0.10	50	5	4	7	<1	<5	<10	0.08	2
W1300 000N		<.2	53	17	766	5	119	19	2.7	<5	17	<5	4.49	301	<10	260	68	132	<20	<20	13	2.68	0.96	0.14	0.02	0.15	48	5	6	19	9	5	<10	0.13	4
W1300 050N		<.2	25	32	158	13	16	6	1.8	<5	18	<5	3.21	115	<10	356	40	170	<20	<20	11	1.03	0.26	0.10	0.03	0.10	93	3	6	6	11	<5	<10	0.11	3
W1300 100N		1.5	62	44	82	30	9	6	0.9	<5	62	6	>10.00	73	<10	140	214	727	<20	<20	52	1.08	0.32	0.03	0.07	0.22	178	12	16	3	86	<5	<10	0.17	7
W1300 150N		8.9	22	58	198	15	6	4	1.4	<5	35	10	>10.00	135	<10	82	125	465	<20	<20	11	0.85	0.39	0.10	0.11	0.30	246	6	12	3	46	<5	<10	0.05	7
W1300 200N		<.2	49	12	440	6	30	10	3.0	<5	<5	<5	4.19	252	<10	131	23	132	<20	<20	6	1.15	0.22	0.11	0.02	0.03	11	5	7	7	5	<5	<10	0.10	2
W1300 250N		0.5	39	20	179	11	14	6	3.4	<5	14	<5	5.19	158	<10	539	39	131	<20	<20	10	1.31	0.38	0.10	0.04	0.16	105	4	7	6	6	<5	<10	0.11	3
W1300 300N		0.8	37	14	187	8	14	5	2.5	<5	8	<5	2.52	142	<10	229	25	92	<20	<20	8	0.92	0.29	0.17	0.03	0.08	39	4	5	4	<1	<5	<10	0.09	2
W1300 400N		0.7	78	17	501	10	60	11	4.1	<5	11	<5	4.19	367	<10	248	55	131	<20	<20	14	2.15	0.91	0.37	0.03	0.17	62	10	5	12	7	<5	<10	0.11	3
W1400 000N		<.2	88	30	3361	10	468	38	4.1	<5	24	<5	4.47	590	<10	212	85	210	<20	<20	22	4.13	2.30	0.24	0.02	0.11	59	55	4	33	18	11	<10	0.13	9
W1400 050N		0.3	70	19	175	11	22	7	0.6	<5	20	<5	5.27	185	<10	395	100	169	<20	<20	16	1.50	0.57	0.10	0.03	0.20	138	6	6	10	11	<5	<10	0.15	7
W1400 090N		0.5	19	98	135	99	20	6	1.1	<5	43	<5	7.84	75	<10	364	73	428	<20	<20	6	0.61	0.20	0.02	0.06	0.12	189	3	7	1	47	<5	<10	0.21	10
W1400 100N		0.6	35	62	78	8	10	5	0.5	<5	26	<5	>10.00	88	<10	216	120	285	<20	<20	11	0.67	0.23	0.02	0.05	0.16	158	3	16	1	23	<5	<10	0.09	6
W1400 110N		1.5	19	266	114	20	8	4	1.2	<5	41	<5	>10.00	94	<10	134	62	308	<20	<20	8	0.70	0.10	0.03	0.08	0.17	357	6	9	<1	28	<5	<10	0.09	6
W1400 120N		1.7	7	165	61	5	8	3	0.5	<5	15	<5	4.57	74	<10	168	62	219	<20	<20	6	0.50	0.07	0.05	0.06	0.20	183	4	5	<1	18	<5	<10	0.08	4
W1400 130N		0.8	66	41	217	8	23	8	1.5	<5	18	<5	7.06	163	<10	297	56	171	<20	<20	10	1.62	0.36	0.09	0.02	0.09	36	5	9	9	11	<5	<10	0.13	4
W1400 150N		8.5	48	660	165	16	19	6	1.0	<5	34	<5	>10.00	134	<10	99	68	360	<20	<20	14	1.26	0.22	0.03	0.10	0.23	358	4	9	3	36	<5	<10	0.14	6
W1400 200N		0.4	11	11	45	<1	7	3	0.6	<5	<5	<5	0.76	137	<10	70	5	19	<20	<20	3	0.50	0.07	0.23	0.05	0.02	15	3	<2	<1	<1	<5	<10	0.03	<1
W1400 250N		1.1	49	23	226	35	12	6	2.1	<5	21	<5	6.34	128	<10	283	47	316	<20	<20	12	1.73	0.45	0.06	0.07	0.13	82	6	8	6	31	<5	<10	0.15	4
W1400 300N		1.3	55	16	206	19	21	4	1.3	<5	55	<5	5.54	118	<10	174	31	155	<20	<20	4	0.64	0.25	0.11	0.03	0.15	49	2	6	2	8	<5	<10	0.07	2
W1400 350N		0.6	78	11	226	11	29	8	1.7	<5	29	<5	6.20	252	<10	258	71	151	<20	<20	17	2.18	0.87	0.17	0.10	0.37	134	7	6	9	10	<5	<10	0.12	5
W1500 050N		0.6	62	36	305	10	49	8	0.8	<5	23	<5	4.87	207	<10	295	72	187	<20	<20	15	2.45	0.60	0.10	0.02	0.13	55	8	6	11	15	<5	<10	0.12	6



**Intertek Testing Services**  
**Bondar Clegg**

**Geochemical**  
**Lab**  
**Report**

CLIENT: TANAMA EXPLORATION  
 REPORT: V97-01909.0 ( COMPLETE )

DATE RECEIVED: 31-JUL-97      DATE PRINTED: 19-AUG-97      PAGE 2 OF 6  
 PROJECT: IRON CREEK

SAMPLE NUMBER	ELEMENT	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	H	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT
W1500 060N		0.5	74	33	153	10	22	8	0.6	<5	17	<5	8.15	173	<10	380	107	174	<20	<20	15	1.66	0.49	0.06	0.02	0.14	85	11	11	5	12	5	<10	0.15	8
W1500 070N		1.1	55	226	88	20	11	5	0.9	<5	26	<5	>10.00	62	<10	154	80	305	<20	<20	12	0.81	0.15	0.03	0.05	0.24	124	11	14	2	27	<5	<10	0.11	8
W1500 080N		0.6	57	184	120	15	16	7	0.7	<5	25	<5	>10.00	136	<10	384	111	234	<20	<20	8	1.33	0.37	0.04	0.03	0.14	58	8	12	4	19	<5	<10	0.16	9
W1500 090N		0.5	25	62	127	23	12	6	0.8	<5	33	<5	9.09	92	<10	393	70	348	<20	<20	6	1.14	0.20	0.04	0.05	0.11	81	5	10	3	35	<5	<10	0.17	11
W1500 100N		1.8	53	40	172	13	23	7	0.8	<5	19	<5	6.04	172	<10	426	103	175	<20	<20	12	2.02	0.47	0.09	0.03	0.15	87	5	7	7	13	<5	<10	0.13	8
W1500 110N		0.9	103	5	106	5	11	6	0.6	<5	27	<5	>10.00	114	<10	305	178	144	<20	<20	7	1.65	0.24	0.05	0.02	0.10	56	8	15	3	6	<5	<10	0.10	14
W1500 110N DUPLICATE		0.9	102	14	110	5	11	5	0.6	<5	32	<5	>10.00	102	<10	250	173	154	<20	<20	5	1.48	0.21	0.04	0.02	0.08	49	8	16	2	8	<5	<10	0.09	14
W1500 150N		0.4	37	15	534	5	22	6	2.3	<5	<5	<5	4.05	177	<10	131	28	117	<20	<20	5	1.31	0.31	0.14	0.02	0.03	11	4	7	9	4	<5	<10	0.09	3
W1500 200N		<2	21	19	997	16	27	7	4.5	<5	<5	<5	7.11	381	<10	98	19	170	<20	<20	6	1.87	0.96	0.09	0.02	0.04	11	8	9	12	12	5	<10	0.11	6
W1500 250N		0.6	35	12	166	14	10	5	3.7	<5	13	<5	5.21	125	<10	250	42	138	<20	<20	9	1.58	0.30	0.07	0.02	0.08	46	4	7	5	7	<5	<10	0.11	4
W1500 300N		0.4	180	21	1895	17	210	20	12.5	<5	22	<5	4.55	1249	<10	179	41	136	<20	<20	22	2.71	0.55	0.20	0.02	0.06	40	56	4	13	7	<5	<10	0.07	3
W1500 350N		0.5	38	9	207	4	27	5	3.2	<5	7	<5	2.01	118	<10	143	19	46	<20	<20	6	0.86	0.25	0.16	0.03	0.06	26	6	3	4	<1	<5	<10	0.05	1
W1500 400N		0.3	37	10	248	6	31	9	2.3	<5	13	<5	3.11	279	<10	148	33	81	<20	<20	10	1.49	0.54	0.20	0.03	0.10	28	5	4	9	<1	<5	<10	0.09	2
W1600 050N		0.4	21	6	76	2	4	3	0.5	<5	43	5	>10.00	36	<10	188	176	816	<20	<20	3	0.46	0.06	<0.01	0.01	0.13	88	5	23	<1	89	<5	<10	0.04	13
W1600 060N		1.0	16	23	40	2	3	4	0.2	<5	11	<5	>10.00	36	<10	265	49	220	<20	<20	3	0.36	0.06	0.02	0.03	0.08	57	3	9	<1	15	<5	<10	0.05	5
W1600 070N		1.2	58	56	102	7	21	5	0.5	<5	27	<5	>10.00	90	<10	199	101	230	<20	<20	8	1.31	0.31	0.06	0.01	0.05	24	8	13	4	17	<5	<10	0.08	8
W1600 080N		0.7	36	76	109	9	16	5	0.4	<5	27	<5	5.17	100	<10	231	59	166	<20	<20	11	1.32	0.25	0.08	0.02	0.08	36	6	7	4	11	<5	<10	0.09	4
W1600 090N		0.8	35	24	140	8	17	5	0.8	<5	17	<5	>10.00	75	<10	177	34	128	<20	<20	9	1.27	0.12	0.05	0.01	0.05	22	3	12	4	4	<5	<10	0.09	6
W1600 100N		1.8	89	29	152	9	18	5	0.8	<5	13	<5	9.09	110	<10	215	77	150	<20	<20	9	1.97	0.37	0.05	0.02	0.07	27	14	10	6	8	<5	<10	0.09	6
W1600 200N		0.3	31	19	574	8	46	15	8.0	<5	18	<5	5.68	333	<10	107	77	123	<20	<20	7	2.27	0.98	0.12	0.01	0.05	15	4	9	18	7	<5	<10	0.15	5
W1600 250N		1.0	45	<2	96	2	20	4	3.6	<5	<5	<5	0.87	253	<10	64	5	16	<20	<20	5	0.45	0.04	0.41	0.04	0.02	19	10	<2	<1	<1	<5	<10	0.01	<1
W1600 300N		0.4	47	16	374	6	44	8	2.3	<5	10	<5	4.05	254	<10	246	60	129	<20	<20	12	1.79	0.86	0.17	0.04	0.15	54	6	4	10	6	<5	<10	0.09	3
W1600 350N		0.7	36	87	325	14	36	7	1.4	<5	19	<5	4.73	236	<10	262	49	167	<20	<20	12	1.46	0.91	0.17	0.07	0.19	94	5	5	10	12	<5	<10	0.11	4
W1600 400N		0.7	50	31	451	16	48	8	3.2	<5	16	<5	4.61	309	<10	253	48	166	<20	<20	11	1.59	0.83	0.31	0.04	0.21	71	7	5	11	11	<5	<10	0.11	3
W1700 050N		0.9	19	47	116	13	11	6	0.6	<5	31	<5	9.95	118	<10	99	60	251	<20	<20	13	1.15	0.25	0.08	0.16	0.22	283	3	10	3	20	<5	<10	0.12	5
W1700 100N		0.3	20	15	209	6	23	7	0.8	<5	11	<5	4.17	156	<10	122	34	101	<20	<20	8	1.52	0.34	0.11	0.01	0.06	17	3	8	8	3	<5	<10	0.11	4
W1700 150N		0.4	18	15	179	4	14	7	0.4	<5	7	<5	3.64	263	<10	199	30	115	<20	<20	8	1.49	0.44	0.11	0.01	0.06	17	3	8	8	5	<5	<10	0.12	2
W1700 200N		0.3	31	21	393	16	31	8	3.2	<5	26	<5	4.99	216	<10	211	40	159	<20	<20	8	1.53	0.57	0.12	0.05	0.13	55	4	7	10	11	<5	<10	0.12	3
W1700 250N		0.6	51	73	242	39	29	6	2.2	<5	53	<5	4.86	117	<10	306	53	197	<20	<20	10	1.56	0.38	0.08	0.05	0.13	98	5	9	6	16	<5	<10	0.11	3
W1700 300N		<2	22	11	255	3	35	10	2.2	<5	8	<5	2.98	217	<10	129	35	83	<20	<20	10	1.66	0.49	0.16	0.02	0.09	20	4	5	10	<1	<5	<10	0.10	3





**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
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CLIENT: TANAMA EXPLORATION  
REPORT: V97-01909.0 ( COMPLETE )

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SAMPLE NUMBER	ELEMENT	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT
W1700 350N		1.3	61	25	254	68	20	6	2.3	<5	26	<5	6.05	163	<10	278	39	205	<20	10	1.89	0.49	0.08	0.06	0.21	71	5	7	10	17	<5	<10	0.10	4	
W1700 400N		<2	31	13	334	7	23	8	2.8	<5	6	<5	3.54	279	<10	218	21	144	<20	7	1.43	0.45	0.15	0.03	0.10	21	5	6	9	8	<5	<10	0.13	3	
W1800 050N		0.3	39	12	398	3	37	11	3.5	<5	8	<5	3.01	379	<10	255	34	80	<20	11	1.42	0.54	0.40	0.02	0.12	25	7	4	11	<1	<5	<10	0.08	2	
W1800 100N		0.3	20	7	485	2	19	19	6.9	<5	<5	<5	3.85	511	<10	570	21	118	<20	4	1.55	0.60	0.18	0.02	0.19	14	3	6	12	4	8	<10	0.16	3	
W1800 150N		<2	33	8	210	3	18	11	1.1	<5	<5	<5	4.43	432	<10	319	15	128	<20	4	2.07	0.87	0.11	0.03	0.16	12	6	6	12	5	10	<10	0.18	2	
W1800 200N		<2	24	8	407	4	25	5	1.2	<5	6	<5	2.36	150	<10	73	25	83	<20	7	1.00	0.38	0.11	0.02	0.03	10	5	5	7	<1	<5	<10	0.07	1	
W1800 250N		<2	27	52	1016	20	40	14	2.3	<5	14	<5	7.36	1050	<10	77	32	271	<20	4	1.90	0.87	0.09	<0.01	0.04	12	5	8	13	25	<5	<10	0.15	7	
W1800 300N		2.1	147	8	244	18	19	5	2.1	<5	11	<5	4.62	114	<10	91	27	62	<20	3	1.32	0.23	0.06	0.03	0.06	31	5	4	2	<1	<5	<10	0.03	2	
W1800 350N		0.8	67	9	236	13	26	7	1.8	<5	31	<5	8.89	250	<10	100	203	153	<20	17	2.09	1.20	0.19	0.09	0.55	143	4	9	11	8	7	<10	0.14	5	
W1900 050N		0.6	42	10	1066	5	83	13	1.2	<5	9	<5	5.45	490	<10	398	31	123	<20	7	1.86	0.77	0.33	0.02	0.09	17	7	5	19	5	7	<10	0.12	3	
W1900 100N		<2	18	8	414	2	26	11	2.4	<5	<5	<5	3.41	346	<10	309	27	103	<20	6	1.52	0.62	0.25	0.02	0.12	18	4	5	9	2	6	<10	0.12	2	
W1900 150N		<2	48	11	340	2	25	13	1.0	<5	<5	<5	2.57	445	<10	160	14	80	<20	5	1.49	0.43	0.13	0.03	0.04	14	5	4	10	<1	5	<10	0.10	2	
W1900 200N		<2	23	13	474	4	22	8	1.2	<5	7	<5	3.49	374	<10	97	30	117	<20	7	1.57	0.80	0.29	0.01	0.05	15	5	6	15	5	6	<10	0.12	3	
W1900 250N		<2	79	22	898	5	61	5	4.8	<5	<5	<5	2.69	200	<10	116	30	73	<20	8	1.08	0.32	0.18	0.02	0.07	25	5	4	6	<1	<5	<10	0.05	1	
W1900 300N		1.0	116	31	960	38	112	19	22.6	<5	80	6	5.63	1454	<10	235	32	195	<20	9	1.51	0.37	0.12	0.07	0.12	94	15	5	4	14	<5	<10	0.07	3	
W1900 350N		1.1	92	17	562	22	56	8	4.9	<5	21	<5	7.05	326	<10	279	86	173	<20	20	2.07	1.14	0.29	0.12	0.46	155	12	6	12	12	5	<10	0.11	4	
W1900 400N		0.4	89	13	466	9	70	11	4.7	<5	13	<5	3.99	300	<10	208	58	126	<20	11	2.00	1.00	0.33	0.05	0.18	58	9	4	11	7	5	<10	0.09	3	
W2000 000N		2.1	75	18	225	8	21	6	1.6	<5	23	<5	7.73	180	<10	339	45	172	<20	6	1.07	0.45	0.07	0.02	0.16	35	4	8	5	11	<5	<10	0.10	3	
W2000 070N		0.9	39	22	391	11	25	8	2.2	<5	12	<5	7.60	315	<10	426	41	154	<20	6	1.52	0.55	0.08	0.02	0.12	23	5	8	7	7	6	<10	0.09	3	
W2000 100N		<2	25	4	485	3	26	15	4.6	<5	<5	<5	4.46	489	<10	493	27	149	<20	5	1.73	0.76	0.18	0.02	0.16	12	5	6	12	9	9	<10	0.16	3	
W2000 180N		<2	20	7	170	3	16	7	1.1	<5	<5	<5	3.50	297	<10	300	31	149	<20	6	1.81	0.79	0.12	0.02	0.16	11	4	5	12	9	9	<10	0.14	2	
W2000 190N		2.1	84	669	414	1	24	17	2.9	13	<5	<5	6.03	493	<10	171	25	346	<20	3	1.67	0.90	0.14	0.02	0.08	11	7	6	12	34	12	<10	0.19	4	
W2000 200N		<2	25	12	226	4	32	10	1.1	<5	9	<5	3.73	323	<10	191	38	109	<20	9	2.02	0.74	0.17	0.02	0.12	16	4	5	15	4	<5	<10	0.11	4	
W2000 250N		0.5	20	11	145	2	27	15	2.2	<5	6	<5	2.58	862	<10	179	37	58	<20	11	1.36	0.63	0.45	0.02	0.12	26	4	3	8	<1	<5	<10	0.10	2	
W2000 300N		0.6	27	21	293	4	19	4	3.7	<5	9	<5	1.71	104	<10	92	19	61	<20	6	0.69	0.22	0.12	0.02	0.05	18	3	4	4	<1	<5	<10	0.07	<1	
W2000 350N		0.7	102	77	437	16	56	9	3.9	<5	6	<5	6.45	276	<10	234	66	171	<20	18	2.11	1.06	0.18	0.05	0.34	92	11	5	14	12	<5	<10	0.09	4	
W2000 400N		0.5	66	10	511	6	66	12	3.8	<5	6	<5	3.16	374	<10	171	46	89	<20	12	1.78	0.80	0.32	0.03	0.16	39	10	4	11	2	<5	<10	0.08	2	
W2100 150N		0.3	22	10	432	3	22	11	3.8	<5	<5	<5	3.41	401	<10	245	32	104	<20	7	1.71	0.60	0.16	0.02	0.07	15	4	6	10	4	5	<10	0.12	3	
W2100 160N		<2	40	7	220	3	29	11	1.6	<5	5	<5	4.03	251	<10	399	32	157	<20	6	2.05	0.90	0.13	0.02	0.12	15	5	5	11	11	10	<10	0.14	3	
W2100 170N		<2	23	5	217	3	14	8	1.4	<5	<5	<5	3.08	450	<10	230	21	108	<20	5	1.60	0.51	0.13	0.04	0.06	13	5	6	8	2	6	<10	0.09	1	



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SAMPLE NUMBER	ELEMENT	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	
	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT
W2100 180N		0.4	16	5	104	6	19	6	1.1	<5	115	<5	4.47	242	<10	235	114	140	<20	<20	4	1.64	1.20	0.05	0.02	0.10	11	2	8	8	7	6	<10	0.15	2	
W2100 190N		<2	17	8	146	5	16	8	1.2	<5	7	<5	3.74	327	<10	178	30	110	<20	<20	7	1.45	0.48	0.10	0.01	0.08	15	3	7	7	3	<5	<10	0.10	2	
W2100 250N		0.6	81	10	1295	6	112	14	12.5	<5	5	<5	2.59	803	<10	264	29	59	<20	<20	15	1.98	0.57	0.68	0.02	0.07	44	29	3	14	<1	<5	<10	0.07	1	
W2100 300N		0.4	36	4	267	8	20	6	2.2	<5	<5	<5	3.95	314	<10	365	13	270	<20	<20	4	1.56	0.86	0.08	0.03	0.13	16	5	7	7	25	8	<10	0.12	2	
W2100 350N		0.6	128	138	2517	18	220	21	17.4	<5	39	<5	3.93	1395	<10	165	34	135	<20	<20	11	1.82	0.70	0.59	0.02	0.08	36	17	3	12	7	<5	<10	0.05	2	
W2100 400N		0.5	56	10	407	7	46	7	8.8	<5	<5	<5	2.92	223	<10	210	49	108	<20	<20	11	1.36	0.67	0.31	0.04	0.18	42	7	4	9	3	<5	<10	0.07	2	
W2200 160N		0.3	36	7	166	4	12	9	0.9	<5	<5	<5	4.67	365	<10	1203	30	218	<20	<20	4	2.69	1.41	0.13	0.03	0.53	12	7	7	14	18	18	<10	0.21	3	
W2200 170N		0.3	29	2	313	3	21	12	1.4	<5	<5	<5	4.78	439	<10	285	21	151	<20	<20	4	2.14	0.84	0.10	0.02	0.12	6	9	6	13	10	13	<10	0.19	3	
W2200 180N		<2	18	4	119	2	7	5	0.8	<5	<5	<5	3.38	225	<10	179	15	145	<20	<20	4	1.15	0.50	0.06	0.02	0.07	9	5	5	5	8	5	<10	0.12	2	
W2200 190N		<2	15	<2	116	1	9	9	1.0	<5	<5	<5	4.20	450	<10	162	12	101	<20	<20	4	1.75	0.60	0.05	0.02	0.06	13	4	7	10	2	6	<10	0.12	2	
W2200 200N		<2	18	5	116	2	15	7	0.7	<5	<5	<5	3.34	257	<10	167	38	103	<20	<20	5	1.48	0.65	0.09	0.02	0.07	11	3	6	9	3	<5	<10	0.10	2	
W2200 250N		0.5	47	8	220	15	23	5	11.9	<5	<5	<5	7.79	142	<10	119	26	153	<20	<20	6	0.44	0.08	0.25	0.02	0.03	25	7	8	1	6	<5	<10	0.04	3	
W2200 300N		0.4	31	5	233	3	41	10	1.8	<5	9	<5	2.82	281	<10	153	39	63	<20	<20	10	1.92	0.59	0.43	0.02	0.10	27	4	4	12	<1	<5	<10	0.08	2	
W2200 350N		<2	15	42	371	7	57	14	1.8	<5	56	<5	4.05	529	<10	35	275	104	<20	<20	8	1.78	1.78	0.12	0.01	0.03	8	6	3	12	3	6	<10	0.07	2	
W2200 400N		<2	24	15	549	5	42	9	5.5	<5	7	<5	2.70	312	<10	138	36	70	<20	<20	9	1.64	0.57	0.23	0.01	0.11	20	4	4	11	<1	<5	<10	0.09	3	
W2300 150N		0.4	22	8	292	2	28	9	2.4	<5	10	<5	3.55	275	<10	187	48	93	<20	<20	9	1.75	0.67	0.16	0.02	0.10	26	3	5	12	<1	<5	<10	0.08	2	
W2300 160N		<2	32	7	236	5	20	8	1.0	<5	5	<5	4.17	272	<10	258	33	141	<20	<20	6	1.86	0.60	0.09	0.02	0.10	21	4	6	10	7	6	<10	0.11	2	
W2300 170N		<2	22	3	89	<1	10	7	0.4	<5	9	<5	3.93	218	<10	631	44	173	<20	<20	5	1.86	1.02	0.03	0.02	0.34	22	2	6	9	12	11	<10	0.21	2	
W2300 180N		0.4	27	6	91	3	11	5	1.7	<5	<5	<5	3.03	187	<10	169	25	127	<20	<20	6	1.11	0.34	0.09	0.02	0.07	12	4	7	4	4	<5	<10	0.05	1	
W2300 190N		<2	53	2	589	<1	59	31	1.9	<5	<5	<5	4.94	2796	<10	219	12	118	<20	<20	7	3.03	1.07	0.21	0.03	0.05	20	24	5	21	5	15	<10	0.12	2	
W2300 200N		<2	20	8	118	3	13	8	0.9	<5	11	<5	4.85	353	<10	151	28	135	<20	<20	7	1.19	0.41	0.07	0.02	0.05	19	3	7	5	6	<5	<10	0.07	2	
W2300 210N		<2	21	9	146	2	22	8	0.7	<5	8	<5	3.37	259	<10	152	47	93	<20	<20	9	1.71	0.64	0.13	0.02	0.11	21	3	6	9	2	<5	<10	0.09	2	
W2300 250N		0.3	55	7	322	2	37	9	1.8	<5	6	<5	3.23	299	<10	136	46	67	<20	<20	13	2.07	0.63	0.22	0.01	0.10	19	7	5	15	<1	<5	<10	0.08	2	
W2300 300N		0.8	78	9	1107	8	77	11	2.6	<5	9	<5	4.32	291	<10	167	31	179	<20	<20	11	1.94	0.65	0.12	0.02	0.08	13	10	7	14	14	6	<10	0.14	4	
W2300 350N		<2	16	9	248	4	26	10	1.2	<5	16	<5	3.86	467	<10	86	42	100	<20	<20	12	1.92	1.14	0.11	0.02	0.08	16	7	6	21	3	5	<10	0.15	3	
W2300 400N		<2	24	7	371	6	36	13	3.7	<5	8	<5	2.91	472	<10	218	30	90	<20	<20	9	1.47	0.56	0.22	0.02	0.10	20	5	5	10	<1	<5	<10	0.10	2	



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PROJECT: IRON CREEK

STANDARD NAME	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sh	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	
UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PCT	
BCC GEOCHEM STD 4	1.1	266	28	217	3	38	10	1.0	<5	29	<5	2.79	560	<10	62	72	7	<20	<20	4	0.83	1.19	1.41	0.05	0.15	38	3	<2	6	<1	<5	<10	<.01	10	
BCC GEOCHEM STD 4	1.0	268	27	212	3	39	9	1.0	<5	28	<5	2.76	551	<10	60	71	7	<20	<20	4	0.82	1.18	1.40	0.05	0.15	39	3	<2	6	<1	<5	<10	<.01	10	
Number of Analyses	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mean Value	1.0	267	28	215	3	39	10	1.0	3	28	3	2.78	556	5	61	71	7	10	10	4	0.82	1.19	1.40	0.05	0.15	39	3	1	6	0.5	3	5	.005	10	
Standard Deviation	.04	1.0	8	4	0.2	1	0.5	.004	-	1	-	0.02	6	-	1	0.2	0.1	-	-	.02	.007	.006	.005	<.01	.002	0.2	<.1	-	.06	-	-	-	-	.09	
Accepted Value	0.8	290	33	255	4	42	9	0.8	1	30	1	2.60	600	0.1	55	80	9	5	1	4	0.77	1.34	1.43	0.04	0.14	39	4	2	7	1	12	1	0.01	8	
ANALYTICAL BLANK	<.2	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.5	<.5	<.5	<.01	<.1	<.10	<.1	<.1	<.1	<.20	<.20	<.1	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.2	<.1	<.1	<.5	<.10	<.01	<.1	
ANALYTICAL BLANK	<.2	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.5	<.5	<.5	<.01	<.1	<.10	<.1	<.1	<.1	<.20	<.20	<.1	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.2	<.1	<.1	<.5	<.10	<.01	<.1	
ANALYTICAL BLANK	<.2	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.5	<.5	<.5	<.01	<.1	<.10	<.1	<.1	<.1	<.20	<.20	<.1	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.2	<.1	<.1	<.5	<.10	<.01	<.1	
ANALYTICAL BLANK	<.2	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.5	<.5	<.5	<.01	<.1	<.10	<.1	<.1	<.1	<.20	<.20	<.1	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.2	<.1	<.1	<.5	<.10	<.01	<.1	
Number of Analyses	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Mean Value	0.1	0.5	1	0.5	0.5	0.5	0.5	0.1	3	3	3	0.005	0.5	5	0.5	0.5	0.5	10	10	0.5	.005	.005	.005	.005	.005	0.5	0.5	1	0.5	0.5	3	5	.005	0.5	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	0.2	1	2	1	1	1	1	0.1	2	5	5	0.05	1	.01	.005	1	.01	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01
BCC GEOCHEM STD 6	0.3	142	12	127	2	120	32	0.4	<5	126	<5	7.28	1354	<10	8	182	45	<20	<20	2	1.92	2.59	3.62	0.02	0.05	82	3	3	21	<1	8	<10	<.01	8	
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mean Value	0.3	142	12	127	2	120	32	0.4	3	126	3	7.28	1354	5	8	182	45	10	10	2	1.92	2.59	3.62	0.02	0.05	82	3	3	21	0.5	8	5	.005	8	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	0.2	140	18	140	4	135	35	0.2	1	145	1	6.50	1450	-	6	170	50	5	12	-	1.80	2.70	4.00	0.01	0.04	70	3	-	24	2	6	1	.003	5	
BCC GEOCHEM STD 5	0.7	85	6	74	<1	33	21	0.2	<5	9	<5	4.72	696	<10	199	49	122	<20	<20	7	3.29	1.69	1.05	0.06	0.33	42	8	7	26	6	11	<10	0.21	12	
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mean Value	0.7	85	6	74	0.5	33	21	0.2	3	9	3	4.72	696	5	199	49	122	10	10	7	3.29	1.69	1.05	0.06	0.33	42	8	7	26	6	11	5	0.21	12	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	0.7	90	11	80	2	40	18	0.1	1	8	1	4.74	720	0.2	200	54	133	4	2	5	3.09	1.83	1.08	0.06	0.32	39	9	4	-	1	18	1	-	9	



**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TANANA EXPLORATION

REPORT: V97-01909.0 ( COMPLETE )

DATE RECEIVED: 31-JUL-97

DATE PRINTED: 19-AUG-97

PROJECT: IRON CREEK

PAGE 6 OF 6

SAMPLE NUMBER	ELEMENT	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr		
	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
W1300 000N		<.2	53	17	766	5	119	19	2.7	<5	17	<5	4.49	301	<10	260	68	132	<20	<20	13	2.68	0.96	0.14	0.02	0.15	48	5	6	19	9	5	<10	0.13	4		
Duplicate		0.3	54	17	792	5	122	20	2.7	<5	17	<5	4.60	308	<10	265	69	136	<20	<20	13	2.75	0.98	0.14	0.02	0.15	49	5	6	20	8	5	<10	0.13	4		
W1400 250N		1.1	49	23	226	35	12	6	2.1	<5	21	<5	6.34	128	<10	283	47	316	<20	<20	12	1.73	0.45	0.06	0.07	0.13	82	6	6	31	<5	<10	0.15	4			
Duplicate		1.2	50	23	232	36	12	6	2.1	<5	20	<5	6.49	130	<10	289	48	325	<20	<20	12	1.76	0.45	0.06	0.07	0.14	83	7	8	32	<5	<10	0.15	4			
W1600 080N		0.7	36	76	109	9	16	5	0.4	<5	27	<5	5.17	100	<10	231	59	166	<20	<20	11	1.32	0.25	0.08	0.02	0.08	36	6	7	4	11	<5	<10	0.09	4		
Duplicate		0.8	36	77	110	9	16	5	0.4	<5	26	<5	5.14	101	<10	231	60	167	<20	<20	11	1.34	0.25	0.09	0.02	0.08	37	6	7	4	10	<5	<10	0.09	4		
W1800 100N		0.3	20	7	485	2	19	19	6.9	<5	<5	<5	3.85	511	<10	570	21	118	<20	<20	4	1.55	0.60	0.18	0.02	0.19	14	3	6	12	4	8	<10	0.16	3		
Duplicate		0.3	20	7	485	3	19	19	6.9	<5	<5	<5	3.84	509	<10	570	21	118	<20	<20	4	1.55	0.59	0.18	0.03	0.19	14	3	6	12	4	8	<10	0.16	3		
W2000 250N		0.5	20	11	145	2	27	15	2.2	<5	6	<5	2.58	862	<10	179	37	58	<20	<20	11	1.36	0.63	0.45	0.02	0.12	26	4	3	8	<1	<5	<10	0.10	2		
Duplicate		0.5	20	11	145	2	27	15	2.1	<5	7	<5	2.64	873	<10	183	38	60	<20	<20	12	1.41	0.64	0.46	0.02	0.12	28	5	4	8	<1	<5	<10	0.11	2		
W2200 190N		<.2	15	<2	116	1	9	9	1.0	<5	<5	<5	4.20	450	<10	162	12	101	<20	<20	4	1.75	0.60	0.05	0.02	0.06	13	4	7	10	2	6	<10	0.12	2		
Duplicate		<.2	15	2	115	1	9	9	1.0	<5	<5	<5	4.22	449	<10	163	12	101	<20	<20	4	1.75	0.60	0.05	0.02	0.06	13	4	7	10	2	6	<10	0.12	2		



# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

REPORT: V97-02022.0 ( COMPLETE )

REFERENCE:

CLIENT: TANANA EXPLORATION  
PROJECT: IRON CREEK

SUBMITTED BY: S. TRAYNOR  
DATE RECEIVED: 13-AUG-97 DATE PRINTED: 21-AUG-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
970820 1	Ag	17	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	R ROCK	17	2 -150	17	TOTAL SAMPLE PREP	17
970820 2	Cu	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 3	Pb	17	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 4	Zn	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 5	Mo	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 6	Ni	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 7	Co	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 8	Cd	17	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 9	Bi	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 10	As	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 11	Sb	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 12	Fe	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 13	Mn	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 14	Te	17	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 15	Ba	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 16	Cr	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 17	V	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 18	Sn	17	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 19	W	17	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 20	La	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 21	Al	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 22	Mg	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 23	Ca	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 24	Na	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 25	K	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 26	Sr	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 27	Y	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 28	Ga	17	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 29	Li	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 30	Nb	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 31	Sc	17	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 32	Ta	17	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 33	Ti	17	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970820 34	Zr	17	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

REPORT COPIES TO: P.O. BOX 4375 INVOICE TO: P.O. BOX 4375

\*\*\*\*\*  
This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is otherwise indicated  
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**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TANANA EXPLORATION

REPORT: V97-02022.0 ( COMPLETE )

PROJECT: IRON CREEK

DATE RECEIVED: 13-AUG-97 DATE PRINTED: 21-AUG-97 PAGE 1 OF 3

SAMPLE NUMBER	ELEMENT	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	
	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
97R056		1.5	115	21	171	2	46	12	1.2	<5	23	<5	6.09	278	<10	67	78	83	<20	<20	4	5.12	1.01	3.05	0.49	0.33	464	7	5	8	5	<5	<10	0.13	3	
97R057		2.4	24	43	17	6	8	<1	<0.2	<5	44	<5	2.73	39	<10	103	228	59	<20	<20	4	0.18	0.12	<0.01	0.03	0.13	32	3	<2	<1	<1	<5	<10	0.03	8	
97R058		0.4	63	13	386	7	31	3	4.4	<5	44	<5	4.01	47	<10	50	216	88	<20	<20	6	0.17	0.08	0.28	0.04	0.04	37	5	<2	1	<1	<5	<10	<0.1	7	
97R059		1.9	90	46	371	7	26	1	1.5	<5	85	6	>10.00	270	<10	75	228	213	<20	<20	9	1.01	0.49	1.72	0.05	0.24	93	31	<2	5	<1	<5	<10	0.05	9	
97R060		1.9	90	45	196	7	40	3	1.2	<5	130	6	>10.00	191	<10	18	200	164	<20	<20	5	0.82	0.52	0.69	0.03	0.24	47	18	<2	4	<1	<5	<10	0.04	10	
97R061		1.2	81	32	148	5	38	2	0.7	<5	80	<5	>10.00	213	<10	32	283	104	<20	<20	6	0.92	0.56	0.71	0.03	0.34	23	23	<2	5	<1	<5	<10	0.03	10	
97R062		0.8	62	18	251	7	49	3	1.6	<5	33	<5	8.34	215	<10	43	323	130	<20	<20	7	0.99	0.58	0.34	0.07	0.33	23	18	<2	5	<1	<5	<10	0.04	13	
97R063		0.5	119	10	2534	51	152	12	79.5	<5	<5	<5	6.32	162	<10	106	369	206	<20	<20	4	0.57	0.08	0.04	0.02	0.22	5	9	<2	2	<1	<5	<10	<0.1	9	
97R064		0.5	85	9	3120	44	177	15	97.7	<5	<5	<5	4.30	144	<10	103	164	121	<20	<20	2	0.30	0.06	0.02	<0.01	0.13	3	11	<2	1	<1	<5	<10	<0.1	7	
97R065		0.7	131	9	5492	24	270	18	52.6	<5	<5	<5	7.27	308	<10	29	149	133	<20	<20	5	0.43	0.12	0.43	0.01	0.16	7	9	<2	2	<1	<5	<10	<0.1	12	
97R069		<2	80	37	364	18	87	5	6.2	<5	121	<5	9.30	167	<10	23	392	373	<20	<20	9	1.07	0.25	0.39	0.05	0.19	20	42	<2	6	<1	<5	<10	0.07	4	
97R071		<2	13	<2	131	3	12	15	0.2	<5	7	<5	5.99	613	<10	712	29	109	<20	<20	19	3.14	2.15	1.79	0.26	1.76	204	9	3	22	4	8	<10	0.16	2	
97R233		1.4	82	10	399	21	32	4	4.0	<5	<5	<5	0.72	44	<10	167	68	46	<20	<20	5	0.35	0.10	0.05	<0.01	0.16	9	15	<2	1	<1	<5	<10	0.02	16	
97R234		<2	22	16	90	75	16	<1	1.1	<5	6	<5	1.19	139	<10	85	260	427	<20	<20	5	0.56	0.23	0.22	0.01	0.07	6	13	<2	3	2	<5	<10	0.11	5	
97R235		0.5	20	160	56	54	13	<1	0.3	<5	<5	<5	2.85	166	<10	109	221	481	<20	<20	4	1.12	0.30	0.02	0.03	0.06	7	3	<2	4	1	<5	<10	0.10	4	
97R236		1.2	101	17	349	3	72	1	2.3	<5	5	<5	7.05	97	<10	28	306	313	<20	<20	4	1.54	0.90	1.16	0.04	0.38	121	8	<2	6	<1	<5	<10	0.03	5	
97R237		<2	<1	16	93	<1	19	2	1.5	<5	18	<5	2.78	>20000	<10	14	44	<1	<20	<20	3	0.55	0.21	0.69	0.04	0.08	183	4	2	<1	<1	<5	34	0.01	<1	



# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V97-02022.0 ( COMPLETE )

DATE RECEIVED: 13-AUG-97      DATE PRINTED: 21-AUG-97      PAGE 2 OF 3      PROJECT: IRON CREEK

STANDARD NAME	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	
BCC GEOCHEM STD 5	0.4	88	7	70	1	34	16	<0.2	<5	9	<5	4.73	795	<10	210	48	128	<20	9	3.37	1.81	1.11	0.07	0.35	45	9	<2	27	4	10	<10	0.22	12	
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mean Value	0.4	88	7	70	1	34	16	0.1	3	9	3	4.73	795	5	210	48	128	10	9	3.37	1.81	1.11	0.07	0.35	45	9	1	27	4	10	5	0.22	12	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	0.7	90	11	80	2	40	18	0.1	1	8	1	4.74	720	0.2	200	54	133	4	2	5	3.09	1.83	1.08	0.06	0.32	39	9	4	1	18	1	-	9	

ANALYTICAL BLANK	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	
ANALYTICAL BLANK	<.2	<1	<2	<1	<1	<1	1	<0.2	<5	<5	<5	<0.01	4	<10	<1	<1	<1	<20	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<1	<2	<1	<1	<5	<10	<0.01	<1	
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value	0.1	0.5	1	0.5	0.5	0.5	1	0.1	3	3	3	0.005	4	5	0.5	0.5	0.5	10	10	0.5	.005	.005	.005	.005	.005	0.5	0.5	1	0.5	0.5	3	5	.005	0.5
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	0.2	1	2	1	1	1	1	0.1	2	5	5	0.05	1	.01	.01	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01



# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V97-02022.0 ( COMPLETE )

PROJECT: IRON CREEK

DATE RECEIVED: 13-AUG-97

DATE PRINTED: 21-AUG-97

PAGE 3 OF 3

SAMPLE NUMBER	ELEMENT		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	
	UNITS	PPM																																			PPM
97R058	0.4	63	13	386	7	31	3	4.4	<5	44	<5	4.01	47	<10	50	216	88	<20	6	0.17	0.08	0.28	0.04	0.04	37	5	<2	1	<1	<5	<10	<.01	7				
Duplicate	0.3	66	14	403	7	32	3	4.5	<5	44	<5	4.23	59	<10	53	219	87	<20	6	0.17	0.09	0.29	0.04	0.04	39	5	<2	1	<1	<5	<10	<.01	7				





# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

REPORT: V97-02109.0 ( COMPLETE )

REFERENCE:

CLIENT: TANAMA EXPLORATION  
PROJECT: BIG TOP

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 18-AUG-97 DATE PRINTED: 26-AUG-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOMER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
970823	1 Au30	13	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	R ROCK	13	2 -150	13	TOTAL SAMPLE PREP	13
970823	2 Ag	13	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	3 Cu	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	4 Pb	13	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	5 Zn	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	6 Mo	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	7 Ni	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	8 Co	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	9 Cd	13	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	10 Bi	13	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	11 As	13	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	12 Sb	13	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	13 Fe	13	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	14 Mn	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	15 Te	13	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	16 Ba	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	17 Cr	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	18 V	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	19 Sn	13	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	20 W	13	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	21 La	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	22 Al	13	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	23 Mg	13	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	24 Ca	13	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	25 Na	13	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	26 K	13	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	27 Sr	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	28 Y	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	29 Ga	13	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	30 Li	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	31 Nb	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	32 Sc	13	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	33 Ta	13	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	34 Ti	13	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970823	35 Zr	13	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

REPORT COPIES TO: P.O. BOX 4375 INVOICE TO: P.O. BOX 4375

\*\*\*\*\*  
This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated.  
\*\*\*\*\*



**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TANAMA EXPLORATION

REPORT: V97-02109.0 ( COMPLETE )

DATE RECEIVED: 18-AUG-97

DATE PRINTED: 26-AUG-97

PAGE 1 OF 3

PROJECT: BIG TOP

SAMPLE NUMBER	ELEMENT	AU30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	
	UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
97R075		<5	2.5	243	21	662	33	47	3	11.2	<5	73	25	0.89	89	<10	53	269	237	<20	<20	2	0.33	0.04	0.21	0.02	0.07	8	8	<2	1	<1	<5	<10	0.06	2	
97R078		<5	1.0	130	5	668	21	61	11	11.0	<5	14	5	2.69	272	<10	47	240	338	<20	<20	3	3.17	0.61	1.83	0.32	0.49	76	11	5	10	<1	7	<10	0.07	3	
97R080		<5	0.7	90	3	202	15	34	13	1.8	<5	6	<5	4.53	484	<10	41	168	170	<20	<20	<1	4.50	1.05	2.25	0.31	0.95	113	6	5	19	<1	13	<10	0.12	1	
97R239		<5	0.7	88	<2	214	5	33	15	1.9	<5	13	<5	3.95	367	<10	104	119	243	<20	<20	4	1.58	0.86	0.15	0.07	0.70	4	6	<2	12	<1	16	<10	0.16	5	
97R240		<5	0.6	48	14	193	15	10	3	1.8	<5	8	<5	4.30	223	<10	327	108	214	<20	<20	3	0.60	0.61	0.08	0.04	0.21	22	7	<2	5	<1	8	<10	0.11	10	
97R241		<5	0.4	23	29	116	24	52	4	0.7	<5	31	5	3.75	79	<10	90	329	224	<20	<20	5	0.24	0.21	0.07	0.03	0.04	13	17	<2	2	<1	<5	<10	0.07	6	
97R242		8	1.5	33	30	237	10	72	12	3.2	<5	150	7	7.00	127	<10	14	260	409	<20	<20	3	0.97	0.97	0.19	0.08	0.65	17	6	3	6	<1	5	<10	0.09	10	
97R243		14	1.4	148	21	1736	77	221	9	21.5	<5	37	8	1.84	71	<10	51	91	187	<20	<20	3	0.60	0.38	0.13	0.01	0.26	4	13	<2	3	<1	<5	<10	0.07	7	
97R244		18	2.1	57	42	617	11	92	12	4.7	<5	92	11	4.88	196	<10	18	202	334	<20	<20	2	1.14	1.10	0.41	0.07	0.64	14	9	3	7	<1	6	<10	0.07	10	
97R245		6	0.7	70	20	368	36	53	5	7.5	<5	16	<5	0.83	51	<10	277	296	202	<20	<20	3	0.41	0.29	0.27	0.02	0.21	9	8	<2	2	<1	<5	<10	0.05	5	
97R246		11	1.2	60	17	1427	4	140	7	14.5	<5	5	<5	2.07	1810	<10	55	47	86	<20	<20	<1	1.14	1.44	2.09	<0.01	0.11	44	15	<2	8	<1	<5	<10	0.03	3	
97R247		12	1.6	41	24	625	8	79	12	4.5	<5	56	6	4.34	105	<10	23	111	169	<20	<20	3	0.75	0.46	0.40	0.10	0.19	27	6	<2	4	<1	<5	<10	0.12	6	
97R248		13	1.3	39	22	1104	13	128	14	10.2	<5	96	7	5.28	112	<10	15	206	315	<20	<20	2	0.98	0.91	0.24	0.05	0.51	16	6	3	7	<1	<5	<10	0.06	10	



# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

CLIENT: TANAMA EXPLORATION  
REPORT: V97-02109.0 ( COMPLETE )

DATE RECEIVED: 18-AUG-97      DATE PRINTED: 26-AUG-97      PAGE 2 OF 3  
PROJECT: BIG TOP

STANDARD	ELEMENT	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
NAME	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT
ANALYTICAL BLANK		<5	<2	<1	<2	<1	<1	<1	<1	<0.2	<5	<5	<5	<0.01	<1	<10	<1	<1	<1	<20	<20	<1	<0.01	<0.01	<0.01	<0.01	<1	<1	<2	<1	<1	<5	<10	<0.01	<1	
Number of Analyses		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value		3	0.1	0.5	1	0.5	0.5	0.5	0.1	3	3	3	3	0.005	5	0.5	0.5	0.5	10	10	0.5	0.005	0.005	0.005	0.005	0.005	0.5	0.5	1	0.5	0.5	3	5	0.005	0.5	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		5	0.2	1	2	1	1	1	0.1	2	5	5	5	0.05	1	0.01	0.01	1	1	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Garnet Standard		364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		394	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCC GEOCHEM STD 4		-	0.8	261	29	217	3	36	8	0.9	<5	26	<5	2.55	538	<10	59	72	7	<20	<20	2	0.78	1.08	1.26	0.05	0.15	35	3	<2	6	<1	<5	<10	<0.01	10
Number of Analyses		-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value		-	0.8	261	29	217	3	36	8	0.9	3	26	3	2.55	538	5	59	72	7	10	10	2	0.78	1.08	1.26	0.05	0.15	35	3	1	6	0.5	3	5	0.005	10
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	0.8	290	33	255	4	42	9	0.8	1	30	1	2.60	600	0.1	55	80	9	5	1	4	0.77	1.34	1.43	0.04	0.14	39	4	2	7	1	12	1	0.01	8



**Intertek Testing Services**  
**Bondar Clegg**

**Geochemical**  
**Lab**  
**Report**

CLIENT: TANAMA EXPLORATION

REPORT: V97-02109.0 ( COMPLETE )

DATE RECEIVED: 18-AUG-97

DATE PRINTED: 26-AUG-97

PAGE 3 OF 3

PROJECT: BIG TOP

SAMPLE NUMBER	ELEMENT	AU30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	UNITS	
																																					PPM	PCT
97R245		6	0.7	70	20	368	36	53	5	7.5	<5	16	<5	0.83	51	<10	277	296	202	<20	3	0.41	0.29	0.27	0.02	0.21	9	8	<2	2	<1	<5	<10	0.05	5			
Duplicate		6	0.7	69	19	363	36	53	5	7.5	<5	16	<5	0.82	51	<10	212	299	203	<20	3	0.41	0.29	0.27	0.02	0.21	9	8	<2	2	<1	<5	<10	0.05	5			



# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

REPORT: V97-02193.0 ( COMPLETE )

REFERENCE:

CLIENT: TANAMA EXPLORATION  
PROJECT: BIG TOP

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 25-AUG-97 DATE PRINTED: 10-SEP-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
970909 1 Ag	Silver	44	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 37 Al2O3	Alumina (Al2O3)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 2 Cu	Copper	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 38 Fe2O3*	Total Iron (Fe2O3)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 3 Pb	Lead	44	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 39 MnO	Manganese (MnO)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 4 Zn	Zinc	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 40 MgO	Magnesium (MgO)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 5 Mo	Molybdenum	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 41 CaO	Calcium (CaO)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 6 Ni	Nickel	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 42 Na2O	Sodium (Na2O)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 7 Co	Cobalt	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 43 K2O	Potassium (K2O)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 8 Cd	Cadmium	44	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 44 P2O5	Phosphorous (P2O5)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 9 Bi	Bismuth	44	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 45 LOI	Loss on Ignition	1	-2.00 PCT	Ignition 1000 Deg.	GRAVIMETRIC
970909 10 As	Arsenic	44	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 46 Total	Whole Rock Total	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 11 Sb	Antimony	44	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	970909 47 Cr2O3	Chromium Oxide	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE
970909 12 Fe	Iron	44	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 13 Mn	Manganese	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 14 Te	Tellurium	44	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 15 Ba	Barium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 16 Cr	Chromium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 17 V	Vanadium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 18 Sn	Tin	44	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 19 W	Tungsten	44	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 20 La	Lanthanum	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 21 Al	Aluminum	44	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 22 Mg	Magnesium	44	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 23 Ca	Calcium	44	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 24 Na	Sodium	44	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 25 K	Potassium	44	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 26 Sr	Strontium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 27 Y	Yttrium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 28 Ga	Gallium	44	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 29 Li	Lithium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 30 Nb	Niobium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 31 Sc	Scandium	44	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 32 Ta	Tantalum	44	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 33 Ti	Titanium	44	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 34 Zr	Zirconium	44	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
970909 35 SiO2	Silica (SiO2)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE						
970909 36 TiO2	Titanium (TiO2)	1	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE						

REPORT COPIES TO: P.O. BOX 4375

INVOICE TO: P.O. BOX 4375

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This report must not be produced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated  
\*\*\*\*\*







# Intertek Testing Services

## Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION  
 REPORT: V97-02193.0 ( COMPLETE )

DATE RECEIVED: 25-AUG-97      DATE PRINTED: 10-SEP-97      PAGE 2A( 3/ 8 )  
 PROJECT: BIG TOP

SAMPLE NUMBER	ELEMENT UNITS	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO2	TiO2	Al2O3					
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT
2400W 200N	<.2	53	12	353	17	38	12	1.7	<5	7	<5	4.87	537	<10	342	31	120	<20	<20	8	2.39	0.82	0.11	0.01	0.14	21	7	5	13	15	<5	<10	0.07	3									
2400W 250N	<.2	26	13	142	2	13	9	0.9	<5	<5	<5	2.85	327	<10	125	33	85	<20	<20	8	1.54	0.33	0.10	<.01	0.04	11	3	7	7	12	<5	<10	0.10	2									
2500W 000	<.2	30	15	394	4	26	8	3.1	<5	11	<5	3.97	275	<10	212	36	106	<20	<20	7	1.55	0.47	0.10	0.01	0.08	26	3	4	11	14	<5	<10	0.08	3									
2500W 050N	1.1	104	37	110	5	9	3	1.1	<5	53	5	>10.00	171	<10	385	141	334	<20	<20	7	0.93	0.27	0.04	0.02	0.13	51	6	10	2	34	<5	<10	0.03	5									
2500W 100N	<.2	47	19	172	5	18	5	1.6	<5	9	<5	4.69	192	<10	399	57	131	<20	<20	11	1.48	0.43	0.11	0.02	0.16	111	3	6	7	16	<5	<10	0.03	2									
2500W 150N	<.2	47	10	435	5	29	9	2.1	<5	<5	<5	4.62	480	<10	317	32	115	<20	<20	6	1.94	0.66	0.24	0.01	0.13	29	5	5	11	14	<5	<10	0.05	2									
2500W 200N	<.2	60	9	396	6	38	13	1.6	<5	6	<5	4.49	588	<10	306	27	136	<20	<20	7	2.67	0.74	0.11	0.02	0.14	21	8	6	14	18	6	<10	0.09	4									
2500W 250N	<.2	26	9	569	3	31	8	1.2	<5	7	<5	2.80	291	<10	128	37	97	<20	<20	9	1.57	0.64	0.17	<.01	0.05	17	4	5	16	14	<5	<10	0.09	2									
2600W 000	0.6	53	22	181	9	16	5	1.9	<5	30	<5	5.55	239	<10	460	60	181	<20	<20	10	1.23	0.39	0.10	0.02	0.16	79	3	7	4	21	<5	<10	0.04	3									
2600W 050N	<.2	40	25	159	7	18	5	1.0	<5	12	<5	6.05	171	<10	365	56	155	<20	<20	10	1.27	0.47	0.07	0.03	0.18	102	4	6	5	18	<5	<10	0.04	3									
2600W 100N	<.2	28	53	506	14	21	5	4.9	<5	8	<5	5.03	195	<10	279	43	216	<20	<20	5	1.12	0.43	0.05	0.01	0.08	39	3	6	6	25	<5	<10	0.07	3									
2600W 150N	<.2	41	17	1182	7	45	16	12.6	<5	<5	<5	4.90	761	<10	331	25	124	<20	<20	5	1.54	0.57	0.25	0.01	0.11	34	5	5	9	15	<5	<10	0.04	2									
2600W 200N	<.2	55	18	276	7	39	10	1.3	<5	<5	<5	3.70	289	<10	102	29	96	<20	<20	7	1.91	0.61	0.11	0.01	0.05	13	7	4	10	13	<5	<10	0.05	2									
2600W 250N	<.2	16	59	126	12	19	8	0.6	<5	6	<5	3.42	240	<10	114	34	91	<20	<20	8	1.73	0.54	0.18	<.01	0.05	12	3	5	10	14	<5	<10	0.08	3									





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**Bondar Clegg**

**Geochemical  
 Lab  
 Report**

CLIENT: TANAWA EXPLORATION

REPORT: V97-02193.0 ( COMPLETE )

DATE RECEIVED: 25-AUG-97

DATE PRINTED: 10-SEP-97

PROJECT: BIG TOP

PAGE 28( 4/ 8)

SAMPLE NUMBER	ELEMENT	Fe203*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI Total		Cr2O3
									PCT	PCT	
2400W 200N	UNITS										
2400W 250N											
2500W 000											
2500W 050N											
2500W 100N											
2500W 150N											
2500W 200N											
2500W 250N											
2600W 000											
2600W 050N											
2600W 100N											
2600W 150N											
2600W 200N											
2600W 250N											
97R 249		5.39	0.06	2.05	2.29	6.73	0.29	0.12	2.46	99.61	0.01





# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V97-02193.0 ( COMPLETE )

PROJECT: BIG TOP

DATE RECEIVED: 25-AUG-97      DATE PRINTED: 10-SEP-97      PAGE 36( 6/ 8 )

STANDARD NAME	ELEMENT	Fe203*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI Total	Cr2O3
UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT
BCC GEOCHEM STD 4	-	-	-	-	-	-	-	-	-	-
Number of Analyses	-	-	-	-	-	-	-	-	-	-
Mean Value	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-
Accepted Value	-	-	-	-	-	-	-	-	-	-
ANALYTICAL BLANK	-	-	-	-	-	-	-	-	-	-
ANALYTICAL BLANK	-	-	-	-	-	-	-	-	-	-
Number of Analyses	-	-	-	-	-	-	-	-	-	-
Mean Value	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-
Accepted Value	<.0001	<.01	<.01	<.01	<.01	<.01	<.01	<.001	<.001	<.001
BCC GEOCHEM STD 6	-	-	-	-	-	-	-	-	-	-
Number of Analyses	-	-	-	-	-	-	-	-	-	-
Mean Value	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-
Accepted Value	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED	7.24	0.14	3.07	4.18	1.71	2.12	0.32	10.02	89.82	0.01
Number of Analyses	1	1	1	1	1	1	1	1	1	1
Mean Value	7.24	0.14	3.07	4.18	1.71	2.12	0.32	10.02	89.82	0.01
Standard Deviation	-	-	-	-	-	-	-	-	-	-
Accepted Value	7.25	0.14	3.11	4.00	1.72	2.12	0.32	10.30	-	0.01



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# Geochemical Lab Report

CLIENT: TANANA EXPLORATION  
 REPORT: V97-02195.0 ( COMPLETE )

DATE RECEIVED: 25-AUG-97      DATE PRINTED: 10-SEP-97      PROJECT: BIG TOP  
 DATE RECEIVED: 25-AUG-97      DATE PRINTED: 10-SEP-97      PAGE 4A( 7 / 8 )

SAMPLE NUMBER	ELEMENT	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO2	TiO2	PCT		
																																						PPM	PPM	PPM
1200W 150S		<.2	45	12	429	1	76	15	1.9	<5	8	<5	3.58	558	<10	215	52	83	<20	<20	2.25	1.13	0.62	0.05	0.24	41	12	4	14	12	6	<10	0.13	5						
Duplicate		<.2	47	13	448	1	80	16	2.1	<5	11	<5	3.73	575	<10	221	54	86	<20	<20	2.31	1.16	0.64	0.05	0.25	42	12	4	15	12	6	<10	0.13	5						
2200W 000		3.2	253	6	94	2	36	3	1.8	<5	<5	<5	2.33	56	<10	63	16	46	<20	<20	0.96	0.09	0.08	0.02	0.02	10	13	3	2	6	<5	<10	0.03	2						
Duplicate		3.3	262	8	97	2	37	3	1.9	<5	<5	<5	2.42	56	<10	63	17	47	<20	<20	0.98	0.08	0.08	0.02	0.02	10	13	3	2	6	<5	<10	0.03	2						
2600W 100N		<.2	28	53	506	14	21	5	4.9	<5	8	<5	5.03	195	<10	279	43	216	<20	<20	1.12	0.43	0.05	0.01	0.08	39	3	6	6	25	<5	<10	0.07	3						
Duplicate		<.2	30	53	516	14	21	6	4.9	<5	9	<5	5.27	202	<10	283	44	221	<20	<20	1.14	0.44	0.06	0.02	0.08	40	3	6	6	25	<5	<10	0.07	3						





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Bondar Clegg

REPORT: V97-02703.0 ( COMPLETE )

REFERENCE:

CLIENT: TANANA EXPLORATION  
PROJECT: BIG TOP

SUBMITTED BY: S. TRAYNOR  
DATE RECEIVED: 06-OCT-97  
DATE PRINTED: 17-OCT-97

DATE APPROVED	ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
971016	1	Au30 Gold	87	5 PPB	Fire Assay of 30g	30g Fire Assay - AA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
S SOIL	87	4 AS RECEIVED	87	HOMOGENIZING	87
				REBAG SAMPLE	87

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# Geochemical Lab Report

CLIENT: TANANA EXPLORATION  
REPORT: V97-02703.0 ( COMPLETE )

DATE RECEIVED: 06-OCT-97

PROJECT: BIG TOP

DATE PRINTED: 17-OCT-97 PAGE 1 OF 4

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
S4 W1200 050N		35	S4 W1700 150N		<5
S4 W1200 150N		<5	S4 W1700 200N		<5
S4 W1200 200N		7	S4 W1700 250N		<5
S4 W1200 250N		<5	S4 W1700 300N		<5
S4 W1200 300N		7	S4 W1700 350N		6
S4 W1200 350N		<5	S4 W1700 400N		<5
S4 W1200 400N		<5	S4 W1800 050N		<5
S4 W1300 000N		<5	S4 W1800 100N		<5
S4 W1300 050N		<5	S4 W1800 150N		<5
S4 W1300 100N		7	S4 W1800 200N		<5
S4 W1300 150N		35	S4 W1800 250N		<5
S4 W1300 200N		<5	S4 W1800 300N		<5
S4 W1300 250N		<5	S4 W1800 350N		35
S4 W1300 300N		<5	S4 W1900 050N		<5
S4 W1300 400N		<5	S4 W1900 100N		<5
S4 W1400 000N		<5	S4 W1900 150N		<5
S4 W1400 050N		<5	S4 W1900 200N		<5
S4 W1400 100N		<5	S4 W1900 250N		6
S4 W1400 150N		9	S4 W1900 300N		<5
S4 W1400 200N		<5	S4 W1900 350N		8
S4 W1400 250N		7	S4 W1900 400N		<5
S4 W1400 300N		6	S4 W2000 000N		<5
S4 W1400 350N		21	S4 W2000 070N		<5
S4 W1500 050N		<5	S4 W2000 100N		<5
S4 W1500 100N		<5	S4 W2000 200N		<5
S4 W1500 150N		<5	S4 W2000 250N		<5
S4 W1500 200N		<5	S4 W2000 300N		<5
S4 W1500 250N		<5	S4 W2000 350N		<5
S4 W1500 300N		6	S4 W2000 400N		<5
S4 W1500 350N		<5	S4 W2100 150N		<5
S4 W1500 400N		<5	S4 W2100 170N		<5
S4 W1600 050N		<5	S4 W2100 250N		<5
S4 W1600 100N		<5	S4 W2100 300N		<5
S4 W1600 200N		21	S4 W2100 350N		<5
S4 W1600 250N		<5	S4 W2100 400N		<5
S4 W1600 300N		<5	S4 W2200 160N		<5
S4 W1600 350N		<5	S4 W2200 200N		<5
S4 W1600 400N		6	S4 W2200 250N		<5
S4 W1700 050N		<5	S4 W2200 300N		<5
S4 W1700 100N		<5	S4 W2200 350N		<5

Bondar-Clegg & Company Ltd.

130 Pemberton Avenue, North Vancouver, B.C., V7P 2R5, Canada

Tel: (604) 985-0681, Fax: (604) 985-1071



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REPORT: V97-02703.0 ( COMPLETE )

DATE RECEIVED: 06-OCT-97

PROJECT: BIG TOP

DATE PRINTED: 17-OCT-97

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SAMPLE  
NUMBER      ELEMENT  
                 UNITS      Au30  
                                 PPB

SAMPLE  
NUMBER      ELEMENT  
                 UNITS      Au30  
                                 PPB

S4 W2200 400N      <5

S4 W2300 150N      <5

S4 W2300 200N      <5

S4 W2300 250N      <5

S4 W2300 300N      <5

S4 W2300 350N      <5

S4 W2300 400N      <5





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DATE RECEIVED: 06-OCT-97

PROJECT: BIG TOP

DATE PRINTED: 17-OCT-97

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STANDARD NAME	ELEMENT UNITS	Au30 PPB
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STANDARD NAME	ELEMENT UNITS	Au30 PPB
---------------	---------------	----------

ANALYTICAL BLANK		<5
ANALYTICAL BLANK		<5
ANALYTICAL BLANK		<5
ANALYTICAL BLANK		<5
Number of Analyses		4

Mean Value		2.5
Standard Deviation		0.00
Accepted Value		5

Gannet Standard		1644
Number of Analyses		1
Mean Value		1644.3
Standard Deviation		-
Accepted Value		1585

Gannet Standard		2473
Number of Analyses		1
Mean Value		2473.3
Standard Deviation		-
Accepted Value		2450

Gannet Standard		1090
Number of Analyses		1
Mean Value		1089.6
Standard Deviation		-
Accepted Value		1050



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CLIENT: TANANA EXPLORATION

REPORT: V97-02703.0 ( COMPLETE )

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SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
W1200 250N		<5
Duplicate		<5
W1500 200N		<5
Duplicate		<5
W1800 200N		<5
Duplicate		<5
W2200 160N		<5
Duplicate		<5

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
------------------	------------------	-------------



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REPORT: V97-02193.1 ( COMPLETE )

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 06-OCT-97

DATE PRINTED: 16-OCT-97

DATE	APPROVED	ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
971015	1	Au30	Gold	12	5 PPB	Fire Assay of 30g	30g Fire Assay - AA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
S SOIL	12	1 -80	12	SAMPLES FROM STORAGE	12

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REPORT: V97-02193.1 ( COMPLETE )

DATE RECEIVED: 06-OCT-97

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PAGE 1 OF 3

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
------------------	------------------	-------------

S1 1200W 000		18
S1 1400W 000		16
S1 2000W 050N		9
S1 2100W 000		24
S1 2100W 50N		10

S1 2100W 100N		12
S1 2200W 000		7
S1 2200W 100N		8
S1 2200W 150N		<5
S1 2300W 000		12

S1 2300W 050N		7
S1 2300W 100N		14



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PAGE 2 OF 3

STANDARD NAME	ELEMENT UNITS	Au30 PPB
------------------	------------------	-------------

ANALYTICAL BLANK		5
Number of Analyses		1
Mean Value		5.0
Standard Deviation		-
Accepted Value		5

Gannet Standard		1492
Number of Analyses		1
Mean Value		1492.2
Standard Deviation		-
Accepted Value		1585

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DATE PRINTED: 16-OCT-97

PAGE 3 OF 3

SAMPLE NUMBER	ELEMENT UNITS	AU30 PPB
2100W 000		24
Duplicate		24



# Intertek Testing Services

Bondar Clegg

# Geochemical Lab Report

REPORT: V97-02755.0 ( COMPLETE )

REFERENCE:

CLIENT: TANAMA EXPLORATION  
PROJECT: BIG TOP

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 09-OCT-97 DATE PRINTED: 28-OCT-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOMER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
971016 1	Au30	14	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	R ROCK	14	2 -150	14	TOTAL SAMPLE PREP	14
971016 2	Ag	14	0.5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 3	Cu	14	1 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 4	Pb	14	2 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 5	Zn	14	2 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 6	Molybdenum	14	1 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 7	Ni	14	1 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 8	Co	14	1 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 9	Cd	14	1 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 10	Bi	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 11	As	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 12	Sb	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 13	Tot Iron	14	0.01 PCT	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 14	Mn	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 15	Te	14	25 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 16	Ba	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 17	Cr	14	2 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 18	V	14	2 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 19	Sn	14	20 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 20	W	14	20 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 21	Li	14	2 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 22	Ga	14	10 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 23	La	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 24	Sc	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 25	Ta	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 26	Ti	14	0.01 PCT	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 27	Al	14	0.01 PCT	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 28	Mg	14	0.01 PCT	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 29	Ca	14	0.01 PCT	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 30	Na	14	0.01 PCT	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 31	K	14	0.01 PCT	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 32	Nb	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 33	Sr	14	1 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 34	Y	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 35	Zr	14	5 PPM	HF-HNO3-HClO4-HCl	INDUC. COUP. PLASMA						
971016 36	Ba	2	0.01 PCT	HF-HNO3-HClO4-HCl	ATOMIC ABSORPTION						

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# Intertek Testing Services Bondar Clegg

# Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V97-02755.0 ( COMPLETE )

PROJECT: BIG TOP

DATE RECEIVED: 09-OCT-97 DATE PRINTED: 28-OCT-97 PAGE 1 OF 3

SAMPLE NUMBER	ELEMENT AU30		Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	Mn	Te	Ba	Cr	V	Sn	W	Li	Ba	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	Ba				
	PPM	PPB																																					PPM	PPM	PPM	PPM
97R021	12	<5	123	20	180	8	31	7	1	<5	6	8	2.47	218	<25	>2000	208	207	<20	<20	14	<10	17	11	<5	0.21	5.94	1.06	0.75	2.41	1.67	12	168	9	54							
97R022	14	0.9	130	16	160	21	36	6	6	<5	19	10	1.30	105	<25	>2000	178	567	<20	<20	5	<10	9	26	<5	0.33	6.00	0.26	0.93	2.27	1.19	24	169	12	37							
97R027	13	1.0	59	88	560	5	94	<1	4	<5	100	<5	>10.00	371	<25	72	362	486	<20	<20	4	<10	21	<5	<5	0.05	1.20	1.13	3.08	0.54	0.15	<5	557	51	45							
97R035	<5	<5	35	20	46	4	32	<1	<1	<5	7	<5	1.77	24	<25	104	439	64	<20	<20	<2	<10	<5	<5	<5	0.02	0.40	0.94	0.27	0.26	0.02	<5	82	9	25							
97R083	16	<5	79	17	1015	26	80	<1	15	<5	<5	<5	0.99	105	<25	>2000	248	718	<20	<20	7	<10	<5	11	<5	0.15	3.24	0.23	0.45	0.47	1.24	10	104	15	27							
97R084	16	<5	94	10	670	17	70	4	9	<5	<5	<5	2.21	193	<25	1887	243	478	<20	<20	15	<10	11	15	<5	0.19	4.86	0.57	0.59	0.28	1.64	11	74	19	46							
97R095	8	<5	23	19	20	22	29	2	<1	<5	22	<5	2.41	21	<25	149	390	30	<20	<20	<2	<10	8	<5	<5	0.06	1.03	0.13	0.02	0.70	0.06	9	82	<5	35							
97R096	8	1.0	35	5	69	13	7	<1	<1	<5	7	<5	1.90	64	<25	>2000	205	545	<20	<20	14	<10	18	8	8	0.17	5.82	0.51	0.07	0.72	2.03	13	72	6	77							
97R254	<5	1.0	37	153	294	104	47	<1	10	<5	36	<5	2.71	65	<25	303	420	281	<20	<20	2	<10	20	<5	<5	0.16	2.54	0.48	0.24	1.60	0.12	12	225	25	55							
97R255	5	<5	13	18	20	16	6	<1	<1	<5	11	<5	1.63	31	<25	352	290	118	<20	<20	<2	<10	8	<5	<5	0.06	1.04	0.02	0.01	0.60	0.08	5	109	<5	25							
97R257	6	0.9	78	7	235	5	105	11	2	<5	12	<5	3.15	205	<25	1022	222	349	<20	<20	19	<10	16	11	6	0.32	5.28	1.14	0.24	1.44	1.75	24	65	15	56							
97R264	<5	<5	30	49	1833	58	135	8	25	<5	18	<5	2.69	234	<25	141	258	377	<20	<20	6	<10	11	8	<5	0.19	3.41	0.42	0.20	2.03	0.04	13	215	23	51	0.24						
97R265	<5	<5	42	26	44	8	47	<1	<1	<5	19	<5	7.23	81	<25	345	377	181	<20	<20	<2	<10	22	5	6	0.13	2.89	0.82	0.36	1.92	0.10	8	300	28	50							
97R267	20	2.9	243	23	672	15	124	8	13	<5	30	<5	5.72	129	<25	312	424	560	<20	<20	9	<10	24	7	6	0.16	3.91	1.01	1.40	0.46	0.92	8	248	44	44	0.45						





**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TANANA EXPLORATION

REPORT: V97-02755.0 ( COMPLETE )

PROJECT: BIG TOP

DATE RECEIVED: 09-OCT-97 DATE PRINTED: 28-OCT-97 PAGE 2 OF 3

STANDARD NAME	AL30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bt	As	Sb	Fe	Tot	Mn	Te	Ba	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	Ba						
UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PCT					
ANALYTICAL BLANK	<5	<5	3	3	<2	<1	<1	<1	<1	<5	<5	<5	<0.01	<5	<25	<5	<5	<2	<2	<20	<20	<2	<10	<5	<5	<5	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01		
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Mean Value	3	0.3	3	3	1	0.5	0.5	0.5	0.5	3	3	3	0.005	3	13	3	3	1	1	10	10	1	5	3	3	3	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	5	0.2	1	2	1	1	1	1	0.5	2	5	5	0.05	1	0.01	0.005	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Gannet Standard	2505	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	2505	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	2450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	2450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BCC GEOCHEM STD 5	-	0.9	91	6	75	<1	37	15	<1	<5	17	<5	4.64	837	<25	674	81	154	<20	<20	<20	28	<10	10	17	<5	0.48	7.19	1.82	1.81	1.56	0.98	22	252	12	51	-	-	-	-	-		
Number of Analyses	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Mean Value	-	0.9	91	6	75	0.5	37	15	0.5	3	17	3	4.64	837	13	674	81	154	10	10	10	28	5	10	17	3	0.48	7.19	1.82	1.81	1.56	0.98	22	252	12	51	-	-	-	-	-		
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value	-	0.7	90	11	80	2	40	18	0.1	1	8	1	4.95	850	-	800	100	175	4	2	32	4	10	16	1	0.51	8.30	1.90	1.85	1.82	1.00	17	265	13	45	-	-	-	-	-			





**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

REPORT: V97-03157.0 ( COMPLETE )

REFERENCE:

CLIENT: TAMAMA EXPLORATION  
PROJECT: BIG TOP

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 17-NOV-97 DATE PRINTED: 20-NOV-97

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
971119 1	Au30	11	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	R ROCK	11	2	11	TOTAL SAMPLE PREP	11
971119 2	Ag	11	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 3	Cu	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 4	Pb	11	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 5	Zn	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 6	Mo	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 7	Ni	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 8	Co	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 9	Cd	11	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 10	Bismuth	11	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 11	Arsenic	11	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 12	Antimony	11	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 13	Fe	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 14	Mn	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 15	Te	11	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 16	Ba	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 17	Cr	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 18	V	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 19	Sn	11	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 20	W	11	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 21	La	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 22	Al	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 23	Mg	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 24	Ca	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 25	Na	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 26	K	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 27	Sr	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 28	Y	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 29	Ga	11	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 30	Li	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 31	Nb	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 32	Sc	11	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 33	Ta	11	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 34	Ti	11	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
971119 35	Zr	11	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

REPORT COPIES TO: P.O. BOX 4375

INVOICE TO: P.O. BOX 4375

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This report must not be reproduced except in full. The data presented in this report is specific to those samples identified under "Sample Number" and is applicable only to the samples as received expressed on a dry basis unless otherwise indicated  
\*\*\*\*\*



**Intertek Testing Services**  
Bondar Clegg

**Geochemical  
Lab  
Report**

CLIENT: TAMANA EXPLORATION

REPORT: V97-05157.0 ( COMPLETE )

PROJECT: BIG TOP

DATE RECEIVED: 17-NOV-97

DATE PRINTED: 20-NOV-97

PAGE 1 OF 3

SAMPLE NUMBER	ELEMENT	AU30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM
97R019		22	3.2	103	541	588	4	83	5	3.2	<5	8	10	4.25	213	<10	43	357	195	<20	<20	3	0.77	1.22	0.50	0.03	0.35	19	10	<2	5	<1	<5	<10	0.05	3
97R024		10	1.2	139	12	73	4	64	6	0.5	<5	<5	<5	3.26	176	<10	43	387	150	<20	<20	5	0.79	1.36	0.45	<0.01	0.09	4	5	<2	4	<1	<5	<10	0.01	3
97R034		12	0.7	19	20	60	86	61	8	1.1	<5	91	<5	2.33	42	<10	55	268	87	<20	<20	3	0.26	0.18	0.12	0.02	0.12	26	5	<2	<1	<1	<5	<10	0.09	4
97R092		<5	0.4	15	18	174	53	26	2	0.5	<5	22	<5	3.34	125	<10	167	291	649	<20	<20	5	0.51	0.69	0.07	0.05	0.32	33	5	<2	3	1	<5	<10	0.15	6
97R094		6	0.5	11	7	12	6	3	<1	<2	<5	6	<5	0.37	12	<10	667	76	55	<20	<20	14	0.66	0.06	<0.01	0.04	0.22	15	2	<2	1	<1	<5	<10	<0.01	10
97R238		9	0.9	77	10	29	7	15	2	0.2	<5	<5	<5	2.37	160	<10	148	271	160	<20	<20	7	0.70	1.08	0.08	0.09	0.38	31	3	<2	3	<1	<5	<10	0.03	8
97R245		7	0.4	19	18	264	20	74	3	3.3	<5	19	<5	0.94	36	<10	118	356	120	<20	<20	2	0.25	0.18	0.10	0.02	0.10	4	3	<2	1	<1	<5	<10	0.02	3
97R251		<5	<2	27	<2	90	<1	31	13	<2	<5	<5	<5	2.40	385	<10	1360	128	74	<20	<20	6	1.73	1.65	1.05	0.11	0.59	25	4	3	10	<1	<5	<10	0.12	<1
97R252		7	0.4	52	3	123	5	18	5	0.6	<5	<5	<5	4.38	324	<10	179	114	169	<20	<20	5	1.37	1.24	0.15	0.07	0.60	9	4	<2	9	<1	13	<10	0.15	2
97R262		<5	0.4	61	9	271	5	47	11	1.4	<5	8	<5	3.86	467	<10	202	153	165	<20	<20	9	4.35	2.24	1.65	0.45	1.52	86	6	7	13	<1	9	<10	0.18	1
97R263		16	0.5	84	8	273	53	48	3	8.1	<5	<5	<5	0.50	65	<10	207	187	223	<20	<20	4	0.49	0.53	0.20	0.01	0.25	10	10	<2	3	<1	<5	<10	0.09	5



**Intertek Testing Services**  
**Bondar Clegg**

**Geochemical**  
**Lab**  
**Report**

CLIENT: TANAMA EXPLORATION

REPORT: V97-03157.0 ( COMPLETE )

PROJECT: BIG TOP

DATE RECEIVED: 17-NOV-97

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PAGE 2 OF 3

STANDARD	AL30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	
NAME	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
ANALYTICAL BLANK	<5	<2	<1	<2	<1	<1	<1	<1	<2	<5	<5	<5	<.01	1	<10	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<1	<1	<2	<1	<1	<5	<10	<.01	<1	
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mean Value	3	0.1	0.5	1	0.5	0.5	0.5	0.1	3	3	3	3	0.005	1	5	0.5	0.5	0.5	10	10	0.5	0.005	0.005	0.005	0.005	0.005	0.5	0.5	1	0.5	0.5	3	5	0.005	0.5	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.05	1	0.01	0.005	1	1	0.01	0.01	<.01	<.01	<.01	<.01	<.01	<.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Garnet Standard	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCC GEOCHEM STD 6	-	<.2	132	22	130	2	121	27	0.3	<5	138	<5	5.69	1304	<10	6	157	45	<20	<20	4	1.67	2.53	3.66	0.01	0.04	69	2	2	17	<1	6	<10	<.01	4	
Number of Analyses	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mean Value	-	0.1	132	22	130	2	121	27	0.3	3	138	3	5.69	1304	5	6	157	45	10	10	4	1.67	2.53	3.66	0.01	0.04	69	2	2	17	0.5	6	5	0.005	4	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	0.2	140	18	140	4	135	35	0.2	1	145	1	6.50	1450	-	6	170	50	5	12	-	1.80	2.70	4.00	0.01	0.04	70	3	-	24	2	6	1	0.003	5	



**Intertek Testing Services**  
**Bondar Clegg**

**Geochemical  
 Lab  
 Report**

CLIENT: TANAMA EXPLORATION

REPORT: V97-03157.0 ( COMPLETE )

PROJECT: BIG TOP

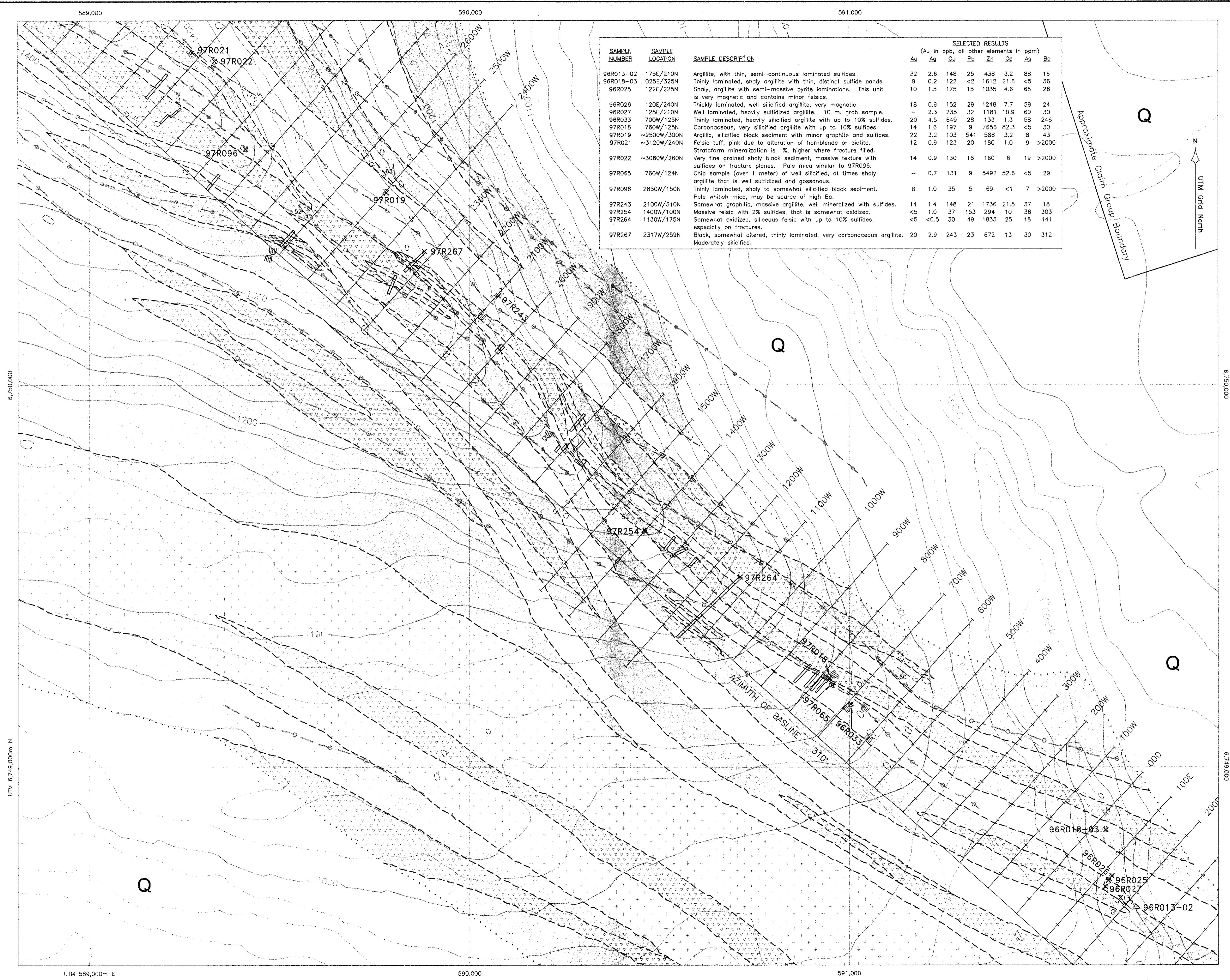
DATE RECEIVED: 17-NOV-97

DATE PRINTED: 20-NOV-97

PAGE 3 OF 3

SAMPLE NUMBER	ELEMENT	UNITS	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
			PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
97R251			<5	<2	27	<2	90	<1	31	13	<2	<5	<5	2.40	385	<10	1360	128	74	<20	<20	6	1.73	1.65	1.05	0.11	0.59	25	4	3	10	<1	<5	<10	0.12	<1
Duplicate			<5	<2	25	<2	88	<1	29	13	<2	<5	<5	2.35	378	<10	1326	126	73	<20	<20	5	1.69	1.64	1.04	0.11	0.58	25	4	3	9	<1	<5	<10	0.12	<1





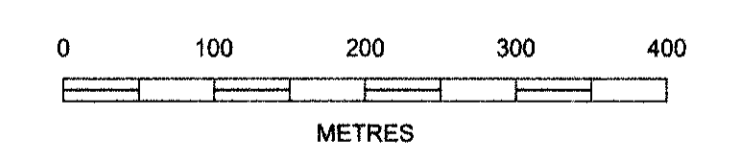
SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	SELECTED RESULTS							
			(Au in ppb, all other elements in ppm)							
			Au	Ag	Cu	Pb	Zn	Co	As	Ba
96R013-02	175E/210N	Argillite, with thin, semi-continuous laminated sulfides	32	2.6	148	25	438	3.2	88	16
96R018-03	025E/325N	Thinly laminated, shaly argillite with thin, distinct sulfide bands.	9	0.2	122	<2	1612	21.6	<5	36
96R025	122E/225N	Shaly, argillite with semi-massive pyrite laminations. This unit is very magnetic and contains minor felsics.	10	1.5	175	15	1035	4.6	65	26
96R026	120E/240N	Thickly laminated, well silicified argillite, very magnetic.	18	0.9	152	29	1248	7.7	59	24
96R027	125E/210N	Well laminated, heavily sulfidized argillite. 10 m. grab sample.	-	2.3	235	32	1181	10.9	60	30
96R033	700W/125N	Thinly laminated, heavily silicified argillite with up to 10% sulfides.	20	4.5	649	28	133	1.3	58	246
97R018	760W/125N	Carbonaceous, very silicified argillite with up to 10% sulfides.	14	1.6	197	9	7656	82.3	<5	30
97R019	~2500W/300N	Argillic, silicified black sediment with minor graphite and sulfides.	22	3.2	103	541	588	3.2	8	43
97R021	~3120W/240N	Felsic tuff, pink due to alteration of hornblende or biotite. Stratiform mineralization is 1%, higher where fracture filled.	12	0.9	123	20	180	1.0	9	>2000
97R022	~3060W/260N	Very fine grained shaly black sediment, massive texture with sulfides on fracture planes. Pale mica similar to 97R096.	14	0.9	130	16	160	6	19	>2000
97R065	760W/124N	Chip sample (over 1 meter) of well silicified, at times shaly argillite that is well sulfidized and gossanous.	-	0.7	131	9	5492	52.6	<5	29
97R096	2850W/150N	Thinly laminated, shaly to somewhat silicified black sediment. Pale whitish mica, may be source of high Ba.	8	1.0	35	5	69	<1	7	>2000
97R243	2100W/310N	Somewhat graphitic, massive argillite, well mineralized with sulfides.	14	1.4	148	21	1736	21.5	37	18
97R254	1400W/100N	Massive felsic with 2% sulfides, that is somewhat oxidized.	<5	1.0	37	153	294	10	36	303
97R264	1130W/175N	Somewhat oxidized, siliceous felsic with up to 10% sulfides, especially on fractures.	<5	<0.5	30	49	1833	25	18	141
97R267	2317W/259N	Black, somewhat altered, thinly laminated, very carbonaceous argillite. Moderately silicified.	20	2.9	243	23	672	13	30	312

**GEOLOGICAL LEGEND**

- Q** Colluvial and till deposits, partially reworked by recent alluvial activity.
- Metamorphosed quartz-diorite, includes abundant interbands of felsic volcanic rocks. Often showing strong chloritic alteration.
- Black, fine grained often fissile, carbonaceous shale. Weathers to a rusty red gossan when pyritic. May be mixed with felsics.
- Silicified, fine grained grey to black, often carbonaceous argillite. Occasionally very shaly.
- Altered felsic volcanic rocks, present as exhalites, locally abundant tuffaceous rock and possibly flow rocks that have been metamorphosed to a variety of schists.

**SYMBOLS & PHYSICAL FEATURES**

- Outcrop
- Geological contact
- Interpreted EM conductor
- Magnetic trend
- Rock sample location, number
- Excavator trench
- Pit
- Survey grid
- Elevation contour interval, (20 metres)
- Stream, creek
- 4-wheel drive road
- Claim group boundary
- Camp location



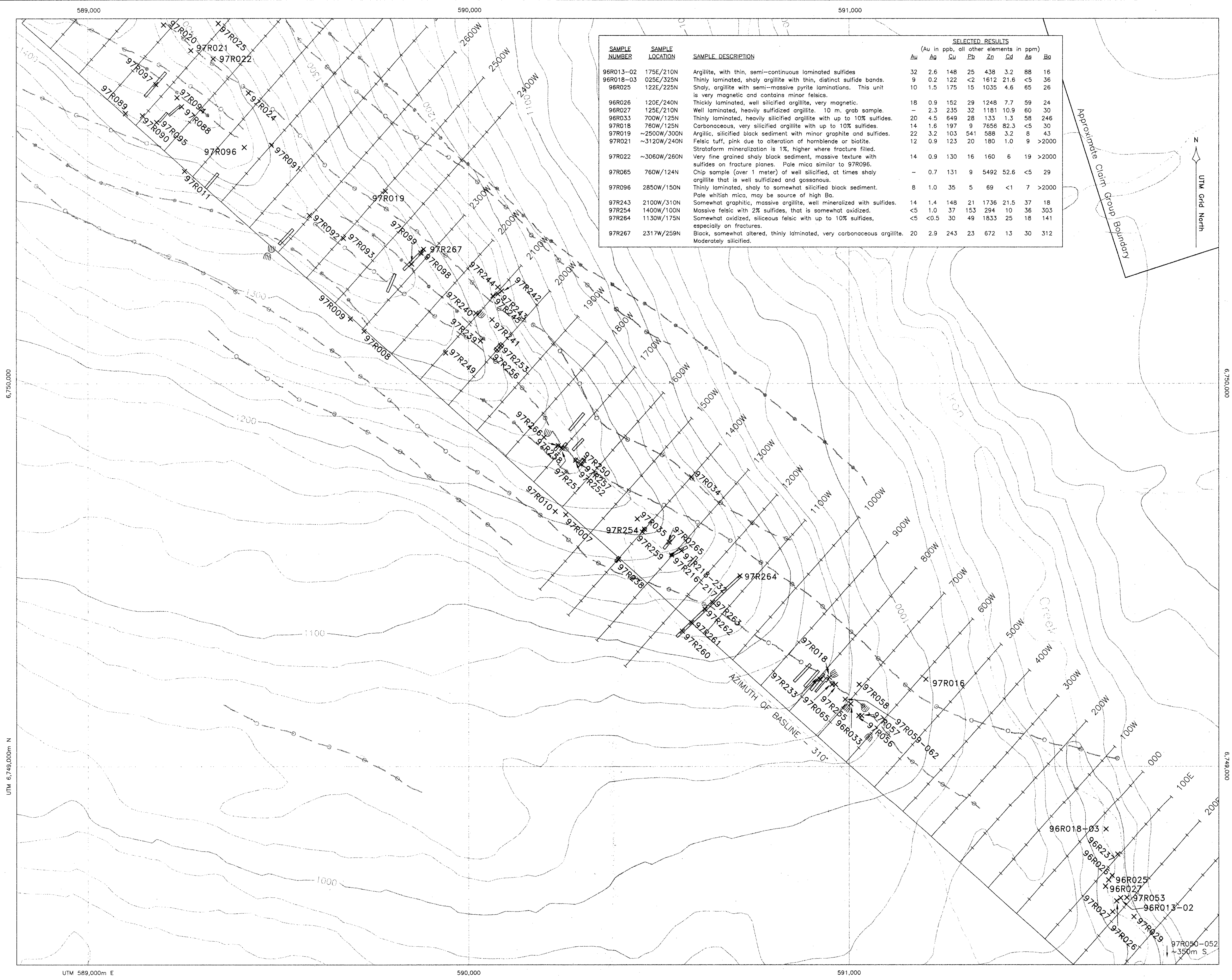
**15053 YUKON INC.**

*DWG 0*  
**BIGTOP PROPERTY**  
**GEOLOGY - GRID AREA**  
*093825*

TANANA EXPLORATION  
 Steve Traynor, Geologist

SCALE: 1 : 5,000      FILE: 243\_6 xref 243      DATE: 97.12.10  
 NTS: 105 C/14      DRAWN:      FIGURE 6

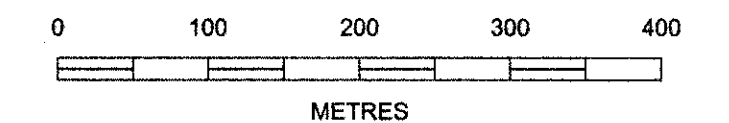




SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	SELECTED RESULTS							
			(Au in ppb, all other elements in ppm)							
			Au	Ag	Cu	Pb	Zn	Co	As	Ba
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96R018-03	025E/325N	Thinly laminated, shaly argillite with thin, distinct sulfide bands.	9	0.2	122	<2	1612	21.6	<5	36
96R025	122E/225N	Shaly, argillite with semi-massive pyrite laminations. This unit is very magnetic and contains minor felsics.	10	1.5	175	15	1035	4.6	65	26
96R026	120E/240N	Thickly laminated, well silicified argillite, very magnetic.	18	0.9	152	29	1248	7.7	59	24
96R027	125E/210N	Well laminated, heavily sulfidized argillite. 10 m. grab sample.	-	2.3	235	32	1181	10.9	60	30
96R033	700W/125N	Thinly laminated, heavily silicified argillite with up to 10% sulfides.	20	4.5	649	28	133	1.3	58	246
97R018	760W/125N	Carbonaceous, very silicified argillite with up to 10% sulfides.	14	1.6	197	9	7656	82.3	<5	30
97R019	~2500W/300N	Argillic, silicified black sediment with minor graphite and sulfides.	22	3.2	103	541	588	3.2	8	43
97R021	~3120W/240N	Felsic tuff, pink due to alteration of hornblende or biotite. Stratoform mineralization is 1%, higher where fracture filled.	12	0.9	123	20	180	1.0	9	>2000
97R022	~3060W/260N	Very fine grained shaly black sediment, massive texture with sulfides on fracture planes. Pale mica similar to 97R096.	14	0.9	130	16	160	6	19	>2000
97R065	760W/124N	Chip sample (over 1 meter) of well silicified, at times shaly argillite that is well sulfidized and gossanous.	-	0.7	131	9	5492	52.6	<5	29
97R096	2850W/150N	Thinly laminated, shaly to somewhat silicified black sediment. Pale whitish mica, may be source of high Ba.	8	1.0	35	5	69	<1	7	>2000
97R243	2100W/310N	Somewhat graphitic, massive argillite, well mineralized with sulfides.	14	1.4	148	21	1736	21.5	37	18
97R254	1400W/100N	Massive felsic with 2% sulfides, that is somewhat oxidized.	<5	1.0	37	153	294	10	36	303
97R264	1130W/175N	Somewhat oxidized, siliceous felsic with up to 10% sulfides, especially on fractures.	<5	<0.5	30	49	1833	25	18	141
97R267	2317W/259N	Black, somewhat altered, thinly laminated, very carbonaceous argillite. Moderately silicified.	20	2.9	243	23	672	13	30	312

**SYMBOLS & PHYSICAL FEATURES**

- Interpreted EM conductor
- Magnetic trend
- Rock sample location, number
- Excavator trench
- Pit
- Survey grid
- Elevation contour interval, (20 metres)
- Stream, creek
- 4-wheel drive road
- Claim group boundary
- Camp location



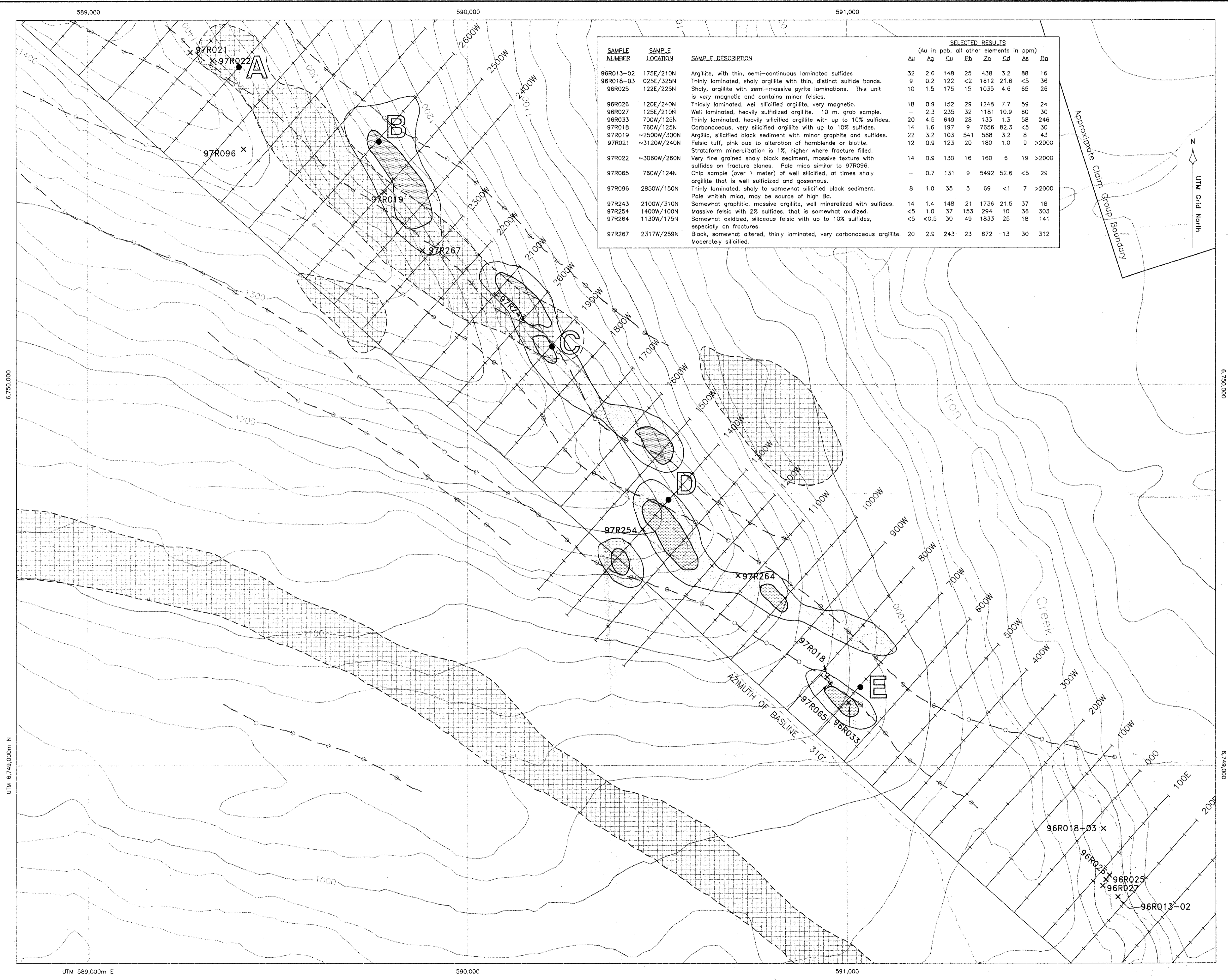
**15053 YUKON INC.** DWG 093825

**BIGTOP PROPERTY**  
Trench and Rock Sample Locations  
Grid Area

TANANA EXPLORATION  
Steve Traynor, Geologist

SCALE: 1 : 5,000 FILE: 243\_7 xref 243 DATE: 97.12.10  
NTS: 105 C/14 DRAWN: [Signature] FIGURE 7

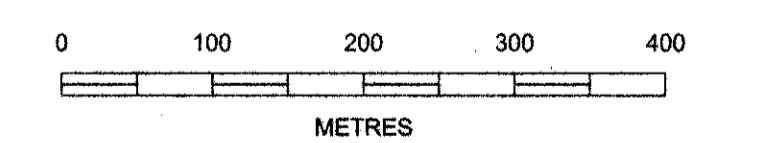




SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	SELECTED RESULTS (Au in ppb, all other elements in ppm)							
			Au	Ag	Cu	Pb	Zn	Co	As	Ba
96R013-02	175E/210N	Argillite, with thin, semi-continuous laminated sulfides	32	2.6	148	25	438	3.2	88	16
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97R022	~3060W/260N	Very fine grained shaly black sediment, massive texture with sulfides on fracture planes. Pale mica similar to 97R096.	14	0.9	130	16	160	6	19	>2000
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97R264	1130W/175N	Somewhat oxidized, siliceous felsic with up to 10% sulfides, especially on fractures.	<5	<0.5	30	49	1833	25	18	141
97R267	2317W/259N	Black, somewhat altered, thinly laminated, very carbonaceous argillite. Moderately silicified.	20	2.9	243	23	672	13	30	312

**SYMBOLS & PHYSICAL FEATURES**

- Area of Coincident Cu, Pb, Zn Geochemical Anomalies  
300% above background  
150% above background
- Airborne magnetic high
- Target zones
- Interpreted EM conductor
- Rock sample location, number
- Survey grid
- Elevation contour interval, (20 metres)
- Stream, creek
- 4-wheel drive road
- Claim group boundary
- Camp location



**15053 YUKON INC.**

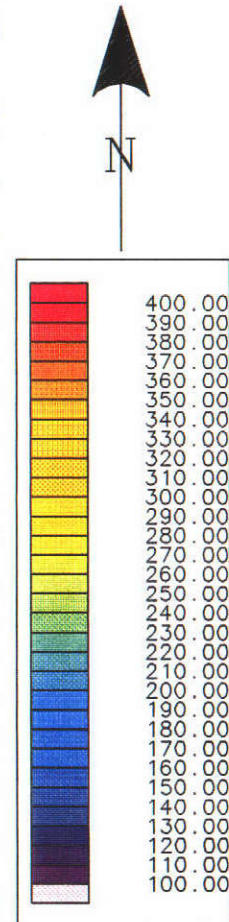
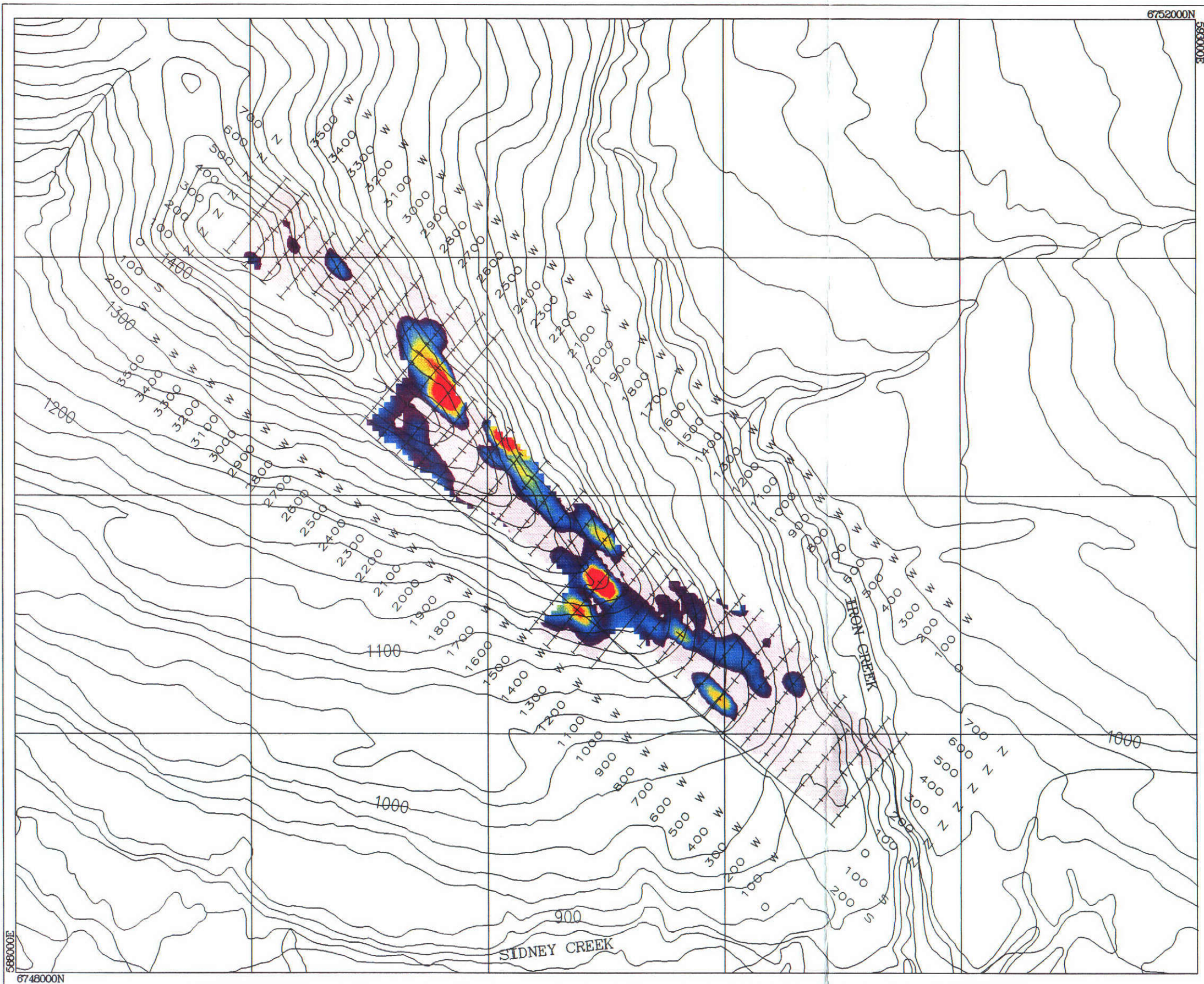
**BIGTOP PROPERTY**  
**COMPILATION MAP**

TANANA EXPLORATION  
Steve Traynor, Geologist

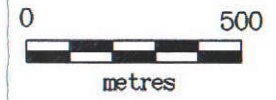
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NTS: 105 C/14 DRAWN: [Signature] FIGURE 15

DWG 93  
093825





Normalized Cu+Pb+Zn  
(percent)



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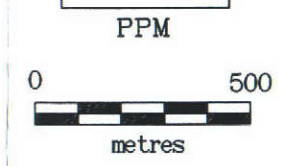
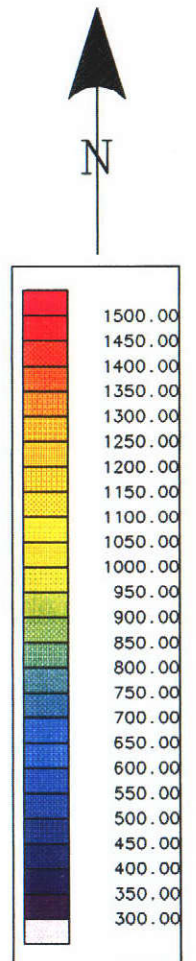
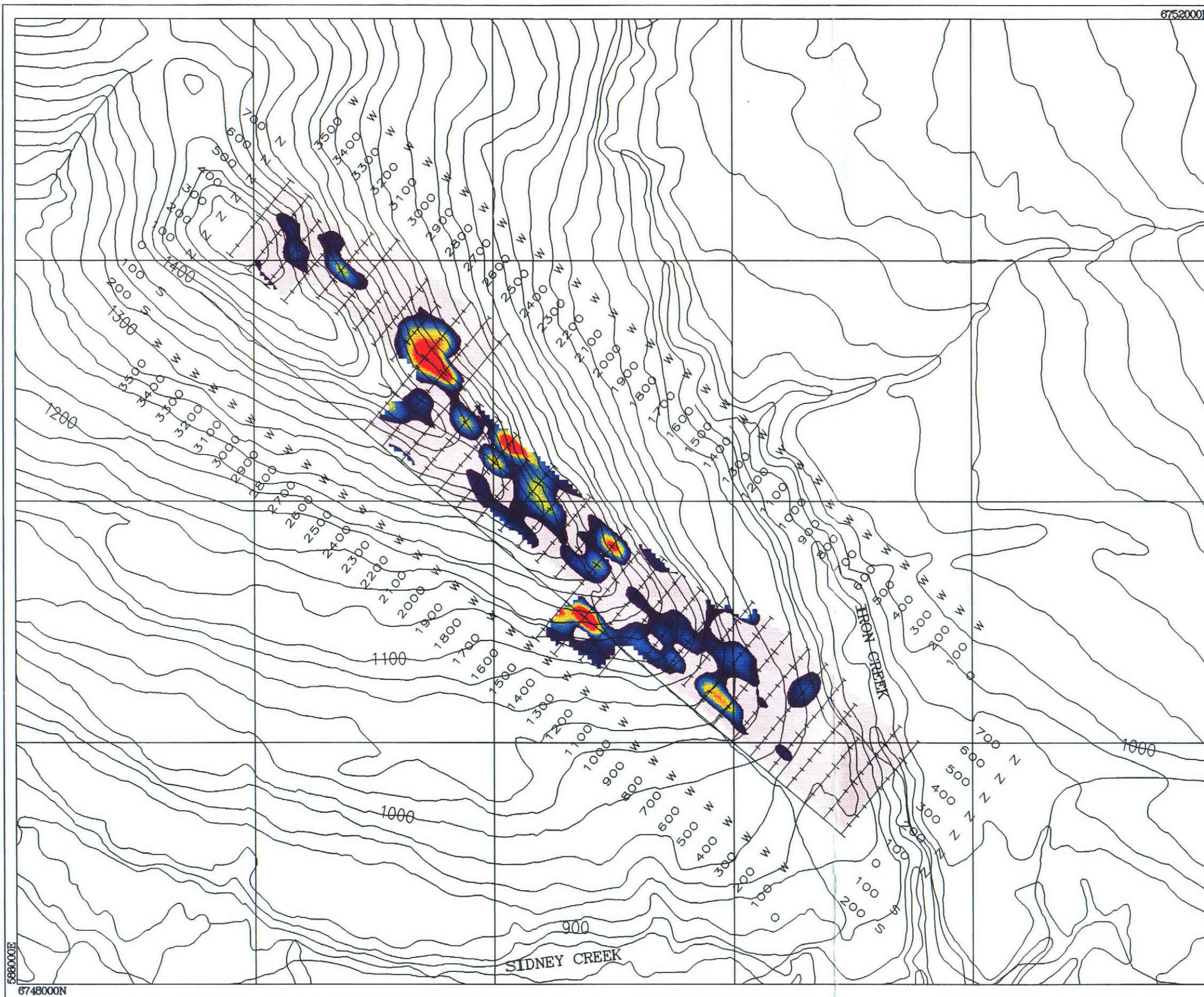
15053 YUKON INC.

BIGTOP PROJECT  
(NTS 105 C/14)

SOIL GEOCHEMISTRY  
COINCIDENT Pb-Zn-Cu

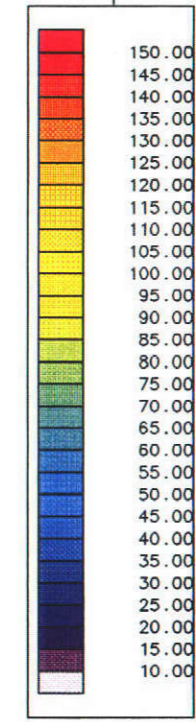
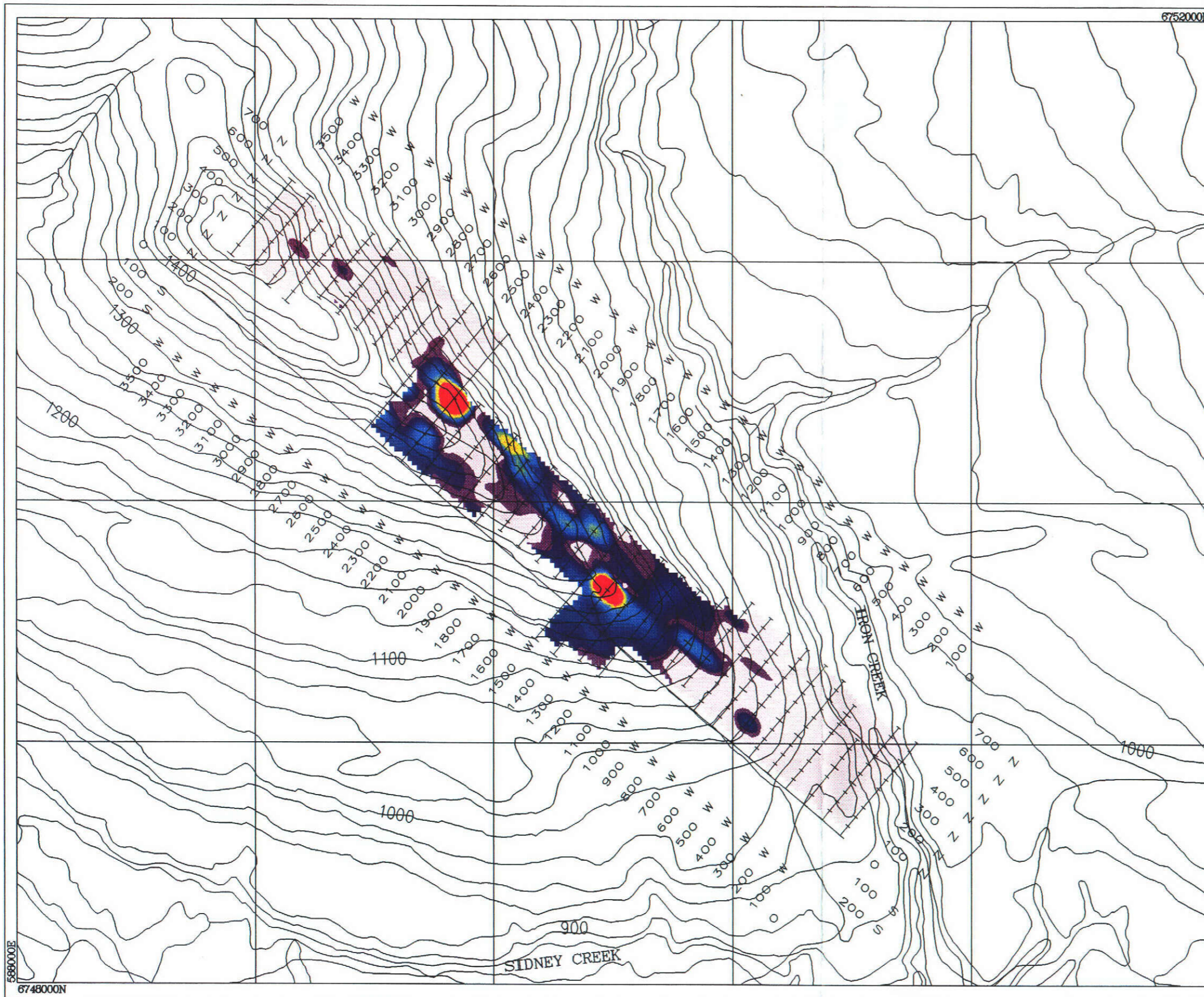
AMEROK GEOSCIENCES LTD.



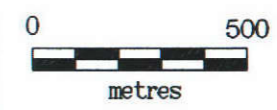


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 15053 YUKON INC.  
 BIGTOP PROJECT  
 (NTS 105 C/14)  
 SOIL GEOCHEMISTRY  
 ZINC  
 AMEROK GEOSCIENCES LTD.





PPM



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15053 YUKON INC.

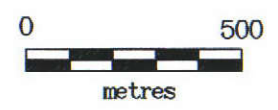
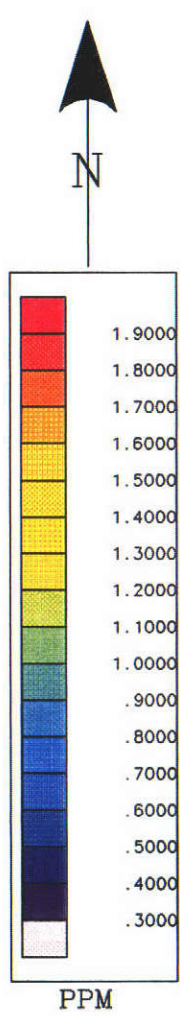
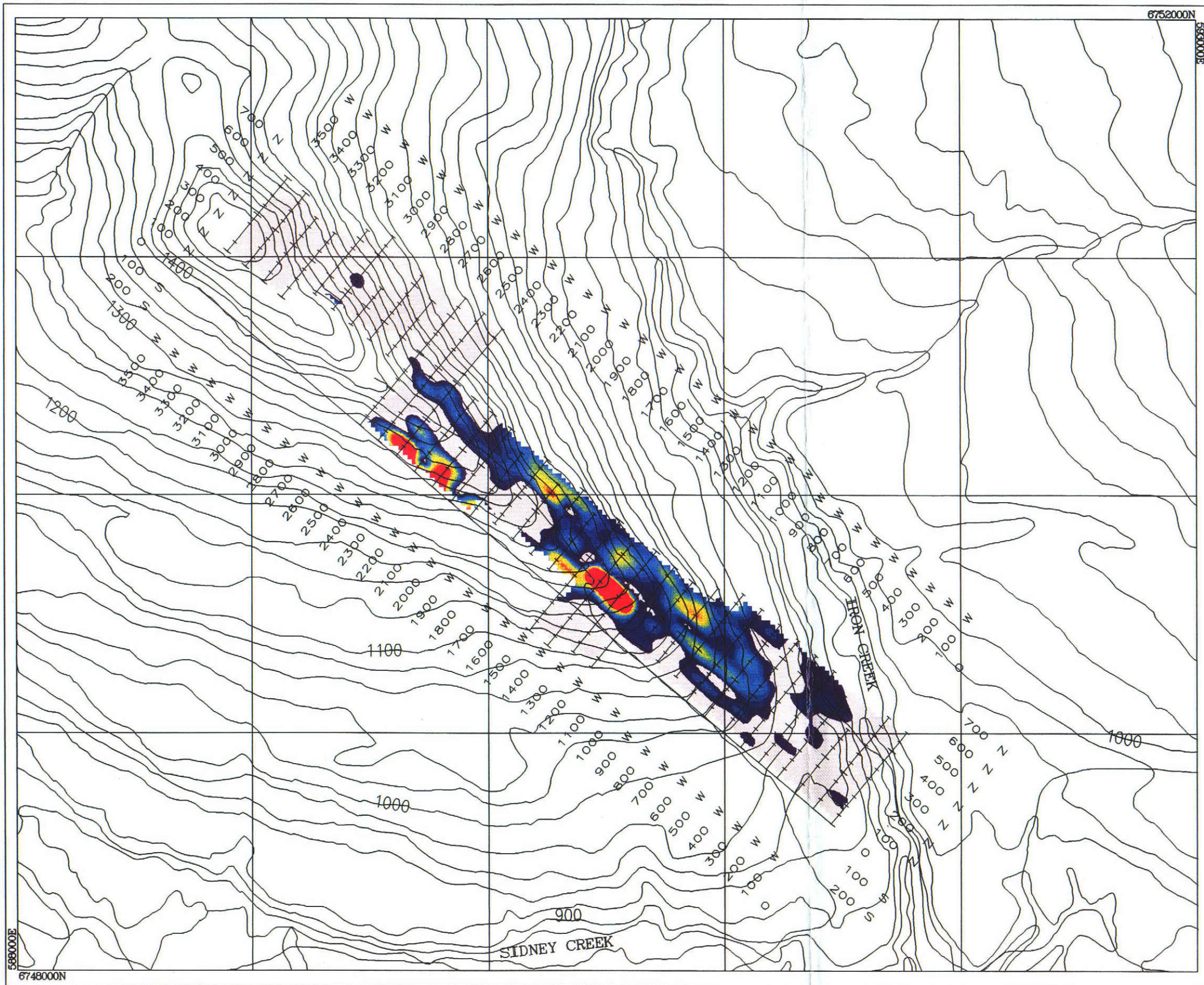
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SOIL GEOCHEMISTRY

LEAD

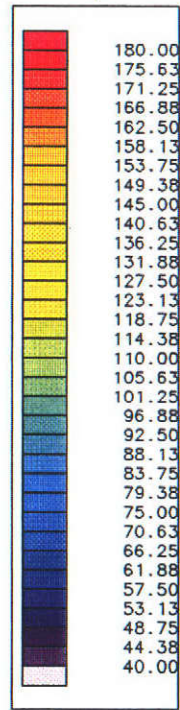
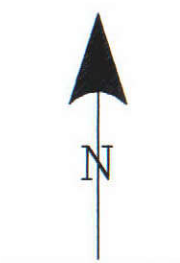
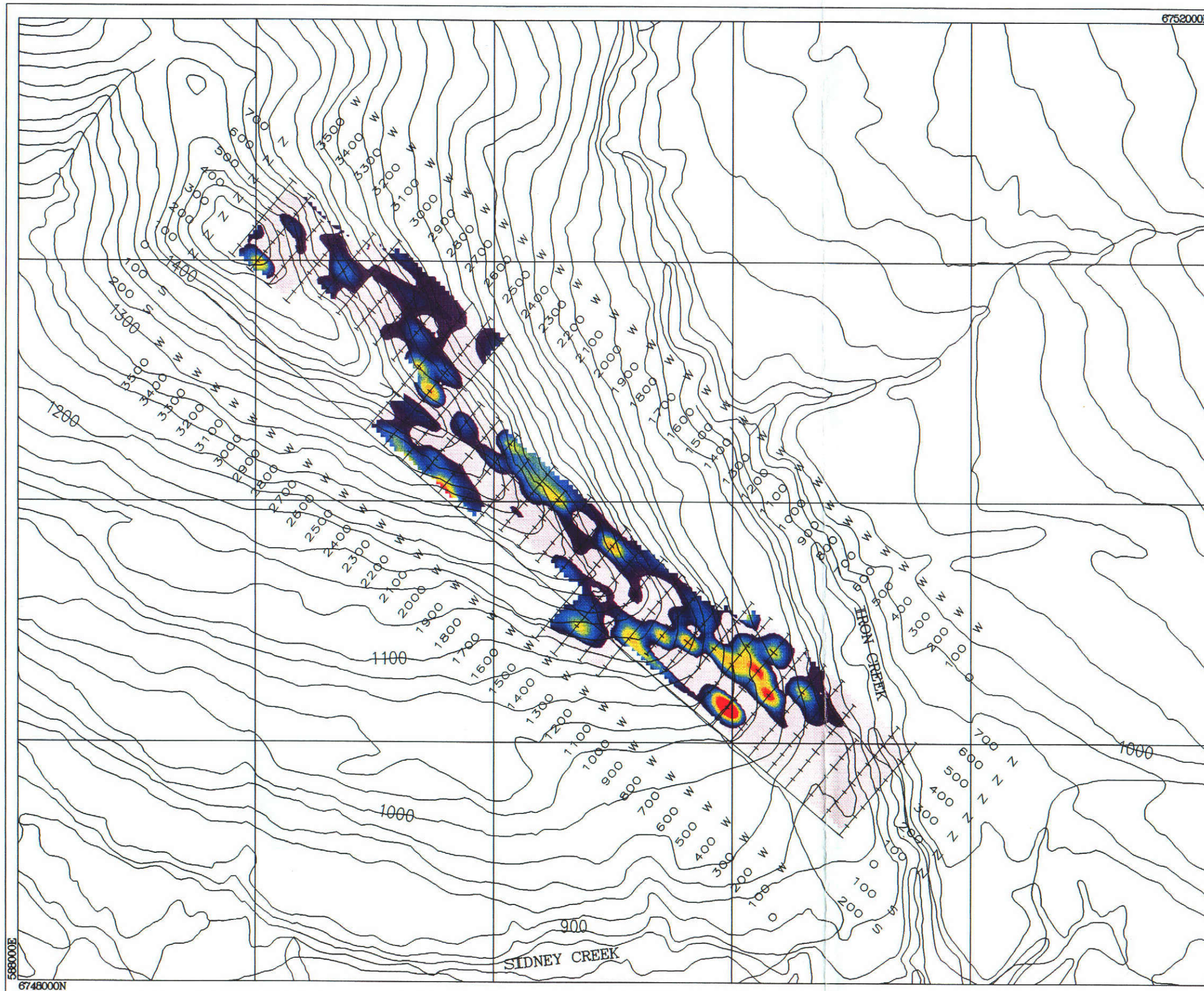
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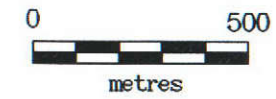


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