GEOLOGICAL MAPPING AND SAMPLING REPORT

ON THE CLAIMS

SITUATED IN STRATHY TWP.

NTS 31 M / 4

HELD BY

GRANGES INC.

2200-885 WEST GEORGIA STREET

VANCOUVER B.C.

V6C 3E8

FEBRUARY 10, 1994

TODD KEAST

TABLE OF (

010C

FIGURES

TABLES

MAPS

APPENDICES

TRODUCTION

Between the period of September 27 and October 8, 1993 a two person exploration crew evaluated the mineral potential over 26 claim units situated in Strathy Township, Ontario. Exploration consisted of geologic mapping and lithogeochemical sampling and prospecting. A total of 71 samples were taken for whole rock and base metal analysis. A number of samples returned anomalous Cu and Zn values. A gossanous horizon with anomalous Cu and Zn and a coincident HLEM and magnetic response appears to be the highest priority target and may require further investigation. The cost of the exploration program was $9,995.

LOCATION AND ACCESS

The Net Lake Option is located 4 km north of the town of Temagami, Ontario, and approximately 100 km north of North Bay, Ontario. The property consists of 26 unpatented claim units in Strathy Township, Cobalt Mining Division (Figure 1, Table 1). The latitude and longitude of the property are approx 79 50′ E and 47 15′ N respectively. The property lies within NTS 31M/4. Easy access is provided by Highway 17 which passes through the east portion of the property, and the Kanichee Road which passes through the south and west potions of the property.

TABLE 1: Net Lake Option Claim List

Claim No.	No. of Claim Units	Record Date
S.1189043	6	Jan. 16, 1992
S.1189044	1	Jan. 16, 1992
S.1189045	1	Jan. 16, 1992
S.1189046	15	Jan. 16, 1992
S.1189083	2	June 15, 1992
S.1189084	1	Sep. 28, 1992
	26 Claim Units Total	

TOPOGRAPHY

The topography of the area is rolling. A series of gentle north south trending ridges define drainage into Net Lake. The vegetation consists predominantly of balsam and spruce in the low areas and a mixture of poplar with some balsam in the higher areas. Outcrop exposure is approximately 1-3% with most outcrop exposures covered with fallen trees. Most of the mapping was completed utilizing Grids for control and location.

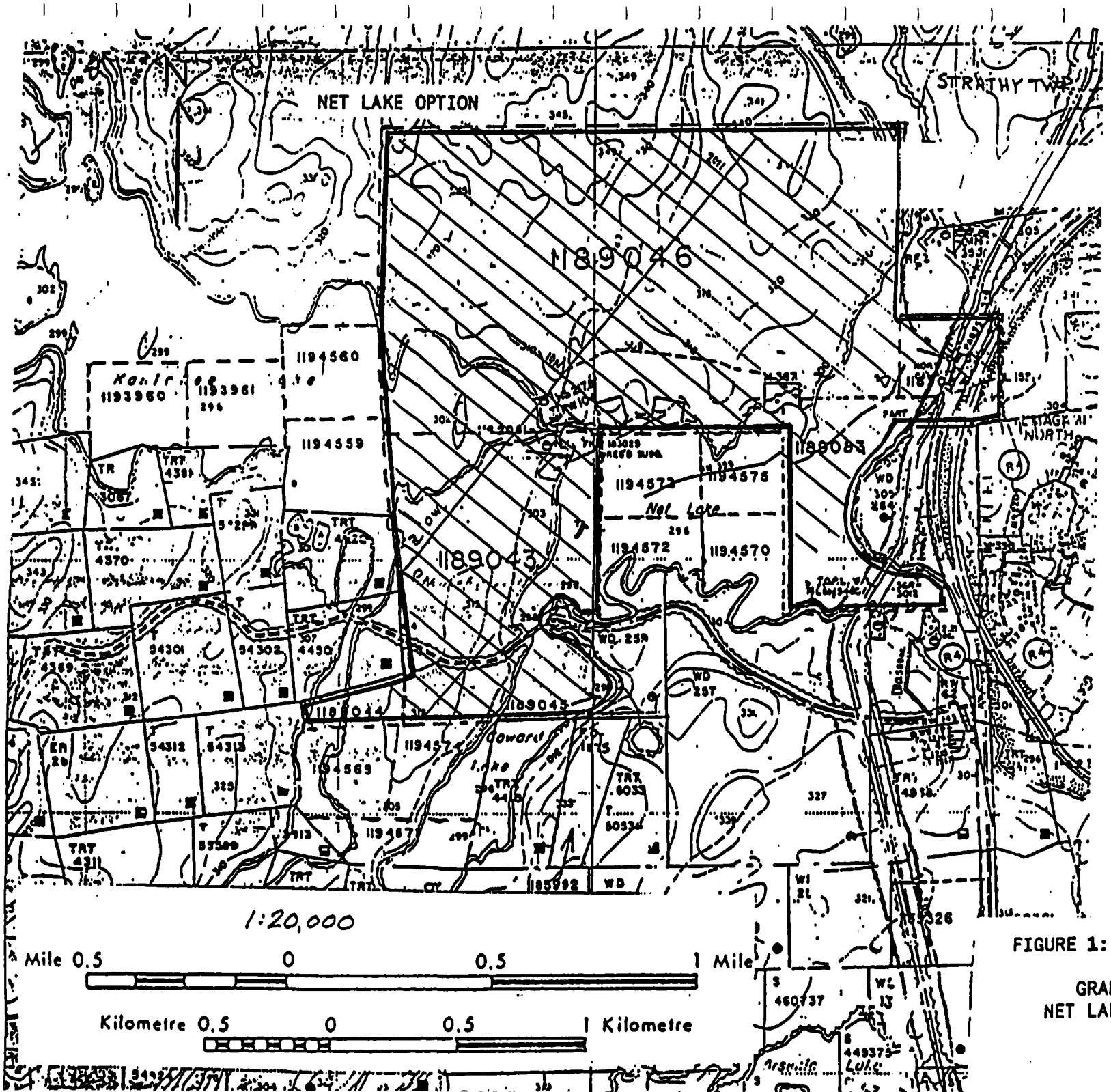


FIGURE 1:

GRANGES INC.
NET LAKE OPTION

GIONAL GEOLOGY

The property lies within the Arsenic Assemblage of the Temagami Greenstone Belt, an Archean volcano-sedimentary assemblage consisting of bimodal volcanic rocks. This assemblage lies between the Chambers - Strathy batholith to the southwest and the Kanichee zoned mafic intrusion to the northwest.

Rocks in the area are predominantly mafic volcanic flows with subordinate felsic units. FIII type rhyolites are reportedly present in this assemblage. The presence of bimodal tholeiitic extrusive rocks, felsic rocks, FIII type rhyolites and zoned mafic intrusions are all features commonly associated with volcanic sequences which host VMS deposits. Thus the area is highly prospective for hosting VMS mineralization.

Two suspected hydrothermal alteration zones (chloritized, silicified), are noted in the area. The Boot Bay alteration zone is situated in the southeast corner of Net Lake approximately 4 km southeast of the property. In addition to the alteration at this locale, numerous Po-Py occurrences have been discovered. The Kanichee Lake alteration zone is located south of the west end of Kanichee Lake approximately 2 km west of the Net Lake Option.

The Net Lake - Vermillion Lake Deformation Zone transects the greenstone belt from southwest to northeast, crossing the southeastern corner of the property. Gold mineralization is associated with this deformation zones and is typical of shear hosted gold deposits.

PREVIOUS WORK

The area has seen a long history of exploration activities from 1899 to 1983, for a diverse range of metals. Records are available as assessment file data at the Resident Geologists Office in Cobalt and are described in Bennet, 1978-GR163, and OGS, 1985-GDIF 201. The area has seen renewed interest including work by exploration companies, individuals and the Ontario Geological Survey (see Table 2).

TABLE 2

Company	Date	Work Completed
-Strathy Basin Mines Ltd.	1934	Trenching, Mag
-Plaunik Mining Syndicate -International Nickel Company of Canada	1938	Geological Mapping, Trenching, Drilling

Table 2 Cont'd

Company	Date	Work Completed
-Iris Gold Mines Ltd.	?	?
-Clenor Mining Co. Ltd	1951, 1954	Drilling
-Trebor Mines Ltd.	1949, 1951	Mag, Drilling
-Temagami Mining Co. Ltd.	1956-1960	EM, Resistivity, Drilling
-Goldfields Mining Corp.	1963	Drilling, Mag, AEM, EM
-E.L. MacVeigh	1963-1970	Geology, Trenching, Mag, EM, Drilling
-P.L. Gordon	1971	Mag, EM
-Canadian Nickel Co. Ltd	1975	Geology,Geochemistry, Trenching, Drilling, Mag, EM

PROPERTY GEOLOGY

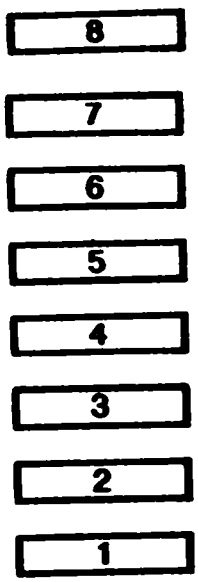
The geology of the Net Lake Option is detailed on the enclosed 1:2500 Maps 1 and 2. DDH locations, whole rock sample locations, and recently cut grids have been superimposed on the geology.

The geology of the property from west to east consists of the Kanichee layered gabbro intrusion, overlain by a thick sequence of basalt, andesite and dacite flows which is in turn overlain by a thin rhyolite lapilli tuff unit. A felsic unit, possibly a tuff or a sediment overlies the rhyolite. A pillowed basalt overlies the sediment. Facing directions from the pillowed basalt are consistently to the east. The volcanics have been intruded by a massive gabbro sill and a number of north south trending mafic dykes. The volcanics are bound to the north and east by the Strathy Chambers granodiorite.

In general the basalt, andesite and dacite units are massive with a weak to moderate foliation. Rare outcrops display lapilli sized fragments. The unit is occasionally brecciated proximal to the layered gabbro intrusion. Weak pyrite, pyrrhotite and chalcopyrite mineralization has been detected in the mafics, particularly along the contact of a diabase dyke. The mineralization does not appear to correlate with any strong HLEM anomalies. Due to the lack of outcrop exposure it was not possible to correlate individual flow units or individual dacite units.

The rhyolite unit, although only identified at several locations, is both massive and tuffaceous. The small island situated on Net Lake is perhaps the best exposure of the tuffaceous rhyolite.

A strongly gossanous rhyolite-sedimentary unit is situated along the east shore of Net Lake and under Net Lake. The unit is buff in colour with a moderate to strong foliation. This unit is strongly anomalous in Cu and Zn and has a coincident HLEM and Magnetic


8
DIABASE DYKE
7
GRANITE
6
GREYWACKE?
5
RHYOLITE
4
DACITE
3
ANDESITE
2
BASALT
1
GABBRO

sponse. A number of trenches have been excavated on this horizon, in addition to 4 diamond drill holes. Narrow sections of sulphides were encountered in the drilling. This unit appears to be the most prospective horizon on the Net Lake Option.

Two foliation directions S1 and S2 have been recorded on the property. The S1 foliation is recorded as a schistosity and lapilli alignment oriented approximately north south. The S2 foliation is recorded as a weak cleavage oriented northeast, parallel to the Net Lake - Vermillion Lake Deformation Zone. A number of mineral occurrences, including the gossanous horizon on the east shore of Net Lake, have been documented along this deformation zone.

GEOCHEMISTRY

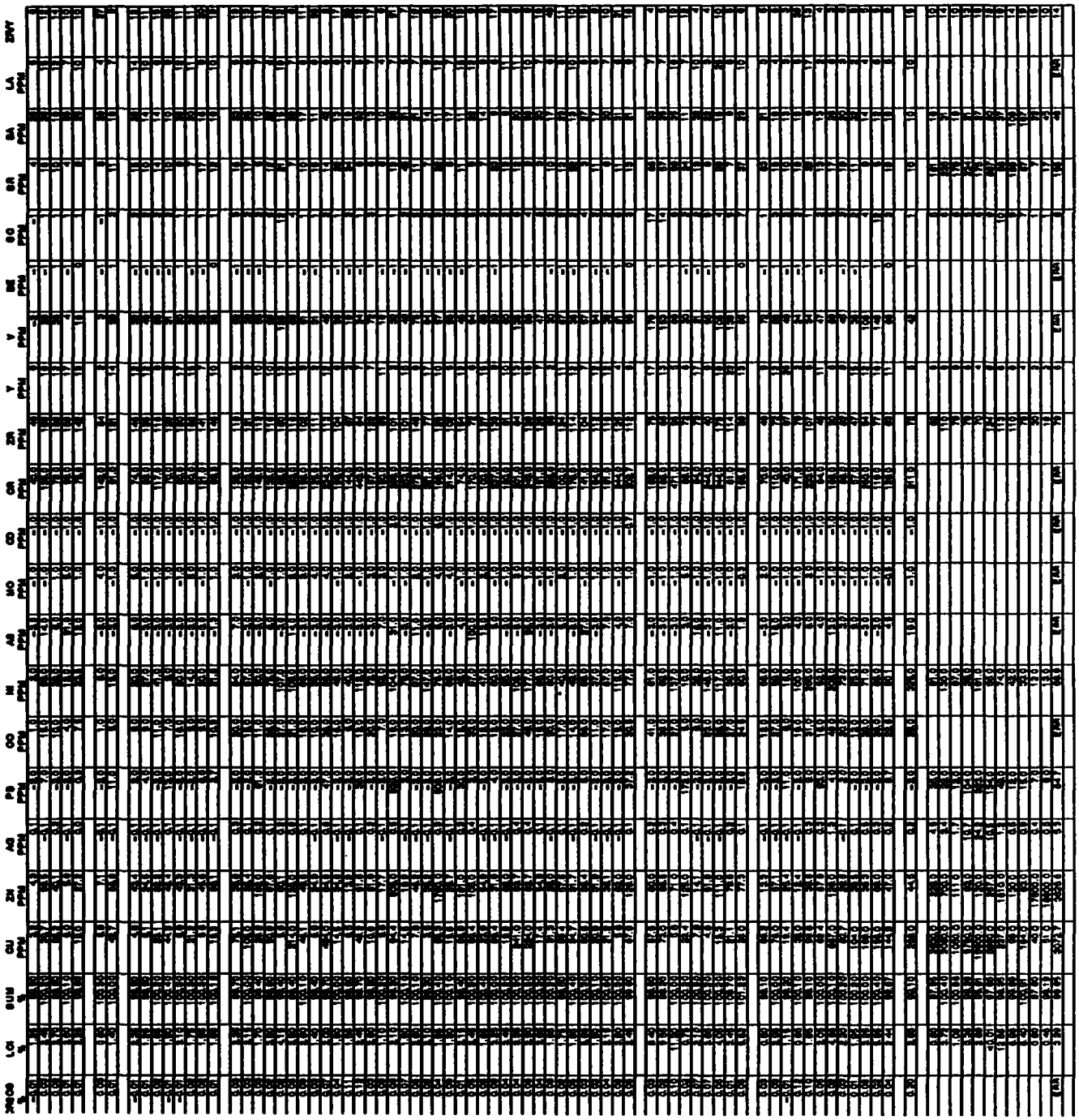
A total of 71 samples were taken for whole rock and base metal analysis. The results displayed on Table 3 are sorted by individual rock type. Based upon the field observations and a preliminary examination of the results, strong hydrothermal alteration has not been detected on the property. However a number of samples have returned anomalous Cu and or Zn values. In particular the felsic (sedimentary?) unit situated along the east shore of Net Lake is consistently anomalous in Cu and Zn.
The chemistry of this unit is somewhat complicated. Based upon field observations and the TiO2 results, this unit would classify as a rhyolite. However, the SiO2 is very low (51%), the Al2O3 is highly variable and the CaO is very high (15%). The results may indicate this unit is a sediment, and considering that it is situated along the Net Lake - Vermillion Lake Deformation Zone, possibly a sheared sediment.

The chemistry of the basalts, andesites and dacites show some variability in the major elements, however no area of strong enrichment or depletion of any major element has been detected.

The results of the sampling program are included in Appendix A with the laboratory procedure outlined in Appendix B.

RECOMMENDATIONS

The Net Lake Option consists of 26 claim units situated in the prospective Arsenic Assemblage of the Temagami Greenstone Belt. One prospective unit has returned a number of samples anomalous in Cu and Zn. The chemistry of this unit is somewhat complicated and further work is required to properly define it. Further work on the property will be dependant on a more rigorous analysis of the whole rock results. In addition further sampling along this unit may be possible.



STATEMENT OF EXPENDITURES

A total of $9,995 has been spent on the mapping and sampling portion of the project. This includes salaries for two geologists, whole rock and ICP results, equipment rentals, Mobe and demobe, food and supplies. A Statement of Expenditures is enclosed on Table 4.

TABLE 4

NET LAKE #540

STATEMENT OF EXPENDITURES 1993

CLAIM #	CLAIM UNITS	GEOLOGY ($133/day) Mandays	GEOLOGY COST	ANALYTICAL COSTS WRA(@$13.91) WRA #samp.	WRA COST	ICP(@$4.51) ICP #samp.	ICP COST	PREP(@$3.75) PREP #samp.	PREP COST	GEOCH. SUBTOT	EQUIP RENTAL (@$70/DAY) DAYS	EQUIP RENTAL COST	CAMP COSTS (@$95/manday) DAYS	CAMP COSTS COST	REPORT PREP. (@$400.00) DAYS	REPORT PREP. COST	SUB-TOTAL	OVERHEAD (10%)	TOTAL CLAIM
1189043	6	4	532	14	194.77	14	63.14	14	52.50	310.4	3	210	6	570			1622	162	$1,785
1189044	1	4	532								1	70	2	190			792	79	$871
1189045	1	1	133								1	70	2	190			393	39	$432
1189046	15	13	1729	50	695.59	50	225.50	50	187.50	1108.6	5	350	10	950	1	400	4538	454	$4,991
1189083	2	1	133	1	13.91	1	4.51	1	3.75	22.2	1	70	2	190	1	400	815	82	$897
1189084	1	1	133	6	83.47	6	27.06	6	22.50	133.0	1	70	2	190	1	400	926	93	$1,019
	26	24	$3,192	71	$988	71	$320	71	$266	$1,574	12	$840	24	$2,280	3	$1,200	$9,086	$909	$9,995

CERTIFICATE OF QUALIFICATIONS

I, Todd M. Keast, of the City of Timmins, in the province of Ontario, do certify that:

1. I am a Project Geologist, employed by Granges Inc. of Vancouver, British Columbia.

2. I am a graduate of the University Of Manitoba, Winnipeg, Manitoba, having received an Honors Bachelor of Science (Geology) in 1986.

3. I have practised in the field of mineral exploration since 1987.

4. I am a fellow of the Geological Association of Canada.

5. I am a member of the Canadian Institute of Mining, Metallurgy and Petroleum.

Dated at Timmins, Ontario this 10th day of February 1994.

Todd Keast

Todd M. Keast, B.Sc.

REFERENCES

Bennett, G. and Innes, D.G., 1971
Preliminary Geological Map - Strathy Twp., ODM P-667 1" to 1/4 mile uncoloured.

Bennett, G., 1978
Geology of Northeast Temagami Area, District of Nipissing. O.G.S., Report 163, 128 p. Accompanied by Maps 2323 (Chambers and Strathy Twps.) and 2324, scale 1:31,680 or 1" to 1/2 mile, coloured, and one chart.

Card, K.D., 1971
Sudbury - Cobalt Sheet; Algoma, Manitoulin, Nipissing, Perry Sound, Sudbury and Timiskaming Districts, Ontario Regional Geological Compilation Map, ODMNA Map 2188; 1:253,440

Fyon, J.A. and Cole, S., 1989
Geology of Part of the Temagami Greestone Belt, District of Nipissing; Including Relationships Between Lithologic, Alteration, and Structural Features and Precious-Metal Occurrences, p. 108-115, **Summary of Field Work and Other Activities 1989**, O.G.S., Misc. Paper 146.

Fyon, J.A. and Crocket, J.H., 1986
Exploration Potential for Base and Precious Metal Mineralization in Part of Strathy Township, Temagami Area; O.G.S., Open File Report 5591, 46 p. Accompanied by 5 figures and maps.

1987 Metallogenic Studies in the Temagami Greenstone Belt, District of Nipissing. p. 190-197 in **Summary of Field Work and Other Activities 1987** by the O.G.S. ed. R.B. Barlow, M.E. Cherry, A.C. Colvine, B.O. Dressler, O.L. White, O.G.S., Misc. Paper 137, 429 p.

Moorhouse, W.W., 1942
The Northeastern Portion of the Temagami Lake Area; O.D.M. Annual Report, 1942, Vol. 51, Part 6, 46 p. Accompanied by Map 51e, scale 1:63;360 or 1" to 1 mile.

Ontario Geological Survey, 1985
Strathy Twp., District of Nipissing, O.G.S., Geological Data Inventory Folio 201, compiled by staff of the Resident Geologist's Office, Cobalt; 104 p., 4 maps 1:31,680 (uncoloured).

Savage, W.S., 1935
Part of Strathy Twp., p. 48-56 in O.D.M. Annual Report, 1935, Vol. 44, Part 7.

APPENDIX A

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

2W-0942-RG1

Company: GRANGES INC
Project: ~~5302~~
Attn: S. WEEKES

Date: AUG-28-92

We hereby certify the following Geochemical Analysis of 11 ROCK samples submitted AUG-26-92 by A. BATH.

Sample Number	Au PPB	Ag PPM	Cu PPM	Ni PPM	Pb PPM	Zn PPM	WRA PPM
28702	3	4.5	2830	91	26	229	
28703	7	3.4	2080	130	22	700	
28704	10	1.7	1050	87	12	111	
28705	24	10.7	5780	38	104	63	
28706	34	24.2	15500	181	323	120	
28707	17	10.5	5980	56	134	267	
28708	27/31	1.2	227	74	49	1610	
28709	10	0.5	98	42	12	130	
28710	3	0.8	164	33	15	63	
28711	3	0.4	40	12	7	17800	
28712	3	0.5	51	13	8	18800	

Certified by Donna Gardner

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244. FAX (705) 642-3300

Laboratoires TSL/ASSAYERS Laboratories

780 AV. DU CUIVRE C.P. 665 ROUYN-NORANDA QUEBEC J9X 5C6
PHONE #: 819-797-4653 FAX #: 819-797-4501

GRANGES INC
2W-0942-RG1

ATTN:S.WEEKS
539-2

REPORT No. : T2019
Page No. : 1 of 1
File No. : SE24RA
Date : OCT-01-1992

Rec'd 10/08/92

I.C.A.P. WHOLE ROCK ANALYSIS

Lithium MetaBorate Fusion

SAMPLE #		SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Ba PPM	Sr PPM	Y PPM	Sc PPM	LOI %	TOTAL %
28702		57.60	6.85	13.13	12.43	6.11	0.12	0.04	0.20	0.17	0.10	16	161	6	5	0.90	97.95
28703		48.06	10.51	16.04	14.32	6.51	0.18	0.12	0.30	0.21	0.14	31	226	8	6	3.72	100.40
28704		50.21	8.96	12.14	15.17	9.23	0.12	0.06	0.26	0.19	0.10	19	178	8	6	1.09	100.86
28705		53.00	9.75	12.73	13.19	7.10	0.09	0.06	0.24	0.18	0.22	21	234	6	5	0.35	99.28
28706		43.92	7.19	21.86	13.02	2.01	0.19	0.06	0.22	0.16	0.26	27	175	4	6	2.89	95.61
28707		47.53	16.72	10.35	17.51	4.92	0.09	0.08	0.45	0.16	0.26	29	387	8	9	<0.01	97.96
28708		44.14	8.91	25.34	0.28	0.37	2.65	0.52	0.22	0.16	0.08	57	56	6	10	12.66	98.35
28709		52.25	11.86	18.05	5.88	3.08	0.33	0.90	0.38	0.19	0.10	106	198	8	8	6.96	99.99
28710		57.89	10.50	17.92	3.47	1.92	0.48	1.76	0.32	0.16	0.12	187	67	4	7	6.40	100.91
28711	ZN	50.40	0.61	9.49	20.71	14.59	0.06	0.05	0.02	2.02	<0.02	22	7	< 2	1	0.80	97.80
28712	ZN	51.04	0.56	9.22	21.76	13.72	0.08	0.04	0.02	1.91	<0.02	21	17	< 2	1	0.46	98.19

SIGNED : [signature]

XRAL Laboratories
A Division of SGS Canada Inc.

1885 Leslie Street
Don Mills, Ont.
Canada M3B 3J4
Telephone (416) 445-5755
Fax (416) 445-4152
Telex 06986947

RECEIVED JAN 2 5 1994

CERTIFICATE OF ANALYSIS

REPORT 25737

TO: GRANGES INC
ATTN: TODD KEAST
136 CEDAR ST. SOUTH
TIMMINS, ONTARIO
P4N 2G9

CUSTOMER No. 1984

DATE SUBMITTED
16-Dec-93

REF. FILE 17068-L7

TOTAL PAGES 10

5 ROCKS, 1 PULP ON HAND Proj. NET LAKE 540

	METHOD	DETECTION LIMIT	METHOD CODE		METHOD	DETECTION LIMIT	METHOD CODE
AU PPB	NA	2.	15-R	Y PPM	XRF	2.	7-1
BE PPM	ICP	.5	70-1	Y PPM	ICP	.1	70-1
BA PPM	NA	50.	15-R	ZR PPM	XRF	3.	7-1
BA %	ICP	.01	70-1	ZR PPM	ICP	.5	70-1
WRMAJ %	XRF-F	.01	100	MO PPM	NA	2.	15-R
MG %	ICP	.01	70-1	MO PPM	ICP	1.	70-1
AL %	ICP	.01	70-1	AG PPM	NA	2.	15-R
P %	ICP	.01	70-1	AG PPM	ICP	.1	70-1
K %	ICP	.01	70-1	CD PPM	ICP	1.	70-1
CA %	NA	.2	15-R	SN PPM	ICP	10.	70-1
CA %	ICP	.01	70-1	SB PPM	NA	.1	15-R
SC PPM	NA	.01	15-R	SB PPM	ICP	5.	70-1
SC PPM	ICP	.5	70-1	CS PPM	NA	.5	15-R
TI %	ICP	.01	70-1	BA PPM	NA	50.	15-R
V PPM	ICP	2.	70-1	BA PPM	ICP	1.	70-1
CR PPM	NA	.5	15-R	LA PPM	NA	.1	15-R
CR PPM	ICP	1.	70-1	LA PPM	ICP	.5	70-1
MN PPM	ICP	2.	70-1	CE PPM	NA	1.	15-R
FE %	NA	.005	15-R	ND PPM	NA	3.	15-R
FE %	ICP	.01	70-1	SM PPM	NA	.01	15-R
CO PPM	NA	.5	15-R	EU PPM	NA	.05	15-R
CO PPM	ICP	1.	70-1	TB PPM	NA	.1	15-R
NI PPM	NA	50.	15-R	YB PPM	NA	.05	15-R
NI PPM	ICP	1.	70-1	LU PPM	NA	.01	15-R
CU PPM	ICP	.5	70-1	HF PPM	NA	.2	15-R
ZN PPM	NA	20.	15-R	TA PPM	NA	.5	15-R
ZN PPM	ICP	.5	70-1	TA PPM	ICP	1.	70-1
AS PPM	NA	1.	15-R	W PPM	NA	1.	15-R
AS PPM	ICP	3.	70-1	W PPM	ICP	10.	70-1
SE PPM	NA	1.	15-R	IR PPB	NA	5.	15-R
BR PPM	NA	.5	15-R	PB PPM	ICP	2.	70-1
RB PPM	NA	10.	15-R	BI PPM	ICP	3.	70-1
SR PPM	NA	100.	15-R	TH PPM	NA	.2	15-R
SR PPM	ICP	.5	70-1	U PPM	NA	.1	15-R

*** UNLESS INSTRUCTED OTHERWISE WE WILL DISCARD PULPS IN 90 DAYS ***
AND REJECTS IN 30 DAYS FROM THE DATE OF THIS REPORT

DATE 19-Jan-94

CERTIFIED BY

per

Jean H. Opdebeeck, General Manager

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	AU PPB NA 15-R	BE PPM ICP 70-1	NA PPM NA 15-R	NA % ICP 70-1	MG % ICP 70-1	AL % ICP 70-1	P % ICP 70-1	K % ICP 70-1
19176	<2	.7	2300	.02	1.04	1.55	.04	<.01
19177	--	1.2	--	.03	1.61	1.72	.03	<.01
19178	--	.8	--	.02	.19	.53	.04	<.01
19179	<2	.7	520	.01	2.47	2.59	.05	<.01
19180	<2	.7	460	.02	2.31	2.53	.06	<.01
30716	<2	--	25000	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--
C DCP CONTROL	--	<.5	--	.03	.29	.69	.02	<.01
D 19176	<2	.7	2100	.02	1.03	1.54	.04	<.01

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

	SAMPLE	CA % NA 15-R	CA % ICP 70-1	SC PPM NA 15-R	SC PPM ICP 70-1	TI % ICP 70-1	V PPM ICP 70-1	CR PPM NA 15-R	CR PPM ICP 70-1
	19176	2.6	.39	9.38	.8	.07	18	96.0	51
	19177	--	.23	--	3.0	.03	34	--	56
	19178	--	.10	--	.8	.02	10	--	36
	19179	.9	.33	19.5	3.0	.02	47	65.0	32
	19180	1.2	1.03	11.0	.8	.02	18	56.0	28
	30716	2.9	--	10.6	--	--	--	130	--
C	XRA CONTROL	--	--	--	--	--	--	--	--
C	XRA CONTROL	--	--	--	--	--	--	--	--
C	DCP CONTROL	--	.36	--	1.3	.06	24	--	75
D	19176	2.5	.40	9.06	.7	.07	19	89.0	49

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	MN PPM ICP 70-1	FE % NA 15-R	FE % ICP 70-1	CO PPM NA 15-R	CO PPM ICP 70-1	NI PPM NA 15-R	NI PPM ICP 70-1	CU PPM ICP 70-1
19176	746	4.27	3.13	15.0	11	90	36	47.3
19177	946	--	7.31	--	45	--	70	350
19178	153	--	4.58	--	53	--	88	870
19179	568	4.67	3.44	21.0	16	<50	27	11.2
19180	786	4.40	3.44	18.0	13	50	19	13.3
30716	--	2.46	--	14.0	--	<50	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--
C DCP CONTROL	127	--	1.18	--	4	--	10	11.0
D 19176	738	4.17	3.09	14.0	12	60	35	46.7

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	ZN PPM NA 15-R	ZN PPM ICP 70-1	AS PPM NA 15-R	AS PPM ICP 70-1	SE PPM NA 15-R	BR PPM NA 15-R	RB PPM NA 15-R
19176	120	75.7	9	<3	<1	4.0	70
19177	--	123	--	<3	--	--	--
19178	--	364	--	<3	--	--	--
19179	110	52.1	2	<3	<1	3.3	110
19180	90	53.7	2	<3	<1	2.7	130
30716	80	--	1	--	<1	4.4	30
C XRA CONTROL	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--
C DCP CONTROL	--	15.6	--	<3	--	--	--
D 19176	100	78.4	8	<3	<1	3.8	70

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	SR PPM NA 15-R	SR PPM ICP 70-1	Y PPM XRF 7-1	Y PPM ICP 70-1	ZR PPM XRF 7-1	ZR PPM ICP 70-1	MO PPM NA 15-R	MO PPM ICP 70-1
19176	<100	10.0	14	3.4	146	3.7	28	20
19177	--	1.1	<2	2.4	163	7.3	--	4
19178	--	1.7	3	2.6	145	10.6	--	7
19179	<100	3.2	7	2.6	152	7.8	3	<1
19180	<100	7.7	10	4.0	167	5.1	<2	<1
30716	<100	--	--	--	--	--	10	--
C XRA CONTROL	--	--	123	--	295	--	--	--
C XRA CONTROL	--	--	121	--	279	--	--	--
C DCP CONTROL	--	6.2	--	2.6	--	3.3	--	2
D 19176	<100	10.2	12	3.4	145	3.4	25	19

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	AG PPM NA 15-R	AG PPM ICP 70-1	CD PPM ICP 70-1	SN PPM ICP 70-1	SB PPM NA 15-R	SB PPM ICP 70-1	CS PPM NA 15-R
19176	<2	<.1	<1	<10	1.0	<5	1.8
19177	--	1.2	<1	<10	--	<5	--
19178	--	5.3	3	<10	--	<5	--
19179	<2	.1	<1	<10	.6	<5	2.2
19180	<2	.2	<1	<10	.6	<5	3.3
30716	<2	--	--	--	.2	--	1.1
C XRA CONTROL	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--
C DCP CONTROL	--	<.1	<1	<10	--	<5	--
D 19176	<2	.3	<1	<10	1.0	<5	2.0

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	BA PPM NA 15-R	BA PPM ICP 70-1	LA PPM NA 15-R	LA PPM ICP 70-1	CE PPM NA 15-R	ND PPM NA 15-R	SM PPM NA 15-R
19176	490	30	19.9	9.0	38	17	2.88
19177	--	16	--	12.1	--	--	--
19178	--	34	--	13.2	--	--	--
19179	520	27	10.5	10.4	23	11	2.47
19180	500	33	17.1	13.5	34	14	2.76
30716	630	--	19.7	--	37	15	2.57
C XRA CONTROL	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--
C DCP CONTROL	--	26	--	9.0	--	--	--
D 19176	510	29	19.7	8.2	37	16	2.87

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	EU PPM NA 15-R	TB PPM NA 15-R	YB PPM NA 15-R	LU PPM NA 15-R	HF PPM NA 15-R	TA PPM NA 15-R	TA PPM ICP 70-1
19176	1.28	.3	1.16	.19	3.7	<.5	<1
19177	--	--	--	--	--	--	<1
19178	--	--	--	--	--	--	<1
19179	.86	.4	1.65	.25	4.0	.9	<1
19180	.66	.3	1.38	.21	3.9	.8	<1
30716	.80	.3	1.24	.20	4.2	.8	--
C XRA CONTROL	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--
C DCP CONTROL	--	--	--	--	--	--	<1
D 19176	1.31	.3	1.13	.18	3.6	<.5	<1

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL

19-Jan-94 REPORT 25737 REF. FILE 17068-L7

SAMPLE	W PPM NA 15-R	W PPM ICP 70-1	IR PPB NA 15-R	PB PPM ICP 70-1	BI PPM ICP 70-1	TH PPM NA 15-R	U PPM NA 15-R
19176	<1	<10	<5	<2	<3	1.9	.5
19177	--	<10	--	7	7	--	--
19178	--	<10	--	140	<3	--	--
19179	3	<10	<5	<2	4	2.9	1.0
19180	2	<10	<5	<2	3	3.0	.4
30716	4	--	<5	--	--	2.8	1.3
C XRA CONTROL	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--
C DCP CONTROL	--	<10	--	9	4	--	--
D 19176	<1	<10	<5	<2	3	2.1	.3

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRAL XRF - WHOLE ROCK ANALYSIS 19-Jan-94 REPORT 25737 REF. FILE 17068

SAMPLE \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	CR2O3	LOI	SUM
19176	65.2	15.1	4.10	2.29	.35	2.66	6.31	.16	.446	.14	<.01	2.75	99.5
19177	65.8	9.84	.51	3.39	.84	1.68	12.1	.17	.314	.09	<.01	5.50	100.2
19178	69.0	12.4	.30	.82	.59	3.67	7.75	.05	.368	.11	<.01	5.40	100.5
19179	62.8	15.6	.72	5.46	.14	3.40	7.03	.11	.646	.15	<.01	4.30	100.4
19180	63.2	14.9	1.69	4.81	.11	3.37	6.54	.14	.571	.18	<.01	4.85	100.4
C SY-2	60.3	12.1	7.85	2.64	4.37	4.50	6.29	.32	.148	.44	<.01	1.20	100.2
C SY-2	60.5	12.2	7.87	2.65	4.43	4.52	6.32	.32	.152	.44	<.01	1.20	100.6
D 19176	65.5	15.3	4.11	2.29	.35	2.69	6.33	.16	.449	.14	<.01	2.70	100.0

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

*** XRF W.R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES ***

XRAL

X-RAY ASSAY LABORATORIES

A DIVISION OF SGS CANADA INC.

1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA

TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

REPORT 24934

TO: GRANGES INC
ATTN: TODD KEAST
136 CEDAR ST. SOUTH
TIMMINS, ONTARIO
P4N 2G9

CUSTOMER No. 1984

DATE SUBMITTED
12-Oct-93

REF. FILE 16406-G1

Total Pages 14

75 ROCKS Proj. NET LAKE 540

	METHOD	DETECTION LIMIT
BE PPM	ICP	.5
NA %	ICP	.01
URMAJ %	XRF-F	.01
MG %	ICP	.01
AL %	ICP	.01
P %	ICP	.01
K %	ICP	.01
CA %	ICP	.01
SC PPM	ICP	.5
TI %	ICP	.01
V PPM	ICP	2.
CR PPM	ICP	1.
MN PPM	ICP	2.
FE %	ICP	.01
CO PPM	ICP	1.
NI PPM	ICP	1.
CU PPM	ICP	.5
ZN PPM	ICP	.5

	METHOD	DETECTION LIMIT
AS PPM	ICP	3.
SR PPM	ICP	.5
Y PPM	XRF	2.
Y PPM	ICP	.1
ZR PPM	XRF	3.
ZR PPM	ICP	.5
MO PPM	ICP	1.
AG PPM	ICP	.1
CD PPM	ICP	1.
SN PPM	ICP	10.
SB PPM	ICP	5.
BA PPM	ICP	1.
LA PPM	ICP	.5
TA PPM	ICP	1.
W PPM	ICP	10.
PB PPM	ICP	2.
BI PPM	ICP	3.

DATE 10-Nov-93

CERTIFIED BY .....

Jean H.L. Opdebeeck, General Manager

SAMPLE	BE PPM	NA %	MG %	AL %	P %	K %	CA %	SC PPM	TI %
30601	.5	.04	2.48	1.56	.03	.01	.47	1.2	.13
30602	<.5	.10	1.15	1.61	.07	.19	.38	1.5	.09
30603	<.5	.14	.74	1.12	.04	.10	.38	1.9	.11
30604	<.5	.13	1.50	1.57	.04	.06	.40	2.6	.12
30605	<.5	.13	1.30	1.41	.04	.10	.38	2.0	.09
30606	<.5	.46	.49	3.35	.02	.11	2.06	.9	.04
30607	<.5	.13	1.27	1.41	.03	.09	.32	1.5	.10
30608	<.5	.14	1.21	1.30	.04	.03	.33	1.7	.13
30609	.8	.12	2.66	2.81	.04	.08	.67	4.6	.12
30610	.8	.13	2.52	2.96	.08	.02	1.18	11.5	.02
30611	.7	.07	2.06	2.32	.03	.02	.50	2.6	.16
30612	.8	.10	2.42	2.90	.04	.15	.60	3.6	.08
30613	<.5	.06	.07	.28	<.01	.17	.27	<.5	<.01
30614	<.5	.10	1.87	1.90	.03	.09	.29	1.4	.10
30615	<.5	.09	.62	.90	.04	.05	.64	2.3	.14
30616	<.5	.10	.95	1.15	.04	.05	.40	1.3	.10
30617	<.5	.12	.39	.61	.03	.08	.64	2.4	.07
30618	.5	.18	.46	.86	.04	.13	.53	2.4	.09
30619	<.5	.11	1.37	1.75	.04	.08	.42	.7	.08
30620	<.5	.07	.68	.84	.04	.05	.64	1.6	.06
30621	.6	.08	1.53	1.48	.06	.04	.77	1.2	.12
30622	<.5	.07	1.73	1.48	.03	.13	.29	.9	.06
30623	<.5	.06	1.24	1.44	.02	.04	.40	1.8	.09
30624	.6	.11	2.22	2.28	.04	.04	.29	2.8	.10
30625	<.5	.12	.82	1.03	.05	.04	.25	1.7	.09
30626	<.5	.10	.45	.52	.03	.04	.38	.7	.12
30627	<.5	.08	1.50	1.56	.04	.03	.35	1.1	.09
30628	1.2	.05	2.87	3.37	<.01	.18	.80	4.9	.07
30629	.7	.05	1.17	2.29	.08	.19	.35	1.1	.03
30630	.7	.03	6.27	2.60	.02	.04	.94	1.7	.03
30631	<.5	.08	.66	.74	.05	.03	.36	1.2	.10
30632	1.1	.17	2.24	1.41	.23	.30	1.24	2.0	.09
30633	.7	.08	1.85	2.30	.03	.21	1.28	4.6	.12
30634	.7	.03	5.31	2.29	.02	.02	1.16	1.5	.02
30635	.7	.06	2.31	2.68	.03	.11	2.65	2.5	.06
30636	<.5	.09	1.09	1.41	.05	.10	.51	1.1	.08
30701	<.5	.09	1.34	1.50	.02	.10	.54	1.5	.08
30702	1.1	.04	3.79	4.27	.03	.07	3.98	17.2	.01
30703	1.0	.04	2.91	3.72	.03	.08	4.98	13.8	.10
30704	.8	.04	3.40	3.44	.08	.14	6.06	7.6	<.01
30705	<.5	.18	1.16	1.96	.03	.13	.90	2.3	.12
30706	.7	.08	1.78	2.37	.05	.11	.38	5.3	.08
30707	<.5	.07	1.48	1.61	.07	.05	.36	1.6	.08
30708	<.5	.07	1.05	1.21	.06	.06	.51	3.0	.11
30709	<.5	.06	.96	1.47	.08	.17	.55	1.1	.08

SAMPLE	BE PPM	NA %	MG %	AL %	P %	K %	CA %	SC PPM	TI %
30710	<.5	.02	.15	.46	.06	<.01	.85	1.8	.08
30711	.6	.04	.79	1.59	.06	.12	.34	1.3	.10
30712	<.5	.07	.90	1.21	.03	.15	.27	1.9	.09
30713	<.5	.05	1.06	1.43	.09	.09	.46	1.9	.10
30714	<.5	.02	.07	.41	.05	.24	.23	.5	.03
30715	<.5	.04	.47	.60	.09	.15	.51	1.7	.04
30716	<.5	.07	.68	.96	.04	.11	.45	1.1	.07
30717	.5	.03	.44	.86	.04	.12	.63	1.8	.07
30718	<.5	.03	2.22	1.98	.02	.09	.90	2.5	.06
30719	.8	.03	3.09	3.40	.22	<.01	.99	3.9	.09
30720	.8	.03	1.88	2.59	.05	.04	.44	4.9	.10
30721	<.5	.09	.82	1.17	.04	.08	.35	1.3	.08
30722	.6	.10	1.22	1.96	.04	.10	.49	2.7	.11
30723	<.5	.05	.56	1.01	.03	.02	.68	1.7	.11
30724	.6	.09	2.47	2.41	.06	.02	.34	1.6	.11
30725	.9	.03	2.08	3.05	.07	.05	.41	5.6	.11
30726	<.5	.06	.79	1.01	.02	.13	1.21	2.3	.09
30727	.7	.04	1.22	1.99	.07	.16	.47	4.0	.12
30728	.7	.06	1.40	2.20	.04	.25	.34	3.3	.08
30729	<.5	.06	.82	1.09	.03	.09	.45	1.6	.08
30730	<.5	.07	1.42	1.94	.04	.09	.55	2.4	.12
30731	.7	.03	2.01	2.23	.02	.05	.38	4.0	.13
30732	<.5	.05	.85	1.27	.07	.03	.98	2.1	.14
30733	.9	.04	1.66	1.71	.03	.17	.15	4.3	.04
30734	1.0	.04	3.13	3.39	.03	.05	.28	11.5	.13
30735	<.5	.08	.84	1.16	.03	.14	.40	1.8	.08
30736	<.5	.08	1.31	1.56	.03	.13	.54	1.9	.10
30737	1.0	.03	2.33	3.11	.04	<.01	.51	5.2	.17
30738	<.5	.12	.10	.26	<.01	.08	.10	<.5	<.01
30739	.7	.08	2.54	2.79	.03	.08	.94	5.9	.08
C XRA CONTROL	--	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--	--
C DCP CONTROL	<.5	.03	.28	.68	.02	.05	.34	1.2	.06
C DCP CONTROL	<.5	.03	.25	.60	.02	.04	.31	.9	.04
D 30601	<.5	.04	2.28	1.54	.03	<.01	.43	1.0	.11
D 30613	<.5	.05	.05	.25	<.01	.16	.27	<.5	<.01
D 30614	--	--	--	--	--	--	--	--	--
D 30625	<.5	.09	.77	.95	.04	.03	.23	1.6	.08
D 30628	--	--	--	--	--	--	--	--	--
D 30701	<.5	.08	1.25	1.39	.02	.09	.51	1.4	.07
D 30706	--	--	--	--	--	--	--	--	--
D 30711	.6	.04	.83	1.72	.06	.13	.37	1.6	.12
D 30720	--	--	--	--	--	--	--	--	--
D 30723	<.5	.05	.56	1.01	.03	.02	.67	1.7	.11

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

SAMPLE	BE PPM	NA %	MG %	AL %	P %	K %	CA %	SC PPM	TI %
D 30733	--	--	--	--	--	--	--	--	--
D 30735	<.5	.08	.84	1.15	.03	.14	.40	1.8	.08

D - QUALITY CONTROL DUPLICATE

SAMPLE	V PPM	CR PPM	MN PPM	FE %	CO PPM	NI PPM	CU PPM	ZN PPM	AS PPM
30601	42	811	544	2.88	29	325	268	44.5	19
30602	32	74	548	2.78	9	20	4.8	43.4	9
30603	48	93	291	1.90	9	27	6.1	24.5	<3
30604	52	138	368	2.74	20	84	75.1	38.8	7
30605	38	133	299	2.35	19	57	105	35.4	<3
30606	72	70	130	1.63	13	56	88.2	13.3	<3
30607	38	117	307	2.20	11	41	23.1	32.2	<3
30608	55	143	483	2.55	11	50	26.2	192	<3
30609	99	136	728	4.78	26	75	50.9	87.8	6
30610	125	169	819	5.05	27	107	5.6	80.1	<3
30611	96	110	654	4.50	27	59	76.0	57.1	16
30612	68	363	864	5.66	21	108	214	126	14
30613	<2	40	52.0	.17	1	2	3.2	4.3	<3
30614	51	159	395	2.98	18	68	46.1	49.6	<3
30615	48	40	253	1.51	8	16	19.4	25.4	3
30616	31	125	334	1.91	10	35	6.9	24.3	<3
30617	24	171	196	1.49	18	100	32.0	12.4	4
30618	48	234	152	3.02	36	86	494	84.6	<3
30619	38	198	367	2.51	16	49	14.5	34.6	<3
30620	19	144	185	1.19	6	40	8.5	13.9	<3
30621	34	233	365	2.92	31	265	99.6	39.6	6
30622	24	443	450	2.20	12	112	49.2	51.6	<3
30623	47	94	481	2.44	16	52	82.4	67.8	4
30624	72	187	619	3.81	20	72	10.8	51.8	<3
30625	31	70	294	2.12	7	9	44.3	46.4	<3
30626	18	180	173	.76	7	52	9.6	17.7	7
30627	32	298	460	2.66	19	104	84.4	805	31
30628	69	168	721	7.44	49	209	667	128	13
30629	30	60	965	4.05	18	20	8.8	43.3	<3
30630	95	1250	466	5.30	60	757	145	26.4	16
30631	31	189	194	1.43	10	69	11.9	28.6	<3
30632	112	54	570	6.35	37	49	35.4	46.4	<3
30633	133	84	627	5.20	32	123	223	50.5	<3
30634	90	1370	424	5.05	59	741	471	26.0	17
30635	51	98	707	4.21	21	84	17.0	67.6	<3
30636	31	86	437	2.43	10	20	18.0	111	<3
30701	45	86	231	2.09	20	73	80.7	28.5	3
30702	178	169	1090	7.18	41	81	57.5	80.0	<3
30703	153	165	1200	7.17	39	82	73.0	85.5	<3
30704	88	471	1530	5.03	27	137	5.6	71.0	<3
30705	49	253	285	2.24	13	78	14.5	18.9	<3
30706	75	272	713	4.29	20	97	7.3	46.2	11
30707	84	321	406	2.52	28	147	3.5	35.2	<3
30708	57	188	364	2.29	23	76	65.3	1760	5
30709	28	126	438	2.04	15	58	30.7	58.5	14

SAMPLE	V PPM	CR PPM	MN PPM	FE %	CO PPM	NI PPM	CU PPM	ZN PPM	AS PPM
30710	20	68	157	.68	5	10	23.4	125	3
30711	35	79	673	3.60	10	22	36.2	40.1	6
30712	56	314	316	2.32	14	63	15.6	25.7	<3
30713	45	74	457	2.97	15	42	66.9	181	4
30714	4	58	48.0	.25	4	12	6.0	5.8	31
30715	21	64	178	.61	8	32	7.8	14.1	16
30716	29	90	509	1.34	9	14	31.2	31.3	<3
30717	39	81	537	1.87	5	15	42.7	66.8	<3
30718	56	244	611	2.73	23	146	4.6	51.8	<3
30719	105	244	1120	5.45	26	117	15.3	111	11
30720	94	170	722	5.71	33	97	83.4	105	100
30721	35	121	340	1.99	9	20	9.6	45.6	<3
30722	68	100	718	4.05	19	47	23.9	54.8	13
30723	29	237	303	1.65	12	60	98.4	31.8	5
30724	80	190	522	4.17	23	95	19.9	62.0	<3
30725	135	201	1080	5.96	27	106	241	83.7	<3
30726	36	57	297	1.51	12	25	104	38.5	9
30727	86	243	908	4.05	49	177	224	62.7	55
30728	47	151	756	4.13	19	66	17.4	54.8	<3
30729	30	225	317	2.44	20	80	31.3	26.0	<3
30730	67	100	587	3.34	17	40	99.4	57.5	5
30731	106	260	547	4.48	29	71	189	38.3	<3
30732	35	176	473	2.15	14	49	34.7	31.7	<3
30733	57	141	460	6.40	56	86	80.6	35.4	27
30734	148	119	1070	6.82	26	65	156	68.0	<3
30735	34	164	285	1.70	11	37	20.8	31.9	<3
30736	38	181	315	2.36	17	67	21.2	36.1	7
30737	139	61	927	6.89	27	39	21.1	79.6	<3
30738	3	142	55.0	.33	1	5	5.9	7.1	<3
30739	81	344	832	4.20	19	119	5.6	82.0	4
C XRA CONTROL	--	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--	--
C DCP CONTROL	23	79	129	1.14	4	9	11.1	15.5	<3
C DCP CONTROL	18	86	114	.98	4	9	10.6	14.9	<3
D 30601	38	786	524	2.70	27	308	261	42.8	21
D 30613	<2	39	50.0	.15	<1	1	1.8	3.7	<3
D 30614	--	--	--	--	--	--	--	--	--
D 30625	29	66	281	2.01	7	9	42.7	46.0	<3
D 30628	--	--	--	--	--	--	--	--	--
D 30701	41	81	213	1.96	18	69	75.5	26.7	3
D 30706	--	--	--	--	--	--	--	--	--
D 30711	38	86	719	3.83	10	23	34.8	42.3	7
D 30720	--	--	--	--	--	--	--	--	--
D 30723	28	238	305	1.66	13	59	95.7	33.7	5

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

SAMPLE	V PPM	CR PPM	MN PPM	FE %	CO PPM	NI PPM	CU PPM	ZN PPM	AS PPM
D 30733	--	--	--	--	--	--	--	--	--
D 30735	34	154	278	1.65	11	37	20.9	31.7	<3

D - QUALITY CONTROL DUPLICATE

SAMPLE	SR PPM	Y PPM	Y PPM	ZR PPM	ZR PPM	MO PPM	AG PPM	CD PPM
30601	10.0	5	3.0	75	7.5	<1	.2	<1
30602	15.2	12	5.4	146	6.7	5	<.1	<1
30603	9.8	12	3.7	135	5.4	<1	<.1	<1
30604	16.0	9	2.7	119	3.8	3	.3	<1
30605	16.5	9	2.3	121	2.7	<1	.1	<1
30606	63.4	9	1.7	48	3.0	2	<.1	<1
30607	14.0	8	2.5	116	4.7	<1	<.1	<1
30608	4.5	10	2.7	112	5.1	2	.2	<1
30609	12.4	10	3.2	118	3.5	<1	.1	<1
30610	20.9	13	2.6	160	4.3	1	.2	<1
30611	17.6	12	6.6	72	2.0	<1	<.1	<1
30612	7.4	15	3.0	118	4.8	3	.8	<1
30613	4.4	8	2.9	46	16.3	<1	.1	<1
30614	9.6	9	2.7	102	3.4	3	.1	<1
30615	9.8	26	5.7	87	1.5	<1	<.1	<1
30616	14.9	2	2.1	111	3.5	4	<.1	<1
30617	18.3	<2	2.1	78	2.1	<1	<.1	<1
30618	13.7	12	1.9	113	6.8	4	.6	<1
30619	22.2	6	1.5	104	2.1	<1	<.1	<1
30620	34.3	3	1.9	87	2.2	2	<.1	<1
30621	22.3	8	3.3	107	4.2	2	.3	<1
30622	5.8	7	1.0	84	3.7	<1	.1	<1
30623	12.7	11	1.5	45	1.2	<1	.3	<1
30624	5.6	7	2.8	122	4.5	3	.2	<1
30625	9.7	<2	3.1	129	8.8	1	.1	<1
30626	8.2	11	2.6	85	2.9	3	<.1	<1
30627	13.1	<2	1.1	101	4.1	<1	.5	2
30628	17.0	6	2.2	20	.9	<1	1.3	<1
30629	9.1	17	3.5	190	4.0	<1	<.1	<1
30630	24.9	6	3.5	52	1.9	<1	.3	<1
30631	9.8	7	4.2	129	2.2	<1	<.1	<1
30632	60.7	17	14.0	179	15.2	2	<.1	<1
30633	28.3	14	5.1	72	1.8	<1	.2	<1
30634	28.5	3	2.9	49	1.6	<1	.3	<1
30635	39.6	6	3.2	111	4.4	<1	<.1	<1
30636	17.5	10	7.0	160	6.9	4	<.1	<1
30701	17.8	8	2.5	62	3.4	<1	<.1	<1
30702	65.6	[illegible]	3.6	75	1.7	<1	.2	<1
30703	57.4	13	7.0	66	1.3	<1	.3	<1
30704	97.8	5	5.1	96	5.6	<1	.4	<1
30705	44.6	15	2.8	101	2.0	<1	<.1	<1
30706	10.5	8	3.1	148	4.1	2	<.1	<1
30707	7.1	17	2.0	77	1.1	<1	<.1	<1
30708	22.1	10	3.6	126	2.3	4	.3	6
30709	16.3	16	3.7	186	3.5	<1	<.1	<1

SAMPLE	SR PPM	Y PPM	Y PPM	ZR PPM	ZR PPM	MO PPM	AG PPM	CD PPM
30710	24.2	6	2.7	72	2.2	5	.1	<1
30711	10.1	12	2.9	168	4.4	1	.2	<1
30712	5.2	5	1.8	102	2.9	4	<.1	<1
30713	11.2	12	4.3	154	5.9	<1	.3	<1
30714	3.9	17	2.8	169	2.8	5	<.1	<1
30715	12.5	17	2.4	73	1.8	<1	<.1	<1
30716	6.7	15	3.8	166	3.3	5	<.1	<1
30717	11.1	14	2.9	131	3.7	<1	<.1	<1
30718	7.9	9	2.3	40	.6	<1	<.1	<1
30719	27.6	18	5.6	179	4.0	<1	<.1	<1
30720	8.7	8	4.2	72	2.5	<1	.4	<1
30721	16.5	7	2.8	141	5.6	<1	<.1	<1
30722	6.9	15	4.0	127	3.5	2	<.1	<1
30723	23.3	8	2.2	133	2.8	<1	<.1	<1
30724	12.8	10	3.9	91	3.6	<1	<.1	<1
30725	12.3	13	4.0	84	3.8	3	.4	<1
30726	10.8	15	2.5	47	.8	<1	.1	<1
30727	9.2	16	5.8	128	3.7	1	.4	<1
30728	2.5	7	3.2	128	5.1	<1	.1	<1
30729	9.6	<2	2.0	96	2.6	<1	<.1	<1
30730	11.7	11	3.5	124	3.8	2	.1	<1
30731	9.3	12	1.8	54	1.3	<1	.5	<1
30732	21.6	12	4.5	114	2.8	1	<.1	<1
30733	3.3	7	1.5	104	5.1	<1	.2	<1
30734	5.4	16	4.0	77	1.6	<1	.3	<1
30735	11.1	12	3.4	112	3.6	1	<.1	<1
30736	8.4	12	2.5	116	3.8	1	<.1	<1
30737	6.7	22	5.2	114	1.8	<1	.2	<1
30738	2.7	2	2.2	54	8.7	4	<.1	<1
30739	11.0	4	3.1	125	5.3	<1	<.1	<1
C XRA CONTROL	--	129	--	274	--	--	--	--
C XRA CONTROL	--	129	--	288	--	--	--	--
C XRA CONTROL	--	129	--	282	--	--	--	--
C DCP CONTROL	7.0	--	2.5	--	3.0	2	<.1	<1
C DCP CONTROL	5.4	--	2.1	--	2.7	<1	<.1	<1
D 30601	9.0	7	2.8	82	6.2	<1	.3	<1
D 30613	4.2	--	2.9	--	16.1	<1	<.1	<1
D 30614	--	4	--	110	--	--	--	--
D 30625	8.8	--	2.9	--	8.0	<1	.3	<1
D 30628	--	3	--	24	--	--	--	--
D 30701	15.2	--	2.2	--	3.3	<1	<.1	<1
D 30706	--	11	--	157	--	--	--	--
D 30711	12.6	--	3.2	--	5.8	<1	.1	<1
D 30720	--	9	--	68	--	--	--	--
D 30723	22.7	--	2.1	--	2.7	<1	.1	<1

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

SAMPLE	SR PPM	Y PPM	Y PPM	ZR PPM	ZR PPM	MO PPM	AG PPM	CD PPM
D 30733	--	4	--	103	--	--	--	--
D 30735	10.9	--	3.4	--	3.9	<1	.1	<1

D - QUALITY CONTROL DUPLICATE

SAMPLE	SN PPM	SB PPM	BA PPM	LA PPM	TA PPM	W PPM	PB PPM	BI PPM
30601	<10	<5	10	10.2	<1	<10	<2	<3
30602	<10	<5	28	14.1	<1	<10	2	<3
30603	<10	<5	14	10.4	<1	<10	4	<3
30604	<10	<5	23	5.0	<1	<10	<2	<3
30605	<10	<5	26	6.0	<1	<10	<2	<3
30606	<10	<5	21	3.3	<1	<10	<2	<3
30607	<10	<5	14	5.5	<1	<10	<2	<3
30608	<10	<5	10	7.0	<1	<10	81	<3
30609	<10	<5	22	6.0	<1	<10	<2	3
30610	<10	<5	15	19.4	<1	<10	<2	6
30611	<10	<5	18	4.2	<1	<10	<2	<3
30612	<10	<5	39	7.1	2	<10	<2	<3
30613	<10	<5	28	5.0	2	<10	<2	<3
30614	<10	<5	17	6.0	<1	<10	<2	<3
30615	<10	<5	13	2.5	1	<10	11	<3
30616	<10	<5	11	8.0	<1	<10	<2	<3
30617	<10	<5	19	5.0	<1	<10	<2	<3
30618	<10	<5	42	6.0	<1	<10	47	<3
30619	<10	<5	13	5.8	<1	<10	<2	<3
30620	<10	<5	19	3.9	2	<10	<2	<3
30621	<10	<5	8	17.0	<1	<10	9	<3
30622	<10	<5	32	4.8	<1	<10	39	<3
30623	<10	<5	13	2.1	<1	<10	93	<3
30624	<10	<5	13	6.5	<1	<10	<2	<3
30625	<10	<5	10	8.4	<1	<10	13	3
30626	<10	<5	10	4.0	1	<10	<2	<3
30627	<10	<5	29	7.4	<1	<10	329	<3
30628	<10	<5	26	5.7	<1	<10	4	3
30629	<10	<5	26	11.6	<1	<10	<2	3
30630	<10	8	11	4.8	<1	<10	<2	<3
30631	<10	<5	10	9.1	<1	<10	<2	<3
30632	<10	<5	23	16.8	<1	<10	<2	<3
30633	<10	<5	17	5.7	<1	<10	2	<3
30634	<10	11	3	4.4	<1	<10	<2	<3
30635	<10	<5	24	11.8	<1	<10	<2	<3
30636	<10	<5	20	18.3	<1	<10	2	<3
30701	<10	<5	20	3.1	<1	<10	2	<3
30702	<10	<5	33	6.6	<1	<10	<2	4
30703	<10	<5	25	6.7	<1	<10	<2	4
30704	<10	<5	35	17.5	<1	<10	<2	5
30705	<10	<5	31	4.8	<1	<10	2	3
30706	<10	<5	21	6.9	<1	<10	<2	<3
30707	<10	<5	14	8.7	<1	<10	<2	<3
30708	<10	<5	11	11.5	1	<10	809	<3
30709	<10	<5	26	14.8	2	<10	7	<3

SAMPLE	SN PPM	SB PPM	BA PPM	LA PPM	TA PPM	U PPM	PB PPM	BI PPM
30710	<10	<5	11	7.0	<1	<10	172	<3
30711	<10	<5	18	11.5	<1	<10	<2	<3
30712	<10	<5	17	6.5	<1	<10	<2	<3
30713	<10	<5	11	15.4	2	<10	30	<3
30714	<10	<5	26	7.2	<1	<10	<2	<3
30715	<10	<5	32	10.3	1	<10	<2	<3
30716	<10	<5	20	11.2	<1	<10	<2	<3
30717	<10	<5	18	6.6	<1	<10	11	<3
30718	<10	<5	22	2.6	<1	<10	<2	<3
30719	<10	<5	16	25.3	<1	<10	<2	<3
30720	<10	<5	22	11.7	<1	<10	2	5
30721	<10	<5	16	8.6	<1	<10	6	<3
30722	<10	<5	14	9.4	<1	<10	<2	4
30723	<10	<5	9	5.5	<1	<10	4	<3
30724	<10	<5	8	10.7	<1	<10	<2	<3
30725	<10	<5	20	10.5	<1	<10	<2	<3
30726	<10	<5	32	1.7	<1	<10	<2	<3
30727	<10	<5	36	10.0	<1	<10	<2	<3
30728	<10	<5	30	7.1	<1	<10	<2	<3
30729	<10	<5	17	5.9	<1	<10	3	<3
30730	<10	<5	23	7.8	<1	<10	<2	<3
30731	<10	<5	14	3.8	<1	<10	<2	<3
30732	<10	<5	13	10.3	<1	<10	<2	<3
30733	<10	<5	27	6.1	<1	<10	5	5
30734	<10	<5	12	5.6	<1	<10	<2	<3
30735	<10	<5	17	6.3	<1	<10	<2	<3
30736	<10	<5	30	6.7	<1	<10	<2	<3
30737	<10	<5	9	6.4	<1	<10	<2	<3
30738	<10	<5	29	3.9	<1	<10	<2	<3
30739	<10	<5	31	5.7	<1	<10	<2	4
C XRA CONTROL	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--
C XRA CONTROL	--	--	--	--	--	--	--	--
C DCP CONTROL	<10	<5	26	8.5	<1	<10	4	<3
C DCP CONTROL	<10	<5	25	6.6	<1	<10	6	<3
D 30601	<10	5	10	10.2	<1	<10	<2	<3
D 30613	<10	<5	27	4.7	2	<10	<2	<3
D 30614	--	--	--	--	--	--	--	--
D 30625	<10	<5	9	8.1	<1	<10	13	<3
D 30628	--	--	--	--	--	--	--	--
D 30701	<10	<5	18	3.1	<1	<10	<2	<3
D 30706	--	--	--	--	--	--	--	--
D 30711	<10	<5	19	12.9	<1	<10	<2	4
D 30720	--	--	--	--	--	--	--	--
D 30723	<10	<5	9	5.6	<1	<10	3	<3

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

SAMPLE	SN PPM	SB PPM	BA PPM	LA PPM	TA PPM	W PPM	PB PPM	BI PPM
D 30733	--	--	--	--	--	--	--	--
D 30735	<10	<5	17	6.6	<1	<10	<2	<3

D - QUALITY CONTROL DUPLICATE

X-Ray Assay Laboratories
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SAMPLES WITH LOW SUMS HAVE BEEN REPORTED
METHOD CODE 100 OR 100-1

The eleven major oxides are calculated as oxides and the traces are added as oxides to the value for loss on ignition (LOI). The sum of these values is reported as SUM. The SUM for some of the samples in this reference file is low.

Samples with low sums were re-analyzed and there was no change to the data.

The samples have been checked for copper, zinc, nickel, lead, cobalt, arsenic, uranium and molybdenum. None of these elements were found in greater than trace/minor quantities and do not account for the low sum

The low sum may be due to the presence of other elements which have not been tested. Please contact the laboratory if you wish to request additional analyses. Another common cause for a low sum is the presence of compounds such as sulphates or other mineral types that do not resemble oxides.

SAMPLE \ %	SIO2	AL203	CAO	MGO	NA2O	K2O	FE203	MNO	TIO2	P2O5	CR203	LOI	SUM
30601	49.3	4.74	10.2	16.9	.43	.05	13.4	.28	.890	.10	.20	2.65	99.1
30602	66.1	14.8	3.25	2.42	2.35	2.47	5.31	.11	.533	.21	<.01	2.35	99.9
30603	65.7	15.8	4.12	1.87	4.74	1.16	4.15	.09	.528	.13	.01	1.25	99.6
30604	59.0	14.9	5.45	4.91	3.85	.64	7.80	.12	.620	.12	.03	2.25	99.7
30605	54.2	16.7	6.66	5.84	4.07	1.09	8.24	.12	.783	.14	.03	2.15	100.0
30606	50.7	14.0	11.5	8.58	1.79	.34	10.8	.18	.614	.07	.03	.50	99.1
30607	65.2	15.3	3.85	3.15	4.72	.90	4.80	.09	.409	.11	.02	1.65	100.2
30608	56.0	14.5	5.17	6.17	5.51	.50	8.72	.21	.808	.13	.03	1.70	99.4
30609	54.6	16.0	3.77	5.69	3.68	.78	9.17	.14	.769	.13	.02	3.90	98.7
30610	58.5	15.1	2.19	4.65	5.06	.16	8.12	.14	1.13	.22	.02	4.15	99.4
30611	49.9	14.4	8.86	6.65	2.00	.19	13.7	.19	1.05	.10	.03	2.95	100.0
30612	56.0	16.4	1.62	4.91	3.02	1.86	9.67	.15	.644	.13	.06	3.90	98.4
30613	77.4	13.1	.81	.47	3.12	2.64	.62	.02	.060	.04	<.01	1.25	99.5
30614	61.1	15.0	4.49	5.14	3.17	.92	6.83	.11	.557	.11	.03	2.60	100.1
30615	48.8	12.3	10.5	7.30	1.90	.57	13.9	.23	1.38	.12	<.01	1.15	98.2
30616	61.6	14.8	5.59	3.98	4.14	.66	6.49	.12	.510	.12	.03	1.40	99.4
30617	53.2	12.3	9.11	5.65	3.49	.73	13.9	.21	.482	.10	.12	.85	100.1
30618	54.9	14.2	6.08	4.31	4.89	.96	10.4	.15	.625	.14	.07	2.00	98.7
30619	57.6	15.1	6.77	6.31	2.60	1.00	8.00	.13	.521	.12	.04	1.80	100.0
30620	51.4	12.5	11.2	7.82	2.22	.86	11.4	.21	.466	.11	.11	1.55	99.8
30621	44.8	8.17	11.6	12.6	.71	.19	16.2	.25	1.42	.16	.10	1.85	98.1
30622	52.6	12.6	6.68	10.7	2.37	2.17	9.17	.25	.502	.11	.12	2.45	99.7
30623	49.1	14.2	10.6	8.13	2.12	.68	12.1	.24	.709	.07	.05	2.05	100.0
30624	57.0	15.7	2.86	5.80	5.22	.50	7.68	.14	.609	.12	.03	2.80	98.5
30625	66.8	16.4	1.88	1.63	7.19	.86	3.59	.06	.331	.14	<.01	1.50	100.4
30626	57.1	12.7	7.90	7.04	4.84	.50	8.03	.17	.584	.10	.09	1.10	100.2
30627	54.0	13.8	6.78	7.26	3.89	.35	9.14	.18	.528	.12	.08	2.10	98.2
30628	46.1	19.8	7.06	5.29	1.63	1.55	13.6	.13	.324	.04	.02	4.55	100.1
30629	64.7	15.6	2.54	2.27	1.05	2.94	7.11	.17	.647	.22	<.01	3.10	100.3
30630	41.8	6.00	6.57	20.9	.29	.07	13.7	.20	.734	.08	.37	6.00	96.7
30631	57.3	13.4	6.88	6.01	5.08	.80	8.32	.14	.730	.16	.04	1.20	100.1
30632	44.7	15.1	7.72	5.77	2.97	1.27	16.1	.21	4.04	.62	<.01	.90	99.4
30633	48.5	13.7	7.02	6.72	3.63	.61	14.2	.21	.884	.10	.02	3.00	98.6
30634	43.2	5.46	8.00	20.3	.26	.05	13.5	.21	.660	.07	.40	5.55	97.7
30635	56.4	15.2	4.78	4.72	3.24	1.51	7.59	.13	.625	.12	.02	6.00	100.3
30636	65.8	15.1	2.97	2.14	4.82	1.28	4.70	.09	.504	.15	.01	1.90	99.5
30701	50.2	13.9	9.67	8.73	2.25	.80	11.4	.20	.694	.08	.03	2.20	100.2
30702	45.1	14.5	8.67	7.37	1.84	.91	12.6	.18	1.14	.10	.03	9.40	99.8
30703	45.7	13.9	8.20	5.46	2.02	.98	12.1	.19	1.02	.09	.02	9.55	99.2
30704	44.7	14.1	9.54	6.76	1.72	1.52	9.09	.24	.835	.24	.10	11.2	100.0
30705	54.3	14.3	8.08	6.71	2.50	.65	10.6	.20	.780	.12	.07	1.80	100.1
30706	59.3	17.3	2.20	3.49	4.56	1.80	7.52	.12	.763	.16	.05	2.80	100.1
30707	51.9	16.1	7.33	7.34	3.61	.66	9.09	.18	.648	.21	.09	2.10	99.3
30708	55.5	16.4	8.50	4.26	3.60	.96	8.16	.16	.729	.20	.04	1.85	100.4
30709	60.6	15.4	7.02	3.53	1.17	2.05	6.71	.17	.831	.27	.03	2.45	100.2

XRF W.R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES

SAMPLE \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	CR2O3	LOI	SUM
30710	49.2	11.3	17.8	4.83	.24	.07	14.6	.43	.761	.21	.02	.75	100.2
30711	63.6	15.0	4.04	2.00	1.59	1.93	7.56	.16	.688	.18	.02	2.70	99.5
30712	63.4	14.1	5.11	3.44	3.80	.90	7.26	.14	.506	.11	.08	1.30	100.1
30713	61.9	15.1	6.20	2.50	2.42	1.40	6.69	.11	.686	.27	.01	2.15	99.4
30714	73.0	15.8	1.84	.53	.29	4.19	1.00	.03	.638	.17	.01	2.60	100.1
30715	49.9	14.8	10.5	9.23	1.06	2.64	9.00	.19	.743	.29	.07	2.10	100.5
30716	66.2	15.8	4.80	2.00	3.40	1.87	3.69	.14	.526	.15	.02	1.75	100.3
30717	69.0	13.4	3.59	1.00	1.08	5.94	3.90	.12	.455	.12	.01	1.40	100.0
30718	48.0	13.5	8.46	11.7	1.32	1.46	11.1	.24	.587	.07	.07	3.65	100.2
30719	47.2	15.7	9.82	8.00	.64	.04	12.8	.24	1.11	.59	.05	4.05	100.2
30720	54.9	12.3	7.23	6.09	.70	.92	14.6	.22	.704	.16	.05	2.45	100.3
30721	64.0	15.7	4.88	2.47	4.38	1.02	5.57	.11	.504	.13	.02	1.55	100.3
30722	53.8	16.6	7.13	4.01	2.97	.99	12.0	.25	.782	.13	.05	1.65	100.4
30723	53.9	14.5	4.35	7.69	4.20	.33	10.3	.15	1.05	.19	.08	3.25	100.0
30724	60.3	13.6	5.06	4.20	.60	.66	10.9	.21	.962	.23	.04	3.45	100.2
30725	60.4	13.7	5.08	4.18	.52	.63	11.0	.21	.967	.23	.04	3.35	100.3
30726	50.3	15.5	10.8	6.59	2.31	1.32	10.3	.19	.847	.08	.01	1.95	100.2
30727	62.3	15.3	5.25	2.62	1.12	1.77	8.04	.19	1.07	.25	.06	2.50	100.5
30728	63.1	16.0	1.24	3.12	3.44	2.11	7.46	.14	.669	.14	.04	2.85	100.3
30729	58.7	13.9	8.40	4.40	1.86	1.03	9.34	.15	.548	.12	.08	1.65	100.2
30730	56.7	16.9	7.47	4.01	2.33	.92	8.35	.15	.764	.13	.02	1.75	99.5
30731	51.9	16.9	9.98	5.31	.70	.47	10.3	.15	.874	.07	.06	3.25	100.0
30732	57.1	13.6	11.4	4.40	1.32	.21	9.30	.22	.945	.21	.05	1.65	100.4
30733	60.3	13.0	2.27	3.93	.94	2.09	11.2	.10	.529	.10	.03	5.85	100.3
30734	51.4	15.8	5.95	6.09	.99	.51	12.8	.20	.965	.10	.02	5.55	100.4
30735	61.4	16.5	6.23	3.15	2.90	2.01	5.62	.11	.542	.12	.03	1.50	100.1
30736	59.2	15.7	6.30	4.59	3.06	1.28	7.46	.11	.602	.13	.04	2.15	100.6
30737	48.7	12.5	17.6	7.29	.23	.02	18.0	.28	1.45	.14	.01	3.45	109.7
30738	76.7	13.3	.62	.34	7.04	.70	.76	.02	.094	.05	.03	.60	100.3
30739	62.2	14.1	2.18	5.06	3.65	.77	7.48	.15	.610	.11	.06	3.90	100.3
C SY-2	60.1	12.1	7.90	2.68	4.40	4.55	6.33	.32	.148	.44	<.01	1.20	100.2
C SY-2	60.2	12.1	7.92	2.70	4.36	4.55	6.34	.32	.149	.44	<.01	1.20	100.3
C SY-2	60.4	12.1	7.94	2.72	4.41	4.55	6.35	.32	.150	.44	<.01	1.20	100.6
D 30601	49.6	4.72	10.2	17.0	.44	.04	13.3	.28	.912	.11	.21	2.05	98.9
D 30614	61.4	15.0	4.50	5.15	3.16	.91	6.81	.11	.552	.11	.03	2.52	100.3
D 30628	46.1	19.8	7.09	5.30	1.66	1.56	13.6	.13	.332	.04	.02	4.50	100.1
D 30706	59.2	17.3	2.20	3.51	4.53	1.78	7.55	.13	.772	.17	.05	2.85	100.0
D 30720	54.7	12.2	7.22	6.10	.71	.90	14.5	.22	.714	.16	.05	2.55	100.1
D 30733	60.3	13.0	2.27	3.93	.99	2.07	11.6	.10	.521	.10	.03	5.85	100.8

C - QUALITY CONTROL STANDARD
D - QUALITY CONTROL DUPLICATE

XRF W.R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES

APPENDIX B

XRAL

GEOCHEMICAL
EXPLORATION
and
RESEARCH
ANALYSIS

1954 XRAL 1994
40TH
ANNIVERSARY

1994
SCHEDULE of FEES
and SERVICES

XRAL Laboratories

SGS (Member of the SGS Group
(Societe Generale de Surveillance)

CANADIAN DOLLAR SCHEDULE

SAMPLE PREPARATION

The reduction of samples by crushing and grinding cannot be accomplished without a degree of adulteration with wear material from the grinding surfaces of the equipment. XRAL uses a variety of equipment with different potential contaminants:

Chrome steel	Fe (up to 0.15%), Cr (up to 150 ppm), traces Mn, Si, C, V
Tungsten carbide	W, Co, C
Agate	SiO_2 (up to 0.3%)

The amount of adulterant is a function of grinding time and hardness of the sample. Please specify instructions suitable for your project.

XRAL operates two self-contained 8'x46' semi-trailers equipped with jaw crusher, rolls crusher, disc pulverizer, ring and puck pulverizer, drying oven and 3000 CFM of ventilation. Each trailer can prepare 3,000 samples per month and can be located at the project site. Call for information on sample pick-up in Canada, Mexico and the United States.

Drill Core and Rocks

Standard procedure is to dry, crush to -3mm, riffle divide to a maximum split of 250 gm and mill in chrome steel equipment. Crushing and splitting charges are quoted on the basis of a 4 kg (10 lb) sample and a surcharge of $0.35/kg is applied to crushing larger samples. Silica sand cleaners between samples are recommended to minimize the risk of contamination from mineralized samples and are used unless the client specifies that they can be eliminated.

Standard crushing, milling	$4.35	Crushing, milling in agate	$7.35
Drying excessively wet samples	$1.20/kg	Milling in agate (up to 60gm)	$5.75
Milling (250 gm) in steel mill	$3.15	Hand agate milling	$7.35
Milling (>2,000 gm)	$38.00/hr		
Silica sand cleaner	$1.75		
Crushing, milling in W carbide	$7.00		
Milling in tungsten carbide	$5.50		

Custom preparation on quotation.

Other Preparation Services

Sieving up to 2 kg at -80 mesh*	$1.20	Drying and macerating vegetation	$3.50
Drying excessively wet samples	$1.20	Weighing and reporting weight	$1.90
Drying and blending humus	$2.25	Preparation of lake sediments and other special procedures	On Request
Compositing (per sample included)	$1.45		

* Other screen sizes available on request.

Sample Storage

Sample pulp storage, 3 months	Free	Crusher rejects, 1 month	Free
Sample pulp storage	$1.00/Box/Month	Crusher rejects	$30/m³/month

Sample will be returned at the client's cost or disposed of after 3 months.

PROVIDE CLEAR INSTRUCTIONS AND PREVENT DELAYS

PRECIOUS METAL ANALYSIS

Gold, Platinum and Palladium by Lead Fire Assay/Instrumental Finish

Method Code		FA-15	FA-30/5	FA-30/1*
Weight		15 g	30g/1AT	30 g/1AT
1 element		$ 8.50	$ 9.50	$ 9.75
2 elements		$10.50	$11.50	$11.75
3 elements		$12.00	$13.00	$13.25
Detection Limits	Au	5 ppb	5 ppb	1 ppb
	Pt	10 ppb	10 ppb	10 ppb
	Pd	1 ppb	1 ppb	1 ppb

* Not available in all locations.

Gravimetric finish $2.00 surcharge per sample **Method Code FA-G30 or FA-G50**

Fire assay/gravimetric finish is recommended for all samples with greater than 5,000 ppb.

Geochemical Analysis of Precious Metals/Rhenium by Ni-S Fire Assay

A 25 g sample is analysed (price for 50 g option on request). Loss of osmium, through volatility of osmium tetraoxide, is controlled. The method is not suitable for samples with high zinc content. The residue after nickel sulfide fusion is analysed by ICP/MS.

		Detection Limit			Detection Limit
Gold	Au	1 ppb	Rhodium	Rh	1ppb
Palladium	Pd	1 ppb	Rhenium	Re	1 ppb
Platinum	Pt	1 ppb	Ruthenium	Ru	1 ppb
Iridium	Ir	0.1 ppb	Osmium	Os	3 ppb

Price per sample: $150.00 **Method Code ICPMS-100**

Screened Metallics

Lower reporting limit: 0.001 oz/ton Price per sample $32.00 **Method Code FA-190**

Includes sieving of 250 gm split at 100 mesh, assay of the entire +100 mesh fraction. two assays of the -100 mesh fraction and calculations. A surcharge applies for sieving the entire sample. Other screen sizes are available

Geochemical Gold by Direct Neutron Activation

Gold can be determined without chemical treatment of prepared or unprepared samples. This technique tends to undervalue high gold levels. Additional elements can be determined on the same sample.

Detection limit: 5 ppb Price per sample $12.25 **Method Code NA-AU**

PRECIOUS METAL ANALYSIS

Geochemical Gold by Aqua Regia Digestion

Samples are digested with aqua regia, the gold is extracted and concentrated into an organic liquid phase with final determination by AAS. The method is not suitable for samples with carbonate or sulfide mineralization and gold extraction may not be complete.

Method Code	Sample Weight	Detection Limit	Price per sample
AA-30	30 g or 1 assay ton	20 ppb	$8.50
AA-50	50 g	10 ppb	$9.00

Available in Hermosillo.

Gold by Cyanidation

These techniques are NOT total gold assays. The reported value is cyanide extractable gold.

Method Code	Sample Weight (g)	Digestion/ Finish	Detection Limit	Price per sample
CY-210	10 or 20	Leach/AAS	Au (50 pbb) or Ag (2 ppm)	$6.85
			Au and Ag	$7.35
CY-211		Preg Rob Chiddy Finish	Au or Ag	$6.85
			Au only	$50.00
CY-212	2000	24 Hr Bottle Roll/AAS	Au (5 ppb)	$30.00
CY-213	5-10kg	24 Hr Bottle Roll/AAS	Au (5 ppb)	$39.00
CY-215	3-5kg	BLEG-24 Hr Agitated Leach/ Zn collection/AAS	Au (0.05ppb)	$45.00

Available in Hermosillo and Denver.

Gold Exploration Packages

Method Code		EXPL-10	EXPL-20
Gold	Au	1 ppb	5 ppb
Silver	Ag	0.1 ppm	0.1 ppm
Arsenic	As	0.1 ppm	3 ppm
Antimony	Sb	0.1 ppm	5 ppm
Mercury	Hg	5 ppb	5 ppb
Price per sample		$24.00	$18.50
Cu, Zn		0.5 ppm	0.5 ppm
Cd. Co. Mo. Ni		1 ppm	1 ppm
Pb		2 ppm	2 ppm
Add-on price		$ 4.00	$ 4.00

Gold is determined by fire assay on a 30 gm sample; mercury is determined by cold vapour spectrometry. The remaining elements are determined by ICP on an aqua regia digest with the exception of As and Sb with improved detection limits which are determined by the hydride-atomic absorption spectrophotometry method. Sb extraction will be partial. Other packages available on request.

XRAL

WHOLE ROCK ANALYSIS

XRAL has 20 years of unparalleled experience in the determination of the major rock components using x-ray fluorescence spectrometry on a fused disc prepared from a 2 gram sample.

The calibration programme, based on the analysis of over 40 international standard reference materials accommodates a wide range of sample materials including chromite and barite rich materials and gives accurate and high quality data. Method Codes XRF-100/101 are not suitable for sulphide rich minerals and detection limits for trace elements may be too high for some igneous petrology studies. Method Code XRF-7 is recommended for improved trace element detection limits.

Volume discounts for large exploration programmes can be arranged by contractual agreement.

Classical Whole Rock Package	Samples per batch		
Majors - SiO_2, Al_2O_3, CaO, MgO, Na_2O, K_2O, Fe_2O_3, MnO, Cr_2O_3, P_2O_5, TiO_2, loss on ignition (lower reporting limit: 0.01%)	1-10	11 and above	
	$31.50	$26.25	Method Code XRF-100
With add on traces - Ba, Nb, Rb, Sr, Y, Zr (detection limit: 10 ppm; Ba-50ppm)	$36.75	$31.50	Method Code XRF-101

Additional Determinations Associated with Whole Rock Analysis

	Method	Price	Method Code
FeO	Titration	$11.75	CHM-111
S	Leco	$10.50	CHM-112
Cl	XRF	$10.50	XRF-113
CO_2	Coulometry	$11.50	CHM-114
H_2O+	Penfield	$ 9.00	CHM-115
H_2O-	Gravimetric	$ 7.00	CHM-116
C (organic)	Coulometry	$14.75	CHM-117
C (total)	Leco	$10.50	CHM-118
C (total) and S	Leco	$15.75	CHM-119

X-Ray Fluorescence Spectrometry- 25 elements

This method determines total metal concentrations using the pressed pellet technique eliminating potential dissolution problems.

Method Code XRF-7

Elements and detection limits

Antimony	Sb	3	ppm	Molybdenum	Mo	2	ppm	Thorium	Th	2	ppm
Arsenic	As	3	ppm	Niobium	Nb	2	ppm	Tin	Sn	5	ppm
Barium	Ba	20	ppm	Nickel	Ni	2	ppm	Titanium	Ti	5	ppm
Bismuth	Bi	3	ppm	Rubidium	Rb	2	ppm	Tungsten	W	5	ppm
Chlorine	Cl	50	ppm	Selenium	Se	3	ppm	Uranium	U	2	ppm
Cobalt	Co	2	ppm	Strontium	Sr	2	ppm	Yttrium	Y	2	ppm
Copper	Cu	2	ppm	Tantalum	Ta	5	ppm	Zirconium	Zr	3	ppm
Gallium	Ga	3	ppm	Thallium	Tl	5	ppm	Zinc	Zn	2	ppm
Lead	Pb	2	ppm								

Price per sample: $ 7.50 for the first element $2.10 for each subsequent element

A minimum of 5g of sample is required for this analysis. Please note that this technique is not suitable for highly mineralized samples. See ASSAYS.

GEOCHEMICAL ANALYSIS

31 elements by ICP Spectrometry(with no upper reporting limit)

Elements and detection limits:

Aluminum	Al	0.01	%	Iron	Fe	0.01	%	Sodium	Na	0.01	%
Antimony	Sb	5	ppm	Lanthanum	La	0.5	ppm	Strontium	Sr	0.5	ppm
Arsenic	As	3	ppm	Lead	Pb	2	ppm	Silver	Ag	0.1	ppm
Barium	Ba	1	ppm	Magnesium	Mg	0.01	%	Tin	Sn	10	ppm
Beryllium	Be	0.5	ppm	Manganese	Mn	0.01	%	Titanium	Ti	0.01	%
Bismuth	Bi	3	ppm	Molybdenum	Mo	1	ppm	Tungsten	W	10	ppm
Cadmium	Cd	1	ppm	Nickel	Ni	1	ppm	Vanadium	V	2	ppm
Calcium	Ca	0.01	%	Phosphorus	P	0.01	%	Yttrium	Y	0.1	ppm
Chromium	Cr	1	ppm	Potassium	K	0.01	%	Zirconium	Zr	0.5	ppm
Cobalt	Co	1	ppm	Scandium	Sc	0.5	ppm	Zinc	Zn	0.5	ppm
Copper	Cu	0.5	ppm								

Method Code	**ICP-70**	**ICP-80**
Digestion	Nitric aqua regia	$HF/HNO_3/HClO_4$
Price incl. 2 elements	**$4.35**	**$ 9.50**
Each additional element	**$0.70**	**$ 0.70**
Package Price	**$7.35**	**$12.00**

Elements such as Ba, Cr, Sb, Sn, Ta, W, V and Zr may not be completely extracted. For determination of total metal, please select XRF or NA analysis. All values are reported but assays are recommended for values greater than 1000 times the detection limit or specified upper limits.

Atomic Absorption Spectrometry

Elements and detection limits:

Cadmium	Cd	5	ppm	Lead	Pb	5	ppm	Silver	Ag	0.5	ppm
Cobalt	Co	5	ppm	Bismuth	Bi	10	ppm	Zinc	Zn	5	ppm
Copper	Cu	5	ppm	Nickel	Ni	5	ppm				
Price per sample: $1.60				**$1.05 per element**							
Arsenic	As	100	ppm	Iron	Fe	5	ppm	Molybdenum	Mo	10	ppm
Chromium	Cr	10	ppm	Manganese	Mn	5	ppm				
				$1.30 per element							

Nitric aqua regia digestion **Method Code AA-10**
Perchoric/nitric acid digestion **Method Code AA-15**
Upper limits are approximately 1000 times detection limit. See ASSAYS for mineralized samples.

Be, B, Ge and V by Fusion/Emission Spectrometry

Elements and detection limits **Method Code ES-4**
Beryllium Be - 0.5 ppm Boron B - 10 ppm Germanium Ge - 10 ppm Vanadium V - 2 ppm
Price per sample **$6.85** for the first element **$2.00** for each subsequent element

Ultratrace As, Sb and Bi by Hydride AAS

Elements and detection limits: **Method Code AAH-3**
Arsenic As - 0.1 ppm Antimony Sb - 0.1 ppm Bismuth Bi - 0.1 ppm
Price per sample: **$7.25** for the first element **$1.55** for each additional element
Antimony extraction will be partial with the nitric aqua regia digestion. For total As, Sb see Neutron Activation.

SINGLE ELEMENT GEOCHEMISTRY

Element		Detection Limit		Upper Limit	Method	Price	Method Code
Antimony	Sb	0.2	ppm	1 %	Total/INAA	$ 9.40	NA-3
	Sb	0.1	ppm	200 ppm	Acid Extraction/Hydride	$ 7.25	AAH-3
Arsenic	As	0.1	ppm	200 ppm	Acid Extraction/Hydride	$ 7.25	AAH-3
	As	1	ppm	1 %	Total/NAA	$ 9.40	NA-3
Barium	Ba	10	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Beryllium	Be	0.5	ppm	2000 ppm	Fusion/DCP	$ 6.85	ES-4
Bismuth	Bi	0.1	ppm	200 ppm	Acid Extraction/Hydride	$ 7.25	AAH-3
	Bi	3	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Boron	B	10	ppm	2000 ppm	Fusion/DCP	$ 6.85	ES-4
Bromine	Br	2	ppm	1 %	Total/NAA	$ 9.90	NA-BASIC
Cadmium	Cd	0.02	ppm	200 ppm	Acid Extraction/GFAA	$10.50	GFAA-10
	Cd	1	ppm	4000 ppm	Acid Extraction/AA	$ 2.65	AA-01
Cesium	Cs	2	ppm	1 %	Total/NAA	$ 9.90	NA-BASIC
Chlorine	Cl	50	ppm	5000 ppm	Specific Ion	$10.50	CHM-5
Chromium	Cr	2	ppm	1 %	Total/INAA	$12.85	NA-IMPROV
Cobalt	Co	1	ppm	4000 ppm	Acid Extraction/AA	$ 2.65	AA-01
Copper	Cu	0.5	ppm	4000 ppm	Acid Extraction/AA	$ 2.65	AA-01
Fluorine	F	20	ppm	1 %	Specific Ion	$ 7.35	CHM-10
Gallium	Ga	3	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Germanium	Ge	10	ppm	2000 ppm	Fusion/DCP	$ 6.85	ES-4
Hafnium	Hf	1	ppm	1 %	Total/INAA	$ 9.90	NA-BASIC
Indium	In	0.5	ppm	4000 ppm	MultiAcid Extraction/ICPMS	$10.50	ICPMS-10
Iron	Fe	0.01	%	8 %	Acid Extraction/AA	$ 2.90	AA-10
Lead	Pb	2	ppm	4000 ppm	Acid Extraction/AA	$ 2.65	AA-01
Lithium	Li	1	ppm	4000 ppm	Acid Extraction/AA	$ 6.30	AA-05
Manganese	Mn	2	ppm	4000 ppm	Acid Extraction/ICP	$ 4.00	ICP-10
Mercury	Hg	5	ppm	50 ppm	Cold Vapour	$ 6.60	CHM-20
Molybdenum	Mo	1	ppm	4000 ppm	Acid Extraction/ICP	$ 4.00	ICP-10
Nickel	Ni	1	ppm	4000 ppm	Acid Extraction/ICP	$ 4.00	ICP-10
Niobium	Nb	2	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Phosphorus	P	10	ppm	4000 ppm	Acid Extraction/ICP	$ 4.00	ICP-10
Rubidium	Rb	2	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Scandium	Sc	0.1	ppm	4000 ppm	Acid Extraction/ICP	$ 4.00	ICP-10
Selenium	Se	0.1	ppm	200 ppm	Acid Extraction/GFAA	$10.50	GFAA-10
	Se	3	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Silver	Ag	0.02	ppm	20 ppm	Acid Extraction/GFAA	$10.50	GFAA-10
	Ag	0.5	ppm	20 ppm	Acid Extraction/AA	$ 2.65	AA-10
Strontium	Sr	2	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Tantalum	Ta	2	ppm	1 %	Total/INAA	$ 9.90	NA-BASIC
Tellurium	Te	0.02	ppm	200 ppm	Acid Extraction/GFAA	$10.50	GFAA-10
Thallium	Tl	0.1	ppm	4000 ppm	Acid Extraction/ICPMS	$ 9.00	ICPMS-20
Thorium	Th	1	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Tin	Sn	5	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Titanium	Ti	5	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Tungsten	W	1	ppm	1 %	Total/INAA	$ 9.40	NA-3
Uranium*	U	0.1	ppm	1 %	Total/DNC	$ 7.35	DNC
Vanadium	V	2	ppm	2000 ppm	Fusion/DCP	$ 6.85	ES-4
Yttrium	Y	2	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7
Zinc	Zn	0.5	ppm	4000 ppm	Acid Extraction/ICP	$ 4.00	ICP-10
Zirconium	Zr	3	ppm	5000 ppm	Total/XRF	$ 7.50	XRF-7

* Minimum submission of 20 samples

Also see PRECIOUS METALS and RARE EARTHS. Acid extraction is usually a nitric aqua regia leach. Descriptions of procedures are supplied on request.

Multi-method Multi-element Quantitative Analyses

These packages use all the techniques available at XRAL (XRF, neutron activation analysis, ICP, IP/MS and AA spectrophotometry) to obtain high quality analysis on up to 64 elements. Minimum sample weights are 30 g for MEX or MER and 5g for ME3. MEX includes gold, platinum and palladium determinations by Method Code FA-15.

These packages are not suitablefor use with highly mineralized samples.

Elements and detection limits: **Method Codes MEX, ME3, MER**

Method Code	MEX		ME3		MER		Method Code	MEX		ME3		MER	
Al_2O_3	0.01	%	0.01	%	0.01	%	Mo	1	ppm	2	ppm	1	ppm
Sb	0.2	ppm	0.01	ppm	0.1	ppm	Nb	10	ppm	10	ppm	2	ppm
As	1	ppm	1	ppm	0.1	ppm	Ni	1	ppm	1	ppm	1	ppm
B	10	ppm	10	ppm	10	ppm	Pd	1	ppb	-		-	
Ba	10	ppm	10	ppm	10	ppm	P_2O_5	0.01	%	0.01	%	0.01	%
Be	1	ppm	1	ppm	1	ppm	Pt	10	ppb	-		-	
Bi	3	ppm	-	ppm	0.5	ppm	K_2O	0.01	%	0.01	%	0.01	%
Br	1	ppm	0.5	ppm	0.5	ppm	Rb	10	ppm	10	ppm	2	ppm
CaO	0.01	%	0.01	%	0.01	%	Sc	0.5	ppm	0.05	ppm	0.05	ppm
Cd	1	ppm	1	ppm	0.2	ppm	Se	3	ppm	1	ppm	1	ppm
Cs	1	ppm	0.5	ppm	0.5	ppm	SiO_2	0.01	%	0.01	%	0.01	%
Cl	-		-		100	ppm	Ag	0.5	ppm	0.5	ppm	0.5	ppm
Cr	2	ppm	0.5	ppm	2	ppm	Na_2O	0.01	%	0.01	%	0.01	ppm
Co	1	ppm	0.5	ppm	1	ppm	Sr	10	ppm	10	ppm	1	ppm
Cu	0.5	ppm	0.5	ppm	0.5	ppm	S	100	ppm	-		50	ppm
Ga	-		-		1	ppm	Ta	1	ppm	0.5	ppm	0.5	ppm
Ge	10	ppm	10	ppm	10	ppm	Tl	-		-		0.1	ppm
Au	1	ppb	2	ppb	2	ppm	Th	1	ppm	0.2	ppm	0.2	ppm
Hf	1	ppm	0.2	ppm	0.2	ppm	Sn	10	ppm	-		2	ppm
Fe_2O_3	0.01	%	0.01	%	0.01	%	TiO_2	0.01	%	0.001	%	0.001	%
In	-		-		0.5	ppm	W	3	ppm	1	ppm	1	ppm
Pb	2	ppm	2	ppm	2	ppm	U	0.5	ppm	0.1	ppm	0.1	ppm
Li	-		-		1	ppm	V	10	ppm	2	ppm	2	ppb
MgO	0.01	%	0.01	%	0.01	%	Y	10	ppm	10	ppm	1	ppb
MnO	0.01	%	0.01	%	0.01	%	Zn	0.5	ppm	0.5	ppm	0.5	ppm
Hg	-		-		5	ppb	Zr	10	ppm	10	ppm	1	ppm
Rare Earth and Actinide Elements:													
La	0.5	ppm	0.1	ppm	0.1	ppm	Tb	0.5	ppm	0.1	ppm	0.1	ppm
Ce	3	ppm	1	ppm	0.1	ppm	Dy	-		-		0.1	ppm
Pr	-		-		0.1	ppm	Ho	-		-		0.05	ppm
Nd	5	ppm	3	ppm	0.1	ppm	Er	-		-		0.1	ppm
Sm	0.1	ppm	0.01	ppm	0.1	ppm	Tm	-		-		0.1	ppm
Eu	0.2	ppm	0.05	ppm	0.05	ppm	Yb	0.2	ppm	0.05	ppm	0.1	ppm
Gd	-		-		0.1	ppm	Lu	0.05	ppm	0.01	ppm	0.05	ppm

Price per sample: MEX: $80.00 ME3 $110.00 MER $165.00

NEW PRICE Rare Earth Elements by ICP/MS

The VG PlasmaQuad Inductively Coupled Plasma/Mass Spectrometer is state-of-the-art equipment used to obtain high quality analysis of all rare earth elements. A Na_2O_2 scinter technique is used to ensure total dissolution of the sample.

Elements and detection limits - 17 elements

Lanthanum	La	0.1	ppm	Gadolinium	Gd	0.1	ppm	Ytterbium	Yb	0.1	ppm
Cerium	Ce	0.1	ppm	Terbium	Tb	0.1	ppm	Lutetium	Lu	0.05	ppm
Praseodymium	Pr	0.1	ppm	Dysprosium	Dy	0.1	ppm	Thorium	Th	0.1	ppm
Neodymium	Nd	0.1	ppm	Holmium	Ho	0.05	ppm	Uranium	U	0.1	ppm
Samarium	Sm	0.1	ppm	Erbium	Er	0.1	ppm	Yttrium	Y	1	ppm
Europium	Eu	0.05	ppm	Thulium	Tm	0.1	ppm				

Price per sample: **$42.00 for the first three elements** **Method Code ICPMS-17**

$ 3.00 for each subsequent element

$73.00 for all 17 elements (minimum charge per submission: $169.50)

$ 2.50 for chondrite plot (minimum 4 samples)

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Geoscience Approvals Section
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

May 12, 1994

Our File: 2.15410
Transaction #: W9470.00023

Mr. Roy Denomme, Mining Recorder
Ministry of Northern
Development and Mines
3rd Floor
933 Ramsey Lake Road
Sudbury, Ontario
P3E 6B5

Dear Mr. Denomme:

Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS S.1189043 ET AL IN STRATHY TOWNSHIP

The assessment work credits for Geology, Section 12 of the Mining Act Regulations have been approved as outlined on the attached Assessment Work Credit form.

The approval date is May 11, 1994.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5855.

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Section
Mining and Land Management Branch
Mines and Minerals Division

LJ/ls

cc: Resident Geologist
Cobalt, Ontario

Assessment Files Library
Toronto, Ontario

ASSESSMENT WORK CREDIT FORM

FILE NUMBER: 2.15410
DATE: May 11, 1994
RECORDER'S REPORT NUMBER: W9470.00023

RECORDED HOLDER: Granges Inc. **CLIENT NUMBER:** 138756

TOWNSHIP OR AREA: Strathy Township

CLAIM	VALUE OF WORK DONE ON THIS CLAIM	VALUE APPLIED TO THIS CLAIM	VALUE ASSIGNED FROM THIS CLAIM	RESERVE
S1189043	$ 2 200	$ 1 531	$ 669	$ 0
1189044	0	400	0	0
1189045	0	348	0	0
1189046	5 600	4 570	79	951
1189083	784	0	0	784
1189084	400	0	0	400
	$ 8 984	$ 6 849		$ 2 035

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: W9470.00023

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.15410

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requi Recorder.
- A separate copy of this form must be completed
- Technical reports and maps must accompany thi
- A sketch, showing the claims the work is assigne

31M04NW0006 2.15410 STRATHY

900

Recorded Holder(s): Granges Inc		Client No.: 138756
Address: 136 Cedar Street South, Timmins, Ont P4N 2G9		Telephone No.: (705) 264-1228
Mining Division: Sudbury	Township/Area: Strathy Township	M or G Plan No.: G-3451
Dates Work Performed: From: Sept. 27, 1993	To: Oct. 8, 1993	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	
X	Physical Work, Including Drilling	Geologic mapping and prospecting 3611
	Rehabilitation	
	Other Authorized Work	
X	Assays	Lithogeochemical sampling
	Assignment from Reserve	

RECEIVED
MAY 09 1994
MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs $ 8,984.

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Granges Inc Todd Keast	136 Cedar Street South, Timmins, Ont P4N 2G9

RECORDED
FEB 16 1994
Recorder KP

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

	Date	Recorded Holder or Agent (Signature)
I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Feb. 10/94	Todd Keast Project Geologist

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after the completion and annexed report is true.

Name and Address of Person Certifying: Todd Keast c/o Granges Inc., 136 Cedar St. S., Timmins, Ont P4N 2G9

Telephone No.	Date	Certified By (Signature)
(705) 264-1228	Feb. 10/94	Todd Keast

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
Applied: $ 6,849.00 Reserved: $ 2,135.00	Feb. 16/94.		SUDBURY MINING DIV. RECEIVED FEB 16 1994 A.M. P.M. 7 8 9 10 11 12 1 2 3 4 5 6
	Deemed Approval Date: May 17, 1994	Date Approved	
	Date Notice for Amendments Sent		

0241 (03/91)

Work Report for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
C	1189043	6	$1,531.	$1,531.		
	1189044	1	787.	400.		387.
	1189045	1	348.	348.		
	1189046	15	4,570.	4,570.		
	1189083	2	813.			813.
	1189084	1	935.			935.
Total Number: 6			Total Value Work Done: $8,984.	Total Value Work Applied: $6,849.	Total Assigned From	Total Reserve: $2,135.

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☒ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction: W9470.00001-23

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	3512	
	Field Supervision Supervision sur le terrain	1320	4832
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type: Analytical	1731	
			1731
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type: boat, truck	924	
			924
		Total Direct Costs Total des coûts directs	7487

2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
Food and Lodging Nourriture et hébergement	24 mandays @ $95./mandays	2,508	2508
Mobilization and Demobilization Mobilisation et démobilisation			
		Sub Total of Indirect Costs Total partiel des coûts indirects	2508
		Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)	1497
		Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)	8984

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
x 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
x 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Project Geologist/Engineer I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
Todd Keast	Feb 10/94

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

Ministry of Natural Resources
Ontario
Ministry of Northern Development and Mines

PUT INTO SERVICE MARCH 23 1994

INDEX TO LAND DISPOSITION

PLAN
G-3451

TOWNSHIP
STRATHY

M.N.R. ADMINISTRATIVE DISTRICT
TEMAGAMI

MINING DIVISION
SUDBURY

LAND TITLES/REGISTRY DIVISION
NIPISSING

DATE OF ISSUE
MAY 5 1994
SUDBURY
MINING RECORDER'S OFFICE

Scale 1:20 000

Metres 1000 0 1000 2000 Metres

Feet 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet

Contour Interval 10 Metres

AREAS WITHDRAWN FROM DISPOSITION

MRO - Mining Rights Only
SRO - Surface Rights Only
M + S - Mining and Surface Rights

	Description	Order No.	Date	Disposition	Plan
R1	36(4)R.S.O.1990	OC 2022/86		SRO.	3451
R2	35(5,6)/90	W-1/94	15/03/94	M & S	1189046
R3		W-01/91/ONT	SEP.20/91	S.R.O.	LAND ROLL
R4	SEC.36/90	W-3-05/91 NER		M & S	1189083
R5	PENDING DISPOSITION UNDER THE PUBLIC LANDS ACT LAND NOT OPEN FOR STAKING SUB-SECTION 30(5) OF THE MINING ACT R.S.O. 1990 NOTICE RECEIVED 93/MAR/05				
R7	PENDING DISPOSITION UNDER THE PUBLIC LANDS ACT LAND NOT OPEN FOR STAKING SUB-SECTION 30(5) OF THE MINING ACT R.S.O. 1990 NOTICE RECEIVED 93/MAR/05				
R6	SEC.35/90	W-3 -30 /94	Apr5 15/94	M & S	1189050

SYMBOLS

Boundary
- Township, Meridian, Baseline
- Road allowance; surveyed / shoreline
- Lot/Concession, surveyed / unsurveyed
- Parcel, surveyed / unsurveyed
- Right-of-way, road / railway / utility
- Reservation
- Cliff, Pit, Pile
- Contour
- Depression
- Control point (horizontal)
- Flooded land
- Mine head frame
- Pipeline (above ground)
- Railway, single track / double track / abandoned
- Road, highway, county, township / access / trail, bush
- Shoreline (original)
- Transmission line
- Wooded area

DISPOSITION OF CROWN LANDS

Patent
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

Lease
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

Licence of Occupation
Order-in-Council: OC
Cancelled
Reservation
Sand & Gravel

NOTES

ISLAND 27 BELONGS WITH STRATHCONA TWP.
ISLANDS IN LAKE TEMAGAMI - NOT OPEN FOR STAKING

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources

The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only.

G-3451 STRATHY TOWNSHIP

LEGEND

- 8 DIABASE DYKE
- 7 GRANITE
- 6 GREYWACKE?
- 5 RHYOLITE
- 4 DACITE
- 3 ANDESITE
- 2 BASALT
- 1 GABBRO

- Contact
- S1 Foliation
- S2 Foliation
- Minor Shearing
- Sample # Location
- DDH
- Claim Post
- Claim Boundary
- Main Access Road
- Secondary Access Road
- Trenches

LOCATION MAP

MAP KEY

NORTH SHEET

SOUTH SHEET

UP

KANICHEE LAKE

NET LAKE

1189046

1189043

1189084

1189083

Rest Area

Railway

Railway

Hwy 11

Hwy 11

NATURAL GAS PIPELINE

42695

42696

42693

py, po

cpy

py, po cpy

2.15410

GRANGES INC.

NET LAKE OPTION

DATE APRIL, 1993 DWG No.

SCALE 1:2500 DRAWN BY CompuScan

NET

LAKE

TO KANICHEE MINE

1189043

1189044

1189045

Poplar Ridge

Poplar Ridge

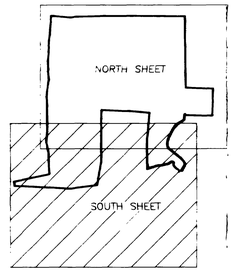
NATURAL GAS PIPELINE

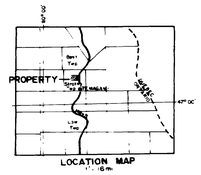
GOWARD

LAKE

42694

MAP KEY





LEGEND

8	DIABASE DYKE
7	GRANITE
6	GREYWACKE?
5	RHYOLITE
4	DACITE
3	ANDESITE
2	BASALT
1	GABBRO
	Contact
	S1 Foliation
	S2 Foliation
	Minor Shearing
	Sample # Location
	DDH
	Claim Post
	Claim Boundary
	Main Access Road
	Secondary Access Road
	Trench

2.15410

GRANGES INC.

NET LAKE OPTION

DATE APRIL, 1993 DWG No.

SCALE 1:2500 DRAWN BY CompuScan