



# **BLACKFOX CONSULTANTS**

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**Final Report, Nisutlin Project  
South Central Yukon (NTS 105F, 6, 7, 10 & 11)  
Yukon Mining Incentives Program: Focused Regional Module**

Latitude 61° 45'N  
Longitude 133° 00'W

**Work Completed  
July to September 2002**

**Douglas J. Brownlee P.GeoI**

**January 30, 2003**

*YUKON ENERGY, MINING & RESOURCES LIBRARY  
PO Box 2703  
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## **Summary**

The Nisutlin project was a focused regional exploration program designed to explore the project area for replacement style gold mineralization (see section C for description of model) This is the final report on the work carried out and the results obtained

Due to work commitments in Alaska during the summer and fall of 2002, only a portion of the proposed project was completed. The work completed included a preliminary survey and silt sampling program along the South Canol highway from July 13<sup>th</sup> to 19<sup>th</sup> during which a total of 28 stream silt samples were collected. At this time an attempt was made to access the headwaters of Canol Creek, which was unsuccessful. This initial survey indicated a potential gold, bismuth and tungsten anomalous area between Big Creek and Canol Creek in the south east portion of the project area.

This initial survey was followed by a helicopter supported stream silt survey program focused on the area between Big Creek and Canol Creek on September 16<sup>th</sup> and 17<sup>th</sup>. A total of 31 stream sediment samples were collected. This survey delineated a gold, bismuth, tungsten and arsenic anomaly that is centered on the headwaters of Canol Creek.

A more detailed exploration program is being planned for the 2003 field season, focused on the headwaters of Canol Creek.

## Introduction

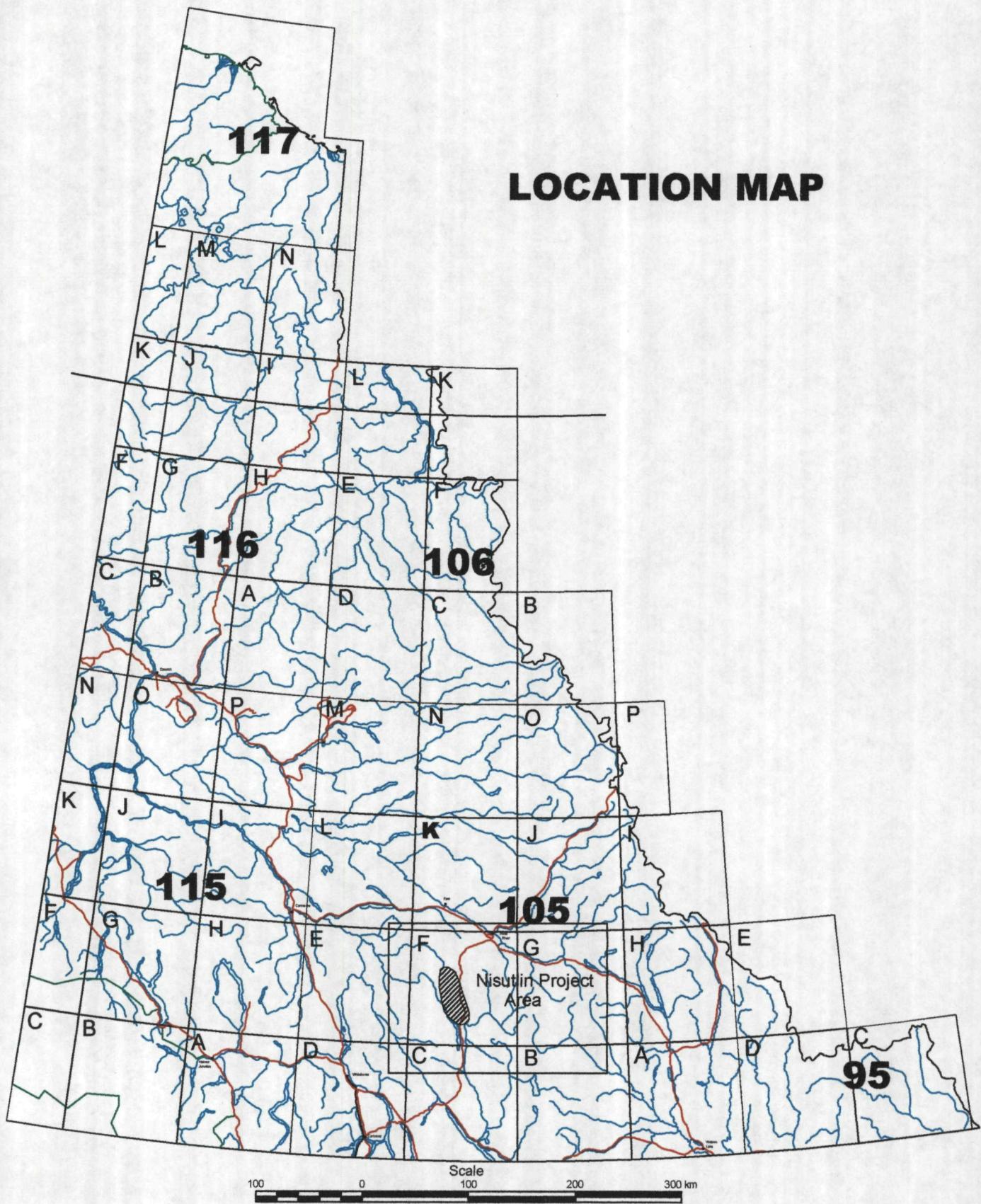
The Nisutlin Project was designed to test whether the Pelly Mountains and the area surrounding the Nisutlin Batholith had potential for hosting replacement style gold mineralization similar to the McQuesten Property of NovaGold Resources Inc. The area of the project (see attached location map and Geology Map) is geologically similar to the Keno Hill area north of Mayo in central Yukon which host the McQuesten Property. The following is NovaGold's description of the McQuesten Property from their website (<http://www.novagold.net>)

The McQuesten property is NovaGold's most advanced Yukon property. It has excellent infrastructure with access via the all-weather Yukon Silver Trail Highway near the town of Mayo. Drilling and trenching completed to date on the McQuesten property indicate the presence of a large mineralized system hosted within calcareous meta-sediments and intrusive rocks along the McQuesten Mineralized Structural Zone, as defined by surface trenching, auger drilling and a coincident geophysics (magnetics and electro-magnetics). Highlights from previous drill holes located from west to east along the McQuesten Structural Zone include 18.3 m of 3.74 g/t, 24.4 m of 2.16 g/t Au, 16.3 meters of 2.19 g/t, and 9.6 m of 2.87 g/t Au. Highlights from previous trenching along the Mineralized Zone include 16.0 m of 2.67 g/t, 9.2 m of 4.94 g/t, and 8.3 m of 2.72 g/t Au. Initial cyanide bottle-roll leach tests have been completed on unoxidized drill core. Up to 84.3% of the gold was recovered in these tests indicating that the ores are amenable to conventional cyanidation methods. Further metallurgical test work is on going.

Newmont Exploration of Canada completed a five-hole diamond drill core program in 2000, as part of an option agreement with NovaGold to earn a 51% interest in the property. All five holes intersected significant mineralization. Highlights include Hole MQ-00-04 with two intersections 11.5 meters grading 1.5 g/t gold and 37 meters grading 1.4 g/t gold (including 4.3 meters grading 3.3 g/t). Hole MQ-00-01 with 2.5 meters grading 3.2 g/t gold and 6.1 meters grading 2.6 g/t, MQ-00-02 with 13.5 meters grading 0.65 g/t, MQ-00-03 with 3 meters grading 2 g/t and 3 meters grading 3 g/t, and MQ-00-05 with 14 meters grading 1.3 g/t. The five holes total 883 meters (2900 ft) and test a 1.2 kilometer (4000 ft) portion of the 3 kilometer McQuesten Mineralized Structural Zone. These first step-out drill holes demonstrate the continuity of the mineralization along the McQuesten Structural Zone and significantly advance the project towards the resource definition stage. Mineralization consists of disseminated and semi-massive sulfides (pyrrhotite, pyrite and arsenopyrite) in quartz-sericite and skarn alteration packages of sedimentary rocks and felsic sills and dikes intruded along a low angle shear zone. NovaGold and Newmont are currently planning a second follow-up drill program in 2001.

Due to work commitments in Alaska, only a portion of the proposed program was completed. This consisted of a initial survey of the area accessible by road (South Canol Highway), during which a total of 28 stream sediment samples were collected. Additionally, a further 12 "bulk" samples (~2 to 4 kg) were collected for later panning for heavy minerals (eg gold and tungsten). This panning has yet to be completed.

The results of the initial stream sediment sampling showed anomalous gold, bismuth and tungsten in several of the samples collected between Big Creek and Canol Creek. Subsequently a helicopter supported stream sediment sampling program was conducted between Big Creek and Canol Creek.



## **Geological and Deposit Model**

The following is a deposit model developed for the McQuesten property that was and is being used as a guide for the Nisutlin Project

### **Replacement Style Gold Mineralization**

The McQuesten Property hosts a replacement style of gold mineralization. This style of mineralization as it occurs on the McQuesten Property is best defined by combining portions of the genetic models for disseminated/replacement gold (Poulsen 1995) and skarn deposits (Dawson 1995)

According to Poulsen (1995), the definitive characteristics of the disseminated/ replacement style gold mineralization in Canada are

- sulphidic gold deposits in which ore distribution is not dictated by vein quartz,
- commonly stratabound at the district and deposit scale and commonly hosted by clastic rocks of volcanic and/or sedimentary origin,
- with few exceptions, granitoid rocks, both as dykes and stocks, are present in the ore environment,
- with few exceptions, they have low contents of base metals (less than one percent combined metal) and gold contents exceeding those of silver, arsenopyrite is a common constituent, and
- orebodies in volcanic environments are closely associated with zones of potassiac alteration or zones of silicification enclosed by aluminous alteration, sencitic alteration is ubiquitous

Additionally, Poulsen states that the genesis of these deposits have the gold mineralization either associated with the replacement of the wall rocks during deformation and metamorphism or that the gold mineralization is related to pre-tectonic deposits of epigenetic origin. Also, the bulk chemical composition, especially trace metal suite (As, Sb, Te) strongly resembles vein type ores

The gold mineralization on the property reflects the first three and part of the fourth of Poulsen's five definitive characteristics of disseminated/replacement style gold mineralization. However, the gold mineralization on the property does not agree with Poulsen's characteristics in several important ways

Trace metal association according to Poulsen strongly resemble vein type ores (eg As, Sb, Te), while on McQuesten the association is W and Bi

Alteration associated with the sediment hosted deposits include sencite ± silicification. There is no evidence of silicification on McQuesten, and the sencitization appears to overprint the gold mineralization. The alteration associated with the mineralization is that of retrograde skarn alteration, including epidote, amphibole, actinolite and chlomite

According to Poulsen, the genesis of these deposits is either pre-tectonic and epigenetic in origin, or associated/related to the regional defromation and metamorphism. The gold mineralization at McQuesten postdates the intrusion of the granite dyke ( $91.6 \pm 0.2$  m.y.), which postdates the Tombstone Strain Zone ( $142 \pm 6$  Ma, K-Ar) and the Robert Service Thrust of Jurassic-Cretaceous Age

In general the gold mineralization on the property can be described as a replacement style related to weak retrograde calc-silicate alteration occurring within a structurally prepared calcareous unit (the Yuseyu Formation of the Hyland Group), with the source of the mineralizing fluids being intrusives of the Tombstone Suite

The source of the mineralizing fluids is significant as it determines the bulk chemical composition of the fluids and especially their associated trace metal suite. As the Tombstone intrusives are undersaturated to saturated metaluminous post-tectonic intrusions derived from sialic crust, the common associated mineral deposits are tin and tungsten skarns, porphyries and vein systems. The trace metal suite that would be used to locate gold mineralization associated with these intrusives is Au with elevated Bi, W, Sn, Mo, As, Ag, Te, La and Y in varying proportions. In comparison, the trace metal suite generally used to explore for gold mineralization

associated with porphyries, mesothermal and/or epithermal systems consists of Au and elevated As, Hg, Sb, Ag, Te, Pb and Zn in varying proportions

Additionally, the gold mineralization related to these intrusives do not exhibit the generally extensive alteration zonation associated with "classic" gold porphyries, skarns and veins (eg silicification, propolytic, argillic and potassic alteration)

Dawson, K M , 1995 Skarn Deposits, pp 447 to 502, in Geology of Canadian Mineral Deposit Types, Geology of Canada No 8, Geological Survey of Canada, editors Eckstrand, O R , Sinclair, W D , Thorpe, R I

Poulsen K H , 1995 Disseminated and Replacement Gold, pp 383 to 392, in Geology of Canadian Mineral Deposit Types, Geology of Canada No 8, Geological Survey of Canada, editors Eckstrand, O R , Sinclair, W D , Thorpe, R I

### **Geology (see attached map):**

The Nisutlin Project area is underlain by the Upper Proterozoic to Lower Cambrian Ingenika Group (Pci) The Ingenika Group in this area is comprised of calcareous sandstone, shale, quartzite, micaceous quartzite and minor grey limestone overlain by phyllite, quartzite and dolomitic marble This group is overlain by the thick bedded to massive limestone of the Lower Cambrian Rosella (ICr), which is overlain by the Ordovician to Devonian fine grained graphitic clastics of the Road River-Cassiar (ODRC)

These rocks are in fault contact with and in part overthrust the platy dolomitic siltstone of the Middle Silurian to Middle Devonian Askin Group (SDA) The Askin Group is overlain by the dark clastic rocks, tuffaceous chert and felsic volcanic rocks of the Upper Devonian t Lower Mississippian Earn-Cassiar (DMEC)

This assemblage is in turn thrust over the mafic volcanics of the Carboniferous and Permian Anvil (Cpa)

Intruding this package is the Nisutlin Batholith, part of the mid-Cretaceous Cassiar Suite (mKqC) The Cassiar suite is comprised of medium to coarse grained, equigranular to porphyritic (K-feldspar) granite and biotite quartz monzonite, biotite-hornblende quartz monzonite and granodiorite The map gallery on the Yukon Geology website shows the Cassiar Suite being "intruded/cut" by a unit labeled mKqS, which I am assuming to reference the mid-Cretaceous Selwyn Suite If this is the case, this unit would comprise equigranular to porphyritic (K-feldspar) biotite +/- hornblende +/- muscovite granite, quartz monzonite and granodiorite, porphyritic biotite hornblende granite with large smoky grey quartz phenocrysts and locally K-feldspar phenocrysts

The Ingenika Group is located generally to the north and west of the Nisutlin Batholith, with minor Rosella The Road River-Cassiar, Askin Group, Earn-Cassiar and Anvil occur on the south side of the Batholith

## Geological Legend

### Quaternary

 Quaternary  
unconsolidated sediments

### Upper Triassic

 Jones Lake  
calcareous siltstone and shale with minor limestone

### Carboniferous and Permian

 Anvil  
oceanic assemblage of mafic volcanics

### Upper Devonian to Lower Mississippian

 Eam  
dark clastics rocks with felsic volcanics

### Devonian, Mississippian and (?) older

 Nasina  
graphic quartzite and muscovite quartz-rich and minor marble

### Ordovician to Devonian

 Road River  
graphic clastics with minor limestone

### Middle Silurian to Middle Devonian

 Askin  
dolomitic siltstone overlain by dolostone and orthoquartzite

### Upper Cambrian & Lower Ordovician

 Kechika  
basin pelitic sediments with local mafic volcanics

### Lower Cambrian

 Rosella  
massive to argillaceous limestone

### Upper Proterozoic to Lower Cambrian

 Ingenika  
quartzose clastics overlain by fine clastics

### Mid-Cretaceous

 Cassiar Suite  
medium to coarse grained, equigranular to porphyritic felsic intrusive

### Mid-Cretaceous

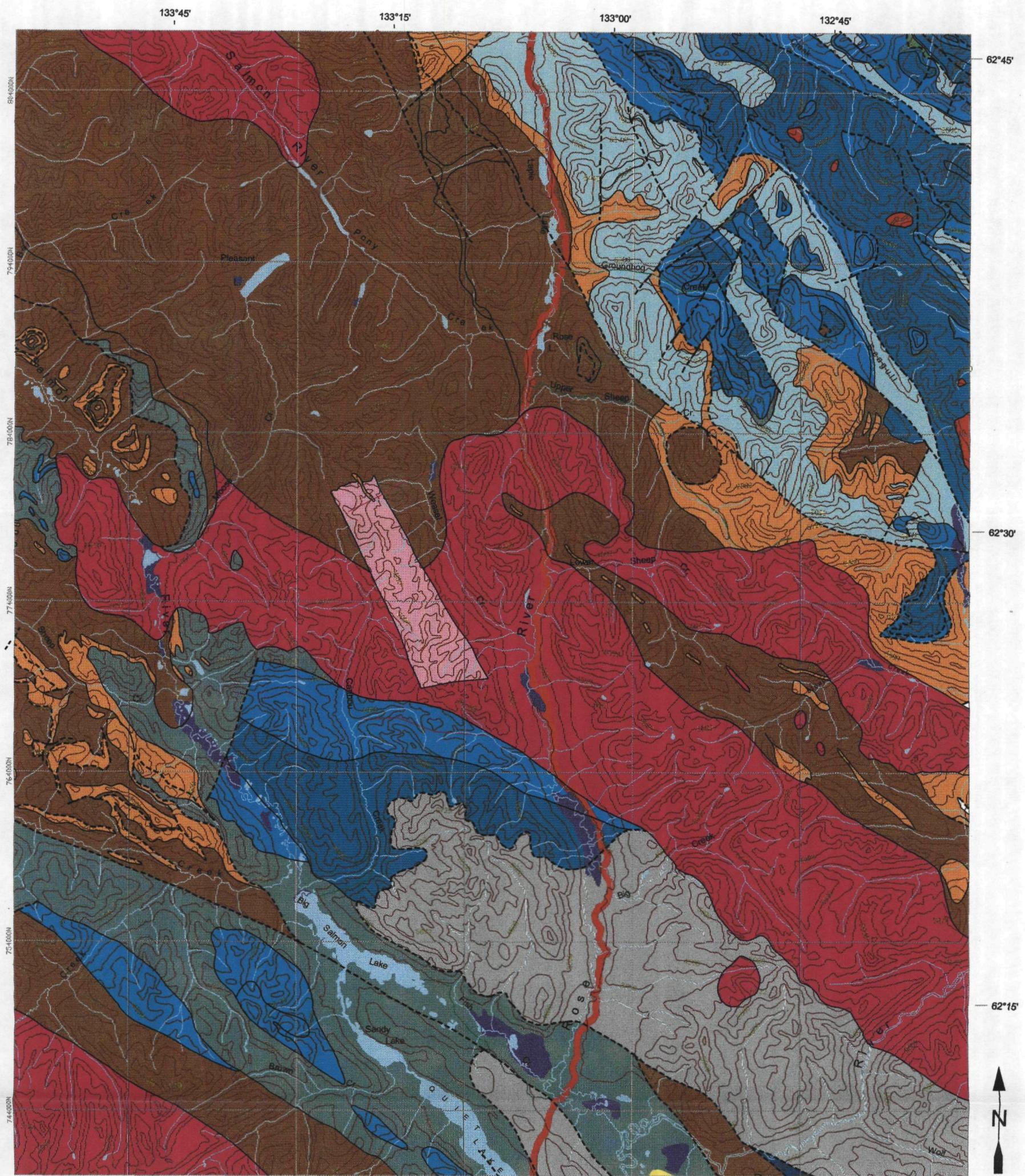
 Selwyn Suite  
intermediate to felsic intrusive

### Mississippian

 Pelly Mountain Suite  
medium to fine grained equigranular syenite

 Stratigraphic and intrusive contacts and unconformities

 Faults, all types



Ten Thousand Metre Yukon Albers Equal Area Conic Projection  
Contour interval 500 feet, elevations in Feet above Mean Sea Level

### Quite Lake, Yukon Territory, NTS 105F

Magnetic Declination 1991 varies from  $29^{\circ} 26'$  easterly at the centre of the west edge to  $29^{\circ} 46'$  easterly at the center of the east edge  
Mean annual change  $11.5'$  westerly.

0 5 10 15 20  
kilometers

### Geology Map

## Rationale:

In general, the Ingenika Group, Rosella, and Askin Group provide the calcareous rocks required to host replacement style gold mineralization. The normal faults and thrusts separating these units would structurally prepare the ground and provide fluid conduits. The Cassiar Suite and "Selwyn Suite" intrusives would provide the mineralizing fluids.

This is supported by the number of skarns and veins referenced in the Yukon Minfile

Minfile	# 6	Iola (Cu, Pb vein/replacement?)
	32	Pony (Ag, Pb, vein)
	33	Ham (W skarn)
	84	Lap (W skarn)
	92	Ayduck (W skarn)
	94	Obvious (W skarn)
	98	First (Cu, Pb, Zn skarn)

Therefore, based upon geology, previous exploration and RGS data it is believed that there is excellent potential for the development of replacement style gold mineralization in the project area.

## Work Completed (see Sample Location Map):

Initial survey of area from the South Canol Highway was conducted between July 13<sup>th</sup> and 19<sup>th</sup>. During this period a attempt was made to access the headwaters of Canol Creek, which was unsuccessful. A total of 28 stream sediment samples and 12 "bulk" samples were collected.

A follow up helicopter supported stream silt survey was conducted during September 16<sup>th</sup> and 17<sup>th</sup>. A total of 31 stream sediment samples were collected.

## Sampling Protocol:

Stream sediment samples, every effort was made to collect sufficient silt deposited during the spring runoff for a 10 gram ICP and ICP mass spec analysis. The samples were collected using a small scoop and placed in a kraft sample bag.

"Bulk" samples, were collected using a shovel from a area immediately below a significant change in stream flow. A 2 to 4 kilogram sample was collected (small gravel and smaller) in large plastic sample bags. It is planned to pan these samples this winter to investigate the heavy mineral component of the samples.

784000N  
774000N  
764000N  
754000N  
744000N

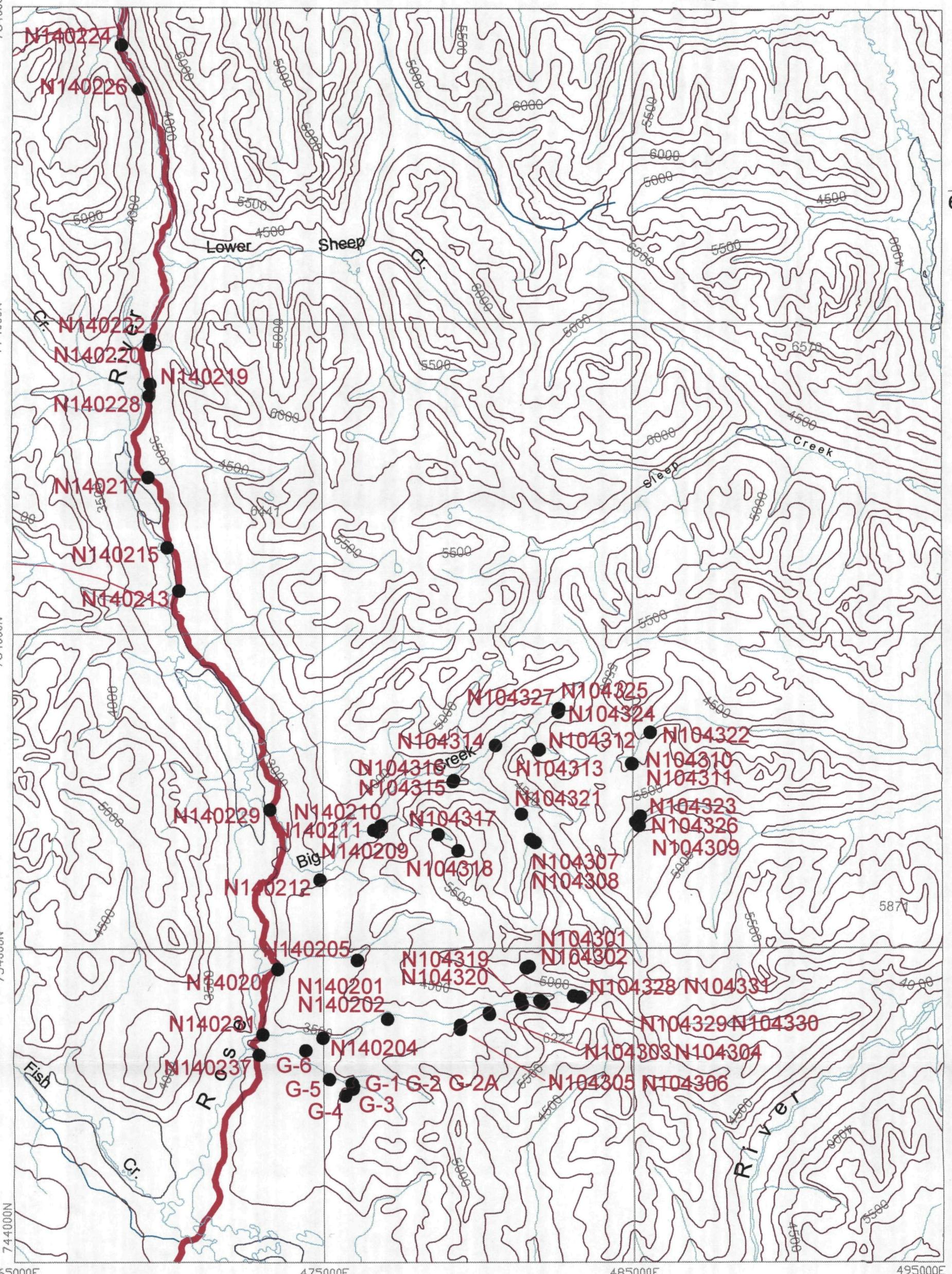
133°00'

132°45'

62°30'



62°15'



Ten Thousand Metre Yukon Albers Equal Area Conic Projection  
Contour interval 500 feet, elevations in Feet above Mean Sea Level

### Quite Lake, Yukon Territory, NTS 105F

Magnetic Declination 1991 varies from 29° 26' easterly at the  
centre of the west edge to 29° 46' easterly at the center of the east edge  
Mean annual change 11.6' westerly.

0 2.5 5 7.5 10  
kilometers

### Sample Location Map

## **Analysis:**

The stream sediment samples were dried and packed in 5 gallon plastic pails and shipped to Acme Analytical in Vancouver

The samples were dried at 60 deg C and sieved to -80 mesh. A 10 gram split was then analysed using ICP mass spec, the split was leached in hot aqua regia (95 deg C) and then analysed for 35 elements. Analytical results are appended.

## **Results (See Sample Results Map):**

As there are only 59 stream silt samples, a combination of statistics and "experience" was used to determine threshold values for gold, bismuth, tungsten and arsenic. While not rigorous, the resulting anomaly centered around the headwaters of Canol Creek is believed to be valid.

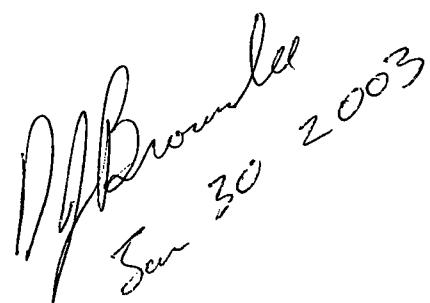
The threshold values are

Gold	5 ppb
Bismuth	24 ppm
Tungsten	40 ppm
Arsenic	50 ppm

## **Conclusions:**

While only a small portion of the Nisutlin Project could be completed and only 59 stream sediment samples collected, a new multi-stream sediment anomaly has been discovered. The geological mapping of the anomaly at the head of Canol Creek indicates potential for replacement style gold mineralization.

Based on the results of this years limited work a follow up exploration program for the headwaters of Canol Creek is planned for the 2003 field season.



D. Brownell  
Nov 30 2003

N

784000N

133°00'

132°45'

62°30'

E

N

774000N

N

764000N

N

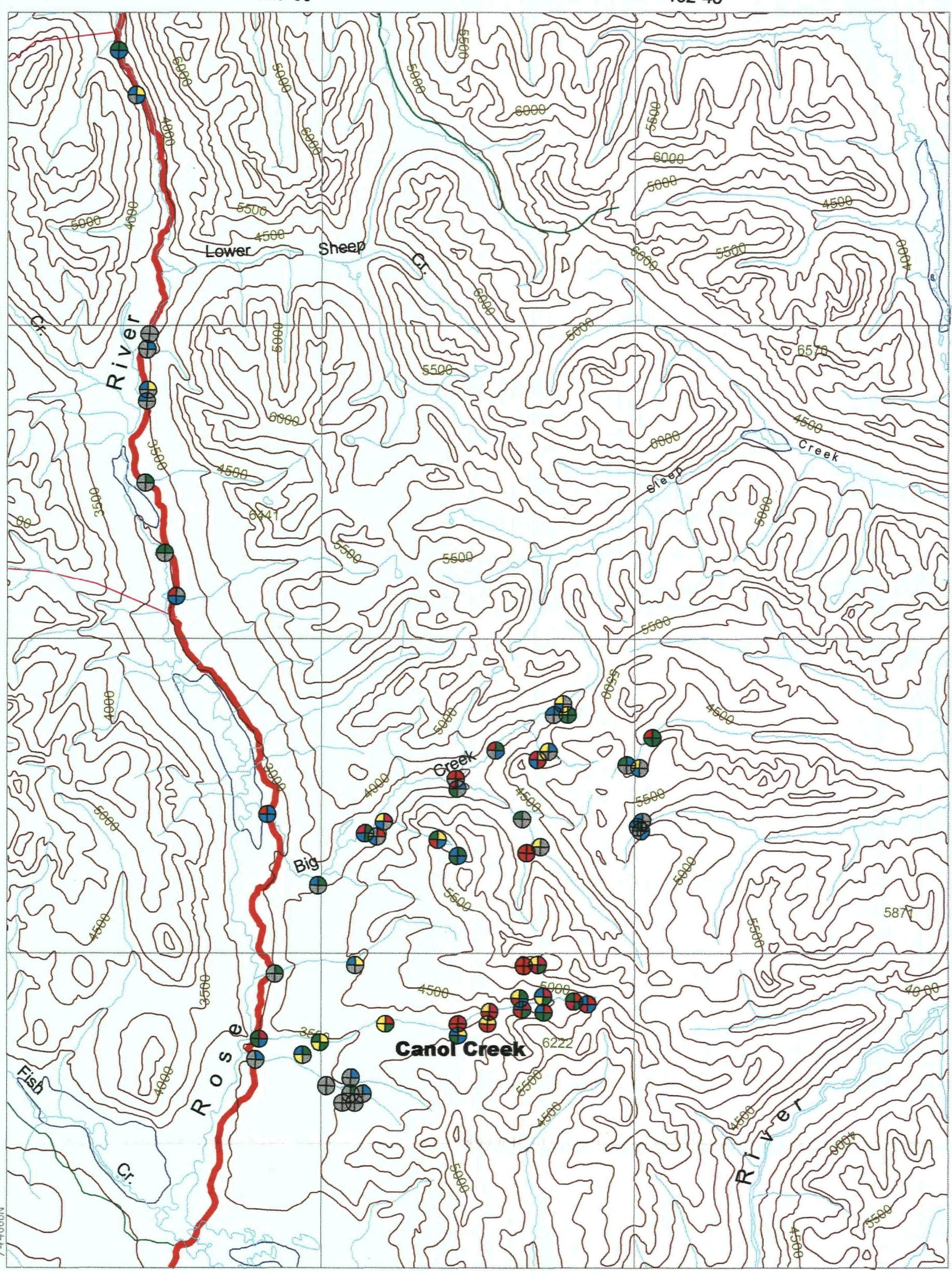
754000N

N

744000N



62°15'



Ten Thousand Metre Yukon Albers Equal Area Conic Projection  
Contour interval 500 feet, elevations in Feet above Mean Sea Level

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Mean annual change 11.6' westerly.

0 2.5 5 7.5 10  
kilometers

### Sample Results Map

W  
Au  
As  
Bi

#### Silt Sample Site

W ppm	Au ppb	Bi ppm	As ppm
0.0 to 0.5	0.0 to 0.5	0.0 to 0.4	0.0 to 10
0.5 to 1.0	0.5 to 1.0	0.4 to 0.8	10 to 20
1.0 to 2.0	1.0 to 2.5	0.8 to 1.6	20 to 30
2.0 to 4.0	2.5 to 5.0	1.6 to 2.4	30 to 50
4.0 to 10	5.0 to 10	2.4 to 3.6	50 to 100
>10	>10	>3.6	>100

From ACME ANALY LABORATORIES LTD 852 E HASTINGS ST VANCOUVER BC V6A 1R6 PHO (604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT

To Blackfox Minerals Ltd

Acme file # A203162 Received AUG 19 2002 \* 30 samples in this disk file

Analysis GROUP 1DA - 10 0 GM

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm
G-1	12		22	21	39	< 1 4 5		4	505	1 87	0 5	25	< 5 5 1
N140201	4 6		47	6 8	120	0 2	104 8	14 8	1153	3 3	37 7	7	5 7
N140202	3 3		43 2	8 4	126	0 2	99 7	16 5	758	3 18	33 4	7 9	7 7
N140204	3 4		39 7	8 6	115	0 2	120 5	15 4	934	2 88	34 6	11	3 6
N140205	0 6		18 8	7 3	73	0 1	46 9	9	261	1 85	8 4	16	4 8
N140207	0 8		19 9	6	66	0 1	40 5	8 9	507	1 71	8 7	17	1 9
N140209	4 9		55 7	11 7	167	0 5	310	25 9	804	3 38	17 2	27	5 8
N140210	1 2		18 9	4 3	23	0 1	113 5	6 2	1484	1 63	17 2	18 7	74 4
N140211	2 5		5 2	6 6	30	0 1	27 5	4 6	330	3 41	12 6	26 5	1 9
N140212	1 3		18 3	5 5	58	0 2	73 3	11 5	1390	2 2	9 3	27	1 4
N140213	1 2		8	6 6	62	0 1	7 9	7 2	444	2 93	12	11	< 5 14 8
N140215	1 5		4 9	6 3	35	< 1 8 4		4 1	221	1 55	6 9	6 3	1 5
N140217	0 4		3 4	5 2	43	< 1 4		3 9	306	1 52	6	7 6	1 3
N140219	0 4		6 3	5 2	29	0 1	10 6	4 2	187	1 52	6 9	25	3 9
N140220	0 8		11 3	9 5	53	0 1	13 3	6 3	331	1 98	6 8	9	0 7
RE N140220	0 8		10 6	9 3	53	0 1	12 3	6	328	1 93	7	8 9	< 5 7 6
N140222	0 5		11 3	10 4	61	0 1	10 6	7	352	2 13	5 9	17 2	< 5 9 1
N140224	1 7		7 5	21	56	< 1 8 2		4 2	939	1 68	12 8	26 9	1 3
N140226	0 5		6 1	12 9	28	< 1 5 1		2 4	273	1 22	6 5	21	3 9
N140228	0 4		6 6	4	29	0 1	9 7	4 9	483	1 66	4 8	3 9	< 5 9 9
N140229	1 6		5 7	5 3	27	< 1 25 5		4 4	241	2	11 1	12 5	1
N140231	2 6		37 9	7 7	101	0 2	100 4	14 6	794	2 92	26 9	8 5	13 7
N140237	0 5		11 1	4 3	43	0 1	40 5	7 4	851	1 43	4 5	0 9	1
G-1	0 4		20 1	4 7	58	< 1 123 9		17 1	639	2 93	9 2	0 7	0 8
G-2	0 6		23 2	6 5	83	0 2	72 2	13 9	1370	2 27	8 7	3 6	1 5
G-2A	0 9		12 7	4 5	61	0 1	46 5	13 6	2390	2 43	8 3	1 3	0 7
G-3	0 5		14	5 7	53	0 1	40 7	9 5	712	1 83	5 9	2 6	< 5 2 9
G-4	0 2		9 7	5 3	51	0 1	24 6	7 4	633	1 78	3 9	0 6	< 5 3 5
G-5	0 4		16 2	4 5	54	< 1 81 1		12 8	651	2 28	6	1	< 5 4 6
G-6	1 1		66 8	8 4	52	0 2	157 4	6 7	275	1 26	31 8	28 3	2 1
STANDARD 9			130 9	33	161	0 3	36 7	12	814	3 45	30 8	6 2	20 1
DS3													4 1

From ACME ANALY . LABORATORIES LTD 852 E HASTINGS ST VANCOUVER BC V6A 1R6 PHO. 14)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT  
 To Blackfox Minerals L \_

Acme file # A203162 Received AUG 19 2002 \* 30 samples in this disk file

Analysis GROUP 1DA - 10 0 GM

ELEMENT	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Tl %	B ppm	
G-1	62		< 1 < 1	0 1		37	0 48	0 087	7	12 4	0 53	211	0 116	< 1
N140201	65		1 2	1 3	1 4	92	1 58	0 061	12	49 4	1 32	271	0 088	< 1
N140202	33		1 2	1 6	1 2	86	0 65	0 073	15	52 3	1 41	276	0 108	< 1
N140204	33		1 7	1 6	1 1	73	0 63	0 074	16	51 8	1 21	273	0 088	< 1
N140205	24		1 1	0 8	0 2	35	0 49	0 087	17	39 2	0 58	93	0 057	< 1
N140207	25		1	0 7	0 2	32	0 54	0 075	16	37 3	0 56	121	0 049	1
N140209	63		2 3	1 7	0 3	69	0 78	0 097	15	125 3	2 22	193	0 049	2
N140210	20		0 2	0 5	0 2	33	0 61	0 127	55	35 7	0 33	211	0 048	< 1
N140211	22		0 1	0 3	1	65	0 59	0 199	74	18 3	0 38	85	0 051	< 1
N140212	32		0 6	0 5	0 2	39	0 63	0 084	18	45 7	0 67	250	0 049	4
N140213	50		0 2	0 2	0 7	65	0 99	0 168	51	17 1	0 66	115	0 108	< 1
N140215	25		< 1 0 2		0 3	28	0 58	0 155	41	12 1	0 35	62	0 056	< 1
N140217	26		0 1	0 1	0 2	29	0 7	0 237	39	6 1	0 37	82	0 063	1
N140219	16		0 1	0 2	0 2	31	0 42	0 129	41	12 3	0 28	72	0 05	< 1
N140220	43		0 1	0 2	0 3	41	0 56	0 102	25	20 3	0 52	128	0 088	< 1
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N140224	30		0 3	0 3	0 5	20	0 4	0 073	46	11	0 23	48	0 028	1
N140226	8		0 2	0 2	0 5	20	0 17	0 049	48	9 3	0 12	26	0 033	< 1
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N140229	18		0 1	0 3	0 5	37	0 52	0 163	63	19 4	0 36	74	0 049	< 1
N140231	31		1 1	1 6	0 8	60	0 7	0 085	17	56 3	1 07	212	0 073	< 1
N140237	18		0 1	0 3	0 1	20	0 4	0 077	12	34	0 51	115	0 037	1
G-1	17		0 1	0 6	0 1	39	0 43	0 093	13	137 2	1 14	108	0 055	1
G-2	37		0 4	0 3	0 1	31	1 07	0 114	21	82 5	0 72	289	0 03	2
G-2A	19		0 4	0 2	0 1	30	0 47	0 09	16	51 6	0 62	240	0 041	1
G-3	27		0 2	0 2	0 2	31	0 66	0 087	16	72 4	0 6	189	0 045	2
G-4	19		0 2	0 2	0 1	20	0 38	0 078	14	33 3	0 52	170	0 026	2
G-5	15		0 2	0 4	0 1	32	0 36	0 07	14	86 6	0 95	91	0 047	1
G-6	23		0 7	1	0 3	21	0 51	0 058	22	38	0 47	279	0 035	2
STANDARD 28			5 8	4 9	5 1	71	0 53	0 089	18	178 4	0 61	142	0 089	2
DS3														

From ACME ANALY . LABORATORIES LTD 852 E HASTINGS ST VANCOUVER BC V6A 1R6 PHO, (604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT  
To Blackfox Minerals L \_

Acme file # A203162 Received AUG 19 2002 \* 30 samples in this disk file

Analysis GROUP 1DA - 10 0 GM

ELEMENT	AI	Na	K	W	Hg	Sc	Tl	S	Ga
SAMPLES	%	%	%	ppm	ppm	ppm	ppm	%	ppm
G-1	0.8		0.061	0.42	2.1	< 01 18		0.3	< 05 5
N140201	3.22		0.029	0.34	1.4	0.01	8	0.5	< 05 7
N140202	2.11		0.029	0.29	3.5	0.03	7.8	0.5	< 05 6
N140204	1.99		0.026	0.25	2	0.02	6.7	0.4	< 05 6
N140205	1.09		0.012	0.09	0.6	0.01	3.1	0.1	< 05 3
N140207	0.94		0.012	0.07	0.4	0.03	2.6	0.1	< 05 3
N140209	2.01		0.04	0.12	0.4	0.04	4.4	0.3	0.11
N140210	0.55		0.011	0.12	3.4	0.01	1.6	0.2	< 05 4
N140211	0.68		0.009	0.11	24	0.01	1.7	0.2	< 05 5
N140212	1.13		0.018	0.08	1	0.02	2.8	0.1	0.06
N140213	1.38		0.025	0.22	9.5	0.01	3.4	0.2	< 05 6
N140215	0.79		0.011	0.1	1.9	< 01 19		0.1	< 05 4
N140217	0.86		0.01	0.13	0.3	0.02	2.1	0.1	< 05 4
N140219	0.62		0.008	0.1	1	< 01 14		0.1	< 05 3
N140220	1.35		0.014	0.16	0.4	0.02	2.6	0.2	< 05 6
RE N140220	1.41		0.013	0.17	0.5	0.01	2.6	0.2	< 05 5
N140222	1.46		0.019	0.25	0.4	0.06	3.5	0.2	< 05 5
N140224	0.69		0.011	0.11	2	0.01	3.9	0.1	< 05 3
N140226	0.42		0.004	0.05	0.9	< 01 15		0.1	< 05 2
N140228	0.77		0.012	0.1	0.6	0.02	1.7	0.1	< 05 3
N140229	0.62		0.009	0.09	6.3	< 01 15		0.1	< 05 3
N140231	1.62		0.02	0.21	1.7	0.02	5.4	0.3	0.07
N140237	0.73		0.009	0.04	0.2	0.01	1.7	0.1	< 05 2
G-1	1.07		0.018	0.08	0.5	0.02	2.6	0.1	< 05 4
G-2	1.6		0.011	0.08	0.4	0.07	2.9	0.1	0.07
G-2A	1.07		0.01	0.06	0.4	0.02	2.5	0.1	< 05 3
G-3	1.26		0.012	0.07	0.3	0.03	2.7	0.1	< 05 4
G-4	0.94		0.007	0.05	0.1	0.02	1.8	< 1 < 05	3
G-5	0.94		0.015	0.07	0.3	< 01 22		0.1	< 05 3
G-6	0.75		0.018	0.07	0.9	0.04	2.3	0.2	0.07
STANDARD	1.77		0.034	0.16	3.9	0.22	3.7	1.1	< 05 6
DS3									



## GEOCHEMICAL ANALYSIS CERTIFICATE

Blackfox Minerals Ltd. File # A204574  
47 - 12th Ave, Whitehorse YT Y1A 4S7 Submitted by Doug Brownlee

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	B1 ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Tl %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm
G-1	1 3	3 0	2 8	45	< 1	4 3	4 1	544	1 96	< 5	1 9	1 9	4 2	87	2	1	2	39	57	089	10	13 7	56	244	140	2 1	18	102	49	2 2	01	2 4	3 < 05	5	
104301	6 2	55 2	9 7	189	2	201	3 19 9	731	3 03	55 4	48 2	5 9	9 3	31	2 7	1 9	3 6	58	58	106	34	63 3	1 37	111	035	3 1	35	019	09	4 9	02	3 4	3	13	4
104302	3 1	39 2	6 7	96	3	279	5 19 7	1716	2 81	134 7	8 7	13 6	3 3	21	1 9	1 3	1 0	41	62	081	14	69 0 1	45	389	034	3 1	49	009	07	2 1	03	3 6	2	14	4
104303	16 0	41 1	10 2	172	2	77	8 19 6	2170	3 68	77 8	17 6	4 3	6 7	31	2 9	1 7	2 5	63	54	104	18	63 3	73	360	082	3 3	36	014	24	3 0	05	4 0	7	09	6
104304	6 4	61 1	10 2	178	4	194	4 19 1	1281	3 98	73 2	37 0	12 2	13 4	44	3 0	2 4	3 5	98	82	078	20	55 3	1 47	379	102	2 3	15	025	36	3 6	04	9 7	6	09	7
104305	1 6	40 5	10 5	101	5	115	5 20 5	857	2 36	26 1	4 7	4 9	3 9	43	1 3	1 0	6	47	71	112	18	55 2	65	309	046	3 2	42	009	11	8	06	3 4	3	09	6
104306	5 8	52 1	7 9	131	2	93	1 15 4	1146	3 64	51 2	14 1	16 7	10 6	44	1 3	1 9	2 5	97	93	060	14	42 3	1 29	292	103	2 2	48	022	34	5 0	01	8 2	5 < 05	7	
104307	1 5	35 1	4 5	39	3	904	9 38 5	356	2 69	68 8	323	7 10 0	34 0	33	1	7	7 8	20	86	151	112	197	2 6 95	94	012	7 2	22	008	20	6 8	09	6 4	5	19	4
104308	7 6	6 0	7 7	41	< 1	6 5	3 3	256	1 57	9 5	37 4	< 5	27 4	30	1	4	3	25	38	093	44	7 9	29	143	048	2 1	03	007	13	2 9	01	2 4	2 < 05	4	
104309	13 9	7 0	13 7	49	1	5 5	5 9	717	1 95	5 6	137	8	8 11 0	62	2	2	6	32	72	116	62	11 6	29	70	026	2 1	63	009	13	1 5	04	2 2	4	15	6
104310	7 6	3 2	9 7	30	1	2 1	2 6	607	1 98	8 1	113	8	8 12 2	30	1	2	1	23	48	129	49	6 6	16	45	025	3	98	006	18	1 6	02	1 3	2	12	4
104311	8 5	2 3	9 2	32	1	2 4	2 4	436	1 33	14 4	67 2	< 5	9 3	32	1	2	1	17	40	087	39	4 9	19	46	035	3 1	04	008	12	2 1	01	1 2	2 < 05	5	
104312	5 9	2 4	27 4	42	1	2 0	3 8	568	3 40	3 7	108	6	6 79 4	31	1	1	3	49	82	293	94	9 5	28	40	043	< 1	1 05	005	22	2 1	01	2 0	3 < 05	7	
104313	8 0	5 2	11 0	57	2	5 7	4 6	389	2 65	11 1	191	2	2 9 28 4	48	1	4	3 3	48	74	196	74	15 0	62	58	064	1 1	46	011	16	16 0	03	3 0	2 < 05	7	
104314	4 5	4 5	14 3	40	1	3 6	5 0	302	2 35	9 1	69 6	1 1	44 7	35	1	2	8	46	63	173	80	8 8	35	75	058	1 1	33	008	21	4 2	01	2 4	3 < 05	6	
104315	3 3	6 6	6 1	30	1	48	0 4 6	456	1 69	23 7	47 5	8 31 4	22	2	3	4	25	41	113	55	14 7	34	125	040	2	84	007	10	12 3	02	1 9	2 < 05	3		
104316	2 6	3 7	9 2	38	1	3 5	4 1	365	2 12	9 0	44 2	9 6	38 7	29	1	2	4	33	64	201	68	7 3	32	65	064	2	96	007	17	5 2	01	1 9	2 < 05	5	
104317	3 0	41 6	5 8	46	1	392	0 23 4	1268	2 69	57 1	85 9	2 7	12 1	31	2	1 0	6	41	55	139	46	82 2	2 46	286	041	4 2	02	010	20	1 5	07	4 1	4	15	5
104318	3 3	40 0	6 1	44	1	527	1 41 5	551	3 00	21 8	50 1	1 6	19 2	41	1	6	8	36	56	051	41	173	3 4 48	320	032	3 2	62	032	09	8	03	4 5	3 < 05	6	
104319	3 4	26 7	5 6	63	1	139	6 11 8	468	1 97	54 1	7 5	2 3	13 5	25	8	1 0	7	45	45	050	12	63	2 1 29	294	059	1 1	04	041	14	2 3	< 01	2 9	3 < 05	4	
104320	6 2	45 7	6 0	97	2	55 3	10 8	1273	3 12	57 8	5 8	10 3	5 4	67	1 3	1 3	9	87	1 37	048	8	37 7	95	395	087	1 3	10	030	35	6 < 01	8 4	4 < 05	6		
RE 104320	6 0	44 8	6 3	96	1	58 2	11 3	1233	3 23	59 4	5 5	6 7	5 2	66	1 2	1 3	8	92	1 31	049	8	36 7	98	390	084	1 3	02	034	34	6 < 01	7 7	5 < 05	6		
104321	1 7	2 3	5 4	14	< 1	3 7	1 7	189	1 09	3 9	45 5	< 5	15 4	9	1	1	2	16	17	057	27	6 2	12	28	029	1	42	010	12	1 1	< 01	7	1 < 05	3	
104322	8 3	3 0	11 8	35	1	4 5	3 2	610	1 55	26 7	81 7	1 7	12 5	26	2	2	9	18	40	102	46	8 5	17	46	021	2 1	02	006	13	4 1	02	1 2	2 < 05	4	
104323	1 1	1 5	3 3	15	< 1	2 5	1 4	173	79	2 1	11 2	< 5	20 0	5	< 1	1	1	9	13	044	19	4 1	10	21	037	1	29	008	13	8 < 01	9	1 < 05	2		
104324	7 1	5 4	14 4	49	6	3 6	3 2	224	1 73	22 3	144	3	1 1 13 3	35	1	3	9	18	45	118	60	7 6	20	59	014	1 1	74	008	14	2 6	06	1 9	2	06	4
104325	4 1	5 4	12 5	50	1	5 6	6 2	592	2 36	14 5	64 1	< 5	23 7	49	2	2	3	41	62	179	60	12 3	43	83	073	3 1	27	008	18	2 1	01	1 9	2 < 05	6	
104326	2 3	2 7	6 4	18	< 1	3 7	1 9	142	74	3 8	63 1	< 5	11 8	18	1	1	2	11	28	081	56	8 5	15	55	036	2 1	11	008	10	1 0	02	1 2	2	07	4
104327	7 5	1 8	16 2	48	< 1	6 6	3 9	735	2 58	9 8	30 8	1 0	40 7	23	1	4	2	25	41	126	52	13 1	28	57	051	2 1	04	005	25	9 < 01	2 5	3 < 05	5		
104328	5 0	61 0	34 1	138	3	439	0 36 6	1080	3 38	102 6	6 3	9 3	8 4	15	1 7	7 7	1 5	46	31	035	15	191	6 4 22	409	044	4 1	20	018	15	1 4	01	5 2	3 < 05	4	
104329	4 6	74 5	4 6	144	1	30 0	20 4	1056	4 20	29 5	3 5	9 6	3 8	65	1 2	1 4	1 4	130	1 17	055	9	41 2 1	33	281	138	< 1	3 33	031	58	7 < 01	12 7	7 < 05	8		
104330	4 5	74 7	5 1	156	1	45 8	19 3	1023	4 17	33 5	4 1	14 3	4 1	56	1 5	1 5	1 3	137	1 03	058	9	38 8 1	42	382	138	< 1	3 12	032	59	7	01	12 3	6 < 05	8	
104331	5 7	60 7	63 8	187	4	53 4	15 7	1616	2 32	107 7	8 6	9 5	8 6	13	3 1	19 6	6	50	21	040	22	40 7	58	575	045	1 1	19	011	18	1 0	01	3 5	4 < 05	4	
STANDARD DS4	6 6	127 6	29 3	157	2	35 3	11 7	794	3 27	24 1	6 1	25 9	3 7	30	5 5	5 0	4 9	77	53	091	15	173	6 57	139	098	2 1	82	031	16	3 9	25	3 6	1 1	07	6

GROUP 1DA - 10 0 GM SAMPLE LEACHED WITH 60 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG C FOR ONE HOUR, DILUTED TO 200 ML, ANALYSED BY ICP-MS  
 UPPER LIMITS - AG, AU, HG, W = 100 PPM, MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM, CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM  
 - SAMPLE TYPE SOIL SS80 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns

DATE RECEIVED: OCT 21 2002 DATE REPORT MAILED: Oct 30/02 SIGNED BY... C.L. D TOYE, C LEONG, J WANG, CERTIFIED B C ASSAYERS

All results are considered the confidential property of the client Acme assumes the liabilities for actual cost of the analysis only

Data FA

SAMPLE	Albers_E	Albers_N	UTM_E	UTM_N	AS_PPM	AU_PPB	BI_PPM	W_PPM
N104301	481542 3	753385 37	615575 0	6795600 0	55 4	5 90	3 6	4 9
\104302	481635 09	753428 84	615666 0	6795647 0	134 7	13 60	1 0	2 1
\104303	480345 19	751914 44	614436 0	6794084 0	77 8	4 30	2 5	3 0
N104304	480335 73	751954 83	614425 0	6794124 0	73 2	12 20	3 5	3 6
N104305	479408 62	751438 12	613519 0	6793572 0	26 1	4 90	0 6	0 8
N104306	479415 47	751563 93	613521 0	6793698 0	51 2	16 70	2 5	5 0
N104307	481701 84	757453 85	615578 0	6799672 0	68 8	10 00	7 8	6 8
N104308	481845 43	757360 27	615725 0	6799584 0	9 5	0 25	0 3	2 9
N104309	485200 12	757890 81	619055 0	6800243 0	5 6	0 80	0 6	1 5
N104310	484956 19	759879 49	618735 0	6802221 0	8 1	0 80	0 1	1 6
N104311	484971 8	759868 88	618751 0	6802211 0	14 4	0 25	0 1	2 1
N104312	481979 77	760331 1	615745 0	6802558 0	3 7	0 60	0 3	2 1
N104313	481952 24	760318 15	615718 0	6802544 0	11 1	2 90	3 3	16 0
N104314	480567 11	760464 47	614329 0	6802637 0	9 1	1 10	0 8	4 2
N104315	479203 17	759315 11	613011 0	6801436 0	23 7	0 80	0 4	12 3
N104316	479225 7	759354 27	613032 0	6801476 0	9 0	9 60	0 4	5 2
N104317	478713 38	757620 79	612587 0	6799724 0	57 1	2 70	0 6	1 5
N104318	479359 26	757101 62	613252 0	6799230 0	21 8	1 60	0 8	0 8
N104319	481349 15	752399 18	615420 0	6794607 0	54 1	2 30	0 7	2 3
N104320	481415 96	752235 52	615493 0	6794446 0	57 8	10 30	0 9	0 6
N104321	481407 81	758269 69	615253 0	6800476 0	3 9	0 25	0 2	1 1
N104322	485564 76	760863 78	619305 0	6803228 0	26 7	1 70	0 9	4 1
N104323	485238 02	758199 56	619081 0	6800553 0	2 1	0 25	0 1	0 8
N104324	482604 79	761585 95	616321 0	6803836 0	22 3	1 10	0 9	2 6
N104325	482608 9	761614 81	616324 0	6803865 0	14 5	0 25	0 3	2 1
N104326	485095 83	758016 9	618946 0	6800365 0	3 8	0 25	0 2	1 0
104327	482581 03	761514 81	616300 0	6803764 0	9 8	1 00	0 2	0 9
\104328	483068 94	752490 21	617134 0	6794764 0	102 6	9 30	1 5	1 4
N104329	482093 55	752253 51	616169 0	6794490 0	29 5	9 60	1 4	0 7
N104330	481980 8	752341 89	616053 0	6794574 0	33 5	14 30	1 3	0 7
N104331	483278 76	752452 14	617345 0	6794734 0	107 7	9 50	0 6	1 0
N140201	477056	751764 72	611157 0	6793808 0	37 7	5 70	1 4	1 4
N140202	477056	751764 72	611157 0	6793808 0	33 4	7 70	1 2	3 5
N140204	474969 88	751159 54	609097 0	6793123 0	34 6	3 60	1 1	2 0
N140205	476092 7	753636 93	610123 0	6795642 0	8 4	4 80	0 2	0 6
N140207	473524 45	753356 52	607569 0	6795263 0	8 7	1 90	0 2	0 4
N140209	476784 3	757710 02	610657 0	6799739 0	17 2	5 80	0 3	0 4
N140210	476870 22	757912 85	610735 0	6799945 0	17 2	74 40	0 2	3 4
N140211	476632 98	757758 87	610504 0	6799782 0	12 6	1 90	1 0	24 0
N140212	474893 78	756175 7	608828 0	6798133 0	9 3	1 40	0 2	1 0
N140213	470371 84	765391 36	603957 0	6807168 0	12 0	0 25	0 7	9 5
N140215	470007 85	766778 45	603540 0	6808540 0	6 9	1 50	0 3	1 9
N140217	469387 73	769026 1	602834 0	6810762 0	6 0	1 30	0 2	0 3
N140219	469461 14	771990 66	602793 0	6813727 0	6 9	3 90	0 2	1 0
N140220	469438 59	773247 56	602722 0	6814982 0	6 8	0 70	0 3	0 4
N140222	469450 61	773403 23	602728 0	6815138 0	5 9	0 25	0 3	0 4
N140224	468518 82	782793 33	601435 0	6824484 0	12 8	1 30	0 5	2 0
N140226	469092 31	781389 93	602062 0	6823104 0	6 5	3 90	0 5	0 9
N140228	469424 76	771618 76	602771 0	6813354 0	4 8	0 25	0 1	0 6
N140229	473281 51	758432 27	607131 0	6800326 0	11 1	1 00	0 5	6 3
N140231	473023 76	751277 46	607149 0	6793166 0	26 9	13 70	0 8	1 7
40237	472906 16	750616 57	607057 0	6792501 0	4 5	1 00	0 1	0 2
G-1	475913 05	749674 36	610096 0	6791675 0	9 2	0 80	0 1	0 5

G-2	475952 47	749579 79	610139 0	6791582 0	8 7	1 50	0 1	0 4
G-2A	475952 47	749579 79	610139 0	6791582 0	8 3	0 70	0 1	0 4
G-3	475943 74	749509 09	610133 0	6791511 0	5 9	0 25	0 2	0 3
G-4	475695 72	749283 48	609894 0	6791276 0	3 9	0 25	0 1	0 1
G-5	475175 48	749815 8	609354 0	6791788 0	6 0	0 25	0 1	0 3
G-6	474416 78	750760 56	608560 0	6792703 0	31 8	2 10	0 3	0 9

30 January 2003

**Final Expenses - YMIP Focused Regional Incentive - Nisutlin Project**

**Wages**

D J Brownlee	July 13 <sup>th</sup> to 19 <sup>th</sup> Sept 16 <sup>th</sup> & 17 <sup>th</sup> 9 days @ \$300 00 per day	\$ 2,700 00
Assistant (G Jilson)	July 13 <sup>th</sup> to 19 <sup>th</sup> Sept 16 <sup>th</sup> & 17 <sup>th</sup> 9 days @ \$200 00 per day	<u>\$ 1,800 00</u> \$ 4,500 00

**Expenses (Receipts Attached)**

Room & Board	18 man days @ \$35/day	\$ 630 00
Milage (2 round trips) 600 km total	@ \$0 485/km	\$ 291 00
Helicopter (Invoice 497052)		\$ 4,449 80
Analysis (Acme - A203162)		\$ 389 48
Analysis (Acme - A204574)		<u>\$ 448 87</u>
		\$ 6,209 15
	<b>TOTAL</b>	<b>\$10,709.15</b>

YUKON ENERGY MINES  
& RESOURCE LIBRARY  
PO Box 2703  
Whitehorse, Yukon Y1A 2C6