

**GEOLOGY AND LITHOGEOCHEMISTRY
OF THE
BIGTOP PROPERTY**

Sidney Creek Area

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

PREPARED FOR:
15053 YUKON INC.
C/O BOX 4375
WHITEHORSE, YUKON
Y1A 3T5

BY:
STEVE TRAYNOR, B.Sc. (Honours, Geology)

NOVEMBER 1998

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INTRODUCTION

An intensive program of prospecting, geological mapping and detailed lithogeochemical grab sampling was carried out during the 1998 field season on the Bigtop property in central southern Yukon. The program was aimed at advancing property development and in expanding the existing database of geochemical information on the property. It was also successful in identifying the stratigraphic interval within the prospective volcano-sedimentary sequence previously discovered, which has the highest potential to host volcanogenic massive sulfide mineralization.

PROPERTY LOCATION AND ACCESS

The Bigtop property is located 80 kilometers east of Whitehorse and 12 kilometers west of the south Canol Road on Sidney Creek at the confluence with Iron Creek on NTS Map Sheet 105 C 14. The geographic coordinates of the property are 60°52' N and 133°19' W (see Figures 1 and 2).

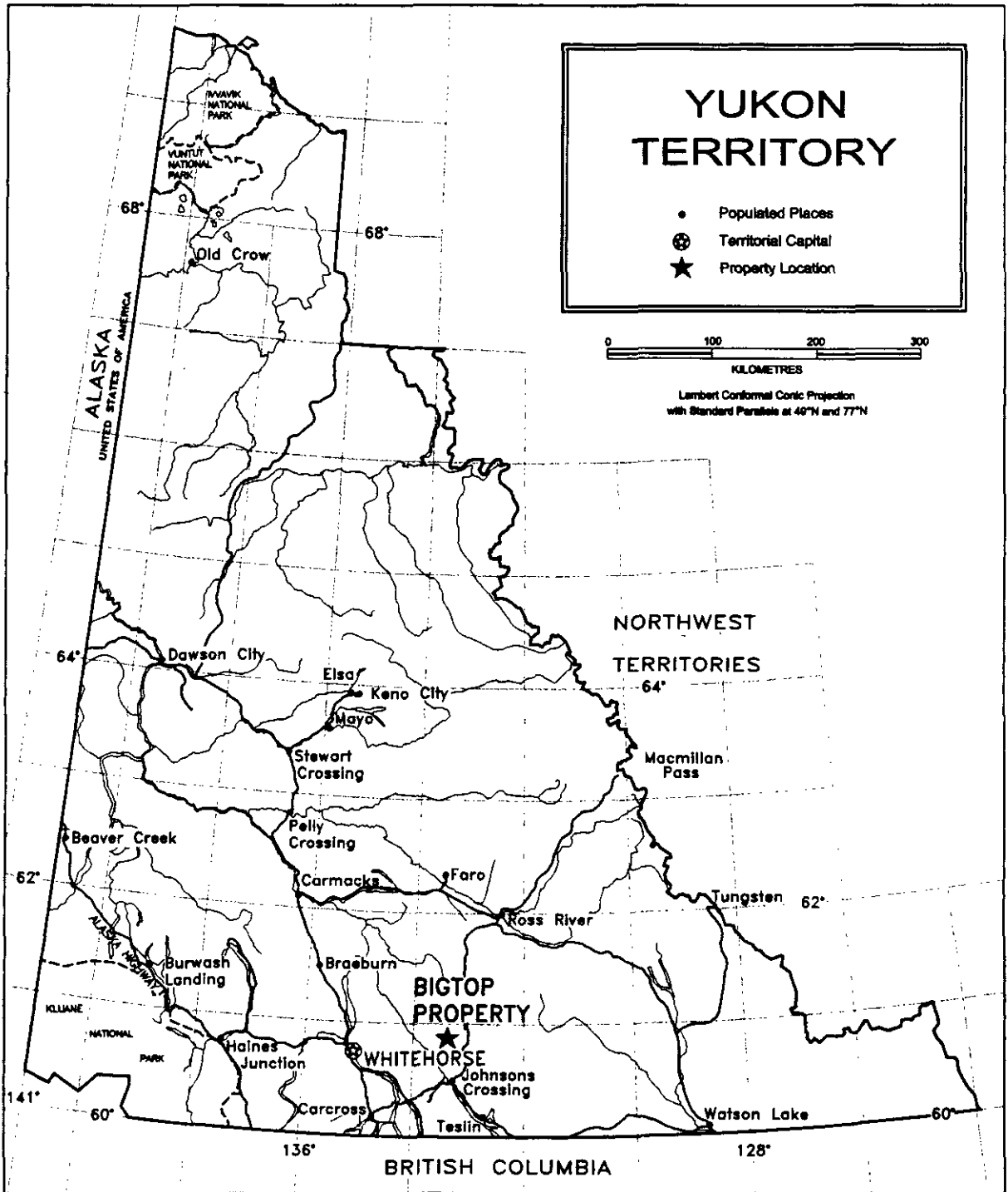
Access to the property is by bush road from Km. 50 on the south Canol Road. An all weather camp is located at 1,000 meters elevation on the bank of Iron Creek, 16 kilometers along the bush road from the south Canol Road. Several 4wheel drive roads and ATV trails provide good access to most areas of the claim block. Logistically, Whitehorse provides supplies, equipment and government services for the district.

PROPERTY DESCRIPTION

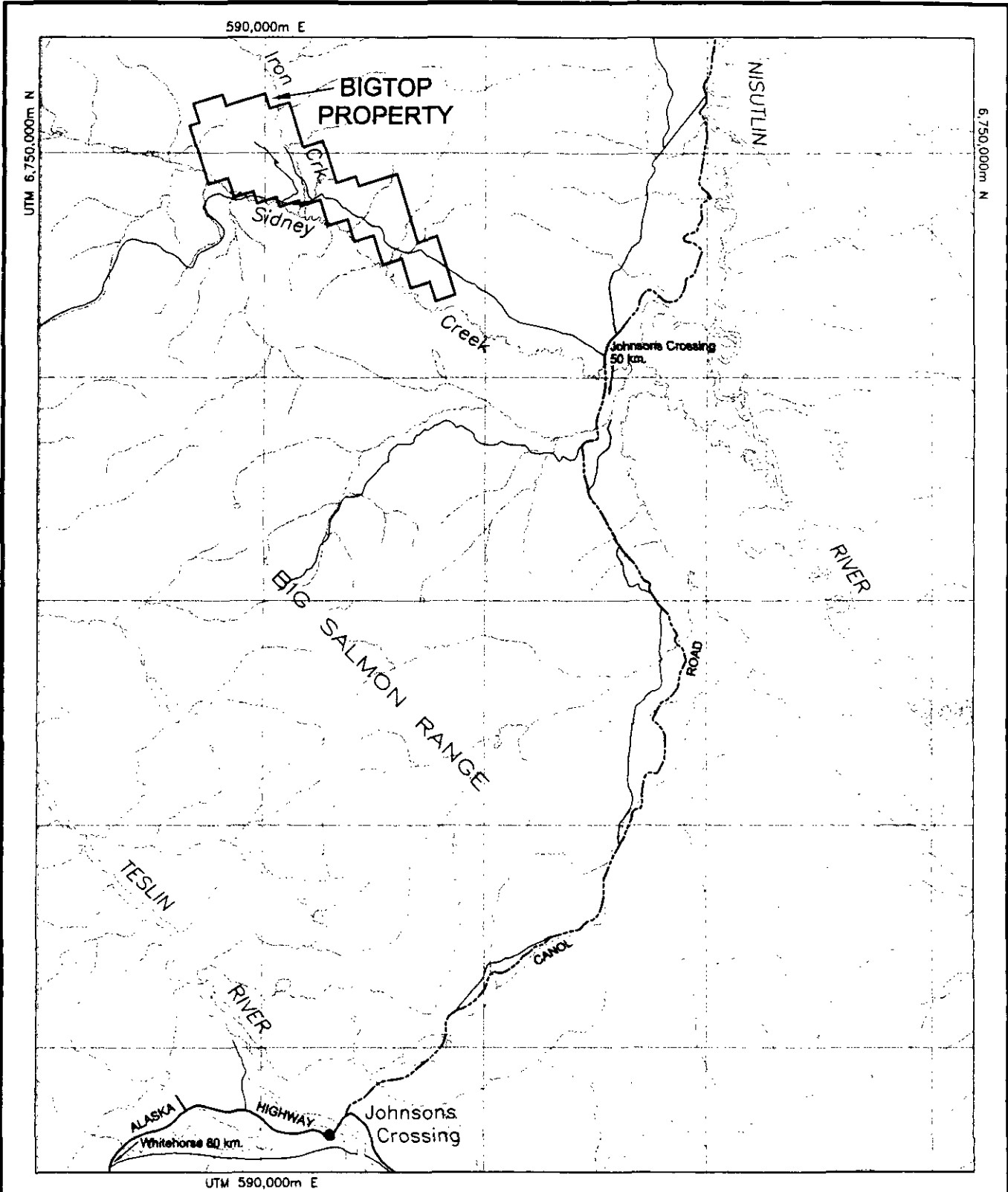
The Bigtop Property consists of 174 contiguous mineral claims, as shown in Figure 3 and listed in Table 1. The Bigtop 1-30 and Bozo 1-24 claims were staked in June 1996 and 120 additional claims were staked during the 1997 field season. The author has inspected many of the claim posts and lines, which are all in good order, and has supervised the tagging of all the claims.

TABLE 1
Claim Data

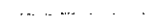



<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date (*applied for)</u>
BOZO 1 - 8	YB67080 - YB67087	March 31, 2005*
BOZO 9 - 24	YB67298 - YB67313	March 31, 2005*
BOZO 25 - 38	YB97749 - YB97762	March 31, 2005*
BOZO 39 - 52	YB97845 - YB97858	March 31, 2005*
BOZO 53 - 70	YC08057 - YC08074	March 31, 2005*




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



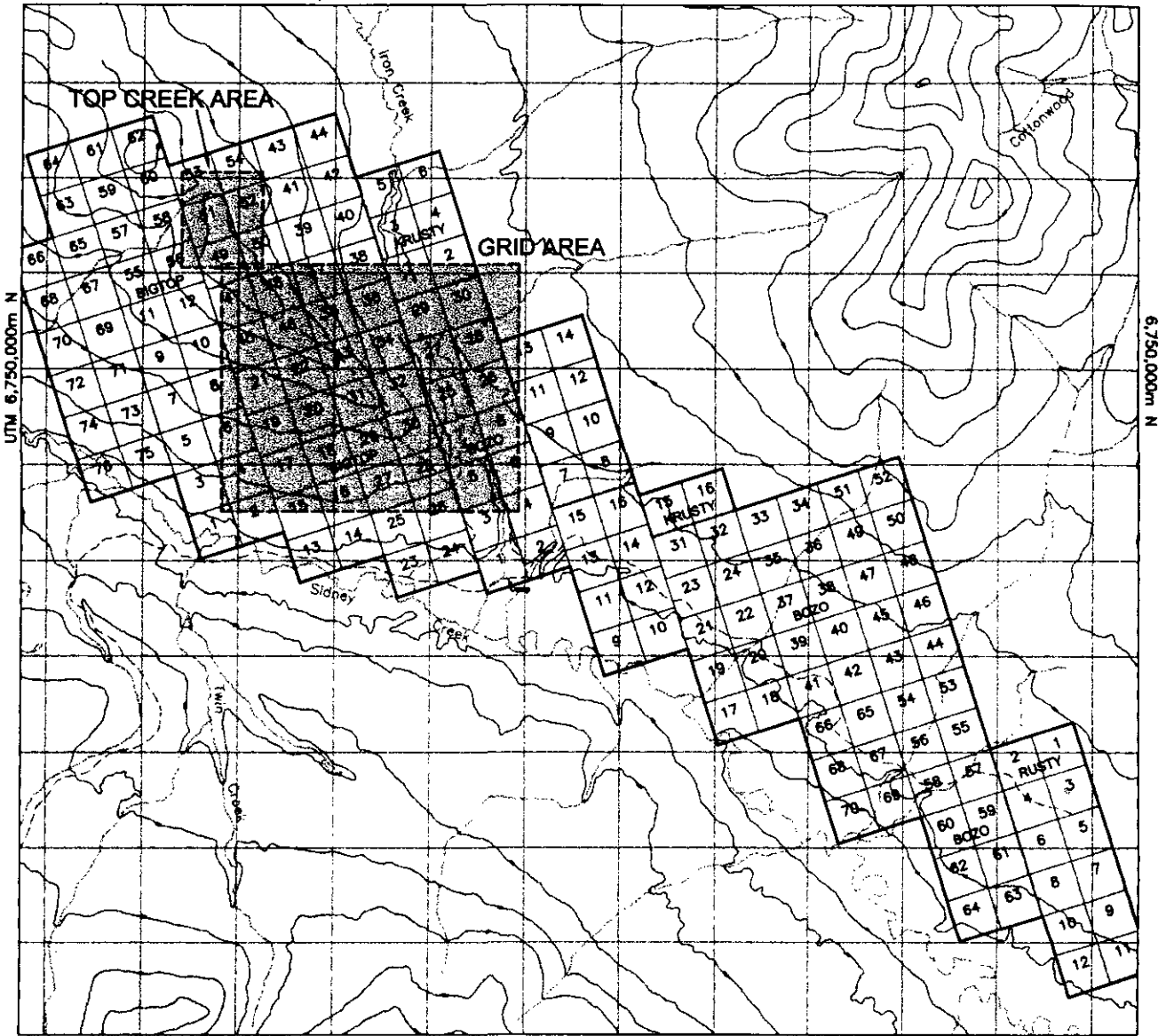
LEGEND

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

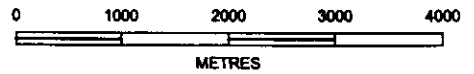


15053 YUKON INC.		
BIGTOP PROPERTY		
Regional Map		
<i>TANANA EXPLORATION</i>		
<i>Steve Traynor, Geologist</i>		
SCALE: 1 : 250,000	FILE: 243_2	DATE: 97.12.08
NTS: 105 C	DRAWN: 	FIGURE 2

590,000m E

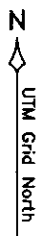


UTM 590,000m E



LEGEND

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



15053 YUKON INC.		
BIGTOP PROPERTY		
Claim Plan and Key Map		
TANANA EXPLORATION		
<i>Steve Traynor, Geologist</i>		
SCALE: 1 : 70,000	FILE: 249_3	DATE: 99.01.17
NTS: 105 C/14	DRAWN:	FIGURE 3

TABLE 1 - continued
Claim Data

<u>Claim Name</u>	<u>Grant Number</u>	<u>Expiry Date (*applied for)</u>
BIGTOP 1 - 30	YB67268 – YB67297	March 31, 2005*
BIGTOP 31 - 58	YB97721 – YB97748	March 31, 2005*
BIGTOP 59 - 64	YC08075 – YC08080	March 31, 2005*
BIGTOP 65 - 76	YC08270 – YC08281	March 31, 2003*
KRUSTY 1 - 16	YC08282 – YC08297	March 31, 2005*
RUSTY 1 - 12	YC08258 – YC08269	March 31, 2003*

PREVIOUS WORK AND EXPLORATION ACTIVITY

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 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 10km of Iron Creek.

In the mid 1970's the area just south of Red Mountain was explored for Pb-Zn mineralization with the resultant discovery of disseminated sulfide mineralization in one of three holes drilled into a package of metamorphosed schists and shales. Ongoing work by the same company in the surrounding area eventually led to the discovery of the Red Mountain Cu-Mo porphyry deposit, which extensive drilling has shown to contain subeconomic grades of mineralization. Since this time surprisingly little attention has been focused on the area despite its accessibility.

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 105C 021). It was restaked in 1981 by McCroy Holdings, in 1988 by T. Morgan and in 1989 by R. Hamel. Only sketchy reports of this work are available, although one assay of 130.3 g/t Ag and less than 0.3 g/t Au is recorded.

In the summer of 1996 an exploration crew under the direction of the author 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 310° was discovered along Iron Creek and was traced west along a ridge for over a kilometer. Felsic volcanic rocks were found to be interbedded in the metasediments. Initial rock samples returned favourable values in copper, zinc and silver. Claim staking followed by grid development and a soil geochemical survey in August 1996 identified three Cu-Ag-Pb-Zn anomalies along the lower part of the southeast-northwest trending ridge.

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 associated with the carbonaceous argillite units. 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 1,500 meter distance along the ridge featuring the anomalous trend. The units exposed were mainly shales and silicified argillites with interbedded felsic rocks, meta-dacite and tuffaceous equivalents. Sulfide mineralization discovered to date is generally finely disseminated and consists of pyrite, pyrrhotite, sphalerite, galena, chalcopyrite, covelite and magnetite. In the better mineralized horizons pyrite concentrations reach 20% and the host rocks are variably silicified, sericitized and occasionally chloritized.

Including this seasons expenditures and staking costs, over \$225,000.00 have been spent in the acquisition, assessment and development of this highly prospective grassroots discovery.

REGIONAL AND PROPERTY GEOLOGY

Physiographically the property lies in an area of the northern Cordillera known as the Yukon Plateau. Subdued, often rounded mountains becoming broadly rolling, open valleys predominate much of the area.

Extensively glaciated during the McConnell glaciation, the area was probably covered by a major ice stream flowing northwest, that resulted from a bifurcation of the Cassiar Lobe of the Cordilleran Ice Sheet. Much of the area is covered by fluvioglacial, lacustrine and recent alluvial deposits. Outcrop is present at less than 1% and is restricted to the main ridges and the lower reaches of some of the creek valleys, particularly Iron Creek.

A wide west-northwest trending band consisting of intermediate to mafic volcanic rocks

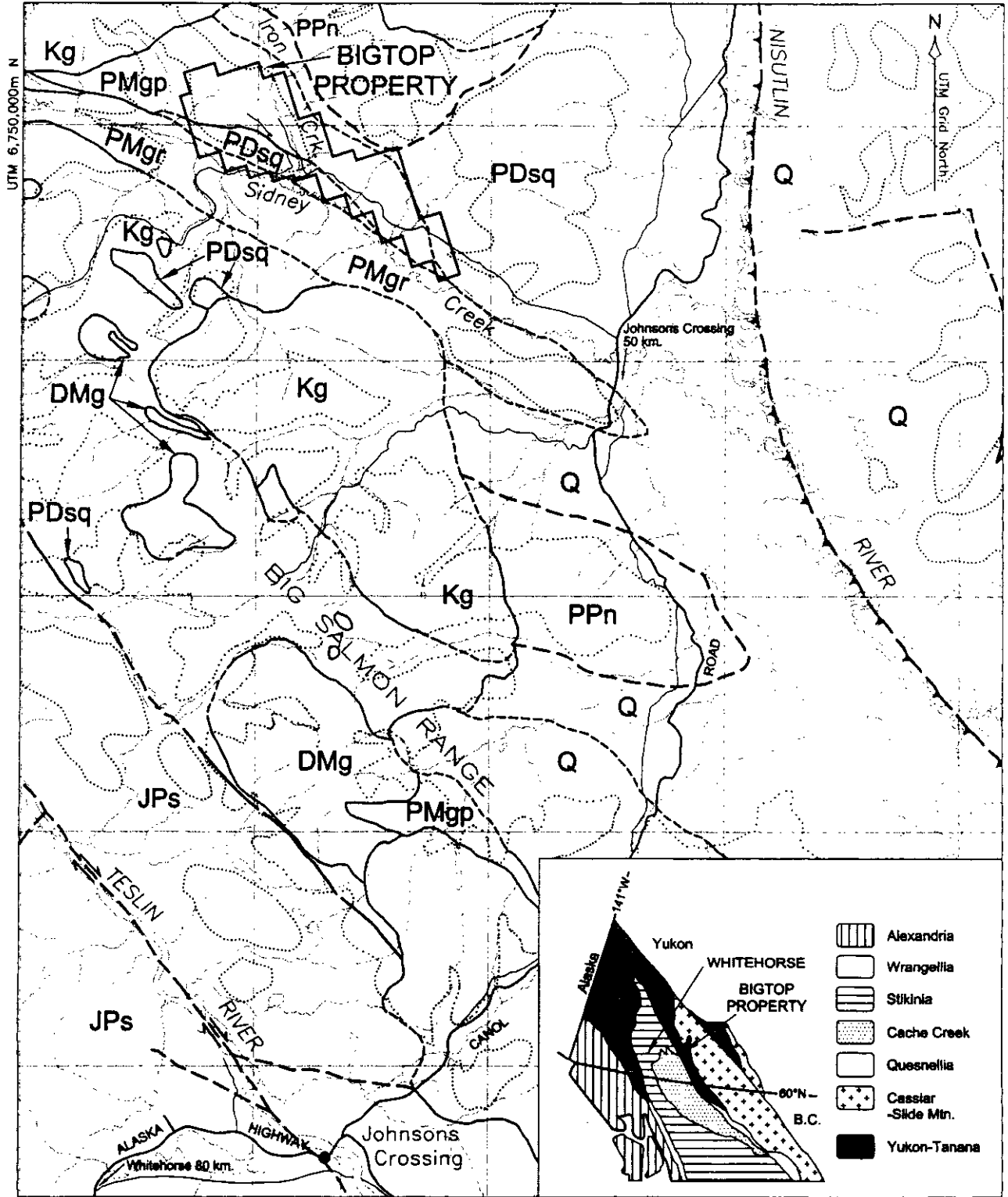
enclosing various felsic volcanic lithologies associated with thinly laminated terrigenous clastic rocks underlies the Sidney Creek valley. The volcano-sedimentary sequence, upper Proterozoic to Mississippian in age, is part of the broad Yukon-Tanana terrane which lies northeast of the complex Teslin Fault zone (see Figure 4). North and south of the Sidney Creek area large bodies of Cretaceous granite intrude the layered rocks and a few diorite and quartz-porphyry sills, probably Jurassic or younger, are present locally. Recent mapping by Gordey and Stevens (1974) of the Canada-Yukon Geoscience program during the period from 1990-1993 is reported in two GSC Open Files, numbered 2768 and 2886.

In the late Mesozoic, extensive thrust faulting along the Teslin zone caused regional ductile deformation forming tectonites. A later compressional episode caused deformation and folding and likely contributed to the steeply dipping character of the rocks in the gridded area of the property which show dips of 55 to 65 degrees to the SW. Recent prospecting off the gridded area has shown that locally the dips moderate quickly and are in the 25 to 35 degree to the SW range outside the rotated block that evidently comprises the main gridded area. Rotational faults bounding the block to the NW and SE are apparent in the upper area of Top Creek and in the lower Iron Creek canyon. On the front side of the Bigtop ridge more moderate dips can be measured just off the baseline in the 1150 W trench south of where it crosses the access road and across Iron Creek to the north the stratigraphy becomes quite flat lying often showing gentle NE dips of few degrees.

The main ridge exposes the most prospective package of rocks in the area, which is comprised of an interlayered series of felsic volcanics and carbonaceous argillites (see Figures 5 and 6). This band of rocks is laterally extensive and is found in outcrop along the entire 15 km. length of the property. The width of the sequence has not been accurately determined as the inferred base is obscured by overburden but it is likely about 500 meters thick. The entire package is overlain by a thick series of intermediate to mafic volcanic rock.

The sedimentary portion of the package is a fine grained, thinly laminated to massive textured, often carbonaceous pyritic argillite that weathers to dark rusty brown gossan. It is interlayered with felsic volcanic, fragmental and tuffaceous units that petrographic analysis has shown (see Appendix D) to be dacitic in composition with deposition in a shallow marine environment. Weathering to form bright orange gossans, they often produce distinctive limonitic colorations in the overlying soils. Petrographic analysis

590,000m E



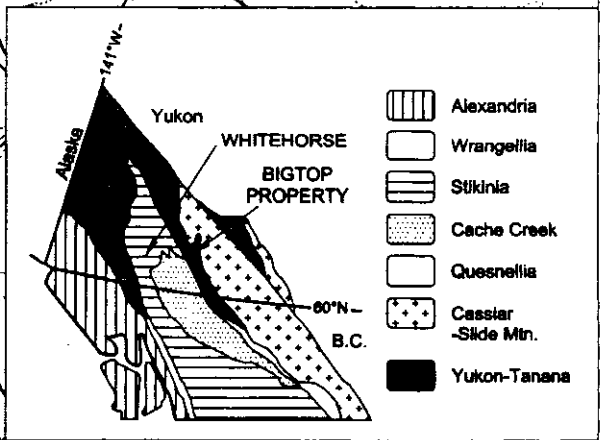
UTM 590,000m E

GEOLOGICAL LEGEND

- | | |
|----------------------------------------|-----------------------------------------|
| Q Glacial and alluvial deposits | PDsq Felsic metavolcanics |
| Kg Quartz monzodiorite | PPn Quartz rich schist to gneiss |
| Jps Laberge group metasediments | |
| PMgr Greenstone | |
| DMg Quartz diorite | |
| PMgp Carbonaceous metasediments | |

SYMBOLS & PHYSICAL FEATURES

- Geological contact (known, approximate)
- Fault (known, approx.)
- Limit of outcrop
- ~~~~~ Stream, creek
- ==== 4-wheel drive road
- Claim group boundary



15053 YUKON INC.

BIGTOP PROPERTY
Regional Geology

TANANA EXPLORATION

Steve Traynor, Geologist

SCALE: 1 : 250,000	FILE: 243_4	DATE: 97.12.08
NTS: 105 C/14	DRAWN:	FIGURE 4

also suggests that some of the felsic rocks are porphyritic in nature, although strong, widespread deformation fabrics have obscured these textures in the field.

Recent field work has also identified a number of vertically discordant zones of silicified, variably sericitized and lesser chloritized rocks with quartz veining and abundant disseminated sulfide mineralization. The best developed of these (possibly representing hydrothermal alteration pipes or concentration of hydrothermal fluids along synvolcanic faults) show strong depletions of Ca, Na and K, with the Na depletion often being laterally extensive.

DESCRIPTION AND SUMMARY OF WORK

A total of 134 man days were spent this past season further exploring the Bigtop property and a program consisting of detailed prospecting, geological mapping, lithogeochemical grab sampling and machine trenching was carried out between July 6 and August 31, 1998.

To facilitate the expansion of the existing database of information on the property 135 rock samples were collected from outcrop and trenches (see Appendix B for descriptions and Figure 7 for locations) and submitted for various analysis. While attention was focused on the gridded area of the property, numerous traverses in other selected areas of the property served to provide a clearer understanding of the surrounding area.

A limited number of geophysical test lines, using an EM-16, were carried out to provided truthing of the ground position of a number of the conductors indentified during the airborne survey completed in the spring of 1997. Excellent coincidence between the mapped position and the actual ground position of these conductors, as interpreted from the field readings taken was achieved. This data was also useful in locating some of the 600 – 700 meters of machine trenching that was undertaken in August.

To date 5.0 km of baseline and 23 km of flagged crossline has been established on the property, 475 soil samples and 300 rock samples have been collected (365 and 220 of which, respectively been submitted for analysis), geological mapping and over 2000 meters of trenching on the gridded area has been completed since the first claims were staked in 1996.

ANALYSIS AND RESULTS

Trace element determinations have been completed on 220 rock samples to date, a number of

which have also been analysed for major elements. Details of analytical procedures and complete results of the various analyses of the 135 samples submitted this year are presented in Appendix C.

In order to facilitate a discussion of the results obtained from this years program, a complete review and analysis of all available analytical data was undertaken. Rank and percentile calculations were completed for the following trace elements, Ag, Cu, Pb, Zn, Ba, Hg, and those which ranked in the 90th percentile or higher were plotted in relationship to the available geology (see Figure 8 and 9).

The results of this work revealed that the abundance of these elements is distinctly higher in the volcanic rocks and sediments of one particular stratigraphic interval. Virtually all of the most anomalous samples plotted occur within this interval or directly below it within the inferred hydrothermal pathways discussed previously.

CONCLUSIONS AND RECOMMENDATIONS

Detailed prospecting and mapping carried out during the course of these investigations has resulted in a much clearer understanding of the local geology and the various stratigraphic relationships throughout the area. Limited whole rock analysis of the overlying intermediate to mafic volcanic rocks in the area show a chemistry typical of calc-alkaline volcanism and although basement has not yet been definitively determined, the prospective stratigraphy exposed along the Bigtop ridge apparently forms part of the lowermost cycles of this sequence.

The geological environment hosting the Bigtop occurrence shows many similarities with other volcanic-exhalative environments containing known massive sulfide deposits, such as the Kudz Ze Kayah and Wolverine deposits in the Finlayson area of the territory, the Kuroko deposits of Japan and particularly the Buchans deposits in central Newfoundland.

Within the volcano-sedimentary horizon exposed along the gridded area of the property, a distinctly and highly anomalous interval of carbonaceous argillites and dacitic tuffs has been identified that shows strong potential to host volcanogenic massive sulfide mineralization and which should definitely be investigated by a program of stratigraphic drilling.

It is proposed that a total of 1400 meter in six holes be scissor drilled from three setups collared at 150E/100N, 750W/025S and 1850W/050N, with a proposed budget of \$175,000.00 for drilling, cat rental, geological supervision, camp costs, transportation, assay and analysis, reports, maps and assessment.

GEOLOGISTS'S CERTIFICATE

I, Steve Traynor, of 214 Alsek Road, Whitehorse , in the Territory of the Yukon,
DO HEREBY CERTIFY:

1. THAT I am a Geologist with 15053 Yukon Inc. of 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 thirteen years in the Yukon, Manitoba, Ontario and Quebec.
4. THAT this report is based on property work that I completed and/or supervised during the period from July 6, 1998 to August 31, 1998 on the Bigtop Property.

SIGNED at Whitehorse, Yukon Territory, this 21st day of January, 1999.



Steve Traynor, B.Sc.

REFERENCES

- DIAND, 1993: Yukon Minfile, Exploration and Geological Services Division, Whitehorse, Indian and Northern Affairs, Canada.
- Davidson, G. and Traynor, S., 1997: Evaluation Report on the Bigtop Property.
- Galley, Alan G., 1995: Target vectoring using lithogeochemistry: Applications to the exploration for volcanic-hosted massive sulfide deposits; in CIM Bulletin, Volume 88, No. 990, p. 15-27.
- Gordey, S.P. and Stevens, R. A., 1994: Preliminary interpretaion of bedrock geology of the Teslin area (105C), southern Yukon; Geological Survey of Canada Open File 2886.
- Govett, G.J.S. and Nichol, Ian, 1979: Lithogeochemistry in Mineral Exploration; in Geophysics and Geochemistry in the Search of Metallic Ores; Peter J. Hood, editor; Geological Survey of Canada, Economic Geology Report 31, p. 339-362.
- Mulligan, R., 1963: Geology of Teslin map area, Yukon Territory (105C); Geological Survey of Canada, Memoir 326.
- Thurlow, J.G., Swanson, E.A. and Strong, D.F., 1975: Geology and Lithogeochemistry of the Buchans Polymettalic Sulfide Deposits, Newfoundland; in Economic Geology, Vol. 70, p. 130-144.
- Traynor, S., 1997: Geochemical Survey and Helicopter-Borne Geophysical Survey on the Bozo 1-24 and Bigtop 1-30 claims.

STATEMENT OF EXPENDITURES

CANADA -- In the matter of geochemical and lithochemical sampling work, prospecting and geological mapping and trenching assessment work filed on the BOZO 1 - 70, BIGTOP 1 - 76, KRUSTY 1 - 16 and RUSTY 1 - 12 mineral claims.

I, Steve Traynor a geologist with 15053 Yukon Inc. of Whitehorse, Yukon do solemnly declare that a program consisting of geochemical and lithochemical sampling work, prospecting and geological mapping and trenching was carried out on the BOZO 1 - 70, BIGTOP 1 - 76, KRUSTY 1 - 16 and RUSTY 1 - 12 mineral claims during the period from July 6, 1998 to August 31, 1998.

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, 1 ½ months @ \$5,000.00	\$ 7,500.00
E. Stehelin, Assistant, 10 days @ \$150.00	1,500.00

Prospecting and geochemical surveying and sampling:

Wade Carrell, Prospector, 40 days @ variou\$	5,950.00
C. Wilson, Prospector, 19 days @ variou\$	2,650.00

Trenching:

Equipment Rental and Operation	4,897.06
C. Wilson, Operator, 26 days @ variou\$	4,400.00

Camp, Supplies and Support: 1 ½ months @ \$ 3,000.00 4,500.00

Transportaion: Company vehicles, 1 ½ months @ \$ 2,000.00 3,000.00


Assay and Analysis: Various analysis of samples 6,503.30
Shipping costs to Bondar Clegg in Vancouver, B.C. 379.35

Report Preparation and Maps: 2,840.42

TOTAL COST **\$44,120.13**

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 21st day of January, 1999.

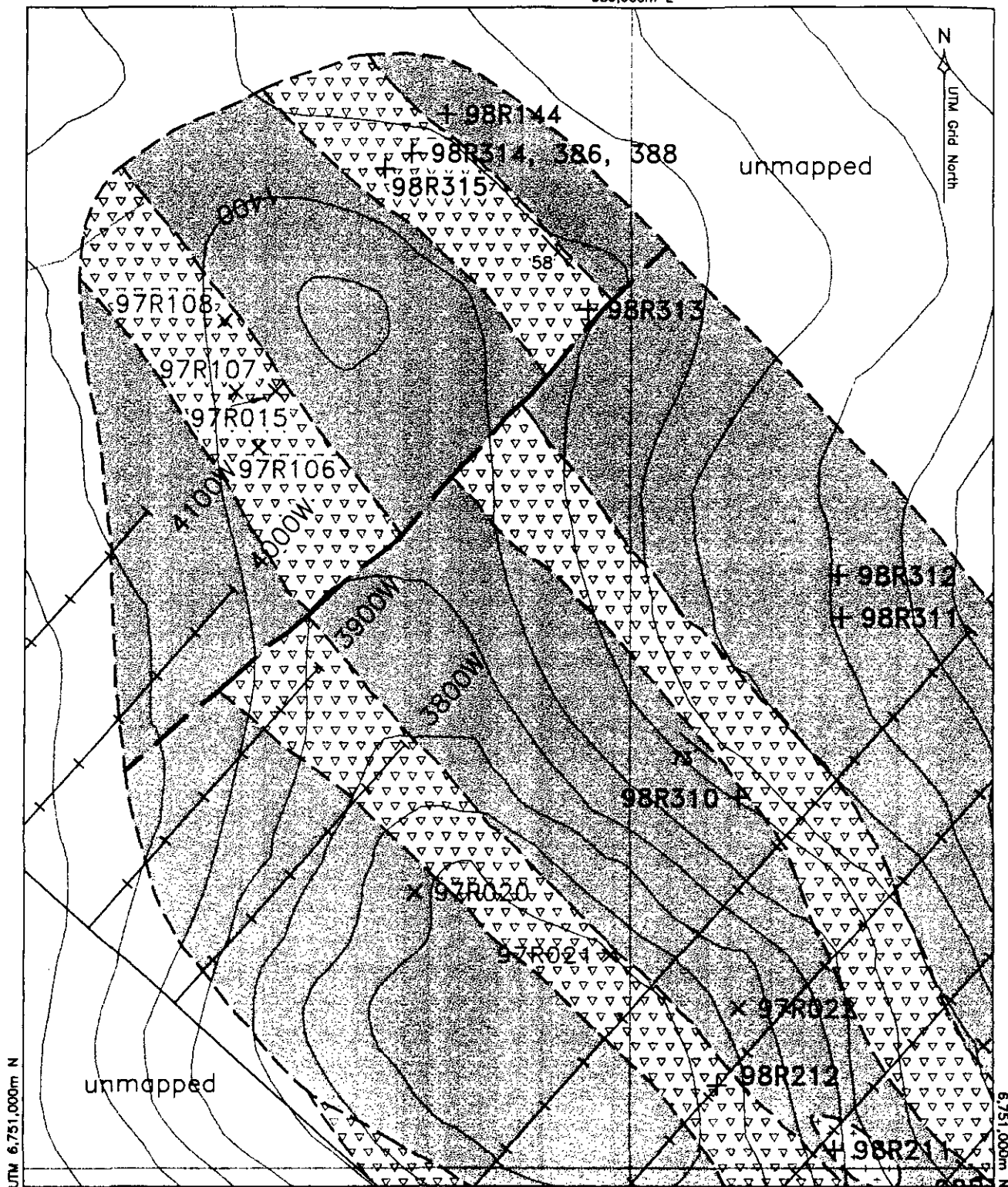

Steve Traynor, Geologist

APPENDIX A

TOP CREEK AREA
(FIGURES 6 and 9)




589,000m E








UTM Grd North



GEOLOGICAL LEGEND


SYMBOLS & PHYSICAL FEATURES

-  medium grained, metamorphosed quartz diorite
-  black, fine grained carbonaceous argillites and shales, often with volcanoclastic component
-  meta-dacite and tuffaceous equivalents

-  Geological contact (approx.)
-  Fault (approx.)
-  x 97R021 Rock sample (1996-97)
-  + 98R212 Rock sample (1998)
-  Survey grid
-  Elevation contour interval, (20 metres)
-  Stream, creek

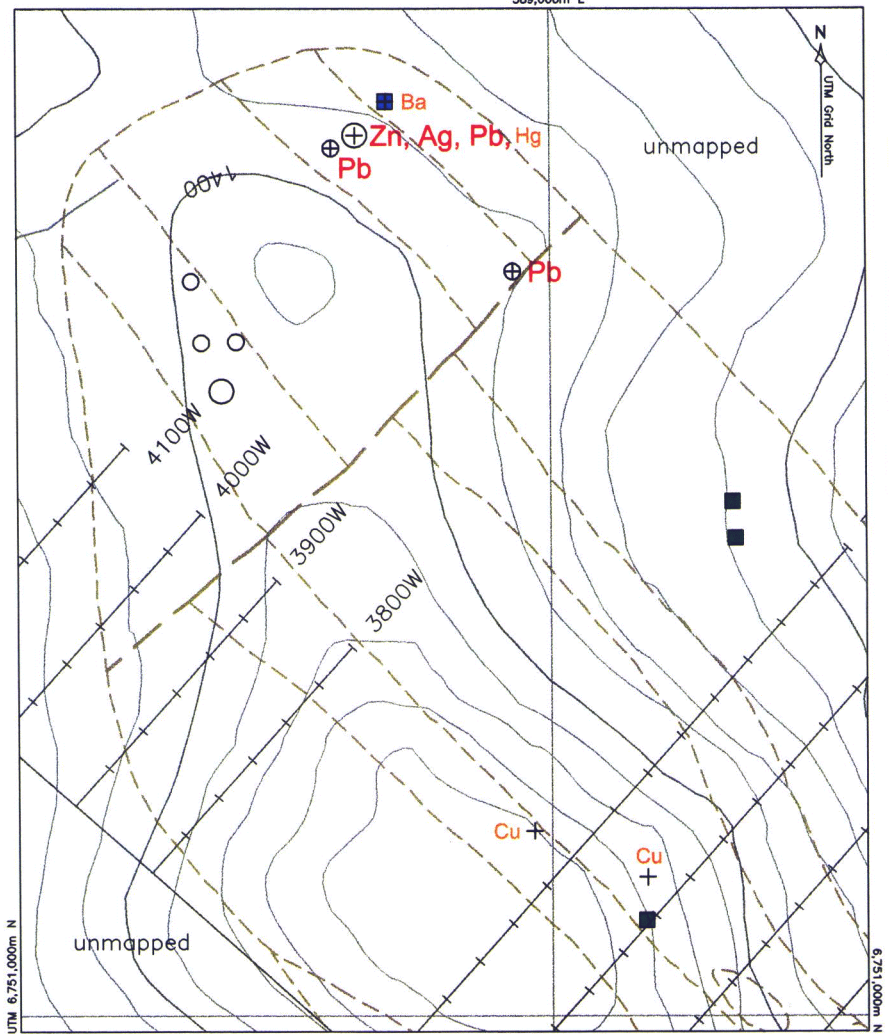
UTM 589,000m E



15053 YUKON INC.		
BIGTOP PROPERTY		
Geology & Sample Locations; Top Creek Area		
<i>TANANA EXPLORATION</i>		
<i>Steve Traynor, Geologist</i>		
SCALE: 1 : 5,000	FILE: 249_6	DATE: 99.01.17
NTS: 105 C/14	DRAWN: 	FIGURE 6

589,000m E

UTM Grid North



UTM 6,751,000m N

6,751,000m N

LEGEND

- Chertitized, Silicified
 - ● ● Na depleted, chertitized, silicified
 - ● ● Ca/Na depleted, chertitized, silicified
 - + Trace element enriched rock sample (Ag ± Cu ± Pb ± Zn ± Be ± Hg)
- | | |
|--------------|------------------|
| Ag 2.5+ ppm | Ag 1.5-2.5 ppm |
| Cu 200+ ppm | Cu 130-300 ppm |
| Pb 100+ ppm | Pb 50-100 ppm |
| Zn 1600+ ppm | Zn 1000-1600 ppm |
| Ba 4000+ ppm | Be 2500-4000 ppm |
| Hg 100+ ppb | Hg 25-100 ppb |

SYMBOLS & PHYSICAL FEATURES

- Geological contact
- - - Fault
- Survey grid
- 1000 Elevation contour
- Stream, creek

UTM 589,000m E



15053 YUKON INC.		
BIGTOP PROPERTY		
Alteration, Enrichment/Depletion, Top Creek Area		
TANANA EXPLORATION		
Steve Traynor, Geologist		
SCALE: 1 : 5,000	FILE: 249_9	DATE: 99.01.17
NTS: 105 C/14	DRAWN: e/e	FIGURE 9

APPENDIX B

ROCK SAMPLE DESCRIPTIONS

ROCK SAMPLE REPORT FOR BIGTOP PROJECT 1998

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	ANALYTICAL RESULTS (Partial)							
			(Ag, Cu, Pb, Zn, Ba, Hg in ppm, Ca and Na in %)							
			Ag	Cu	Pb	Zn	Ba	Hg	Ca	Na
98R071	2100W/252N	Very graphitic, thinly laminated, moderately silicified argillite with 3 % sulfides-pyrite, sphalerite?	0.1	88	6	206	4300		0.87	1.93
98R072	2100W/252N	Altered mixed felsic/argillite, that forms a chaulky grey, very friable weathered product.	0.1	21	9	236	2000		0.95	1.55
98R073	2100W/251N	Thinly laminated quartz>sericite schist with minor disseminated sulfides-pyrite, galena?. Iron stained.	0.7	51	35	160	1001		0.75	3.45
98R074	2325W/320N	Argillite and discordant quartz veining.	0.1	50	12	42	2600		1.67	1.56
98R075	2325W/320N	Fine grained diorite with abundant pyrite and pyrrhotite that is non-magnetic.	0.8	123	13	226	1065		2.86	2.48
98R076	2325W/320N	Quartz > sericite schist, that shows pervasive sericitic alteration.	0.7	67	16	71	1370		2.56	2.2
98R077	2322W/133N	Hornfelsed argillite with minor disseminated sulphides, above contact with diorite sill (98R079).	0.5	86	3	482	3100		1.81	2.32
98R078	2320W/130N	Very siliceous, thinly laminated argillite with 3 % pyrite.	0.1	106	8	365	855		1.36	1.58
98R079	2324W/140N	Diorite with 2% disseminated sulphides from a 10m wide dike that is non magnetic.	0.1	16	7	260	1337		1.79	2.16
98R080	2350W/165N	Diorite, moderately to strongly magnetic.	0.1	21	10	215	1453		2.7	2.24
98R081	2475W/352N	Quartz>>sericite schist.	1	21	10	40	1424		3.35	2.83
98R082	2478W/353N	Mineralized cross-fracturing in 98R081.	0.1	27	8	218	1158		0.12	0.12
98R083	2550W/345N	Altered quartz>sericite schist and quartz veining, containing abundant Cr(?) mica (mariposite).	0.8	27	29	74	1953		0.89	1.26
98R084	2600W/310N	Quartz>>sericite schist with 2% sulfides-pyrite & galena.	0.8	6	54	48	387		0.21	1.47
98R085	~1700W/100N	Quartz>> sericite schist with chloritic or Cu stain and 3% sulfides.	0.1	45	9	145	316		0.08	0.62

ROCK SAMPLE REPORT FOR BIGTOP PROJECT 1998

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			(Ag, Cu, Pb, Zn, Ba, Hg in ppm, Ca and Na in %)							
			Ag	Cu	Pb	Zn	Ba	Hg	Ca	Na
98R086	1720W/225N	Shaly argillite, thinly laminated with white mica and possibly galena or moly(?). The sample is very altered.	0.1	17	22	71	3351		0.18	0.12
98R087	1720W/167.4N	Thinly laminated, very silicified argillite with up to 10% sulfides-pyrite, pyrrhotite and sphalerite.	0.2	73	7	298	61	0.005	0.6	0.1
98R088	1720W/169.9N	Black shale>tuffaceous(?) volcanics showing a ribboned texture associated with biotite alteration. Greyish weathering.	0.1	50	12	363	4800		1.57	1.7
98R089	1720W/172.7N	Very silicified thinly laminated argillite. Well mineralized on schistosity with 5% thin pyrite laminae, chalcocite(?).	0.1	62	8	239	2300		1.25	2.13
98R090	1720W/185.6N	Very graphitic, shaly argillite that is moderately silicified.	0.4	52	12	229	449	0.026	0.02	0.04
98R091	1720W/187.1N	Quartz>sericite schist with 3% sulfides-pyrite, galena (?). Weathers to a bright orange gossan.	1.5	39	130	75	92	0.016	0.22	0.1
98R092	1720W/191.6N	Very friable, thinly laminated argillite with abundant white mica along schistosity and fractures. Thin sulfide laminae.	0.1	111	4	347	2627	0.005	0.67	0.11
98R093	1720W/195.6N	Fine grained, massive argillite at times finely graphitic with well developed schistosity and fractures.	0.1	35	11	360	276		0.14	0.11
98R094	1720W/199.3N	Altered quartz>>sericite schist containing intruded diorite.	0.4	95	16	796	49		0.68	0.13
98R095	1720W/199.3N	Well sulfidized and magnetic diorite intruding sample 98R094.	0.1	110	18	229	256		6.85	0.96
98R096	1720W/204.9N	Carbonaceous, very shaly argillite. Thinly laminated with dark sulfides (? may be oxidized).	0.1	17	15	54	2400		0.15	0.15
98R097	1720W/213.3N	Bleached quartz>>mica schist with sulfide laminae with galena and sphalerite recrystallized. Also shale fragments(?)	0.1	7	6	622	57	0.783	0.1	0.05
98R098	1690W/140N	Siliceous, black-grey argillite showing fine grained biotite alteration and numerous sulfide laminae-pyrite, pyrrhotite.	0.1	62	17	220	4746		1.41	2.54
98R099	3146W/349N	Strongly magnetic granodiorite.	0.8	99	17	144	926		2.71	2.08
98R107	2310W/255N	Chip sample of thinly laminated, somewhat silicified well sulfidized argillite.	0.7	28	24	253	2800		0.17	0.06

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			(Ag, Cu, Pb, Zn, Ba, Hg in ppm, Ca and Na in %)							
			Ag	Cu	Pb	Zn	Ba	Hg	Ca	Na
98R108	2310W/255N	Chip sample of thinly laminated, somewhat silicified well sulfidized argillite.	0.6	62	18	1030	4000		0.22	0.19
98R109	2310W/255N	Chip sample of thinly laminated, somewhat silicified well sulfidized argillite.	0.9	44	17	711	2200		0.6	0.31
98R110	2492W/297N	Brecciated, shaly pyritic black sediment infilled with minor iron stained quartz.	0.1	59	11	240	2500		0.83	1.67
98R112	2527W/326N	Brecciated, shaly pyritic black sediment infilled with minor iron stained quartz.	1	76	5	35	1471		1.36	1.94
98R113	3190W/285N	Somewhat silicified black very graphitic argillite.	0.9	6	33	132	527		0.03	0.01
98R114	2890W/110N	Bleached and somewhat silicified quartz>>sericite schist with pyrite to 2%.	0.1	9	28	72	307		0.72	4.22
98R115	110E/290N	Quartz rich felsic with 3% sulfides, including galena.	0.1	73	88	496	42		1.22	1.91
98R116	1720W/224.1N	Chip sample of quartz rich felsic with disseminated pyrite. Green poorly formed crystals of turquoise (?).	0.9	12	58	83	684		5	2.32
98R117	1720W/222.7N	Chip sample of thinly laminated shaly argillite with sphalerite crystals.	0.6	27	44	85	2000		0.48	0.3
98R118	1720W/220.9N	Chip sample of thinly laminated shaly argillite with sphalerite crystals.	0.1	133	20	259	2000		0.77	1.72
98R119	1720W/219.3N	Chip sample of graphitic, altered argillite that is very thinly laminated with darker band of sphalerite (?).					4040			
98R120	1720W/216.9N	Chip sample of quartz>> sericite schist. Gossanous with disseminated pyrite and possible galena.	0.5	20	39	67	445		0.43	2.92
98R121	1720W/215N	Chip sample of similar material to 98R120, except it is fresher and bleached.	0.1	9	19	173	128		0.18	1.56
98R122	1720W/213.3N	Chip sample of material very similar to 98R121, except with more sulfides to 8 %.	0.1	6	16	220	198		0.12	1.72
98R123	1700W/064N	Quartz rich felsic at times with a greenish tinge (chloritic stain ?) and 2% sulfides.	0.1	5	31	29	866		0.02	1.1

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			(Ag, Cu, Pb, Zn, Ba, Hg in ppm, Ca and Na in %)							
			Ag	Cu	Pb	Zn	Ba	Hg	Ca	Na
98R124	1750W/070N	Chloritic (?) quartz rich felsic with up to @% sulfides, pyrite>>galena, contains abundant Cr rich mineral.	0.1	21	19	46	210		0.04	0.47
98R125	1726W/044N	Felsic, very bleached and altered, with small crosscutting fractures containing quartz and sulfides.	0.1	12	14	53	10	0.005	0.02	0.11
98R126	Upper I.C.	Mica rich felsic with galena(?) in distinct crystals. Shows little or no schistosity.	0.1	6	39	35	56		0.47	2.93
98R127	Upper I.C.	Course grained, somewhat altered (depletion of Mg) porphyritic (?) rock with white mica in books to 1cm and ½ cm discordant veins.	0.1	6	35	22	53		0.59	3.22
98R127A	~670W/750N	Quartz>olivine>hornblende rich band in predominately quartz-biotite-chlorite schist.	0.1	6	10	77	621		8.39	0.96
98R128	~875W/850N	Quartz vien material from upper part of biotite-schist layer.	0.1	22	5	23	359		1.3	1.15
98R129	~910W/865N	Well sulfidized and boudinaged (3-5 cm) very chloritic quartz-biotite schist.	0.1	51	1	124	1706	0.005	0.07	0.04
98R130	100E/300N	Partially chloritized quartz>>mica schist (felsic) with 7% sulfides.	0.6	48	143	640	8	0.119	0.83	0.06
98R131	~2600W/400S	Chlorite schist.	0.1	42	-2	78	27	0.005	1.35	0.15
98R132	~2600W/550S	Chlorite schist with feldspar phenocrysts.	0.2	18	-2	82	21	0.005	1.2	0.13
98R133	4554W/000	Thinly laminated quartz rich felsic float.	1.4	227	33	150	9	0.023	0.28	0.01
98R134	4740W/000	Well sulfidized, silicified argillite.	0.4	80	1	394	33	0.005	0.91	0.25
98R135	Upper I.C.	Quartz-mica schist.	0.1	6	3	81	1100	0.005	0.26	0.15
98R136	Upper I.C.	Quartz-feldspar-biotite rich medium grained felsic (?). That is either recrystallized (?) or porphyritic.	0.1	3	6	20	17	0.005	0.02	0.08
98R137	Upper I.C.	Biotite>>quartz schist, with quartz veining.	0.1	29	1	113	2064	0.005	0.46	0.16

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			(Ag, Cu, Pb, Zn, Ba, Hg in ppm, Ca and Na in %)							
			Ag	Cu	Pb	Zn	Ba	Hg	Ca	Na
98R138	Upper I.C.	Silicified biotite rich argillite.	0.1	82	1	174	400	0.005	0.75	0.24
98R139	Upper I.C.	Chloritized well silicified argillite (?) or greyish quartzite with abundant disseminated sulfides.	0.1	96	1	36	156	0.005	3.46	0.46
98R140	Upper I.C.	Thinly laminated argillite>>quartzite with 5% disseminated sulfides.	1.1	132	20	344	1270	0.005	1.25	0.07
98R141	2531W/114S	Bleached quartz>>sericite schist showing orange limonitic staining.	0.1	8	6	16	296	0.005	0.05	0.06
98R142	2474W/062S	Quartz>sericite schist that is somewhat chloritic.	0.1	20	3	277	719	0.132	0.05	0.02
98R144	Top Creek	Well silicified and hornfelsed argillite with white mica along schistosity and disseminated sulfides.	0.1	69	1	253	3187	0.005	1.49	0.23
98R204	2000W/255N	Quartz>>sericite schist, silicified with 3% sulfides.	0.1	8	16	118	1247		0.49	4.13
98R205	2290W/075N	Thinly laminated, shaly silicified argillite that at times is very graphitic.	0.6	43	6	125	7100		1.32	1.49
98R206	2400W/280N	Thinly laminated, shaly silicified argillite that at times is very graphitic.	1.2	132	14	193	1438		0.49	0.04
98R207	2475W/352N	Quartz>sericite schist, very weathered, leached and iron stained.	1	113	8	1099	1432		0.56	0.71
98R208	2475W/352N	Quartz>>sericite schist with high grade mineralized fractures.	1.2	39	9	83	1328		2.83	2.38
98R210	2610W/220N	Bleached quartz>>sericite schist.	0.9	29	87	47	1154		0.46	4.55
98R211	3285W/285N	Very weathered, possibly pegmatitic intrusive rock(?)	0.1	17	30	332	558		10	0.15
98R212	3400W/263N	Bleached quartz>>sericite schist.	0.1	30	16	81	1458		2.83	2.74
98R213	2615W/231N	Felsic>argillite, silicified with 1% sulfides.	0.1	26	10	188	2338		2.54	3.65

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			Ag	Cu	Pb	Zn	Ba	Hg	Ca	Na
98R214	2890W/150N	Well mineralized diorite, showing K-feldspar alteration.	0.1	25	45	257	842		6.29	0.88
98R215	~2300W/100N	Quartz rich felsic with 10% pyrite.	0.1	15	92	92	1646		1.47	0.84
98R216	1900W/250N	Well mineralized diorite.	0.1	25	7	162	1284		2.16	0.5
98R217	1800W/245N	Weathered argillite showing abundant fiotite and sulfides.	0.1	100	13	464	1350		0.63	0.34
98R218	1710W/105N	Well mineralized graphitic argillite, with chalcopyrite and pyrite.	0.1	85	17	120	2067		0.29	1.55
98R219	1710W/105N	Same as 98R218.	0.7	88	31	75	542		0.32	1.46
98R220	~150E/225N	Somewhat bleached quartz rich felsic with thin sulfide laminae.	0.3	90	22	429	69	0.014	0.06	0.07
98R221	1660W/050N	Siliceous, mixed somewhat graphitic argillite>>felsics.	0.1	43	7	652	2000		0.94	1.23
98R222	~150E/225N	Similar to 98R224, except more siliceous and less graphitic.	0.3	54	55	944	78	0.005	0.1	0.03
98R224	~150E/225E	Graphitic argillite with crosscutting bullish quartz veins.	0.1	15	29	272	103	0.013	0.14	0.01
98R300	3147W/346N	Very graphitic, shaly somewhat silicified argillite. Show bright orange gossan.	0.6	27	9	40	6180	0.014	0.01	0.04
98R301	3135W/390N	Very graphitic and gossanous argillite showing sericitic alteration (5%) with minor pale white mica.	0.1	25	7	94	4511		0.49	1.8
98R302	3133W/388N	Quartz rich felsic. Fractured areas show 7% sericite alteration. Well gossaned and showing gradational contact with shale.	0.1	24	9	52	1770		0.63	3.25
98R303	3127W/435N	Well silicified, somewhat shaly argillite. Very thinly laminated with 8% sulfides-pyrite, pyrrohotite and sphalerite.	0.1	131	11	191	812		0.97	1.16
98R304	3125W/466N	Very siliceous, thinly laminated argillite showing abundant sericitic alteration and 3% sulfides-pyrite, pyrrohotite and magnetite.	0.1	59	12	221	1365		2.4	2.51

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			Ag	Cu	Pb	Zn	Ba	Hg	Ca	Na
98R305	2968W/558N	Quartz rich felsic with fine to medium grained sulfides to 8%. Moderately to strongly magnetic, with biotite and sericite alteration.	0.1	65	12	167	443		1.03	2.8
98R306	~1125W/420N	Very siliceous felsic, possibly showing minor sericite development.	0.1	21	15	22	98	0.005	0.03	0.03
98R307	~910W/320N	Argillite.	0.9	28	21	36	3192	0.019	0.06	0.03
98R308	~710W/510N	Massive, silicified argillite.	0.1	68	10	162	1055		1.47	0.33
98R309	~900W/310N	Felsic/argillite mix.	0.1	94	14	1258	756		0.74	0.47
98R310	~3580W/425N	Very graphitic shale with sulfosalts precipitates from later hydrothermal solutions.	0.9	23	7	61	333	0.012	0.23	0.09
98R311	~3600W/550N	Chloritically altered argillite showing a talcose to schistose texture. Moderately magnetic. Greyish green in color.	0.1	51	12	173	904		2.08	2.54
98R312	~3600W/550N	Similar to 98R311, except less schistose and magnetic.	0.1	29	9	137	218		5.39	2.16
98R313	~3850W/750N	Sericitically altered quartz rich felsic.	0.1	12	139	356	278		0.89	1.31
98R314	~4100W/600N	Greyish quartz rich felsic with disseminated sulfides, including fine grained crystals and cm. sized clots of sphalerite.	5	93	826	2215	58		3.13	1.23
98R315	~4100W/600N	Similar to 98R314, but containing abundant fluorescent green colored mineral and 5% sulfides.	1.3	83	135	156	225		0.87	0.78
98R316	2360W/175N	Very shaly, graphitic argillite with abundant white mica and 3% sulfides.	1.4	23	18	37	810	0.018	0.09	0.02
98R317	~740W/775N	Thinly laminated quartz-biotite-chlorite schist that is moderately to strongly magnetic. Contains numerous discordant quartz veins.	0.1	141	4	78	1660	0.005	0.22	0.13
98R318	~740W/775N	Banded quartz-olivine-hornblende rich section within 98R317.	0.1	6	3	25	651	0.005	1.7	0.05
98R319	~885W/880N	Quartz rich felsic mixed with thin laminations of more mafic material. Very magnetic.	0.1	23	1	50	629	0.005	0.38	0.15

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98R320	~895W/880N	Fault gouge material in mixed volcanic, showing strong sericitic alteration.	0.1	62	12	93	1143		0.39	1.27
98R321	~880W/865N	Strongly sericitically altered biotite-chlorite schist.	0.1	51	8	145	3481		0.66	0.98
98R322	Bog Creek	Silicified, somewhat gossanous argillite. Thinly laminated with minor sulfides. Minor sericitic alteration noted.	0.1	34	3	82	110	0.005	0.3	0.08
98R350	Top Creek	Well gossaned shale float that is brecciated with abundant sulfides-chalcopyrite and sphalerite.	0.9	128	1	58	60	0.005	2.43	0.08
98R351	Top Creek	Chloritically altered silicified argillite with 5% sulfides.	0.1	20	3	38	792		0.11	0.32
98R352	1885W/165N	Very graphitic shale interbedded with more argillaceous layers.	0.1	36	18	135	2824		2.11	0.34
98R353	1270W/135N	Biotite-chlorite altered shale mixed with felsics.	0.7	21	1	57	2000		1.34	3.39
98R354	1270W/110N	Very graphitic and minor chloritically altered shaly argillite.	0.1	49	1	62	3426		0.69	1.21
98R355	815W/130N	Very graphitic argillite with pyrrhotite.	0.4	31	6	265	4885	0.118	0.005	0.03
98R356	800W/140N	Pyrrhotite rich silicified argillite.	0.1	75	4	221	2730		0.02	0.27
98R357	900W/282N	Graphitic, well mineralized shaly argillite.	3.2	96	76	91	30	0.016	0.09	0.02
98R358	900W/282N	Similar to 98R357, with abundant white mica.	2.4	19	29	10	122	0.014	0.02	0.01
98R359	570W/175N	Very chloritically altered argillite with abundant hornblende developed.	0.1	28	1	18	14	0.005	1.46	0.19
98R360	555W/190N	Altered graphitic shale with abundant white mica.	1	10	20	9	233	0.017	0.08	0.03
98R361	558W/180N	Clastic (?) felsic carrying significant galena and other sulfides in what appear to be veins.	0.1	21	36	44	17	0.028	0.09	0.05

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98R362	800W/270N	Very graphitic argillite. 4% white mica and 5% sulfides.	2.5	153	14	38	27	0.014	0.56	0.02
98R363	~300W/550N	Brecciated, silicified argillite with abundant discordant quartz veining. Minor pyrite and abundant pyrrhotite on fractures.	0.1	45	16	223	75	0.005	0.13	0.04
98R364	~1860W330N	Silicified argillite float. Well mineralized with sulfides to 5%-pyrite and sphalerite.	0.1	62	1	349	1248	0.005	0.09	0.05
98R378	568W/172N	Thinly laminated, quartz rich felsic. Greyish colored and very silicified. Strong limonitic stain and 2% sulfides.	0.1	17	38	46	3262	0.052	0.005	0.09
98R379	570W/178N	Similar to 98R378, except with biotite and chlorite alteration and 4% sulfides.	0.1	15	17	190	1782	0.092	0.03	0.07
98R380	566W/171N	Thinly laminated, heavily silicified, very graphitic argillite with 3% sulfides-pyrite and pyrrhotite.	0.3	109	8	585	3787	0.036	0.16	0.05
98R381	565W/180N	Quartz rich felsic band, 3 meters wide with 20% sulfides.	0.1	44	29	60	429	0.016	0.91	0.03
98R382	558W/188N	Quartz>biotite schist, heavily silicified and gossanous. Ribboned texture suggests pyroclastic origin, 10% sulfides-pyrite and galena.	0.4	96	85	2128	381	0.158	0.14	0.07
98R383	752W/245N	Very thinly laminated almost massive graphitic argillite with ¼ cm semi-discordant quartz veins.	0.1	54	13	1545	2852	0.025	0.12	0.03
98R384	695W/215N	Quartz>>sericite schist. Highly altered with development of Cr rich mica.	0.5	11	42	19	2103	0.021	0.07	0.03
98R385	690W/238N	Thinly laminated graphitic argillite with 3% sulfides-pyrite and pyrrhotite. Very silicified.	0.6	121	14	666	2450	0.025	0.44	0.02
98R386	Top Creek	Greyish quartz rich felsic originally sampled as 98R314, representative resampling.	0.9	120	84	162	130	0.005	0.15	0.02
98R387	Top Creek	High grade resampling of disseminated sulfide rich material in area of original sample 98R314.	0.9	125	106	437	119	0.005	0.28	0.02
98R388	Top Creek	High grade resampling of semi-massive sulfide rich material in area of original sample 98R314.	0.8	78	122	4631	88	0.085	0.77	0.03
98R389	150E/210N	Very graphitic, well gossaned argillite with numerous discordant quartz veins and sulfides. Pyrrhotite on fractures.	0.4	27	24	188	3348	0.005	0.17	0.02

APPENDIX C

**CERTIFICATES
OF
ANALYSIS**



Intertek Testing Services
Bondar Clegg

Geochemical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geometal Lab Report

REPORT: V98-01202.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 16-JUL-98 DATE PRINTED: 12-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD												
980805	1 Au30 Gold	26	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980805	37 SiO2 Silica (SiO2)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	2 Ag Silver	26	0.5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	38 TiO2 Titanium (TiO2)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	3 Cu Copper	26	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	39 Al2O3 Alumina (Al2O3)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	4 Pb Lead	26	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	40 Fe2O3* Total Iron (Fe2O3)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	5 Zn Zinc	26	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	41 MnO Manganese (MnO)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	6 Mo Molybdenum	26	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	42 MgO Magnesium (MgO)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	7 Ni Nickel	26	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	43 CaO Calcium (CaO)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	8 Co Cobalt	26	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	44 Na2O Sodium (Na2O)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	9 Cd Cadmium	26	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	45 K2O Potassium (K2O)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	10 Bi Bismuth	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	46 P2O5 Phosphorous (P2O5)	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	11 As Arsenic	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	47 LOI Loss on Ignition	10	-2.00 PCT	Ignition 1000 Deg.	GRAVIMETRIC												
980805	12 Sb Antimony	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	48 Total Whole Rock Total	26	0.01 PCT														
980805	13 Fe Tot Total Iron	26	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	49 Cr2O3 Chromium Oxide	10	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC												
980805	14 Mn Manganese	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980805	50 Ba Barium	1	10 PPM	Pressed Pellet	XRAY FLUORESCENC												
980805	15 Te Tellurium	26	25 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	16 Ba Barium	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	17 BA BARIUM	9	0.005 PCT		XRAY FLUORESCENCE																		
980805	18 Cr Chrome	26	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
						<table border="1"> <thead> <tr> <th>SAMPLE TYPES</th> <th>NUMBER</th> <th>SIZE FRACTIONS</th> <th>NUMBER</th> <th>SAMPLE PREPARATIONS</th> <th>NUMBE</th> </tr> </thead> <tbody> <tr> <td>R ROCK</td> <td>26</td> <td>2 -150</td> <td>26</td> <td>CRUSH ONLY PULVERIZATION</td> <td>26 26</td> </tr> </tbody> </table>						SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBE	R ROCK	26	2 -150	26	CRUSH ONLY PULVERIZATION	26 26
SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBE																		
R ROCK	26	2 -150	26	CRUSH ONLY PULVERIZATION	26 26																		
980805	19 V Vanadium	26	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	20 Sn Tin	26	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	21 W Tungsten	26	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	22 Li Lithium	26	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	23 Ga Gallium	26	10 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	24 La Lanthanum	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	25 Sc Scandium	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	26 Ta Tantalum	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	27 Ti Titanium	26	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	28 Al Aluminum	26	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	29 Mg Magnesium	26	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	30 Ca Calcium	26	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	31 Na Sodium	26	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	32 K Potassium	26	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	33 Nb Niobium	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	34 Sr Strontium	26	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	35 Y Yttrium	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		
980805	36 Zr Zirconium	26	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA																		

REPORT COPIES TO: MR. STEVE TRAYNOR

INVOICE TO: MR. STEVE TRAYNOR

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Intertek Testing Services

Bondar Clegg

Geochem Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

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SAMPLE NUMBER	ELEMENT UNITS	Al	Si	Fe	Mn	Ni	Co	Cd	Pb	Bi	As	Sb	Fe Tot	Mn	Te	Ba	BA	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO2	TiO
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM
98R071	<5	88	6	206	31	31	<1	5	<5	<5	<5	1.87	222	<25	>2000	0.43	128	411	<20	<20	10	14	7	22	<5	0.21	6.34	0.50	0.87	1.93	1.27	31	164	8	59	73.25	0.6	
98R072	<5	21	9	236	13	12	<1	1	<5	<5	<5	2.83	268	<25	>2000	0.46	169	395	<20	<20	9	<10	6	20	<5	0.17	5.32	0.73	0.95	1.55	1.14	31	194	11	57	76.27	0.5	
98R073	<5	51	35	160	10	8	<1	2	<5	<5	<5	4.20	233	<25	1001		78	174	<20	<20	5	<10	<5	20	<5	0.21	6.14	0.59	0.75	3.45	0.24	13	348	10	46			
98R074	<5	50	12	42	12	14	<1	<1	<5	6	<5	2.18	241	<25	>2000	0.26	224	390	<20	<20	12	11	27	16	<5	0.38	7.24	1.19	1.67	1.56	1.48	36	386	27	97			
98R075	<5	123	13	226	2	83	25	2	<5	<5	<5	3.81	423	<25	1065		71	211	<20	<20	16	13	8	19	5	0.39	9.22	2.53	2.86	2.48	1.43	17	560	17	17	56.27	0.7	
98R076	<5	67	16	71	2	14	2	<1	<5	<5	<5	5.64	532	<25	1370		122	226	<20	<20	17	10	7	19	<5	0.39	8.41	2.71	2.56	2.20	1.12	20	538	15	15			
98R077	<5	86	3	482	2	43	22	<1	<5	7	<5	8.71	1408	26	>2000	0.31	33	246	<20	<20	29	11	5	31	<5	0.56	9.23	1.89	1.81	2.32	1.05	20	227	15	<5			
98R078	6	106	8	365	5	70	9	3	<5	<5	<5	4.38	290	<25	855		134	342	<20	<20	8	<10	11	11	<5	0.23	5.75	0.71	1.36	1.58	1.05	30	97	24	102			
98R079	<5	16	7	260	2	48	14	<1	<5	8	<5	7.65	1303	<25	1337		147	115	<20	<20	23	11	33	11	<5	0.72	8.01	2.51	1.79	2.16	1.55	26	667	16	78	51.44	1.3	
98R080	<5	21	10	215	3	47	16	<1	<5	6	<5	7.24	1330	<25	1453		149	114	<20	<20	14	10	32	11	6	0.73	8.16	2.56	2.70	2.24	1.58	27	807	16	99	51.80	1.3	
98R081	<5	21	10	40	3	4	<1	<1	<5	9	<5	3.86	664	<25	1424		70	177	<20	<20	11	11	7	16	<5	0.32	8.13	2.32	3.35	2.83	0.63	15	578	11	16			
98R082	<5	27	8	218	22	62	2	3	<5	<5	12	0.79	135	<25	1158		213	727	<20	<20	4	<10	7	<5	<5	0.08	1.07	0.29	0.12	0.12	0.36	59	26	7	24	90.62	0.1	
98R083	<5	27	29	74	51	5	<1	<1	<5	9	<5	1.96	74	<25	1953		217	557	<20	<20	4	<10	16	8	<5	0.23	4.02	0.48	0.89	1.26	0.50	47	300	10	80	80.19	0.5	
98R084	<5	6	54	48	8	9	<1	<1	<5	10	6	3.07	74	<25	387		352	431	<20	<20	2	<10	61	<5	<5	0.12	2.23	0.80	0.21	1.47	0.14	36	193	39	99			
98R085	<5	45	9	145	10	23	1	1	<5	7	7	1.85	30	<25	267		249	126	<20	<20	2	<10	7	<5	<5	0.04	1.11	0.03	0.08	0.62	0.07	11	172	9	34			
98R107	7	28	24	253	44	29	<1	<1	<5	7	12	2.16	122	<25	>2000	0.28	276	996	<20	<20	7	<10	12	<5	<5	0.13	2.03	0.72	0.17	0.06	0.67	80	33	15	46			
98R108	6	62	18	1030	58	107	<1	5	<5	6	12	2.94	288	<25	>2000	0.40	179	1260	<20	<20	9	<10	18	6	<5	0.18	3.65	0.50	0.22	0.19	1.24	102	75	21	78			
98R109	<5	44	17	711	31	101	2	4	<5	13	<5	2.56	371	<25	>2000	0.22	231	420	<20	<20	6	<10	8	<5	<5	0.11	2.32	0.64	0.60	0.31	0.57	37	80	16	43			
98R110	7	59	11	240	8	84	8	2	<5	<5	<5	4.23	289	<25	>2000	0.25	308	486	<20	<20	17	13	25	16	<5	0.24	8.31	1.46	0.83	1.67	2.00	38	169	15	78			
98R112	<5	76	5	35	9	7	<1	<1	<5	<5	<5	3.95	107	<25	1471		160	74	<20	<20	4	<10	7	<5	<5	0.19	6.29	0.18	1.36	1.94	0.66	9	194	33	108	72.78	0.3	
98R204	<5	8	16	118	23	48	4	<1	<5	28	<5	3.65	58	<25	1247		168	811	<20	<20	<2	<10	11	27	<5	0.38	5.82	0.62	0.49	4.13	0.11	64	469	25	54			
98R205	9	43	6	125	29	11	<1	1	<5	6	<5	3.32	264	<25	>2000	0.71	86	746	<20	<20	12	<10	7	20	<5	0.38	7.26	0.77	1.32	1.49	1.48	59	185	10	71	66.85	0.8	
98R206	<5	132	14	193	4	39	2	5	<5	6	<5	4.27	136	<25	1438		424	380	<20	<20	5	<10	11	<5	<5	0.06	1.40	0.58	0.49	0.04	0.36	30	16	19	24			
98R207	<5	113	8	1099	4	68	7	3	<5	<5	<5	>10.00	880	<25	1432		331	494	<20	<20	32	<10	8	19	<5	0.30	6.49	4.84	0.56	0.71	0.60	39	378	15	18			
98R208	<5	39	9	83	3	8	<1	<1	<5	10	<5	7.40	696	<25	1328		66	219	<20	<20	14	<10	6	17	<5	0.30	8.31	2.64	2.83	2.38	0.54	18	512	12	17	55.49	0.6	
98R210	<5	29	87	47	2	3	<1	<1	<5	<5	<5	3.99	118	<25	1154		78	320	<20	<20	11	<10	5	16	<5	0.18	7.98	1.00	0.46	4.55	0.48	24	381	8	51			



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PROJECT: BIG TOP

SAMPLE NUMBER	ELEMENT AL2O3		Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI Total	Cr2O3	Ba
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM
98R071		11.67	2.60	0.03	0.87	1.26	2.86	1.64	0.06	3.45	98.40	0.03
98R072		9.60	4.35	0.04	1.23	1.37	2.30	1.47	0.05	2.37	99.63	0.04
98R073												
98R074												
98R075		16.87	5.85	0.06	4.31	4.12	3.67	1.80	0.34	5.12	99.21	0.02
98R076												
98R077												
98R078												
98R079		15.29	12.19	0.18	4.43	2.73	3.23	2.14	0.65	5.45	99.06	0.03
98R080		15.12	11.67	0.19	4.63	4.14	3.43	2.12	0.67	4.21	99.35	0.03
98R081												
98R082		1.86	1.14	0.02	0.55	0.21	0.10	0.44	0.06	3.08	98.29	0.05
98R083		7.03	3.09	0.01	0.83	1.31	1.9%	0.65	0.05	1.65	97.33	0.05
98R084												
98R085												316
98R107												
98R108												
98R109												
98R110												
98R112		10.85	6.05	0.02	0.33	1.93	2.83	0.85	0.04	3.58	99.63	0.04
98R204												
98R205		12.73	4.97	0.03	1.33	1.90	2.16	1.92	0.10	5.35	98.25	0.03
98R206												
98R207												
98R208		14.17	10.91	0.09	4.36	4.02	3.38	0.71	0.40	5.19	99.35	0.02
98R210												



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STANDARD NAME	ELEMENT UNITS	Al ₂ O ₃ PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe Tot PCT	Mn PPM	Te PPM	Ba PPM	BA PCT	Cr PPM	V PPM	Sn PPM	W PPM	Li PPM	Ga PPM	La PPM	Sc PPM	Ta PPM	Ti PCT	Al PCT	Mg PCT	Ca PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM	SiO ₂ PCT	TiO ₂ PCT			
ANALYTICAL BLANK		<5	<.5	<1	<2	<2	<1	<1	<1	<1	<5	<5	<5	0.02	<5	<25	<5	-	<2	<2	<20	<20	<2	<10	<5	<5	<5	<.01	<.01	<.01	<.01	0.02	<.01	<5	<1	<5	<5	-	-			
ANALYTICAL BLANK		<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses		2	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	0.5	1	1	0.5	0.5	0.5	0.5	3	3	3	0.02	3	13	3	-	1	1	10	10	1	5	3	3	3	.005	.005	.005	.005	0.02	.005	3	0.5	3	3	-	-			
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		5	0.2	1	2	1	1	1	1	0.5	2	5	5	0.05	1	.01	0.005	<.01	1	1	.01	.01	.01	.01	.01	.01	.01	<.01	-	<.01	<.01	-	<.01	.01	.01	.01	.01	<.001	<.001			
Gannet Ref.Material	201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mean Value	201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BCC GEOCHEM STD 5		-	1.1	89	9	77	2	39	16	<1	<5	11	<5	4.72	834	<25	686	-	87	169	<20	<20	27	<10	9	18	5	0.48	7.06	1.93	1.98	1.59	1.09	17	249	12	40	-	-			
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		-	1.1	89	9	77	2	39	16	0.5	3	11	3	4.72	834	13	686	-	87	169	10	10	27	5	9	18	5	0.48	7.06	1.93	1.98	1.59	1.09	17	249	12	40	-	-			
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		-	0.7	102	11	80	2	40	18	0.1	1	8	1	4.95	850	-	800	-	100	175	4	2	32	4	10	18	1	0.51	8.30	1.90	1.85	1.82	1.00	17	265	13	45	-	-			
Gannet Ref.Material	1431	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mean Value	1431	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value	1490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CANMET SO-2 REF STD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52.07	1.3	
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52.07	1.3	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51.70	1.3



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01202.0 (COMPLETE)

DATE RECEIVED: 16-JUL-98

DATE PRINTED: 12-AUG-98

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STANDARD NAME	ELEMENT UNITS	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM
ANALYTICAL BLANK		-	-	-	-	-	-	-	-	-	-	-	-
ANALYTICAL BLANK		-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.001	<.0001	<.01	<.01	<.01	<.01	<.01	<.01	<.001	<.001	<.001	.005
Gannet Ref.Material		-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-
BCC GEOCHEM STD 5		-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref.Material		-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-
CANMET SO-2 REF STD	14.60	7.81	0.09	0.85	2.63	2.43	2.84	0.68	14.21	85.37	<0.01	-	-
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	-
Mean Value	14.60	7.81	0.09	0.85	2.63	2.43	2.84	0.68	14.21	85.37	0.005	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	14.75	7.69	0.09	0.87	2.64	2.48	2.85	0.67	14.26	-	0.001	1000	-



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

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PROJECT: BIG TOP

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DATE RECEIVED: 16-JUL-98

DATE PRINTED: 12-AUG-98

PAGE 3A(5/ 8)

STANDARD	ELEMENT	Al ₂ O ₃	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe Tot	Mn	Te	Ba	BA	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO ₂	Ti		
NAME	UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PPM		
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
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STANDARD NAME	ELEMENT	Al2O3 UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	- 1451
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	- 1
Mean Value		-	-	-	-	-	-	-	-	-	-	-	- 1451
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	- 1400



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe Tot	Mn	Te	Ba	BA	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO2	TiO2			
		PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT			
98R071 Duplicate		<5	<.5	88	6	206	31	31	<1	5	<5	<5	<5	1.87	222	<25	>2000	0.43	128	411	<20	<20	10	14	7	22	<5	0.21	6.34	0.50	0.87	1.93	1.27	31	164	8	59	73.25	0.0			
																	0.44																									
98R073 Duplicate		<5	0.7	51	35	160	10	8	<1	2	<5	<5	<5	4.20	233	<25	1001		78	174	<20	<20	5	<10	<5	20	<5	0.21	6.14	0.59	0.75	3.45	0.24	13	348	10	46					
		<5	0.8	52	38	168	10	10	1	2	<5	7	<5	4.43	244	<25	1059		84	185	<20	<20	4	<10	<5	22	<5	0.23	6.52	0.62	0.80	3.68	0.25	14	374	10	49					
98R079 Duplicate		<5	<.5	16	7	260	2	48	14	<1	<5	8	<5	7.65	1303	<25	1337		147	115	<20	<20	23	11	33	11	<5	0.72	8.01	2.51	1.79	2.16	1.55	26	667	16	78	51.44	1.3			
																																									51.61	1.3
98R110 Duplicate		7	<.5	59	11	240	8	84	8	2	<5	<5	<5	4.23	289	<25	>2000	0.25	308	486	<20	<20	17	13	25	16	<5	0.24	8.31	1.46	0.83	1.67	2.00	38	169	15	78					
		<.5	57	11	232	8	83	6	2	<5	<5	<5		4.10	277	<25	>2000		260	474	<20	<20	16	12	24	16	<5	0.23	7.69	1.41	0.76	1.60	1.76	37	162	14	72					
98R208 Duplicate		<5	1.2	39	9	83	3	8	<1	<1	<5	10	<5	7.40	696	<25	1328		66	219	<20	<20	14	<10	6	17	<5	0.30	8.31	2.64	2.83	2.38	0.54	18	512	12	17	55.49	0.0			
		<5																																								



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01202.0 (COMPLETE)

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PAGE 4B(8/ 8)

SAMPLE NUMBER	ELEMENT UNITS	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM
98R071		11.67	2.60	0.03	0.87	1.26	2.86	1.64	0.06	3.45	98.40	0.03	
Duplicate													
98R073													
Duplicate													
98R079		15.29	12.19	0.18	4.43	2.73	3.23	2.14	0.65	5.45	99.06	0.03	
Duplicate		15.33	12.01	0.18	4.40	2.75	3.30	2.14	0.66	5.38		0.04	
98R110													
Duplicate													
98R208		14.17	10.91	0.09	4.36	4.02	3.38	0.71	0.40	5.19	99.35	0.02	
Duplicate													



Intertek Testing Services
Bondar Clegg

Geochemical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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+

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

REPORT: V98-01276.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 24-JUL-98 DATE PRINTED: 17-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980810	1 Au30 Gold	3	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980810	37 TiO2 Titanium (TiO2)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	2 Ag Silver	3	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	38 Al2O3 Alumina (Al2O3)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	3 Cu Copper	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	39 Fe2O3* Total Iron (Fe2O3)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	4 Pb Lead	3	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	40 MnO Manganese (MnO)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	5 Zn Zinc	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	41 MgO Magnesium (MgO)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	6 Mo Molybdenum	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	42 CaO Calcium (CaO)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	7 Ni Nickel	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	43 Na2O Sodium (Na2O)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	8 Co Cobalt	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	44 K2O Potassium (K2O)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	9 Cd Cadmium	3	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	45 P2O5 Phosphorous (P2O5)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	10 Bi Bismuth	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	46 LOI Loss on Ignition	6	-2.00 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980810	11 As Arsenic	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	47 Total Whole Rock Total	11	0.01 PCT		
980810	12 Sb Antimony	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	48 Cr2O3 Chromium Oxide	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980810	13 Fe Iron	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	49 Ba Barium	3	50 PPM	BORATE FUSION	XRAY FLUORESCENC
980810	14 Mn Manganese	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	50 Sr Strontium	3	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980810	15 Te Tellurium	3	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	51 Y Yttrium	3	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980810	16 Ba Barium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	52 Nb Niobium	3	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980810	17 Cr Chromium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	53 Zr Zirconium	3	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980810	18 V Vanadium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	54 Rb Rubidium	3	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980810	19 Sn Tin	3	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	55 Ce Cerium	4	2 PPM		NEUTRON ACTIVATI
980810	20 W Tungsten	3	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	56 Eu Europium	4	0.5 PPM		NEUTRON ACTIVATI
980810	21 La Lanthanum	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	57 La Lanthanum	4	1 PPM		NEUTRON ACTIVATI
980810	22 Al Aluminum	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	58 Lu Lutetium	4	0.2 PPM		NEUTRON ACTIVATI
980810	23 Mg Magnesium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	59 Nd Neodymium	4	10 PPM		NEUTRON ACTIVATI
980810	24 Ca Calcium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	60 Sc Scandium	4	0.1 PPM		NEUTRON ACTIVATI
980810	25 Na Sodium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	61 Sm Samarium	4	0.1 PPM		NEUTRON ACTIVATI
980810	26 K Potassium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	62 Tb Terbium	4	1 PPM		NEUTRON ACTIVATI
980810	27 Sr Strontium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	63 Th Thorium	4	0.5 PPM		NEUTRON ACTIVATI
980810	28 Y Yttrium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	64 U Uranium	4	1 PPM		NEUTRON ACTIVATI
980810	29 Ga Gallium	3	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980810	65 Yb Ytterbium	4	1 PPM		NEUTRON ACTIVATI
980810	30 Li Lithium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980810	31 Nb Niobium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980810	32 Sc Scandium	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980810	33 Ta Tantalum	3	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980810	34 Ti Titanium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980810	35 Zr Zirconium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980810	36 SiO2 Silica (SiO2)	6	0.01 PCT	BORATE FUSION	XRAY FLUORESCENCE						



Intertek Testing Services
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**Geochemical
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REPORT: V98-01276.0 (COMPLETE)

REFERENCE:

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SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 24-JUL-98 DATE PRINTED: 17-AUG-98

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	11	2 -150	11	CRUSH/SPLIT & PULV.	26

REPORT COPIES TO: MR. STEVE TRAYNOR

INVOICE TO: MR. STEVE TRAYNOR

 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

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Geochemical
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Report

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SAMPLE NUMBER	ELEMENT UNITS	Al	Si	Fe	Mn	Zn	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	PCT	PCT	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	PCT	PPM	PCT	PCT	PCT							
98R086	12	<.2	17	22	71	16	7	3	0.8	<5	<5	<5	0.67	129	<10	428	192	338	<20	<20	4	0.98	0.74	0.18	0.12	0.49	31	12	<2	5	34	<5	<10	0.12	9	79.61	0.34	8.72						
98R090																																						74.71	0.40	10.51				
98R093	9	<.2	35	11	360	4	27	5	4.0	<5	<5	<5	2.50	303	<10	276	98	135	<20	<20	5	1.34	0.46	0.14	0.11	0.60	13	7	<2	7	13	9	<10	0.09	2	75.26	0.24	11.08						
98R094	8	0.4	95	16	796	23	127	30	8.5	<5	<5	<5	4.61	311	<10	49	171	212	<20	<20	<1	2.06	1.33	0.68	0.13	0.26	163	8	<2	8	19	<5	<10	0.14	4									
98R095																																												
98R113																																								89.21	0.16	2.68		
98R212																																									58.26	0.56	16.20	
98R213																																										52.03	1.02	20.26
98R215																																												
98R216																																												
98R218																																												



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PAGE 1B(2/ 6)

SAMPLE NUMBER	ELEMENT UNITS	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb	Ce	Eu	La	Lu	Nd	Sc	Sm	Tb	Th	U	Yb			
		PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	
98R086		1.14	0.02	1.26	1.89	1.87	1.18	0.02	2.68	99.18	0.05	3351	357	28	26	139	72														
98R090		2.51	0.01	0.58	0.52	1.53	2.57	0.05	5.02	98.46	0.05																				
98R093		3.76	0.04	0.82	1.75	2.63	1.25	0.04	1.95	98.85	0.03																				
98R094																															
98R095																															
98R113		1.12	0.02	0.75	0.09	0.05	0.61	0.03	3.21	98.00	0.07																				
98R212		6.43	0.07	2.38	4.02	4.11	1.10	0.29	3.82	97.52	0.03	1458	912	18	11	110	55														
98R213		9.29	0.13	3.43	3.53	5.30	1.41	0.16	2.55	99.39	0.02	2338	133	40	9	108	47														
98R215																															
98R216																															
98R218																															



Intertek Testing Services

Bondar Clegg

Geotechnical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01276.0 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 17-AUG-98

PAGE 2A(3/ 6)

STANDARD NAME	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	SiO2	TiO2	Al2O3		
	UNITS	PPB	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	PCT	PCT	PCT		
CANMET STREAM-SED	-	<.2	70	10	76	1	23	10	0.4	<5	12	<5	2.72	1236	<10	921	28	49	<20	<20	8	1.23	0.69	1.18	0.04	0.10	65	10	<2	9	5	<5	<10	0.07	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	-	0.1	70	10	76	1	23	10	0.4	3	12	3	2.72	1236	5	921	28	49	10	10	8	1.23	0.69	1.18	0.04	0.10	65	10	1	9	5	3	5	0.07	1	-	-	-		
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value	-	0.3	66	13	82	2	23	11	0.6	-	11	4	2.60	1200	-	-	30	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
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	1	-	-	-
Mean Value	3	0.1	0.5	1	0.5	0.5	0.5	0.5	0.1	3	3	3	.005	1	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	5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.05	1	.01	.01	1	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01	<.001	<.01	<.001	
Gannet Ref.Material	1036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Mean Value	1036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value	1070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
CANMET STREAM-SED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.77	0.77	15.61	
Number of Analyses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1		
Mean Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.77	0.77	15.61		
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value	-	0.5	43	66	216	13	47	17	0.8	-	32	3	4.10	720	-	-	50	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.70	0.79	15.75		



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

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PROJECT: BIG TOP

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STANDARD NAME	ELEMENT UNITS	Fe203* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr203 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	Ce PPM	Eu PPM	La PPM	Lu PPM	Nd PPM	Sc PPM	Sm PPM	Tb PPM	Th PPM	U PPM	Yb PPM	
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANALYTICAL BLANK		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.0001	<.01	<.01	<.01	<.01	<.01	<.01	<.001	<.001	<.001	.005	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.005	.01	.01	.01	.01	.01	.01
Gannet Ref.Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED		7.46	0.14	3.01	4.13	1.73	2.17	0.32	10.23	89.26	0.02	531	420	36	24	187	108	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		7.46	0.14	3.01	4.13	1.73	2.17	0.32	10.23	89.26	0.02	531	420	36	24	187	108	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		7.25	0.14	3.11	4.00	1.72	2.12	0.32	10.30	-	0.01	540	400	37	20	185	104	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services

Bondar Clegg

GedChemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

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DATE RECEIVED: 24-JUL-98

DATE PRINTED: 17-AUG-98

PAGE 3A(5/ 6)

SAMPLE NUMBER	ELEMENT UNITS	Au	30	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					
		PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT			
98R086		12	<.2	17	22	71	16	7	3	0.8	<5	<5	<5	0.67	129	<10	428	192	338	<20	<20	4	0.98	0.74	0.18	0.12	0.49	31	12	<2	5	34	<5	<10	0.12	9	79.61	0.34	8.72						
Prep Duplicate		10	0.2	18	19	72	16	7	3	0.8	<5	<5	<5	0.69	132	<10	447	203	348	<20	<20	4	1.01	0.76	0.19	0.12	0.50	32	13	<2	6	35	5	<10	0.12	10	79.72	0.35	8.83						
Prep Duplicate		10	0.2	18	19	72	16	7	3	0.8	<5	<5	<5	0.69	132	<10	447	203	348	<20	<20	4	1.01	0.76	0.19	0.12	0.50	32	13	<2	6	35	5	<10	0.12	10	79.72	0.35	8.83						
Duplicate																																											79.63	0.34	8.77



Intertek Testing Services

Bondar Clegg

Geochemical
Lab
Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01276.0 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 17-AUG-98

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SAMPLE NUMBER	ELEMENT	Fe203*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI Total	Cr203	Ba	Sr	Y	Nb	Zr	Rb	Ce	Eu	La	Lu	Nd	Sc	Sm	Tb	Th	U	Yb			
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
98R086		1.14	0.02	1.26	1.89	1.87	1.18	0.02	2.68	99.18	0.05	3351	357	28	26	139	72													
Prep Duplicate		1.20	0.02	1.31	1.88	1.91	1.16	0.02	2.61		0.05	3350	354	33	22	139	65													
Prep Duplicate		1.20	0.02	1.31	1.88	1.91	1.16	0.02	2.61		0.05	3350	354	33	22	139	65													
Duplicate		1.07	0.02	1.28	1.87	1.87	1.18	0.02	2.61		0.05	3372	353	31	25	143	67													



Intertek Testing Services
Bondar Clegg

Geometrical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Jedemetal Lab Report

REPORT: V98-01276.1 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 24-JUL-98 DATE PRINTED: 7-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980807	1 Au30 Gold	17	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980807	37 SiO2 Silica (SiO2)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	2 Ag Silver	17	0.5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	38 TiO2 Titanium (TiO2)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	3 Cu Copper	17	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	39 Al2O3 Alumina (Al2O3)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	4 Pb Lead	17	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	40 Fe2O3* Total Iron (Fe2O3)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	5 Zn Zinc	17	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	41 MnO Manganese (MnO)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	6 Mo Molybdenum	17	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	42 MgO Magnesium (MgO)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	7 Ni Nickel	17	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	43 CaO Calcium (CaO)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	8 Co Cobalt	17	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	44 Na2O Sodium (Na2O)	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	9 Cd Cadmium	17	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	45 K2O Potassium (K2O)	11	0.05 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	10 Bi Bismuth	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	46 P2O5 Phosphorous (P2O5)	11	0.03 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	11 As Arsenic	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	47 LOI Loss on Ignition	11	0.05 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980807	12 Sb Antimony	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	48 Total Whole Rock Total	19	0.01 PCT		
980807	13 Fe Tot Total Iron	17	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	49 Cr2O3 Chromium Oxide	11	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	14 Mn Manganese	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	50 Ba Barium	7	10 PPM	Pressed Pellet	XRAY FLUORESCENC
980807	15 Te Tellurium	17	25 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	51 Sr Strontium	7	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980807	16 Ba Barium	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	52 Y Yttrium	7	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980807	17 BA BARIUM	4	0.005 PCT		XRAY FLUORESCENCE	980807	53 Nb Niobium	7	2 PPM	Pressed Pellet	XRAY FLUORESCENC
980807	18 Cr Chrome	17	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	54 Zr Zirconium	7	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980807	19 V Vanadium	17	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	55 Rb Rubidium	7	2 PPM	Pressed Pellet	XRAY FLUORESCENC
980807	20 Sn Tin	17	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	21 W Tungsten	17	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	22 Li Lithium	17	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	23 Ga Gallium	17	10 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	24 La Lanthanum	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	25 Sc Scandium	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	26 Ta Tantalum	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	27 Ti Titanium	17	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	28 Al Aluminum	17	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	29 Mg Magnesium	17	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	30 Ca Calcium	17	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	31 Na Sodium	17	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	32 K Potassium	17	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	33 Nb Niobium	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	34 Sr Strontium	17	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	35 Y Yttrium	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	36 Zr Zirconium	17	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						

SAMPLE TYPES	NUMBER	SIZE	FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	19	2	-150	19	CRUSH/SPLIT & PULV.	26

REPORT COPIES TO: MR. STEVE TRAYNOR INVOICE TO: MR. STEVE TRAYNOR

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Intertek Testing Services

Bondar Clegg

Geotechnical Lab Report

CLIENT: TANANA EXPLORATION

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PAGE 1A(1/ 8)

PROJECT: BIG TOP

SAMPLE NUMBER	ELEMENT	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	Mn	Te	Ba	BA	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO2
98R088	<5	<.5	50	12	363	6	27	14	4	<5	<5	<5	4.80	771	<25	>2000	0.48	104	140	<20	<20	18	<10	10	17	7	0.29	6.91	1.04	1.57	1.70	1.23	9	147	16	38	69.98		
98R089	6	<.5	62	8	239	4	44	16	<1	<5	5	<5	4.59	846	<25	>2000	0.23	107	262	<20	<20	12	<10	8	17	5	0.33	6.15	0.99	1.25	2.13	1.20	12	104	13	42			
98R092																																					72.92		
98R095	7	<.5	110	18	229	1	120	39	<1	<5	5	<5	6.44	1298	<25	256		485	238	<20	<20	4	<10	8	28	8	0.37	5.73	5.86	6.85	0.96	0.32	16	976	18	8	52.40		
98R096	7	<.5	17	15	54	32	7	2	<1	<5	19	<5	1.19	55	<25	>2000	0.24	257	970	<20	<20	5	<10	9	7	<5	0.12	2.07	0.25	0.15	0.15	0.86	19	49	14	25			
98R097																																					86.57		
98R098	<5	<.5	62	17	220	3	22	13	2	<5	<5	<5	4.25	366	<25	461		89	188	<20	<20	11	<10	11	19	8	0.21	7.54	0.87	1.41	2.54	1.32	7	112	17	48	66.79		
98R114	<5	<.5	9	28	72	34	4	5	<1	<5	12	<5	1.61	142	<25	307		172	667	<20	<20	3	<10	12	14	7	0.31	6.03	0.89	0.72	4.22	0.15	17	323	27	107			
98R115	<5	<.5	73	88	496	11	112	7	4	<5	61	<5	>10.00	144	<25	42		389	405	<20	<20	3	<10	22	7	<5	0.13	2.78	0.78	1.22	1.91	0.14	14	324	53	76	62.60		
98R123	<5	<.5	5	31	29	25	49	2	<1	<5	13	<5	1.64	18	<25	781		337	158	<20	<20	<2	<10	10	<5	<5	0.08	1.42	0.14	0.02	1.10	0.05	5	122	6	24	91.88		
98R211	<5	<.5	17	30	332	3	12	3	3	8	15	<5	1.89	3226	<25	558		45	117	<20	<20	5	<10	<5	6	5	0.05	1.12	0.66	>10.00	0.15	0.27	8	844	30	9			
98R212	<5	<.5	30	16	81	<1	7	6	<1	<5	203	<5	4.03	554	<25	1341		108	160	<20	<20	10	<10	12	13	9	0.26	8.62	1.35	2.83	2.74	0.82	10	832	14	5			
98R213	<5	<.5	26	10	188	1	7	17	<1	<5	8	<5	6.18	977	<25	>2000	0.22	42	183	<20	<20	20	<10	9	26	9	0.59	>10.00	2.00	2.54	3.65	1.07	13	136	19	11			
98R214	<5	<.5	25	45	257	1	33	22	<1	<5	15	<5	5.76	1140	<25	842		161	178	<20	<20	29	<10	10	18	9	0.37	7.82	2.78	6.29	0.88	1.86	15	197	19	7			
98R215	<5	<.5	15	92	92	15	85	6	<1	<5	64	<5	>10.00	99	<25	35		422	427	<20	<20	4	<10	38	<5	<5	0.13	2.15	0.76	1.47	0.84	0.36	14	616	67	41	61.26		
98R216	<5	<.5	25	7	162	1	33	10	<1	<5	<5	<5	3.24	835	<25	1023		188	47	<20	<20	6	<10	11	<5	<5	0.18	2.99	1.54	2.16	0.50	0.41	8	210	16	20	78.69		
98R217	<5	<.5	100	13	464	20	18	6	<1	<5	<5	<5	>10.00	895	<25	1422		94	436	<20	<20	16	<10	<5	15	<5	0.24	3.13	3.38	0.63	0.34	0.73	15	117	8	23	51.17		
98R218	<5	<.5	85	17	120	4	69	15	2	<5	19	<5	5.72	338	<25	176		296	320	<20	<20	25	<10	21	14	<5	0.22	6.32	1.86	0.29	1.55	1.29	14	83	19	60	64.99		
98R219	<5	0.7	88	31	75	2	67	15	2	<5	32	<5	4.74	304	<25	165		239	300	<20	<20	26	<10	21	14	7	0.24	6.18	1.94	0.32	1.46	1.29	12	73	22	56			



Intertek Testing Services

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SAMPLE NUMBER	ELEMENT UNITS	TiO2	Al2O3	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb	
		PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
98R088		0.46	12.50	6.52	0.09	1.69	2.02	2.48	1.61	0.06	2.67	100.09	0.02							
98R089																				
98R092		0.40	7.16	8.71	0.08	1.43	1.51	0.52	1.42	0.09	5.08	99.35	0.03	2627	165	30	5	80	48	
98R095		0.70	11.06	9.14	0.17	10.02	9.59	1.31	0.39	0.25	4.98	100.11	0.10							
98R096																				
98R097		0.30	4.51	3.32	<.01	0.91	0.30	2.44	0.13	0.10	1.70	100.32	0.04							
98R098		0.55	14.24	6.01	0.04	1.49	1.86	3.75	1.70	0.14	2.48	99.08	0.02	4746	117	28	4	94	43	
98R114																				
98R115		0.22	5.54	15.51	0.02	1.40	1.67	2.84	0.17	0.67	8.05	98.76	0.08							
98R123		0.12	2.69	2.26	<.01	0.25	0.03	1.56	<.05	0.08	1.31	100.25	0.06	866	128	8	4	40	2	
98R211																				
98R212																				
98R213																				
98R214																				
98R215		0.21	3.95	18.17	0.01	1.26	1.89	1.09	0.43	1.14	9.73	99.22	0.08	1646	601	57	<2	84	15	
98R216		0.36	6.21	5.01	0.11	2.85	3.09	0.66	0.57	0.10	2.38	100.09	0.04	1284	227	17	4	81	20	
98R217		0.42	5.95	23.18	0.11	5.53	0.84	0.32	0.89	0.11	9.95	98.47	0.02	1350	109	7	3	37	30	
98R218		0.59	12.10	8.43	0.04	3.17	0.39	2.19	1.74	0.12	6.80	100.62	0.05	2067	88	22	6	112	46	
98R219																				



Intertek Testing Services

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Geomet
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PROJECT: BIG TOP

STANDARD NAME	ELEMENT UNITS	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	Mn	Te	Ba	BA	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO2
		PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	
ANALYTICAL BLANK		<5	<.5	3	2	2	<1	<1	<1	<1	<5	<5	<5	<0.01	<5	<25	<5	-	<2	<2	<20	<20	<2	<10	<5	<5	<5	<0.01	0.01	<.01	<0.01	0.02	<.01	<5	<1	<5	<5	<0.01	
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
Mean Value		3	0.3	3	2	2	0.5	0.5	0.5	0.5	3	3	3	0.005	3	13	3	-	1	1	10	10	1	5	3	3	3	.005	0.01	.005	0.005	0.02	.005	3	0.5	3	3	0.005	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		5	0.2	1	2	1	1	1	1	0.5	2	5	5	0.05	1	.01	0.005	<.01	1	1	.01	.01	.01	.01	.01	.01	.01	.01	<.01	-	<.01	<.0001	-	<.01	.01	.01	.01	.01	<.001
Garnet Ref. Material	978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	1070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CANMET STD SY-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.65
Number of Analyses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Mean Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.65	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	-	17	133	244	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	6.22	1.61	-	-	-	-	-	-	-	59.68	
Loss on Ignition Std	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CANMET STREAM-SED	-	<.5	64	15	95	2	29	17	<1	<5	17	<5	3.85	1493	<25	1851	-	59	96	<20	<20	13	<10	21	11	<5	0.39	6.44	1.23	2.98	1.88	1.25	10	368	23	54	-		
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	-	0.3	64	15	95	2	29	17	0.5	3	17	3	3.85	1493	13	1851	-	59	96	10	10	13	5	21	11	3	0.39	6.44	1.23	2.98	1.88	1.25	10	368	23	54	-		
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value	-	0.3	66	16	107	2	30	13	0.6	-	15	7	4.10	1520	-	2000	-	93	106	2	-	14	-	24	14	0.6	0.46	6.40	1.28	2.86	2.00	1.33	9	350	24	64	-		
CANMET SO-2 REF STD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.46	



Intertek Testing Services

Bondar Clegg

Geotechnical Lab Report

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STANDARD NAME	ELEMENT UNITS	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM
ANALYTICAL BLANK		<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.05	<.03	-	-	<.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	1	1	-	-	1	-	-	-	-	-	-
Mean Value		.005	0.005	0.005	.005	0.005	.005	.005	0.03	0.02	-	-	0.005	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.01	<.001	<.0001	<.01	<.001	<.01	<.01	<.01	<.01	<.01	<.0001	<.001	.005	.01	.01	.01	.01	.01
Gannet Ref. Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STD SY-3		0.15	11.80	6.45	0.32	2.62	8.27	4.11	4.25	0.52	-	99.14	<.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-
Mean Value		0.15	11.80	6.45	0.32	2.62	8.27	4.11	4.25	0.52	-	99.14	0.005	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		0.15	11.80	6.42	0.32	2.67	8.26	4.15	4.20	0.54	1.20	-	-	-	-	-	-	-	-
Loss on Ignition Std		-	-	-	-	-	-	-	-	-	3.93	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	3.93	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	4.24	-	-	-	-	-	-	-	-
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET SO-2 REF STD		-	-	-	-	-	-	-	-	-	-	-	-	1047	344	41	18	753	71
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	1047	344	41	18	753	71
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	15.24	-	-	-	-	-	-	-	-	-	-	1000	340	40	22	760	78



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

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STANDARD	ELEMENT	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	Mn	Te	Ba	BA	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO2		
NAME	UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT			
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01276.1 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 7-AUG-98

PAGE 38(6/ 8)

STANDARD	ELEMENT	TiO2	Al2O3	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
NAME	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	-	1372	565	13	22	239	191
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	1372	565	13	22	239	191
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	1400	570	14	21	235	185



Intertek Testing Services

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PROJECT: BIG TOP

SAMPLE NUMBER	ELEMENT UNITS	Al	Si	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	Mn	Te	Ba	BA	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO2
		30	30	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT
98R088 Duplicate	<5	<.5	50	12	363	6	27	14	4	<5	<5	<5	4.80	771	<25	>2000	0.48	104	140	<20	<20	18	<10	10	17	7	0.29	6.91	1.04	1.57	1.70	1.23	9	147	16	38	69.98			
98R115 Duplicate	<5	<.5	73	88	496	11	112	7	4	<5	61	<5	>10.00	144	<25	42	389	405	<20	<20	3	<10	22	7	<5	0.13	2.78	0.78	1.22	1.91	0.14	14	324	53	76	62.60				
98R123 Duplicate	<5	<.5	5	31	29	25	49	2	<1	<5	13	<5	1.64	18	<25	781	337	158	<20	<20	<2	<10	10	<5	<5	0.08	1.42	0.14	0.02	1.10	0.05	5	122	6	24	91.88				
98R217 Duplicate	<5	<.5	100	13	464	20	18	6	<1	<5	<5	<5	>10.00	895	<25	1422	94	436	<20	<20	16	<10	<5	15	<5	0.24	3.13	3.38	0.63	0.34	0.73	15	117	8	23	51.17				
98R218 Prep Duplicate	<5	<.5	85	17	120	4	69	15	2	<5	19	<5	5.72	338	<25	176	296	320	<20	<20	25	<10	21	14	<5	0.22	6.32	1.86	0.29	1.55	1.29	14	83	19	60	64.99				
	<5	<.5	93	17	91	4	76	19	2	<5	22	<5	5.87	346	<25	168	338	330	<20	<20	25	<10	22	15	6	0.24	6.54	1.91	0.31	1.62	1.34	15	87	20	62	64.14				



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01276.1 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 7-AUG-98 PAGE 4B(8/ 8)

SAMPLE NUMBER	ELEMENT UNITS	TiO2	Al2O3	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb	
		PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
98R088		0.46	12.50	6.52	0.09	1.69	2.02	2.48	1.61	0.06	2.67	100.09	0.02							
Duplicate											2.68									
98R115		0.22	5.54	15.51	0.02	1.40	1.67	2.84	0.17	0.67	8.05	98.76	0.08							
Duplicate																				
98R123		0.12	2.69	2.26	<.01	0.25	0.03	1.56	<.05	0.08	1.31	100.25	0.06	866	128	8	4	40	2	
Duplicate		0.12	2.60	2.21	<.01	0.25	0.02	1.44	0.06	0.07			0.06							
98R217		0.42	5.95	23.18	0.11	5.53	0.84	0.32	0.89	0.11	9.95	98.47	0.02	1350	109	7	3	37	30	
Duplicate											9.83			1375	111	7	4	38	31	
98R218		0.59	12.10	8.43	0.04	3.17	0.39	2.19	1.74	0.12	6.80	100.62	0.05	2067	88	22	6	112	46	
Prep Duplicate		0.61	12.30	8.39	0.04	3.22	0.42	2.15	1.76	0.13	7.11		0.06	1973	88	25	6	112	43	



Intertek Testing Services
Bondar Clegg

Geochemical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

REPORT: V98-01276.2 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 24-JUL-98 DATE PRINTED: 4-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980729	1 Au30 Gold	6	5 PPB	Fire Assay of 30g	30g Fire Assay - AA
980729	2 Ag Silver	6	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	3 Cu Copper	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	4 Pb Lead	6	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	5 Zn Zinc	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	6 Mo Molybdenum	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	7 Ni Nickel	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	8 Co Cobalt	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	9 Cd Cadmium	6	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	10 Bi Bismuth	6	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	11 As Arsenic	6	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	12 Sb Antimony	6	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	13 Hg Mercury	6	0.010 PPM	HCL:HNO3 (3:1)	COLD VAPOR AA
980729	14 Fe Iron	6	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	15 Mn Manganese	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	16 Te Tellurium	6	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	17 Ba Barium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	18 Cr Chromium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	19 V Vanadium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	20 Sn Tin	6	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	21 W Tungsten	6	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	22 La Lanthanum	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	23 Al Aluminum	6	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	24 Mg Magnesium	6	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	25 Ca Calcium	6	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	26 Na Sodium	6	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	27 K Potassium	6	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	28 Sr Strontium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	29 Y Yttrium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	30 Ga Gallium	6	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	31 Li Lithium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	32 Nb Niobium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	33 Sc Scandium	6	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	34 Ta Tantalum	6	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	35 Ti Titanium	6	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980729	36 Zr Zirconium	6	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	6	2 -150	6	CRUSH/SPLIT & PULV.	26

REPORT COPIES TO: MR. STEVE TRAYNOR

INVOICE TO: MR. STEVE TRAYNOR

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V98-01276.2 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 4-AUG-98

PAGE 1 OF 2

PROJECT: BIG TOP

SAMPLE NUMBER	ELEMENT UNITS	Al	Si	Fe	Mn	Zn	Ni	Co	Cd	Pb	As	Sb	Hg	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr					
		PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM					
98R087		37	0.2	73	7	298	4	83	8	3.3	<5	<5	<5	<0.010	3.46	541	<10	61	122	174	<20	<20	3	1.63	0.59	0.60	0.10	0.49	15	13	<2	5	16	<5	<10	0.10	3
98R090		10	0.4	52	12	229	34	13	2	4.3	<5	98	<5	0.026	1.64	46	<10	449	139	102	<20	<20	3	0.61	0.11	0.02	0.04	0.32	8	6	<2	2	10	<5	<10	0.03	8
98R091		<5	1.5	39	130	75	<1	4	3	0.5	<5	7	<5	0.016	3.11	253	<10	92	53	93	<20	<20	3	0.75	0.65	0.22	0.10	0.15	39	5	<2	5	9	<5	<10	0.12	<1
98R092		6	<.2	111	4	347	8	48	11	3.4	<5	<5	<5	<0.010	6.13	585	<10	39	104	421	<20	<20	2	2.19	0.75	0.67	0.11	0.82	44	10	<2	10	40	14	<10	0.14	5
98R097		<5	<.2	7	26	622	56	68	6	12.4	<5	35	<5	0.783	2.51	49	<10	57	149	428	<20	<20	6	0.29	0.33	0.10	0.05	0.09	12	10	<2	2	43	<5	<10	0.12	11
98R113		8	0.9	6	33	132	11	12	3	1.9	<5	<5	<5	0.019	0.76	139	<10	527	228	167	<20	<20	4	0.47	0.31	0.03	0.01	0.12	8	6	<2	2	17	<5	<10	0.03	5



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

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PROJECT: BIG TOP

REPORT: V98-01276.2 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 4-AUG-98

PAGE 2 OF 2

STANDARD NAME	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
		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
CANMET STREAM-SED		<.2	64	9	72	1	22	10	0.4	<5	14	5	0.759	2.92	1205	<10	806	27	46	<20	<20	8	1.17	0.66	1.14	0.05	0.10	61	10	<2	9	4	<5	<10	0.06	<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		0.1	64	9	72	1	22	10	0.4	3	14	5	0.759	2.92	1205	5	806	27	46	10	10	8	1.17	0.66	1.14	0.05	0.10	61	10	1	9	4	3	5	0.06	0.5	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		0.3	66	13	82	2	23	11	0.6	-	11	4	0.930	2.60	1200	-	-	30	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANALYTICAL BLANK		<5	<.2	<1	<2	<1	<1	<1	<0.2	<5	<5	<5	<.010	<.01	<1	<10	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<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	0.5	0.1	3	3	3	0.005	.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		5	0.2	1	2	1	1	1	0.1	2	5	5	0.005	0.05	1	.01	.01	1	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01
Gannet Ref.Material	978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	1070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geometrical Lab Report

REPORT: V98-01277.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 12-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980807	1 Au30 Gold	6	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980807	37 TiO2 Titanium (TiO2)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	2 Ag Silver	6	0.5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	38 Al2O3 Alumina (Al2O3)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	3 Cu Copper	6	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	39 Fe2O3* Total Iron (Fe2O3)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	4 Pb Lead	6	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	40 MnO Manganese (MnO)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	5 Zn Zinc	6	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	41 MgO Magnesium (MgO)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	6 Mo Molybdenum	6	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	42 CaO Calcium (CaO)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	7 Ni Nickel	6	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	43 Na2O Sodium (Na2O)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	8 Co Cobalt	6	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	44 K2O Potassium (K2O)	4	0.05 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	9 Cd Cadmium	6	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	45 P2O5 Phosphorous (P2O5)	4	0.03 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	10 Bi Bismuth	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	46 LOI Loss on Ignition	4	0.05 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980807	11 As Arsenic	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	47 Total Whole Rock Total	7	0.01 PCT		
980807	12 Sb Antimony	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	48 Cr2O3 Chromium Oxide	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980807	13 Fe Tot Total Iron	6	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	49 Ba Barium	3	10 PPM	Pressed Pellet	XRAY FLUORESCENCI
980807	14 Mn Manganese	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	50 Sr Strontium	3	1 PPM	Pressed Pellet	XRAY FLUORESCENCI
980807	15 Te Tellurium	6	25 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	51 Y Yttrium	3	1 PPM	Pressed Pellet	XRAY FLUORESCENCI
980807	16 Ba Barium	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	52 Nb Niobium	3	2 PPM	Pressed Pellet	XRAY FLUORESCENCI
980807	17 Cr Chrome	6	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	53 Zr Zirconium	3	1 PPM	Pressed Pellet	XRAY FLUORESCENCI
980807	18 V Vanadium	6	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	54 Rb Rubidium	3	2 PPM	Pressed Pellet	XRAY FLUORESCENCI
980807	19 Sn Tin	6	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	55 Ce Cerium	3	2 PPM		NEUTRON ACTIVATI
980807	20 W Tungsten	6	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	56 Eu Europium	3	0.5 PPM		NEUTRON ACTIVATI
980807	21 Li Lithium	6	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	57 La Lanthanum	3	1 PPM		NEUTRON ACTIVATI
980807	22 Ga Gallium	6	10 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	58 Lu Lutetium	3	0.2 PPM		NEUTRON ACTIVATI
980807	23 La Lanthanum	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	59 Nd Neodymium	3	10 PPM		NEUTRON ACTIVATI
980807	24 Sc Scandium	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	60 Sc Scandium	3	0.1 PPM		NEUTRON ACTIVATI
980807	25 Ta Tantalum	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	61 Sm Samarium	3	0.1 PPM		NEUTRON ACTIVATI
980807	26 Ti Titanium	6	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	62 Tb Terbium	3	1 PPM		NEUTRON ACTIVATI
980807	27 Al Aluminum	6	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	63 Th Thorium	3	0.5 PPM		NEUTRON ACTIVATI
980807	28 Mg Magnesium	6	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	64 U Uranium	3	1 PPM		NEUTRON ACTIVATI
980807	29 Ca Calcium	6	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980807	65 Yb Ytterbium	3	1 PPM		NEUTRON ACTIVATI
980807	30 Na Sodium	6	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	31 K Potassium	6	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	32 Nb Niobium	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	33 Sr Strontium	6	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	34 Y Yttrium	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	35 Zr Zirconium	6	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980807	36 SiO2 Silica (SiO2)	4	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA						



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

REPORT: V98-01277.0 (COMPLETE)

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REFERENCE:

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 24-JUL-98 DATE PRINTED: 12-AUG-98

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	7	2 -150	7	CRUSH ONLY	7
				PULVERIZATION	7

REPORT COPIES TO: MR. STEVE TRAYNOR

INVOICE TO: MR. STEVE TRAYNOR

 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

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Geochemical Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb	Ce	Eu	La	Lu	Nd	Sc	Sm	Tb	Th	U	Yb	
		PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
98R116		2.65	0.14	7.45	6.99	3.28	0.68	0.11	3.17	99.83	0.06							22	0.8	11	0.2	10	29.8	2.4	<1	3.5	2	1	
98R117																													
98R118																													
98R119		3.22	0.04	2.77	1.66	3.21	2.10	0.05	4.02	99.92	0.05	4040	244	12	7	126	63	39	0.8	20	0.2	14	16.8	3.1	<1	4.4	5	1	
98R120																													
98R121		2.37	0.01	0.89	0.30	2.26	0.06	0.08	1.18	100.17	0.05	128	159	15	9	72	4												
98R122		3.45	<.01	0.83	0.21	2.55	0.12	0.08	1.82	100.56	0.05	198	168	13	8	82	7	9	<.5	8	<.2	<10	6.9	1.0	<1	2.3	9	<1	



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PROJECT: BIG TOP

STANDARD NAME	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Tot PCT	Mn PPM	Te PPM	Ba PPM	Cr PPM	V PPM	Sn PPM	W PPM	Li PPM	Ga PPM	La PPM	Sc PPM	Ta PPM	Ti PCT	Al PCT	Mg PCT	Ca PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM	SiO2 PCT	TiO2 PCT	Al2O3 PCT				
CANMET STD SY-3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.22	0.15	11.7			
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-		
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.22	0.15	11.7		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	-	17	133	244	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	27	-	-	-	-	6.22	1.61	-	-	-	-	-	-	-	-	-	-	59.68	0.15	11.8	
ANALYTICAL BLANK		<5	<.5	1	<2	<2	<1	<1	<1	<1	<5	<5	<5	<0.01	<5	<25	<5	<2	<2	<20	<20	<2	<10	<5	<5	<5	<.01	0.01	<.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	1	
Mean Value		3	0.3	1	1	1	0.5	0.5	0.5	0.5	3	3	3	0.005	3	13	3	1	1	10	10	1	5	3	3	3	.005	0.01	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		5	0.2	1	2	1	1	1	1	0.5	2	5	5	0.05	1	.01	0.005	1	1	.01	.01	.01	.01	.01	.01	.01	.01	.01	<.01	-	<.01	<.01	-	<.01	.01	.01	.01	.01	.01	<.001	<.01	<.001		
Loss on Ignition Std		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Loss On Ignition Std		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED		-	<.5	41	56	210	10	48	22	<1	<5	39	<5	5.03	1012	<25	471	82	94	<20	<20	66	17	47	12	<5	0.39	8.22	1.75	2.92	1.19	1.45	21	415	29	59	-	-	-	-	-			
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	1
Mean Value		-	0.3	41	56	210	10	48	22	0.5	3	39	3	5.03	1012	13	471	82	94	10	10	66	17	47	12	3	0.39	8.22	1.75	2.92	1.19	1.45	21	415	29	59	-	-	-	-	-	-		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	0.5	47	66	246	13	53	19	0.8	-	42	5	5.20	1060	-	540	116	101	5	7	65	-	59	16	2	0.47	8.50	1.88	2.86	1.28	1.76	20	400	37	62	-	-	-	-	-	-		
Garnet Ref. Material	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intertek Testing Services

Bondar Clegg

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01277.0 (COMPLETE)

DATE RECEIVED: 24-JUL-98

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PAGE 28(4/ 8)

STANDARD NAME	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	Ce PPM	Eu PPM	La PPM	Lu PPM	Nd PPM	Sc PPM	Sm PPM	Tb PPM	Th PPM	U PPM	Yb PPM	
CANMET STD SY-3		6.39	0.33	2.69	8.23	4.08	4.30	0.53	-	98.69	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		6.39	0.33	2.69	8.23	4.08	4.30	0.53	-	98.69	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		6.42	0.32	2.67	8.26	4.15	4.20	0.54	1.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANALYTICAL BLANK		<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.03	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		0.005	.005	.005	.005	.005	0.03	0.02	-	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.0001	<.01	<.01	<.01	<.01	<.01	<.01	<.0001	<.0001	.005	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.005	.01	.01	.01	.01	.01	.01
Loss on Ignition Std		-	-	-	-	-	-	-	-	4.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	4.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	4.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loss On Ignition Std		-	-	-	-	-	-	-	-	41.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	41.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	41.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref. Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services
Bondar Clegg

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Lab
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PROJECT: BIG TOP

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DATE RECEIVED: 24-JUL-98

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PAGE 3A(5/ 8)

STANDARD	ELEMENT	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	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	SiO2	TiO2	Al2O3					
NAME	UNITS	PPB	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	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT	PCT					
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01277.0 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 12-AUG-98

PAGE 38(6/ 8)

STANDARD NAME	ELEMENT	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb	Ce	Eu	La	Lu	Nd	Sc	Sm	Tb	Th	U	Yb
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	1322	567	15	22	238	184	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	1322	567	15	22	238	184	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	1400	570	14	21	235	185	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services

Bondar Clegg

Geoenvironmental Lab Report

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PROJECT: BIG TOP

REPORT: V98-01277.0 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 12-AUG-98

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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	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	SiO2	TiO2	Al2O3		
	UNITS	PPB	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	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT	PC		
98R116		11	0.9	12	58	83	<1	3	5	<1	<5	<5	<5	1.80	1063	<25	684	305	228	<20	<20	10	13	9	25	<5	0.32	7.40	4.29	5.00	2.32	0.57	18	748	13	20	60.61	0.69	13.9			
Duplicate																																										



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01277.0 (COMPLETE)

DATE RECEIVED: 24-JUL-98

DATE PRINTED: 12-AUG-98

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SAMPLE NUMBER	ELEMENT	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb	Ce	Eu	La	Lu	Nd	Sc	Sm	Tb	Th	U	Yb	
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
98R116		2.65	0.14	7.45	6.99	3.28	0.68	0.11	3.17	99.83	0.06							22	0.8	11	0.2	10	29.8	2.4	<1	3.5	2	1	
Duplicate									3.10																				



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geotem Lab Report

REPORT: V98-01326.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 31-JUL-98 DATE PRINTED: 24-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980810	1 Au30 Gold	20	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980810	37 TiO2 Titanium (TiO2)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	2 Ag Silver	20	0.5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	38 Al2O3 Alumina (Al2O3)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	3 Cu Copper	20	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	39 Fe2O3* Total Iron (Fe2O3)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	4 Pb Lead	20	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	40 MnO Manganese (MnO)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	5 Zn Zinc	20	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	41 MgO Magnesium (MgO)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	6 Mo Molybdenum	20	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	42 CaO Calcium (CaO)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	7 Ni Nickel	20	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	43 Na2O Sodium (Na2O)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	8 Co Cobalt	20	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	44 K2O Potassium (K2O)	17	0.05 PCT	BORATE FUSION	INDUC. COUP. PL
980810	9 Cd Cadmium	20	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	45 P2O5 Phosphorous (P2O5)	17	0.03 PCT	BORATE FUSION	INDUC. COUP. PL
980810	10 Bi Bismuth	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	46 LOI Loss on Ignition	17	0.05 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980810	11 As Arsenic	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	47 Total Whole Rock Total	27	0.01 PCT		
980810	12 Sb Antimony	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	48 Cr2O3 Chromium Oxide	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PL
980810	13 Fe Tot Total Iron	20	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	49 Ba Barium	15	10 PPM	Pressed Pellet	XRAY FLUORESCEN
980810	14 Mn Manganese	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	50 Sr Strontium	15	1 PPM	Pressed Pellet	XRAY FLUORESCEN
980810	15 Te Tellurium	20	25 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	51 Y Yttrium	15	1 PPM	Pressed Pellet	XRAY FLUORESCEN
980810	16 Ba Barium	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	52 Nb Niobium	15	2 PPM	Pressed Pellet	XRAY FLUORESCEN
980810	17 Cr Chrome	20	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	53 Zr Zirconium	15	1 PPM	Pressed Pellet	XRAY FLUORESCEN
980810	18 V Vanadium	20	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	54 Rb Rubidium	15	2 PPM	Pressed Pellet	XRAY FLUORESCEN
980810	19 Sn Tin	20	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	55 Ce Cerium	4	2 PPM		NEUTRON ACTIVAT
980810	20 W Tungsten	20	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	56 Eu Europium	4	0.5 PPM		NEUTRON ACTIVAT
980810	21 Li Lithium	20	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	57 La Lanthanum	4	1 PPM		NEUTRON ACTIVAT
980810	22 Ga Gallium	20	10 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	58 Lu Lutetium	4	0.2 PPM		NEUTRON ACTIVAT
980810	23 La Lanthanum	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	59 Nd Neodymium	4	10 PPM		NEUTRON ACTIVAT
980810	24 Sc Scandium	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	60 Sc Scandium	4	0.1 PPM		NEUTRON ACTIVAT
980810	25 Ta Tantalum	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	61 Sm Samarium	4	0.1 PPM		NEUTRON ACTIVAT
980810	26 Ti Titanium	20	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	62 Tb Terbium	4	1 PPM		NEUTRON ACTIVAT
980810	27 Al Aluminum	20	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	63 Th Thorium	4	0.5 PPM		NEUTRON ACTIVAT
980810	28 Mg Magnesium	20	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	64 U Uranium	4	1 PPM		NEUTRON ACTIVAT
980810	29 Ca Calcium	20	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980810	65 Yb Ytterbium	4	1 PPM		NEUTRON ACTIVAT
980810	30 Na Sodium	20	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980810	31 K Potassium	20	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980810	32 Nb Niobium	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980810	33 Sr Strontium	20	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980810	34 Y Yttrium	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980810	35 Zr Zirconium	20	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980810	36 SiO2 Silica (SiO2)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA						



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

REPORT: V98-01326.0 (COMPLETE)

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REFERENCE:

SUBMITTED BY: S. TRAYNOR

DATE RECEIVED: 31-JUL-98 DATE PRINTED: 24-AUG-98

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	27	2 -150	27	CRUSH/SPLIT & PULV.	30

REPORT COPIES TO: MR. STEVE TRAYNOR

INVOICE TO: MR. STEVE TRAYNOR

 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

Jedchemical Lab Report

CLIENT: TANANA EXPLORATION

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PROJECT: BIG TOP

DATE RECEIVED: 31-JUL-98

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PAGE 1A(1 / 8)

SAMPLE NUMBER	ELEMENT	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	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	SiO2	TiO2	Al2O3					
	UNITS	PPB	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	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT	PCT					
98R099		8	0.8	99	17	144	1	31	16	<1	<5	21	<5	5.06	568	<25	926	112	198	<20	<20	17	15	13	20	10	0.26	8.86	2.29	2.71	2.08	0.78	10	532	17	20									
98R124		<5	<.5	21	19	46	5	30	2	<1	<5	18	<5	2.82	41	<25	209	399	157	<20	<20	<2	<10	7	<5	<5	0.04	0.68	0.04	0.04	0.47	0.06	<5	68	8	19	92.19	0.06	1.1						
98R126		<5	<.5	6	39	35	<1	4	1	<1	<5	<5	<5	0.45	217	<25	76	132	3	<20	<20	6	20	13	7	6	0.02	7.23	0.04	0.47	2.93	1.61	24	18	15	18									
98R127		<5	<.5	6	35	22	<1	4	2	<1	<5	<5	<5	0.28	52	<25	72	143	2	<20	<20	6	21	10	6	7	0.02	7.80	0.03	0.59	3.22	2.05	16	26	14	11									
98R127A		<5	<.5	6	10	77	<1	11	23	<1	<5	<5	<5	6.54	2160	<25	621	87	168	<20	<20	7	<10	8	26	10	0.31	8.15	1.23	8.39	0.96	0.67	12	345	14	10									
98R129																																													
98R219A		<5	<.5	71	7	139	<1	14	28	<1	<5	10	<5	6.55	1332	<25	476	94	220	<20	<20	17	<10	13	25	8	0.58	8.01	1.84	3.40	2.96	0.71	12	280	22	29	61.43	0.72	18.1						
98R300																																													
98R301		<5	<.5	25	7	94	13	6	2	<1	<5	<5	<5	1.81	159	<25	>2000	183	510	<20	<20	7	<10	10	17	<5	0.15	4.52	0.52	0.49	1.80	0.96	11	206	9	50	79.91	0.50	8.1						
98R302		<5	<.5	24	9	52	2	4	3	<1	<5	<5	<5	1.91	130	<25	1770	190	262	<20	<20	6	<10	18	8	6	0.10	6.15	0.54	0.63	3.25	0.64	5	198	9	99									
98R303		<5	<.5	131	11	191	6	41	14	2	<5	<5	<5	3.36	279	<25	812	249	296	<20	<20	7	<10	21	12	<5	0.14	3.72	0.65	0.97	1.16	0.62	<5	89	22	43	78.52	0.37	6.1						
98R304		<5	<.5	59	12	221	3	31	17	1	<5	<5	<5	4.22	559	<25	1365	157	232	<20	<20	9	<10	9	22	5	0.21	7.79	0.86	2.40	2.51	0.79	6	227	14	60									
98R305		<5	<.5	65	12	167	<1	70	15	<1	<5	<5	<5	3.35	388	<25	443	236	156	<20	<20	12	<10	20	14	7	0.15	6.29	1.74	1.03	2.80	0.68	7	126	9	59	70.46	0.64	12.1						
98R307																																													
98R308		7	<.5	68	10	162	4	67	17	<1	<5	10	<5	3.93	365	<25	1055	234	226	<20	<20	15	<10	23	17	7	0.35	7.03	1.61	1.47	0.33	1.54	10	108	17	57									
98R309		<5	<.5	94	14	1258	27	107	14	19	<5	<5	<5	2.43	191	<25	756	308	599	<20	<20	6	<10	9	12	<5	0.14	2.43	0.63	0.74	0.47	0.42	<5	69	11	28									
98R311		<5	<.5	51	12	173	<1	21	20	<1	<5	<5	<5	4.03	626	<25	868	104	112	<20	<20	19	<10	13	18	8	0.32	7.39	2.30	2.08	2.54	1.02	10	447	20	57	64.62	0.69	14.1						
98R312		<5	<.5	29	9	137	<1	14	25	<1	<5	6	<5	5.78	1742	<25	187	120	170	<20	<20	7	<10	17	27	8	0.45	7.29	2.17	5.39	2.16	0.31	13	801	20	34	60.11	0.87	14.1						
98R313		<5	<.5	12	139	356	72	13	3	<1	<5	7	<5	1.88	121	<25	268	262	388	<20	<20	<2	<10	12	7	<5	0.17	2.53	0.60	0.89	1.31	0.19	8	286	10	33	86.78	0.31	4.1						
98R314		<5	5.0	93	826	2215	11	73	5	31	<5	<5	<5	3.51	268	<25	86	320	149	<20	<20	<2	<10	19	8	<5	0.12	2.77	1.56	3.13	1.23	0.09	7	497	33	31	76.45	0.23	5.1						
98R315		<5	1.3	83	135	156	10	52	5	3	<5	<5	<5	2.76	129	<25	218	462	264	<20	<20	<2	<10	24	7	<5	0.09	1.83	0.51	0.87	0.78	0.18	<5	361	48	48	86.51	0.18	3.1						
98R316																																													
98R317																																													
98R318																																													
98R319																																													
98R320		6	<.5	62	12	93	2	23	14	<1	<5	<5	<5	3.32	445	<25	1103	191	113	<20	<20	24	<10	11	14	<5	0.29	4.75	0.77	0.39	1.27	1.01	6	133	9	11	77.13	0.56	9.1						
98R321		<5	<.5	51	8	145	2	29	15	<1	<5	<5	<5	4.79	418	<25	>2000	119	192	<20	<20	44	<10	14	23	9	0.36	9.08	1.53	0.66	0.98	1.46	7	132	11	23	62.11	0.79	17.1						



Intertek Testing Services

Bondar Clegg

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SAMPLE NUMBER	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	Ce PPM	Eu PPM	La PPM	Lu PPM	Nd PPM	Sc PPM	Sm PPM	Tb PPM	Th PPM	U PPM	Yb PPM		
98R099																														
98R124		3.77	<.01	0.07	0.06	0.59	0.08	0.06	1.80	99.97	0.07	210	71	14	<2	28	2													
98R126																														
98R127																														
98R127A																														
98R129		6.00	0.06	3.18	0.60	1.51	3.21	0.07	3.66	98.83	0.02	1706	72	22	5	113	46													
98R219																														
98R300		2.75	0.02	1.92	0.45	1.13	3.64	0.03	5.82	100.34	0.04	6180	70	18	9	146	99													
98R301		2.57	0.02	0.89	0.68	2.48	1.23	0.05	3.18	100.21	0.03	4511	224	24	5	77	29													
98R302																														
98R303		4.70	0.03	1.11	1.34	1.57	0.78	0.12	4.56	100.04	0.04																			
98R304																														
98R305		5.07	0.05	3.18	1.56	4.27	0.93	0.17	2.05	100.83	0.05							46	0.9	22	0.3	20	16.3	4.0	<1	6.5	3	2		
98R307																			9	<.5	6	0.2	<10	20.6	1.6	<1	1.0	2	1	
98R308																			52	1.0	26	0.4	23	18.8	4.5	<1	7.0	4	3	
98R309																														
98R311		5.91	0.08	4.08	3.02	3.56	1.34	0.15	2.81	100.78	0.02	904	487	31	6	188	35													
98R312		8.60	0.24	3.91	8.03	3.05	0.41	0.16	0.82	100.76	0.02	218	842	21	2	116	8													
98R313		2.63	0.01	1.03	1.30	1.84	0.26	0.08	0.93	100.06	0.05	278	327	14	10	78	5													
98R314		4.99	0.04	2.75	4.51	1.66	0.12	0.28	3.38	99.91	0.06	58	509	37	<2	74	3													
98R315		4.00	0.02	0.92	1.25	1.11	0.23	0.10	2.31	100.47	0.09	225	401	63	<2	89	9	18	1.4	27	0.6	29	5.6	5.8	1	2.0	5	4		
98R316		1.31	0.02	1.60	0.74	0.10	0.35	<.03	3.58	100.33	0.05	810	28	14	5	50	15													
98R317		6.41	0.08	3.42	2.72	3.51	2.65	0.11	0.68	100.39	0.03	1660	295	20	6	173	82													
98R318		7.23	0.25	3.70	12.18	0.60	0.40	0.10	1.35	100.65	0.02	651	430	18	3	87	10													
98R319		3.74	0.06	1.17	2.72	2.88	0.98	0.18	0.54	99.57	0.02	629	379	20	4	168	34													
98R320		4.87	0.06	1.37	0.56	1.79	1.36	0.09	2.23	99.43	0.04	1143	151	14	4	88	60													
98R321		6.99	0.06	2.69	0.95	1.33	3.56	0.09	4.28	100.49	0.02	3481	138	21	6	126	122													



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V98-01326.0 (COMPLETE)

PROJECT: BIG TOP

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STANDARD NAME	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PPM	Tot PCT	Mn PPM	Te PPM	Ba PPM	Cr PPM	V PPM	Sn PPM	W PPM	Li PPM	Ga PPM	La PPM	Sc PPM	Ta PPM	Ti PCT	Al PCT	Mg PCT	Ca PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM	SiO2 PCT	TiO2 PCT	Al2O3 PCT					
ANALYTICAL BLANK		<5	<.5	2	<2	<2	<1	<1	<1	<1	<5	<5	<5	<0.01		<5	<25	<5	3	<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	1	1	
Mean Value		3	0.3	2	1	1	0.5	0.5	0.5	0.5	3	3	3	0.005		3	13	3	3	1	10	10	1	5	3	3	3	.005	.005	.005	.005	.005	.005	.005	3	0.5	3	3	0.005	.005	0.005				
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		5	0.2	1	2	1	1	1	1	0.5	2	5	5	0.05		1	.01	0.005	1	1	.01	.01	.01	.01	.01	.01	.01	.01	<.01	-	<.01	<.01	-	<.01	.01	.01	.01	.01	<.001	<.01	<.01				
Gannet Ref.Material	954	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	954	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	1070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CANMET STREAM-SED		-	<.5	65	12	95	<1	28	17	<1	<5	13	<5	3.73	1435	<25	1843	68	93	<20	<20	13	<10	22	13	6	0.35	6.19	1.21	2.74	1.81	1.17	12	332	19	45	-	-	-	-	-	-	-		
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	1	1
Mean Value		-	0.3	65	12	95	0.5	28	17	0.5	3	13	3	3.73	1435	13	1843	68	93	10	10	13	5	22	13	6	0.35	6.19	1.21	2.74	1.81	1.17	12	332	19	45	-	-	-	-	-	-	-	-	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	0.3	66	16	107	2	30	13	0.6	-	15	7	4.10	1520	-	2000	93	106	2	-	14	-	24	14	0.6	0.46	6.40	1.28	2.86	2.00	1.33	9	350	24	64	-	-	-	-	-	-	-		
Loss on Ignition Std		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CANMET STD SY-3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		-	-	17	133	244	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CANMET SO-2 REF STD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		



Intertek Testing Services

Bondar Clegg

Geometall Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V98-01326.0 (COMPLETE)

DATE RECEIVED: 31-JUL-98

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PROJECT: BIG TOP

STANDARD NAME	ELEMENT UNITS	Fe203* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	Ce PPM	Eu PPM	La PPM	Lu PPM	Nd PPM	Sc PPM	Sm PPM	Tb PPM	Th PPM	U PPM	Yb PPM	
ANALYTICAL BLANK		<0.01	<.01	<.01	<.01	<.01	<.05	<.03	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		0.005	.005	.005	0.005	.005	0.03	0.02	-	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.0001	<.01	<.01	<.001	<.01	<.01	<.01	<.0001	<.001	.005	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.005	.01	.01	.01	.01	.01	.01
Garnet Ref.Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loss on Ignition Std		-	-	-	-	-	-	-	4.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	4.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	4.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STD SY-3		6.44	0.33	2.69	8.26	4.16	4.21	0.55	-	98.52	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		6.44	0.33	2.69	8.26	4.16	4.21	0.55	-	98.52	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		6.42	0.32	2.67	8.26	4.15	4.20	0.54	1.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET SO-2 REF STD		-	-	-	-	-	-	-	-	-	998	350	41	19	763	73	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	998	350	41	19	763	73	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	1000	340	40	22	760	78	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

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STANDARD	ELEMENT	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	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	SiO2	TiO2	Al2O3					
NAME	UNITS	PPB	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	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT	PCT					
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services

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STANDARD NAME	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	Ce PPM	Eu PPM	La PPM	Lu PPM	Nd PPM	Sc PPM	Sm PPM	Tb PPM	Th PPM	U PPM	Yb PPM	
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	1374	563	15	22	237	187	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	1374	563	15	22	237	187	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	1400	570	14	21	235	185	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01326.D (COMPLETE)

DATE RECEIVED: 31-JUL-98

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SAMPLE NUMBER	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	Ce PPM	Eu PPM	La PPM	Lu PPM	Nd PPM	Sc PPM	Sm PPM	Tb PPM	Th PPM	U PPM	Yb PPM		
98R301 Duplicate		2.57	0.02	0.89	0.68	2.48	1.23	0.05	3.18	100.21	0.03	4511	224	24	5	77	29													
98R311 Duplicate		5.91	0.08	4.08	3.02	3.56	1.34	0.15	2.81	100.78	0.02	904	487	31	6	188	35													
		5.87	0.08	4.08	3.00	3.68	1.34	0.17			0.02	927	484	30	6	187	36													
98R314 Duplicate		4.99	0.04	2.75	4.51	1.66	0.12	0.28	3.38	99.91	0.06	58	509	37	<2	74	3													
									3.44																					



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5



Intertek Testing Services

Bondar Clegg

Geotechnical Lab Report

REPORT: V98-01326.1 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 12-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980812	1 Au30 Gold	10	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980812 37 SiO2	Silica (SiO2)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	2 Ag Silver	10	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 38 TiO2	Titanium (TiO2)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	3 Cu Copper	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 39 Al2O3	Alumina (Al2O3)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	4 Pb Lead	10	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 40 Fe2O3*	Total Iron (Fe2O3)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	5 Zn Zinc	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 41 MnO	Manganese (MnO)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	6 Mo Molybdenum	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 42 MgO	Magnesium (MgO)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	7 Ni Nickel	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 43 CaO	Calcium (CaO)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	8 Co Cobalt	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 44 Na2O	Sodium (Na2O)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	9 Cd Cadmium	10	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 45 K2O	Potassium (K2O)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	10 Bi Bismuth	10	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 46 P2O5	Phosphorous (P2O5)	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	11 As Arsenic	10	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 47 LOI	Loss on Ignition	5	-2.00 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980812	12 Sb Antimony	10	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 48 Total	Whole Rock Total	14	0.01 PCT		
980812	13 Hg Mercury	10	0.010 PPM	HCL:HNO3 (3:1)	COLD VAPOR AA	980812 49 Cr2O3	Chromium Oxide	5	0.01 PCT	BORATE FUSION	XRAY FLUORESCENC
980812	14 Fe Iron	10	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 50 Ba	Barium	4	50 PPM	BORATE FUSION	XRAY FLUORESCENC
980812	15 Mn Manganese	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 51 Sr	Strontium	4	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980812	16 Te Tellurium	10	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 52 Y	Yttrium	4	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980812	17 Ba Barium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 53 Nb	Niobium	4	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980812	18 Cr Chromium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 54 Zr	Zirconium	4	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980812	19 V Vanadium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980812 55 Rb	Rubidium	4	5 PPM	BORATE FUSION	XRAY FLUORESCENC
980812	20 Sn Tin	10	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	21 W Tungsten	10	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	22 La Lanthanum	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	23 Al Aluminum	10	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	24 Mg Magnesium	10	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	25 Ca Calcium	10	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	26 Na Sodium	10	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	27 K Potassium	10	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	28 Sr Strontium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	29 Y Yttrium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	30 Ga Gallium	10	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	31 Li Lithium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	32 Nb Niobium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	33 Sc Scandium	10	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	34 Ta Tantalum	10	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	35 Ti Titanium	10	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980812	36 Zr Zirconium	10	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBE
R ROCK	14	2 -150	14	CRUSH/SPLIT & PULV.	30

REPORT COPIES TO: MR. STEVE TRAYNOR	INVOICE TO: MR. STEVE TRAYNOR
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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: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01326.1 (COMPLETE)

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 12-AUG-98

PAGE 1A(1/ 6)

SAMPLE NUMBER	ELEMENT UNITS	Al ₃₀	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO ₂	TiO ₂		
		PPB	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	PCT	PPM	PCT	PCT			
98R125	<5	<.2	12	14	53	25	31	<1	0.2	<5	17	<5	<.010	1.32	85	<10	10	88	107	<20	<20	17	0.56	0.61	0.02	0.11	0.01	7	4	<2	4	<1	<5	<10	0.02	14					
98R126																																							75.58	0.03	
98R127																																								76.18	0.02
98R129	<5	<.2	51	<2	124	1	17	14	<.2	<5	<5	<5	<.010	3.68	341	<10	180	67	47	<20	<20	5	2.64	1.80	0.07	0.04	0.29	8	2	3	12	<1	<5	<10	0.06	<1					
98R219																																								59.54	1.04
98R300	<5	0.6	27	9	40	6	3	<1	<.2	<5	<5	<5	0.014	1.91	93	<10	703	97	43	<20	<20	5	1.06	0.52	0.01	0.04	0.32	4	1	<2	3	<1	<5	<10	0.01	6					
98R306	<5	<.2	21	15	22	2	7	<1	<.2	<5	<5	<5	<.010	0.56	49	<10	98	186	18	<20	<20	4	0.52	0.13	0.03	0.03	0.21	27	2	<2	2	<1	<5	<10	0.02	3					
98R307	8	0.9	28	21	36	33	6	<1	<.2	<5	5	<5	0.019	1.03	47	<10	413	181	85	<20	<20	2	0.55	0.08	0.06	0.03	0.29	5	8	<2	1	<1	<5	<10	0.07	5	79.41	0.46			
98R308																																								66.60	0.74
98R310	<5	0.9	23	7	61	6	3	<1	<.2	<5	6	<5	0.012	2.84	199	<10	333	159	186	<20	<20	6	1.12	0.78	0.23	0.09	0.54	32	13	3	3	<1	8	<10	0.15	7					
98R316	8	1.4	23	18	37	7	6	<1	2.1	<5	11	6	0.018	0.91	64	<10	180	206	128	<20	<20	3	0.41	0.28	0.09	0.02	0.06	11	7	<2	2	<1	<5	<10	0.06	4					
98R317	<5	<.2	141	4	78	1	12	9	<.2	<5	<5	<5	<.010	4.12	592	<10	906	114	108	<20	<20	9	2.58	1.95	0.22	0.13	1.75	19	5	7	24	<1	15	<10	0.29	<1					
98R318	<5	<.2	6	3	25	1	6	3	<.2	<5	<5	<5	<.010	1.15	357	<10	161	94	32	<20	<20	2	1.50	0.46	1.70	0.05	0.15	89	3	2	3	<1	<5	<10	0.19	<1					
98R319	<5	<.2	23	<2	50	1	10	5	<.2	<5	<5	<5	<.010	2.53	277	<10	338	114	73	<20	<20	7	1.41	0.71	0.38	0.15	0.53	39	6	3	14	<1	7	<10	0.11	<1					



Intertek Testing Services

Bondar Clegg

Geotechnical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01326.1 (COMPLETE)

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 12-AUG-98

PAGE 1B(2/ 6)

SAMPLE NUMBER	ELEMENT	Al2O3 UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	
98R125																			
98R126		13.86	0.72	0.03	0.08	0.66	4.23	4.01	0.02	0.31	99.61	0.03	56	12	42	54	76	249	
98R127		14.19	0.47	0.01	0.08	0.78	4.57	3.24	0.02	0.40	100.03	0.03	53	24	42	43	62	177	
98R129																			
98R219		14.78	9.41	0.17	3.12	5.39	4.20	0.87	0.21	1.85	100.71	0.02	542	301	23	7	116	39	
98R300																			
98R306																			
98R307		8.63	1.55	0.01	0.59	0.55	0.68	2.15	0.03	4.40	98.85	0.05	3192	53	26	24	57	82	
98R308		13.56	5.54	0.05	2.68	2.08	0.47	3.43	0.16	3.07	98.43	0.05							
98R310																			
98R316																			
98R317																			
98R318																			
98R319																			



Intertek Testing Services

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PAGE 2A(3/ 6)

STANDARD NAME	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	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		
		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	PCT	PPM	PCT	PCT	PCT		
ANALYTICAL BLANK		<5	<.2	<1	<2	<1	<1	<1	<1	<.2	<5	<5	<5	<.010	<.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	1	1	-	-
Mean Value		3	0.1	0.5	1	0.5	0.5	0.5	0.5	0.1	3	3	3	0.005	.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		5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.005	0.05	1	.01	.005	1	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01	<.001	<.01		
Gannet Ref. Material	1008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	1008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	1070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CANMET STREAM-SED		-	<.2	66	11	77	2	24	9	0.2	<5	12	<5	0.914	2.96	1256	<10	1029	30	52	<20	<20	13	1.37	0.76	1.31	0.05	0.11	69	11	3	9	<1	<5	<10	0.08	<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	1	1	-	-
Mean Value	-	0.1	66	11	77	2	24	9	0.2	3	12	3	0.914	2.96	1256	5	1029	30	52	10	10	13	1.37	0.76	1.31	0.05	0.11	69	11	3	9	0.5	3	5	0.08	0.5	-	-			
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	0.3	66	13	82	2	23	11	0.6	-	11	4	0.930	2.60	1200	-	-	30	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.77	0.78	
Number of Analyses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		
Mean Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.77	0.78		
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value	-	0.5	43	66	216	13	47	17	0.8	-	32	3	0.046	4.10	720	-	-	50	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.70	0.79		



Intertek Testing Services

Bondar Clegg

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01326.1 (COMPLETE)

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 12-AUG-98 PAGE 2B(4/ 6)

STANDARD NAME	ELEMENT	Al2O3	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
ANALYTICAL BLANK		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.001	<.0001	<.01	<.01	<.01	<.01	<.01	<.01	<.001	<.0001	<.001	.005	.01	.01	.01	.01	.01
Gannet Ref. Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED	15.71	7.35	0.14	3.06	4.16	1.74	2.14	0.31	10.27	89.31	0.02	536	418	37	20	192	109	
Number of Analyses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mean Value	15.71	7.35	0.14	3.06	4.16	1.74	2.14	0.31	10.27	89.31	0.02	536	418	37	20	192	109	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	15.75	7.25	0.14	3.11	4.00	1.72	2.12	0.32	10.30	-	0.01	540	400	37	20	185	104	



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01326.1 (COMPLETE)

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 12-AUG-98

PAGE 3A(5/ 6)

SAMPLE NUMBER	ELEMENT	AU30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	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
	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	PCT	PCT
98R316		8	1.4	23	18	37	7	6	<1	2.1	<5	11	6	0.018	0.91	64	<10	180	206	128	<20	<20	3	0.41	0.28	0.09	0.02	0.06	11	7	<2	2	<1	<5	<10	0.06	4		
Duplicate		7	1.4	23	18	36	7	6	<1	2.0	<5	10	<5	0.011	0.89	63	<10	180	202	128	<20	<20	3	0.41	0.28	0.09	0.02	0.06	12	7	<2	2	<1	<5	<10	0.06	4		



Intertek Testing Services
Bondar Clegg

**Geochemical
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PAGE 3B(6/ 6)

SAMPLE NUMBER	ELEMENT	Al2O3	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM

98R316

Duplicate



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

REPORT: V98-01327.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 31-JUL-98 DATE PRINTED: 10-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
980806	1 Au ³⁰	Gold	2	5 PPB	Fire Assay of 30g	30g Fire Assay - AA					
980806	2 Ag	Silver	2	0.5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	3 Cu	Copper	2	1 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	4 Pb	Lead	2	2 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	5 Zn	Zinc	2	2 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	6 Mo	Molybdenum	2	1 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	7 Ni	Nickel	2	1 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	8 Co	Cobalt	2	1 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	9 Cd	Cadmium	2	1 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	10 Bi	Bismuth	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	11 As	Arsenic	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	12 Sb	Antimony	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	13 Fe Tot	Total Iron	2	0.01 PCT	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	14 Mn	Manganese	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	15 Te	Tellurium	2	25 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	16 Ba	Barium	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	17 Cr	Chrome	2	2 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	18 V	Vanadium	2	2 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	19 Sn	Tin	2	20 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	20 W	Tungsten	2	20 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	21 Li	Lithium	2	2 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	22 Ga	Gallium	2	10 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	23 La	Lanthanum	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	24 Sc	Scandium	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	25 Ta	Tantalum	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	26 Ti	Titanium	2	0.01 PCT	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	27 Al	Aluminum	2	0.01 PCT	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	28 Mg	Magnesium	2	0.01 PCT	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	29 Ca	Calcium	2	0.01 PCT	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	30 Na	Sodium	2	0.01 PCT	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	31 K	Potassium	2	0.01 PCT	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	32 Nb	Niobium	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	33 Sr	Strontium	2	1 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	34 Y	Yttrium	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					
980806	35 Zr	Zirconium	2	5 PPM	HF-HNO ₃ -HClO ₄ -HCL	INDUC. COUP. PLASMA					

REPORT COPIES TO: MR. STEVE TRAYNOR

INVOICE TO: MR. STEVE TRAYNOR

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01327.0 (COMPLETE)

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 10-AUG-98

PAGE 1 OF 2

SAMPLE NUMBER	ELEMENT UNITS	Al	Si	Fe	Mn	Zn	Ni	Co	Cd	Bi	As	Sb	Te	Tot	Ba	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	Mg	Ca	Na	K	Nb	Sr	Y	Zr	
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM
98R128	6	<.5	22	5	23	<1	13	8	<1	<5	<5	<5	1.41	111	<25	359	276	41	<20	<20	6	<10	10	7	<5	0.06	4.00	0.46	1.30	1.15	0.45	<5	174	11	<5
98R221	7	<.5	43	7	652	15	48	8	6	<5	<5	<5	2.45	371	<25	>2000	172	328	<20	<20	12	<10	9	15	<5	0.17	5.05	0.60	0.94	1.23	1.30	<5	102	20	39



Intertek Testing Services

Bondar Clegg

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01327.0 (COMPLETE)

DATE RECEIVED: 31-JUL-98

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PAGE 2 OF 2

STANDARD NAME	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	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		
		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	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	
CANMET STREAM-SED		-	<.5	49	66	232	9	48	25	<1	<5	36	<5	5.04	998	<25	489	82	92	<20	<20	61	<10	47	15	7	0.40	8.34	1.73	2.83	1.24	1.40	21	390	31	57			
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
Mean Value		-	0.3	49	66	232	9	48	25	0.5	3	36	3	5.04	998	13	489	82	92	10	10	61	5	47	15	7	0.40	8.34	1.73	2.83	1.24	1.40	21	390	31	57			
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		-	0.5	47	66	246	13	53	19	0.8	-	42	5	5.20	>99	-	540	116	101	5	7	65	-	59	16	2	0.47	8.50	1.88	2.86	1.28	1.76	20	400	37	62			
ANALYTICAL BLANK		<5	<.5	<1	<2	<2	<1	<1	<1	<1	<5	<5	<5	<0.01	<5	<25	<5	2	<2	<20	<20	<2	<10	<5	<5	<5	<.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	
Mean Value		3	0.3	0.5	1	1	0.5	0.5	0.5	0.5	3	3	3	0.005	3	13	3	2	1	10	10	1	5	3	3	3	.005	.005	.005	.005	.005	.005	.005	3	1	3	3		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value		5	0.2	1	2	1	1	1	1	0.5	2	5	5	0.05	1	.01	0.005	1	1	.01	.01	.01	.01	.01	.01	.01	.01	.01	<.01	-	<.01	<.01	-	<.01	.01	.01	.01	.01	
Gannet Ref. Material	191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Mean Value	191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geometall Lab Report

REPORT: V98-01327.1 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 10-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980808	1 Au30 Gold	3	5 PPB	Fire Assay of 30g	30g Fire Assay - AA
980808	2 Ag Silver	3	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	3 Cu Copper	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	4 Pb Lead	3	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	5 Zn Zinc	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	6 Mo Molybdenum	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	7 Ni Nickel	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	8 Co Cobalt	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	9 Cd Cadmium	3	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	10 Bi Bismuth	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	11 As Arsenic	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	12 Sb Antimony	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	13 Hg Mercury	3	0.010 PPM	HCL:HNO3 (3:1)	COLD VAPOR AA
980808	14 Fe Iron	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	15 Mn Manganese	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	16 Te Tellurium	3	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	17 Ba Barium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	18 Cr Chromium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	19 V Vanadium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	20 Sn Tin	3	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	21 W Tungsten	3	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	22 La Lanthanum	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	23 Al Aluminum	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	24 Mg Magnesium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	25 Ca Calcium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	26 Na Sodium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	27 K Potassium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	28 Sr Strontium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	29 Y Yttrium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	30 Ga Gallium	3	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	31 Li Lithium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	32 Nb Niobium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	33 Sc Scandium	3	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	34 Ta Tantalum	3	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	35 Ti Titanium	3	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA
980808	36 Zr Zirconium	3	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	3	2 -150	3	TOTAL SAMPLE PREP	5

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INVOICE TO: MR. STEVE TRAYNOR

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01327.1 (COMPLETE)

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 10-AUG-98

PAGE 1 OF 2

SAMPLE NUMBER	ELEMENT UNITS	Al	Si	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
		PPM	PCT	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	PCT	PPM
98R220		8	0.3	90	22	429	13	56	8	4.9	<5	9	<5	0.014	2.87	141	<10	69	163	203	<20	<20	2	0.53	0.49	0.06	0.07	0.04	7	11	2	7	15	6	<10	0.04	7	
98R222		<5	0.3	54	55	944	22	154	14	10.6	<5	<5	<5	<.010	2.58	249	<10	78	121	308	<20	<20	3	0.94	0.66	0.10	0.03	0.06	6	12	4	12	22	8	<10	0.06	5	
98R224		6	<.2	15	29	272	53	49	3	1.3	<5	14	<5	0.013	2.68	237	<10	103	268	567	<20	<20	11	1.01	0.65	0.14	0.01	0.05	7	23	3	10	40	6	<10	0.06	8	



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01327.1 (COMPLETE)

DATE RECEIVED: 31-JUL-98

DATE PRINTED: 10-AUG-98

PAGE 2 OF 2

STANDARD NAME	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
		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
CANMET STREAM-SED		- 0.4	45	65	195	11	46	17	0.8	<5	36	<5	0.051	4.45	781	<10	104	45	55	<20	<20	37	3.23	1.34	1.21	0.07	0.21	151	21	9	54	6	7	<10	0.11	3	
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		- 0.4	45	65	195	11	46	17	0.8	3	36	3	0.051	4.45	781	5	104	45	55	10	10	37	3.23	1.34	1.21	0.07	0.21	151	21	9	54	6	7	5	0.11	3	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		- 0.5	43	66	216	13	47	17	0.8	-	32	3	0.046	4.10	720	-	-	50	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANALYTICAL BLANK		<5	<.2	<1	<2	<1	<1	<1	<1	<0.2	<5	<5	<5	0.011	<.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	0.5	0.1	3	3	3	0.011	.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		5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.005	0.05	1	.01	.01	1	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01
Garnet Ref. Material	192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geo. mi. l Lab Report

REPORT: V98-01357.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 06-AUG-98 DATE PRINTED: 16-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980812	1 Au30 Gold	5	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980812	37 TiO2 Titanium (TiO2)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	2 Ag Silver	5	0.5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	38 Al2O3 Alumina (Al2O3)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	3 Cu Copper	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	39 Fe2O3* Total Iron (Fe2O3)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	4 Pb Lead	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	40 MnO Manganese (MnO)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	5 Zn Zinc	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	41 MgO Magnesium (MgO)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	6 Mo Molybdenum	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	42 CaO Calcium (CaO)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	7 Ni Nickel	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	43 Na2O Sodium (Na2O)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	8 Co Cobalt	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	44 K2O Potassium (K2O)	5	0.05 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	9 Cd Cadmium	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	45 P2O5 Phosphorous (P2O5)	5	0.03 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	10 Bi Bismuth	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	46 LOI Loss on Ignition	5	0.05 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980812	11 As Arsenic	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	47 Total Whole Rock Total	5	0.01 PCT		
980812	12 Sb Antimony	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	48 Cr2O3 Chromium Oxide	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980812	13 Fe Tot Total Iron	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	49 Ba Barium	5	10 PPM	Pressed Pellet	XRAY FLUORESCENC
980812	14 Mn Manganese	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	50 Sr Strontium	5	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980812	15 Te Tellurium	5	25 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	51 Y Yttrium	5	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980812	16 Ba Barium	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	52 Nb Niobium	5	2 PPM	Pressed Pellet	XRAY FLUORESCENC
980812	17 Cr Chrome	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	53 Zr Zirconium	5	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980812	18 V Vanadium	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980812	54 Rb Rubidium	5	2 PPM	Pressed Pellet	XRAY FLUORESCENC
980812	19 Sn Tin	5	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	20 W Tungsten	5	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	21 Li Lithium	5	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	22 Ga Gallium	5	10 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	23 La Lanthanum	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	24 Sc Scandium	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	25 Ta Tantalum	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	26 Ti Titanium	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	27 Al Aluminum	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	28 Mg Magnesium	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	29 Ca Calcium	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	30 Na Sodium	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	31 K Potassium	5	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	32 Nb Niobium	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	33 Sr Strontium	5	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	34 Y Yttrium	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	35 Zr Zirconium	5	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980812	36 SiO2 Silica (SiO2)	5	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA						

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	5	2 -150	5	CRUSH/SPLIT & PULV.	7

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INVOICE TO: MR. STEVE TRAYNOR

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01357.0 (COMPLETE)

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SAMPLE NUMBER	ELEMENT UNITS	Al ₂ O ₃	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	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	SiO ₂	TiO ₂	Al ₂ O ₃
		PPM	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	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT
98R351	<5	<.5	20	3	38	6	12	1	<1	<5	<5	<5	<5	1.70	376	<25	652	229	88	<20	<20	14	<10	9	5	<5	0.20	4.06	0.28	0.11	0.32	1.16	<5	42	<5	20	84.11	0.36	7.87	
98R352	32	<.5	36	18	135	22	25	<1	4	<5	16	<5	<5	0.81	90	<25	>2000	354	989	<20	<20	5	<10	8	6	<5	0.12	2.23	0.28	2.11	0.34	0.69	10	138	27	29	80.64	0.20	4.20	
98R353	<5	0.7	21	<2	57	3	3	<1	<1	<5	<5	<5	<5	3.03	358	<25	>2000	65	151	<20	<20	8	<10	6	18	<5	0.28	7.53	0.81	1.34	3.39	0.71	<5	142	6	50	68.90	0.53	14.32	
98R354	<5	<.5	49	<2	62	15	13	2	2	<5	12	<5	<5	1.68	136	<25	>2000	203	639	<20	<20	10	11	19	11	<5	0.23	6.26	0.62	0.69	1.21	1.65	7	147	13	104	73.13	0.45	12.20	
98R356	34	<.5	75	4	221	8	31	<1	1	<5	<5	8	8	4.36	234	<25	1292	398	461	<20	<20	8	<10	6	<5	<5	0.08	1.37	0.40	0.02	0.27	0.44	<5	45	8	32	86.90	0.16	2.62	



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SAMPLE NUMBER	ELEMENT	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
98R351		2.48	0.05	0.55	0.18	0.37	1.95	0.06	2.13	100.15	0.04	792	57	14	6	94	68
98R352		1.14	0.01	0.55	2.96	0.33	0.89	1.96	6.68	99.62	0.06	2824	168	34	7	58	24
98R353		4.32	0.05	1.48	1.91	4.85	0.90	0.09	2.34	99.70	0.01	4160	156	21	3	83	25
98R354		2.45	0.02	1.17	1.02	1.72	2.54	0.05	5.62	100.41	0.04	3426	173	18	6	151	75
98R356		6.26	0.03	0.77	0.06	0.32	0.58	0.05	2.74	100.55	0.06	2730	53	15	5	47	28



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STANDARD NAME	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM
CANMET STD SY-3		6.46	0.33	2.66	8.26	4.13	4.19	0.54	-	98.83	<0.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-
Mean Value		6.46	0.33	2.66	8.26	4.13	4.19	0.54	-	98.83	0.005	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		6.42	0.32	2.67	8.26	4.15	4.20	0.54	1.20	-	-	-	-	-	-	-	-
ANALYTICAL BLANK		<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.03	-	-	<0.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	-	-	1	-	-	-	-	-	-
Mean Value		0.005	.005	.005	.005	.005	0.03	0.02	-	-	0.005	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.0001	<.01	<.01	<.01	<.01	<.01	<.01	<.001	<.0001	<.001	.005	.01	.01	.01	.01	.01
Loss on Ignition Std		-	-	-	-	-	-	-	-	4.22	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	4.22	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	4.24	-	-	-	-	-	-	-
Loss On Ignition Std		-	-	-	-	-	-	-	-	41.08	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	41.08	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	41.08	-	-	-	-	-	-	-
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET SO-2 REF STD		-	-	-	-	-	-	-	-	-	-	1006	348	40	19	760	76
Number of Analyses		-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	-	1006	348	40	19	760	76
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	1000	340	40	22	760	78



Intertek Testing Services

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STANDARD NAME	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	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	SiO2	TiO2	Al2O3				
		PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT	PCT					
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref.Material	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	194	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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STANDARD	ELEMENT	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
NAME	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	1400	558	14	22	235	190
Number of Analyses		-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	-	1400	558	14	22	235	190
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	1400	570	14	21	235	185
Gannet Ref.Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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SAMPLE NUMBER	ELEMENT	Al ₂ O ₃	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	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	SiO ₂	TiO ₂	Al ₂ O ₃		
	UNITS	PPB	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	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PCT	PCT	PCT		
98R351		<5	<.5	20	3	38	6	12	1	<1	<5	<5	<5	1.70	376	<25	652	229	88	<20	<20	14	<10	9	5	<5	0.20	4.06	0.28	0.11	0.32	1.16	<5	42	<5	20	84.11	0.36	7.87			
Duplicate																																										



Intertek Testing Services
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SAMPLE NUMBER	ELEMENT UNITS	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
		PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
98R351		2.48	0.05	0.55	0.18	0.37	1.95	0.06	2.13	100.15	0.04	792	57	14	6	94	68
Duplicate									2.17								



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geometric Lab Report

REPORT: V98-01357.1 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 06-AUG-98 DATE PRINTED: 17-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980813	1 Au30 Gold	2	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980813	37 SiO2 Silica (SiO2)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	2 Ag Silver	2	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	38 TiO2 Titanium (TiO2)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	3 Cu Copper	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	39 Al2O3 Alumina (Al2O3)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	4 Pb Lead	2	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	40 Fe2O3* Total Iron (Fe2O3)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	5 Zn Zinc	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	41 MnO Manganese (MnO)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	6 Mo Molybdenum	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	42 MgO Magnesium (MgO)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	7 Ni Nickel	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	43 CaO Calcium (CaO)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	8 Co Cobalt	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	44 Na2O Sodium (Na2O)	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	9 Cd Cadmium	2	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	45 K2O Potassium (K2O)	1	0.05 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	10 Bi Bismuth	2	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	46 P2O5 Phosphorous (P2O5)	1	0.03 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	11 As Arsenic	2	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	47 LOI Loss on Ignition	1	0.05 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980813	12 Sb Antimony	2	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	48 Total Whole Rock Total	2	0.01 PCT		
980813	13 Hg Mercury	2	0.010 PPM	HCL:HNO3 (3:1)	COLD VAPOR AA	980813	49 Cr2O3 Chromium Oxide	1	0.01 PCT	BORATE FUSION	INDUC. COUP. PLAS
980813	14 Fe Iron	2	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	50 Ba Barium	1	10 PPM	Pressed Pellet	XRAY FLUORESCENCE
980813	15 Mn Manganese	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	51 Sr Strontium	1	1 PPM	Pressed Pellet	XRAY FLUORESCENCE
980813	16 Te Tellurium	2	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	52 Y Yttrium	1	1 PPM	Pressed Pellet	XRAY FLUORESCENCE
980813	17 Ba Barium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	53 Nb Niobium	1	2 PPM	Pressed Pellet	XRAY FLUORESCENCE
980813	18 Cr Chromium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	54 Zr Zirconium	1	1 PPM	Pressed Pellet	XRAY FLUORESCENCE
980813	19 V Vanadium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980813	55 Rb Rubidium	1	2 PPM	Pressed Pellet	XRAY FLUORESCENCE
980813	20 Sn Tin	2	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	21 W Tungsten	2	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	22 La Lanthanum	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	23 Al Aluminum	2	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	24 Mg Magnesium	2	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	25 Ca Calcium	2	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	26 Na Sodium	2	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	27 K Potassium	2	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	28 Sr Strontium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	29 Y Yttrium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	30 Ga Gallium	2	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	31 Li Lithium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	32 Nb Niobium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	33 Sc Scandium	2	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	34 Ta Tantalum	2	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	35 Ti Titanium	2	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980813	36 Zr Zirconium	2	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	2	2 -150	2	CRUSH/SPLIT & PULV.	7

REPORT COPIES TO: MR. STEVE TRAYNOR INVOICE TO: MR. STEVE TRAYNOR

 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: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01357.1 (COMPLETE)

DATE RECEIVED: 06-AUG-98

DATE PRINTED: 17-AUG-98

PAGE 1A(1/ 8)

SAMPLE NUMBER	ELEMENT	AU30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	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	
	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	PCT	PCT	PCT	
98R350		<5	0.9	128	<2	58	2	28	30	0.2	<5	<5	<5	<.010	6.44	380	<10	60	45	44	<20	<20	<1	3.66	0.52	2.43	0.08	0.31	80	4	3	9	<1	6	<10	0.08	<1				
98R355		8	0.4	31	6	265	18	23	3	2.9	<5	<5	<5	0.118	0.60	46	<10	597	172	67	<20	<20	1	0.40	0.05	<.01	0.03	0.20	3	1	<2	1	<1	<5	<10	0.01	7	84.00	0.28	7.7	



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PAGE 1B(2 / 8)

SAMPLE NUMBER	ELEMENT	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb	
		UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
98R350																	
98R355		0.93	0.01	0.48	0.12	1.12	1.67	<.03	3.06	99.46	0.04	4885	35	22	5	73	45



Intertek Testing Services

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PAGE 2A(3/ 8)

STANDARD NAME	ELEMENT UNITS	Al ₂ O ₃	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO ₂	TiO ₂	Al ₂ O ₃				
		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	PCT	PCT					
CANMET STD SY-3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59.94	0.14	11.0		
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59.94	0.14	11.0	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	17	133	244	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	6.22	1.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59.68	0.15	11.0	
ANALYTICAL BLANK		<5	<.2	<1	<2	1	<1	<1	<1	<.2	<5	<5	<.010	<.01	<1	<10	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.01	<1	<1	<2	<1	<1	<5	<10	<.01	<1	<.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	1	1
Mean Value		3	0.1	0.5	1	1	0.5	0.5	0.5	0.1	3	3	3	0.005	.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	0.005	.005	0.00	0.00	0.00		
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.005	0.05	1	.01	.01	1	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01	<.001	<.01	<.01	<.01	<.01		
Loss on Ignition Std		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loss On Ignition Std		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED		-	0.4	40	57	194	11	42	15	0.8	<5	34	<5	0.047	4.05	718	<10	94	42	49	<20	<20	30	3.01	1.25	1.12	0.06	0.18	134	19	6	46	1	6	<10	0.10	<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	1	1	1	1	1	
Mean Value		-	0.4	40	57	194	11	42	15	0.8	3	34	3	0.047	4.05	718	5	94	42	49	10	10	30	3.01	1.25	1.12	0.06	0.18	134	19	6	46	1	6	5	0.10	0.5	-	-	-	-			
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	0.5	43	66	216	13	47	17	0.8	32	3	0.046	4.10	720	-	50	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

REPORT: V98-01357.1 (COMPLETE)

DATE RECEIVED: 06-AUG-98

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PAGE 2B(4/ 8)

STANDARD NAME	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM
CANMET STD SY-3		6.41	0.33	2.70	8.24	4.10	4.22	0.53	- 98.39	<0.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	- 1	1	-	-	-	-	-	-
Mean Value		6.41	0.33	2.70	8.24	4.10	4.22	0.53	- 98.39	0.005	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		6.42	0.32	2.67	8.26	4.15	4.20	0.54	1.20	-	-	-	-	-	-	-
ANALYTICAL BLANK		<0.01	<.01	<.01	<.01	<.01	<.05	<.03	-	<0.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	-	1	-	-	-	-	-	-
Mean Value		0.005	.005	.005	.005	.005	0.03	0.02	-	0.005	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<.0001	<.01	<.01	<.01	<.01	<.01	<.01	<.001	<.001	.005	.01	.01	.01	.01	.01
Loss on Ignition Std		-	-	-	-	-	-	-	4.16	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	4.16	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	4.24	-	-	-	-	-	-	-
Loss On Ignition Std		-	-	-	-	-	-	-	41.00	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	41.00	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	41.08	-	-	-	-	-	-	-
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	1411	567	13	23	242	191
Number of Analyses		-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	1411	567	13	23	242	191
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	1400	570	14	21	235	185



Intertek Testing Services

Bondar Clegg

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PAGE 3A(5/ 8)

STANDARD NAME	ELEMENT	Al ₂ O ₃	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO ₂	TiO ₂	Al ₂ O ₃	
	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	PCT	PCT	PCT	
CANMET SO-2 REF STD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref. Material	19%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	19%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intertek Testing Services

Bondar Clegg

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01357.1 (COMPLETE)

DATE RECEIVED: 06-AUG-98

DATE PRINTED: 17-AUG-98

PAGE 38(6/ 8)

STANDARD NAME	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM
CANMET SO-2 REF STD		-	-	-	-	-	-	-	-	-	-	1016	348	41	19	776	74
Number of Analyses		-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	-	1016	348	41	19	776	74
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	1000	340	40	22	760	78
Gannet Ref. Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01357.1 (COMPLETE)

DATE RECEIVED: 06-AUG-98

DATE PRINTED: 17-AUG-98

PAGE 4A(7 / 8)

SAMPLE NUMBER	ELEMENT	AU30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	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
	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	PCT	PCT	PCT
98R355		8	0.4	31	6	265	18	23	3	2.9	<5	<5	<5	0.118	0.60	46	<10	597	172	67	<20	<20	1	0.40	0.05	<.01	0.03	0.20	3	1	<2	1	<1	<5	<10	0.01	7	84.00	0.28	7.7
Duplicate																																								



Intertek Testing Services
Bondar Clegg

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PAGE 48(8/ 8)

SAMPLE NUMBER	ELEMENT UNITS	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM	
98R355		0.93	0.01	0.48	0.12	1.12	1.67	<.03	3.06	99.46	0.04	4885	35	22	5	73	45
Duplicate									3.05								



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

REPORT: V98-01467.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 17-AUG-98 DATE PRINTED: 24-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
980820	1 Au30 Gold	15	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	R ROCK	15	2 -150	15	CRUSH/SPLIT & PULV.	15
980820	2 Ag Silver	15	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	REPORT COPIES TO: MR. STEVE TRAYNOR INVOICE TO: MR. STEVE TRAYNOR					
980820	3 Cu Copper	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	***** 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 *****					
980820	4 Pb Lead	15	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	5 Zn Zinc	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	6 Mo Molybdenum	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	7 Ni Nickel	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	8 Co Cobalt	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	9 Cd Cadmium	15	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	10 Bi Bismuth	15	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	11 As Arsenic	15	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	12 Sb Antimony	15	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	13 Hg Mercury	15	0.010 PPM	HCL:HNO3 (3:1)	COLD VAPOR AA						
980820	14 Fe Iron	15	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	15 Mn Manganese	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	16 Te Tellurium	15	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	17 Ba Barium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	18 Cr Chromium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	19 V Vanadium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	20 Sn Tin	15	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	21 W Tungsten	15	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	22 La Lanthanum	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	23 Al Aluminum	15	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	24 Mg Magnesium	15	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	25 Ca Calcium	15	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	26 Na Sodium	15	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	27 K Potassium	15	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	28 Sr Strontium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	29 Y Yttrium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	30 Ga Gallium	15	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	31 Li Lithium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	32 Nb Niobium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	33 Sc Scandium	15	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	34 Ta Tantalum	15	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	35 Ti Titanium	15	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980820	36 Zr Zirconium	15	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

REPORT: V98-01467.0 (COMPLETE)

DATE RECEIVED: 17-AUG-98

DATE PRINTED: 24-AUG-98

PAGE 1 OF 3

SAMPLE NUMBER	ELEMENT UNITS	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
		PPB	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	PCT
98R130		17	0.6	48	143	640	10	114	5	6.2	<5	48	<5	0.119	9.82	100	<10	8	207	286	<20	<20	4	0.23	0.26	0.83	0.06	0.09	45	36	<2	2	30	<5	<10	0.06	16
98R131		7	<.2	42	<2	78	<1	37	22	0.5	<5	<5	<5	<.010	3.32	339	<10	27	126	99	<20	<20	<1	1.48	1.23	1.35	0.15	0.17	11	10	<2	8	10	7	<10	0.31	<1
98R132		<5	0.2	18	<2	82	<1	33	19	0.6	<5	<5	<5	<.010	2.48	365	<10	21	142	71	<20	<20	<1	1.57	1.34	1.20	0.13	0.07	14	8	<2	10	6	6	<10	0.24	<1
98R133		6	1.4	227	33	150	5	162	3	1.2	<5	<5	<5	0.023	>10.00	129	<10	9	149	77	<20	<20	<1	0.27	0.20	0.28	0.01	0.02	35	18	<2	1	6	<5	<10	0.02	5
98R134		7	0.4	80	<2	394	12	44	14	4.5	<5	<5	<5	<.010	4.40	346	<10	33	158	241	<20	<20	<1	2.39	0.71	0.91	0.25	0.71	34	3	<2	12	25	11	<10	0.09	3
98R135		<5	<.2	6	3	81	2	13	7	<.2	<5	<5	<5	<.010	2.91	517	<10	1100	162	24	<20	<20	22	1.97	1.06	0.26	0.15	1.19	26	12	<2	34	2	7	<10	0.21	1
98R136		<5	<.2	3	6	20	2	6	<1	<.2	<5	<5	<5	<.010	0.37	133	<10	17	124	2	<20	<20	4	0.37	0.03	0.02	0.08	0.19	1	5	<2	5	2	<5	<10	<.01	3
98R322		<5	<.2	34	3	82	8	10	7	0.4	<5	<5	<5	<.010	3.85	398	<10	110	124	248	<20	<20	3	1.79	0.98	0.30	0.08	0.11	13	11	<2	14	26	18	<10	0.20	3
98R357		17	3.2	96	76	91	8	31	2	0.4	<5	11	7	0.016	5.34	127	<10	30	296	121	<20	<20	1	0.60	0.43	0.09	0.02	0.15	12	7	<2	2	12	<5	<10	0.03	6
98R358		11	2.4	19	29	10	6	12	1	<.2	<5	<5	<5	0.014	0.94	69	<10	122	304	101	<20	<20	4	0.36	0.33	0.02	0.01	0.14	20	5	<2	2	11	<5	<10	0.03	5
98R359		<5	<.2	28	<2	18	<1	15	11	<.2	<5	<5	<5	<.010	2.06	278	<10	14	75	69	<20	<20	<1	1.00	1.16	1.46	0.19	0.03	9	4	<2	1	7	10	<10	0.07	<1
98R360		7	1.0	10	20	9	6	8	2	<.2	<5	8	<5	0.017	1.79	84	<10	233	272	190	<20	<20	3	0.59	0.62	0.08	0.03	0.32	32	12	<2	4	21	<5	<10	0.07	8
98R361		<5	<.2	21	36	44	6	33	2	<.2	<5	57	<5	0.028	6.24	55	<10	17	267	154	<20	<20	2	0.22	0.26	0.09	0.05	0.12	37	3	<2	1	16	<5	<10	0.05	8
98R362		10	2.5	153	14	38	3	35	3	0.2	<5	8	<5	0.014	3.15	231	<10	27	297	204	<20	<20	<1	0.93	1.15	0.56	0.02	0.19	41	10	<2	7	22	<5	<10	0.03	4
98R363		<5	<.2	45	16	223	17	78	8	8.5	<5	<5	<5	<.010	2.28	180	<10	75	167	208	<20	<20	2	0.85	0.37	0.13	0.04	0.07	6	17	<2	7	22	9	<10	0.11	8



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: TANANA EXPLORATION

PROJECT: BIG TOP

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DATE PRINTED: 24-AUG-98

PAGE 2 OF 3

STANDARD NAME	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	
		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	
ANALYTICAL BLANK		<5	<.2	<1	<2	<1	<1	<1	<1	<.2	<5	<5	<5	<.010	<0.01	<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	1
Mean Value		3	0.1	0.5	1	0.5	0.5	0.5	0.5	0.1	3	3	3	0.005	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		5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.005	0.05	1	.01	.005	1	1	.01	.01	.01	<.01	<.01	<.01	<.01	<.01	.01	.01	.01	.01	.01	.01	.01	<.01	.01	
Gannet Ref. Material	184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CANMET STREAM-SED		-	<.2	42	58	197	11	45	17	0.9	<5	33	<5	0.041	4.47	769	<10	100	46	52	<20	<20	26	3.30	1.29	1.22	0.07	0.20	140	18	3	49	5	6	<10	0.11	3	
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		-	0.1	42	58	197	11	45	17	0.9	3	33	3	0.041	4.47	769	5	100	46	52	10	10	26	3.30	1.29	1.22	0.07	0.20	140	18	3	49	5	6	5	0.11	3	
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value		-	0.5	43	66	216	13	47	17	0.8	-	32	3	0.046	4.10	720	-	-	50	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		



Intertek Testing Services
Bondar Clegg

**Geochemical
Lab
Report**

CLIENT: TANANA EXPLORATION

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PAGE 3 OF 3

SAMPLE NUMBER	ELEMENT UNITS	Al ₂ O ₃	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr
		PPB	PPM	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	PCT	PPM
98R135		<5	<.2	6	3	81	2	13	7	<.2	<5	<5	<5	<.010	2.91	517	<10	1100	162	24	<20	<20	22	1.97	1.06	0.26	0.15	1.19	26	12	<2	34	2	7	<10	0.21	1
Prep Duplicate		<5	<.2	6	3	82	4	14	7	<.2	<5	<5	<5	<.010	2.97	526	<10	1144	172	25	<20	<20	22	2.00	1.09	0.26	0.15	1.21	26	12	<2	35	2	7	<10	0.21	1
98R322		<5	<.2	34	3	82	8	10	7	0.4	<5	<5	<5	<.010	3.85	398	<10	110	124	248	<20	<20	3	1.79	0.98	0.30	0.08	0.11	13	11	<2	14	26	18	<10	0.20	3
Duplicate		<5	<.2	34	3	83	9	10	7	0.5	<5	<5	<5	<.010	3.84	401	<10	111	126	250	<20	<20	3	1.80	0.99	0.30	0.08	0.11	12	11	<2	14	26	18	<10	0.20	3



Intertek Testing Services
Bondar Clegg

Geotechnical
Lab
Report

TANANA EXPLORATION
MR. STEVE TRAYNOR
P.O. BOX 4375
STN. MAIN
WHITEHORSE, YT Y1A 3T5

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

REPORT: V98-01647.0 (COMPLETE)

REFERENCE:

CLIENT: TANANA EXPLORATION

SUBMITTED BY: S. TRAYNOR

PROJECT: BIG TOP

DATE RECEIVED: 08-SEP-98 DATE PRINTED: 28-SEP-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980928	1 Au30 Gold	20	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980928	37 SiO2 Silica (SiO2)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	2 Ag Silver	20	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	38 TiO2 Titanium (TiO2)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	3 Cu Copper	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	39 Al2O3 Alumina (Al2O3)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	4 Pb Lead	20	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	40 Fe2O3* Total Iron (Fe2O3)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	5 Zn Zinc	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	41 MnO Manganese (MnO)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	6 Mo Molybdenum	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	42 MgO Magnesium (MgO)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	7 Ni Nickel	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	43 CaO Calcium (CaO)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	8 Co Cobalt	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	44 Na2O Sodium (Na2O)	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	9 Cd Cadmium	20	0.2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	45 K2O Potassium (K2O)	17	0.05 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	10 Bi Bismuth	20	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	46 P2O5 Phosphorous (P2O5)	17	0.03 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	11 As Arsenic	20	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	47 LOI Loss on Ignition	17	0.05 PCT	Ignition 1000 Deg.	GRAVIMETRIC
980928	12 Sb Antimony	20	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	48 Total Whole Rock Total	17	0.01 PCT		
980928	13 Hg Mercury	20	0.010 PPM	HCL:HNO3 (3:1)	COLD VAPOR AA	980928	49 Cr2O3 Chromium Oxide	17	0.01 PCT	BORATE FUSION	INDUC. COUP. PLA
980928	14 Fe Iron	20	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	50 Ba Barium	17	10 PPM	Pressed Pellet	XRAY FLUORESCENC
980928	15 Mn Manganese	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	51 Sr Strontium	17	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980928	16 Te Tellurium	20	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	52 Y Yttrium	17	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980928	17 Ba Barium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	53 Nb Niobium	17	2 PPM	Pressed Pellet	XRAY FLUORESCENC
980928	18 Cr Chromium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	54 Zr Zirconium	17	1 PPM	Pressed Pellet	XRAY FLUORESCENC
980928	19 V Vanadium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA	980928	55 Rb Rubidium	17	2 PPM	Pressed Pellet	XRAY FLUORESCENC
980928	20 Sn Tin	20	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	21 W Tungsten	20	20 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	22 La Lanthanum	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	23 Al Aluminum	20	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	24 Mg Magnesium	20	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	25 Ca Calcium	20	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	26 Na Sodium	20	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	27 K Potassium	20	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	28 Sr Strontium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	29 Y Yttrium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	30 Ga Gallium	20	2 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	31 Li Lithium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	32 Nb Niobium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	33 Sc Scandium	20	5 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	34 Ta Tantalum	20	10 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	35 Ti Titanium	20	0.01 PCT	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						
980928	36 Zr Zirconium	20	1 PPM	HCL:HNO3 (3:1)	INDUC. COUP. PLASMA						

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBE
R ROCK	20	2 -150	20	CRUSH/SPLIT & PULV.	20

REPORT COPIES TO: MR. STEVE TRAYNOR

INVOICE TO: MR. STEVE TRAYNOR

 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

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PAGE 1A(1 / 8)

SAMPLE NUMBER	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO2	TiO
		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	PCT	PPM
98R378		7	<.2	17	38	46	16	12	3	2.4	<5	45	<5	0.052	3.13	34	<10	60	152	270	<20	<20	7	0.30	0.16	<.01	0.09	0.39	23	2	<2	2	30	<5	<10	0.03	14	73.99	0.2
98R379		6	<.2	15	17	190	19	27	5	1.3	<5	42	<5	0.092	3.85	88	<10	46	165	409	<20	<20	7	0.50	0.45	0.03	0.07	0.43	16	9	<2	4	45	<5	<10	0.12	18	73.43	0.2
98R380		11	0.3	109	8	585	13	79	7	8.3	<5	<5	<5	0.036	4.64	239	<10	47	169	250	<20	<20	4	1.00	1.10	0.16	0.05	0.67	14	7	<2	10	27	<5	<10	0.07	15	68.05	0.2
98R381		9	<.2	44	29	60	4	67	4	<0.2	<5	97	<5	0.016	>10.00	76	<10	7	226	196	<20	<20	5	0.33	0.40	0.91	0.03	0.12	65	23	<2	2	20	<5	<10	0.03	10	57.35	0.1
98R382		24	0.4	96	85	2128	74	113	13	29.4	<5	38	<5	0.158	3.40	150	<10	33	284	360	<20	<20	5	0.46	0.49	0.14	0.07	0.10	13	12	<2	3	39	6	<10	0.10	14	78.61	0.4
98R383		16	<.2	54	13	1545	38	135	6	20.4	<5	<5	<5	0.025	1.53	140	<10	114	280	180	<20	<20	3	0.68	0.23	0.12	0.03	0.28	20	7	<2	3	20	<5	<10	0.04	8	83.76	0.3
98R384		6	0.5	11	42	19	7	5	<1	<0.2	<5	6	<5	0.021	1.35	42	<10	349	183	202	<20	<20	3	0.21	0.04	0.07	0.03	0.10	15	7	<2	<1	23	<5	<10	0.03	4	91.21	0.1
98R385		8	0.6	121	14	666	27	134	8	9.4	<5	<5	<5	0.025	3.60	205	<10	45	177	147	<20	<20	6	0.68	0.22	0.44	0.02	0.20	10	30	<2	3	16	<5	<10	0.05	7	77.69	0.2
98R386		<5	0.9	120	84	162	6	84	4	1.5	<5	<5	<5	<.010	3.96	52	<10	17	187	39	<20	<20	2	0.16	0.07	0.15	0.02	<.01	20	12	<2	<1	4	<5	<10	0.03	4	84.65	0.1
98R387		6	0.9	125	106	437	6	164	7	3.4	<5	<5	<5	<.010	7.16	170	<10	19	195	39	<20	<20	3	0.48	0.20	0.28	0.02	<.01	19	10	<2	3	3	<5	<10	0.03	6	75.80	0.1
98R388		<5	0.8	78	122	4631	16	93	4	61.2	<5	8	<5	0.085	5.39	155	<10	21	190	32	<20	<20	5	0.16	0.14	0.77	0.03	<.01	31	14	<2	<1	3	<5	<10	0.03	5	76.82	0.1
98R389		16	0.4	27	24	188	79	79	6	1.1	<5	20	<5	<.010	2.96	216	<10	90	287	677	<20	<20	11	1.04	0.77	0.17	0.02	0.07	4	18	<2	11	75	5	<10	0.08	8	78.91	0.4
98R137		<5	<.2	29	<2	113	2	7	9	<0.2	<5	<5	<5	<.010	5.03	522	<10	999	127	236	<20	<20	3	4.12	2.35	0.46	0.16	2.01	31	1	<2	38	24	26	<10	0.24	<1	57.29	0.7
98R138		<5	<.2	82	<2	174	10	57	17	0.8	<5	<5	<5	<.010	4.38	588	<10	127	229	146	<20	<20	6	3.33	1.89	0.75	0.24	1.72	25	5	<2	25	14	10	<10	0.17	2	71.24	0.5
98R139		<5	<.2	96	<2	36	<1	67	25	0.4	<5	<5	<5	<.010	1.82	115	<10	156	58	27	<20	<20	2	5.05	0.42	3.46	0.49	0.26	323	3	3	6	1	<5	<10	0.07	<1		
98R140		6	1.1	132	20	344	4	80	5	2.5	<5	<5	<5	<.010	7.77	221	<10	19	352	415	<20	<20	4	1.82	0.99	1.25	0.07	0.57	90	18	<2	7	44	<5	<10	0.05	4	72.87	0.1
98R141		<5	<.2	8	6	16	4	4	1	<0.2	<5	<5	<5	<.010	1.79	200	<10	296	69	51	<20	<20	6	0.77	0.63	0.05	0.06	0.28	20	3	<2	6	5	<5	<10	0.05	2		
98R142		<5	<.2	20	3	277	80	97	2	0.3	<5	30	<5	0.132	1.64	126	<10	719	125	1021	<20	<20	6	0.82	0.77	0.05	0.02	0.53	18	9	<2	5	115	<5	<10	0.08	11		
98R144		<5	<.2	69	<2	253	13	74	12	3.0	<5	<5	<5	<.010	3.35	335	<10	48	213	195	<20	<20	6	2.66	0.52	1.49	0.23	0.51	82	10	<2	9	20	<5	<10	0.10	2	72.70	0.4
98R364		<5	<.2	62	<2	349	6	105	25	3.3	<5	<5	<5	<.010	4.19	270	<10	140	200	152	<20	<20	6	2.27	1.70	0.09	0.05	1.11	8	2	<2	18	15	7	<10	0.13	3	65.06	0.6



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SAMPLE NUMBER	ELEMENT UNITS	Al2O3	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total	Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
		PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
98R378		11.48	4.18	<.01	0.34	0.28	5.49	1.02	0.05	3.29	100.54	0.04	3262	138	42	3	138	27
98R379		10.33	5.27	0.01	0.82	0.78	4.39	0.84	0.11	3.46	99.82	0.04	1782	220	22	5	136	23
98R380		10.45	6.34	0.03	1.85	1.14	2.89	1.75	0.14	5.41	98.48	0.04	3787	183	31	4	120	55
98R381		3.58	20.55	0.02	2.52	2.50	1.42	0.22	1.22	10.62	100.19	0.06	429	390	38	<2	82	5
98R382		7.33	4.71	0.02	1.32	0.59	3.62	0.18	0.09	2.93	99.93	0.06	381	213	29	8	83	7
98R383		5.69	2.21	0.02	0.61	0.48	0.46	1.32	0.04	5.23	100.18	0.06	2852	58	20	6	64	36
98R384		3.20	1.89	<.01	0.17	0.24	0.88	0.49	0.12	1.03	99.42	0.05	2103	179	19	4	43	13
98R385		5.55	5.05	0.03	0.56	1.01	0.41	1.58	0.33	7.88	100.42	0.06	2450	54	74	2	64	40
98R386		2.26	5.34	0.02	1.20	1.63	0.66	0.12	0.11	3.67	99.83	0.06	130	282	36	<2	47	4
98R387		3.44	9.64	0.04	1.96	2.76	0.94	0.11	0.11	4.81	99.81	0.07	119	286	34	2	59	4
98R388		4.18	7.13	0.03	1.88	3.38	1.40	0.09	0.47	3.82	99.44	0.06	88	393	34	2	56	<2
98R389		5.46	4.18	0.02	1.20	0.37	0.75	1.72	0.12	7.27	100.49	0.06	3348	57	43	10	110	36
98R137		19.23	7.03	0.08	3.72	3.82	3.22	2.57	0.09	2.49	100.31	0.03	2064	216	18	3	80	70
98R138		10.90	5.87	0.07	2.95	2.52	1.47	2.03	0.36	1.97	99.98	0.05	400	87	33	8	138	88
98R139																		
98R140		4.34	11.02	0.03	1.75	1.88	0.19	0.99	0.76	5.77	99.86	0.08	1270	137	44	3	69	39
98R141																		
98R142																		
98R144		9.04	5.00	0.07	1.25	3.18	0.56	2.23	0.17	4.70	99.35	0.05	3187	156	32	4	70	61
98R364		14.71	5.93	0.04	2.81	1.59	3.29	2.16	0.10	3.12	99.55	0.04	1248	169	18	5	140	72



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STANDARD NAME	ELEMENT UNITS	Au30	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO2	TiO				
		PPB	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	PCT	PPM	PCT	PPM	PCT				
ANALYTICAL BLANK		<5	<.2	<1	<2	<1	<1	<1	<1	<0.2	<5	<5	<5	<0.010	<0.01	<1	<10	<1	<1	<1	<20	<20	<1	<.01	<.01	<.01	<.01	<.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	0.1	<1	1	<1	<1	<1	<1	0.1	3	3	3	0.005	<0.01	<1	5	<1	<1	<1	10	10	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Accepted Value		5	0.2	1	2	1	1	1	1	0.1	2	5	5	0.005	0.05	1	<1	<1	1	1	<1	<1	<1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01		
BCC Au Std.9	209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Mean Value	209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
CANMET STREAM-SED		-	0.2	46	59	202	11	46	18	0.9	<5	36	<5	0.044	4.29	804	<10	107	48	53	<20	<20	32	3.46	1.38	1.26	0.07	0.21	149	18	2	50	6	6	<10	0.11	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	1	1	1	1	-		
Mean Value		-	0.2	46	59	202	11	46	18	0.9	3	36	3	0.044	4.29	804	5	107	48	53	10	10	32	3.46	1.38	1.26	0.07	0.21	149	18	2	50	6	6	5	0.11	4	-	-				
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Accepted Value		-	0.5	43	66	216	13	47	17	0.8	32	3	0.046	4.10	720	-	50	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Loss on Ignition Std		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
CANMET STD SY-3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.15	0.1		
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-			
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.15	0.1			
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value		-	-	17	133	244	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59.68	0.1		
Loss On Ignition Std		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				



Intertek Testing Services

Bondar Clegg

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STANDARD NAME	ELEMENT UNITS	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM
ANALYTICAL BLANK		<0.01	<0.01	<.01	<.01	<.01	<.01	<.05	<.03	-	-	<0.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	1	-	-	1	-	-	-	-	-	-
Mean Value		<0.01	<0.01	<.01	<.01	<.01	<.01	0.03	0.02	-	-	<0.01	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		<0.01	<0.01	<.01	<.01	<.01	<.01	<.01	<.01	<0.01	<0.01	<0.01	<1	<1	<1	<1	<1	<1
BCC Au Std.9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loss on Ignition Std		-	-	-	-	-	-	-	-	3.86	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	3.86	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	4.24	-	-	-	-	-	-	-	-
CANMET STD SY-3		11.79	6.45	0.33	2.67	8.28	4.10	4.23	0.53	-	98.67	<0.01	-	-	-	-	-	-
Number of Analyses		1	1	1	1	1	1	1	1	-	1	1	-	-	-	-	-	-
Mean Value		11.79	6.45	0.33	2.67	8.28	4.10	4.23	0.53	-	98.67	<0.01	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		11.80	6.42	0.32	2.67	8.26	4.15	4.20	0.54	1.20	-	-	-	-	-	-	-	-
Loss On Ignition Std		-	-	-	-	-	-	-	-	41.45	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	41.45	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	41.08	-	-	-	-	-	-	-	-



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STANDARD NAME	ELEMENT	Al2O3	Fe2O3*	MnO	MgO	CaO	Na2O	K2O	P2O5	LOI	Total Cr2O3	Ba	Sr	Y	Nb	Zr	Rb
	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM
Fluorspar Granite		-	-	-	-	-	-	-	-	-	-	308	29	448	198	308	286
Number of Analyses		-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	-	308	29	448	198	308	286
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	290	29	436	202	300	291
Granite - Cert.Ref.M		-	-	-	-	-	-	-	-	-	-	1397	573	13	23	236	188
Number of Analyses		-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
Mean Value		-	-	-	-	-	-	-	-	-	-	1397	573	13	23	236	188
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	1400	570	14	21	235	185



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SAMPLE NUMBER	ELEMENT UNITS	Al ₂ O ₃	Ag	Cu	Pb	Zn	Mo	Ni	Co	Cd	Bi	As	Sb	Hg	Fe	Mn	Te	Ba	Cr	V	Sn	W	La	Al	Mg	Ca	Na	K	Sr	Y	Ga	Li	Nb	Sc	Ta	Ti	Zr	SiO ₂	TiO ₂
		PPB	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	PCT	PPM	PCT	PPM	PCT
98R378 Duplicate		7	<.2	17	38	46	16	12	3	2.4	<5	45	<5	0.052	3.13	34	<10	60	152	270	<20	<20	7	0.30	0.16	<.01	0.09	0.39	23	2	<2	2	30	<5	<10	0.03	14	73.99	0.3
98R385 Duplicate		8	0.6	121	14	666	27	134	8	9.4	<5	<5	<5	0.025	3.60	205	<10	45	177	147	<20	<20	6	0.68	0.22	0.44	0.02	0.20	10	30	<2	3	16	<5	<10	0.05	7	77.69	0.2
		14	0.7	124	13	671	28	135	8	9.4	<5	<5	<5	0.027	3.65	207	<10	48	178	143	<20	<20	5	0.68	0.22	0.45	0.02	0.20	10	29	<2	3	16	<5	<10	0.05	7	77.71	0.2
98R387 Duplicate		6	0.9	125	106	437	6	164	7	3.4	<5	<5	<5	<.010	7.16	170	<10	19	195	39	<20	<20	3	0.48	0.20	0.28	0.02	<.01	19	10	<2	3	3	<5	<10	0.03	6	75.80	0.1
98R137 Prep Duplicate		<5	<.2	29	<2	113	2	7	9	<0.2	<5	<5	<5	<.010	5.03	522	<10	999	127	236	<20	<20	3	4.12	2.35	0.46	0.16	2.01	31	1	<2	38	24	26	<10	0.24	<1	57.29	0.7
		<5	0.2	27	<2	110	3	11	9	<0.2	<5	<5	<5	<.010	4.90	515	<10	1175	158	233	<20	<20	3	4.12	2.29	0.49	0.20	1.94	34	1	<2	37	23	25	<10	0.24	<1	56.96	0.7
Prep Duplicate Duplicate		<5	0.2	27	<2	110	3	11	9	<0.2	<5	<5	<5	<.010	4.90	515	<10	1175	158	233	<20	<20	3	4.12	2.29	0.49	0.20	1.94	34	1	<2	37	23	25	<10	0.24	<1	56.96	0.7



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SAMPLE NUMBER	ELEMENT UNITS	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Cr2O3 PCT	Ba PPM	Sr PPM	Y PPM	Nb PPM	Zr PPM	Rb PPM
98R378		11.48	4.18	<.01	0.34	0.28	5.49	1.02	0.05	3.29	100.54	0.04	3262	138	42	3	138	27
Duplicate										3.30								
98R385		5.55	5.05	0.03	0.56	1.01	0.41	1.58	0.33	7.88	100.42	0.06	2450	54	74	2	64	40
Duplicate		5.50	4.86	0.03	0.55	0.96	0.40	1.58	0.31			0.06	2544	55	76	3	65	39
98R387		3.44	9.64	0.04	1.96	2.76	0.94	0.11	0.11	4.81	99.81	0.07	119	286	34	2	59	4
Duplicate										4.84								
98R137		19.23	7.03	0.08	3.72	3.82	3.22	2.57	0.09	2.49	100.31	0.03	2064	216	18	3	80	70
Prep Duplicate		19.19	7.10	0.08	3.78	3.73	3.19	2.64	0.09	2.62		0.04	2065	213	18	3	81	72
Prep Duplicate		19.19	7.10	0.08	3.78	3.73	3.19	2.64	0.09	2.62		0.04	2065	213	18	3	81	72
Duplicate										2.57								

APPENDIX D

PETROGRAPHIC
(THIN SECTION)
REPORT

PETROGRAPHIC REPORT

Excerpted from report by Vancouver Petrographics,
prepared for Julie Hunt, Mineral Deposits Geologist
with the Yukon Geology Program in Whitehorse

123: ?SPHERULITIC FELSIC VOLCANIC (EXTREMELY FINE-GRAINED, OXIDIZED)

Strongly limonite-stained, buff-brown, fine-grained rock with a ?spherulitic texture that is mostly softer than steel, non-magnetic, and shows no reaction to cold dilute HCl. In thin section, the slide is so limonite-stained and so fine-grained (average about 10 microns; rarely to 20 microns) and therefore the crystals are so piled on top of each other in the 30 micron thick section, that identification is very difficult. Low birefringence suggests that it is mostly either quartz or alkali feldspar; softness in hand specimen argues against significant quartz, so my guess would be mostly alkali feldspar, possibly clay-sericite altered, possibly ?chlorite, and abundant limonite, suggesting a former ?felsic volcanic, but this is highly speculative. Aggregates of limonite up to 0.25 mm in diameter could represent former ?pyrite crystals or aggregates.

249: ?FELSIC, POSSIBLY DACITIC, TUFFACEOUS VOLCANIC (PLAGIOCLASE-CHLORITIZED AMPHIBOLE-QUARTZ-LIMONITE-RUTILE)

Hand specimen is a bleached white, fine-grained ?porphyritic rock, partly harder than steel, and strongly oxidized (limonite stained on the outer rind). It is not magnetic and shows no reaction to cold dilute HCl. In thin section, it is a leucocratic rock, composed mainly of alkali feldspar (twinned, likely mostly sodic plagioclase as subhedra up to 0.5 mm diameter) and lesser, partly chloritized amphibole (ragged subhedra to 0.5 mm that lack colour and are likely tremolitic). Chlorite forms subhedral flakes to 0.25 mm diameter with optical characteristics (no colour or pleochroism, near-zero to length-fast birefringence) indicating Fe-poor composition (F/M near ?0.4). Traces of rutile are associated with the chlorite as fine euhedra to 25 microns long. Limonite staining is common in the mafic minerals; some of it may be derived by oxidation of former ?pyrite up to 0.25 mm in diameter. Minor quartz is present as irregular subhedra to 0.15 mm, detectable in places by relief difference against plagioclase; however, most of the untwinned, fine-grained material appears to be plagioclase. Etching and staining of the block would be necessary to help resolve this question; for the moment, I would classify it as a ?tuffaceous felsic volcanic, possibly dacitic in composition.

250: STRONGLY FOLIATED, METAMORPHOSED, PYRITIZED ?TUFFACEOUS FELSIC VOLCANIC (PLAGIOCLASE, QUARTZ, BIOTITE, CHLORITE, LIMONITE)

Hand specimen is a dark grey-brown, fine-grained, strongly foliated rock with abundant pyrite in wispy concentrations along foliae and in fractures perpendicular to it. The rock is not magnetic and shows no reaction to cold dilute HCl. In thin section, the rock is made up of very fine-grained (mostly <35 microns) ?plagioclase, quartz, and partly chloritized biotite; coarser ?metamorphic "sweats" up to 0.2 mm thick contain quartz (confirmed by uniaxial positive interference

figure) as subhedra to 0.2 mm. Biotite forms fine (<0.25 mm) ragged to subhedral red-brown flakes, in places (especially near pyrite) partly chloritized (length-fast, Fe-poor chlorite). Pyrite forms aggregates of small subhedral crystals to 0.1 mm in diameter. Slightly coarser quartz and plagioclase aggregates throughout the rock suggest it may have been tuffaceous (although the strong deformation evident in the foliation could have dismembered a porphyritic rock). The degree of deformation and metamorphism even make it difficult to say if the rock was originally volcanic or sedimentary (epiclastic).

256/258: ?FELSIC (DACITIC) TUFFACEOUS OR EPICLASTIC ROCK (PLAGIOCLASE-QUARTZ-BIOTITE/MINOR CHLORITE-?CARBONACEOUS MATTER

Hand specimens for both these samples are fine-grained, black and siliceous (harder than steel), non-magnetic and show no reaction to cold dilute HCl. In thin section, the rock is finely laminated, strongly foliated and crenulated, and consists mainly of scattered relict quartz and plagioclase phenocrysts or shards, up to about 0.75 mm in size, in a fine-grained (mostly <25 micron) matrix of quartz, feldspar, and biotite plus abundant, but volumetrically minor, dust-like (<1-2 micron) opaques that may be carbonaceous matter. Biotite forms sub- to euhedral medium brown flakes up to 0.1 mm in diameter in aggregates up to 0.12 mm across that may represent former mafic shards, or where next to quartz "sweats" that form sub-parallel laminae up to 0.3 mm thick composed of subhedra to 0.15 mm (in these locations, part of the biotite is converted to chlorite). Plagioclase and quartz phenocrysts or shards or aggregates are subhedral to sheared and recrystallized in character; they could represent shards in an originally tuffaceous rock, or clasts in a fine epiclastic rock. Predominance of plagioclase, possibly about oligoclase in composition (extinction on 010 to 11 degrees, no significant relief against quartz) and lack of K-feldspar suggest the rock may have been dacitic. In 258, the overall grain size is finer (mainly <15 microns), but quartz and biotite is coarser in the "sweats", and in places is accompanied by epidote, amphibole, chlorite and opaques as subhedral aggregates to 0.75 mm size that include pyrite and limonite after pyrite.

264: ?METADACITE (QUARTZ-PLAGIOCLASE-CHLORITIZED BIOTITE-SERICITE) WITH PYRITE-MINOR ?SPHALERITE-?SPHENE

Hand specimen is grey-white, fine-grained, siliceous (harder than steel), non-magnetic and non-reactive to cold dilute HCl, cut by hairline fractures with partially oxidized sulfides (mainly pyrite but may include minor sphalerite). Modal mineralogy in thin section is approximately:

Quartz (partly secondary)	60%
Alkali feldspar (?plagioclase)	25%
Opaque (?mainly pyrite)	5%
Chlorite	3%
Sericite	2%
Limonite	2%
Relict biotite	1%
Sphalerite	<1%
Opaque (?carbonaceous matter)	<1%
Sphene	<1%
Carbonate	<1%

This slide consists of a granular mosaic of relatively coarse-grained quartz in areas up to 0.5 cm across that are separated from each other by narrower areas of finer-grained alkali feldspar. Clots, blebs and fracture-controlled areas of opaques are up to 0.5 mm in diameter and are commonly associated with subhedral flakes of pale brown biotite to

0.35 mm, or similar-sized aggregates of chlorite and sericite as subhedral flakes to 0.3 and 0.15 mm respectively, that have likely replaced biotite. Quartz crystals are mainly <0.5 mm and have strongly undulose extinction and sutured boundaries due to strain. The finer alkali feldspar forms sub- to anhedral crystals mostly <50 microns in size with negative relief compared to quartz suggesting albite-oligoclase composition, in places associated with traces of finer (25 micron) sericite. Pyrite forms mainly eu- to subhedral crystals and fine-grained aggregates that are interstitial to the silicate minerals; the latter are commonly oxidized to limonite, and are associated in places with dust-like intergranular opaques that could be ?carbonaceous matter. Sphalerite (?) is difficult to distinguish from limonite, but in places away from oxidized pyrite, subhedral crystals to 0.15 mm that are also bright red-brown but appear to be isotropic, may be sphalerite. They are loosely associated with aggregates up to 0.5 mm composed of green-brown subhedral ?sphene crystals to 50 microns diameter. This association is similar to that in JH 97-64A (pyrite, ?sphalerite, sphene, chloritized biotite); the host rock could have originally been similar (?dacite) but has undergone strong metamorphism/deformation.

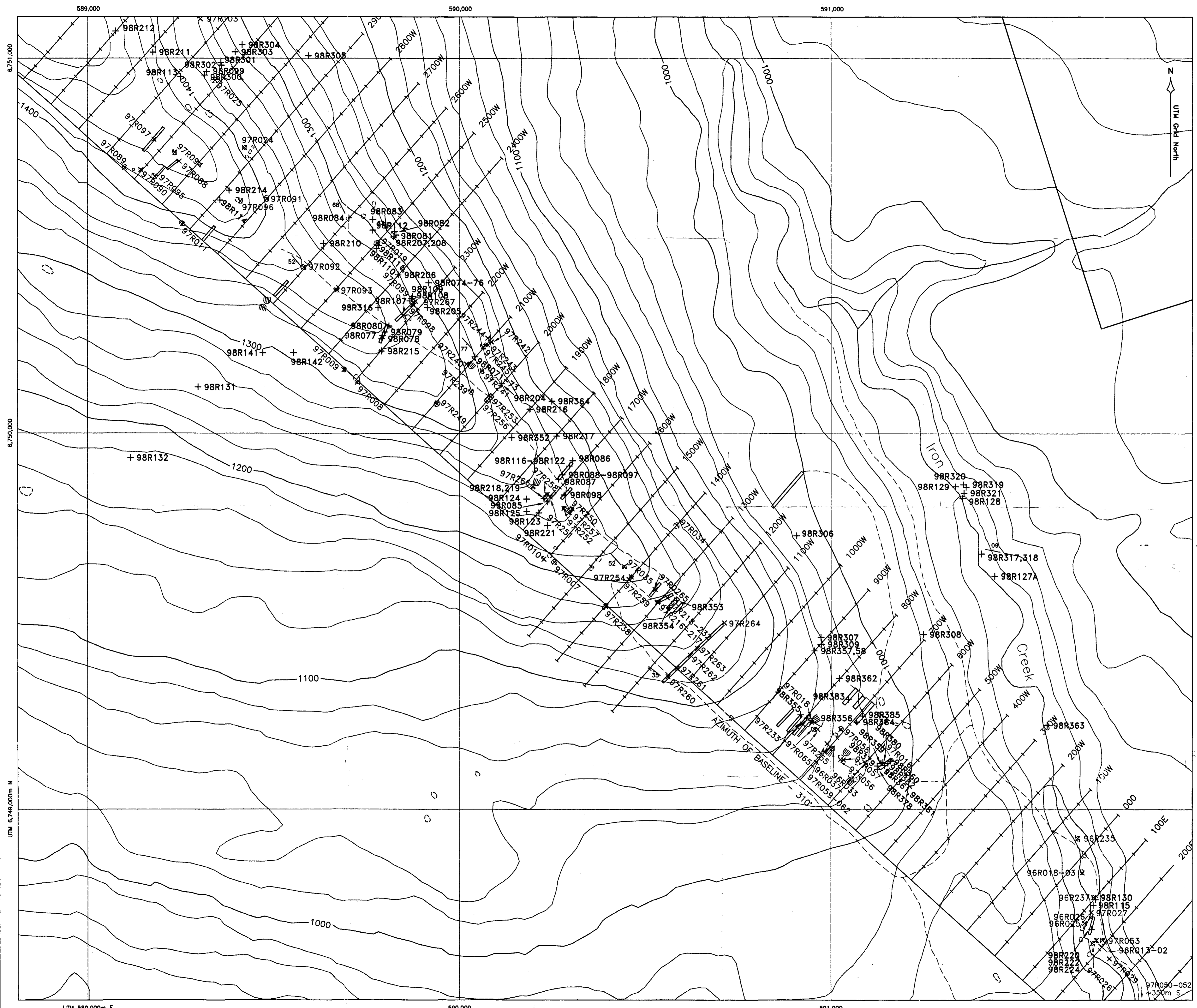
97R 254: ?METADACITE (FINE-GRAINED QUARTZ-ALKALI FELDSPAR CUT BY SEAMS AND CLOTS OF SECONDARY AMPHIBOLE AND OXIDIZED PYRITE)

Cherty-looking, siliceous, very fine-grained, white to grey (where fresh, with pyrite) to limonite stained (where oxidized). The rock is not magnetic and shows no reaction to cold dilute HCl. In thin section, the rock appears to be composed of very fine-grained ?quartz or alkali feldspar, mostly forming interlocking subhedral to anhedral crystals <25 microns in diameter. Poorly defined relief differences between the crystals, which are commonly piled on top of each other in the 30 micron thickness of the section, suggest both quartz and ?albitic alkali feldspar may be present, but this is difficult to be sure of except in zones of recrystallization where crystal size reaches 0.1 mm. The original composition could have been that of a ?dacite.

Clots of pyrite, composed of sub- to euhedral crystals to 0.25 mm diameter, are closely associated with small subhedral to fibrous crystals of pale coloured (?tremolitic) amphibole mostly <0.15 mm long (except in cross-cutting fractures, where amphibole crystals are up to 1 mm long). Pyrite is extensively oxidized to limonite in many places.

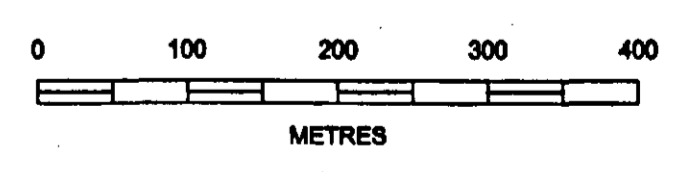
97R 261: QUARTZ-BIOTITE/CHLORITE-PLAGIOCLASE-MINOR OPAQUE SCHIST (POSSIBLY METADACITE)

Dark grey, finely laminated, fine-grained rock, mainly harder than steel. The rock is not magnetic and shows no reaction to cold dilute HCl. In thin section, it is mainly a quartz-biotite-minor ?plagioclase schist, with very minor accessory opaques. Laminae are defined by slightly coarser (to 0.15 mm) quartz-rich and finer (to 75 micron) biotite-rich layers, each mostly less than 0.5 mm thick. Foliation is mostly defined by parallel alignment of the medium brown biotite flakes, which also show strong crenulation cleavage, and partly by elongation of quartz crystals which display length:width ratios up to 3:1. Plagioclase crystals are very difficult to pick out with certainty, but are indicated by rare twinning, or by slight cloudiness or slightly negative relief compared to quartz. These characteristics plus extinction on 010 up to about 10 degrees indicate a composition near An₂₅ (oligoclase). It is not possible to be sure of the identity of the opaques, which are mainly subhedral to tabular, <0.1 mm in size, and associated with chloritization of biotite; they could be ?ilmenite.



SYMBOLS & PHYSICAL FEATURES

- x 97R021 Rock sample location (1996, 1997)
- + 98R217 Rock sample location (1998)
- Excavator trench
- Pit
- Survey grid
- Elevation contour interval, (20 metres)
- Stream, creek
- 4-wheel drive road
- Claim group boundary
- Camp location



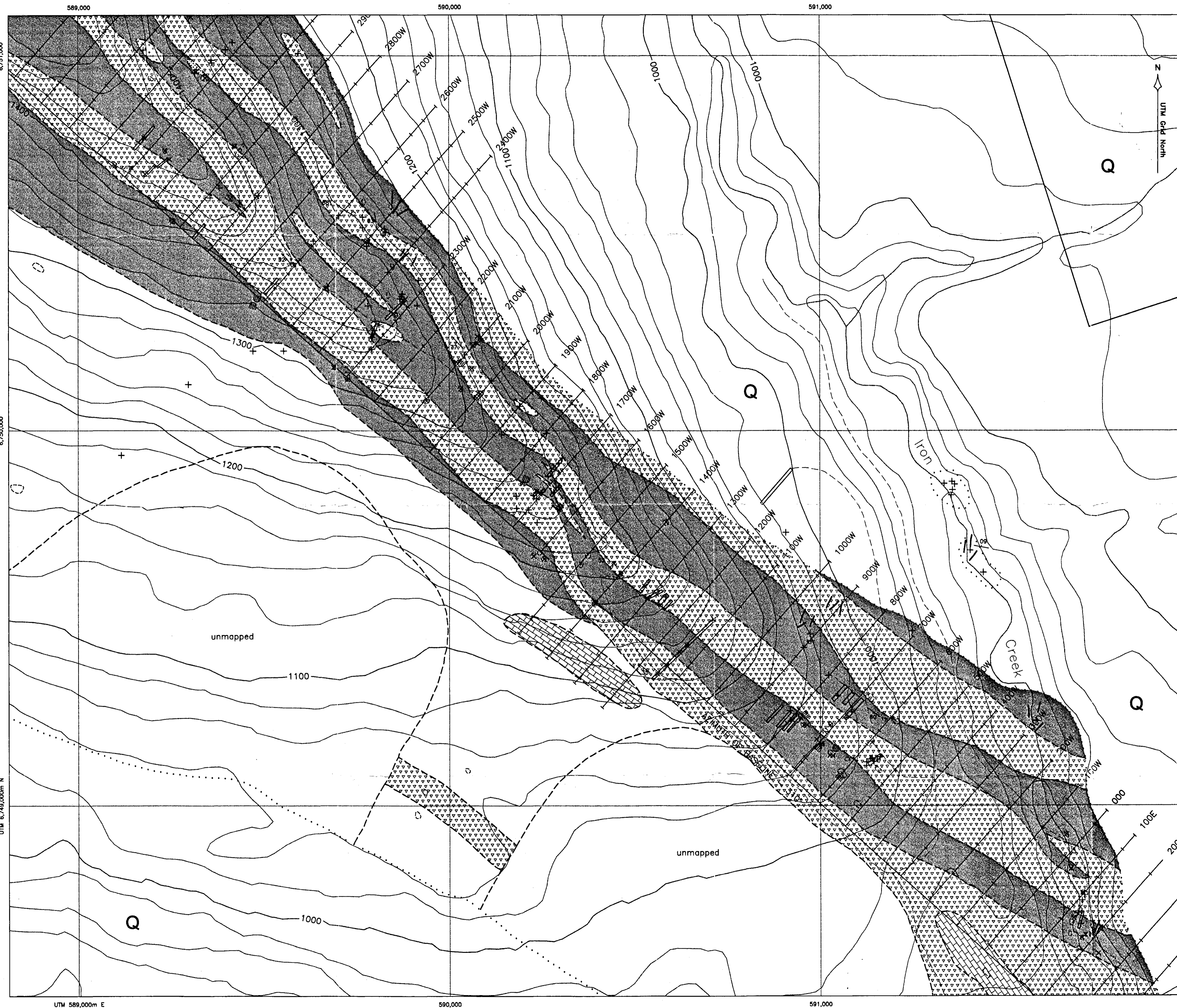
15053 YUKON INC.

BIGTOP PROPERTY
Trench and Rock Sample Locations
Grid Area

TANANA EXPLORATION

Steve Traynor, Geologist

SCALE: 1 : 5,000	FILE: 249_7	DATE: 99.01.17
NTS: 108 C/14	DRAWN: [Signature]	FIGURE 7

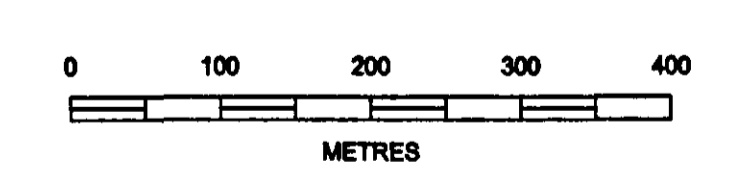


GEOLOGICAL LEGEND

- Outcrop
- Geological contact (approximate)
- Quartz veining
- unconsolidated glacial and glaciofluvial deposits and recent alluvial deposits
- medium grained, metamorphosed quartz diorite
- actinolite-chlorite quartzofeldspathic schist and greenstone
- marble
- black, fine grained carbonaceous argillites and shales, often with volcanoclastic component
- meta-dacite and tuffaceous equivalents

SYMBOLS & PHYSICAL FEATURES

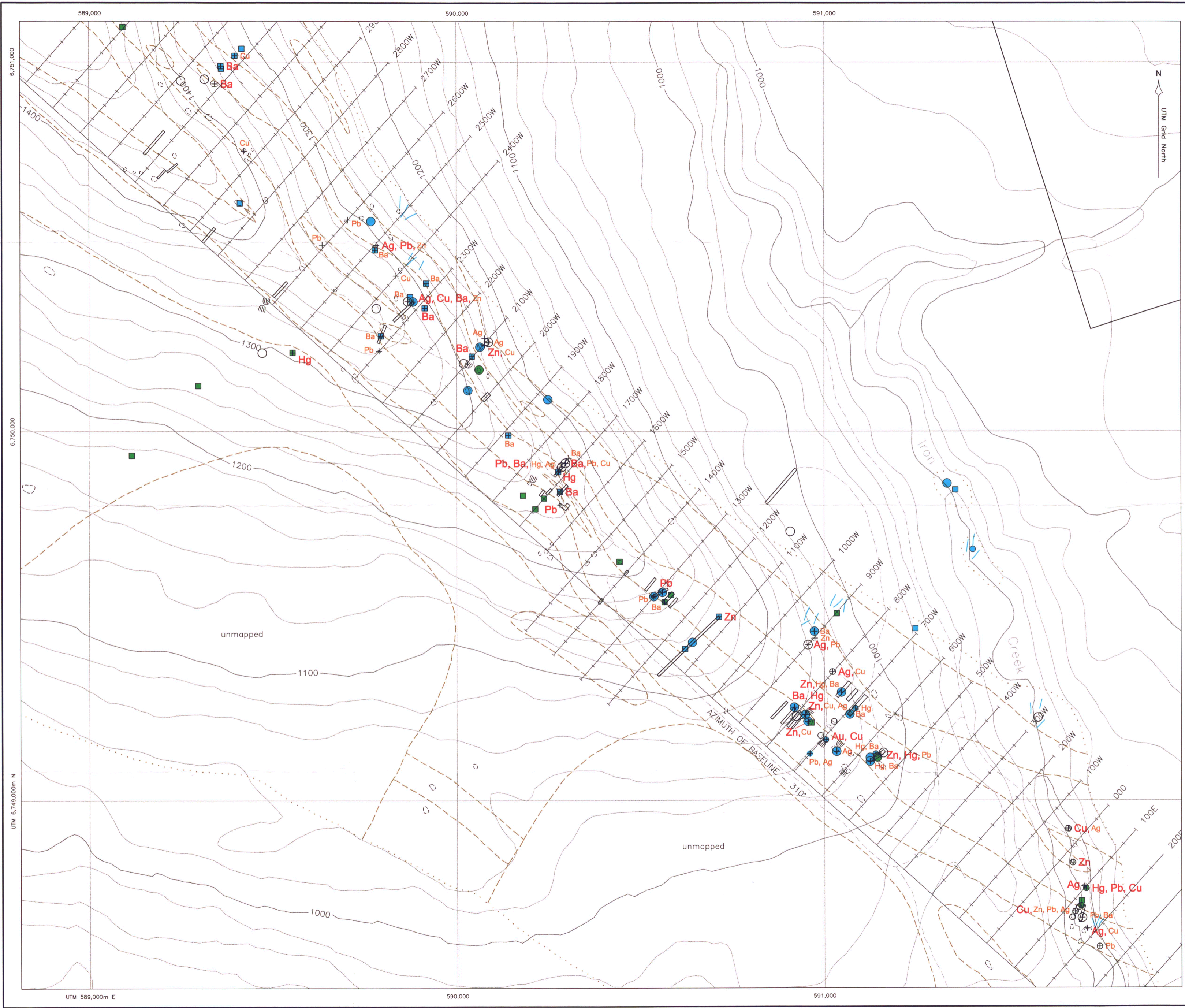
- Rock sample location (1996, 1997)
- Rock sample location (1998)
- Excavator trench
- Pit
- Survey grid
- Elevation contour interval, (20 metres)
- Stream, creek
- 4-wheel drive road
- Claim group boundary
- Camp location



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BIGTOP PROPERTY
 Geology - Grid Area *093018*
DWG 1

TANANA EXPLORATION		
Steve Traynor, Geologist		
SCALE: 1 : 5,000	FILE: 248_5	DATE: 99.01.17
NTS: 105 C/14	DRAWN: <i>ST</i>	FIGURE 5



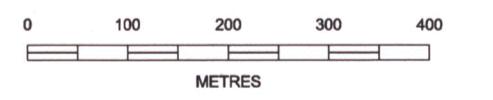
LEGEND

- Outcrop
- Geological contact
- Quartz veining
- Chloritized, Silicified
- Na depleted, chloritized, silicified
- Ca/Na depleted, chloritized, silicified
- Trace element enriched (Ag ± Cu ± Pb ± Zn ± Ba ± Hg)

Ag 2.5+ ppm	Ag 1.5-2.5 ppm
Cu 200+ ppm	Cu 130-200 ppm
Pb 100+ ppm	Pb 50-100 ppm
Zn 1500+ ppm	Zn 1000-1500 ppm
Ba 4000+ ppm	Ba 2500-4000 ppm
Hg 100+ ppb	Hg 25-100 ppb

SYMBOLS & PHYSICAL FEATURES

- Excavator trench
- Pit
- Survey grid
- Elevation contour interval, (20 metres)
- Stream, creek
- 4-wheel drive road
- Claim group boundary
- Camp location



15053 YUKON INC.

BIGTOP PROPERTY
Alteration, Enrichment / Depletion of Grid Area Rock Samples

TANANA EXPLORATION
Steve Traynor, Geologist

SCALE: 1 : 5,000	FILE: 249_8	DATE: 99.01.17
NTS: 105 C/14	DRAWN:	FIGURE 8