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1998

ASSESSMENT REPORT

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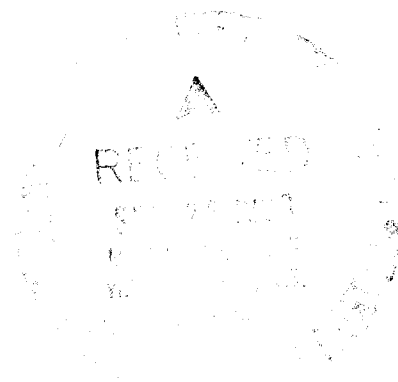
SWIFT RIVER PROPERTY, YUKON TERRITORY

Birch Mountain Resources Ltd.

By

Glen De Paoli, P.Geol.

September 23, 1998



OWNER: First Yukon Silver Resources Inc.
and Birch Mountain Resources Ltd.

OPERATOR: Birch Mountain Resources Ltd.

NTS : 105 B / 3. 60° 10' north, 131° 10' west

Watson Lake Mining District
Yukon Territory

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 \$ 15,200.00.

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

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I. Introduction

This report describes the 1998 field work conducted by Birch Mountain Resources Ltd. on the Swift River Property, in south-central Yukon (see Figure 1). The property is located adjacent to the Alaska Highway 130 kilometers west of Watson Lake, Yukon Territory, at latitude 60° 10' North, longitude 131° 10' West. There is good access by gravel road from the Alaska Highway as well as by air via the Pine Lake Airstrip.

The work described in this report took place during July 1998, and included prospecting, geological sampling, and geological mapping. Work conducted on the PINE, SNO, STRATA, SAM, and RAM claims has been filed with the mining recorder in Watson Lake. Additional work took place on the MINE, KEY, PARK, DAN, LAKE, and M claims. A list of all claims is given in Table 1. Figure 2 is a map of all claims.

In this report, claim names are given in CAPITALS, showing names are given in **bold**.

II. Previous Work

Initial exploration by Hudson Bay Mining and Smelting Co. (HBMS) in the Swift River area led to the discovery of the **Dan** Showing in 1946. Geological mapping, ground geophysical surveys, trenching and diamond drilling were done by HBMS in the **Dan** area from 1952 to 1964.

The area was re-staked in 1966 and optioned to Boswell River Mines Ltd. (BRML). Between 1967 and 1971, BRML conducted ground and airborne geophysical surveys, trenching, soil geochemistry, and drilled 2 diamond drill holes.

In 1978, AMAX Potash Ltd. acquired the STQ property by option from Bath Investments Ltd. The STQ property covered the southwestern part of the present Swift River Property including the STRATA and MINE claims. Exploration by AMAX on this property was directed towards Sn-W-Mo prospects associated with two quartz monzonite plugs and consisted of ground magnetic and IP surveys, soil geochemistry, geological mapping and one diamond drill hole.

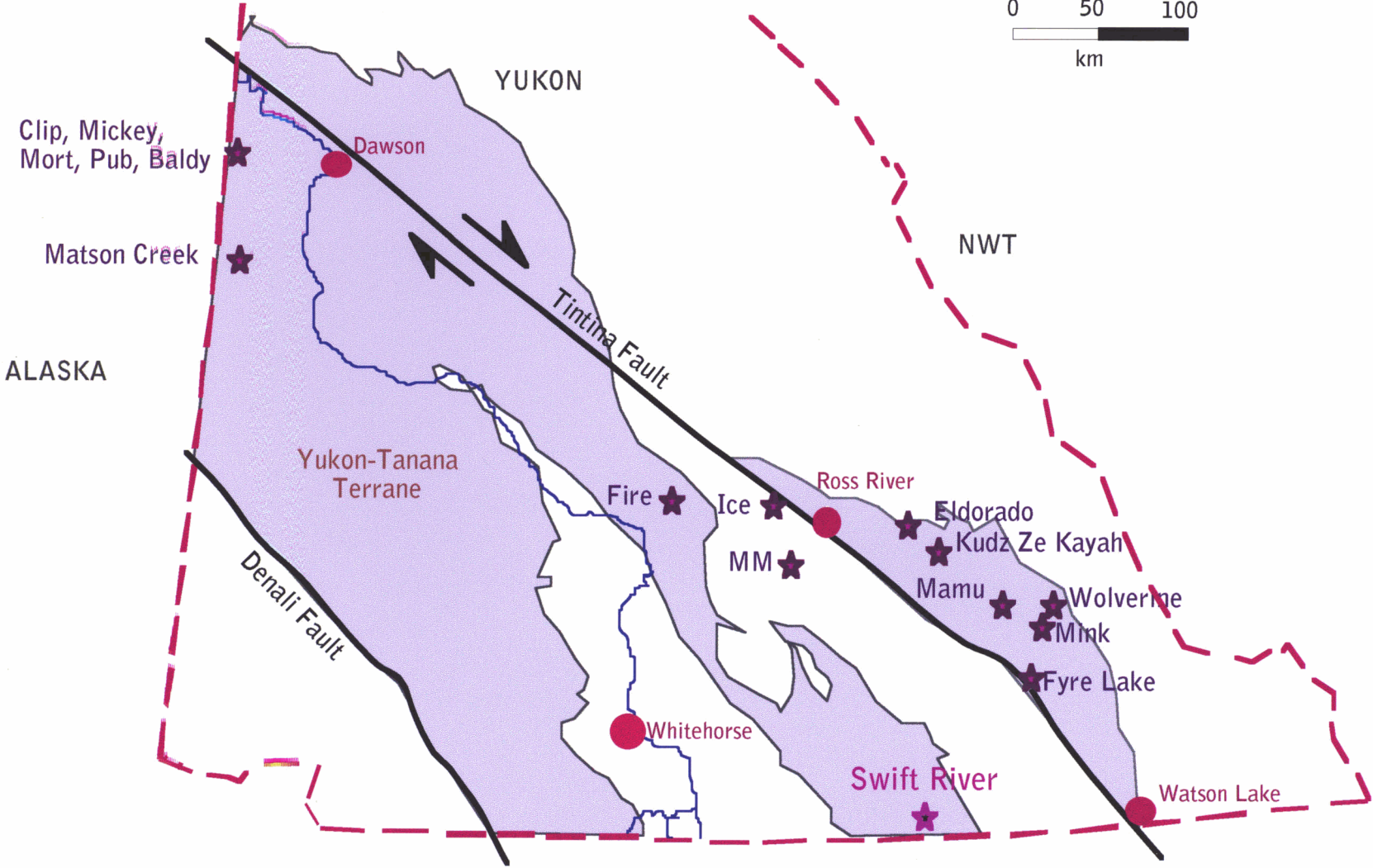
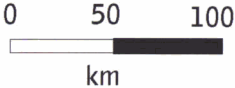
In 1987 the **Dan –Crescent Lake** area was staked by First Yukon Silver Resources Inc.(FYSR). FYSR explored the property with road building, trenching, geochemistry and geological mapping. The work resulted in the discovery of a large area of sphalerite mineralized float in the **Gossan Hill** area and the **Lucy** copper-zinc showing.

In 1992 Cominco Ltd. optioned the property from FYSR and in 1993 conducted an exploration program of line cutting, geological mapping, ground EM and magnetometer surveys, geochemistry and diamond drilling. The option was later abandoned by Cominco.

In 1996 Birch Mountain Resources Ltd. entered into an option agreement with First Yukon Silver Resources Inc. Birch Mountain Resources Ltd. conducted a program of geophysics, geological mapping, trenching, and diamond drilling during the summer of 1997.

The Swift River area has previously been explored primarily as a skarn system, based on the calc-silicate host rocks of most of the mineralized showings. Birch Mountain Resource's work during 1997 and 1998 has confirmed that the numerous strata-bound showings are best understood as syn-sedimentary exhalative deposits with a significant regional and contact metamorphic overprint.

Figure 1: Swift River Location Map



☆☆ Location of Yukon-Tanana Terrane mineral deposit

Table 1 : Swift River Property Claim List

Claims covered in this report are underlined.

Claim Name				Grant No.			Owner
Dan	1	to	64	YB14428	to	YB14491	First Yukon Silver Resources Inc
Dan	65	to	122	YB14494	to	YB14551	First Yukon Silver Resources Inc
Key	1	to	30	YB09486	to	YB09515	First Yukon Silver Resources Inc
Key	31	to	34	YB14161	to	YB14164	First Yukon Silver Resources Inc
Lake	1	to	10	YB09580	to	YB09589	First Yukon Silver Resources Inc
Lake	27	to	36	YB09606	to	YB09615	First Yukon Silver Resources Inc
M	1	to	14	YB15913	to	YB15926	First Yukon Silver Resources Inc
M	15	to	18	YB15735	to	YB15738	First Yukon Silver Resources Inc
M	19	to	64	YB15927	to	YB15972	First Yukon Silver Resources Inc
Mine	1	to	40	YB16066	to	YB16105	First Yukon Silver Resources Inc
Park	1	to	64	YB09516	to	YB09579	First Yukon Silver Resources Inc
Sam	1	to	20	YB15973	to	YB15992	First Yukon Silver Resources Inc
Sam	21	to	40	YB33648	to	YB33667	First Yukon Silver Resources Inc
Sam	41	to	64	YB16013	to	YB16036	First Yukon Silver Resources Inc
<u>Sam</u>	<u>65</u>	<u>to</u>	<u>84</u>	<u>YB33668</u>	<u>to</u>	<u>YB33687</u>	<u>First Yukon Silver Resources Inc</u>
Sam	85	to	86	YB16057	to	YB16058	First Yukon Silver Resources Inc
<u>Sno</u>	<u>1</u>	<u>to</u>	<u>16</u>	<u>YB63970</u>	<u>to</u>	<u>YB63985</u>	<u>First Yukon Silver Resources Inc</u>
<u>Sno</u>	<u>19</u>	<u>to</u>	<u>30</u>	<u>YB63986</u>	<u>to</u>	<u>YB63997</u>	<u>First Yukon Silver Resources Inc</u>
<u>Strata</u>	<u>1</u>	<u>to</u>	<u>23</u>	<u>YB15595</u>	<u>to</u>	<u>YB15617</u>	<u>First Yukon Silver Resources Inc</u>
Strata	24	to	42	YB16106	to	YB16124	First Yukon Silver Resources Inc
Kill	1	to	51	YB89061	to	YB89111	Birch Mountain Resources Ltd.
Road	1	to	27	YB89034	to	YB89060	Birch Mountain Resources Ltd.
<u>Ram</u>	<u>1</u>	<u>to</u>	<u>64</u>	<u>YB89735</u>	<u>to</u>	<u>YB89798</u>	<u>Birch Mountain Resources Ltd.</u>
Ram	65	to	152	YB90649	to	YB90734	Birch Mountain Resources Ltd.
Rhy	1	to	16	YB90736	to	YB90750	Birch Mountain Resources Ltd.
Rhy	27	to	42	YB90751	to	YB90766	Birch Mountain Resources Ltd.
Rhy	53	to	68	YB90767	to	YB90782	Birch Mountain Resources Ltd.
Rhy	79	to	94	YB90783	to	YB90798	Birch Mountain Resources Ltd.
<u>Pine</u>	<u>1</u>	<u>to</u>	<u>44</u>	<u>YB89799</u>	<u>to</u>	<u>YB89842</u>	<u>Birch Mountain Resources Ltd.</u>

III. Regional Geology

Mineralization at Swift River is hosted in a belt of interbedded clastic and volcanic rocks which have been intruded by several felsic bodies. The sediments are believed to be Cambrian to Mississippian in age and the intrusions of various Mesozoic ages. The rocks have been subject to at least two periods of regional metamorphism/deformation and between one and three episodes of contact metamorphism (Walker, 1998). Regional strike is WNW with steep dips to the SW (Figure 3).

The Swift River belt is interpreted to be part of the Yukon-Tanana Terrane which hosts numerous recently discovered volcanogenic massive sulphide deposits such as Kudz Ze Kayah (Cominco), Wolverine (Westmin), Fyre Lake (Columbia Gold) and Wolf (Atna) (Figure 1). The Yukon-Tanana Terrane is an allochthonous assemblage of sediments, volcanics, and intrusives viewed as a continental margin arc of Late Devonian to Early Jurassic construction that docked with the North American Continental Margin in the Late Triassic to Early Jurassic (Mortensen and Jilson, 1985; Mortensen, 1992).

IV. Property Geology

The geology of the Swift River Property can be divided into a northeast and a southwest package of rocks. The northeast package hosts the main mineralized showings including the **Dan, Discovery, Lucy, Lower Crescent Lake, Middle Crescent Lake, Upper Crescent Lake, and Gossan Hill** showings. The southwest package hosts the **Mod, Rusty Valley, Brett, and Munson** showings.

The stratigraphic sequence of the northeast package of rocks includes (in ascending stratigraphic order): a) dark grey to black siliceous argillite, phyllite, and siltstone with disseminated pyrrhotite (map unit 1); b) grey to white marble with phyllitic interbeds (observed only near the **Dan** and **Lucy** showings, map unit 2); c) green to brown laminated and sheared calc-silicate rocks interpreted to be metamorphosed interbedded fine grained clastic and volcanic sediments (map unit 3a); d) light grey to white sericitic schist interpreted to be metamorphosed rhyolitic tuff (map unit 3b); and e) an upper calc-silicate unit similar to unit c (map unit 3c). To the northeast the base of this sequence is the large Cassiar Batholith (quartz monzonite, map unit 6), and to the southwest the top of this sequence is a diorite sill (map unit 5). A third intrusive body, a small quartz monzonite plug, is poorly exposed along the creek draining Mod Lakes (map unit 7).

The geology of the southwest package of rocks (map unit 4) is not well documented but includes grey to black argillite and phyllite, limestone/marble, sericitic and chloritic schists, and conglomerate. The Seagull Batholith (Alaskite and quartz monzonite) outcrops 2 km to the southwest of the **Rusty Valley/Brett** showings. It is possible the southwest package of rocks is a faulted or folded repeat of the northeast package.

V. Mineralized Showings

The mineralization on the Swift River Property is found as strata-bound Zn, Cu, Pb, Ag, and Au showings along a series of stratigraphic horizons. Mineralization occurs as well laminated to massive sulphide pods which are likely boudins of previously continuous sulphide beds. The mineralized horizons are described below in order from northeast to southwest, which is also stratigraphically from lowest to highest (Figure 3).

The lowest horizon is located at the base of the sericitic schist (map unit 3b) and includes the **Discovery, Dan, Paul, Lucy, Gossan Hill, and Lower Crescent Lake** showings. The mineralization along this horizon is primarily sphalerite, with lesser chalcopyrite, along with pyrrhotite and magnetite hosted in calc-silicate hornfels.

The **Lost and Middle Crescent Lake** showings both occur within the sericite schist and may be from the same stratigraphic horizon. Mineralization is primarily sphalerite in disseminated sulphides.

Another mineralized horizon is found at the top of the sericite schist and includes the **Upper Crescent Lake** showing. Mineralization here is sphalerite, with lesser chalcopyrite, galena, and silver, along with pyrrhotite and magnetite in calc-silicate hornfels host rocks.

Approximately 1.3 km to the southwest of the southern contact of the diorite sill there are a series of seven separate mineralized showing mapped on the northwest side of the creek draining Mod Lakes by AMAX Potash Ltd. in 1978 ("**Unnamed** showing" on Figure 3). The showings are along the contact between "siltstone" (likely a rhyolitic schist) and argillite. No other information on this horizon is available.

The **Mod** and **Munson** showings represent another mineralized horizon. Mineralization includes sphalerite and galena, along with significant silver and gold, in laminated pyrrhotite. A limestone/marble unit is mapped along strike on the ridge between the showings as well as east of the **Mod** showing.

Two mineralized horizons have been identified in the southernmost part of the property area on the STRATA Claims. The **Rusty Valley** showing is significant zinc mineralization intersected by Boswell River Mines Ltd. in two drill holes in the valley bottom. A second showing, the **Brett** showing, was discovered in 1998 approximately 230 meters stratigraphically above and to the south of the **Rusty Valley** showing. The **Brett** showing is a small gossanous outcrop of sphalerite and galena mineralization with associated marble and massive garnet hornfels.

VI. 1998 Exploration Work

The work conducted by Birch Mountain Resources Ltd. on the Swift River Property in 1998 took place in July, and consisted of a program of prospecting, geological sampling and geological mapping. Work conducted on the PINE, SNO, STRATA, SAM, and RAM has been filed with the mining recorder in Watson Lake. Additional work took place on the MINE, KEY, PARK, DAN, LAKE, and M claims. A list of all claims is given in Table 1. Figure 2 is a map of all claims.

The project was supervised by Glen R. De Paoli, P. Geol.. The field crew included Glen De Paoli, Jon Thorson, Brett Johnson, and Kyla Arden. Walker's Continental Divide Lodge at historic mile 721 of the Alaska Highway was used as a base of operations.

A total of 172 rock samples and 6 stream sediment samples were taken during the program. The location of those samples lying within the claims for which an *Application for A Certificate of Work* has been filed this year are shown in figures 4, 5, 6, and 7. Sample descriptions for those samples lying within the claims for which an *Application for A Certificate of Work* has been filed this year are given in Appendix 2. The assay certificates for those samples lying within the claims for which an *Application for A Certificate of Work* has been filed this year are given in Appendix 3. Information for samples on claims for which an *Application for A Certificate of Work* has **NOT** been filed this year is not included in this report.

Regional scale geological mapping was conducted during the prospecting/sampling traverses. A geological map is given in Figure 3.

VII. Conclusions

The mineralization on the Swift River Property is found as numerous strata-bound Zn, Cu, Pb, Ag, and Au showings along a series of stratigraphic horizons. Mineralization occurs as well laminated to massive sulphide pods which are likely boudins of previously continuous sulphide beds. The showings are best understood as syn-sedimentary exhalative deposits with a significant regional and contact metamorphic overprint.

In view of the many volcanogenic massive sulphide deposits recently discovered in the Yukon-Tanana Terrane, the abundance of strata-bound mineralization on the Swift River Property indicates the property warrants additional geological mapping and drilling.

Significant gold values were obtained from float boulder samples from two separate locations in the southwestern part of the property. The samples were collected on the STRATA claim block as well as in an adjacent drainage known as Drumlin Valley (on the DAN claim block). Selected assay and geochem results are given below.

Sample	Location	Lithology*	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
SR98R-022	STRATA	massive po	4160	4.3	1407	39	117	69
SR98R-074	Drumlin V.	qtz-py gossan	1209	3.2	1275	27	62	21
SR98R-061	STRATA	qtzite \mp apy	877	20.5	6590	42	486	>10000
SR98R-002	STRATA	qtz-po	308	3.2	1604	31	174	18
SR98R-024	STRATA	siltstone/po	274	2.3	1456	32	294	2085
SR98R-077	Drumlin V.	act gossan	232	2.3	991	22	118	8
SR98R-016	STRATA	massive act	149	3.7	542	230	3.1%	5

*Po = pyrrhotite, qtz = quartz, apy = arsenopyrite, act = actinolite.

Although no detailed geological mapping was done this summer of either the STRATA claims or in Drumlin Valley it is almost certain that the two gold anomalies are on strike, with a strike length of over 3 km.

A new showing was discovered in 1998. The **Brett** Showing is located on the STRATA claims at 375768E, 6668541N, and 5191 feet (1582.6 meters) elevation. The showing is approximately 250 meters south and 300 feet above the drill pad for the two 1968 Boswell River Mines Ltd. diamond drill holes. The showing is a poorly exposed outcrop of medium grained quartz-pyrrhotite-actinolite-sphalerite-calcite-galena approximately one meter thick hosted in a argillaceous quartz-muscovite schist (rhyolite schist). Foliation/bedding is at 138°/38°S. A 2 - 3 meter thick white marble with thin actinolite stringers immediately underlies the mineralization. The observed strike length of the mineralization is approximately 1.5 meters, with talus debris on both the east and west side of the showing, as well as above and below it. Analyses from three grab samples are given below.

Sample	Zn %	Pb ppm	Cu ppm	Au ppb	Ag ppm	Mn ppm	Sn ppm	Fe %	Ca%
SR98R-006	9.3	2090	1716	22	30.8	5454	359	28.4	3.43
SR98R-007	2.7	3741	288	60	8.2	11886	352	30.7	0.52
SR98R-072	0.45	3948	149	20	6.2	5936	567	31.7	1.39

Approximately 10 meters to the west of the mineralized showing is a small cliff face consisting of: interbedded quartz-muscovite schist and siltstone hosting a 3 meter thick white marble pod (boudin); overlain by a 4 meter thick unit of massive green garnet (andradite), magnetite, and actinolite; overlain by approximately 30 meters of finely laminated white to green siltstone/schist with small pods (boudins) of fine grained actinolite and black argillaceous phyllite. No mineralization was observed in the cliff face.

VIII Acknowledgment

Birch Mountain Resources Ltd. wishes to acknowledge the valuable contribution made by Richard R. Walker to the Swift River Project. Mr. Walker passed away suddenly in the summer of 1998.

IX References

Mortensen, J.K., and Jilson, G.A., **1985**. Evolution of the Yukon-Tanana Terrane: Evidence from Southeastern Yukon Territory. *Geology*, volume 13, p. 806-810.

Mortensen, J. K., **1992**. Pre-Mesozoic Tectonic Evolution of the Yukon-Tanana Terrane, Yukon and Alaska. *Tectonics*, volume 11, no. 4, p. 836-853.

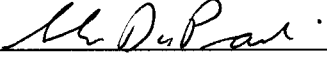
Walker, Richard R., **1998**. Unpublished report for Birch Mountains Resources Ltd., 62 pages and 5 Appendixes.

X Statement of Qualifications

I, Glen Robert De Paoli, hereby certify that:

1. I hold the degrees of:
 B.Sc. in Geology (University of Calgary, 1988)
 M.Sc. in Metamorphic Petrology (University of Calgary, 1994)
2. I have been a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA) since March, 1997, and am registered as a Professional Geologist.
3. I have practiced as a geologist for 6 years, predominantly in the field of mineral exploration.
4. I personally took part in the work described in this report.
5. The expenditure detailed in this report is a true representation of the cost incurred to perform the work outlined in this report.

Dated at Calgary, Alberta, on this 23rd day of September, 1998.



Glen De Paoli, P. Geol.

Appendix 1
Statement of Allowable Expenditures
1998 Swift River Exploration Program

Personnel in Yukon

Glen De Paoli	\$	2,800		
Brett Johnson	\$	1,230		
Jon Thorson	\$	5,400		
Kyla Arden	\$	591		
	\$	10,021	\$	10,021

Room/board

Walkers Lodge	\$	1,392		
	\$	1,392	\$	1,392

Transportation

Truck rental	\$	1,063		
fuel	\$	150		
	\$	1,213	\$	1,213

Radio Rental	\$	105	\$	105
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Analytical

rock samples	\$	1,875	\$	1,875
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Report Writing in Calgary/Denver

Glen De Paoli	\$	2,400		
Brett Johnson	\$	410		
Jon Thorson	\$	600		
	\$	3,410	\$	3,410

Total \$ **18,016**

RAM

Birch Mountain Resources LTD

Statement of Expenditure
July 30th, 1998

RAM Claims 1-64

Item	expenditure								
Assessment work RAM claims 1 - 64									
One day prospecting, mapping, and sampling, July 23rd, 1998.									
for 1/4 year assessment.									
Salaries	\$ 2,002								
truck rental	\$ 100								
fuel	\$ 20								
radio rental	\$ 28								
room and board 19	\$ 240								
9 samples on RAM 1 @ \$35 each	\$ 315								
1 sample on RAM 1 @ \$35 each	\$ 35								
report writing @ \$16/claim/4	\$ 256								
Total expenditure	\$ 2,996								
assesment due for									
64 claims @ \$100 each/4	\$ 1,600								
assessment due -total expenditure	\$ (1,396)								

20000000

PINE

Birch Mountain Resources LTD.

Statement of Expenditure
July 30th 1998

PINE Claims 1-44.

Item	July 19th 1998 expenditure	July 27th 1998 expenditure
Salaries	\$ 1,805	\$ 805
truck rental	\$ 50	\$ 100
fuel	\$ 10	\$ 20
radio rental	\$ 14	\$ 28
room and board	\$ 180	\$ 180
2 samples in PINE 4 @ \$35 each	\$ 70	-
7 samples in PINE 5 @ \$35 each	\$ 175	-
4 samples in PINE 42 @ \$35 each	-	\$ 140
6 samples in PINE 41 @ \$35 each	-	\$ 210
Total	\$ 2,304	\$ 1,483
Sum of July 19th and July 27th	\$ 3,787	
report writing @ \$16/claim	\$ 704	
Total expenditure	\$ 4,491	
assesment due for 44 claims @ \$100 each	\$ 4,400	
assesment due - total expenditure	\$ (91)	

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BIRCH MOUNTAIN RESOURCES LTD.

1000 LAKE ST.

LAKE SUPERIOR, ONT.

Revised August 6th 1998
Glen DePauli
Glen DePauli

SNO

Assesment work, SNO Claims.				
One day prospecting and sampling, July 17th 1998.				
Half day prospecting and sampling, July 28th 1998.				
Item	cost per unit	units	total	
Jon Thorson	\$ 1,200	1	\$	1,200
Glen De Paoli	\$ 400	2	\$	600
Brett Johnson	\$ 205	2	\$	308
Kyla Arden	\$ 197	1	\$	99
truck rental	\$ 125	2	\$	188
fuel	\$ 20	2	\$	30
radio rental	\$ 14	2	\$	21
room and board	\$ 58	6	\$	319
samples	\$ 25	9	\$	225
report writing	\$ 26	28	\$	728
total			\$	3,717
Assessment				
Item	cost per unit	units	years claimed	total
28 claims <i>26 claims</i>	\$ 100	26 28	1	\$ 2,800

\$2,600

$\$3,717 / 9 \text{ samples} = \$413 / \text{sample}$

Filing costs

$26 \text{ claims} \times \$5 / \text{claim} = \$130.00$

$+ \$10.00 / \text{group}$

~~\$135.00~~

\$140.00

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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

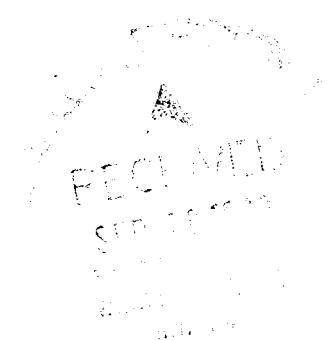
SAM

Assesment work, SAM Claims.				
One day prospecting and sampling, July 18th 1998.				
Expenditure				
Item	cost per unit	units	total	
Jon Thorson	\$ 1,200	1	\$	1,200
Glen De Paoli	\$ 400	1	\$	400
Brett Johnson	\$ 205	1	\$	205
Kyla Arden	\$ 197	0	\$	-
truck rental	\$ 125	1	\$	125
fuel	\$ 20	1	\$	20
radio rental	\$ 14	1	\$	14
room and board	\$ 58	3	\$	174
samples	\$ 25	10	\$	250
report writting	\$ 26	20	\$	520
Total			\$	2,908
Assessment				
Item	cost per unit	units	years claimed	total
20 claims	\$ 100	20	1	\$ 2,000

$\$2908 / 10 \text{ samples} = \$290 / \text{sample.}$

Filing costs

$20 \text{ claims} \times \$5 / \text{claim} = \$100.00$
 $+ \$10.00 \text{ for group}$
 ~~$\$105.00$~~
 $\$110.00$



STRATA

Assesment work, 23 STRATA Claims.				
One day prospecting and sampling, July 16th, 1998.				
Half day prospecting and sampling July 21st, 1998				
Expenditure				
Item	cost per unit	units	total	
Jon Thorson	\$ 1,200	1.5	\$ 1,800	
Glen De Paoli	\$ 400	1.5	\$ 600	
Brett Johnson	\$ 205	1.5	\$ 308	
Kyla Arden	\$ 197	0.5	\$ 99	
truck rental	\$ 125	2	\$ 250	
fuel	\$ 20	2	\$ 40	
radio rental	\$ 14	2	\$ 28	
room and board	\$ 58	5.5	\$ 319	
samples	\$ 25	27	\$ 675	
report witting	\$ 26	23	\$ 598	
Total			\$ 4,716	
Assessment				
Item	cost per unit	units	years claimed	total
23 claims	\$ 100	23	2	\$ 4,600

$\$4716 / 27 \text{ samples} = \$174 / \text{claim}$

Filing costs

$23 \text{ claims} \times \$5 / \text{claim} = \$115.00$
 $+ \$10.00 \text{ for group}$

 $\$125.00$



1998

ASSESSMENT REPORT

on the

SWIFT RIVER PROPERTY, YUKON TERRITORY

Appendix 2

Sample Descriptions

Appendix 2. Sample Descriptions

Sample Number:	SR98-R002	Utm N:	6668734	Description: Massive to slightly foliated pyrrhotite-qtz with trace chalcopyrite.
Claim:	STRATA 16	Utm E:	376533	
Type of Sample:	rock	Elevation (feet):	4411	
Material Sampled:	float			
Sample Number:	SR98-R003	Utm N:	6668738	Description: Light green fine grained rock (siderite) with large quartz eyes (5mm), disseminated pyrrhotite and sphalerite. Rock appears to be unfoliated.
Claim:	STRATA 16	Utm E:	376534	
Type of Sample:	rock	Elevation (feet):	4410	
Material Sampled:	float			
Sample Number:	SR98-R004	Utm N:	6668790	Description: 1 m size boulder of very finely laminated black argillite/shale with pyrrhotite laminations.
Claim:	STRATA 17	Utm E:	375804	
Type of Sample:	rock	Elevation (feet):	4915	
Material Sampled:	float			
Sample Number:	SR98-R005	Utm N:	6669333	Description: Porphyritic diorite sill, 7-8 meters wide.
Claim:	STRATA 21	Utm E:	374994	
Type of Sample:	rock	Elevation (feet):	5230	
Material Sampled:	outcrop			
Sample Number:	SR98-R006	Utm N:	6668544	Description: Gossanous qtz-pyrrhotite-sphalerite, with amphibole and calcite. Sample from top of 1.5 meter thick sulphide band.
Claim:	STRATA 17	Utm E:	375759	
Type of Sample:	rock	Elevation (feet):	5195	
Material Sampled:	outcrop			
Sample Number:	SR98-R007	Utm N:	6668541	Description: Gossanous qtz-pyrrhotite-sphalerite, with amphibole and calcite. Sample from bottom of 1.5 meter thick sulphide band.
Claim:	STRATA 17	Utm E:	375768	
Type of Sample:	rock	Elevation (feet):	5192	
Material Sampled:	outcrop			
Sample Number:	SR98-R008	Utm N:	6668555	Description: White marble with 1 - 2 cm actinolite hornfels bands. Immediate footwall of sulphide band.
Claim:	STRATA 17	Utm E:	375767	
Type of Sample:	rock	Elevation (feet):	5191	
Material Sampled:	outcrop			

Appendix 2. Sample Descriptions

Sample Number:	SR98-R009	Utm N:	6668555	Description: Rhyolitic schist just west of sulphide outcrop. Minor pyrite.
Claim:	STRATA 17	Utm E:	375774	
Type of Sample:	rock	Elevation (feet):	5191	
Material Sampled:	outcrop			
Sample Number:	SR98-R010	Utm N:	6668571	Description: 4 cm actinolite hornfels band in 3 meter marble pod. Minor pyrite.
Claim:	STRATA 17	Utm E:	375753	
Type of Sample:	rock	Elevation (feet):	5190	
Material Sampled:	outcrop			
Sample Number:	SR98-R011	Utm N:	6668559	Description: 4 meter thick band of massive coarse grained green garnet (grossular/andradite?) and actinolite.
Claim:	STRATA 17	Utm E:	375746	
Type of Sample:	rock	Elevation (feet):	5198	
Material Sampled:	outcrop			
Sample Number:	SR98-R012	Utm N:	6668918	Description: 50 cm rusty quartz quartz pod in rhyolite schist.
Claim:	STRATA 19	Utm E:	375449	
Type of Sample:	rock	Elevation (feet):	5150	
Material Sampled:	outcrop			
Sample Number:	SR98-R013	Utm N:	6668910	Description: Cellular, porous gossan adjacent to SR98R-012.
Claim:	STRATA 19	Utm E:	375443	
Type of Sample:	rock	Elevation (feet):	5170	
Material Sampled:	outcrop			
Sample Number:	SR98-R014	Utm N:	6668789	Description: 1-2% pyrrhotite pods to 1 cm in quartz vein float.
Claim:	STRATA 18	Utm E:	376005	
Type of Sample:	rock	Elevation (feet):	4750	
Material Sampled:	float			
Sample Number:	SR98-R016	Utm N:	6668995	Description: Massive actinolite rock, very rusty weathering. Has irregularly distributed sphalerite 10-15%, trace chalcopyrite.
Claim:	STRATA 19	Utm E:	375580	
Type of Sample:	rock	Elevation (feet):	4909	
Material Sampled:	float			

Appendix 2. Sample Descriptions

Sample Number:	SR98-R017	Utm N:	6668904	Description:	Massive actinolite-sphalerite, rusty weathering.
Claim:	STRATA 19	Utm E:	375446		
Type of Sample:	rock	Elevation (feet):	5180		
Material Sampled:	float				
Sample Number:	SR98-R018	Utm N:	6668907	Description:	Very fine grained light green iron carbonate with disseminated pyrite cubes and trace sphalerite. Similar material to SR98R-003, and SR98R-020.
Claim:	STRATA 19	Utm E:	375458		
Type of Sample:	rock	Elevation (feet):	5177		
Material Sampled:	float				
Sample Number:	SR98-R019	Utm N:	6668907	Description:	Cellular gossanous bed or vein, 1 foot thick.
Claim:	STRATA 19	Utm E:	375523		
Type of Sample:	rock	Elevation (feet):	5106		
Material Sampled:	outcrop				
Sample Number:	SR98-R020	Utm N:	6668900	Description:	Crosscutting cellular gossanous veins, irregular, developed from light green fine grained carbonate (siderite) with abundant coarse cubic pyrite and trace disseminated sphalerite.
Claim:	STRATA 19	Utm E:	375519		
Type of Sample:	rock	Elevation (feet):	5121		
Material Sampled:	outcrop				
Sample Number:	SR98-R021	Utm N:	6668695	Description:	Garnetiferous finely laminate black argillite with 2-3% pyrrhotite lamina.
Claim:	STRATA 16	Utm E:	376211		
Type of Sample:	rock	Elevation (feet):	4620		
Material Sampled:	float				
Sample Number:	SR98-R022	Utm N:	6668684	Description:	Massive actinolite-pyrrhotite.
Claim:	STRATA 16	Utm E:	376360		
Type of Sample:	rock	Elevation (feet):	4508		
Material Sampled:	float				
Sample Number:	SR98-R023	Utm N:	6668683	Description:	Massive actinolite with 30-50% pyrrhotite.
Claim:	STRATA 16	Utm E:	376396		
Type of Sample:	rock	Elevation (feet):	4481		
Material Sampled:	float				

Appendix 2. Sample Descriptions

Sample Number:	SR98-R024	Utm N:	6668618	Description: Massive pyrrhotite in beds to 2 cm, some show fine lamination. Siltstone interbeds.
Claim:	STRATA 14	Utm E:	376704	
Type of Sample:	rock	Elevation (feet):	4052	
Material Sampled:	float			
Sample Number:	SR98-R025	Utm N:	6666217	Description: Marble float boulder with minor disseminated pyrite. Amphibole stringers.
Claim:	SNO 19	Utm E:	387642	
Type of Sample:	rock	Elevation (feet):	4047	
Material Sampled:	float			
Sample Number:	SR98-R026	Utm N:	6666049	Description: Clasts of quartzite in a biotite-quartz matrix, all are foliated. Minor pyrrhotite, trace chalcopyrite.
Claim:	SNO 21	Utm E:	387671	
Type of Sample:	rock	Elevation (feet):	4058	
Material Sampled:	float			
Sample Number:	SR98-R027	Utm N:	6665867	Description: Large (1 m) boulder of fine grained dolomitic marble with amphibole stringers to 2 cm
Claim:	SNO 22	Utm E:	387599	
Type of Sample:	rock	Elevation (feet):	4140	
Material Sampled:	float			
Sample Number:	SR98-R028	Utm N:	6665810	Description: Finely laminated silica-siderite sericite with 5% pyrite. Crosscut by qtz veins.
Claim:	SNO 22	Utm E:	387523	
Type of Sample:	rock	Elevation (feet):	4206	
Material Sampled:	float			
Sample Number:	SR98-R029	Utm N:	6665663	Description: Siliceous dolomite with mesh-like quartz veining. Minor pyrite.
Claim:	SNO 22	Utm E:	387402	
Type of Sample:	rock	Elevation (feet):	4175	
Material Sampled:	float			
Sample Number:	SR98-R030	Utm N:	6665680	Description: Siliceous dolomite with abundant meshwork quartz veining.
Claim:	SNO 22	Utm E:	387375	
Type of Sample:	rock	Elevation (feet):	4200	
Material Sampled:	outcrop			

Appendix 2. Sample Descriptions

Sample Number:	SR98-R031	Utm N:	6665723	Description:	Chloritic argillaceous schist.
Claim:	SNO 23	Utm E:	388111		
Type of Sample:	rock	Elevation (feet):	4126		
Material Sampled:	outcrop				
Sample Number:	SR98-R032	Utm N:	6675363	Description:	Dark grey/black argillite, minor sulphides.
Claim:	SAM 46	Utm E:	377206		
Type of Sample:	rock	Elevation (feet):	3781		
Material Sampled:	outcrop				
Sample Number:	SR98-R033	Utm N:	6675333	Description:	Black argillite with minor pyrite and pyrrhotite.
Claim:	SAM 44	Utm E:	376932		
Type of Sample:	rock	Elevation (feet):	3918		
Material Sampled:	outcrop				
Sample Number:	SR98-R034	Utm N:	6675327	Description:	Gossanous coarse grained qtz-garnet-actinolite-carbonate boulder, trace of sphalerite.
Claim:	SAM 44	Utm E:	376926		
Type of Sample:	rock	Elevation (feet):	3920		
Material Sampled:	float				
Sample Number:	SR98-R035	Utm N:	6675303	Description:	Brecciated black argillite with qtz vein matrix.
Claim:	SAM 44	Utm E:	376773		
Type of Sample:	rock	Elevation (feet):	3980		
Material Sampled:	float				
Sample Number:	SR98-R036	Utm N:	6675272	Description:	Gossanous medium grained calcite-actinolite-pyroxene with 1 - 2 % sphalerite.
Claim:	SAM 62	Utm E:	376753		
Type of Sample:	rock	Elevation (feet):	3991		
Material Sampled:	float				
Sample Number:	SR98-R037	Utm N:	6675221	Description:	Brecciated siltstone with qtz-pyrite-pyrrhotite matrix, trace of chalcopyrite with pyrrhotite.
Claim:	SAM 62	Utm E:	376623		
Type of Sample:	rock	Elevation (feet):	4045		
Material Sampled:	float				

Appendix 2. Sample Descriptions

Sample Number:	SR98-R038	Utm N:	6675213	Description: Massive pyroxene with disseminated pyrite and sphalerite.
Claim:	SAM 62	Utm E:	376615	
Type of Sample:	rock	Elevation (feet):	4046	
Material Sampled:	float			
Sample Number:	SR98-R039	Utm N:	6675096	Description: Rusty siltstone with disseminated pyrrhotite (sphalerite?).
Claim:	SAM 65	Utm E:	375725	
Type of Sample:	rock	Elevation (feet):	4560	
Material Sampled:	float			
Sample Number:	SR98-R040	Utm N:	6674901	Description: Very near diorite contact. Hornfelsic (amphibole) argillaceous schist.
Claim:	SAM 81	Utm E:	375029	
Type of Sample:	rock	Elevation (feet):	4885	
Material Sampled:	outcrop			
Sample Number:	SR98-R041	Utm N:	6668355	Description: Black crenulated argillaceous phyllite. Pre-deformation qtz veins.
Claim:	PINE 5	Utm E:	391089	
Type of Sample:	rock	Elevation (feet):	3468	
Material Sampled:	outcrop			
Sample Number:	SR98-R042	Utm N:	6668427	Description: Grey to black phyllite.
Claim:	PINE 5	Utm E:	391031	
Type of Sample:	rock	Elevation (feet):	3455	
Material Sampled:	outcrop			
Sample Number:	SR98-R043	Utm N:	6668426	Description: Quartz-carbonate boudin.
Claim:	PINE 5	Utm E:	391050	
Type of Sample:	rock	Elevation (feet):	3455	
Material Sampled:	outcrop			
Sample Number:	SR98-R044	Utm N:	6668432	Description: Chip sample across 3 meters of exposed section.
Claim:	PINE 5	Utm E:	391056	
Type of Sample:	rock	Elevation (feet):	3457	
Material Sampled:	outcrop			

Appendix 2. Sample Descriptions

Sample Number:	SR98-R045	Utm N:	6668439	Description:	Brown weathering silty interbed. Pre-deformation qtz-carbonate veins.
Claim:	PINE 5	Utm E:	391044		
Type of Sample:	rock	Elevation (feet):	3454		
Material Sampled:	outcrop				
Sample Number:	SR98-R046	Utm N:	6668414	Description:	Grey thinly laminated, reddish-orange weathering lms.
Claim:	PINE 5	Utm E:	391043		
Type of Sample:	rock	Elevation (feet):	3455		
Material Sampled:	float in creek				
Sample Number:	SR98-R047	Utm N:	6668406	Description:	White granular lms with grey highlights. Rusty weathering.
Claim:	PINE 5	Utm E:	391043		
Type of Sample:	rock	Elevation (feet):	3455		
Material Sampled:	float in creek				
Sample Number:	SR98-R048	Utm N:	6668900	Description:	Grey to buff weathering laminated to granular lms, with hematite (?) crystals.
Claim:	PINE 4	Utm E:	390911		
Type of Sample:	rock	Elevation (feet):	3421		
Material Sampled:	outcrop				
Sample Number:	SR98-R049	Utm N:	6669142	Description:	Foliated granite? Granitic Gneiss?
Claim:	PINE 4	Utm E:	390809		
Type of Sample:	rock	Elevation (feet):	3540		
Material Sampled:	outcrop				
Sample Number:	SR98-R071	Utm N:	6668559	Description:	Massive garnet-actinolite-magnetite.
Claim:	STRATA 17	Utm E:	375746		
Type of Sample:	rock	Elevation (feet):	5198		
Material Sampled:	outcrop				
Sample Number:	SR98-R072	Utm N:	6668544	Description:	Main mineralized outcrop. Qtz with disseminated magnetite-pyrite-sphalerite-galena, arseno?
Claim:	STRATA 17	Utm E:	375759		
Type of Sample:	rock	Elevation (feet):	5195		
Material Sampled:	outcrop				

Appendix 2. Sample Descriptions

Sample Number:	SR98-R073	Utm N:	6668528	Description:
Claim:	STRATA 17	Utm E:	375749	Boudin of black fine grained argillite with 5% pyrrhotite in fine laminations.
Type of Sample:	rock	Elevation (feet):	5202	
Material Sampled:	outcrop			
Sample Number:	SR98-R116	Utm N:	6677103	Description:
Claim:	RAM 36	Utm E:	373325	Bright orange-red weathering subcrop of muscovite schist (paper schist). No sulphides observed.
Type of Sample:	rock	Elevation (feet):	5615	
Material Sampled:	subcrop			
Sample Number:	SR98-R117	Utm N:	6676953	Description:
Claim:	RAM 36	Utm E:	373522	Gossanous Rhyolite schist with minor disseminated pyrite.
Type of Sample:	rock	Elevation (feet):	5350	
Material Sampled:	outcrop			
Sample Number:	SR98-R118	Utm N:	6677022	Description:
Claim:	RAM 19	Utm E:	373615	Light grey argillaceous schist with 5-7% pyrrhotite in disseminated laminations.
Type of Sample:	rock	Elevation (feet):	5280	
Material Sampled:	outcrop			
Sample Number:	SR98-R119	Utm N:	6677018	Description:
Claim:	RAM 19	Utm E:	373618	Gossanous coarse breccia of light grey phyllite in a very fine grained gossanous matrix. Very porous rock, breccia is post-metamorphic.
Type of Sample:	rock	Elevation (feet):	5276	
Material Sampled:	outcrop			
Sample Number:	SR98-R120	Utm N:	6677250	Description:
Claim:	RAM 19	Utm E:	373702	Dark grey siliceous argillaceous schist with 5% disseminated pyrrhotite.
Type of Sample:	rock	Elevation (feet):	5085	
Material Sampled:	outcrop			
Sample Number:	SR98-R094	Utm N:	6677111	Description:
Claim:	RAM 19	Utm E:	373631	2.5 m from base. Red-yellow weathering quartz+sericite schist with 5-10% py dissem to blebs.
Type of Sample:	rock	Elevation (feet):	5208	
Material Sampled:	outcrop			

Appendix 2. Sample Descriptions

Sample Number:	SR98-R095	Utm N:	6677105	Description: Chip sample taken over 5 m vertically. Siliceous quartz sericite schist with 5-15% limonite/jarocite after py.
Claim:	RAM 19	Utm E:	373620	
Type of Sample:	rock	Elevation (feet):	5210	
Material Sampled:	outcrop			
Sample Number:	SR98-R096	Utm N:	6677102	Description: Grab sample of most sulphide-rich layer, 1 m above base. Yellow-white weathering due to presence of jarocite.
Claim:	RAM 19	Utm E:	373616	
Type of Sample:	rock	Elevation (feet):	5210	
Material Sampled:	outcrop			
Sample Number:	SR98-R097	Utm N:	6677094	Description: Siliceous sericite schist with disseminated py. Sampled outcrop over 1 m. Stained with jarocite. Abundant unleached py.
Claim:	RAM 19	Utm E:	373587	
Type of Sample:	rock	Elevation (feet):	5300	
Material Sampled:	outcrop			
Sample Number:	SR98-R098	Utm N:	6677068	Description: Outcrop of very siliceous light yellow quartz sericite schist with some green chlorite laminae near base. Remnant disseminated py. Chip sample over 4 m.
Claim:	RAM 19	Utm E:	373540	
Type of Sample:	rock	Elevation (feet):	5370	
Material Sampled:	outcrop			
Sample Number:	SR98-R151	Utm N:	6661412	Description: Quartz-rich quartz-biotite schist. Very minor po.
Claim:	PINE 42	Utm E:	392239	
Type of Sample:	rock	Elevation (feet):	3250	
Material Sampled:	outcrop			
Sample Number:	SR98-R150	Utm N:	6661404	Description: Quartz-rich, quartz-biotite schist. Very minor po.
Claim:	PINE 42	Utm E:	392258	
Type of Sample:	rock	Elevation (feet):	3250	
Material Sampled:	outcrop			
Sample Number:	SR98-R152	Utm N:	6661400	Description: Chlorite-quartz-biotite schist. Very minor py.
Claim:	PINE 42	Utm E:	392234	
Type of Sample:	rock	Elevation (feet):	3250	
Material Sampled:	outcrop			

Appendix 2. Sample Descriptions

Sample Number:	SR98-R153	Utm N:	6661356	Description:	Black argillaceous phyllite. Minor py.
Claim:	PINE 42	Utm E:	392157		
Type of Sample:	rock	Elevation (feet):	3250		
Material Sampled:	outcrop				
Sample Number:	SR98-R154	Utm N:	6661359	Description:	Rusty weathering quartz-ms schist (rhyolite?).
Claim:	PINE 41	Utm E:	392140		
Type of Sample:	rock	Elevation (feet):	3250		
Material Sampled:	outcrop				
Sample Number:	SR98-R155	Utm N:	6661335	Description:	Very fine grained quartz schist (quartzite?). Rusty molds of py, 1-2%.
Claim:	PINE 41	Utm E:	392130		
Type of Sample:	rock	Elevation (feet):	3250		
Material Sampled:	outcrop				
Sample Number:	SR98-R156	Utm N:	6661357	Description:	Black phyllite, very minor pyrite.
Claim:	PINE 41	Utm E:	392058		
Type of Sample:	rock	Elevation (feet):	3250		
Material Sampled:	outcrop				
Sample Number:	SR98-R157	Utm N:	6661364	Description:	Light grey cherty siltstone with very minor pyrite, rusty weathering.
Claim:	PINE 41	Utm E:	392063		
Type of Sample:	rock	Elevation (feet):	3251		
Material Sampled:	subcrop				
Sample Number:	SR98-R158	Utm N:	6661336	Description:	Fine grained quartzite with 2% disseminated pyrite. Rusty weathering.
Claim:	PINE 41	Utm E:	392064		
Type of Sample:	rock	Elevation (feet):	3250		
Material Sampled:	outcrop				
Sample Number:	SR98-R159	Utm N:	6661344	Description:	Rusty weathering grey phyllite.
Claim:	PINE 41	Utm E:	392062		
Type of Sample:	rock	Elevation (feet):	3250		
Material Sampled:	subcrop				

Appendix 2. Sample Descriptions

Sample Number:	<input type="text" value="SR98-R160"/>	Utm N:	<input type="text" value="6665402"/>	Description: <input type="text" value="Grey biotite-qtz-chlorite schist."/>
Claim:	<input type="text" value="SNO 26"/>	Utm E:	<input type="text" value="388314"/>	
Type of Sample:	<input type="text" value="rock"/>	Elevation (feet):	<input type="text" value="4139"/>	
Material Sampled:	<input type="text" value="outcrop"/>			

Sample Number:	<input type="text" value="SR98-R161"/>	Utm N:	<input type="text" value="6665281"/>	Description: <input type="text" value="Chorite-muscovite-qtz schist with 5% diss. euhedral magnetite porphyroblasts to 5 mm."/>
Claim:	<input type="text" value="SNO 26"/>	Utm E:	<input type="text" value="388230"/>	
Type of Sample:	<input type="text" value="rock"/>	Elevation (feet):	<input type="text" value="4112"/>	
Material Sampled:	<input type="text" value="subcrop"/>			

1998

ASSESSMENT REPORT

on the

SWIFT RIVER PROPERTY, YUKON TERRITORY

Appendix 3

Laboratory Assay Certificates



Intertek Testing Services
Bondar Clegg

Geochemical
Lab
Report

BIRCH MOUNTAIN RESOURCES LTD.
MR. GLEN DE PAOLI
3100 - 205 5TH AVE.
S.W. CALGARY AB T2P 2V7

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+

+

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Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

REPORT: V98-01332.0 (COMPLETE)

REFERENCE:

CLIENT: BIRCH MOUNTAIN RESOURCES LTD.

SUBMITTED BY: G. DE PAOLI

PROJECT: SWIFT RIVER

DATE RECEIVED: 06-AUG-98 DATE PRINTED: 20-AUG-98

DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD	DATE APPROVED	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION	EXTRACTION	METHOD
980816	1 Au30 Gold	172	5 PPB	Fire Assay of 30g	30g Fire Assay - AA	980816	37 K Potassium	172	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
980816	2 Ag Silver	172	0.5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980816	38 Nb Niobium	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
980816	3 AgOL Silver, semiquant.	1	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980816	39 Sr Strontium	172	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
980816	4 Cu Copper	172	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980816	40 Y Yttrium	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
980816	5 Pb Lead	172	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA	980816	41 Zr Zirconium	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA
980816	6 Zn Zinc	172	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	7 ZnOL Zinc, semiquant	11	0.1 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	8 Mo Molybdenum	172	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	9 Ni Nickel	172	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	10 Co Cobalt	172	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	11 Cd Cadmium	172	1 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	12 Bi Bismuth	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	13 As Arsenic	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	14 Sb Antimony	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	15 Fe Tot Total Iron	172	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	16 FeOL Iron semiquant	47	9.0 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	17 Mn Manganese	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	18 Te Tellurium	172	25 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	19 Ba Barium	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	20 Cr Chrome	172	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	21 V Vanadium	172	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	22 Sn Tin	172	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	23 W Tungsten	172	20 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	24 Li Lithium	172	2 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	25 Ga Gallium	172	10 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	26 La Lanthanum	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	27 Sc Scandium	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	28 Ta Tantalum	172	5 PPM	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	29 Ti Titanium	172	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	30 Al Aluminum	172	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	31 AlOL Aluminum, Semi Quant	8	10.0 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	32 Mg Magnesium	172	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	33 MgOL Magnesium, Semi Quant	5	10.0 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	34 Ca Calcium	172	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	35 CaOL Calcium, Semi Quant	30	10.0 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						
980816	36 Na Sodium	172	0.01 PCT	HF-HNO3-HClO4-HCL	INDUC. COUP. PLASMA						

SAMPLE TYPES	NUMBER	SIZE	FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK	172	2	-150	172	CRUSH/SPLIT & PULV.	172

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Intertek Testing Services

Bondar Clegg

Ge hemical Lab Report

CLIENT: BIRCH MOUNTAIN RESOURCES LTD.

REPORT: V98-01332.0 (COMPLETE)

DATE RECEIVED: 06-AUG-98

DATE PRINTED: 20-AUG-98

PROJECT: SWIFT RIVER

PAGE 1A(1/22)

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	AgOL PPM	Cu PPM	Pb PPM	Zn PPM	ZnOL PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Tot PCT	FeOL 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	ALOL PCT	Mg PCT	MgOL PCT
SR98R-002		308	3.2		1604	31	174		5	18	52	<1	197	18	<5	>10.00	36.0		802	<25	25	67	17	53	209	6	<10	10	<5	<5	0.08	2.45		0.94	
SR98R-003		<5	12.3		57	1611	3549		2	6	5	16	25	8	<5	>10.00	21.6		2325	<25	14	9	47	105	<20	53	36	<5	<5	9	<.01	8.14		0.94	
SR98R-004		10	<0.5		134	29	89		38	81	23	<1	<5	29	<5	4.07			1491	<25	500	135	275	<20	<20	22	<10	25	11	<5	0.31	6.71		1.29	
SR98R-005		<5	<0.5		47	54	108		<1	7	10	<1	<5	15	<5	3.33			1683	<25	1368	51	127	<20	<20	9	11	8	9	9	0.20	9.99		1.01	
SR98R-006		22	30.8		1716	2090	>20000	9.3	<1	8	47	457	29	<5	<5	>10.00	28.4		5454	<25	32	29	<2	359	<20	11	<10	<5	<5	9	0.01	1.10		0.10	
SR98R-007		60	8.2		288	3741	>20000	2.7	2	19	18	149	8	<5	<5	>10.00	30.7		11886	<25	26	47	<2	352	<20	5	<10	22	<5	<5	<.01	0.73		0.05	
SR98R-008		<5	<0.5		2	25	149		<1	2	<1	<1	17	<5	<5	0.53			1172	<25	104	3	2	<20	<20	<2	<10	<5	<5	<5	<.01	0.26		0.53	
SR98R-009		<5	<0.5		8	36	348		2	26	9	<1	<5	6	<5	4.56			2820	<25	1007	104	36	56	<20	5	<10	21	7	5	0.15	4.37		0.80	
SR98R-010		<5	<0.5		<1	29	406		3	9	5	<1	9	<5	8	>10.00	18.8		11040	<25	17	16	3	249	<20	4	<10	<5	<5	9	0.02	0.62		0.43	
SR98R-011		7	1.1		14	55	264		4	8	4	<1	20	6	<5	>10.00	27.5		4202	<25	15	40	<2	430	36	<2	<10	<5	<5	6	0.02	0.71		0.24	
SR98R-012		6	0.8		9	280	108		5	9	2	<1	<5	7	<5	>10.00	16.0		179	<25	12	187	56	<20	<20	28	<10	51	<5	<5	0.06	2.20		<0.01	
SR98R-013		33	3.0		11	313	272		4	9	5	<1	<5	15	<5	>10.00	32.8		369	<25	8	60	202	27	<20	75	<10	6	7	15	0.18	6.76		<0.01	
SR98R-014		<5	1.2		43	115	194		4	16	5	1	11	<5	<5	1.99			83	<25	8	243	2	<20	<20	<2	<10	<5	<5	<5	<.01	0.08		<0.01	
SR98R-016		149	3.7		542	230	>20000	3.1	<1	14	38	161	34	5	10	>10.00	19.6		9952	<25	32	36	11	194	<20	2	<10	<5	<5	8	0.09	2.42		0.41	
SR98R-017		8	2.1		11	448	>20000	2.6	<1	23	23	111	8	21	27	7.72			4105	<25	16	38	80	293	<20	5	<10	9	5	9	0.13	4.38		2.38	
SR98R-018		19	1.6		174	220	202		5	11	5	<1	<5	32	<5	>10.00	19.0		2277	<25	18	36	27	56	<20	53	10	32	<5	7	0.02	4.88		0.61	
SR98R-019		14	5.3		90	5345	348		3	6	4	<1	<5	37	<5	>10.00	19.1		332	<25	264	95	49	26	<20	18	<10	22	<5	<5	0.14	3.23		0.07	
SR98R-020		44	5.6		60	5590	1448		4	11	5	4	<5	75	<5	>10.00	15.6		673	<25	84	119	33	21	<20	25	<10	12	<5	<5	0.10	3.42		0.11	
SR98R-021		49	<0.5		319	67	171		3	57	32	<1	<5	123	11	>10.00	11.7		12468	<25	345	120	238	<20	<20	29	<10	41	17	9	0.30	7.07		2.02	
SR98R-022		4160	4.3		1407	39	117		7	34	99	<1	602	69	<5	>10.00	43.6		2427	40	31	16	3	22	<20	2	<10	<5	<5	6	0.02	0.47		0.71	
SR98R-023		8	1.9		1711	44	150		4	42	32	<1	114	24	<5	>10.00	33.0		1339	<25	123	40	29	299	264	7	<10	76	10	6	0.21	4.76		1.06	
SR98R-024		274	2.3		1456	32	294		4	22	78	4	297	2085	17	>10.00	27.4		6557	<25	6	39	16	117	124	3	<10	23	<5	10	0.09	2.61		1.08	
SR98R-025		23	<0.5		18	12	63		54	12	<1	<1	15	9	<5	1.43			975	<25	155	6	6	<20	<20	<2	<10	<5	<5	6	<.01	0.05		>10.00	10.2
SR98R-026		7	<0.5		100	29	68		5	47	18	<1	<5	32	<5	3.54			871	<25	533	145	110	<20	<20	17	<10	29	9	6	0.27	4.34		1.21	
SR98R-027		<5	<0.5		4	8	5		<1	4	<1	<1	10	<5	<5	0.51			745	<25	6	3	6	<20	<20	<2	<10	<5	<5	5	<.01	0.03		>10.00	11.8
SR98R-028		14	<0.5		55	13	19		2	144	50	<1	<5	13	<5	5.63			341	<25	388	253	70	<20	<20	13	<10	16	<5	6	0.59	7.45		0.30	
SR98R-029		<5	<0.5		2	10	18		<1	6	<1	<1	8	<5	<5	0.80			1152	<25	13	29	5	<20	<20	2	<10	<5	<5	<5	<.01	0.12		9.90	
SR98R-030		<5	<0.5		<1	11	7		<1	1	<1	<1	8	<5	<5	0.19			326	<25	8	6	4	<20	<20	<2	<10	<5	<5	<5	<.01	0.01		>10.00	11.9



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PAGE 1B(2/22)

PROJECT: SWIFT RIVER

SAMPLE NUMBER	ELEMENT UNITS	Ca	CaOL	Na	K	Nb	Sr	Y	Zr
		PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM
SR98R-002		2.43		0.15	0.19	9	11	32	34
SR98R-003		0.24		0.03	0.03	8	5	<5	<5
SR98R-004		0.83		0.18	1.64	15	58	13	111
SR98R-005		3.72		3.38	1.48	10	1295	11	23
SR98R-006		3.43		0.07	0.04	6	32	22	7
SR98R-007		0.52		0.02	0.04	<5	5	67	9
SR98R-008		>10.00	33.9	0.04	0.16	10	201	7	<5
SR98R-009		5.21		0.13	1.75	12	140	9	32
SR98R-010		>10.00	15.8	0.07	0.11	7	38	8	<5
SR98R-011		>10.00	16.0	0.07	0.13	9	<1	7	7
SR98R-012		0.06		0.02	0.03	7	3	9	28
SR98R-013		0.08		0.03	0.04	11	3	6	81
SR98R-014		0.11		0.03	<.01	<5	3	<5	<5
SR98R-016		>10.00	13.3	0.11	0.22	9	15	13	102
SR98R-017		>10.00	15.1	0.04	0.02	14	164	25	30
SR98R-018		0.29		0.04	0.04	<5	7	6	9
SR98R-019		0.03		0.05	0.24	10	3	<5	31
SR98R-020		0.11		0.03	0.07	<5	2	5	21
SR98R-021		0.72		0.07	1.66	17	51	32	44
SR98R-022		2.24		0.09	0.13	9	7	8	8
SR98R-023		2.77		0.17	0.90	18	30	46	41
SR98R-024		>10.00	10.9	0.08	0.07	14	10	23	17
SR98R-025		>10.00	22.1	0.04	0.02	14	603	<5	<5
SR98R-026		2.07		0.12	1.28	15	148	14	68
SR98R-027		>10.00	20.7	0.04	<.01	13	121	<5	<5
SR98R-028		0.47		4.20	0.72	10	61	15	144
SR98R-029		>10.00	17.4	0.03	0.01	15	147	<5	<5
SR98R-030		>10.00	20.8	0.03	<.01	12	90	<5	<5



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PROJECT: SWIFT RIVER

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SAMPLE NUMBER	ELEMENT Au30		Ag	AgOL	Cu	Pb	Zn	ZnOL	Mo	Ni	Co	Cd	Bi	As	Sb	Fe	Tot	FeOL	Mn	Te	Ba	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al	AlOL	Mg	MgOL
	UNITS	PPB	PPM	PPM	PPM	PPM	PPM	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PCT	PCT	PCT	PCT	PCT	
SR98R-031	<5	<0.5	8	20	39	3	15	9	<1	<5	7	<5	2.00	584	<25	318	101	34	<20	<20	7	<10	22	6	<5	0.17	5.68						0.53		
SR98R-032	<5	1.0	34	119	276	6	28	13	5	<5	13	<5	3.20	602	<25	1127	127	141	<20	<20	49	<10	34	13	7	0.40	8.80						0.92		
SR98R-033	<5	<0.5	50	38	222	2	40	16	<1	<5	16	<5	4.66	709	<25	817	100	127	<20	<20	85	<10	36	16	8	0.41	>10.00	10.2				1.49			
SR98R-034	<5	22.1	<1	584	608	1	12	10	4	53	8	9	>10.00	11.2	11971	<25	117	54	58	133	<20	5	<10	<5	8	9	0.12	3.89				1.07			
SR98R-035	9	<0.5	82	17	70	19	47	11	<1	<5	38	5	2.57	188	<25	1265	137	245	<20	<20	21	<10	24	10	6	0.27	6.85					1.22			
SR98R-036	<5	1.9	4	319	1870	4	17	10	19	9	<5	56	7.17	16353	<25	98	51	55	158	<20	5	<10	5	8	10	0.15	6.40					0.85			
SR98R-037	8	1.6	1163	32	25	4	39	155	<1	5	559	<5	>10.00	28.4	232	<25	219	51	33	<20	<20	4	<10	<5	6	8	0.09	3.78				0.37			
SR98R-038	9	<0.5	11	25	1890	30	13	13	22	6	12	9	>10.00	16.8	7771	<25	75	53	51	388	<20	4	<10	<5	5	8	0.08	2.62				0.66			
SR98R-039	<5	<0.5	64	11	61	<1	9	17	<1	<5	6	5	5.02	686	<25	756	38	254	<20	<20	6	<10	6	26	10	0.31	7.72				2.71				
SR98R-040	<5	0.5	241	9	58	<1	11	15	<1	<5	8	<5	2.33	451	<25	175	35	103	<20	<20	8	<10	9	16	8	0.25	8.32				0.91				
SR98R-041	<5	<0.5	45	12	172	3	71	17	<1	<5	15	<5	4.19	753	<25	1001	97	130	<20	<20	36	<10	24	13	7	0.28	6.78				1.51				
SR98R-042	<5	<0.5	63	18	168	4	57	19	<1	<5	11	<5	4.11	702	<25	1070	111	167	<20	<20	35	<10	32	14	9	0.30	7.78				1.29				
SR98R-043	<5	<0.5	41	19	92	2	55	10	<1	<5	6	<5	1.98	256	<25	146	159	25	<20	<20	15	<10	9	<5	<5	0.08	4.61				0.45				
SR98R-044	<5	<0.5	40	10	131	3	60	15	<1	<5	10	<5	4.69	529	<25	1398	100	195	<20	<20	50	<10	39	19	9	0.43	9.66				1.89				
SR98R-045	<5	0.7	99	10	246	5	146	27	5	<5	13	<5	3.25	1972	<25	469	124	110	<20	<20	27	<10	18	10	<5	0.16	3.89				1.22				
SR98R-046	<5	<0.5	<1	6	<2	<1	2	<1	<1	13	<5	<5	0.37	138	<25	15	2	3	<20	<20	3	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.44	1.23		
SR98R-047	<5	<0.5	<1	17	<2	<1	3	<1	<1	9	<5	<5	0.90	573	<25	15	<2	3	<20	<20	4	<10	6	<5	6	<5	<5	<5	<5	<5	<5	0.29	8.98		
SR98R-048	<5	<0.5	2	11	2	<1	2	<1	<1	9	<5	<5	0.64	362	<25	13	<2	2	<20	<20	3	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	>10.00	10.4
SR98R-049	<5	<0.5	<1	35	48	2	6	4	<1	<5	<5	<5	1.43	442	<25	1096	62	24	<20	<20	21	11	44	<5	8	0.11	7.49				0.24				



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SAMPLE NUMBER	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
SR98R-031		2.06		1.72	1.44	9	161	12	22
SR98R-032		0.48		1.56	1.60	22	105	15	80
SR98R-033		1.69		1.10	1.67	19	219	15	84
SR98R-034		>10.00	16.1	0.05	0.04	9	53	11	29
SR98R-035		1.82		1.50	1.34	12	170	22	71
SR98R-036		>10.00	14.7	0.04	0.02	8	903	10	33
SR98R-037		0.65		1.70	1.31	7	102	6	14
SR98R-038		>10.00	15.5	0.08	0.10	9	41	9	18
SR98R-039		4.87		2.41	1.33	9	536	16	47
SR98R-040		1.48		5.04	0.58	7	88	12	56
SR98R-041		0.18		0.67	1.53	14	52	9	63
SR98R-042		0.29		0.63	1.75	12	75	12	75
SR98R-043		0.14		2.33	0.30	8	66	7	19
SR98R-044		0.26		0.70	1.76	19	62	11	92
SR98R-045		0.91		0.51	0.82	5	75	21	51
SR98R-046		>10.00	31.1	0.07	0.14	9	1770	7	<5
SR98R-047		>10.00	21.8	0.03	0.12	11	606	6	<5
SR98R-048		>10.00	19.2	0.03	0.07	14	33	6	<5
SR98R-049		0.50		2.68	2.20	21	391	12	62



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SAMPLE NUMBER	ELEMENT UNITS	Al30 PPB	Ag PPM	AgOL PPM	Cu PPM	Pb PPM	Zn PPM	ZnOL PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Tot PCT	FeOL 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	ALOL PCT	Mg PCT	MgOL PCT
SR98R-071	7	0.9	23	89	669	5	11	6	<1	<5	7	<5	>10.00	39.7	6096	<25	27	29	3	570	22	<2	<10	<5	<5	<5	<5	0.02	0.70			0.35			
SR98R-072	20	6.2	149	3948	4596	4	11	10	19	6	<5	6	>10.00	31.8	5936	<25	28	89	<2	567	<20	4	<10	7	<5	<5	<.01	0.30			0.42				
SR98R-073	<5	<0.5	161	73	299	5	7	32	<1	<5	16	<5	6.97	1157	<25	870	24	87	25	<20	36	<10	66	7	14	0.85	9.85			2.06					



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SAMPLE NUMBER	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
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SR98R-071	7.60	0.07	0.17	7	9	35	6		
SR98R-072	1.39	0.02	0.03	5	16	38	6		
SR98R-073	3.49	1.32	2.01	71	205	25	184		



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SAMPLE NUMBER	ELEMENT Au30 UNITS PPB	Ag AgOL PPM PPM	Cu PPM	Pb PPM	Zn ZnOL PPM PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe Tot PCT	FeOL 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	ALOL PCT	Mg PCT	MgOL PCT
SR98R-094	<5	<0.5	125	9	50	<1	7	20	<1	<5	<5	<5	5.66		769	<25	1544	39	294	<20	<20	31	<10	<5	31	10	0.29	9.24		2.63	
SR98R-095	<5	<0.5	109	41	44	1	5	13	<1	<5	<5	<5	5.68		813	<25	1307	28	274	<20	<20	25	<10	<5	29	10	0.27	8.72		2.16	
SR98R-096	<5	1.1	69	320	31	4	4	8	<1	<5	<5	<5	6.90		89	<25	1432	27	383	<20	<20	32	<10	<5	36	9	0.32	9.88		0.51	
SR98R-097	14	<0.5	37	29	100	5	6	6	<1	<5	7	<5	2.47		557	<25	940	104	100	<20	<20	10	<10	<5	14	6	0.13	5.84		0.49	
SR98R-098	15	<0.5	16	15	56	4	6	4	<1	<5	<5	<5	2.30		242	<25	998	135	111	<20	<20	9	<10	<5	17	6	0.15	6.75		0.57	
SR98R-117	8	<0.5	8	27	16	4	5	5	<1	<5	8	<5	2.27		474	<25	530	72	46	<20	<20	8	<10	13	13	6	0.19	6.12		0.30	
SR98R-118	<5	<0.5	210	9	195	<1	8	26	<1	<5	6	<5	5.72		1512	<25	504	19	271	<20	<20	23	<10	<5	34	9	0.37	8.66		2.78	
SR98R-119	8	<0.5	215	32	99	4	9	12	<1	<5	6	<5	>10.00	18.6	1173	<25	721	45	326	<20	<20	33	<10	<5	34	8	0.28	8.06		2.77	
SR98R-120	<5	<0.5	27	20	36	<1	24	16	<1	<5	25	<5	4.10		1262	<25	907	82	154	<20	<20	19	<10	12	22	10	0.32	9.10		2.50	



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SAMPLE NUMBER	ELEMENT UNITS	Ca	CaOL	Na	K	Nb	Sr	Y	Zr
		PCT	PCT	PCT	PCT	PPM	PPM	PPM	PPM
SR98R-094		1.45		2.28	1.55	8	97	11	21
SR98R-095		1.49		2.97	1.41	8	120	10	22
SR98R-096		0.12		4.10	1.94	<5	26	<5	20
SR98R-097		0.26		2.75	1.42	6	619	<5	32
SR98R-098		0.07		1.49	1.65	<5	14	6	55

SR98R-116		0.08		1.88	2.32	9	29	<5	87
SR98R-117		1.61		1.30	1.99	8	82	12	63
SR98R-118		2.38		2.64	1.53	8	214	16	21
SR98R-119		0.07		0.32	2.47	7	34	6	20
SR98R-120		3.88		3.02	0.68	12	294	14	61



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SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	AgOL PPM	Cu PPM	Pb PPM	Zn PPM	ZnOL PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Tot PCT	FeOL 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	ALOL PCT	Mg PCT	MgOL PCT
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SR98R-151	<5	<0.5	14	24	64	2	18	7	<1	<5	15	<5	1.42	840	<25	273	123	30	<20	<20	9	<10	11	<5	<5	0.10	2.68	0.43
SR98R-152	8	<0.5	13	12	134	<1	13	7	<1	<5	9	<5	1.47	1043	<25	346	132	39	<20	<20	8	<10	11	<5	<5	0.09	2.55	0.49
SR98R-153	<5	<0.5	29	18	84	35	13	2	<1	<5	6	<5	0.82	126	<25	159	267	428	<20	<20	3	<10	8	<5	<5	0.05	0.92	0.09



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SAMPLE NUMBER	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
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SR98R-151	0.04	0.11	1.04	5	23	<5	28		
SR98R-152	0.03	0.07	1.00	<5	25	<5	29		
SR98R-153	0.03	0.03	0.47	<5	15	6	19		



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SAMPLE NUMBER	ELEMENT Au30		Ag AgOL		Cu	Pb	Zn ZnOL	Mo	Ni	Co	Cd	Bi	As	Sb	Fe Tot	FeOL	Mn	Te	Ba	Cr	V	Sn	W	Li	Ga	La	Sc	Ta	Ti	Al ALOL	Mg MgOL		
	UNITS	PPB	PPM	PPM																												PPM	PCT
SR98R-154		7	<0.5		24	4	35		2	7	4	<1	<5	<5	<5	1.58		145	<25	409	158	53	<20	<20	10	<10	18	7	<5	0.11	3.81	0.52	
SR98R-155		<5	<0.5		13	8	17		2	7	2	<1	<5	<5	<5	0.75		92	<25	112	245	17	<20	<20	3	<10	<5	<5	<5	0.04	0.98	0.05	
SR98R-156		<5	<0.5		50	13	92		1	24	12	<1	<5	<5	<5	3.12		203	<25	1253	113	114	<20	<20	19	<10	20	11	7	0.31	6.38	1.33	
SR98R-157		<5	<0.5		31	12	86		3	13	9	<1	<5	6	<5	3.38		264	<25	1546	111	106	<20	<20	25	12	29	15	8	0.23	8.03	1.50	
SR98R-158		<5	<0.5		22	8	17		3	10	5	<1	<5	<5	<5	0.95		717	<25	292	157	22	<20	<20	6	<10	<5	<5	<5	0.05	1.45	0.39	
SR98R-159		<5	<0.5		17	15	44		9	9	4	<1	<5	<5	<5	2.16		668	<25	567	165	81	<20	<20	14	<10	15	9	<5	0.12	3.72	1.08	
SR98R-160		9	<0.5		41	15	155		<1	16	17	<1	<5	5	<5	6.14		564	<25	1611	98	127	<20	<20	34	12	49	20	16	0.66	>10.00	14.1	1.31
SR98R-161		<5	<0.5		49	21	101		<1	31	17	<1	<5	7	<5	4.71		478	<25	733	119	77	<20	<20	15	<10	44	11	7	0.41	7.34	1.24	



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SAMPLE NUMBER	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
SR98R-154		0.02		0.07	1.59	<5	37	<5	45
SR98R-155		0.01		0.28	0.31	<5	12	<5	13
SR98R-156		0.08		0.45	1.71	9	30	6	79
SR98R-157		0.06		0.61	1.69	10	45	7	99
SR98R-158		0.04		0.06	0.65	<5	6	<5	25
SR98R-159		0.01		0.13	1.45	6	14	<5	68
SR98R-160		0.30		0.37	2.88	45	78	21	84
SR98R-161		0.58		0.90	1.71	23	80	23	82



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STANDARD NAME	ELEMENT Au30 UNITS PPB	Ag AgOL PPM	Cu AgOL PPM	Pb PPM	Zn ZnOL PPM PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe FeOL PCT	Tot FeOL 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	AlOL PCT	Mg PCT	MgOL PCT		
ANALYTICAL BLANK	<5	<0.5	-	<1	4	<2	-	<1	<1	<1	<5	<5	<0.01	-	8	<25	<5	3	<2	<20	<20	<2	<10	<5	<5	<5	<0.01	<0.01	-	<0.01	-		
ANALYTICAL BLANK	<5	<0.5	-	<1	4	<2	-	<1	<1	<1	<5	5	<5	<0.01	-	7	<25	<5	<2	<2	<20	<20	<2	<10	<5	<5	<5	<0.01	<0.01	-	<0.01	-	
ANALYTICAL BLANK	<5	<0.5	-	<1	3	<2	-	<1	<1	<1	<5	<5	<5	<0.01	-	<5	<25	<5	5	<2	<20	<20	<2	<10	<5	<5	<5	<0.01	<0.01	-	<0.01	-	
ANALYTICAL BLANK	<5	<0.5	-	<1	2	<2	-	<1	<1	<1	<5	<5	<5	<0.01	-	<5	<25	<5	3	<2	<20	<20	<2	<10	<5	<5	<5	<0.01	0.01	-	<0.01	-	
ANALYTICAL BLANK	<5	<0.5	-	<1	<2	3	-	<1	<1	<1	<5	<5	<5	<0.01	-	<5	<25	<5	2	<2	<20	<20	<2	<10	<5	<5	<5	<0.01	0.01	-	<0.01	-	
ANALYTICAL BLANK	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ANALYTICAL BLANK	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ANALYTICAL BLANK	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ANALYTICAL BLANK	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Number of Analyses	9	5	-	5	5	5	-	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	-	5	-	
Mean Value	3	0.3	-	0.5	3	1	-	0.5	0.5	0.5	0.5	3	3	0.005	-	4	13	3	3	1	10	10	1	5	3	3	3	0.005	0.008	-	0.005	-	
Standard Deviation	-	-	-	-	1	0.8	-	-	-	-	-	1	-	-	-	3	-	-	1	-	-	-	-	-	-	-	-	0.005	-	-	-	-	
Accepted Value	5	0.2	0.005	1	2	1	<.01	1	1	1	0.5	2	5	5	0.05	<.01	1	0.01	0.005	1	1	0.005	0.01	0.01	0.01	0.01	0.01	0.01	<.01	-	<.01	<.0001	<.01
Gannet Ref.Material	196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gannet Ref.Material	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Number of Analyses	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mean Value	198	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Standard Deviation	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BCC GEOCHEM STD 5	-	<0.5	-	93	21	75	-	<1	42	24	<1	<5	13	<5	4.85	-	836	<25	641	78	174	<20	<20	27	<10	10	18	6	0.45	7.56	-	1.95	-
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	-
Mean Value	-	0.3	-	93	21	75	-	0.5	42	24	0.5	3	13	3	4.85	-	836	13	641	78	174	10	10	27	5	10	18	6	0.45	7.56	-	1.95	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	-	0.7	0.7	102	11	80	0.008	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	-



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STANDARD NAME	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
ANALYTICAL BLANK		0.01	-	<.01	<.01	<5	1	<5	<5
ANALYTICAL BLANK		<0.01	-	0.01	<.01	<5	1	<5	<5
ANALYTICAL BLANK		0.03	-	0.01	<.01	<5	1	<5	<5
ANALYTICAL BLANK		<0.01	-	0.01	<.01	<5	<1	<5	<5
ANALYTICAL BLANK		<0.01	-	<.01	<.01	<5	<1	<5	<5
ANALYTICAL BLANK		-	-	-	-	-	-	-	-
ANALYTICAL BLANK		-	-	-	-	-	-	-	-
ANALYTICAL BLANK		-	-	-	-	-	-	-	-
ANALYTICAL BLANK		-	-	-	-	-	-	-	-
Number of Analyses		5	-	5	5	5	5	5	5
Mean Value		0.01	-	.008	.005	3	0.8	3	3
Standard Deviation		0.01	-	.003	-	-	0.3	-	-
Accepted Value		<.0001	<.01	-	<.01	.01	.005	.01	.01
Gannet Ref.Material		-	-	-	-	-	-	-	-
Gannet Ref.Material		-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-
BCC GEOCHEM STD 5		2.05	-	1.59	1.06	10	251	14	52
Number of Analyses		1	-	1	1	1	1	1	1
Mean Value		2.05	-	1.59	1.06	10	251	14	52
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		1.85	-	1.82	1.00	17	265	13	45



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STANDARD NAME	ELEMENT UNITS	Al3O3 PPB	Ag PPM	AgOL PPM	Cu PPM	Pb PPM	Zn PPM	ZnOL PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe Tot PCT	FeOL 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	AlOL PCT	Mg PCT	MgOL PCT	
Gannet Ref.Material	1415	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref.Material	1433	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	1424	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	1490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref.Material	397	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref.Material	384	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET LAKE-SED 2	-	<0.5	-	31	39	185	-	<1	26	19	<1	<5	13	<5	3.91	-	1879	<25	676	34	72	<20	<20	20	<10	56	11	<5	0.27	5.95	-	0.92	-	-	
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	-	-
Mean Value	-	0.3	-	31	39	185	-	0.5	26	19	0.5	3	13	3	3.91	-	1879	13	676	34	72	10	10	20	5	56	11	3	0.27	5.95	-	0.92	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	-	0.8	-	37	44	209	-	2	26	17	0.8	-	9	1	4.30	-	2020	-	780	57	77	5	-	20	-	68	13	0.8	0.40	6.50	-	1.01	-	-	
Gannet Ref.Material	2482	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gannet Ref.Material	2477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	2479	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: BIRCH MOUNTAIN RESOURCES LTD.
REPORT: V98-01332.0 (COMPLETE)

DATE RECEIVED: 06-AUG-98 DATE PRINTED: 20-AUG-98 PAGE 8B(16/22)

PROJECT: SWIFT RIVER

STANDARD NAME	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
Gannet Ref.Material		-	-	-	-	-	-	-	-
Gannet Ref.Material		-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-
Gannet Ref.Material		-	-	-	-	-	-	-	-
Gannet Ref.Material		-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-
CANMET LAKE-SED 2		1.55	-	1.26	1.34	10	222	34	111
Number of Analyses		1	-	1	1	1	1	1	1
Mean Value		1.55	-	1.26	1.34	10	222	34	111
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		1.57	-	1.43	2.19	8	220	44	105
Gannet Ref.Material		-	-	-	-	-	-	-	-
Gannet Ref.Material		-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-



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Ge Chemical Lab Report

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PROJECT: SWIFT RIVER

DATE RECEIVED: 06-AUG-98 DATE PRINTED: 20-AUG-98 PAGE 9A(17/22)

STANDARD NAME	ELEMENT UNITS	Au30 PPB	Ag PPM	AgOL PPM	Cu PPM	Pb PPM	Zn PPM	ZnOL PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Tot PCT	FeOL 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	AlOL PCT	Mg PCT	MgOL PCT	
Accepted Value	2520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STD GEOCHEM STD 6	-	<0.5	-	138	21	200	-	2	143	32	<1	<5	134	<5	6.99	-	1475	<25	177	227	156	<20	<20	21	<10	9	25	6	0.13	6.24	-	2.68	-	-	-	
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
Mean Value	-	0.3	-	138	21	200	-	2	143	32	0.5	3	134	3	6.99	-	1475	13	177	227	156	10	10	21	5	9	25	6	0.13	6.24	-	2.68	-	-	-	
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accepted Value	-	0.2	-	148	20	148	-	4	155	38	0.1	1	145	1	7.30	-	1500	1	185	300	170	5	20	24	5	12	18	1	0.18	6.80	-	2.80	-	-	-	
Gannet Ref. Material	1025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Analyses	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Value	1025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	1070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANMET STREAM-SED	-	<0.5	-	34	37	148	-	2	24	18	<1	<5	26	<5	4.16	-	3547	<25	553	35	86	<20	<20	12	<10	24	12	5	0.29	4.45	-	1.22	-	-	-	
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
Mean Value	-	0.3	-	34	37	148	-	2	24	18	0.5	3	26	3	4.16	-	3547	13	553	35	86	10	10	12	5	24	12	5	0.29	4.45	-	1.22	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accepted Value	-	0.3	-	36	35	178	-	2	24	17	0.8	-	23	3	4.70	-	3950	-	630	67	98	4	-	11	-	30	14	0.4	0.45	4.80	-	1.33	-	-	-	
CANMET STREAM-SED	-	<0.5	-	62	19	100	-	<1	31	17	<1	<5	14	<5	3.72	-	1502	<25	1801	62	105	<20	<20	14	<10	19	11	5	0.35	6.19	-	1.21	-	-	-	
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
Mean Value	-	0.3	-	62	19	100	-	0.5	31	17	0.5	3	14	3	3.72	-	1502	13	1801	62	105	10	10	14	5	19	11	5	0.35	6.19	-	1.21	-	-	-	-
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	-	-	-	



Intertek Testing Services

Bondar Clegg

Geochemical
Lab
Report

CLIENT: BIRCH MOUNTAIN RESOURCES LTD.
REPORT: V98-01332.0 (COMPLETE)

DATE RECEIVED: 06-AUG-98 DATE PRINTED: 20-AUG-98 PAGE 98(18/22)

STANDARD NAME	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
Accepted Value		-	-	-	-	-	-	-	-
STD GEOCHEM STD 6		3.89	-	0.83	1.47	8	117	9	61
Number of Analyses		1	-	1	1	1	1	1	1
Mean Value		3.89	-	0.83	1.47	8	117	9	61
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		4.00	-	0.90	1.60	6	110	3	70
Gannet Ref. Material		-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-
CANMET STREAM-SED		2.57	-	1.21	0.91	6	178	30	67
Number of Analyses		1	-	1	1	1	1	1	1
Mean Value		2.57	-	1.21	0.91	6	178	30	67
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		2.57	-	1.30	1.04	5	170	42	87
CANMET STREAM-SED		2.91	-	1.86	1.21	9	348	20	53
Number of Analyses		1	-	1	1	1	1	1	1
Mean Value		2.91	-	1.86	1.21	9	348	20	53
Standard Deviation		-	-	-	-	-	-	-	-
Accepted Value		2.86	-	2.00	1.33	9	350	24	64



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

CLIENT: BIRCH MOUNTAIN RESOURCES LTD.
REPORT: V98-01332.0 (COMPLETE)

PROJECT: SWIFT RIVER

DATE RECEIVED: 06-AUG-98 DATE PRINTED: 20-AUG-98 PAGE 10A(19/22)

SAMPLE NUMBER	ELEMENT Au30 UNITS PPB	Ag AgOL PPM	AgOL PPM	Cu PPM	Pb PPM	Zn ZnOL PPM PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe Tot PCT	FeOL 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	AlOL PCT	Mg PCT	MgOL PCT	
SR98R-003	<5	12.3		57	1611	3549		2	6	5	16	25	8	<5	>10.00	21.6	2325	<25	14	9	47	105	<20	53	36	<5	<5	9	<.01	8.14		0.94	
Duplicate	<5	13.3		57	1784	3819		2	8	5	17	29	<5	<5	>10.00	24.0	2561	<25	15	12	52	120	<20	57	38	<5	<5	10	<.01	8.95		1.03	
SR98R-005	<5	<0.5		47	54	108		<1	7	10	<1	<5	15	<5	3.33		1683	<25	1368	51	127	<20	<20	9	11	8	9	9	0.20	9.99		1.01	
Prep Duplicate	<5	<0.5		51	56	106		<1	7	9	<1	<5	10	<5	3.37		1651	<25	1337	45	138	<20	<20	9	<10	8	10	9	0.20	9.18		1.01	
SR98R-020	44	5.6		60	5590	1448		4	11	5	4	<5	75	<5	>10.00	15.6	673	<25	84	119	33	21	<20	25	<10	12	<5	<5	0.10	3.42		0.11	
Duplicate		5.7		58	5401	1408		3	11	5	3	<5	72	<5	>10.00	14.8	645	<25	83	118	31	22	<20	24	<10	11	<5	<5	0.10	3.28		0.11	
SR98R-026	7	<0.5		100	29	68		5	47	18	<1	<5	32	<5	3.54		871	<25	533	145	110	<20	<20	17	<10	29	9	6	0.27	4.34		1.21	
Duplicate	8																																
Prep Duplicate	<5	<0.5		51	56	106		<1	7	9	<1	<5	10	<5	3.37		1651	<25	1337	45	138	<20	<20	9	<10	8	10	9	0.20	9.18		1.01	
Duplicate		<0.5		56	56	113		<1	7	10	<1	<5	12	<5	3.48		1681	<25	1367	43	140	<20	<20	9	10	9	10	10	0.20	9.22		1.03	
SR98R-046	<5	<0.5		<1	6	<2		<1	2	<1	<1	13	<5	<5	0.37		138	<25	15	2	3	<20	<20	3	<10	<5	<5	<5	<.01	0.44		1.23	
Prep Duplicate	<5	<0.5		2	5	<2		<1	2	<1	<1	15	<5	<5	0.42		143	<25	17	3	3	<20	<20	3	<10	<5	<5	<5	<.01	0.45		1.30	
SR98R-048	<5	<0.5		2	11	2		<1	2	<1	<1	9	<5	<5	0.64		362	<25	13	<2	2	<20	<20	3	<10	<5	<5	<5	<.01	0.18		>10.00	10.4
Duplicate	<5																																
SR98R-056	<5	<0.5		24	7	10146		<1	9	16	55	12	<5	<5	>10.00	11.1	8201	<25	61	58	34	544	43	6	<10	<5	<5	9	0.05	2.98		1.53	
Duplicate		<0.5		25	13	10695		<1	9	18	57	7	7	5	>10.00	11.7	8613	<25	68	68	36	572	45	7	<10	<5	<5	7	0.05	3.17		1.62	
SR98R-071	7	0.9		23	89	669		5	11	6	<1	<5	7	<5	>10.00	39.7	6096	<25	27	29	3	570	22	<2	<10	<5	<5	<5	0.02	0.70		0.35	
Duplicate	<5																																
SR98R-076	80	<0.5		186	28	74		2	27	23	<1	9	128	<5	4.58		282	<25	214	122	103	<20	<20	22	<10	15	13	6	0.25	5.02		0.91	
Duplicate		<0.5		192	29	82		1	28	24	<1	12	137	<5	4.78		297	<25	223	131	109	<20	<20	23	<10	15	14	5	0.26	5.26		0.96	
SR98R-089	22	<0.5		139	86	930		3	20	15	3	7	<5	<5	>10.00	19.1	9345	<25	9	59	34	36	<20	3	<10	<5	<5	6	0.05	1.81		0.58	
Prep Duplicate	24	<0.5		129	34	786		3	18	14	2	10	<5	<5	>10.00	18.2	8773	<25	8	71	33	35	<20	3	<10	<5	<5	6	0.04	1.72		0.54	
SR98R-095	<5	<0.5		109	41	44		1	5	13	<1	<5	<5	<5	5.68		813	<25	1307	28	274	<20	<20	25	<10	<5	29	10	0.27	8.72		2.16	
Duplicate		<0.5		107	39	40		<1	5	12	<1	<5	<5	<5	5.51		796	<25	1276	30	268	<20	<20	24	<10	<5	28	8	0.26	8.38		2.10	



Intertek Testing Services

Bondar Clegg

Geochemical Lab Report

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REPORT: V98-01332.0 (COMPLETE)

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PAGE 108(20/22)

PROJECT: SWIFT RIVER

SAMPLE NUMBER	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
SR98R-003		0.24		0.03	0.03	8	5	<5	<5
Duplicate		0.29		0.03	0.03	<5	7	<5	<5
SR98R-005		3.72		3.38	1.48	10	1295	11	23
Prep Duplicate		3.72		3.40	1.48	9	1336	11	23
SR98R-020		0.11		0.03	0.07	<5	2	5	21
Duplicate		0.11		0.04	0.06	<5	3	5	20
SR98R-026		2.07		0.12	1.28	15	148	14	68
Duplicate									
Prep Duplicate		3.72		3.40	1.48	9	1336	11	23
Duplicate		3.74		3.48	1.42	11	1388	11	22
SR98R-046		>10.00	31.1	0.07	0.14	9	1770	7	<5
Prep Duplicate		>10.00	30.3	0.06	0.14	6	1741	7	<5
SR98R-048		>10.00	19.2	0.03	0.07	14	33	6	<5
Duplicate									
SR98R-056		>10.00	16.1	0.03	0.02	10	22	12	11
Duplicate		>10.00	17.1	0.05	0.02	8	27	12	14
SR98R-071		7.60		0.07	0.17	7	9	35	6
Duplicate									
SR98R-076		2.90		0.53	1.07	8	117	25	36
Duplicate		3.05		0.56	1.14	9	122	26	41
SR98R-089		>10.00	17.2	0.03	0.02	6	4	13	14
Prep Duplicate		>10.00	16.4	0.05	0.02	7	2	12	13
SR98R-095		1.49		2.97	1.41	8	120	10	22
Duplicate		1.44		2.84	1.47	8	117	9	19



Intertek Testing Services

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SAMPLE NUMBER	ELEMENT UNITS	AU30 PPB	Ag PPM	AgOL PPM	Cu PPM	Pb PPM	Zn PPM	ZnOL PCT	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Tot PCT	FeOL 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	AlOL PCT	Mg PCT	MgOL PCT	
SR98R-096 Duplicate		<5 <5	1.1		69	320	31		4	4	8	<1	<5	<5	<5	6.90			89	<25	1432	27	383	<20	<20	32	<10	<5	36	9	0.32	9.88		0.51		
SR98R-115 Duplicate		<5 <5	<0.5 <0.5		45 48	9 11	35 37		1 <1	36 37	15 16	<1 <1	<5 <5	9 13	<5 <5	4.26 4.45			453 471	<25 <25	1254 1314	93 85	153 162	<20 <20	<20 <20	14 14	<10 <10	38 40	12 13	8 10	0.29 0.31	8.10 8.60		2.37 2.48		
SR98R-119 Duplicate		8 8	<0.5		215	32	99		4	9	12	<1	<5	6	<5	>10.00	18.6		1173	<25	721	45	326	<20	<20	33	<10	<5	34	8	0.28	8.06		2.77		
SR98R-122 Prep Duplicate		11 10	4.2 4.8		9 11	197 219	12870 16001		<1 1	15 16	13 14	126 139	13 9	7 8	5 5	9.11 9.52			9923 10795	<25 <25	18 20	96 65	32 37	89 103	<20 <20	6 7	<10 <10	<5 <5	<5 5	8 8	0.09 0.10	1.79 1.97		1.09 1.24		
SR98R-131 Duplicate		11 11	<0.5 <0.5		104 106	16 16	74 78		8 8	85 88	27 29	<1 <1	<5 <5	300 333	7 8	5.40 5.60			1010 1045	<25 <25	599 605	144 159	219 230	<20 <20	24 <20	44 45	<10 <10	34 35	17 17	10 10	0.36 0.38	8.00 8.39		1.07 1.11		
SR98R-141 Duplicate		129 124	1.0		146	21	171		174	231	15	4	<5	648	10	8.10			340	<25	309	140	485	<20	<20	21	<10	18	10	6	0.23	4.54		1.35		
SR98R-151 Duplicate		<5 <5	<0.5 <0.5		14 13	24 22	64 59		2 3	18 18	7 7	<1 <1	<5 <5	15 18	<5 <5	1.42 1.48			840 868	<25 <25	273 290	123 114	30 35	<20 <20	<20 <20	9 9	<10 <10	11 12	<5 5	<5 <5	0.10 0.12	2.68 2.80		0.43 0.45		
SR98R-175 Duplicate		<5 <5	<0.5		21	7	23		3	7	3	<1	<5	<5	<5	1.45			80	<25	1717	105	26	<20	<20	16	<10	18	8	<5	0.10	5.45		0.75		
SR98R-179 Duplicate		6 6	<0.5 <0.5		41 39	41 48	142 152		1 2	49 51	23 23	<1 <1	<5 <5	153 129	17 19	3.78 3.94			1148 1201	<25 <25	>2000 >2000	109 117	191 198	<20 <20	<20 <20	69 72	12 13	55 55	20 21	14 16	0.56 0.59	>10.00 >10.00	13.2 14.0		1.07 1.12	
SR98R-187 Prep Duplicate		8 8	0.8 0.9		245 256	104 114	641 671		139 149	29 28	14 14	18 18	<5 <5	37 40	<5 <5	2.98 3.12			464 502	<25 <25	1033 1090	198 281	507 541	<20 <20	<20 <20	36 37	<10 <10	14 14	13 14	8 8	0.26 0.28	6.16 6.46		0.46 0.47		

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Intertek Testing Services

Bondar Clegg

Ge Chemical Lab Report

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DATE RECEIVED: 06-AUG-98

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PROJECT: SWIFT RIVER

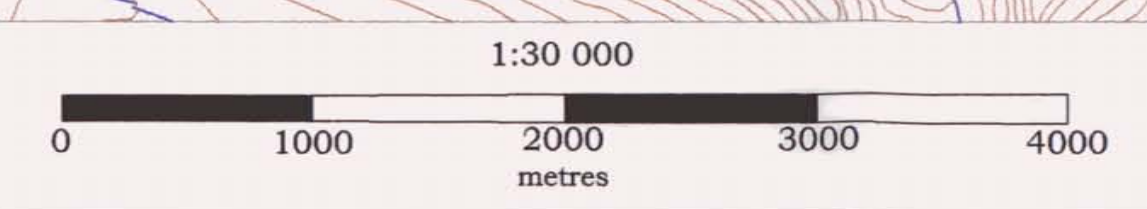
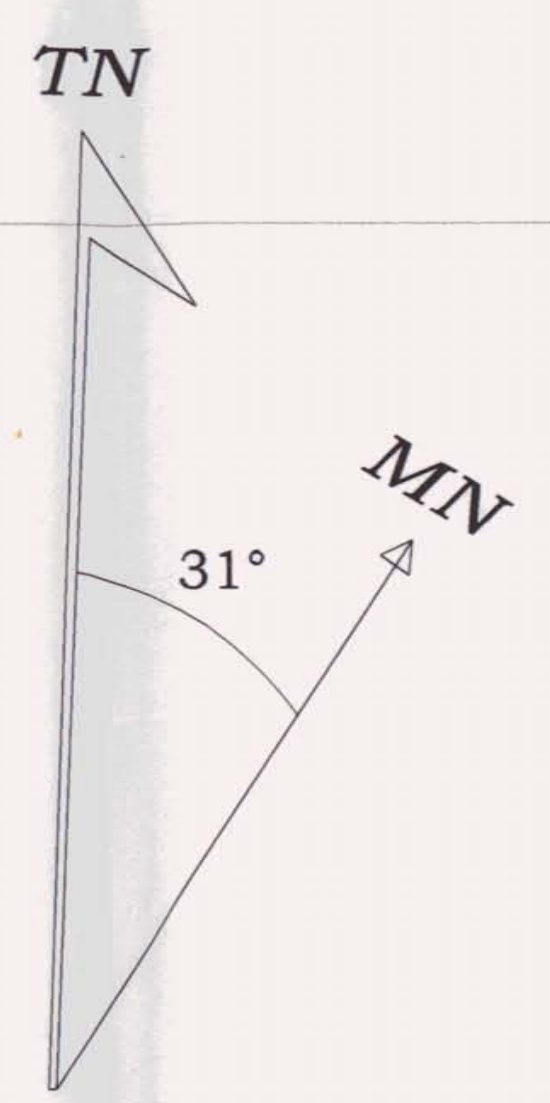
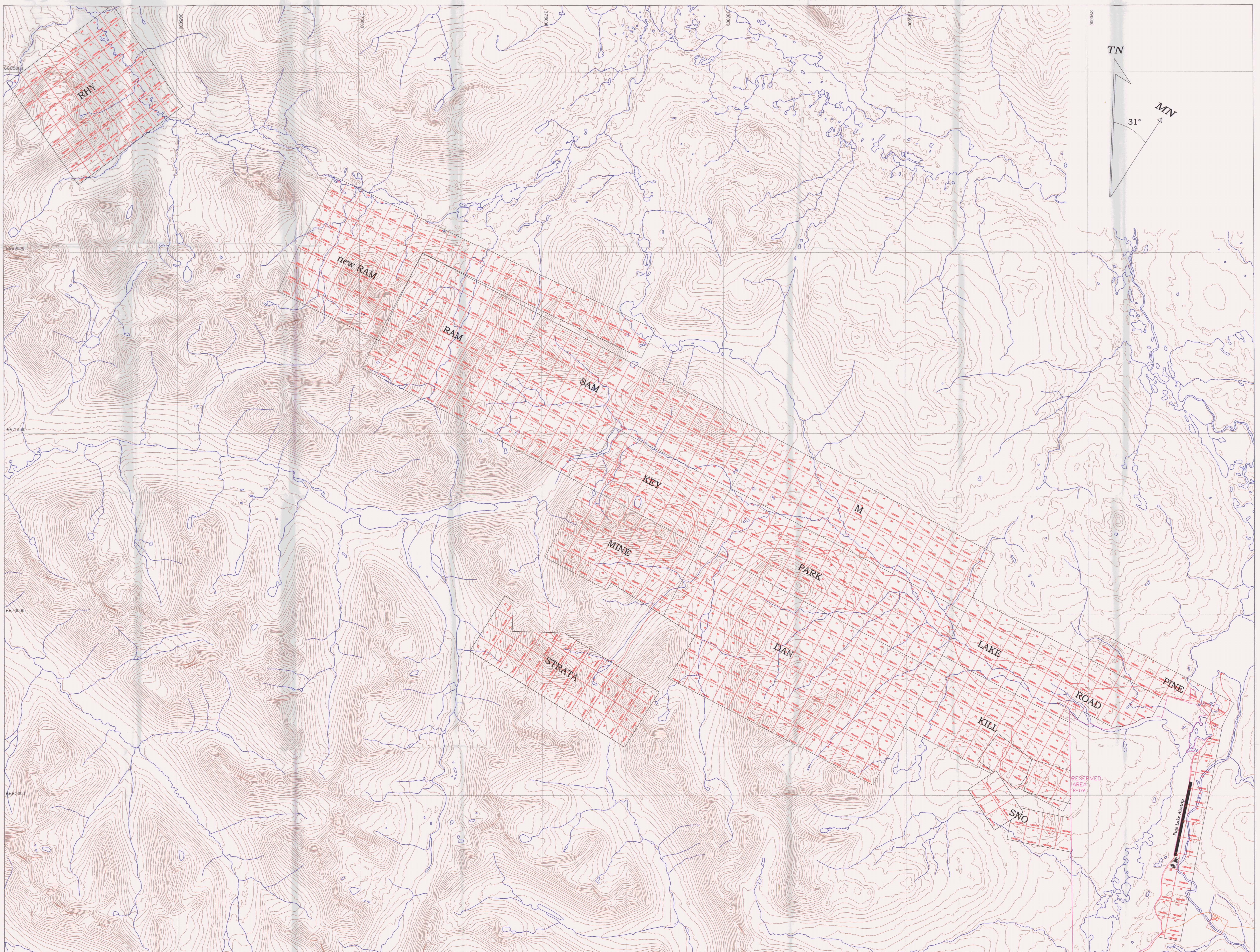
SAMPLE NUMBER	ELEMENT UNITS	Ca PCT	CaOL PCT	Na PCT	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
SR98R-096 Duplicate		0.12		4.10	1.94	<5	26	<5	20
SR98R-115 Duplicate		5.89 6.08		0.48 0.49	1.78 1.60	17 18	187 196	18 19	68 75
SR98R-119 Duplicate		0.07		0.32	2.47	7	34	6	20
SR98R-122 Prep Duplicate		>10.00 >10.00	13.9 14.3	0.06 0.05	0.01 0.01	10 10	24 25	12 14	26 30
SR98R-131 Duplicate		3.98 4.15		1.14 1.19	1.61 1.49	18 18	394 405	32 33	76 79
SR98R-141 Duplicate		2.46		0.28	1.09	13	155	27	61
SR98R-151 Duplicate		0.04 0.04		0.11 0.11	1.04 1.09	5 6	23 27	<5 <5	28 29
SR98R-175 Duplicate		0.39		0.19	1.53	7	64	9	77
SR98R-179 Duplicate		1.74 1.84		1.14 1.27	2.16 2.26	30 31	430 446	16 16	90 100
SR98R-187 Prep Duplicate		1.20 1.29		1.45 1.54	1.47 1.49	16 17	153 165	14 15	65 70

Appendix 4. Analytical Procedures

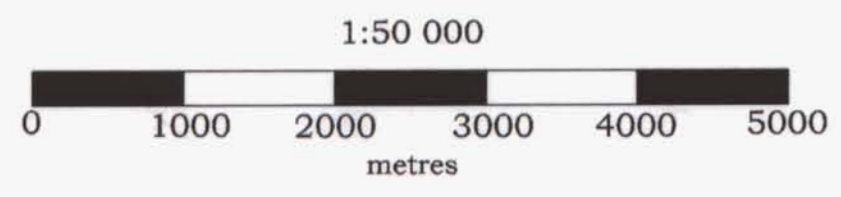
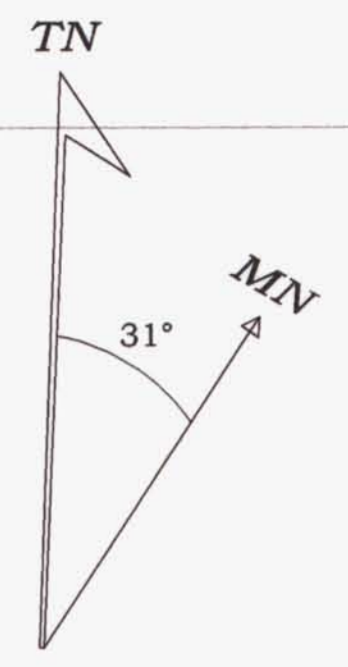
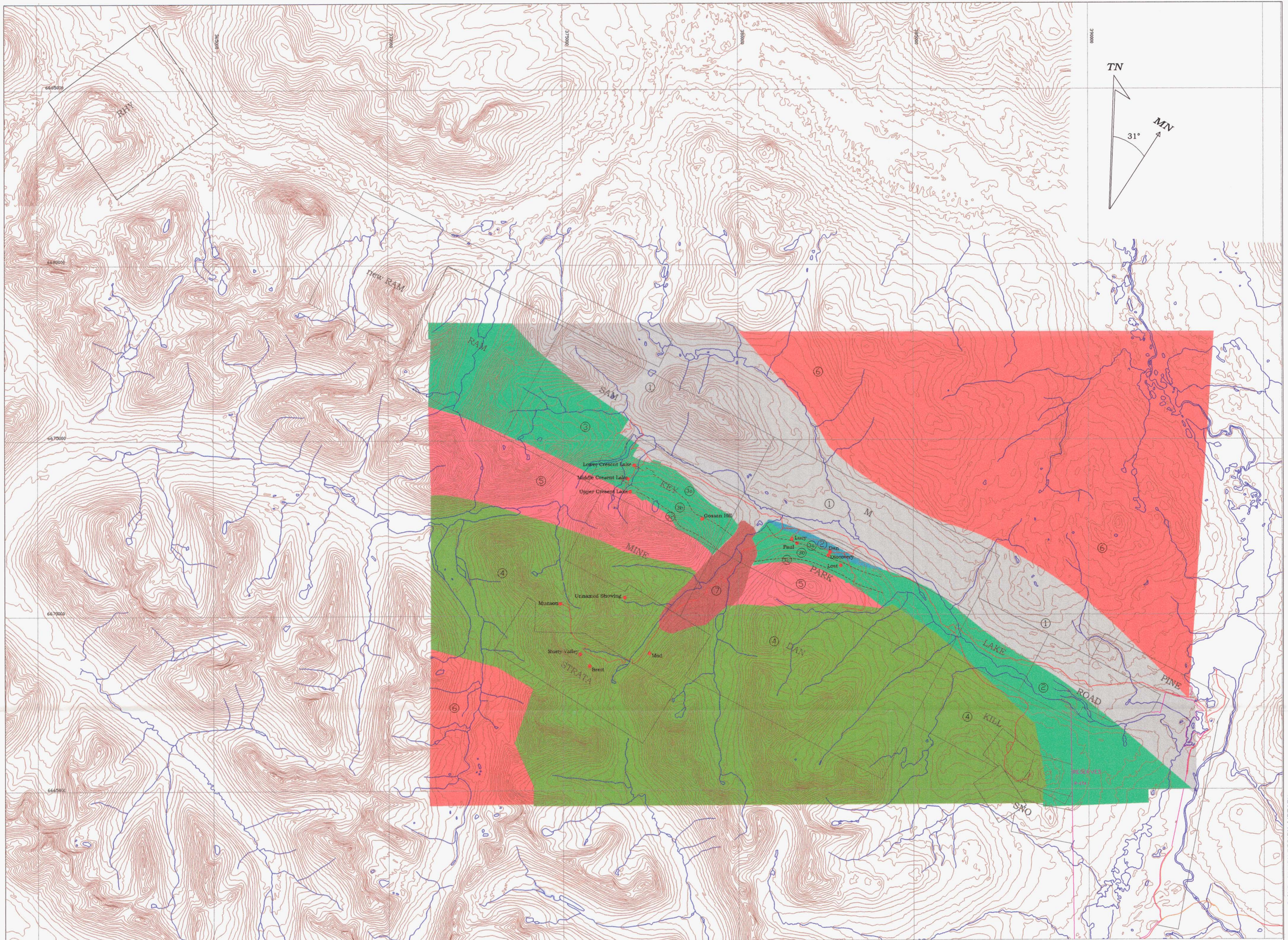
All samples were analyzed at the Vancouver, B.C. laboratory of Intertek Testing Services/Bondar Clegg (ITS).

Stream sediment samples were collected by hand in plastic bags and submitted with no field preparation. At ITS stream sediment samples were dried, disaggregated, and sieved to -80 mesh (ITS code PRS1) before undergoing the same crush/pulverize procedure as the rock samples. Sample SR98T-006 was sieved to -40 mesh to get enough sample.

All samples were crushed to 75% -10 mesh, split to 250 grams, and pulverized by ring and puck to -150 mesh (ITS code PRSR). Gold analyses was done by fire assay fusion lead collection followed by atomic absorption measurement of 30 grams (ITS code FA30). Geochemical analyses were done by 4 acid digestion (HCl-HNO₃-HF-HClO) followed by 34 element ICP measurement (ITS code IC30).



NOTE: the contours are in 30m intervals north of 6681500 N and 100' intervals to the south.

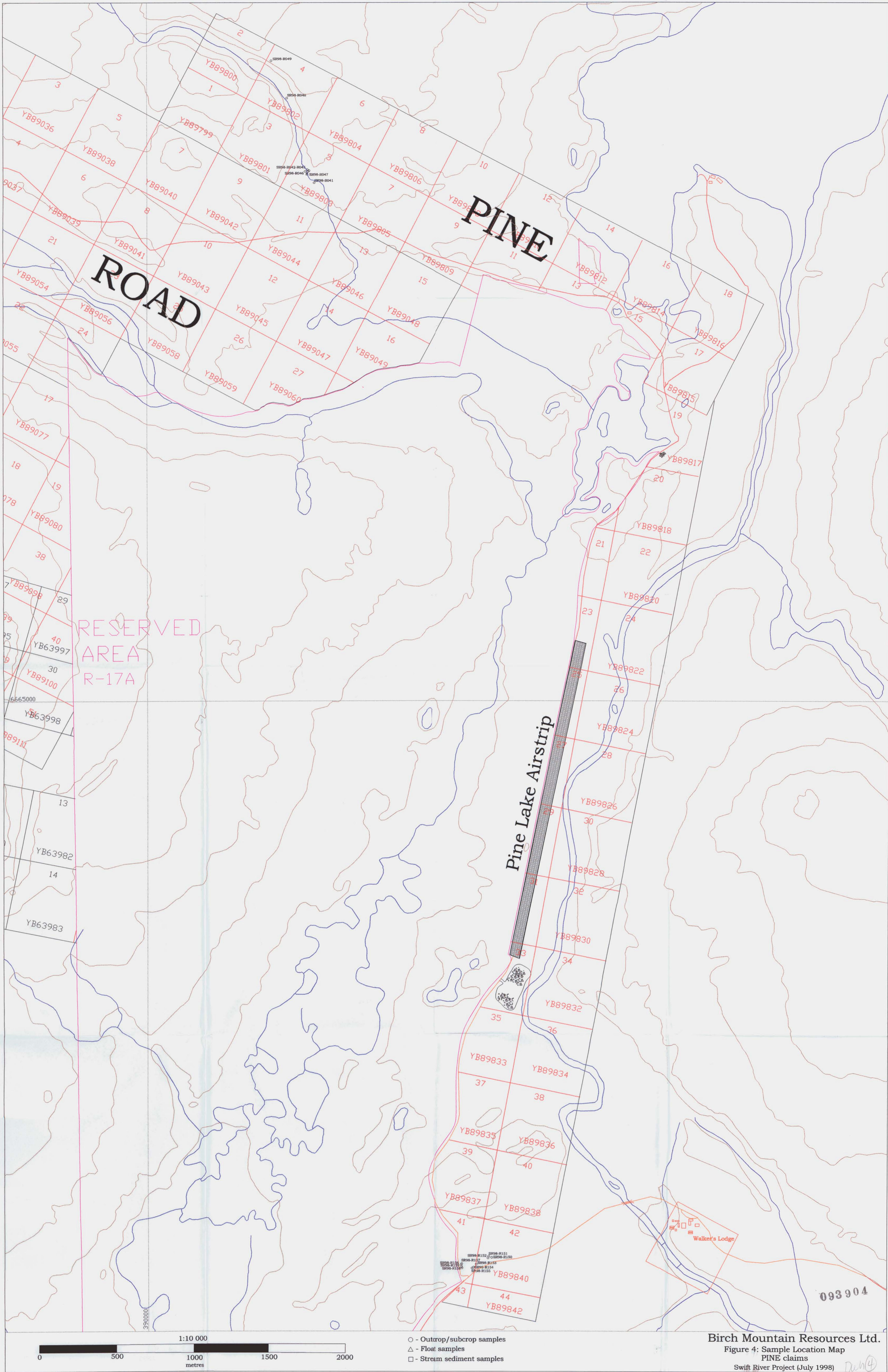


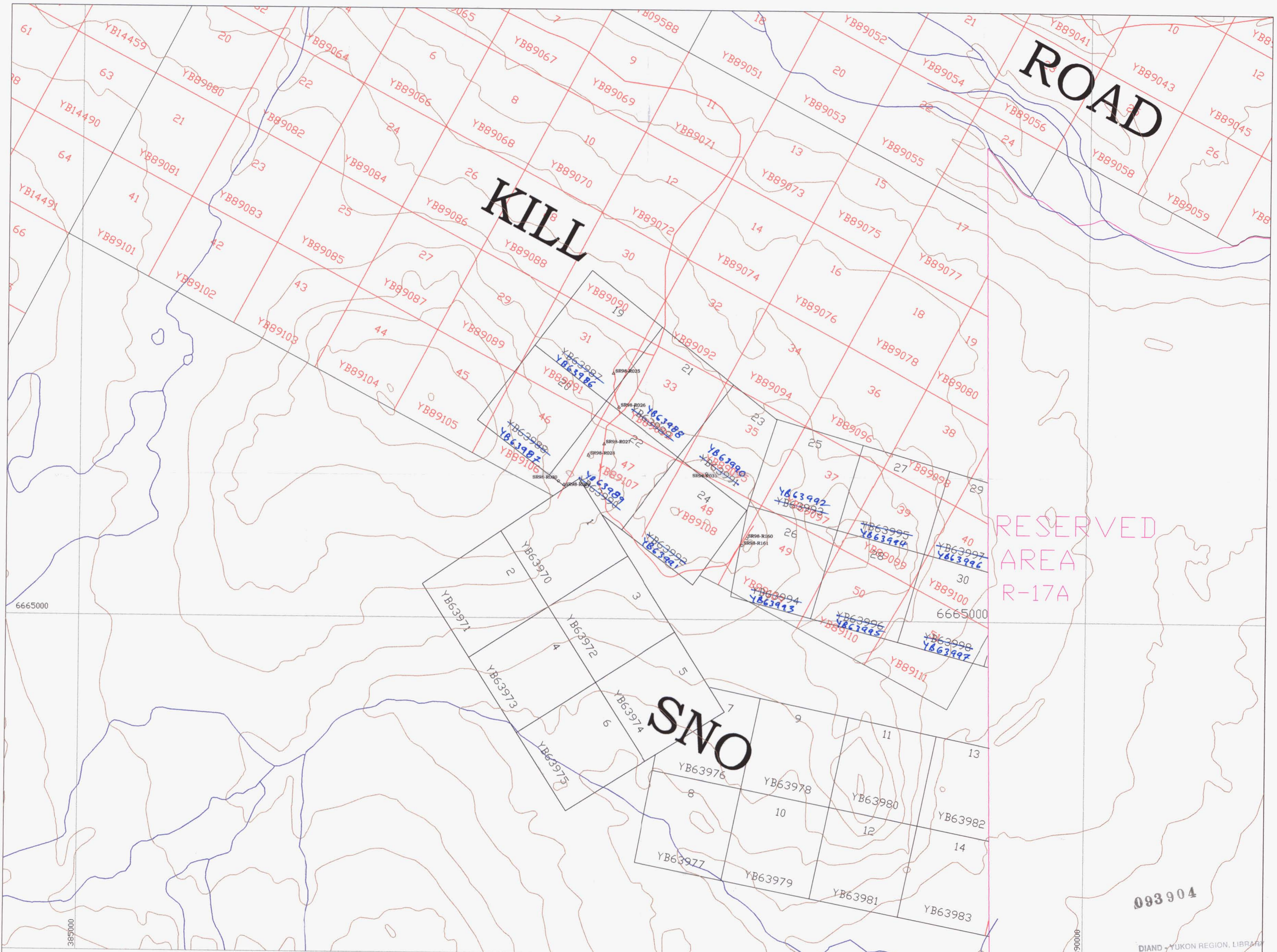
NOTE: the contours are in 30m intervals north of 6681500 N and 100' intervals to the south.

Cretaceous	Devonian - Mississippian	Cambrian - Silurian	Legend
7 White to light grey Quartz Monzonite	4 White sericite schist, grey argillaceous schist, grey siltstone, black argillite, white marble. May be a repeat of units 1,2, and 3.	1 Grey to black argillaceous phyllite, siliceous argillite, limestone, Sandstone at base.	● Mineralized Showings
6 Cassiar and Seagull Batholiths. White to grey Alaskite and Quartz Monzonite	3 Metamorphosed volcanic and clastic, includes muscovite-chlorite-argillaceous schists, calc-silicate hornfels, siltstone and phyllite. 3a) green to brown calc-silicate hornfels with sulphide pods. 3b) white to grey sericite schist, dark grey graphitic schist, light green chlorite schist. 3c) green to brown calc-silicate hornfels with sulphide pods.		— Major Roads
5 Light green Diorite and Granodiorite	2 Dan Marble, light grey to white massive to bedded marble with sulphide and hornfelsic stringers.		PARK Claim Name

Birch Mountain Resources Ltd.
Figure 3: Geological map
 Swift River Project (July 1998)

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 DW16





- - Outcrop/subcrop samples
- △ - Float samples
- - Stream sediment samples

NOTE: our location of the SNO claims is taken from a GPS survey done in 1997.

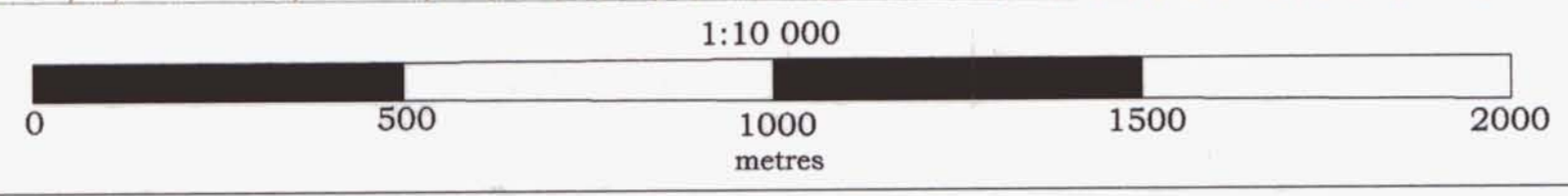
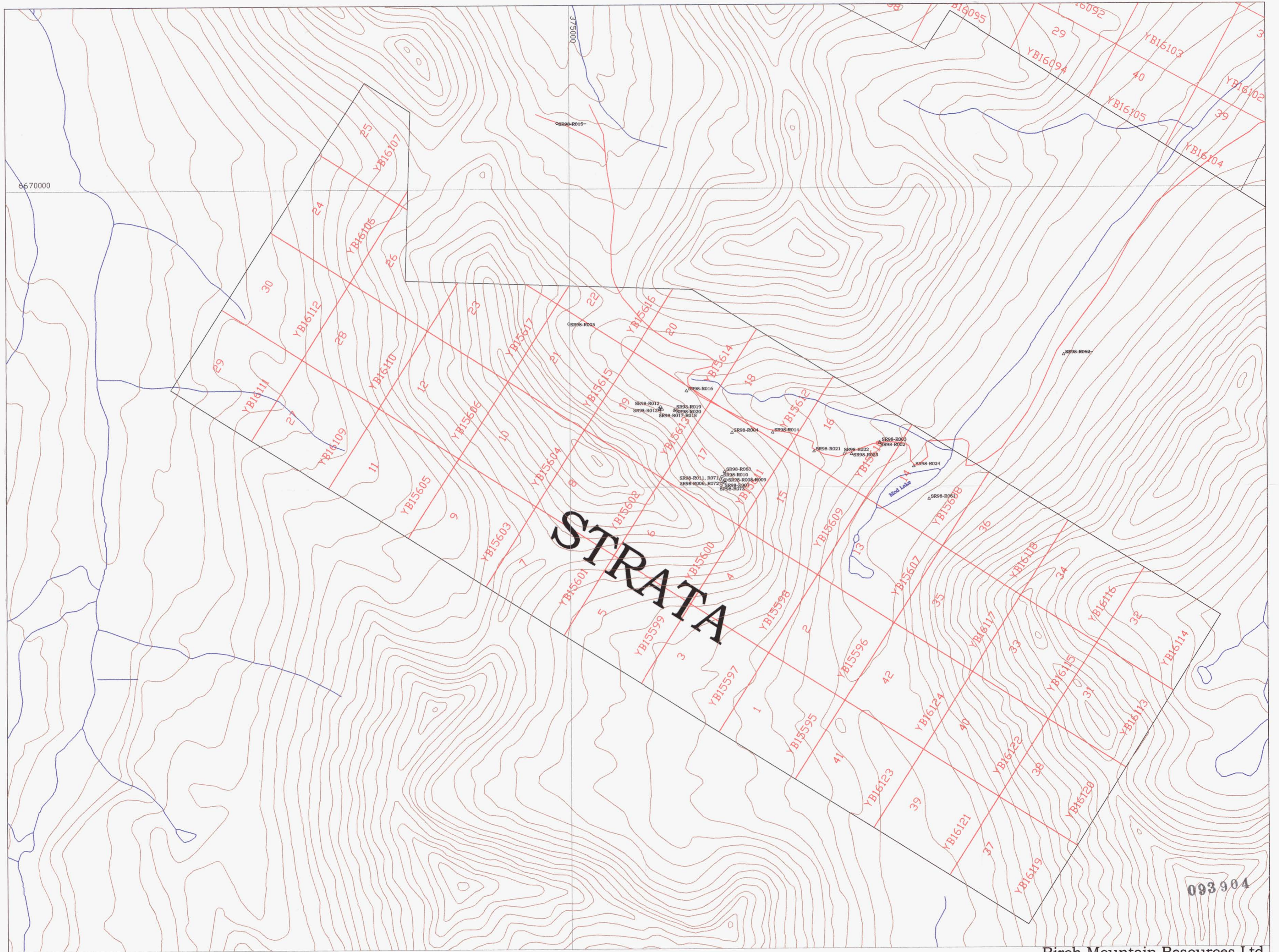
Birch Mountain Resources Ltd.

Figure 5: Sample Location Map SNO claims

Swift River Project (July 1998)

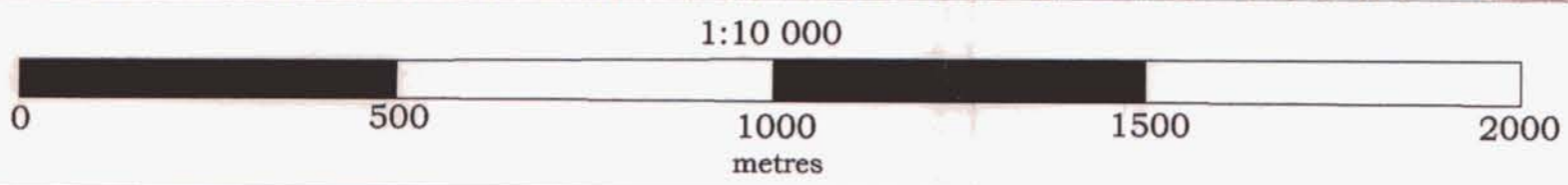
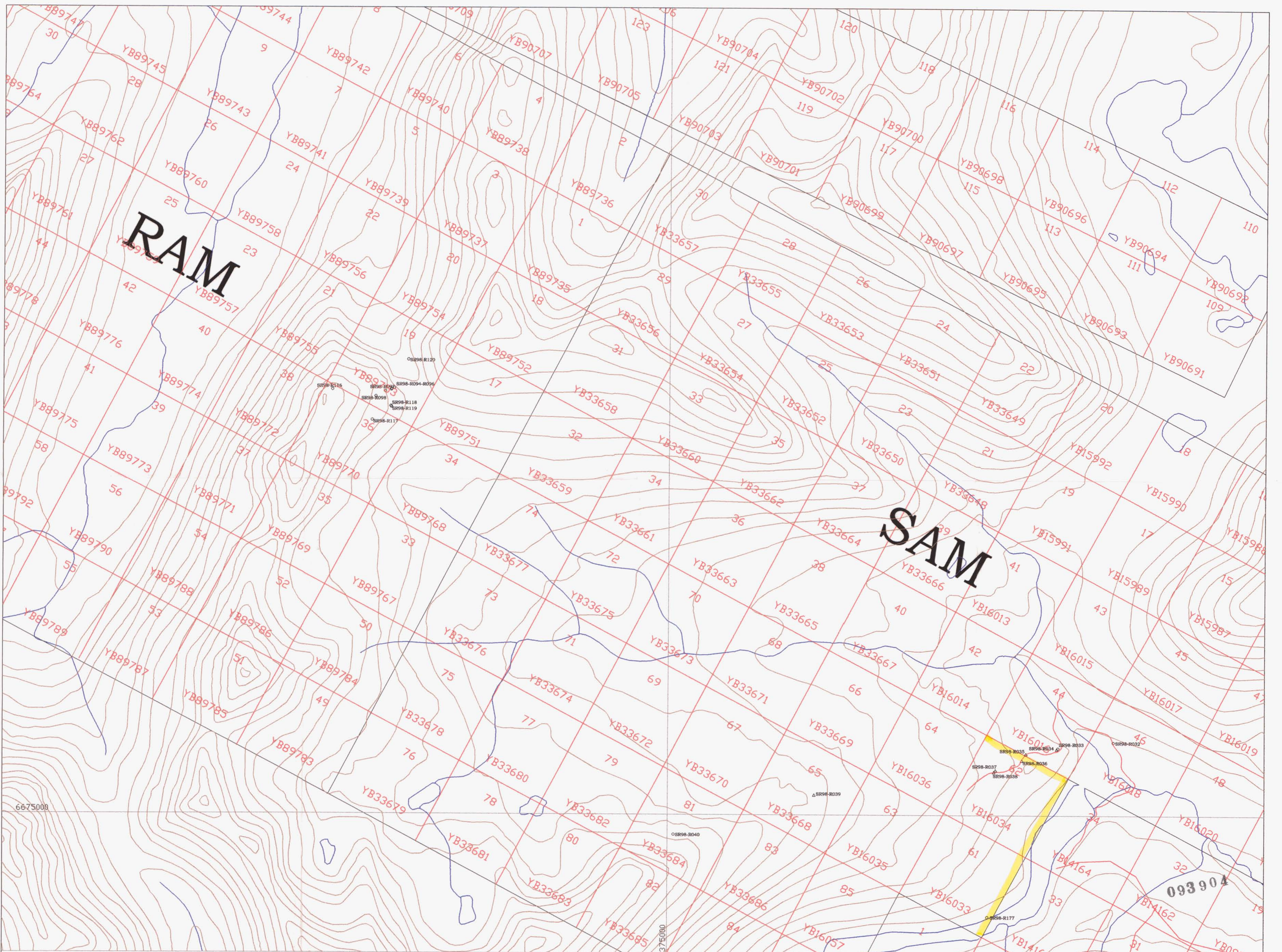
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- - Outcrop/subcrop samples
- △ - Float samples
- - Stream sediment samples

Birch Mountain Resources Ltd.
 Figure 6: Sample Location Map
 STRATA claims
 Swift River Project (July 1998) *Dwb*



- - Outcrop/subcrop samples
- △ - Float samples
- - Stream sediment samples

Birch Mountain Resources Ltd.
 Figure 7: Sample Location Map
 RAM and SAM claims
 Swift River Project (July 1998)