

Nortem Mining and Exploration Inc.,

**'Croxall-Vuksanovich' Silica Deposit,
Shaw Township**

**Report of Work
Surface Sampling**

2. 20578

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Porcupine, Ontario**

Date: 6 September, 2000



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Introduction

The author was retained, by Nortem Mining & Exploration Inc., to evaluate and explore the Croxall-Vuksanovich Silica (C-V Silica) deposit in Shaw Township. This report is a summary of a surface-sampling program undertaken and supervised by the author during the fall of 1999. The area of work, claim 1229264, has been the subject of very limited exploration activity in the past. This activity consisted of linecutting, prospecting and geophysical surveys. Prior to the most recent staking there is no evidence or record of any trenching or drilling on the main claim.

Property Location and Access

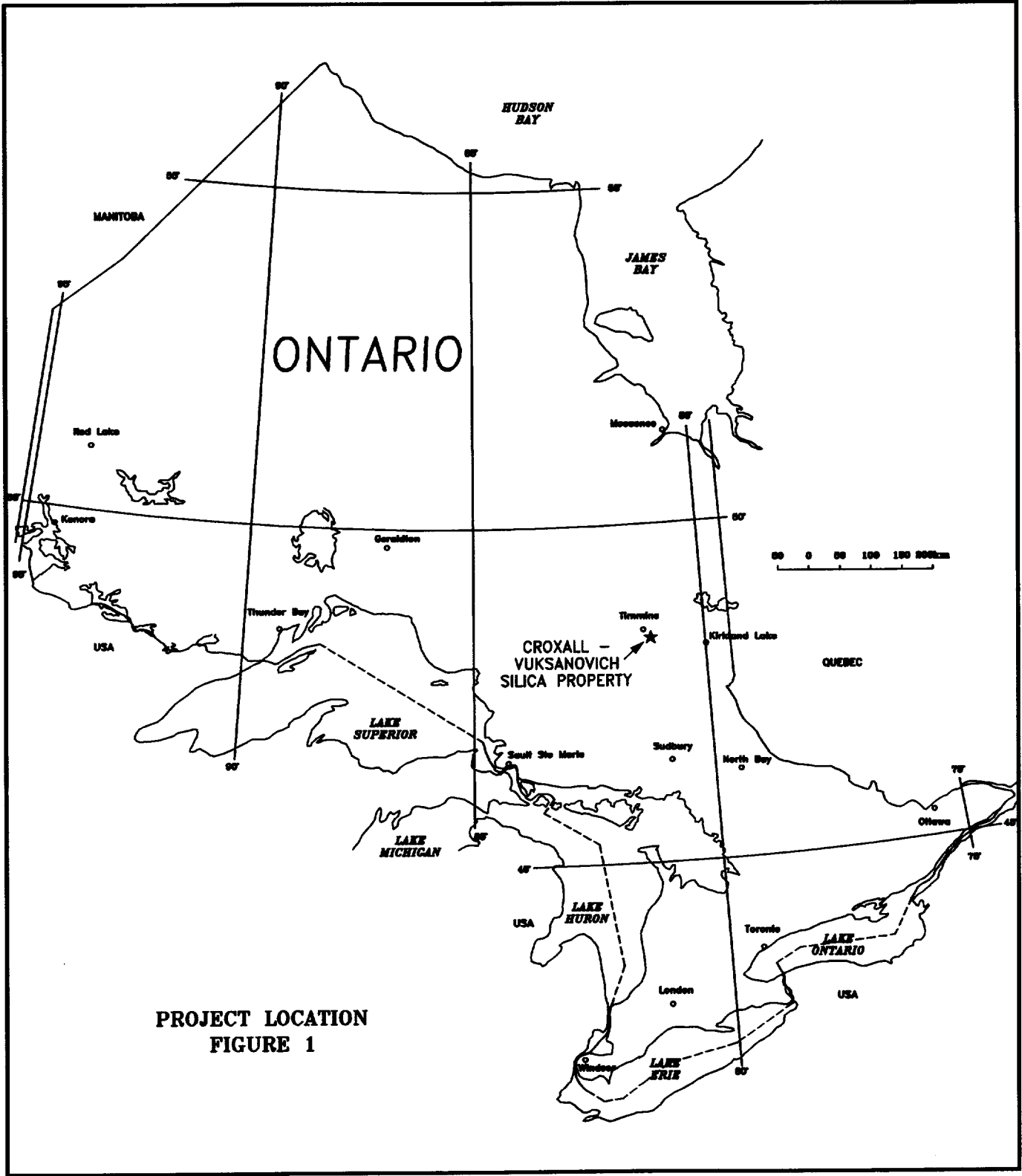
The project is located approximately 20 km southeast of Timmins in Shaw Township. Refer to Figure 1.

Shaw Township is accessible via the Langmuir Road, which extends southward from Tisdale Street in South Porcupine. South Porcupine is located approximately 6 km east of Timmins. The property is accessible by crossing private property located on the north side of the Langmuir Road at the Redstone River Bridge. Refer to Figure 2.

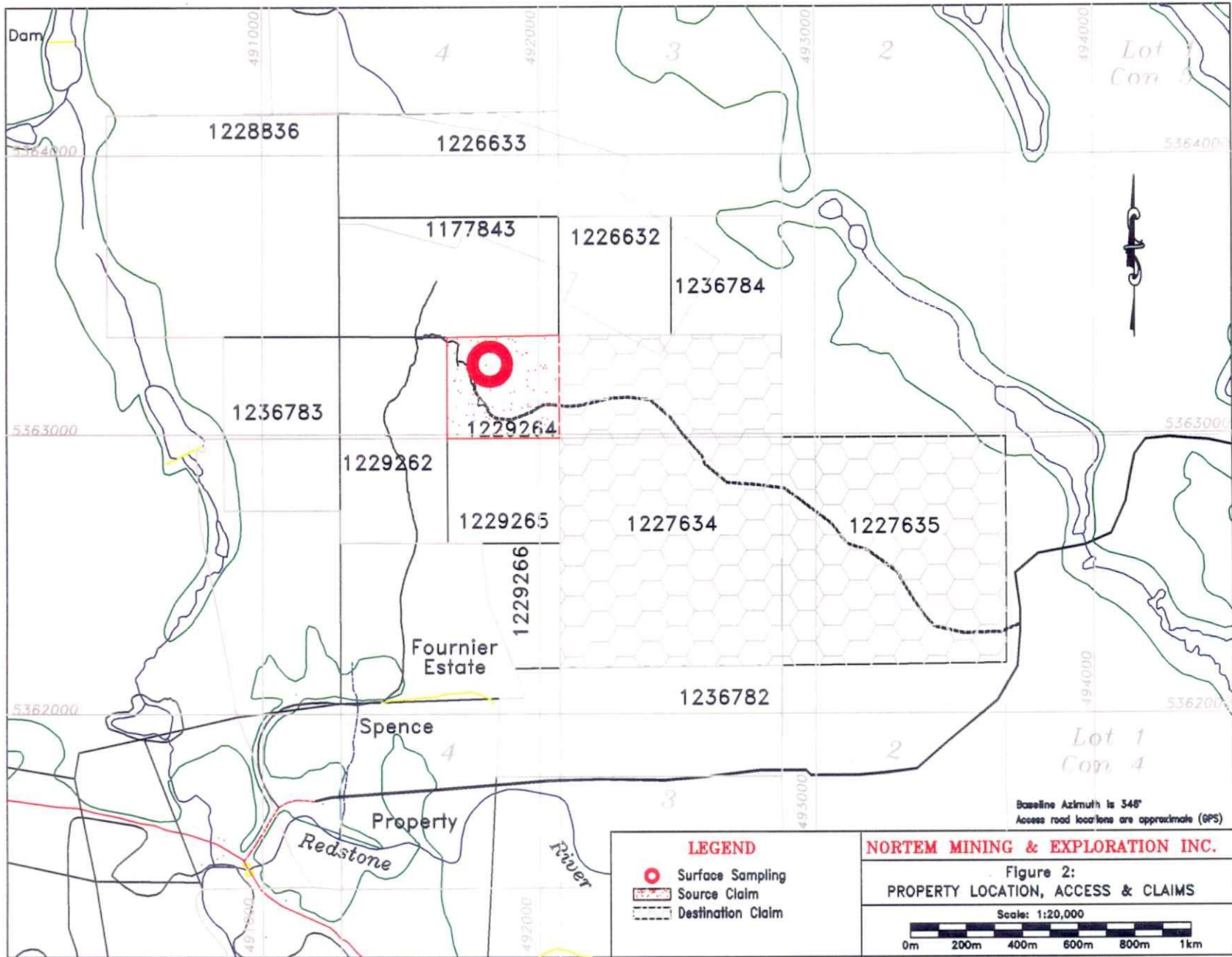
Claims

The property, at the time of the work, consisted of 30 units covering approximately 460 ha. The claim numbers are: 1177843, 1226632, 1226633, 1227634, 1227635, 1228836, 1229262, 1229264, 1229265, 1229266, 1236782, 1236783 and 1236784. The main area of interest is located wholly within the unpatented mining claim 1229264. The claim is in Lot 4 Con V in Shaw Township. Refer to Figure 2 and the following chart.

Claim Number	Units	Size (ha)	Due Date
1177843	2	32	27 Oct 2000
1226632	1	16	23 Apr 2000
1226633	2	32	8 May 2000
1227634	6	96	21 Sept 2000
1227635	4	64	21 Sept 2000
1228836	4	64	3 Dec 2000
1229262	2	32	21 Sept 2000
1229264	1	16	21 Sept 2001
1229265	1	16	21 Sept 2002
1229266	2	32	21 Sept 2001
1236782	3	48	31 Aug 2001
1226783	2	32	31 Aug 2001
1236784	1	16	31 Aug 2001



**PROJECT LOCATION
FIGURE 1**



An option agreement between the stakeholders, Croxall and Vuksanovich, was made with Nortem Mining & Exploration in August 1999. Claim ownership, at the time of the work, was being transferred to Nortem Mining & Exploration Inc.

Topography and Vegetation

The topography of the area is flat with gentle rolling hills with approximately 30 meters of relief. Most of the hills are glaciated outcrop while others are glacial deposits of sand, clay and gravel. The highest elevation within the claim block, located immediately east of the area of work, is 331 meters above sea level. The local watersheds drain into the Redstone River which in turn drains into Nighthawk Lake.

Vegetation consists mainly of spruce, jackpine, poplar, birch and alders.

Regional Geology

The Abitibi Subprovince is an 800 by 300-km Archean "granite-greenstone" domain situated along the southern margin of the Superior Province. It is dominated by supracrustal and granitoid rocks with a range of ages from 2.75 to 2.67 Ga (Ayer and Trowell, 1998). The Abitibi Greenstone Belt is the largest greenstone belt within the Canadian Shield and extends from Lake Superior in northcentral Ontario through into Quebec.

There are two major groups of volcanic rocks and associated sediments, the Deloro and Tisdale, in the Timmins area. The Deloro Group underlies the project area.

"The geology of the Croxall-Vuksanovich Property was mapped as a northwest-southeast series of gabbro intrusions, mafic volcanic flows, and chert-oxide iron formations. The entire sequence is situated along the northeast side of the large scale Shaw Dome, centered in Shaw Township." (Keast, 1999). The main sequence of interest for this report is the chert and iron formation members.

"Iron formation forms a conspicuous and persistent stratigraphic unit in the area, and is virtually confined to the upper formation of the Deloro Group. Oxide and sulphide facies are prominent; carbonate facies iron formation was rarely observed, and only locally forms minor intercalations with dominantly magnetite- and pyrite-bearing zones." (Pyke, 1982, p41)

"Oxide facies iron formation typically consists of alternating layers of magnetite and chert. The magnetite layers are 1 mm to 80 mm thick, average approximately 10 to 20 mm in thickness, and consist of fine-grained granular magnetite and minor (generally 10 percent) chert. Chert layers are light grey to white weathering and fresh, varying from a few millimetres to 30 cm or more in thickness, commonly average approximately 1 to 3 cm, and are almost invariably present in an amount in excess of magnetite-rich layers; chert-magnetite ratios are rarely less than approximately 3 to 2. The chert is recrystallized to a fine-

grained granular mosaic. On some weathered surfaces, a fine lamination, 0.05 to 1.0 mm thick, is discernable; this is suggestive of a primary layering. Rare grains of pyrite, pyrrhotite, and magnetite are common in the chert layers." (Pyke, 1982, p41)

"Minor black argillaceous sedimentary rocks from layers up to 3 m thick. Narrow, soft, dark green chloritic layers are locally present." (Pyke, 1982, p41)

"Sulphide facies iron formations are dominantly composed of white to light grey or pale red ferruginous chert. Layers of sulphide, graphite, argillite, and rarely minor magnetite form a variable part of many of the iron formation zones. Locally, very massive appearing finely granular chert constitutes virtually all of the exposed iron formation unit, as for example in northwest-central Shaw Township, 1.5 km southwest of Mt. Logano. Pyrite, generally associated with minor pyrrhotite, is the dominant sulphide and characteristically occurs in narrow 2 cm thick layers, fine disseminations, or stringers in chert. Other sulphide minerals include minor chalcopyrite, pentlandite, and rare sphalerite, and galena. In general, sulphide minerals constitute less than 10 to 15 percent of an iron formation; less commonly, zones contain 30 to 85 percent sulphide minerals and are up to 5 m thick." (Pyke, 1982, p41). Refer to Figure 3.

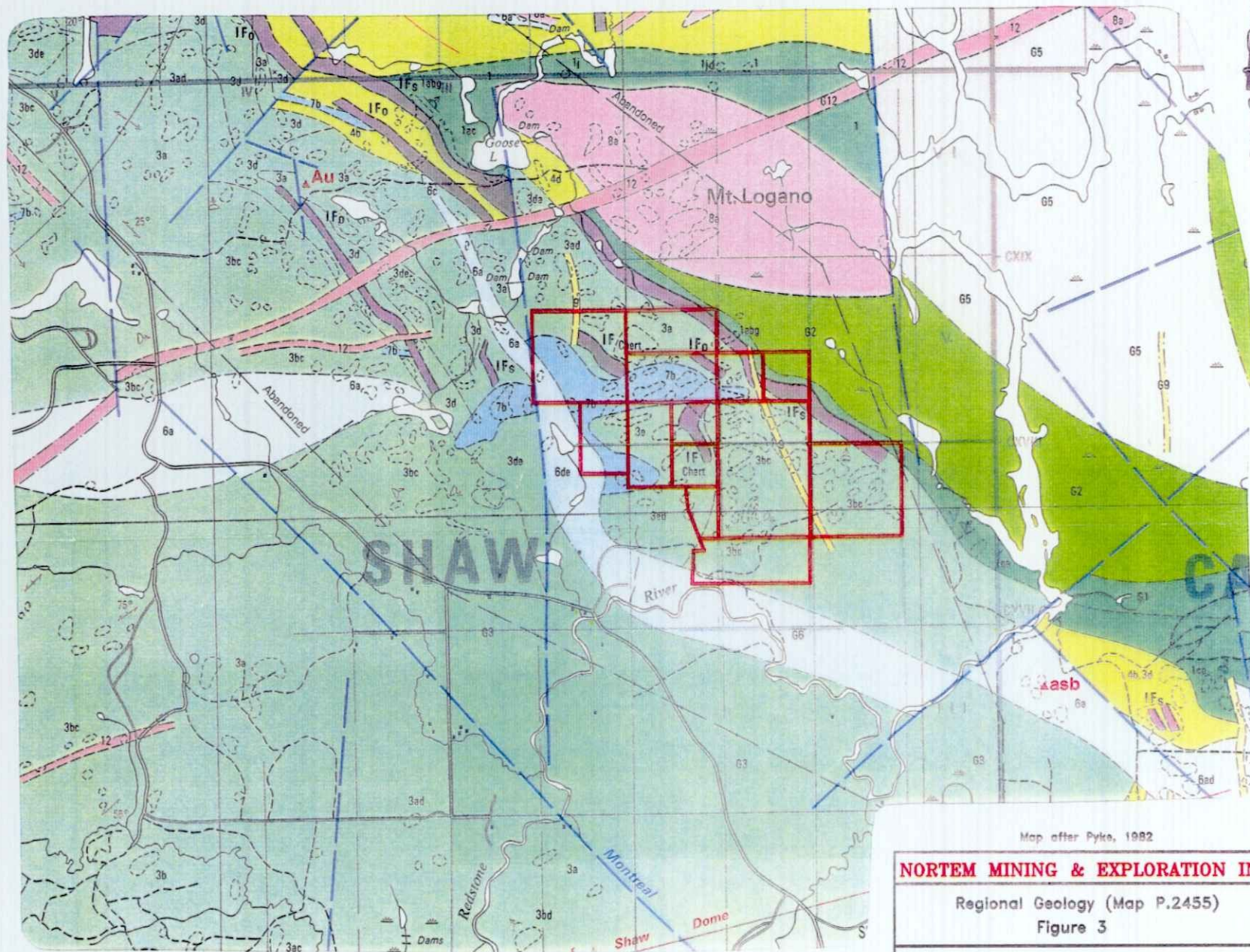
Property Geology

The Eldorado Assemblage of the Deloro Group underlies the CV property. This sequence of rocks consists of intermediate to felsic volcanics, iron formation and associated metasedimentary rocks and ultramafic flows and intrusions (Pyke, 1982). The Eldorado Assemblage outcrops around the Shaw Dome in a circular pattern.

Geological mapping, of the main claim, was conducted by Keast in 1999. "The mapping covers an area approximately 200 metres wide by 200 metres long. A small grid totaling 1,100 metres, with pickets every 20 metres was established for control purposes." Refer to Figure 4.

"The stratigraphy of the area includes a north-south trending east dipping package of mafic volcanic flows, oxide facies iron formation, chert formation, and pillowed mafic volcanic flows. Bedding and pillow facings indicate tops direction to the east with shallow 25° to 35° dips. A minor east-west shear was observed at one outcrop location, however no major structures were identified."

"The western portion of the area consists of massive mafic volcanic flows, dark green in colour, fine-grained with a low magnetic susceptibility (MS) signature. Immediately to the east of the mafic flow is a magnetite rich portion of the oxide facies iron formation, which ranges from 5-25 metres in thickness, and is strongly magnetic. To the east of the magnetite rich portion of the iron formation is a bedded white to grey chert horizon which on surface ranges from 50 to 125 metres in thickness (true thickness 85 metres). The chert is



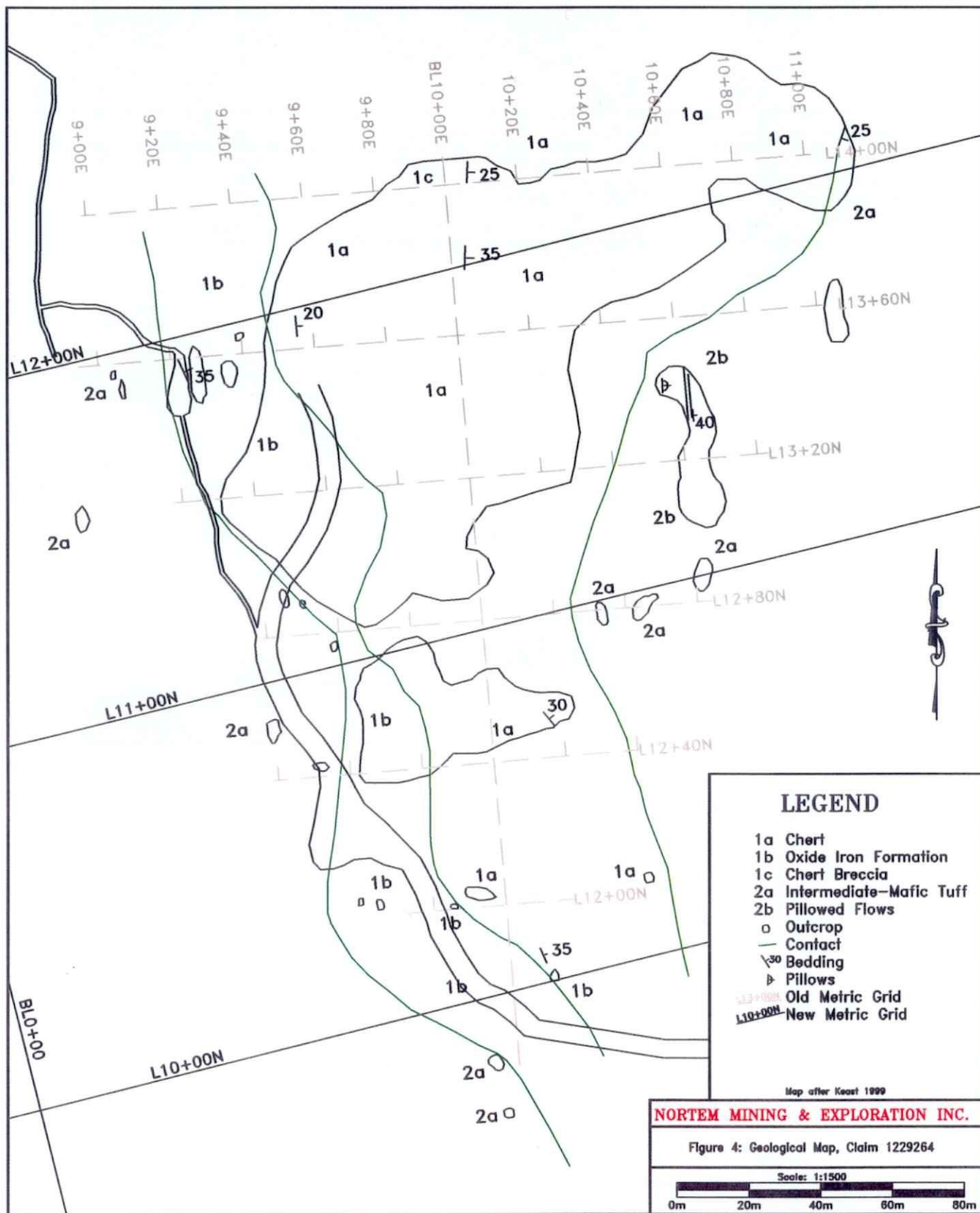
Map after Pyke, 1982

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Regional Geology (Map P.2455)

Figure 3

Scale 1:50,000



LEGEND

- 1a Chert
- 1b Oxide Iron Formation
- 1c Chert Breccia
- 2a Intermediate-Mafic Tuff
- 2b Pillowed Flows
- Outcrop
- Contact
- Bedding
- ▴ Pillows
- ~~L13+00N~~ Old Metric Grid
- ~~L10+00N~~ New Metric Grid

Map after Keast 1999

NORTEM MINING & EXPLORATION INC.

Figure 4: Geological Map, Claim 1229264

Scale: 1:1500

0m 20m 40m 60m 80m

recrystallized and thus has a granular gritty texture. The horizon has localized areas with moderate magnetite content, thus the MS varies from 0.00 to 72.0. Whole rock analysis from a number of grabs samples by the property owner returned SiO₂ contents up to 99%. Immediately to the east of the chert horizon is a pillowed mafic volcanic horizon, which is dark green in colour with a low magnetic signature."

Previous Work

The immediate area of the current claims has been the object of various exploration activities in the past. Exploration consisted of prospecting, trenching, geological mapping, geophysical surveys and diamond drilling in the search for gold, base metals and iron. There has been limited exploration in the area of the proposed quarry site. This area has been prospected and geologically mapped.

The local assessment files, located at the Ministry of Northern Development and Mines (MNDM) office in Porcupine, contains the following list of previous activities in the immediate area;

1947, Amshaw Porcupine Mines; mapping, magnetic survey for gold (diamond drilling elsewhere within the limits of a much larger land package). Assessment file T-142.

1961 to 1991, Dillion; prospecting, mapping for Fe (diamond drilling elsewhere within the limits of a much larger land package). Assessment file T-518.

1969, Economic Mineral Investigations; geological mapping and HEM. Assessment file T-165.

1973, Pac Explorations Limited; geological mapping and geophysical surveys (IP and magnetometer), for base metals. Assessment file T-182

1981, Hollinger Argus; magnetics and VLF, for gold. Assessment file T-1999.

1996, Outokumpu Mines; airborne magnetics and airborne electromagnetics for base metals (diamond drilling elsewhere within the limits of a much larger land package). Assessment files T-3848 and T-3973.

1998 and 1999, Croxall; prospecting and trenching for silica. Assessment files T-4072, T-4076 and T-4247.

1999, Fudge and Associates, geological mapping and magnetometer survey, for silica. Assessment file T-4233.

Present Work

Since optioning the property in August 1999 Nortem Mining has completed several phases and types of work. This report is limited to the surface-sampling program.

The surface rock sampling was conducted to obtain an overall grade of the exposed material. Most samples consisted of two or three fist-size rock samples or a series of uniform rock chip samples from a limited area. The total weight of a grab sample was 2-3 kg.

Initially a sampling program by a hand-held gas plugger (drill) was planned and was used in the acquisition of the first 16 samples. Due to the time spent in obtaining sample material and the difficulty with drilling the plugger was replaced by the more conventional manual method. The plugger was used to drill short, 0.5 to 1.0-meter, holes from which the cuttings were collected. Usually one or two holes were required to obtain the material required for assay.

The sampling interval for the cuttings and rock sample was on a rough 10-meter square grid. Refer to Figure 5. A total of 81 samples were taken. Appendix A contains a summary of all sample locations and silica results. Additional information in Appendix A includes results for iron content, LOI (loss on ignition), Cr. (chromium), sample type, rock code and color. The LOI usually refers to water, carbonate and other volatiles that are driven off when the sample is heated. Sample type refers to either cuttings (from plugger holes) or grab samples, which were obtained manually. Rock codes (rcode) refer to the various rock units that were sampled. Unit "1a" is the main chert. The two "powder" samples refer to samples obtained from blasted material when a hammer and chisel were unable to obtain material.

The average silica grade of all samples is 95.69%. Separating the samples according to geology, i.e. chert [74 samples] and oxide (magnetite) iron formation [7 samples] gives respective averages of 96.25% and 89.82% silica. A further separation of samples based on sample type, i.e. drill cuttings [16 samples] or grab samples [56 samples], returns silica averages of 94.77% and 96.72%. The other major component of the samples, iron [Fe], returned averages of 2.96% (all samples), 2.45% (chert samples), 8.36% (iron formation samples), 3.42% (cuttings) and 2.14% (grab samples). Other elements, such as nickel, copper and cobalt returned geochemically anomalous results.

Conclusions

The following conclusions are made:

- 1) The surface-sampling program indicates the presence of high-grade silica over the full extent of the exposed chert unit.
- 2) The main chert unit appears to dip eastward at angles of 25 to 40 degrees. The true thickness of the unit is unknown. The footwall is magnetite iron formation. There are narrow discontinuous subunits of iron formation within the main chert. The hangingwall is mafic volcanics and tuff. The main chert unit varies in width from 160 meters on the north end to approximately 50 meters in width at the south end of the outcrop. This variation in apparent thickness may be due in part to tectonic thickening along the major east-west fault that is projected to occur to the north.
- 3) The surface sampling indicates that iron is the major contaminant in the chert.
- 4) The average grade of all surface samples is 95.69% silica.
- 5) The average grade of all surface samples from the main chert unit, 1a, is 96.72% silica.
- 6) Sampling by mechanical means, plugger and airtrack drill, contaminates the material with iron.
- 7) Mining and processing methods may affect the grade of the material especially for the very high-grade products.

Recommendations - outcrop

- 1) Complete diamond drilling to determine the local geometry of the deposit.
- 2) Complete a series of short, closely spaced, vertical, diamond holes to delineate continuity of grade of the silica and to assist with definition of geometry.
- 3) Establish a detailed grid and conduct detailed ground magnetometer survey.

Recommendations - property

- 1) Establish a property wide grid, 100-meter line spacing and 20-meter station interval.
- 2) Complete a ground magnetometer survey.

References

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Halladay, M.L., 1973.

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Numerous other assessment files as listed in the "Previous Work" section of this report.

Ontario Geological Survey 1991.

Bedrock geology of Ontario, east-central sheet; Ontario Geological Survey, Map2543, scale 1:1,000,000.

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Geology of the Timmins Area, District of Cochrane, Ministry of Natural Resources, Ontario Geological Survey, Report 219, 141pp.

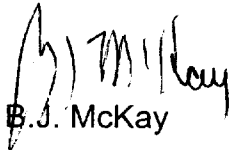
Certificate of Qualifications

I, Bryan Joseph McKay, do certify that;

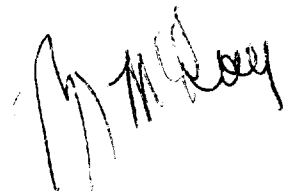
- 1) I have been a resident of Timmins, Ontario since 1983.
- 2) I am a graduate of St. Francis Xavier University, Antigonish, Nova Scotia and obtained a B.Sc., Major in Geology, in 1974
- 3) I am a graduate of McGill University, Montreal, Quebec and obtained a M.Sc. (A.), in Mineral Exploration, in 1982.
- 4) I have practiced in the exploration and mining industries continuously since 1974.
- 5) I am a Fellow of The Geological Association of Canada.
- 6) I am a Member of the Geological Society of America.
- 7) I am a Member of the Prospectors and Developers Association of Canada.
- 8) The material discussed in this report is based on fieldwork conducted and/or supervised by the author on the Croxall-Vuksanovich Silica property in Shaw Township and on extensive experience gained from years of exploration experience.
- 9) I do not, directly or indirectly, own any interests in the securities of Nortem Mining & Exploration Inc. or any other firm or organization involved in the project or in the Shaw Township property discussed in this report or do I expect to directly or indirectly, obtain any interests.

Porcupine, Ontario

6 September, 2000

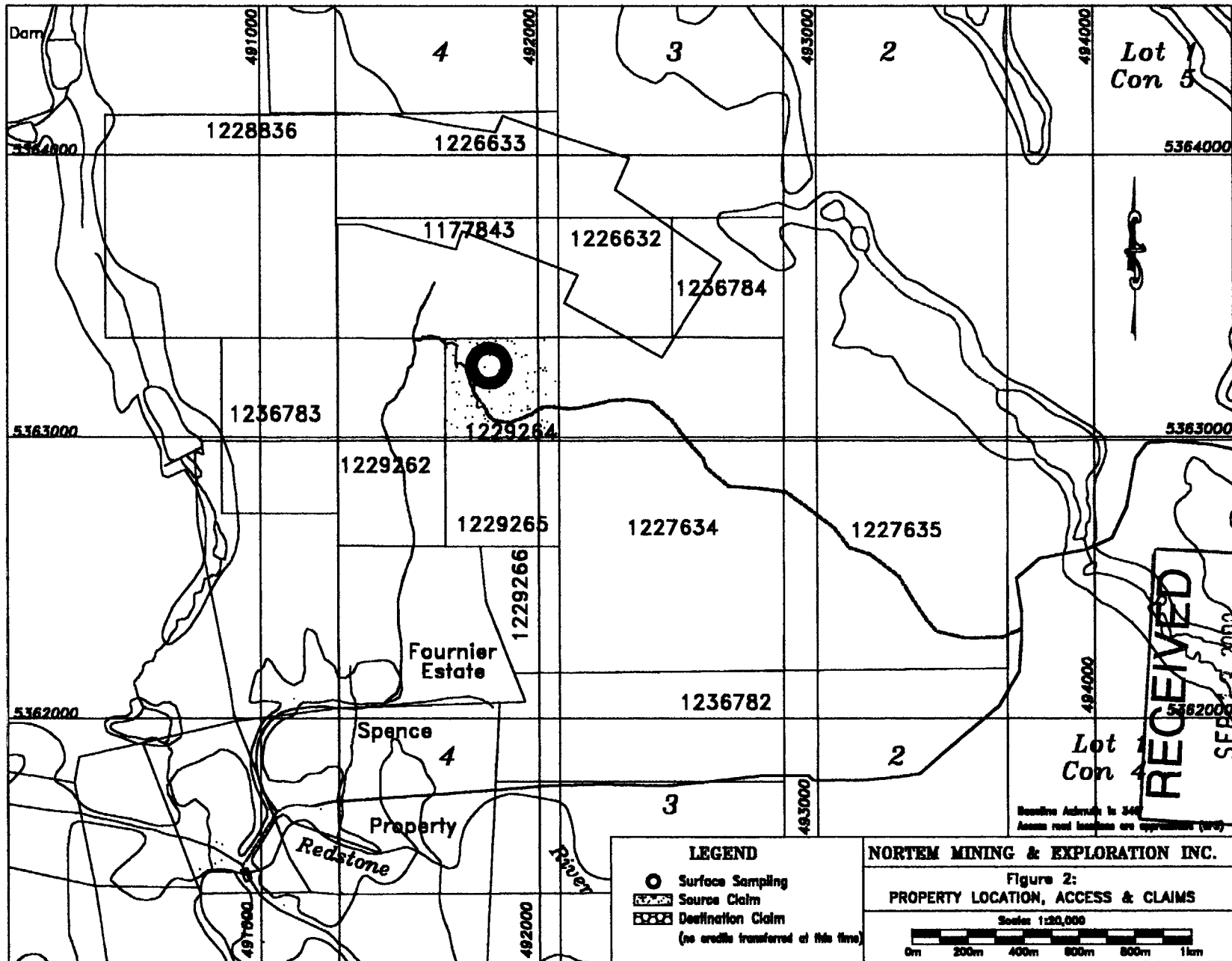

B.J. McKay

M.Sc. (A.), F.G.A.C., P. Geo.






Appendix A: C-V Silica: Sample Locations (old metric [Keast] grid) and Results									
Sample	Westing	Northing	Si	Fe	LOI	Cr	Type	Rcode	Color
27501	980	1360	98.58	0.52	0.34	460	cuttings	1a	br
27502	970	1360	98.96	0.52	0.38	830	cuttings	1a	br & wh
27503	960	1360	96.10	2.92	0.74	715	cuttings	1a	br
27504	955	1360	98.43	0.88	0.48	800	cuttings	1a	br & wh
27505	980	1350	97.41	1.51	0.54	620	cuttings	1a	br & wh
27506	985	1332	90.37	7.14	2.11	1275	cuttings	1a	br
27507	1000	1350	93.09	4.62	1.46	840	cuttings	1a	blk
27508	991	1349	97.63	1.25	0.78	1220	cuttings	1a	wh
27509	990	1360	96.37	2.45	0.93	490	cuttings	1a	light br
27510	990	1371	97.38	1.37	0.99	740	cuttings	1a	wh & br
27511	990	1381	96.96	1.64	1.04	745	cuttings	1a	wh
27512	990	1391	92.24	6.00	1.39	780	cuttings	1a	light br
27513	998	1390	98.84	0.38	0.66	425	cuttings	1a	wh
27514	1000	1374	97.39	1.14	1.20	690	cuttings	1a	wh & br
27515	1011	1381	96.46	1.51	1.45	670	cuttings	1a	wh & br
27516	1010	1370	83.85	11.04	3.51	210	cuttings	1a	grey
27517	1010	1350	96.36	2.36	1.07	190	rock	1a	wh
27518	1020	1359	95.62	2.86	1.11	165	rock	1a	wh & br
27519	1017	1352	95.23	3.31	1.13	265	rock	1a	wh
27520	1020	1341	95.45	3.17	1.05	225	rock	1a	wh
27521	1021	1332	96.68	1.96	0.74	200	rock	1a	wh
27522	1020	1320	97.68	1.15	0.43	255	rock	1a	wh
27523	1020	1369	95.95	2.65	0.86	210	rock	1a	wh
27524	1020	1380	89.14	6.73	3.74	260	cuttings	1a	br
27525	1020	1390	86.71	9.95	2.85	250	cuttings	1a	br
27526	1020	1399	97.33	1.64	0.53	250	rock	1a	wh
27527	1010	1400	98.36	0.32	0.36	200	rock	1a	wh
27528	1000	1400	99.02	0.23	0.08	245	rock	1a	wh
27529	994	1400	98.99	0.54	0.31	185	rock	1a	wh
27530	970	1391	98.79	0.49	0.14	455	rock	1a	wh
27531	970	1377	99.12	0.31	0.31	265	rock	1a	wh
27532	970	1370	97.88	1.06	0.60	320	rock	1a	wh
27533	975	1371	98.84	0.43	0.18	280	rock	1a	wh
27534	965	1372	98.73	0.86	0.28	290	rock	1a	wh
27535	950	1360	99.06	0.40	0.26	275	rock	1a	wh
27536	1010	1360	98.26	1.18	0.29	280	rock	1a	br
27537	1030	1374	97.57	1.39	0.52	225	rock	1a	wh & br
27538	1030	1380	98.04	1.40	0.37	370	rock	1a	wh
27539	1030	1390	98.06	1.46	0.36	225	rock	1a	wh & br
27540	1030	1400	98.77	0.85	3.19	265	rock	1a	wh & br
27541	1040	1400	89.61	7.85	1.93	300	rock	1a	wh & br
27542	1040	1390	96.53	2.45	0.47	390	rock	1a	wh
27543	1040	1380	98.09	1.22	0.31	270	rock	1a	wh
27544	1050	1400	97.15	2.09	0.52	370	rock	1a	brownish wh
27545	1060	1399	94.29	2.79	0.95	220	rock	1a	wh
27546	1060	1391	89.32	5.88	1.60	185	rock	1a	wh
27547	1071	1405	98.16	1.21	0.35	275	rock	1a	wh
27548	1078	1409	94.48	4.50	0.37	305	rock	1a	wh
27549	1083	1406	96.96	2.09	0.41	360	rock	1a	wh
27550	1082	1401	97.84	1.30	0.25	420	rock	1a	wh
27551	1090	1420	97.74	1.29	0.30	305	rock	1a	wh

Appendix A: C-V Silica: Sample Locations (old metric [Keast] grid) and Results									
Sample	Westing	Northing	Si	Fe	LOI	Cr	Type	Rcode	Color
27552	1095	1426	97.14	1.76	0.45	290	rock	1a	wh
27553	948	1350	98.52	0.71	0.18	365	rock	1b	wh
27554	942	1330	82.62	14.30	2.56	235	rock	1b	br
27555	958	1352	97.73	1.71	0.32	320	rock	1a	wh
27556	970	1351	98.56	0.79	0.25	460	rock	1a	wh
27557	980	1340	98.92	0.74	0.08	355	rock	1a	wh
27558	980	1330	98.79	0.91	0.07	395	rock	1a	wh with minor br
27559	978	1320	98.71	0.72	0.19	370	rock	1a	wh & br
27560	993	1320	97.26	1.79	0.25	555	rock	1a	wh with minor br
27561	1000	1320	86.24	10.41	2.06	270	rock	1a	wh with minor br
27562	1007	1322	98.63	0.72	0.01	360	rock	1a	wh
27563	999	1332	96.34	2.74	0.65	300	rock	1a	wh & br
27564	980	1311	97.87	1.60	0.35	430	rock	1a	wh with minor br
27565	980	1295	98.58	1.04	0.27	235	rock	1a	wh with minor br
27566	972	1295	96.39	2.58	0.67	455	rock	1a	wh & br
27567	990	1305	98.89	0.63	0.20	215	rock	1a	wh
27568	992	1294	97.93	1.56	0.24	325	rock	1a	br & wh
27569	999	1309	93.59	3.29	0.92	220	rock	1a	wh with minor br
27570	988	1280	98.57	0.83	0.18	290	rock	1a	wh
27571	970	1283	96.98	1.70	0.70	240	rock	1a	wh & br
27572	970	1271	91.96	6.04	0.77	290	rock	1b	br & wh
27573	964	1284	79.72	17.55	2.13	195	rock	1b	br
27574	998	1266	98.82	0.56	0.10	115	powder	1a	wh
27575	997	1257	93.56	4.54	0.89	225	rock	1a	wh & br
27576	1001	1251	84.32	11.42	3.23	165	powder	1a	wh
27577	993	1240	94.5	3.91	0.96	285	rock	1a	wh
27578	980	1255	81.86	15.28	1.58	165	rock	1b	br
27579	976	1238	96.55	2.81	0.45	270	rock	1b	br
27580	970	1251	97.53	1.80	0.58	120	rock	1b	wh & br
27581	980	1370	98.28	1.38	0.22	550	rock	1a	br & wh
total			81	81	81	81			
max			99.12	17.55	3.74	1275			
min			79.72	0.23	0.01	115			
avg			95.69	2.96	0.84	372			



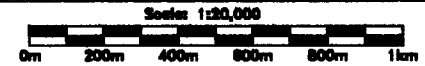
RECEIVED
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 GEOSCIENCE ASSESSMENT OFFICE

LEGEND

-  Surface Sampling
-  Source Claim
-  Destination Claim
(no credits transferred at this time)

NORTEM MINING & EXPLORATION INC.

Figure 2:
PROPERTY LOCATION, ACCESS & CLAIMS



Boundary Accuracy to 34%
Access road locations are approximate (10%)

NORTEM MINING & EXPLORATION INC

Attention: B. McKay

Project: Croxall Silica

Sample: Curing

TSL Assayers Swastika

1 Cameron Ave., Swastika, Ontario, P0K 1T0

Tel: (705) 642-3244 Fax: (705) 642-3300

Report No : 9W2559 RL

Date : Sep-17-99

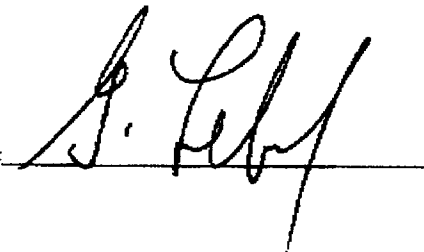
ICP Whole Rock Assay

Lithium Metaborate Fusion

Sample Number	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO %	MgO %	Na ₂ O %	TiO ₂ %	K ₂ O %	MnO %	P ₂ O ₅ %	LOI %	Ba ppm	Sr ppm	Zr ppm	Sc ppm	Y ppm	Be ppm	Co ppm	Cr ppm	Cu ppm	Ni ppm	V ppm	Zn ppm	Rb %	Nb ppm	Total %	
27501	98.58	0.04	0.52	0.02	0.02	<0.01	0.01	0.01	<0.01	<0.01	0.34	<10	<10	<10	<5	<5	Δ	20	460	Δ	40	<5	<5	0.01	<10	99.61	
27502	98.96	0.01	0.52	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.38	<10	<10	<10	<5	<5	Δ	20	830	Δ	15	Δ	<5	0.01	<10	99.98	
27503	98.10	0.01	2.92	0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.74	<10	<10	<10	<5	<5	Δ	25	715	Δ	15	10	<5	0.01	<10	99.99	
27504	98.43	<0.01	0.88	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.48	<10	<10	<10	<5	<5	Δ	15	900	Δ	20	Δ	<5	0.01	<10	99.90	
27505	97.41	<0.01	1.61	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.64	<10	<10	<10	<5	<5	Δ	10	520	Δ	Δ	5	<5	0.01	<10	99.75	
27506	90.37	0.01	7.14	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.03	1.11	<10	<10	10	<5	Δ	Δ	10	1275	Δ	20	10	45	0.01	<10	99.92	
27507	93.09	0.02	4.62	0.29	0.07	<0.01	<0.01	<0.01	0.20	<0.01	1.48	<10	<10	<10	<5	Δ	Δ	25	840	Δ	Δ	20	10	20	0.01	<10	99.65
27508	97.63	<0.01	1.25	0.07	0.02	<0.01	<0.01	<0.01	0.02	<0.01	0.78	<10	<10	<10	Δ	Δ	Δ	55	1220	Δ	Δ	Δ	15	0.01	<10	99.91	
27509	96.17	<0.01	2.45	0.01	0.02	<0.01	<0.01	0.04	0.01	<0.01	0.93	<10	<10	<10	Δ	Δ	Δ	15	490	Δ	Δ	10	5	5	0.01	<10	99.87
27510	97.38	0.01	1.37	0.02	0.01	<0.01	0.01	0.01	<0.01	<0.01	0.98	<10	<10	<10	<5	Δ	Δ	20	740	Δ	Δ	Δ	25	0.01	<10	99.88	
27511	96.96	<0.01	1.64	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1.04	<10	<10	<10	<5	Δ	Δ	50	745	Δ	20	5	35	0.01	<10	99.75	
27512	92.24	<0.01	6.00	0.02	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	1.39	<10	<10	<10	<5	Δ	Δ	15	780	Δ	5	15	30	0.01	<10	99.77	
27513	98.84	0.01	0.38	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.66	<10	<10	<10	<5	Δ	Δ	5	425	Δ	Δ	Δ	Δ	Δ	0.01	<10	99.95
27514	97.99	0.01	1.14	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	1.20	<10	<10	<10	Δ	Δ	Δ	15	690	Δ	Δ	Δ	Δ	5	0.01	<10	99.84
27515	96.46	0.02	1.61	<0.01	0.01	<0.01	0.01	<0.01	0.01	<0.01	1.45	<10	<10	<10	<5	Δ	Δ	20	670	Δ	Δ	5	Δ	0.01	<10	99.63	

Sample is fused with Lithium Metaborate and dissolved in dilute HNO₃.

Signed:



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Swastika Laboratories ID:7056423300 SEP 30 '99 13:59 No.014 P.01

NORTEM MINING

Attention: B.J McKay

Project: Croxall Silica

Sample: Cuttings & Rock

TSL Assayers Swastika
 1 Cameron Ave., Swastika, Ontario, P0K 1T0
 Tel: (705) 642-3244 Fax: (705) 642-3300

Report No : 9W2615 RL
 Date : Sep-27-99

ICP Whole Rock Assay
 Lithium Metaborate Fusion

Sample Number	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO %	MgO %	Na ₂ O %	TiO ₂ %	K ₂ O %	MnO %	P ₂ O ₅ %	LOI %	Ba ppm	Sr ppm	Zr ppm	Se ppm	Y ppm	Be ppm	Co ppm	Cr ppm	Cu ppm	Ni ppm	V ppm	Zn ppm	Rb %	Nb ppm	Total %
27516	83.85	0.05	11.04	0.55	0.22	<0.01	0.01	<0.01	0.27	0.02	3.51	<10	<10	<10	<5	<5	<5	35	210	<5	130	25	<5	<0.01	<10	99.57
27517	95.36	0.01	2.36	0.02	0.01	<0.01	<0.01	0.02	0.92	<0.01	1.07	<10	<10	<10	<5	<5	<5	<5	195	<5	15	5	<5	<0.01	<10	99.60
27518	95.62	0.03	2.86	0.01	0.01	<0.01	<0.01	0.01	0.01	0.02	1.11	<10	<10	<10	<5	<5	<5	<5	165	<5	20	10	<5	0.01	<10	99.71
27519	95.23	<0.01	3.31	0.01	0.01	<0.01	<0.01	0.02	0.02	<0.01	1.13	<10	<10	<10	<5	<5	<5	<5	265	<5	5	5	<5	0.01	<10	99.76
27520	95.45	<0.01	3.17	<0.01	0.02	<0.01	<0.01	0.03	0.01	<0.01	1.05	<10	<10	<10	<5	<5	<5	5	225	<5	10	5	<5	<0.01	<10	99.77
27521	96.64	0.03	1.96	<0.01	0.02	<0.01	<0.01	<0.01	0.10	<0.01	0.74	<10	<10	<10	<5	<5	<5	5	200	<5	5	5	<5	<0.01	<10	99.56
27522	97.85	0.09	1.15	<0.01	0.02	<0.01	<0.01	0.03	0.02	<0.01	0.43	<10	<10	<10	<5	<5	<5	5	255	<5	<5	<5	<5	<0.01	<10	99.63
27523	95.95	0.03	2.65	<0.01	0.01	<0.01	<0.01	0.03	0.02	<0.01	0.86	<10	<10	<10	<5	<5	<5	5	210	<5	35	15	<5	<0.01	<10	99.58
27524	99.14	<0.01	6.73	0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	3.74	<10	<10	<10	<5	<5	<5	20	260	<5	20	15	<5	<0.01	<10	99.59
27525	86.71	<0.01	9.95	0.01	0.01	<0.01	0.01	0.02	0.01	0.01	2.86	<10	<10	<10	<5	<5	<5	10	250	<5	85	25	<5	0.01	<10	99.61
27526	97.33	<0.01	1.64	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.53	<10	<10	<10	<5	<5	<5	5	250	<5	10	5	<5	0.01	<10	99.56
27527	98.36	<0.01	8.82	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.36	<10	<10	<10	<5	<5	<5	5	200	<5	10	5	<5	<0.01	<10	99.60
27528	99.02	0.01	8.28	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.08	<10	<10	<10	<5	<5	<5	5	245	<5	36	5	<5	<0.01	<10	99.67
27529	98.99	<0.01	0.54	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.31	<10	<10	<10	<5	<5	<5	5	185	<5	15	5	<5	0.01	<10	99.89
27530	98.79	<0.01	0.48	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<10	<10	<10	<5	<5	<5	5	455	<5	46	5	<5	<0.01	<10	99.48
27531	99.12	<0.01	0.31	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.31	<10	<10	<10	<5	<5	<5	5	265	<5	35	5	<5	<0.01	<10	99.61
27532	97.88	0.02	1.06	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	0.60	<10	<10	<10	<5	<5	<5	5	320	<5	45	5	<5	0.01	<10	99.67
27533	98.84	<0.01	0.43	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.18	<10	<10	<10	<5	<5	<5	5	280	<5	40	5	<5	0.01	<10	99.52
27534	96.73	<0.01	0.86	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.18	<10	<10	<10	<5	<5	<5	5	290	<5	35	5	<5	0.01	<10	99.92
27535	99.06	<0.01	0.40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.26	<10	<10	<10	<5	<5	<5	5	275	<5	20	5	15	0.01	<10	99.77
27536	98.26	<0.01	1.18	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.29	<10	<10	<10	<5	<5	<5	5	280	<5	25	5	<5	<0.01	<10	99.80
27537	97.57	0.07	1.39	0.03	0.01	<0.01	0.01	0.02	<0.01	<0.01	0.52	<10	<10	<10	<5	<5	<5	5	225	<5	10	5	<5	<0.01	<10	99.65
27538	98.04	<0.01	1.40	<0.01	<0.01	<0.01	<0.01	0.03	0.01	<0.01	0.37	<10	<10	<10	<5	<5	<5	5	370	<5	25	5	<5	0.01	<10	99.90
27539	98.06	<0.01	1.46	0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.36	<10	<10	<10	<5	<5	<5	5	225	<5	25	5	<5	0.01	<10	99.95
27548	98.77	0.02	0.85	0.02	0.01	<0.01	<0.01	0.03	<0.01	0.02	3.19	<10	<10	<10	<5	<5	<5	5	265	<5	15	5	<5	<0.01	<10	99.93
27541	89.61	0.16	7.85	0.07	0.05	<0.01	0.01	0.01	0.05	0.04	1.93	<10	<10	<10	<5	<5	<5	15	300	25	30	20	25	<0.01	<10	99.81
27542	96.53	0.04	2.45	0.02	0.01	<0.01	0.01	0.02	0.02	0.03	0.47	<10	<10	<10	<5	<5	<5	5	390	5	20	5	10	<0.01	<10	99.81
27543	98.09	0.03	1.22	0.04	0.01	<0.01	<0.01	0.01	0.07	0.02	0.31	10	<10	<10	<5	<5	<5	5	270	20	15	10	20	<0.01	<10	99.83
27544	97.15	0.04	2.09	0.01	0.02	<0.01	<0.01	0.01	0.03	0.02	0.52	<10	<10	<10	<5	<5	<5	5	370	<5	<5	5	<5	<0.01	<10	99.94
27545	94.21	0.95	2.79	0.02	0.44	<0.01	0.04	<0.01	0.08	0.03	0.95	<10	<10	10	5	5	<5	15	220	<5	5	15	10	<0.01	<10	99.55

Sample is fused with Lithium Metaborate and dissolved in dilute HNO₃.

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13:59 No.014 P.02

SEP 30 '99

ID:7056423300

Swastika Laboratories

NORTEM MINING

Attention: B.J McKay

Project: Croxall Silica

Sample: Cuttings & Rock

TSL Assayers Swastika

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Report No : 9W2615 RL

Date : Sep-27-99

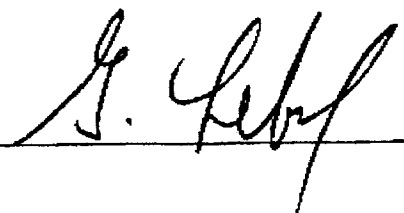
ICP Whole Rock Assay

Lithium Metaborate Fusion

Sample Number	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO %	MgO %	Na ₂ O %	TiO ₂ %	K ₂ O %	MnO %	P ₂ O ₅ %	LOI %	Ba ppm	Sr ppm	Zr ppm	Sc ppm	Y ppm	Be ppm	Co ppm	Cr ppm	Cu ppm	Ni ppm	V ppm	Zn ppm	Rb %	Nb ppm	Total %
27546	89.32	1.82	5.48	0.03	0.64	<0.01	0.07	<0.01	0.04	0.04	1.60	<10	<10	20	5	<5	<5	10	185	<5	20	20	20	<0.01	<10	99.49
27547	98.16	0.07	1.21	0.01	0.03	<0.01	<0.01	0.02	0.01	0.01	0.35	<10	<10	<10	<5	<5	<5	10	275	5	5	5	<5	<0.01	<10	99.91
27548	94.48	0.11	4.50	0.04	0.06	<0.01	<0.01	0.03	0.25	0.02	0.37	<10	<10	<10	<5	<5	<5	<5	305	<5	40	10	10	<0.01	<10	99.88
27549	96.96	0.04	1.09	<0.01	0.01	<0.01	0.01	<0.01	0.02	0.01	0.41	<10	10	<10	<5	<5	<5	10	360	25	10	10	5	<0.01	<10	99.68
27550	97.84	0.01	1.30	0.09	<0.01	<0.01	<0.01	<0.01	0.03	0.01	0.25	<10	<10	<10	<5	<5	<5	5	420	10	15	5	5	<0.01	<10	99.54
27551	97.74	0.06	1.29	0.01	0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.30	<10	10	<10	<5	<5	<5	<5	305	5	10	10	15	<0.01	<10	99.47
27552	97.14	0.19	1.76	0.05	0.06	<0.01	0.01	0.01	0.03	0.01	0.45	<10	<10	<10	<5	<5	<5	10	290	<5	10	5	10	<0.01	<10	99.73
27553	98.52	<0.01	0.71	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.18	<10	<10	<10	<5	<5	<5	5	365	<5	10	5	5	<0.01	<10	99.58
27554	82.62	<0.01	14.30	0.01	<0.01	<0.01	0.01	<0.01	0.01	0.05	2.56	<10	<10	10	<5	<5	<5	5	235	15	5	30	25	<0.01	<10	99.69
27555	97.73	0.01	1.71	0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	0.32	<10	<10	<10	<5	<5	<5	5	320	5	5	10	5	<0.01	<10	99.85
27556	98.56	<0.01	0.79	0.01	0.01	<0.01	<0.01	0.01	<0.01	0.02	0.25	<10	<10	<10	<5	<5	<5	10	480	20	470	<5	5	<0.01	<10	99.77
27557	98.92	0.04	0.74	0.03	0.01	<0.01	<0.01	<0.01	0.01	0.02	0.08	<10	10	<10	<5	<5	<5	<5	355	20	15	5	55	<0.01	<10	99.89
27558	98.79	0.01	0.91	0.02	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.07	<10	<10	<10	<5	<5	<5	5	395	10	15	5	20	<0.01	<10	99.88
27559	98.71	<0.01	0.72	0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.19	<10	<10	<10	<5	<5	<5	<5	378	25	15	5	5	<0.01	<10	99.69
27560	97.26	0.04	1.79	0.01	0.01	<0.01	<0.01	<0.01	0.02	0.01	0.25	<10	<10	<10	<5	<5	<5	5	535	15	20	5	<5	<0.01	<10	99.66
27561	86.24	0.55	10.41	0.22	0.12	<0.01	<0.01	<0.01	0.31	0.03	2.06	<10	<10	<10	<5	<5	<5	10	270	10	10	25	20	0.01	<10	99.48
27562	98.63	0.10	0.72	0.02	0.03	<0.01	0.01	<0.01	0.01	<0.01	0.01	<10	<10	<10	<5	<5	<5	5	360	<5	15	5	<5	0.01	<10	99.58
27563	96.34	<0.01	2.74	<0.01	<0.01	<0.01	<0.01	<0.01	0.91	0.01	0.65	<10	10	<10	<5	<5	<5	5	300	15	15	10	10	<0.01	<10	99.88
27561	98.28	0.01	1.38	0.02	<0.01	<0.01	0.01	<0.01	0.91	<0.01	0.22	<10	20	10	<5	<5	<5	5	550	5	40	5	5	0.91	<10	99.65

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Sample is fused with Lithium Metaborate and dissolved in dilute HNO₃.

Signed: 

NORTEM MINING

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Project: Croxall Silica

Sample: Cuttings & Rock

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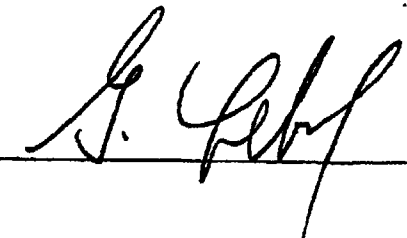
Date : Oct-20-99

ICP Whole Rock Assay
 Lithium Metaborate Fusion

Sample Number	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO %	MgO %	Na ₂ O %	TiO ₂ %	K ₂ O %	MnO %	P ₂ O ₅ %	LOI %	Ba ppm	Sr ppm	Zr ppm	Sc ppm	Y ppm	Be ppm	Co ppm	Cr ppm	Cu ppm	Ni ppm	V ppm	Zn ppm	Rb %	Nb ppm	Total %	
27564	97.87	0.01	1.60	0.01	0.01	0.02	<0.01	0.02	0.01	<0.01	0.35	<10	<10	<10	♂	♂	♂	♂	430	♂	10	♂	♂	0.01	10	99.96	
27565	96.58	0.01	1.04	<0.01	0.01	<0.01	<0.01	0.01	0.01	<0.01	0.27	<10	<10	<10	♂	♂	♂	♂	135	♂	♂	♂	♂	<0.01	<10	99.95	
27566	96.39	0.05	2.58	0.01	0.01	0.01	<0.01	0.01	0.01	<0.01	0.67	<10	<10	<10	♂	♂	♂	♂	455	♂	10	♂	♂	<0.01	<10	99.79	
27567	96.89	0.05	0.63	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	0.20	<10	<10	<10	♂	♂	♂	♂	215	♂	♂	♂	♂	<0.01	<10	99.85	
27568	97.93	0.02	1.56	0.01	0.01	<0.01	<0.01	0.01	0.01	<0.01	0.24	<10	<10	<10	♂	♂	♂	♂	325	♂	♂	♂	♂	<0.01	<10	99.82	
27569	93.59	0.90	3.29	0.22	0.29	<0.01	0.03	0.02	0.06	0.17	0.92	<10	<10	10	♂	10	♂	15	220	♂	30	25	25	<0.01	<10	98.53	
27570	98.57	0.09	0.83	<0.01	0.03	<0.01	<0.01	0.03	0.01	<0.01	0.18	<10	<10	<10	♂	♂	♂	♂	290	♂	♂	♂	♂	10	0.01	<10	99.78
27571	96.98	0.12	1.70	<0.01	0.04	<0.01	<0.01	0.03	0.01	<0.01	0.70	<10	<10	<10	♂	♂	♂	♂	240	♂	♂	♂	♂	0.01	<10	99.63	
27572	91.96	0.58	6.04	<0.01	0.27	<0.01	0.02	0.02	0.01	<0.01	0.77	<10	<10	10	♂	♂	♂	♂	290	♂	10	20	10	0.01	<10	99.73	
27573	79.72	0.01	17.83	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	2.13	<10	<10	10	♂	♂	♂	♂	195	♂	♂	10	♂	0.01	<10	99.51	
27574	98.82	<0.01	0.56	<0.01	<0.01	<0.01	<0.01	0.03	0.01	<0.01	0.10	<10	<10	<10	♂	♂	♂	♂	115	♂	♂	♂	♂	0.01	<10	99.54	
27575	93.56	0.52	4.54	0.02	0.14	<0.01	<0.01	0.01	0.05	0.01	0.89	<10	<10	<10	♂	♂	♂	♂	225	♂	♂	♂	♂	<0.01	<10	99.78	
27576	84.32	0.08	11.42	0.18	0.20	<0.01	<0.01	<0.01	8.44	0.01	3.23	10	<10	10	♂	♂	♂	♂	165	♂	♂	10	20	<0.01	<10	99.91	
27577	94.50	0.25	3.91	0.03	0.09	<0.01	0.01	0.01	0.19	0.01	0.96	20	<10	<10	♂	♂	♂	♂	285	♂	10	♂	30	<0.01	<10	100.00	
27578	81.86	0.38	15.28	0.01	0.15	<0.01	0.01	0.02	0.27	0.01	1.58	10	<10	10	♂	♂	♂	♂	165	♂	10	20	40	<0.01	<10	99.61	
27579	96.55	0.04	2.81	0.03	0.03	<0.01	<0.01	0.01	0.03	<0.01	0.45	<10	<10	<10	♂	♂	♂	♂	270	♂	♂	♂	♂	0.01	<10	99.97	
27580	97.53	0.03	1.80	<0.01	0.01	<0.01	<0.01	0.03	0.01	<0.01	0.58	<10	<10	<10	♂	♂	♂	♂	120	♂	♂	♂	♂	0.01	<10	100.00	

Sample is fused with Lithium Metaborate and dissolved in dilute HNO₃.

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 OFFICE

Signed: 

Swastika Laboratories ID: 7056423300

OCT 21 '99 12:20 No.008 P.01



Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use) <i>W0060.00363</i>
Assessment Files Research Imaging



tion 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, this next work and correspond with the mining land holder. Questions about this development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario,

42A06NE2019 2.20578 SHAW

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2.20578

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- Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.
- Please type or print in ink.

1. Recorded holder(s) (Attach a list if necessary)

Name Nortem Mining & Exploration Inc.	Client Number 304080
Address 222 Gladstone Ave	Telephone Number 705-476-3555
North Bay, Ontario P1A 2M2	Fax Number 705-476-3552

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

- Geotechnical: prospecting, surveys, assays and work under section 18 (regs) Physical: drilling stripping, trenching and associated assays Rehabilitation

Work Type Surface Rock Sampling	Office Use
Commodity	Total \$ Value of Work Claimed <i>1268</i>
Dates Work Performed From 8 Sept 1999 To 14 Sept 1999	NTS Reference
Global Positioning System Data (if available)	Mining Division <i>Porcupine</i>
Township/Area Shaw	Resident Geologist District <i>Timmins</i>
M or G-Plan Number G-3999	

- Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name B.J. McKay	Telephone Number 705-235-3101	RECEIVED SEP 11 2000 <i>H. J. McKay</i>
Address P.O. Box 219, Porcupine, Ontario P0N 1C0	Fax Number 705-266-9107	
Name	Telephone Number	
Address	Fax Number	PORCUPINE MINING DIVISION

4. Certification by Recorded Holder or Agent

I, Bryan J. McKay (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>Bryan J. McKay</i>	Date <i>10, 2000</i> 11 Sept 2000
Agent's Address	Telephone Number
	Fax Number

(adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form. *WOL 60.00265*

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date
eg TB 7827	16 ha	\$26,825	N/A	\$24,000	\$2,825
1 P1229264	1	\$6,268	\$0	\$0	\$6,268
2 P1229262	2		\$0		
3 P1236783	2		\$0		
4 P1236784	1		\$0		
5 P1226632	1		\$0		
6 P1177843	2		\$0		
7 P1226633	2		\$0		
8 P1228836	4		\$0		
9 P1229266	1		\$0		
10 P1236782	3		\$0		
11 P1227635	4		\$0		
12 P1227634	6		\$0		
13 P1229265	1		\$0		
Column Totals	30	\$6,268	\$0	\$0	\$6,268

I, Bryan J. McKay, do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing

Date

B. J. McKay

11 Sept 2000

6. Instruction for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp

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11:00 AM
 PORCUPINE MINING DIVISION

0241 (03/97)

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Registrar (Signature)	

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Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use)
W0060-00363

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of work <small>Depending on the type of work, list the number of hours/day worked, metres of drilling, kilometres of grid line, number of samples, etc.</small>	Cost Per Unit of work	Total Cost
Sampling & Analytical	81 samples	\$51.46	\$4,168.00
Supervision & Report	12 days	\$175.00	\$2,100.00
Associated Costs (e.g. supplies, mobilization and demobilization).			
Transportation Costs			
Food and Lodging Costs			
RECEIVED		Total Value of Assessment Work	\$6,268.00
SEP 11 2000 GEOSCIENCE ASSESSMENT OFFICE			

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK x 0.50 = Total \$ value of worked claimed.

Note:

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, B.J. McKay (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying

Declaration of Work Original (Northern Mining & Exploration Inc. I am authorized to make this certification. (recorded holder, agent, or state company position with signing authority))

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SEP 11 2000
11:00 AM
PORCUPINE MINING DIVISION

Signature: *B.J. McKay* Date: 11 Sept 2000

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9845
Fax: (877) 670-1555

October 20, 2000

NORTEM MINING & EXPLORATION INC.
P.O. BOX 70
TEMAGAMI, ONTARIO
P0H-2H0

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Dear Sir or Madam:

Submission Number: 2.20578

Status

Subject: Transaction Number(s): W0060.00363 Approval

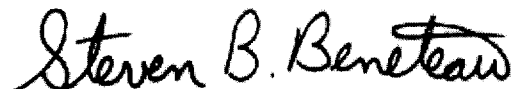
We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in **DUPLICATE** to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact LUCILLE JEROME by e-mail at lucille.jerome@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,



ORIGINAL SIGNED BY
Steve B. Beneteau
Acting Supervisor, Geoscience Assessment Office
Mining Lands Section

Work Report Assessment Results

Submission Number: 2.20578

Date Correspondence Sent: October 20, 2000

Assessor: LUCILLE JEROME

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W0060.00363	1229264	SHAW	Approval	October 19, 2000

Section:
17 Assays ASSAY

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

Correspondence to:

Resident Geologist
South Porcupine, ON

Recorded Holder(s) and/or Agent(s):

Bryan J. McKay
SOUTH PORCUPINE, ONTARIO, CANADA

Assessment Files Library
Sudbury, ON

NORTEM MINING & EXPLORATION INC.
TEMAGAMI, ONTARIO

MAP SYMBOLOGY

Table of map symbols including Aerial Cableway, Boundary, Pipeline, Railroad, Road, and various utility lines.

AREAS WITHDRAWN FROM DISPOSITION

Table listing areas withdrawn from disposition with columns for M.R.O., S.R.O., M+S, Description, Order No., Date, Disposition, and File.

SAND AND GRAVEL

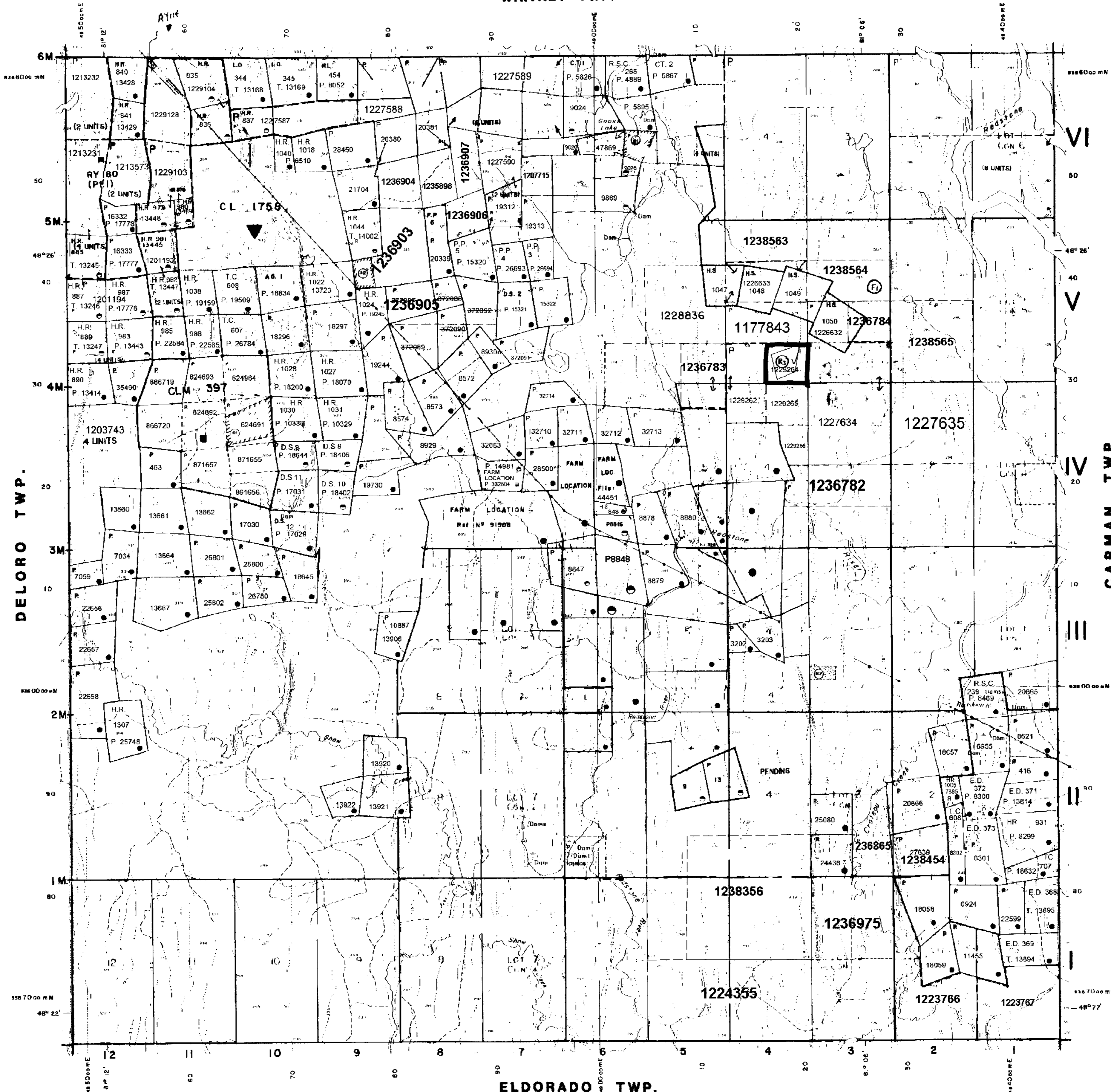
Small table listing sand and gravel areas with symbols and file numbers.

200



THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES...

WHITNEY TWP.



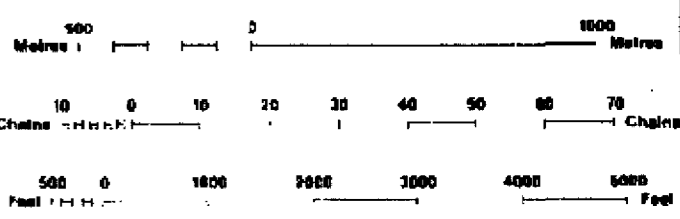
LEGEND

Legend table defining symbols for Highway and Route No, Trails, Surveyed Lines, Lot Lines, and other features.

DISPOSITION OF CROWN LANDS

Table defining symbols for Disposition of Crown Lands, including Patent, Lease, and Licence of Occupation.

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 1, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1910, CHAP. 200, SEC. 43, SUBSEC. 1

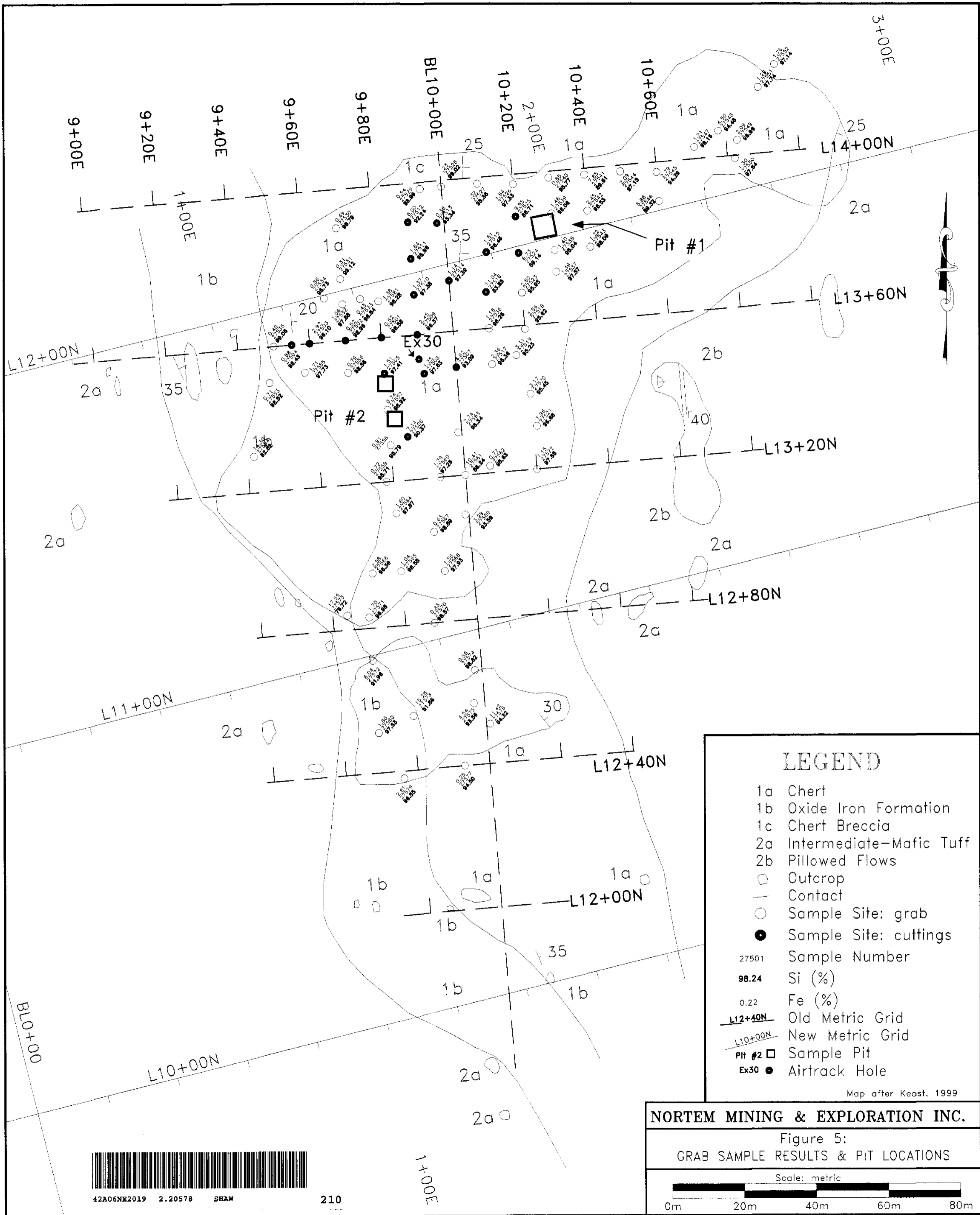


SCALE 1:20 000 GRID ZONE 17

TOWNSHIP SHAW M.R. ADMINISTRATIVE DISTRICT TIMMINS MINING DIVISION PORCUPINE LAND TITLES / REGISTRY DIVISION COCHRANE



ORIGINAL COMPILATION JULY 1984 IN SERVICE OF REGISTRY DIVISION RE VISED G-3999



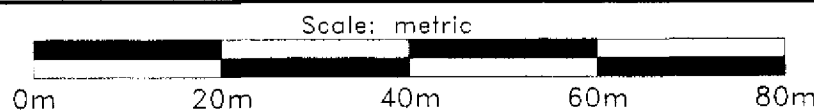
LEGEND

- 1a Chert
- 1b Oxide Iron Formation
- 1c Chert Breccia
- 2a Intermediate-Mafic Tuff
- 2b Pillowed Flows
- Outcrop
- Contact
- Sample Site: grab
- Sample Site: cuttings
- 27501 Sample Number
- 98.24 Si (%)
- 0.22 Fe (%)
- L12+40N Old Metric Grid
- L10+00N New Metric Grid
- Pit #2 □ Sample Pit
- Ex30 ● Airtrack Hole

Map after Keast, 1999

NORTEM MINING & EXPLORATION INC.

Figure 5:
GRAB SAMPLE RESULTS & PIT LOCATIONS



42A06NE2019 2.20578 SHAW