



**1999 GEOLOGICAL and GEOCHEMICAL  
ASSESSMENT REPORT  
ON THE TARAKAN PROPERTY**

**Quartz Claims**

**Tarakan 001-012 YC01258-YC01269**

**094 075**

February 14, 2000

Mayo Mining District  
N.T.S. 105N/01

Latitude: 63°03' North  
Longitude: 132°25' West

Authors: Greg Johnson  
Carl Schulze

Date of work: August 1999

This report has been examined by  
the Geological Evaluation Unit  
under Section 53 (4) Yukon Quartz  
Mining Act and is allowed as  
representation work in the amount  
of \$ 1200.00.

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

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## SUMMARY

The Tarakan property, consisting of the Tarakan 1-12 Claims located in Central Yukon on NTS sheet 105N/01 was staked in 1998 to cover several newly identified auriferous skarn and replacement-style showings.

The Tarakan property is located within the Paleozoic Selwyn Basin which consists of a broad package of Paleozoic sediments extending ESE from north-west of Dawson City to the Yukon-NWT border north of the major NW-SE trending Tintina Fault Zone. This stratigraphy consists of shallow shelf to off-shelf marine clastic and chemical sediments, as well as basinal clastic sediments derived from the Ancient North American Platform to the north-east. Several episodes of continental uplift have led to periods of increased erosion and resulting continental margin or miogeosynclinal deposition, resulting in formation of comparatively high energy, shallow water sediments, often coarsely grained and variably calcareous. These are separated by strata formed under deeper, quieter water conditions, resulting in formation of fine clastic sediments and chert. The Mid-Cretaceous Tombstone-Tungsten Suite (95-89 Ma) has been emplaced within the Selwyn Basin. Members of this suite occur along an ESE trending belt extending for over 500 kilometres from north-west of Dawson City, Yukon to the Yukon-NWT border. Tombstone Suite intrusives are believed to be related to much of the gold mineralization within the Selwyn Basin.

Extensive thrust faulting along the entire extent of the Selwyn Basin began during Late Jurassic time, resulting in creation of a compressional regime. Most thrust faults are oriented roughly ESE, dipping to the south-west, subparallel to the overall ESE trend of stratigraphy. This regional lineation has been overprinted by a slightly less pronounced NW-SE lineation, marked by high angle orthogonal faults suggesting the compressional regime was followed by an extensional tectonic regime.

The Tarakan property is underlain by north-northwest trending units of Road River Group chert with minor siltstone interspersed with siltstone members, locally calcareous with calc-silicate alteration, intruded by two small quartz-monzonite stocks. Abundant limestone units occur just to the northwest, and may be intercalated with chert members within the property. A moderately pronounced northwest trending lineation extends across the property, indicated by at least two major fault zones associated with anomalous gold and silver values from rock sampling.

In 1998, several anomalous gold values to 170 ppb Au with highly variable silver values to 35.9 gpt Ag were returned from a 100 metre wide north-west trending fault zone. In 1999, rock and soil sampling focused on the eastern fault canyon area. Two samples of strongly limonitic fractured skarn mineralization, from the major lineament returned 3.30 gpt Au and 1.08 gpt Au respectively, associated with up to 6.0 gpt silver and 480 ppm Bi. Sampling of a broad fault zone just to the north returned consistently elevated silver values to 19.8 gpt Ag, as well as elevated lead and antimony values. Rock and soil sampling across the rest of the eastern area returned weakly anomalous gold values to 62 ppb Au, with locally elevated copper, antimony and arsenic values.

The limestone units to the north-west may host skarn mineralization; one strongly limonitic occurrence within property boundaries was spotted from the air but never visited. The variability in geochemical signatures indicates a multi-pulsed mineralization history covering a large area.

Exploration expenditures in 1998 amounted to \$1,581.

An exploration program consisting of detailed geological mapping, rock chip and grid soil sampling, and silt sampling of neighboring drainages, is recommended for 2000. Exploration shall focus on delineation of the gold showings discovered in 1998 and 1999, and shall also occur across the limestone members in north-western areas. Detailed surface exploration should also extend outside of the property boundaries, to assess potential mineralization in adjacent areas and future land acquisition. If significant mineralization is delineated along or outside property boundaries, further land acquisition should be accomplished.

## CHAPTER 1: INTRODUCTION

### 1.1 Introductory Statement

The Tarakan property consists of 12 contiguous quartz mining claims (Tarakan 1-12 claims) covering a 2.7 by 0.9 kilometre area covering roughly 2.5 square kilometres within NTS Sheets 105 N/01, in the Mayo Mining District (Figures 1, 2).

The August 1999 exploration program involved prospecting, geological mapping and rock sampling.

### 1.2 Location and Access

The Tarakan property is located 120 kilometres north of the town of Ross River, in the Yukon Territory. It is centered at 63 ° 03' North latitude, 132 ° 25' west longitude on NTS Map Sheets 105 N/01 (Figure 1).

Access to the property is via helicopter from Ross River.

### 1.3 Physiography and Vegetation

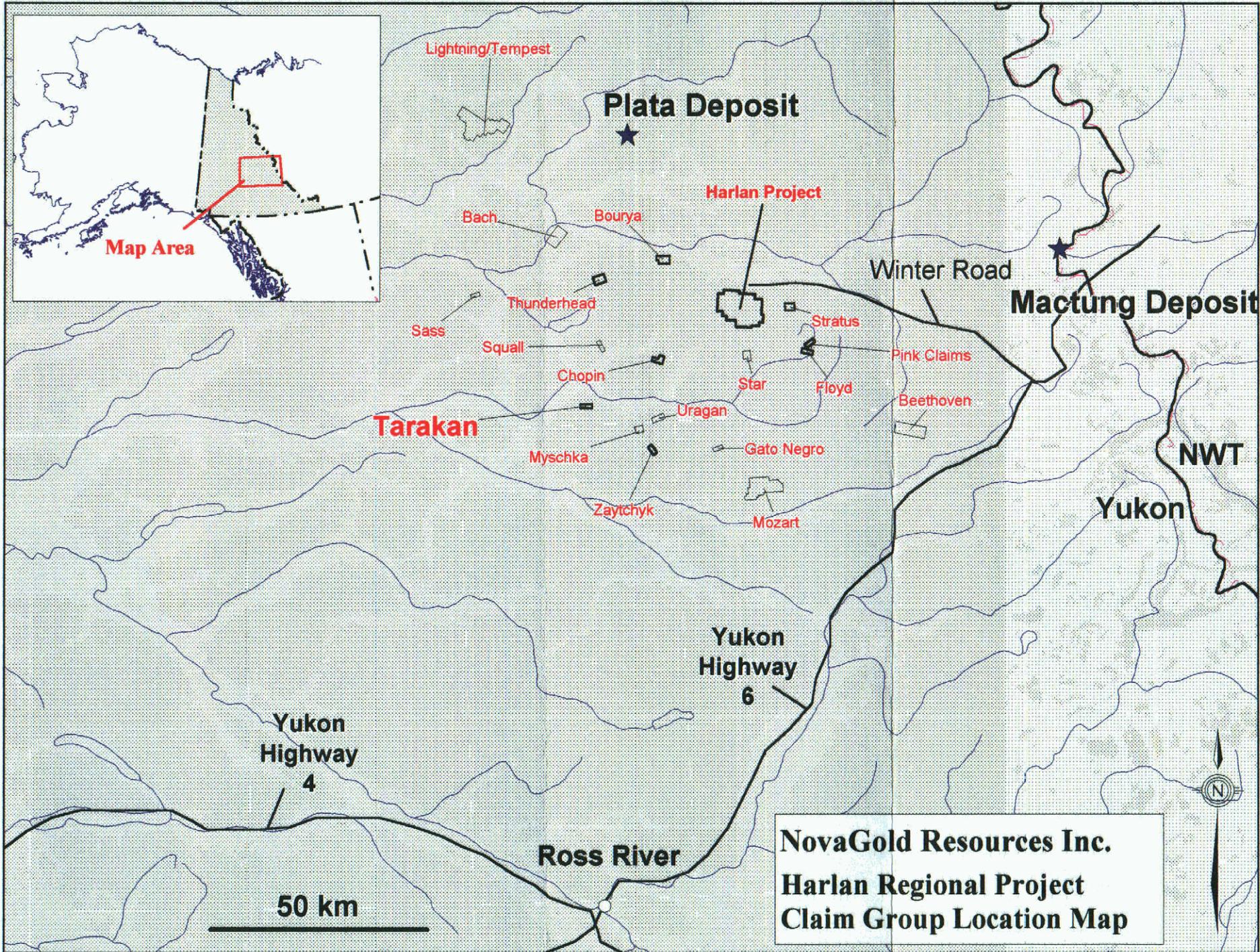
The Tarakan property occurs within steep terrain ranging in elevation from 4,500 to 5,800 feet. The property occurs above tree line, with tundra and alpine meadow cover.

### 1.4 Property Exploration History

No previous exploration has been recognized on the Tarakan property.

Table 1 below lists detailed claim status, including assessment status and expiry dates following the 1998 filing.

<i>Claim Name</i>	<i>Grant No.</i>	<i>Owner</i>	<i>New Expiry date</i>	<i>Work completed By</i>
TARAKAN 1-12	YC01258-01269	NovaGold Resources Inc.	August 19, 2000	NovaGold

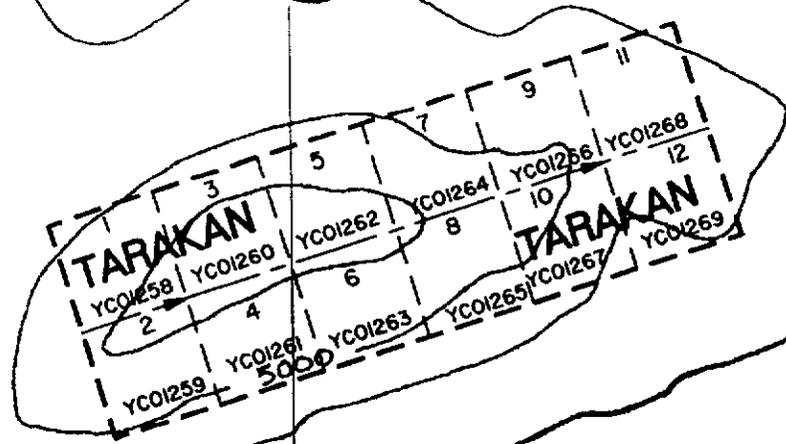


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NovaGold Resources Inc.  
Harlan Regional Project  
Claim Group Location Map

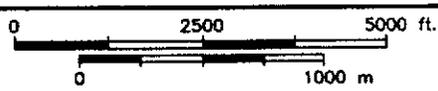


132° 25'



MOUNT  
OSGOODE

63° 00'



Date: Feb. 2000

NTS: 105N/1

NOVAGOLD RESOURCES INC.  
**TARAKAN PROPERTY  
CLAIM MAP**

Fig.  
**2**

## **1.5 Work Program**

During 1999, geological mapping of the property was undertaken, as well as prospecting, rock and soil sampling. A total of 20 rock and two soil samples were collected within the claim boundaries in early August. All sample locations for 1999 are shown on Figure 3.

### **1.5.1 Sample Preparation and Assay Procedure**

Samples taken in 1999 were sent to NAL Laboratories of Whitehorse for gold fire assay analysis, then sent to IPL Laboratories in Vancouver for 30-element ICP analysis. At NAL, samples were pulverized to -100 mesh, then subject to 30 gram fire assay analysis with AA (atomic absorption) finish.

All rock, soil and silt sampling was quantifiably recorded in the field to ensure a high degree of quality control, and entered into standardized spreadsheet programs. Criteria for each sample included: sample type, width of chip sampling, lithology, alteration and mineralization, and "UTM" location. All sample locations have been tied into UTM co-ordinates and have been plotted. A sample database in Microsoft Excel format is included and can be interfaced with Autocad Map or MapInfo software programs.

### **1.5.2 Personnel**

All applicable field assessment work was done by Serguei Soloviev, Geologist. Fireweed Helicopters of Dawson City, Yukon, provided helicopter services.

## CHAPTER 2: GEOLOGY

### 2.1 Regional Geology

The Tarakan property is located within the Selwyn Basin which consists of a broad package of Paleozoic sediments extending ESE from north-west of Dawson City to the Yukon-NWT border north of the major NW-SE trending Tintina Fault Zone. This stratigraphy consists of shallow shelf to off-shelf marine clastic and chemical sediments, as well as basinal clastic sediments derived from the Ancient North American Platform to the north-east. Age of deposition ranges from Late Precambrian to Permian. At least two major episodes of rifting have occurred: the first during deposition of the Late Precambrian Hyland Group sediments (Table 2), and the second during deposition of the Devonian-Mississippian Earn Group sediments. These major rift zones often host poorly sorted coarse clastic sediments, such as debris flows or turbidite horizons. Several episodes of continental uplift have led to periods of increased erosion and resulting continental margin or miogeosynclinal deposition, resulting in the creation of sequences of comparatively high energy, shallow water sediments, often coarsely grained and variably calcareous. These are separated by strata formed under deeper, quieter water conditions, resulting in formation of fine clastic sediments and chert. The Mid-Cretaceous Tombstone-Tungsten Suite (95-89 Ma) has been emplaced within the Selwyn Basin. Intrusives of this suite occur along an ESE trending belt extending for over 500 kilometres from north-west of Dawson City, Yukon to the Yukon-NWT border. Intrusives are believed to control much of the economic gold mineralization within the Selwyn Basin.

Extensive thrust faulting along the entire extent of the Selwyn Basin began during Late Jurassic time, resulting in creation of a compressional regime. Most thrust faults are oriented roughly ESE, dipping to the south-west, subparallel to the overall ESE trend of stratigraphy. Several major regional thrust faults were formed including the Dawson Thrust, Tombstone Thrust, and Robert Service Thrust. This regional lineation has been overprinted by a slightly less pronounced north-west trending lineation, marked by high angle orthogonal faults suggesting the compressional regime was followed by an extensional tectonic regime.

### 2.2 Property Geology

The Tarakan 1-12 Claims are underlain by north-northwest trending units of Road River Group chert with minor siltstone interspersed with siltstone members, locally calcareous with calc-silicate alteration. These have been intruded by at least two small quartz-monzonite stocks, associated with hornfelsing and argillic alteration of sedimentary country rock. Abundant limestone units occur just to the northwest, and may be intercalated with chert members within the property.

A moderately pronounced northwest trending lineation extends across the property, indicated by at least two major fault zones. The western zone, roughly 100 metres wide, extends along a chert-siltstone contact and is associated with anomalous gold and silver values from rock sampling. The eastern lineament occurs as a deep canyon bisecting the highland area, and is associated with increased limonitic staining and abundance of mineral occurrences.

**TABLE 2: TARAKAN AREA STRATIGRAPHIC COLUMN**

(Modified after Gordey and Andersen, 1993)

Age	Group	Formation (Lithology)	Geology Map Designation	Description
Mid-Late Cretaceous (95-89Ma)	Tombstone-Tungsten Plutonic Suite	Diorite through Granite (Most commonly Quartz-Monzonite)	Kqm, Kg, Kdr	Felsic to intermediate, dioritic to granitic intrusives, most commonly monzonitic, quartz monzonitic to quartz dioritic. Frequently quartz-feldspar to feldspar porphyritic within upper emplacement levels and dykes. Tungsten Suite along Yukon - NWT border is now believed to be part of Tombstone Suite.
Ordovician - Early Devonian	Road River Group	<b>Steel Formation</b>	SS (OSDr)	Weakly to moderately calcareous orange weathering mudstone to siltstone, often bioturbated reflecting oxygenated bottom water conditions.
Ordovician - Early Devonian	Road River group	<b>Duo Lake Formation</b>	OSD (OSDr)	Black siliceous shale and chert, minor limestone. Weathers black to bluish white; local tan weathering.
Ordovician - Early Devonian	Road River group	<b>Menzies Creek Formation</b>	Mv	Basalts, andesites; frequently porphyritic and calcareous.
Cambrian - Early Ordovician		<b>Rabbitkettle Formation</b>	Cor	Buff - tan weathering, thin - medium bedded limestone, lesser slate, quartzite, phyllite, limestone, local basalt flows, tuffs, breccias.

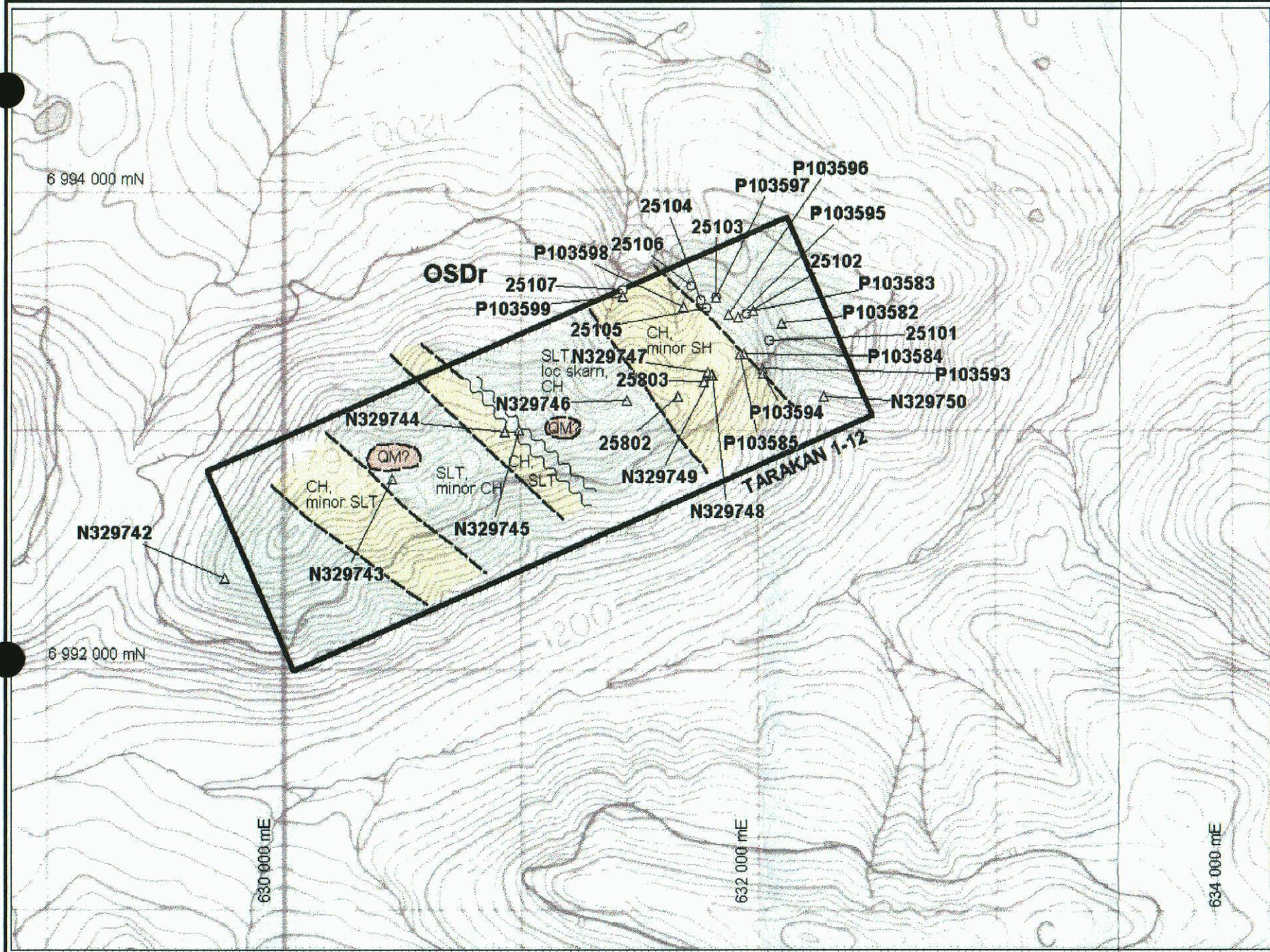
## CHAPTER 3: MINERALIZATION

### 3.1 Property Mineralization

In 1998, several anomalous gold values to 170 ppb Au with highly variable silver values to 35.9 gpt Ag were returned from the western NW trending fault zone. Gold: silver ratios range from 35.9 gpt Ag with background gold values, to values of 160 ppb Au with 8.6 gpt Ag, with all samples showing considerable silver enrichment averaging 19.2 gpt Ag.

In 1999, rock and soil sampling focused on the eastern fault canyon area, with a total of 22 rock and 7 soil samples taken within or just outside property boundaries. Two samples taken at an occurrence of strongly limonitic fractured skarn mineralization, locally decrepitated, within the major lineament returned 3.30 gpt Au and 1.08 gpt Au respectively. Gold is associated with up to 6.0 gpt Ag, 382 ppm Cu, 0.10% Zn and 480 ppm Bi. Sampling of a broad fault zone just to the north returned background gold values but consistently elevated silver values to 19.8 gpt Ag, lead values to 0.60% and antimony values to 21 ppm Sb. Rock and soil sampling across the rest of the eastern area returned weakly anomalous gold values to 62 ppb Au, with locally elevated copper, antimony and arsenic values. Sampling elsewhere returned background gold and pathfinder element values.

The limestone units to the north-west may host skarn mineralization; one strongly limonitic occurrence within property boundaries was spotted from the air but never visited. The variability in geochemical signatures indicates a multi-pulsed mineralization history covering a large area. Outcrop and rubblecrop are abundant resulting in comparative ease of surface exploration.



LEGEND

- MESOZOIC
- CRETACEOUS - TOMBSTONE PLUTONIC SUITE (Kqm)
    - Quartz monzonite (QM)
    - Quartz-feldspar porphyry (QFP), Diorite (Dr)
- PALEOZOIC
- DEVONIAN to MISSISSIPPIAN - EARN GROUP (Dme)
    - Thin bedded phyllite (Phy), commonly graphitic (GPhy), calcareous siltstone (Sl), sandstone (SST) and shale (SH)
    - Phyllite, siliceous shale, siltstone.
    - Chert pebble conglomerate (CPC), greywacke (GW)
  - ORDOVICIAN to EARLY DEVONIAN - ROAD RIVER GROUP (OSDr)
    - STEEL FORMATION - Orange weathering, grey-green mudstone (Mst) to siltstone.
    - DUO LAKE FORMATION - Chert, minor black shale, siltstone, argillite (ARG)
    - DUO LAKE FORMATION - Shale, siltstone, chert.
    - MENZIE CREEK FORMATION (Mv) - Andesita (And), basalt (Ba), often vesicular, calcareous.
  - PROTEROZOIC
    - LATE HADRYNIAN - EARLY CAMBRIAN
    - HYLAND GROUP (PrCh), YUSEZYU FORMATION
      - Grey limestone to silty limestone.
      - Phyllite, loc calcareous, argillite (ARG), shale, siltstone.
      - "Grit" units; coarse clastic sediments, including quartz pebble conglomerate (QPC), quartzite (QZTE), sandstone.
- SYMBOLS
- Strike and dip of bedding
  - Strike and dip of foliation
  - Area of outcrop or rubble
  - Geologic contact
  - Limit of alteration zone
  - Fault
  - Thrust fault (inferred), teeth indicate dip direction
  - Cliff
  - Soil traverse line
  - Silt sample
  - Soil sample
  - Rock sample

094075

NOVAGOLD RESOURCES INC.

TARAKAN CLAIMS  
SAMPLE LOCATION AND  
GEOLOGY MAP

DRAWN BY: CS, GJ	DATE: FEB 2000	NTS: 105N/1
UTM, NAD27, ZONE 8	SCALE: ~ 1:20,000	FIGURE NO:

## CHAPTER 4: CONCLUSIONS

The Tarakan property, consisting of the Tarakan 1-12 claims located in Central Yukon on NTS sheet 105N/1, was staked in 1998 to cover several newly recognized auriferous skarn and replacement-style occurrences.

The Tarakan property is located within the Paleozoic Selwyn Basin, which consists of a broad package of Paleozoic sediments extending ESE from north-west of Dawson City to the Yukon-NWT border north of the major NW-SE trending Tintina Fault Zone. This stratigraphy consists of shallow shelf to off-shelf marine clastic and chemical sediments, as well as basinal clastic sediments derived from the Ancient North American Platform to the north-east. Several episodes of continental uplift have led to periods of increased erosion and resulting continental margin or miogeosynclinal deposition, resulting in formation of comparatively high energy, shallow water sediments, often coarsely grained and variably calcareous. These are separated by strata formed under deeper, quieter water conditions, resulting in formation of fine clastic sediments and chert. The Mid-Cretaceous Tombstone-Tungsten Suite (95-89 Ma) has been emplaced within the Selwyn Basin. Members of this suite occur along an ESE trending belt extending for over 500 kilometres from north-west of Dawson City, Yukon to the Yukon-NWT border. Tombstone Suite intrusives are believed to control much of the economic gold mineralization within the Selwyn Basin.

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The Tarakan property is underlain by north-northwest trending units of Road River Group chert with minor siltstone interspersed with siltstone members, locally calcareous with calc-silicate alteration intruded by two small quartz-monzonite stocks. Abundant limestone units occur just to the northwest, and may be intercalated with chert members within the property. A moderately pronounced northwest trending lineation extends across the property, indicated by at least two major fault zones. The western zone, roughly 100 metres wide, extends along a chert-siltstone contact; the eastern lineament occurs as a deep canyon bisecting the highland area, and is associated with increased limonitic staining and abundance of mineral occurrences.

In 1998, several anomalous gold values to 170 ppb Au with highly variable silver values to 35.9 gpt Ag were returned from a 100 metre wide north-west trending fault zone. In 1999, rock and soil sampling focused on the eastern fault canyon area. Two samples taken at an occurrence of strongly limonitic fractured locally decrepitated skarn mineralization within the major lineament returned 3.30 gpt Au and 1.08 gpt Au respectively. Gold is associated with up to 6.0 gpt silver and 480 ppm Bi. Sampling of a broad fault zone just to the north returned background gold values but consistently elevated silver values to 19.8 gpt Ag, as well as lead and antimony values. Rock and soil sampling across the rest of the eastern area returned weakly anomalous gold values to 62 ppb Au, with locally elevated copper, antimony and arsenic values. Sampling elsewhere returned background gold and pathfinder element values.

The limestone units to the north-west may host skarn mineralization; one strongly limonitic occurrence within property boundaries was spotted from the air but never visited. The variability in geochemical signatures indicates a multi-pulsed mineralization history covering a large area.

## CHAPTER 5: RECOMMENDATIONS

An exploration program consisting of detailed geological mapping, rock and grid soil sampling, and silt sampling of neighboring drainages, is recommended for 2000. Exploration shall focus on delineation of the gold showings discovered in 1998 and 1999, particularly along the eastern fault canyon. Exploration shall also occur across the limestone members in north-western areas, focusing on areas of potential calc-silicate alteration. Chip sampling and possible hand trenching are recommended to determine gold grades across width, and to assess whether viable targets for advanced exploration exist on the property.

Detailed surface exploration should also extend outside of the property boundaries, to assess potential mineralization in adjacent areas and future land acquisition. If significant mineralization is delineated along or outside property boundaries, further land acquisition should be accomplished.

## **BIBLIOGRAPHY**

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Schulze, C, 1997: Yukon Regional Project, 1997 Progress Report; In-house Report, Viceroy Exploration (Canada), Inc.

Schulze, C. 1998: Yukon regional Report, 1998 Progress Report; In-house report, Viceroy Exploration (Canada) Inc.

## STATEMENT OF QUALIFICATIONS

I, Carl Schulze, of the City of Whitehorse, Yukon Territory, Canada, do hereby certify that:

- 1) I held the position of Project Geologist with NovaGold Resources Inc. during the 1999 exploration program, and currently act as NovaGold's agent for its Yukon-based projects.
- 2) I graduated from Lakehead University with a Bachelor of Science Degree in Geology in 1984.
- 3) I have been continually active in mineral exploration since 1984.
- 4) I personally supervised and participated in the 1999 field program.
- 5) I am immediate past-president of the Yukon Chamber of Mines and a member of the Yukon Prospector's Association.



Carl Schulze, Geologist  
Wolf Star Resources

**APPENDIX 1**

**APPLICABLE EXPENDITURES FOR ASSESSMENT CREDITS**

<b>Tarakan Property Expenditures</b>	
<b>Description</b>	<b>Expenditure</b>
Labor	600
Helicopter	315
Geochemical Analyses	416
Report Writing	250
<b>Total</b>	<b>1,581</b>

## APPENDIX 2: ROCK SAMPLE GEOCHEMICAL RESULTS

### 2a) ROCK SAMPLE DESCRIPTION SHEET

Sample No.	Easting	Northing	Traverse	Zone	Sample Type	Width (m)	Sample Descr.	Form.	Lithology	Modifer	Colour	Carb. Presence	Silification	Argillic Alt.	Potassic Alt.	Phylic Alt.	Limonite	Mineral #1	Amount %	Mineral #2	Amnt %	Other Mineral	Amnt %	Date	Sampler	Comments
25802	631662	6993148		B			OSDr	str	laminated								mod						16/8/99	GSJ	Altered silstones, FeOx after sulphides	
25803	631769	6993208		B			Kqm	Dyke	Dyke				S2			Phz		py	2	As		1	16/8/99	GSJ	Altered Lgr. dacitic dyke	
N329742	629752	6992386		B	CG		Ta	CH	frac	grey			A1				weak	py	3				1/8/99	SS	scor spots ?	
N329743	630456	6992802		B	CG		Ta	CH	bruc	tan			S1		A2		str	hem	20				1/8/99	SS	bank zone	
N329744	630930	6992999		B	CG		Ta	SR	bedded	green	Cl						mod	po	5				1/8/99	SS	altered slum	
N329745	630990	6993008		B	CG		Ta	SR	bedded	green	Cl						mod	po	5				1/8/99	SS	altered slum	
N329746	631447	6993134		B	CG		Ta	SR	bedded	green	Cl						mod	po	5				1/8/99	SS	altered slum	
N329747	631788	6993251		B	CG		Oc	CH	bruc	yellow			S3		A1		weak						1/8/99	SS	QTZ veins with Liu hole	
N329748	631808	6993237		B	CG		Oc	CH	bruc	yellow			S3		A1		weak						1/8/99	SS	QTZ veins with Liu hole	
N329749	631803	6993236		B	CG		Oc	CH	bruc	yellow			S3		A1		weak						1/8/99	SS	QTZ veins with Liu hole	
N329750	632279	6993148		B	CG		Ta	CH	bruc	grey			A1				mod	scor	10				1/8/99	SS	Brecciation (bank) zone	
P103582	632103	6993456		B	CG		Ta	CH	bruc	grey			A1				mod	scor	10				1/8/99	SS	Brecciation (bank) zone	
P103583	631981	6993505		B	CG		Ta	CH	bruc	grey			A1				mod	scor	10				1/8/99	SS	Brecciation (bank) zone	
P103584	631939	6993324		B	G		Ta	SR	massive	tan							str	po	60	py	5	hemite	10	1/8/99	SS	slum boulder 30x50 cm
P103585	631925	6993324		B	CG		Rb	CH	frac	green			S1		A1		mod	spy	10	scor	10		1/8/99	SS	strong spy/scor veining in slum/cherts	
P103595	632019	6993267		B	CG		Oc	CH	frac	tan/yel			S1		A1		str	spy	10	scor	10		3/8/99	SS	strong spy/scor veining in slum/cherts	
P103594	632019	6993247		B	CG		Ta	CH	bruc	tan			S1				str						3/8/99	SS	looks like soil (decrep. sulphidic slum)	
P103596	631913	6993477		B	CG		Ta	CH	frac	tan			S2				mod	py	5	py	5	scor	3	3/8/99	SS	py veinlets (arsenic py ?)
P103597	631877	6993489		B	CG		Ta	CH	frac	tan			S2				mod	py	3	py	2	scor	3	3/8/99	SS	py veinlets (arsenic py ?)
P103597	631823	6993561		B	CG		Ta	CH	frac	tan			S2		A1		mod	py	3	py	2	scor	3	3/8/99	SS	py veinlets (arsenic py ?)
P103598	631683	6993333		B	CG		Rb	CH	frac	tan			S1		A1		mod	py	10	scor	5			3/8/99	SS	py veinlets (arsenic py ?)
P103599	631433	6993566		B	CG		Rb	CH	frac	tan			S1				mod							3/8/99	SS	py veinlets (arsenic py ?)

## 2b) ROCK SAMPLE GEOCHEMICAL RESULTS

Sample No.	As	Ag	Cu	Pb	Zn	As	Sb	Hg	Mn	Ti	Bi	Cd	Co	Ni	Ba	W	Cr	V	Mn	La	Sr	Zr	Sc	Tl	Al	Ca	Fe	Mg	K	Na	P
	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
25802	23	<0.1	31	7	18	492	<5	<5	2	<10	<2	<0.1	9	19	88	<5	195	15	149	6	152	2	2	0.05	2.94	1.95	1.4	0.34	0.07	0.16	0.01
25803	<5	<0.1	34	3	39	17	<5	<5	1	<10	<2	<0.1	5	17	240	<5	39	9	129	21	19	11	1	0.01	1.09	0.64	1.19	0.26	0.4	0.04	0.02
N329742	<5	0.1	17	3	61	10	<5	<5	9	<10	<2	<0.1	3	23	61	<5	79	101	29	<2	25	4	1	0.02	0.39	0.05	2.56	0.02	0.15	0.02	0.03
N329743	<5	<0.1	101	21	392	33	<5	<5	1	<10	<2	<0.1	7	51	585	<5	96	29	360	6	12	4	2	<0.01	0.53	0.1	10.42	0.02	0.06	0.01	0.11
N329744	<5	<0.1	35	18	70	73	<5	<5	1	<10	<2	<0.1	16	39	144	10	118	63	793	11	18	7	6	0.21	3.08	0.08	4.58	1.07	1.27	0.07	0.01
N329745	<5	1.5	421	34	17	751	<5	<5	1	<10	<2	<0.1	3	6	36	18	163	9	97	2	8	2	1	0.02	0.43	0.27	3.95	0.11	0.02	0.01	0.01
N329746	<5	<0.1	37	18	78	111	<5	<5	2	<10	<2	<0.1	14	42	53	<5	96	59	736	7	148	9	5	0.05	3.96	0.95	3.2	1.33	0.65	0.28	0.07
N329747	37	0.1	45	5	42	44	<5	<5	<1	<10	<2	<0.1	3	9	309	<5	128	12	65	2	17	3	1	0.03	0.32	0.15	1.88	0.94	0.02	0.02	0.02
N329748	27	<0.1	145	11	96	25	<5	<5	<1	<10	<2	<0.1	14	42	53	<5	96	12	64	<2	4	2	1	0.02	0.18	0.04	2	0.02	0.02	0.01	0.01
N329749	<5	<0.1	52	8	53	19	<5	<5	<1	<10	<2	<0.1	3	9	324	<5	80	10	77	11	10	7	1	0.01	0.47	0.04	1.58	0.13	0.15	0.02	0.01
N329750	13	4.5	40	1461	140	156	14	<5	2	<10	<2	<0.1	1	8	574	<5	116	23	21	8	10	4	2	<0.01	0.19	0.01	2.77	0.01	0.09	0.01	0.06
F103582	5	7.6	63	2634	130	82	12	<5	2	<10	<2	<0.1	1	8	214	5	102	26	50	11	16	5	2	<0.01	0.32	0.04	2.59	0.96	0.1	0.01	0.07
F103583	<5	19.8	73	5978	423	29	21	<5	2	<10	<2	<0.1	3	16	111	<5	116	91	519	9	3	7	3	<0.01	1.34	0.03	4.53	0.8	0.08	0.01	0.04
F103584	<5	19.8	73	5978	423	29	21	<5	2	<10	<2	<0.1	3	16	111	<5	116	91	519	9	3	7	3	<0.01	1.34	0.03	4.53	0.8	0.08	0.01	0.04
F103585	62	2.4	2193	53	181	<5	<5	<5	<1	<10	<2	<0.1	31	43	58	<5	54	63	128	<2	6	15	1	0.02	0.56	0.13	20.06	0.57	0.2	0.01	0.09
F103586	13	1.4	328	33	187	13674	<5	<5	35	<10	<2	6.7	21	21	52	<5	115	28	72	2	35	4	3	0.04	1.36	0.1	5.19	0.12	0.32	0.04	0.03
F103593	2396	3.4	164	9	1038	58	<5	<5	35	<10	480	18.2	4	10	721	<5	127	18	65	2	71	2	1	0.02	1.31	0.25	2.48	0.06	0.12	0.03	0.04
F103894	1076	6	382	41	147	<5	<5	<5	<1	<10	165	<0.1	7	28	27	16	61	41	40	<2	7	9	<1	0.04	0.17	8.06	16.41	0.02	0.08	0.02	0.08
F103895	56	1.2	111	13	71	614	<5	<5	3	<10	3	<0.1	6	21	34	<5	60	45	499	3	34	3	2	0.05	1.53	0.68	5.16	0.98	0.05	0.03	0.05
F103896	16	0.3	149	16	349	76	7	<5	3	<10	<2	1.5	9	20	185	<5	62	24	403	4	64	3	3	0.04	1.93	0.36	3.82	2.19	0.08	0.02	0.04
F103597	8	<0.1	151	10	149	84	<5	<5	4	<10	<2	<0.1	12	52	53	<5	124	88	192	6	245	5	5	0.05	3.47	2.14	3.72	0.75	0.07	0.09	0.17
F103598	7	<0.1	80	12	183	42	<5	<5	14	<10	<2	<0.1	20	92	26	<5	83	57	323	8	30	4	4	0.03	2.07	0.31	3.5	0.99	0.47	0.06	0.03
F103599	6	0.1	70	10	20	52	5	<5	6	<10	<2	<0.1	4	9	7025	<5	95	28	97	7	60	5	4	<0.01	1.43	0.01	1.55	0.44	0.25	0.04	0.01

## APPENDIX 3: SOIL SAMPLE GEOCHEMICAL RESULTS

### 3a) SOIL SAMPLE DESCRIPTION SHEET

Sample No.	Easting	Northing	Traverse	Zone	Horizon	Depth (cm)	Slope Angle	Colour	Permeability (cm/hr?)	% Course Fragments	Vegetation	Surficial Geology	Frag. Lithology	% Organics	Date	Sampler	Comments
25101	632049	6993381		8	C	40	L	grey	N	5	SF		CH	5	3/8/99	SS	strong py/assy in surround CH/skams
25102	631841	6993493		8	BC	20	ST	black	N	15	PDNE		CH	10	3/8/99	SS	strong py/assy in surround CH/skams
25103	631825	6993561		8	BC	20	ST	brown	N	15	SF		CH	5	3/8/99	SS	strong py/assy in surround CH/skams
25104	631757	6993551		8	BC	20	ST	brown	N	15	SF		CH	10	3/8/99	SS	strong py/assy in surround CH/skams
25105	631782	6993517		8	BC	20	ST	brown	N	5	SF		CH	5	3/8/99	SS	strong py/assy in surround CH/skams
25106	631717	6993613		8	BC	20	ST	brown	N	5	SF		CH	10	3/8/99	SS	strong py/assy in surround CH/skams
25107	631433	6993596		8	BC	20	ST	grey	N	5	SF		CH	5	3/8/99	SS	strong py/assy in surround CH/skams

3b) SOIL SAMPLE DESCRIPTION SHEET

Sample No.	An	Ag	Cu	Pb	Zn	As	Sb	Hg	Mo	Tl	Bi	Cd	Co	Ni	Ba	W	Cr	V	Mn	La	Sr	Zr	Se	Tl	Al	Ca	Fe	Mg	K	Na	P
	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%										
25101	<5	0.1	10	5	35	14	<3	<3	1	<10	<2	<0.1	2	3	64	<5	1	12	41	2	12	2	1	0.01	0.22	0.3	0.36	0.05	0.03	0.05	0.04
25102	28	0.1	69	25	147	86	18	<3	49	<10	<2	<0.1	4	30	1018	<5	18	71	193	11	29	1	1	0.01	1.19	0.52	3.89	0.19	0.1	0.03	0.02
25103	19	0.8	272	31	307	174	31	<3	11	<10	<2	<0.1	11	60	194	<5	39	77	441	13	33	3	0	0.03	2.14	0.64	6.83	0.81	0.18	0.04	0.13
25104	11	0.3	38	19	48	123	9	<3	5	<10	<2	<0.1	3	13	321	<5	9	48	100	4	13	1	1	0.03	0.68	0.05	2.15	0.08	0.04	0.03	0.05
25105	8	0.1	63	23	129	98	6	<3	14	<10	<2	<0.1	7	22	894	<5	17	72	217	8	16	1	1	0.04	1.57	0.08	3.55	0.25	0.07	0.04	0.06
25106	9	0.1	10	<2	13	7	<5	<3	<1	<10	<2	<0.1	3	3	120	<5	3	25	36	<2	10	1	<1	0.02	0.26	0.05	0.76	0.03	0.03	0.05	0.03
25107	9	6.1	2	3	7	<5	<5	<3	<1	<10	<2	<0.1	2	<1	43	<5	1	16	21	<2	6	<1	<1	0.01	0.1	0.04	0.42	0.02	0.02	0.04	0.01