



4115SW0062 OM91-127 PARKIN

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J A R V I S   R E S O U R C E S   L T D .

OMIP SUMMARY REPORT ON STRIPPING, CAP REMOVAL,  
BLOCK EXTRACTION AND SAMPLE PREPARATION  
JUNE 18, 1991 - DECEMBER 11, 1991

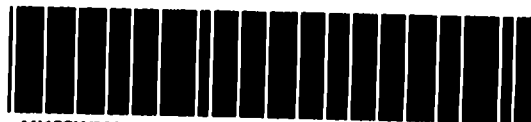
PARKIN TOWNSHIP, ONTARIO

February 14, 1992  
Sudbury, Ontario

OMIP FILE NO. OM91-127

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**Appendix A - Project Costs**

**Appendix B - Report on Marketing Activities,  
June - December 1991**

**Figure 1 - Key Map**

**Figure 2 - Pit #1**

**Figure 3 - Pit #2**

**Figure 4 - Pit #2**

**Figure 5 - Pit #3**

**Figure 6 - Pit 3**

**Map 1**

**Map 2**

## **SUMMARY**

Jarvis Resources Ltd. owns a one hundred (100) percent interest in a contiguous block of twenty-three (23) unpatented mining claims in central Parkin Township. The claims lie twenty-five (25) miles northeast of Sudbury, and cover approximately 950 acres. Jarvis also holds exclusive marble mining rights on another five (5) leased claims southeast of the owned claims. These five claims cover an area of approximately 200 acres. From June 18, 1991 to December 11, 1991, extensive exploration work was carried out in selected areas, (namely claims 854519, 1136790, 734706), and on a newly discovered marble outcropping on claim 647602. Overburden was stripped, and cap rock was removed to better assess the consistency and continuity of the deposit. Large blocks of material were removed for testing and sample preparation. As of December 31, 1991, a total of 7,100 tons of material was removed, leaving approximately 1,100 tons of usable marble intact.

The company also researched quarrying techniques and equipment, which resulted in the decision to employ diamond belt saws at this stage of pit exploration and block extraction.

Jarvis Resources Ltd. continued its market research during the period, hiring one full-time employee for this purpose, and a student from Ryerson Polytechnical for the summer. Several key trade shows were attended, and stone industry data compiled. Numerous contacts with marble end-users were made, and meetings with major marble distributors held. This was part of the continuing program to ascertain the marketability of Jarvis' marble, and to best establish a marketing niche. Research indicates that any future sales of a marble product would, in the United States, be

best achieved via major distributors, and, in Canada, through direct sales to architects and project developers. With this in mind, the company targeted, and established contacts with, two major distributors in the United States, and a knowledgeable agent in Canada. (See Appendix B, Marketing.)

Based on results from both the marketing research and the completion of the 1991 quarry exploration and extraction phase, the company plans to expand all three pits in order to fully assess their economic potential, and to continue to explore the newly discovered outcrop known as Pit # 4. This next phase of expansion, exploration, and future market development will cost approximately \$350,000.

#### PROPERTY DESCRIPTION, LOCATION, AND ACCESS

Jarvis Resources Ltd. has a one hundred (100) percent interest in a contiguous block of eight (8) unpatented mining claims situated in central Parkin Township. The claims are shown in Map 1, and may be further described as:

Claim No.	Survey Description
S. 915491	Con. 111 Lot 6 N 1/2 SW 1/4
S. 991550	Con. 111 Lot 6 N 1/2 SE 1/4
S. 983604	Con. 111 Lot 6 S 1/2 SW 1/4
S. 994013	Con. 11 Lot 6 N 1/2 NW 1/4
S. 985091	Con. 11 Lot 6 N 1/2 NE 1/4
S. 1136790	Con. 111 Lot 6 S 1/2 NE 1/4
S. 1136791	Con. 111 Lot 5 S 1/2 NW 1/4
S. 1136792	Con. 111 Lot 6 S 1/2 SE 1/4

The claims cover roughly 320 acres, and are presently in good standing. The vendor retains a royalty per ton shipped and sold.

Jarvis Resources Ltd. has also purchased an additional 15 contiguous, unpatented mining claims, which host lenses of various colour marbles. These claims are also shown in Map 1, and may be

further described as: Claim Numbers 734215, 734709, 734715, 734216, 734711, 734716, 734217, 734712, 734717, 730705, 734713, 734718, 734706, 734714, and 854519. Also, exclusive marble mining rights have been granted to Jarvis Resources Ltd. on five (5) additional unpatented leased claims shown in Map 2. The vendor also retains a per ton royalty.

All claims total approximately 1,150 acres of land. The claims lie twenty-five (25) miles northeast of Sudbury, and ten (10) miles northeast of Capreol. Access is via the Moose Mountain road (Highway 545) for 4.6 miles and then east on the Whistle Mine all weather bush road for 5.3 miles. A fair weather bush road then goes northward toward Mowat Creek. This road branches at the end of a small lake. Taking the northeast branch, the bush road proceeds a half-mile onto the property. Drill roads and old overgrown logging trails allow access to both the marble site and the rest of the property. Refer to Maps 1 and 2, which are abbreviations of maps prepared by Wiseman Mining Consultants Ltd. of Sudbury. Also refer to <sup>Figure 1</sup> ~~Map 3~~, which is a key map.

#### PREVIOUS EXPLORATION

In his report filed with the Ministry of Northern Development and Mines, with respect to OMIP # OM90-174, Mr. David Constable outlines the following history:

"Placer gold occurs in the gravels in or near the Vermillion River and was discovered in 1896. The gravels have been the focus of numerous evaluation programs. While the gold content in these places is impressive, it is also erratic over any distance. The gold is flour gold and, generally, cannot be recovered through gravitational methods."

"Stratabound massive sulphide base metal deposits are also reported in Hutton Township, west of the Vermillion River. Limited drilling to date has not appreciably expanded these showings."

"The other main feature in the area is the Quartz Diorite Breccia or Parkin offset. This feature trends north 30 degrees east within the Huronian Supergroup. The Milnet Mine of Jonsmith Mines Limited lies on this offset and is located in Lots 2 to 7 in Concession 11 and 111. First drilled in 1947 and again in 1950-51 the property hosted two distinct ore bodies capped by Espanola limestone (marble). Production from 1952-54 was shipped to Falcobridge Nickel Mines Limited smelter."

Mr. Constable also states:

"Numerous surface showings of base metal in veins, often with significant precious metal values, occur in both Parkin and Hutton Townships. One such pyrite-chalcopyrite-galena-sphalerite vein system occurs in Jarvis' claim S. 1136790. The veins occur on the western contact between silicified, brecciated marble and dioritic intrusions. Old pits and trenches were observed for a length of 200 feet and veins of massive sulphides, while quartz and carbonate were noted. The veins were irregular and, in addition to trending north-south along the contact, they also cut easterly into the marble. The latter veins are less than 6 inches wide. In addition to base metal values, high gold assays were reported."

"The Espanola limestone unit trends discontinuously from Hutton Township, easterly or southeasterly, across Parkin Township. In places, the unit is turned to marble. H.D. Meyn, in his 1970 ODM

Geological Report 80 on Hutton and Parkin Township, sampled the limestone from five locations. CaO content varied from 29.3% to 49.4%, MgO from 0.69% to 17.4%, SiO<sub>2</sub> from 7.04% to 18.7% and Al<sub>2</sub>O<sub>3</sub> from 1.55% to 4.47%. At that time only one sample met the requirement for Portland cement. No mention was made of dimension stone possibilities."

Exploration work conducted by Jarvis from September to December 1990 eventually delineated deposits of high quality marble, totaling approximately 20 million tons.

A total of thirteen (13) holes were drilled, totalling 2765.5 feet. Data obtained from this program enabled the company to confirm and delineate a 200-foot wide marble band. This area was then stripped and excess earth was removed using a high pressure air hose. Once exposed, the marble outcrop was mapped in detail. Marble colours in this location vary from light green, pink and buff through dark green, grey, grey with black bands and white with black bands. In his report filed February 8 1991, (OMIP OM90-174.), Constable states: " More work must be done in the spring to assess these marbles from both the technical and aesthetic viewpoints". He further noted that: " Marketing of the marble samples will intensify, including production of sample sets for display at marble dealers."

#### REGIONAL GEOLOGY

In his OMIP summary report of February 8, 1991, Mr. Constable describes the regional and property geology as follows:

"Most of Parkin Township is underlain by units of the Huronian Supergroup, which strike northwest and dip steeply or vertically.

The southwest corner of the Township is an assemblage of Archean metavolcanics. The northwest-southeast trending contact between the two rock groups is a major unconformity. An Algoman-aged granitic complex intrudes the Archean metasediments in the extreme southwestern corner of Parkin Township. The Archean rocks are schistose and this schistosity trends from north-south to north-northwest".

"The first unit exposed at the bottom of the Huronian Supergroup is the Mississagi Formation composed of quartzites, argillites and conglomerates. Above the Mississagi Formation are quartzites and conglomerates of the Bruce Formation. This is followed by lenses and bands of Espanola Formation limestones with major greywacke units. The quartzites and conglomerates of the Serpent Formation is the last unit in the Bruce Group. The Gowganda Formation argillites, quartzites and conglomerates and quartzites of the Lorraine Formation comprise the Cobalt Group".

"The entire sequence is intruded by the quartz diabase and diorite dykes of the older Diabase Intrusion. Later the quartz diorite breccia of the Parkin offset dykes of the Nickel Irruptive cross part of the Huronian and Archean sequences near the Jonsmith Mine. A final Proterozoic olivine diabase intrudes Huronian sediments from Dean Lake southeastward for 6 miles beyond Kosmerly Lake".

"Large faults cut and displace the sequences and move large blocks out of sequence. The faults trend northwest, northeast and, less frequently, westward. The faults do exhibit a curvature".

"The Archean metavolcanic sequence is intensely folded about a



north 50 degree west axis. An F2 fold about a north 30 degree east axis is also documented. Huronian folds are more obscure but most of this sequence is folded into a near vertical orientation. The lack of clear marker horizons made fold definition difficult. Clearly, the malleable Espanola limestone has been distorted into wisps and lenses by the fold episode(s)".

### RESULTS OF THE 1991 EXPLORATION PROGRAM

#### Introduction:

In accordance with the recommendations, Jarvis Resources Ltd. began field exploration work in June 1991, and continued until December 31, 1991. The main focus of this work was to further expand the dimensions of the original marble outcrop which had been drilled and stripped in 1990, and to begin assessing the marbles from both a technical and aesthetic viewpoint. Stripping, removal of overburden and block extraction took place in three areas, with the fourth to be explored in 1992.

Testing of the material was carried out in accordance with ASTM standards, and marbles from Jarvis' quarries tested either met or exceeded the industry requirements for Exterior Building Stone, ASTM 503-C (Marble) .

Approximately \$204,000 was expended on surface stripping and removal of cap rock on the three pits located on Parkin Township shown in Maps 1 and 2. A breakdown of surface work is as follows:

PIT	AREA STRIPPED	TONNAGE REMOVED	BLOCKS REMOVED
1	200"x300'	2,000 Tons	50 Tons
2	200'x300'	3,000 Tons	600 Tons
3	190'x350'	2,100 Tons	450 Tons
		=====	=====
	TOTALS:	7,100 Tons	1,100 Tons

Recommendations have been made for expansion of the three pits, in order to up-date reserves, and assess economic potential. Work is also planned for a newly-discovered fourth outcropping.

The three phases of the field work are summarized below:

#### Stripping of Overburden:

Initial work to remove the overburden was accomplished using a John Deere 850B bulldozer, in conjunction with a 690C John Deere excavator. The overburden was trucked and dumped on the sides of the existing roads according to the Ministry of Natural Resources specifications. The remaining rock surface was then washed clean with pressurized air and water.

#### Visual Inspection and Quarry Geology:

Three quarries account for the range of colours and shades of marble defined by Jarvis Resources Ltd. so far. Surface faults and cracks occur in the first 20' of the first two quarries, whereas the third pit has quality marble beginning at an 8' depth.

Pit #1 (Figure 2) has a variety of colours and shades, as shown in ~~Figure 2~~ <sup>Feb 3, 1991 OMIP Summary Report</sup>. The folding is not intense in this quarry, but faults and fissures occur. The host rock to the marble is silicified brecciated veined wallrock.

Pit #2 (Figure 3), which has similar banding to Pit #1, and the same wall rock, is an extension of the belting. The colours and shades have changed, but the textures and faulting are consistent. (See Figure 4).

Pit #3 (Figure 5), although part of the same structure, has a "tighter" consistency, and therefore faults and fissures do not

extend as deeply as in Pits 1 and 2. The folding is more intense in this pit, and carries a swirl-type effect in some of the marble colours.

All three pits are part of the same structure, and extend through a series of claims. The colours and textures change, but the true qualities of the marble are upheld throughout.

#### Cap Rock Removal:

The first stage in removing cap rock for visual inspection and certain technical testing of the marble consisted of drilling and blasting to prepare a face. A 7 foot face was created by drilling a 3" pattern of 1 1/8" holes using an air track drill. The holes were then loaded and blasted using low explosive polycord to minimize blast damage. A John Deere 690C excavator was used to remove the blasted rock, which remains piled at the site.

The second stage of the process was block extraction. To obtain a cleaner, less fractured marble block for samples, a Myers diamond belt saw was used. Blocks were cut to a 6'6" depth, with a surface area of 5' x 9'. The blocks were then "snapped off" using air bags placed in the widths of the saw cuts. In some instances, horizontal relief holes had to be drilled by jackleg on the bottom of the blocks to assist the air bags. The blocks were removed from the quarry, and placed on site, using an Omega 20 Ton mobile crane. One block of each colour was hauled to Sudbury to be cut and polished for samples. The samples were generally cut and polished into 12" x 12", 6" x 6" tiles, and polished slabs. Smaller 2" x 2" samples were also processed. Initial work was done by Khouri Marble and Granite of Sudbury. In August 1991, Jarvis Resources Ltd. acquired a radial arm polisher, enabling the company to prepare certain sample sizes on its own.

CONCLUSION

The company plans to continue the exploration and expansion of its marble deposits, as well as to study and establish the market for marble products such as tile and slab.

Field work will resume in May, 1992.



D. A. DUPUIS, H B.A.



KEVIN BULLOCK, ~~B.Sc. Eng~~ B. Eng.

APPENDIX AJARVIS RESOURCES LTD.OMIP EXPENDITURESPARKIN TOWNSHIP PROPERTYOMIP FILE - OM91-127

<u>DATE</u>	<u>INVOICE #</u>	<u>COMPANY PAID</u>	<u>WORK PERFORMED</u>	<u>AMOUNT</u>
25-06-91	JR-219	ERANA MINES LIMITED	MARKETING STUDIES	\$ 541.50
25-06-91	JR-221	ERANA MINES LIMITED	STRIPPING OVERBURDEN BLOCK REMOVAL SUPERVISION	16,547.38
26-06-91	JR-222	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	18,068.75
28-06-91	JR-225	ERANA MINES LIMITED	MARKETING STUDIES	312.87
30-06-91	744	ERANA-PLAST LIMITED	STRIPPING OVERBURDEN ROAD WORK	620.00
28-07-91	JR-226	ERANA MINES LIMITED	STRIPPING OVERBURDEN BLASTING	15,973.25
09-07-91	VOUCHER #56	MARK JEWELL	MARKETING STUDIES	921.79
09-07-91	VOUCHER #57	MARK JEWELL	MARKETING STUDIES	197.76
09-07-91	0600042	ERANA MINES LIMITED	MARKETING STUDIES	1,825.27
10-07-91	JR-227	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	3,564.50
10-07-91	JR-228	ERANA MINES LIMITED	STRIPPING OVERBURDEN	5,001.44
11-07-91	JR-229	ERANA MINES LIMITED	MARKETING STUDIES	990.00
11-07-91	JR-230	ERANA MINES LIMITED	STRIPPING OVERBURDEN LINE CUTTING	629.00
11-07-91	JR-231	ERANA MINES LIMITED	MARKETING STUDIES	1,388.29
11-07-91	JR-232	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	2,503.01
11-07-91	010847	TRADELINK PUBLISHING COMPANY	MARKETING STUDIES	516.45
19-07-91	RM1052	TROW CONSULTING ENG. LTD.	MARKETING STUDIES LAB TESTING	3,220.70
25-07-91	JR-234	ERANA MINES LIMITED	MARKETING STUDIES	1,355.00

DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
25-07-91	JR-235	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	2,087.23
25-07-91	JR-236	ERANA MINES LIMITED	SAMPLE PREPARATION	2,362.00
25-07-91	JR-236A	ERANA MINES LIMITED	SAMPLE PREPARATION LINE CUTTING	289.00
25-07-91	JR-237	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPERVISION	6,705.50
25-07-91	JR-238	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	16,682.75
25-07-91	JR-241	ERANA MINES LIMITED	STRIPPING OVERBURDEN	40.06
26-07-91	00005980	GEORGE A. GRAY CUSTOMS	STRIPPING OVERBURDEN FREIGHT	689.61
29-07-91	13746	TREVOR JONES	STRIPPING OVERBURDEN LINE CUTTING	1,246.80
31-07-91	746	ERANA-PLAST LIMITED	STRIPPING OVERBURDEN ROAD WORK	2,220.00
01-08-91	JR-58	OFFICE PETTY CASH	STRIPPING OVERBURDEN SUPPLIES	29.03
07-08-91	JR-241A	ERANA MINES LIMITED	MARKETING STUDIES	546.00
07-08-91	JR-242	ERANA MINES LIMITED	STRIPPING OVERBURDEN	5,944.50
08-08-91	00006497	GEORGE A. GRAY CUSTOMS	STRIPPING OVERBURDEN FREIGHT	69.41
15-08-91	VOUCHER #61	MARK JEWELL	MARKETING STUDIES	138.57
16-08-91	JR-243	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	15,718.50
16-08-91	JR-244	ERANA MINES LIMITED	SAMPLE PREPARATION	1,200.50
16-08-91	JR-246	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	5,430.48
19-08-91	1245682	COCHRANE-DUNLOP IND. PROD.	SAMPLE PREPARATION	55.66
20-08-91	TRJ-45	TRIANGLE DRILLING CO. LTD.	STRIPPING OVERBURDEN SUPPLIES	2,608.00
22-08-91	JR-248	ERANA MINES LIMITED	SAMPLE PREPARATION	789.00
22-08-91	JR-249	ERANA MINES LIMITED	SAMPLE PREPARATION	310.00

DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
22-08-91	JR-250	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	12,693.50
22-08-91	JR-251	ERANA MINES LIMITED	STONE REMOVAL	4,536.00
22-08-91	JR-252	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	4,424.00
22-08-91	JR-253	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	1,590.55
22-08-91	JR-254	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	3,375.12
30-08-91	JR-255	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	6,146.50
30-08-91	JR-256	ERANA MINES LIMITED	STONE REMOVAL SUPERVISION	3,057.00
30-08-91	JR-257	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	7,587.00
30-08-91	JR-258	ERANA MINES LIMITED	SAMPLE PREPARATION	3,519.50
30-08-91	JR-259	ERANA MINES LIMITED	MARKETING STUDIES	987.00
30-08-91	JR-260	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	1,578.46
30-08-91	JR-261	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	238.61
30-08-91	52674	BOYES EXPLOSIVES	STRIPPING OVERBURDEN BLASTING SUPPLIES	456.00
31-08-91	748	ERANA-PLAST LIMITED	STRIPPING OVERBURDEN ROAD WORK	1,210.00
05-09-91	38534	QUEBEC CITY CONVENTION CENTRE	MARKETING STUDIES	102.60
05-09-91	VOUCHER #62	OFFICE PETTY CASH	MARKETING STUDIES	323.59
05-09-91	JR-264	ERANA MINES LIMITED	STRIPPING OVERBURDEN	4,532.00
13-09-91	544498	W. HYYTIAINEN FUELS LTD.	STRIPPING OVERBURDEN SUPPLIES	2,047.50
13-09-91	502829	FLYGT CANADA	STRIPPING OVERBURDEN EQUIPMENT RENTAL	613.60
18-09-91	VOUCHER #64	OFFICE PETTY CASH	MARKETING STUDIES	239.31
19-09-91	JR-263	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	6,152.75

DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
23-09-91	JR-264	ERANA MINES LIMITED	STRIPPING OVERBURDEN DRILLING, BLASTING STONE REMOVAL	3,905.50
23-09-91	JR-265	ERANA MINES LIMITED	STONE REMOVAL	739.00
23-09-91	JR-266	ERANA MINES LIMITED	SAMPLE PREPARATION	243.50
23-09-91	JR-267	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	556.07
23-09-91	JR-267A	ERANA MINES LIMITED	SAMPLE PREPARATION	68.75
24-09-91	JR-268	ERANA MINES LIMITED	STRIPPING OVERBURDEN STONE REMOVAL SUPPLIES	1,112.13
24-09-91	JR-269	ERANA MINES LIMITED	STONE REMOVAL	281.60
24-09-91	JR-270	ERANA MINES LIMITED	MARKETING STUDIES OFFICE RENTAL	250.00
25-09-91	VOUCHER #63	MARK JEWELL	MARKETING STUDIES	420.88
25-09-91	VOUCHER #65	MARK JEWELL	MARKETING STUDIES	426.02
25-09-91	VOUCHER #66	MARK JEWELL	MARKETING STUDIES	662.76
01-10-91	25488	DERUSHA SUPPLY	SAMPLE PREPARATION SUPPLIES	265.75
01-10-91	645-178	W. HYYTIAINEN FUELS LTD.	STRIPPING OVERBURDEN SUPPLIES	454.70
04-10-91	JR-277	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	595.18
04-10-91	JR-278	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	506.38
04-10-91	JR-279	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	521.14
04-10-91	JR-280	ERANA MINES LIMITED	SAMPLE PREPARATION SHOP RENTAL	1,284.00
04-10-91	24933	MARLIN TRAVEL	MARKETING STUDIES TRAVEL	298.90
07-10-91	VOUCHER #67	OFFICE PETTY CASH	MARKETING STUDIES	128.39
07-10-91	JR-281	ERANA MINES LIMITED	STRIPPING OVERBURDEN DRILLING, BLASTING	1,386.00
07-10-91	JR-282	ERANA MINES LIMITED	STONE REMOVAL	157.50
07-10-91	JR-283	ERANA MINES LIMITED	STRIPPING OVERBURDEN	5,476.00



DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
07-10-91		A. JEROME VOUCHERS	STONE REMOVAL TRAVEL	119.62
11-10-91	JR-286	ERANA MINES LIMITED	STRIPPING OVERBURDEN EQUIPMENT RENTAL	3,298.00
11-10-91	JR-286A	ERANA MINES LIMITED	MARKETING STUDIES OFFICE RENTAL	250.00
11-10-91	VOUCHER #70	MARK JEWELL	MARKETING STUDIES	213.45
15-10-91	76760	KHOURI GRANITE LIMITED	SAMPLE PREPARATION	440.00
20-10-91	0002450	DISCOUNT CAR & TRUCK RENTALS	MARKETING STUDIES	524.65
22-10-91		WISEMAN MINING CONSULTANTS LTD	STRIPPING OVERBURDEN CONSULTING	3,524.00
22-10-91	53293	BOYES EXPLOSIVES LIMITED	STRIPPING OVERBURDEN BLASTING SUPPLIES	456.00
28-10-91	JR-289	ERANA MINES LIMITED	MARKETING STUDIES	2,448.50
28-10-91	JR-290	ERANA MINES LIMITED	STONE REMOVAL	7,125.25
28-10-91	JR-291	ERANA MINES LIMITED	STONE REMOVAL	1,892.25
28-10-91	JR-292	ERANA MINES LIMITED	STONE REMOVAL SUPPLIES	736.76
28-10-91		STAFF EXP - MIA CONVENTION	MARKETING STUDIES	940.00
29-10-91	JR-294	ERANA MINES LIMITED	MARKETING STUDIES	332.36
29-10-91	JR-297	ERANA MINES LIMITED	STRIPPING OVERBURDEN DRILLING, BLASTING	955.00
29-10-91	JR-298	ERANA MINES LIMITED	STONE REMOVAL	1,219.50
29-10-91	JR-299	ERANA MINES LIMITED	STONE REMOVAL	4,574.50
29-10-91	JR-301	ERANA MINES LIMITED	MARKETING STUDIES	4,168.00
30-10-91	JR-302	ERANA MINES LIMITED	STRIPPING OVERBURDEN EQUIPMENT RENTAL	2,782.00
30-10-91	PCJ-06	MARK JEWELL	MARKETING STUDIES	1,985.65
31-10-91	752	ERANA-PLAST LIMITED	STONE REMOVAL	1,050.00
03-11-91	JR-275	ERANA MINES LIMITED	SAMPLE PREPARATION	622.16
06-11-91		MARK JEWELL	MARKETING STUDIES TRAVEL	100.87
07-11-91	VOUCHER #69	OFFICE PETTY CASH	MARKETING STUDIES	354.47

DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
07-11-91	JR-284	ERANA MINES LIMITED	SAMPLE PREPARATION	2,427.25
09-11-91		TRADELINK PUBLISHING CO.	MARKETING STUDIES	1,895.00
14-11-91	JR-304	ERANA MINES LIMITED	SAMPLE PREPARATION	3,026.50
14-11-91	JR-305	ERANA MINES LIMITED	STONE REMOVAL DRILLING, BLASTING	2,002.75
11-12-91	PAYROLL	EMPLOYEE WAGES (GROSS)	MARKETING STUDIES (\$737.50/WK - 16 WKS)	11,800.00
11-12-91	PAYROLL	EMPLOYEE WAGES (GROSS)	SAMPLE PREPARATION (DIAMOND SAW OPERATOR 555 REG. HRS @ \$11.00/HR)	17,251.75
11-12-91		CHRYSLER CREDIT LTD.	MARKETING STUDIES (VEHICLE LEASE - \$441.73 - 4 MONTHS)	1,766.92
03-10-91	JR-274	ERANA MINES LIMITED	MARKETING STUDIES TELEPHONE	547.80
03-10-91	JR-274	ERANA MINES LIMITED	MARKETING STUDIES TELEPHONE	640.02
11-12-91		5% MANAGEMENT AND ADMINISTRATION FEES		14,948.06
				<u>\$ 313,909.34</u>

SUMMARY OF EXPENDITURES

SURFACE STRIPPING AND REMOVAL OF CAP ROCK	\$ 203,552.89
SURFACE DIMENSION - STONE REMOVAL	27,491.73
SAMPLE PREPARATION FOR MARKETING (CUTTING, POLISHING, ETC.)	24,155.32
MARKETING STUDIES	43,761.34
	<u>\$ 298,961.28</u>

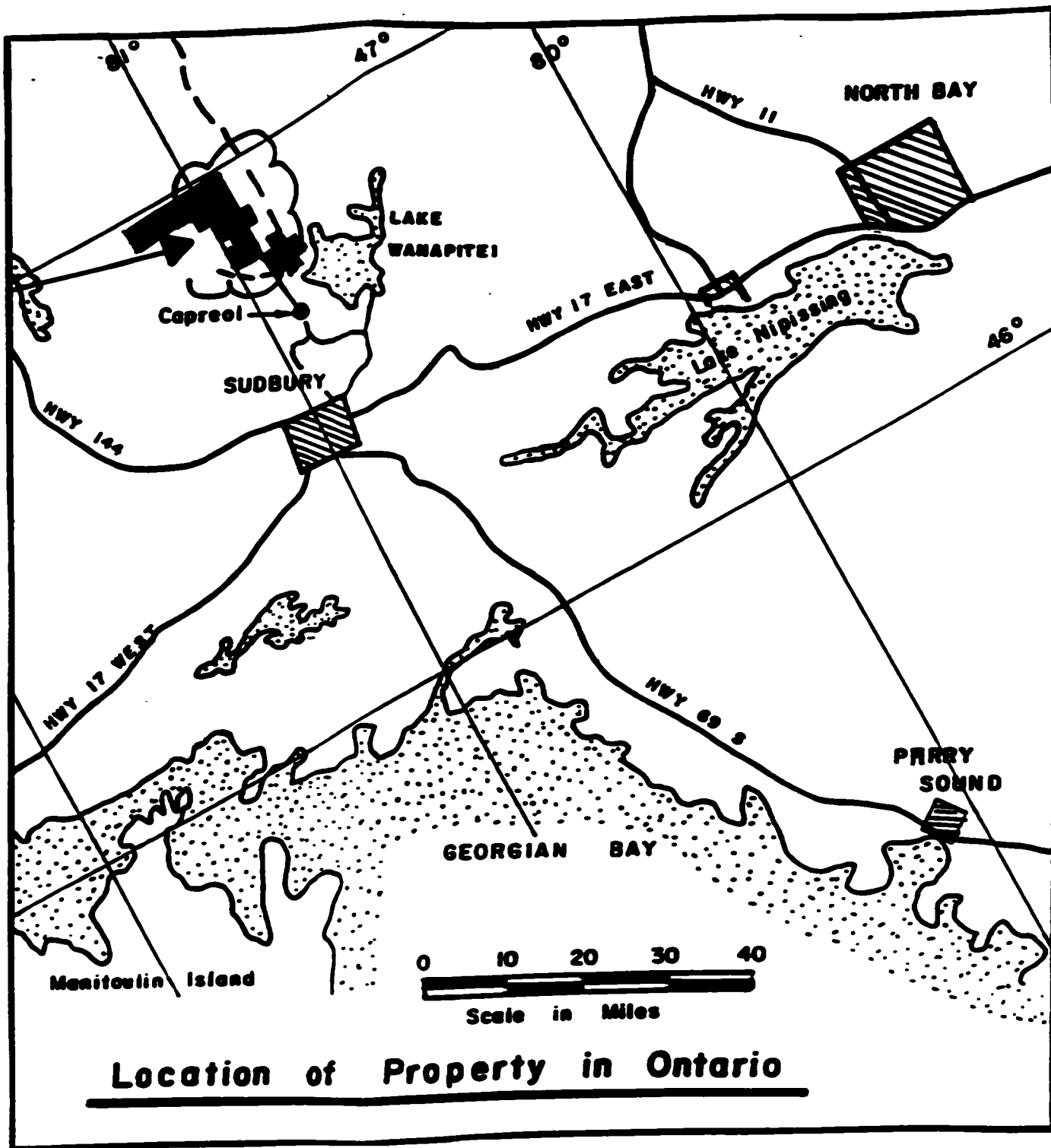



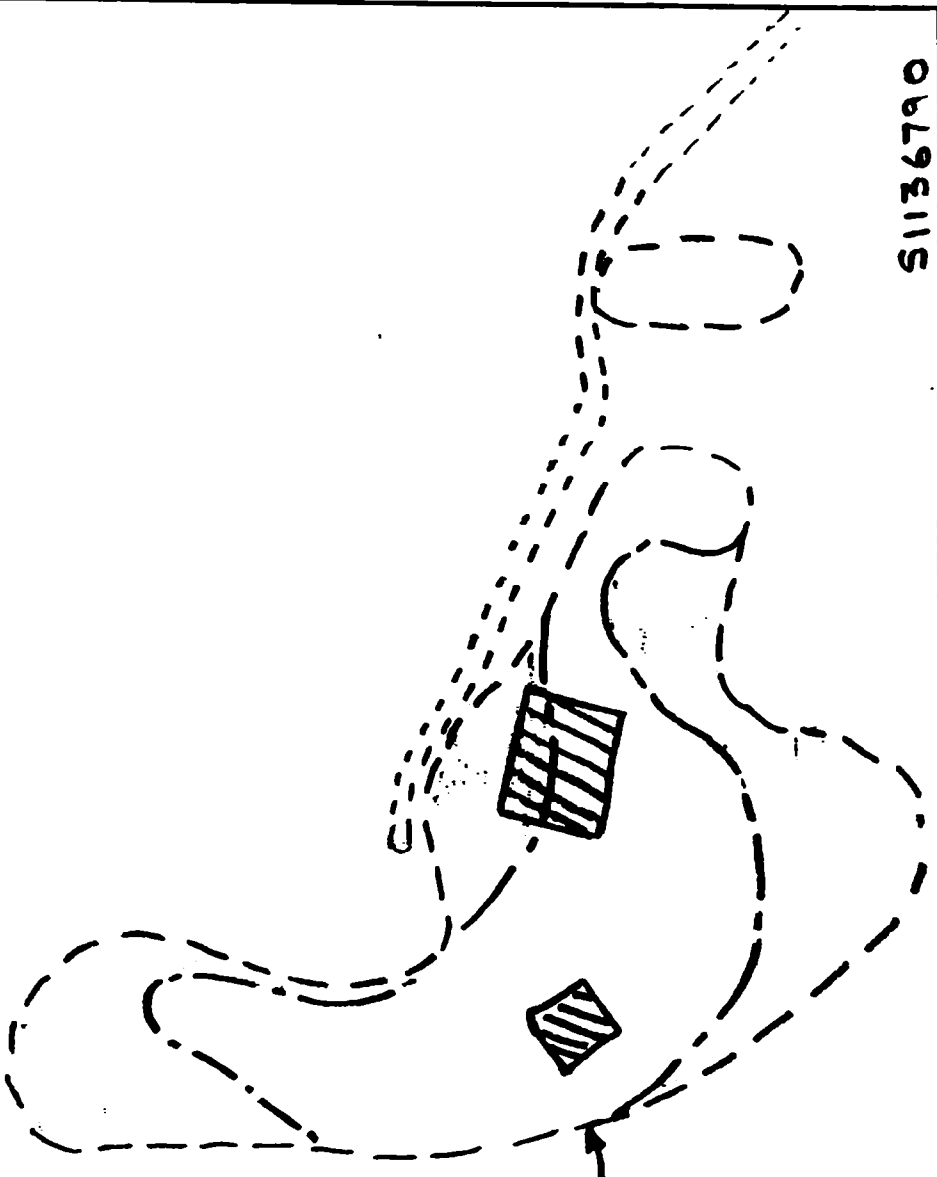


FIG. 1

LEGEND

-  1990 STRIPPED
-  1991 STRIPPED
-  MYERS DIAMOND  
SAW WORK



Stripped Area  
Washed & Blasting

S1136790

Jarvis Resources Ltd.  
Parkin Twp.

Plan of D.D. Holes in  
Claim 1136790 P1: 1

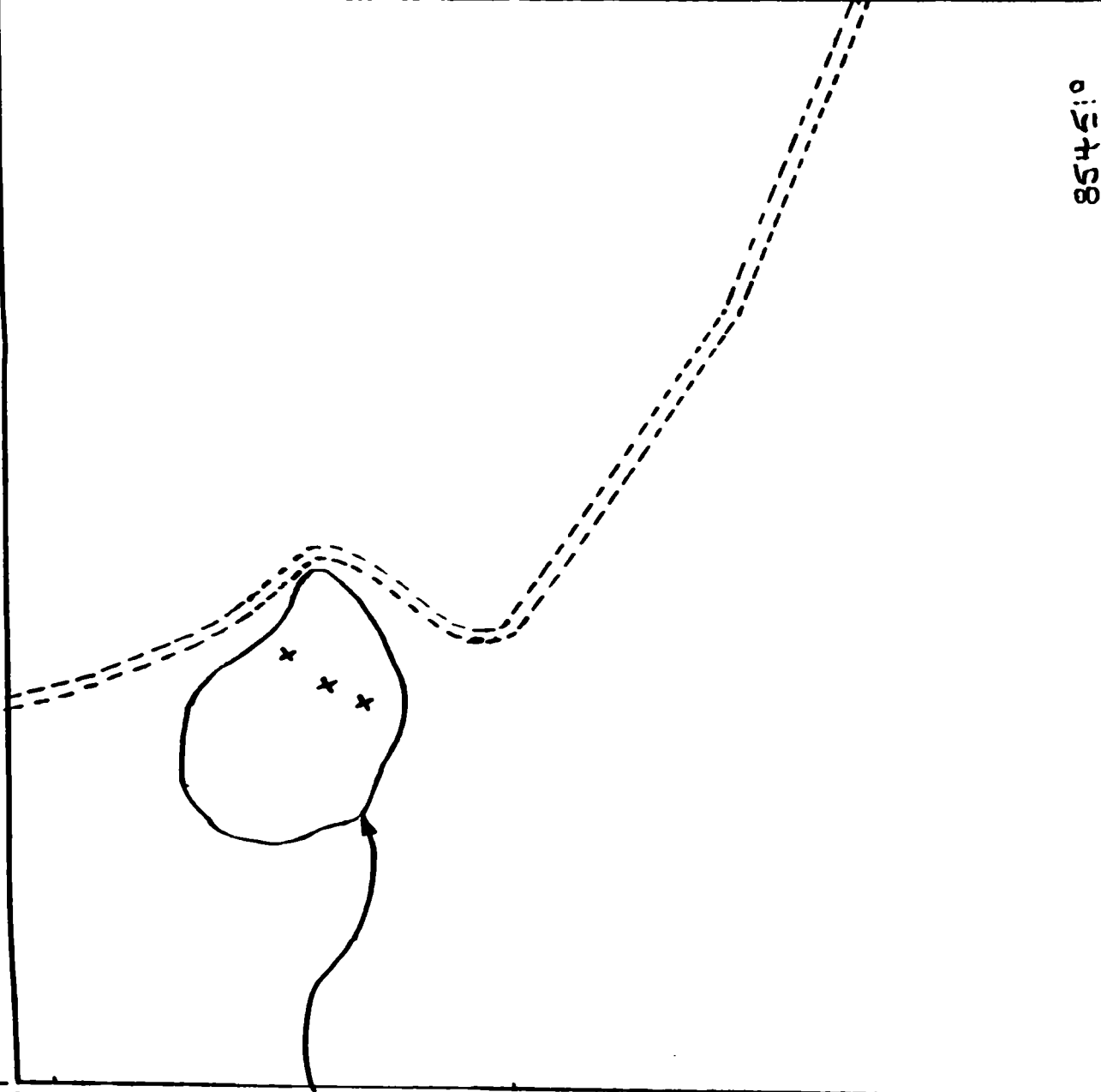
Scale: 1" = 200' Date: Feb. 91

Dwg: S. Bell

FIG 2

SCALE 1" = 200'

Stripped Area  
Washed & Blasting



x = Block Removal Sites

Jarvis Resources Ltd.	
Parkin Twp.	
Claim 854510 PIT 2	
Scale : 1" = 200'	Date : Feb. 32
Dwg : KB	FIG 3



BROWN WEATHERED FRACTURED ZONE

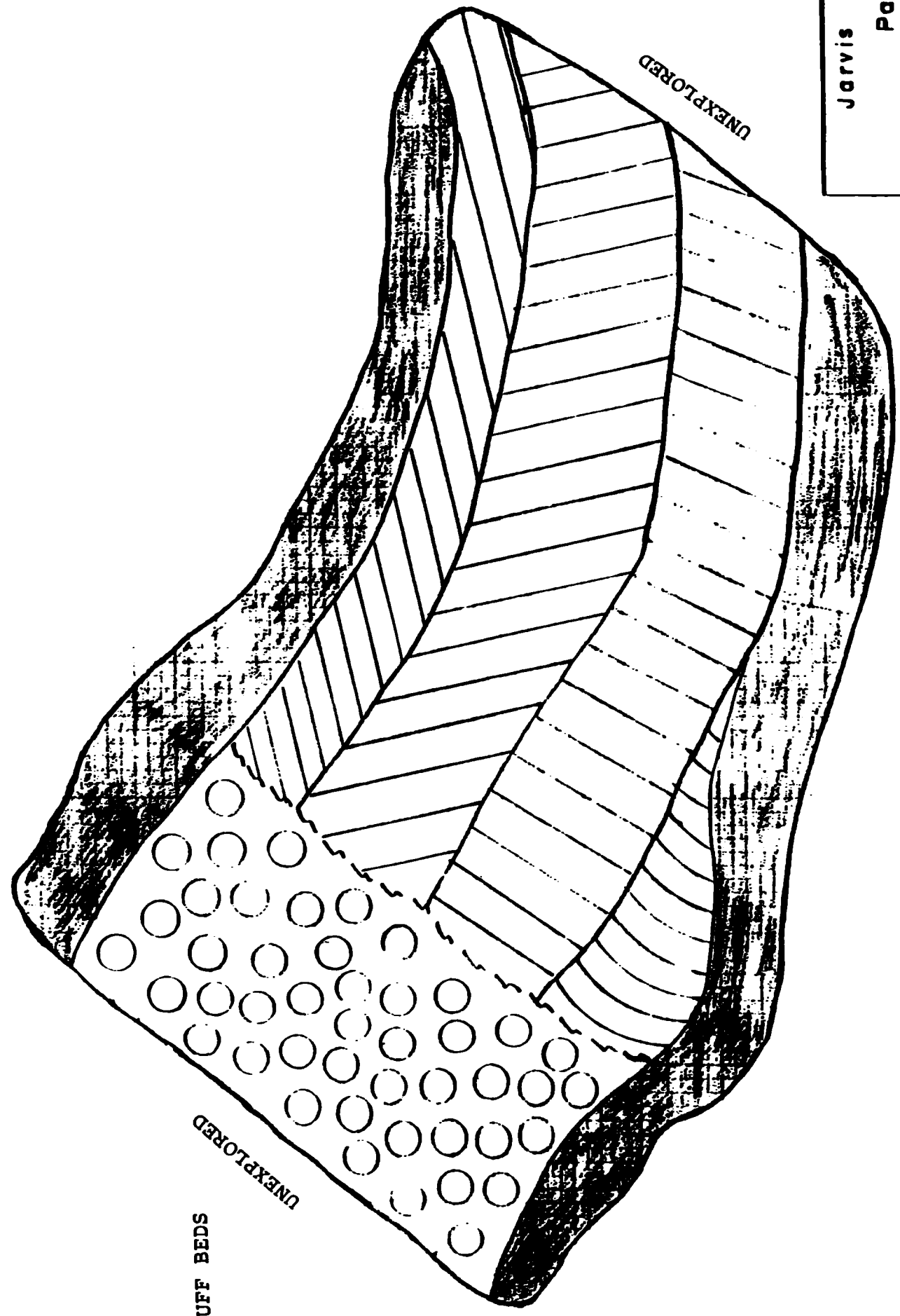
GREY-PINK WOODGRAIN

DARK GREEN WITH BLACK BANDS

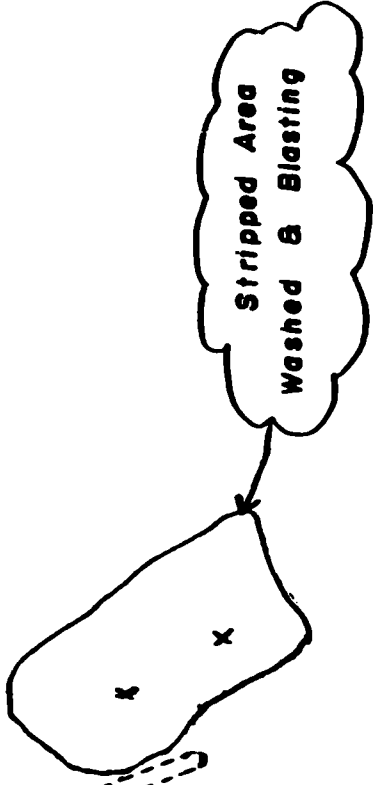
GREEN GREY CLOUDED BEDS

LIGHT GREEN WITH BLACK AND BUFF BEDS

GREY-BROWN SWIRL





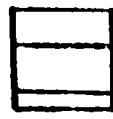
Jarvis Resources Ltd.	
Parkin Twp.	
Marble Deposit	
PIT 2	
Scale : 1" = 40'	Date: Feb. 92
Dwg: <i>KS</i>	FIG 4

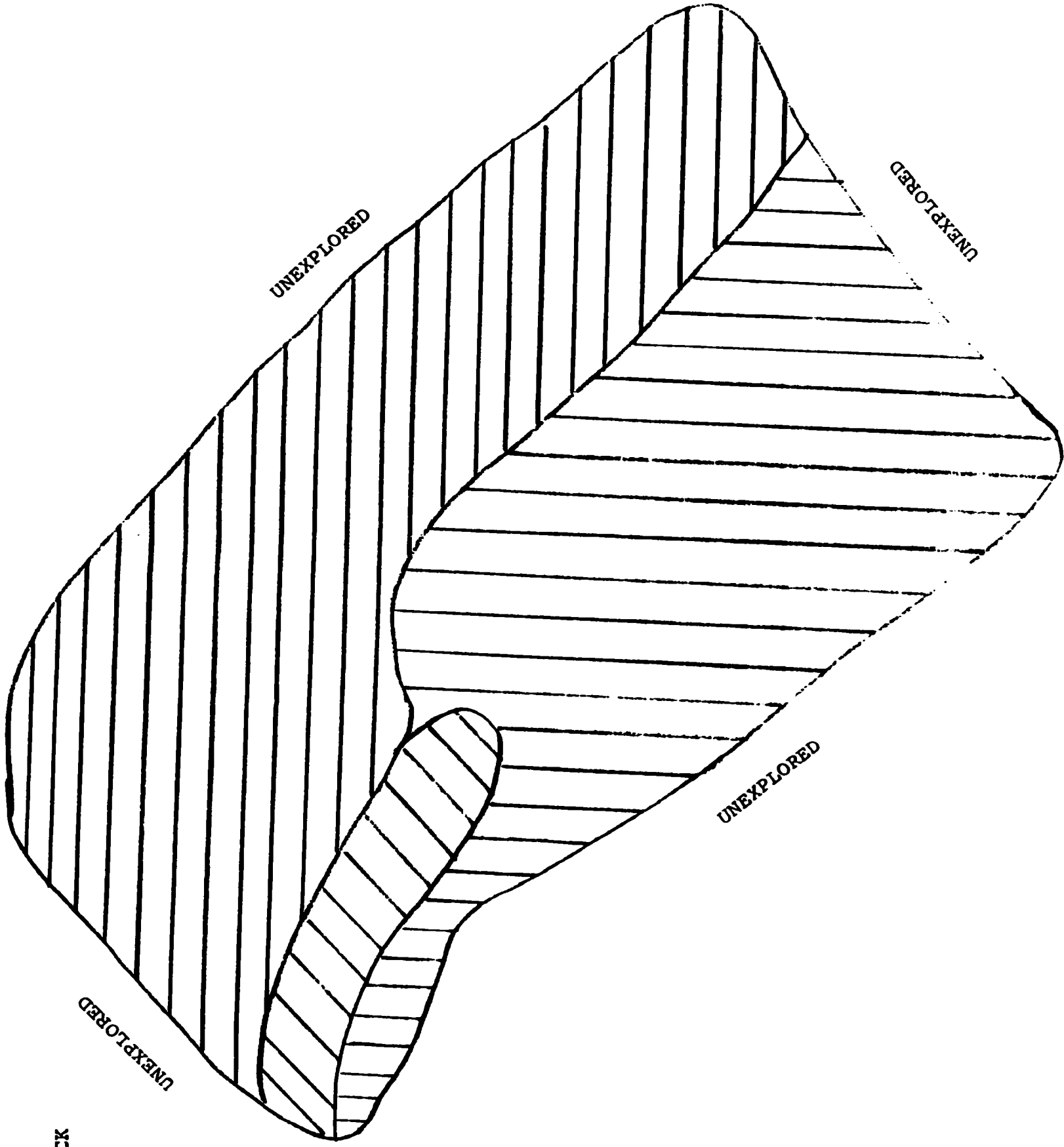


647604

x = Block Removal Sites

Jarvis Resources Ltd. Parkin Twp.	
Claim 647604 PIT #3	
Scale : 1" = 200'	Date : Feb. '92
Dwg : KB	FIG 5

-  GREY TAUPE
-  LIGHT GREEN AND BLACK
-  GREY BLACK



Jarvis Resources Ltd.	
Parkin Twp.	
Marble Deposit	
PIT #3	
Scale : 1" = 40'	Date : Feb. '92
Dwg : <i>RS</i>	FIG 6



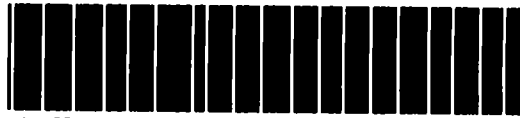


Rock Mechanics

Trow Consulting Engineers Ltd.  
1074 Webbwood Drive, Sudbury  
Ontario, Canada, P3C 3B7  
Telephone: (705) 674-9681  
Facsimile: (705) 674-8271

SO0331R

Jarvis Resources Limited  
106 Fielding Road  
Lively, Ontario  
POM 2E0



41115SW0062 OM91-127 PARKIN

020

**ATTENTION: Mr. Marc Jewell**

Dear Sirs:

**BUILDING STONE TESTING  
GREEN MARBLE**

Further to your authorization, Trow Consulting Engineers performed the required laboratory tests in connection with the above noted project.

The samples of green marble were picked up in the field and delivered to our lab by Jarvis Resources Ltd. The samples as delivered were determined by macroscopic means to be a calcitic dolomite marble. The marble is green to dark green in colour and fine to medium grained, with a granoblastic saccharoidal texture. Foliation was not apparent. The appeared massive and had a quasi conchoidal fracture.

There was no preferred orientation observed, therefore the minimum required number of specimens was tested. A few of the delivered samples had hairline fractures, visible only after cutting the sample. These fractures were probably induced by blasting. Samples containing the above described fractures were discarded.

All the tests were performed according to relevant ASTM standards. Modulus of rupture, uniaxial compressive strength and flexural strength were determined for dry condition. Test results are provided in Tables 1 to 5. The reported values are compared with the requirements for Marble Building Stone (Exterior), as specified in ASTM C 503 - 85. Generally, all requirements were met. One exception was a specimen used for flexural strength, which contained a hairline fracture outside loading area (middle half). This specimen failed under

relatively lower load and the failure occurred outside the middle half, along the fracture. We excluded this test from calculating the average value of flexural strength.

We trust that this is satisfactory to you. Should you have any questions, please do not hesitate to contact our office.

Yours very truly,  
**TROW CONSULTING ENGINEERS LTD.**

  
\_\_\_\_\_  
Jacek Nodzypski

**TABLE 1**  
Absorption and Density - C 97  
Green Marble Samples

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Absorption (%)	10	0.04	0.20	0.11	max. 0.75
Density (kg/m <sup>3</sup> )	10	2699	2740	2714	-- *

**TABLE 2**  
Modulus of Rupture - C 99  
Green Marble Samples

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Modulus of Rupture (MPa)	5	8.97	11.52	9.96	min. 7.00

**TABLE 3**  
Uniaxial Compressive Strength - C 170\*\*  
Green Marble Samples

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Uniaxial Compressive Strength (MPa)	6	98	112	106	min. 52

\* Based on visual examination only, the rock can be classified as calcitic dolomite marble, therefore the minimum density requirement is within 2595 and 2800 kg/m<sup>3</sup> range.

\*\* Core specimens were tested and the strength results were converted to those of corresponding cube (according to the standard requirements).

**TABLE 4**  
**Abrasion Resistance of Stone**  
**Subjected to Foot Traffic - C 241**  
**Green Marble Samples**

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Abrasion Resistance (-)	6	17.54	23.32	19.52	min. 10.00

**TABLE 5**  
**Flexural Strength - C 880**  
**Green Marble Samples**

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Flexural Strength (MPa)	7	7.31 <sup>***</sup>	12.04	9.00	min. 7.00

Standard deviation,  $s = 1.72$  MPa

---

\*\*\* One of the specimens failed at 6.21 MPa, however the failure occurred outside the middle half of the span, along a hairline fracture (probably due to blasting). This test was not included in Table 5.

"We had decided on a Greek stone which we were very excited about from the samples," said Mr. Jones. "After going to Greece, we found that anything larger than the sample didn't give us the consistency we were after. We attempted an exhaustive search of the Greek countryside but wound up going back to Italy."

Following repeated trips up a mountainside in Forte dei Marmi, Italy, Mr.

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"We went out of our way to select a unique white stone with rigorous veining," he said. "The Calacatta Luccicosa is a beautiful warm white marble which we had uniquely cut for a diagonal veining."

The architect credits Freda S.p.A as being instrumental in the processing of the stone which was specially quarried,

block sawn, rotated and fabricated. The end result was unique 40° to 45° diagonal veining of brilliant white, yellow umber, burnt sienna and charcoal black

Particular attention was paid to the Calacatta Luccicosa, according to Mr. Jones, because it is used on the lower portion of the lobby walls at what he called the "people level." Freda supplied 2,000 square feet (186 sq.m) of the stone for the project.

Similarly, an active role was taken in the selection of the Quetzal Green marble from Guatemala which was used for the main lobby portals and plinth bases, the concourse walls, and the security desk.

"There was extensive selection," said Charles Urso of Guatemala Marble Inc. (now known as Marble of the World) of Miami, supplier and fabricator of the stone. "Several trips were made by the owners, the architect, the installer and general contractor to Guatemala. The stone was laid out in the yard of the plant in the sequence it would be installed. Everyone viewed the stone from an overhead crane for any discoloration or problems before it was shipped."

The Guatemalan marble was selected primarily for its unique color, a warm green with white veining. According to Mr. Jones, it allowed for a consistent background unlike most green stones which the architect and developer considered either too intense with black veining or too washed out with white veining.

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Honed Pentelicon marble from Greece was used for the main lobby piers, feature wall, elevator and entry lobby walls. It provides a colder accent to the warmer Quetzal Green. Freda supplied 9,000 square feet (840 sq.m) of the Greek marble.

On the lobby floors and elevator lobby base, 9,000 square feet (840 sq.m) of honed grey Moncervetto marble supplied and fabricated by Freda were used.

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Lively, Ontario POM 2E0, CANADA

Phone: (705) 682 0649 Fax: (705) 682 2447

For details, Circle No. 21 on Reader Service Card.

# Granite's not the only stone from Canada



Report from Canada

*Jarvis Resources has begun quarrying marble in Ontario and estimates that its reserves amount to at least 21 million tons*

**G**ranites quarried in Canada are known throughout the world, but Canadian marbles are another story. It was not until recently that new marble quarries in Canada have been exploited. One of the quarriers is Jarvis Resources Ltd. in Lively, Ontario.

It was actually gold that the company first looked for after acquiring mining rights to the land in Ontario, but gold reserves were not substantial. Later, the presence of marble was discovered. Jarvis, a Canadian-controlled public company, has spent the past decade exploring for precious metals in Ontario. However, the fortuitous limestone/marble discovery in northern Ontario radically changed the company's direction.

After an exploration program conducted in 1990 on four sites in the same township revealed 21 million tons of marble reserves, the company began to seriously test the stone and study the market. While the depth of the test sites averages between 300 and 400 feet (90 to 120 m), the longest test site was consistent to a depth of 660 feet (200 m).

The company plans to introduce eight different colors including greens with both wavy and linear veins, a cream with the appearance of mother of pearl and a white with charcoal stripes. The company will also produce a gold/white brecciated stone which has a three-dimensional look when polished and a rustic appearance in its raw form.

Although the material is technically a marble, some of its characteristics are more closely related to granite (see box), according to Mark Jewell, marketing

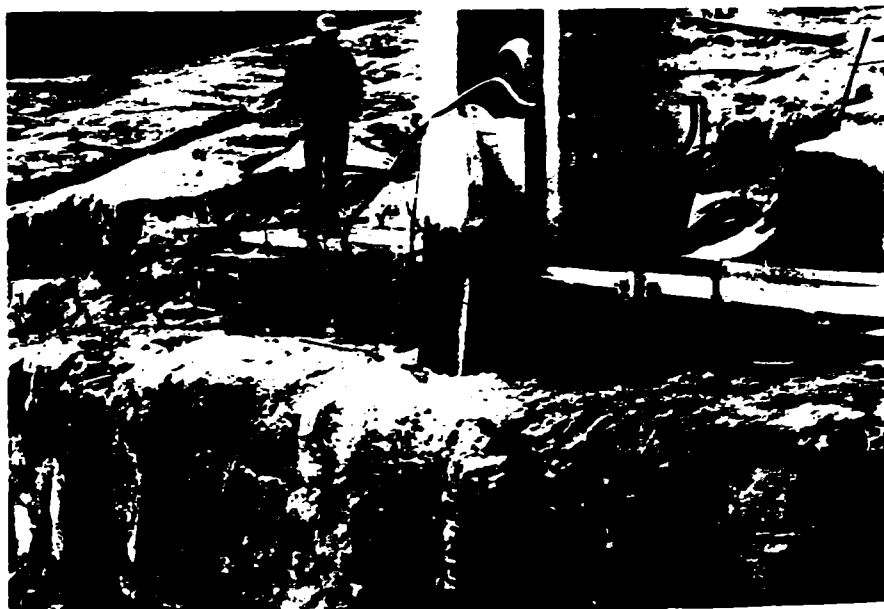
Jarvis' green marble, technical properties

abrasion resistance ASTM C-241	19.52
flexural strength ASTM C-880	9 MPa
absorption ASTM C-97	0.11 per cent
density ASTM C-97	2.714 kg/m <sup>3</sup>
modulus of rupture ASTM C-99	9.96 MPa
compressive strength ASTM C-170	106 MPa

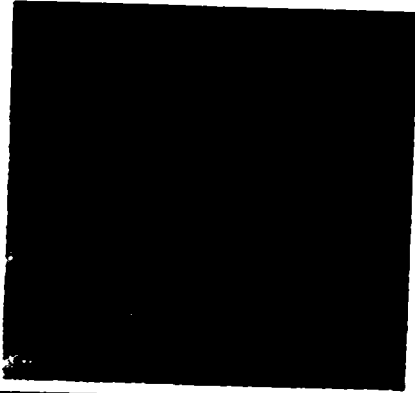
director of Jarvis Resources. To illustrate this, he referred to the material's low porosity and high abrasion resistance. Because of these properties, the material is suitable for exterior use.

Quarry development began in the

spring, and the company is now developing three major quarries. The quarries employ drills and a 6½-foot (2 m) W.F. Meyers belt saw that cuts at a rate of 1½ inches (3.8 cm) per minute, according to Mr. Jewell. The company plans to



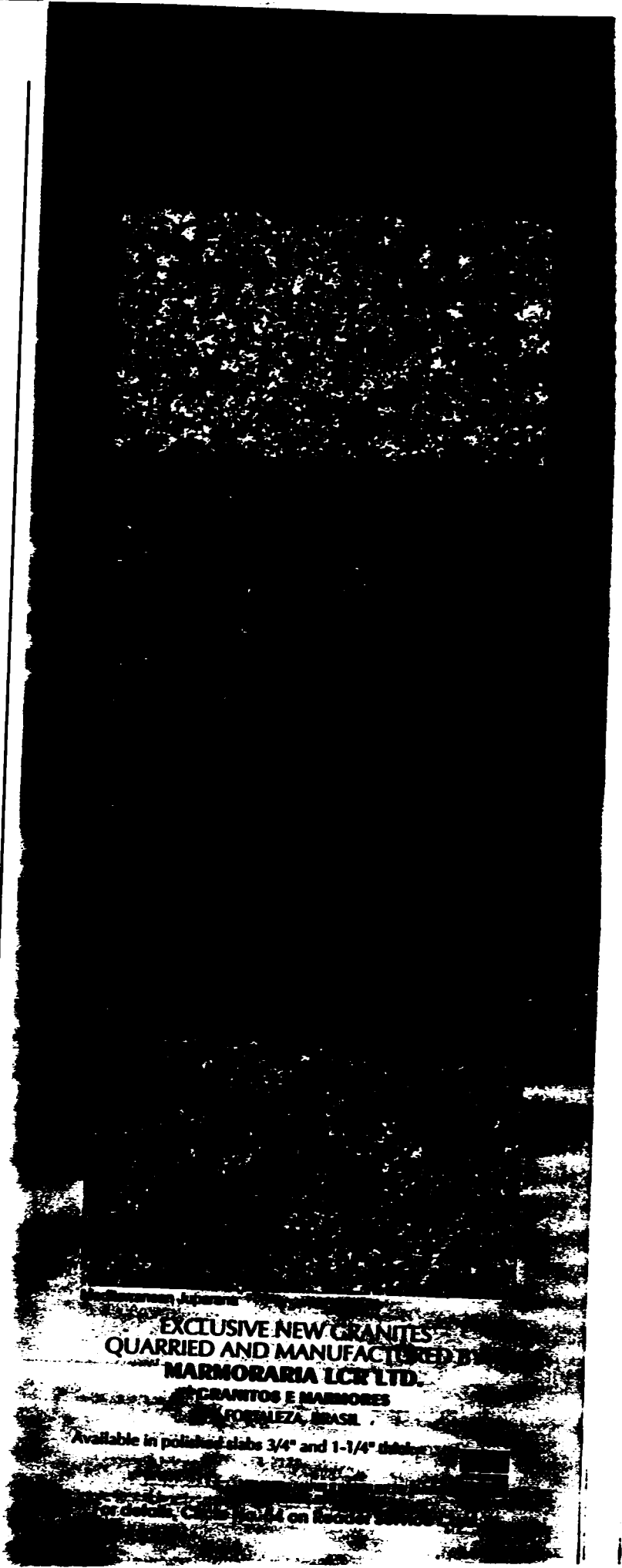
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New Canadian marbles  
quarried in Ontario by  
Jarvis Resources Ltd.



acquire a vertical/  
horizontal saw for  
next spring. Mr. Jew-  
ell recently returned  
from a trip to Europe  
where he compared German and Italian stoneworking equip-  
ment. He plans to set up a slab and tile plant in June just west  
of Sudbury, Ontario. The company also plans to purchase  
Loffler sawing machinery and Simec polishing equipment to  
be installed in April and begin production in June. The Simec  
equipment and Loffler machinery will be supplied through  
the company's North American representative, GranQuartz  
Trading, Inc. in Decatur, GA. To start, Jarvis will fabricate  
4,000 square feet (370 sq.m) of tile and 900 square feet (84  
sq.m) of slabs per day. Production can be doubled as demand  
increases. The company is currently quarrying and stocking  
blocks for future production. □



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OMIP FILE NO. OM91-127

BREAKDOWN OF LABOUR FOR CUTTING AND POLISHING

<u>DATE</u>	<u>INV. #</u>	<u>PAYEE</u>	<u>NO. OF WORKERS</u>	<u>WORK HOURS</u>	<u>AMOUNT BILLED/PAID</u>
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16-08-91	JR-244	Erana Mines Limited	2	83	1 200.50
22-08-91	JR-248	Erana Mines Limited	1	63	789.00
22-08-91	JR-249	Erana Mines Limited	3	14	310.00
30-08-91	JR-258	Erana Mines Limited	3	156	3 519.50
23-09-91	JR-266	Erana Mines Limited	2	15	243.50
15-10-91	76760	Khouri Granite	-	10	440.00
07-11-91	JR-284	Erana Mines Limited	3	152	2 427.25
14-11-91	JR-304	Erana Mines Limited	1	159	3 026.50
***11-12-91	-----	Jarvis Employee	1	625	7 251.75
				<u>\$ 1 398</u>	<u>\$ 21 859.00</u>

NOTES

Goods and Services Tax not included in above amounts.

Shop rental and supplies purchases for a total of \$ 2 296.32 make up the difference for the balance of \$ 24 155.32 reported on January 30, 1992, Application for Grant.

\*\*\*Direct employee of Jarvis Resources Ltd.



# Jarvis Resources Ltd.

106 Fielding Road, Lively,  
Ontario, Canada, POM 2E0

OMIP FILE NO. OM91-127

## BREAKDOWN OF CONSTRUCTION LABOUR AND SUPPLIES

<u>DATE</u>	<u>PAYEE</u>	<u>AMOUNT</u>	<u>LABOUR</u>	<u>SUPPLIES</u>	<u>DESCRIPTION</u>
25-06-91	Erana Mines Limited	\$ 541.50	\$ 541.50		-Booth design
11-07-91	Erana Mines Limited	990.00	990.00		-Booth design & const.
25-07-91	Erana Mines Limited	1 355.00	1 355.00		-Booth design & const.
07-08-91	Erana Mines Limited	546.00	546.00		-Booth design & const.
30-08-91	Erana Mines Limited	987.00	987.00		-Booth design & const.
05-09-91	Office P/C	323.59		\$ 323.59	-Plywood & paint
18-09-91	Office P/C	239.31		239.31	-Electrical supplies
07-10-91	Office P/C	128.39		128.39	-Frames & misc supplies
28-10-91	Staff Exp. MIA	<u>940.00</u>			-Assisting M. Jewell at MIA Convention
<b>TOTAL</b>		<u>\$ 6 050.79</u>	<u>\$ 4 419.50</u>	<u>\$ 691.29</u>	

### NOTES

Goods and Services Tax not included in above amounts.

Summer student designed and built display booth and assisted at the MIA Convention in Quebec.  
Total labour hours were 398.

**Trow** Rock Mechanics

Trow Consulting Engineers Ltd.  
1074 Webbwood Drive, Sudbury  
Ontario, Canada, P3C 3B7  
Telephone: (705) 674-8681  
Facsimile: (705) 674-8271

**SO0331R**

Jarvis Resources Limited  
106 Fielding Road  
Lively, Ontario  
P0M 2E0

*Paid*  
*July 19/91*  
*Chq # 0895*  
*\$ 3220.70*

**ATTENTION: Mr. Marc Jewell**

Dear Sirs:

**BUILDING STONE TESTING  
GREEN MARBLE**

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Lively, Ontario P0M 2E0, CANADA  
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For details, Circle No. 21 on Reader Service Card.

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density ASTM C-97	2.714 kg/m <sup>3</sup>
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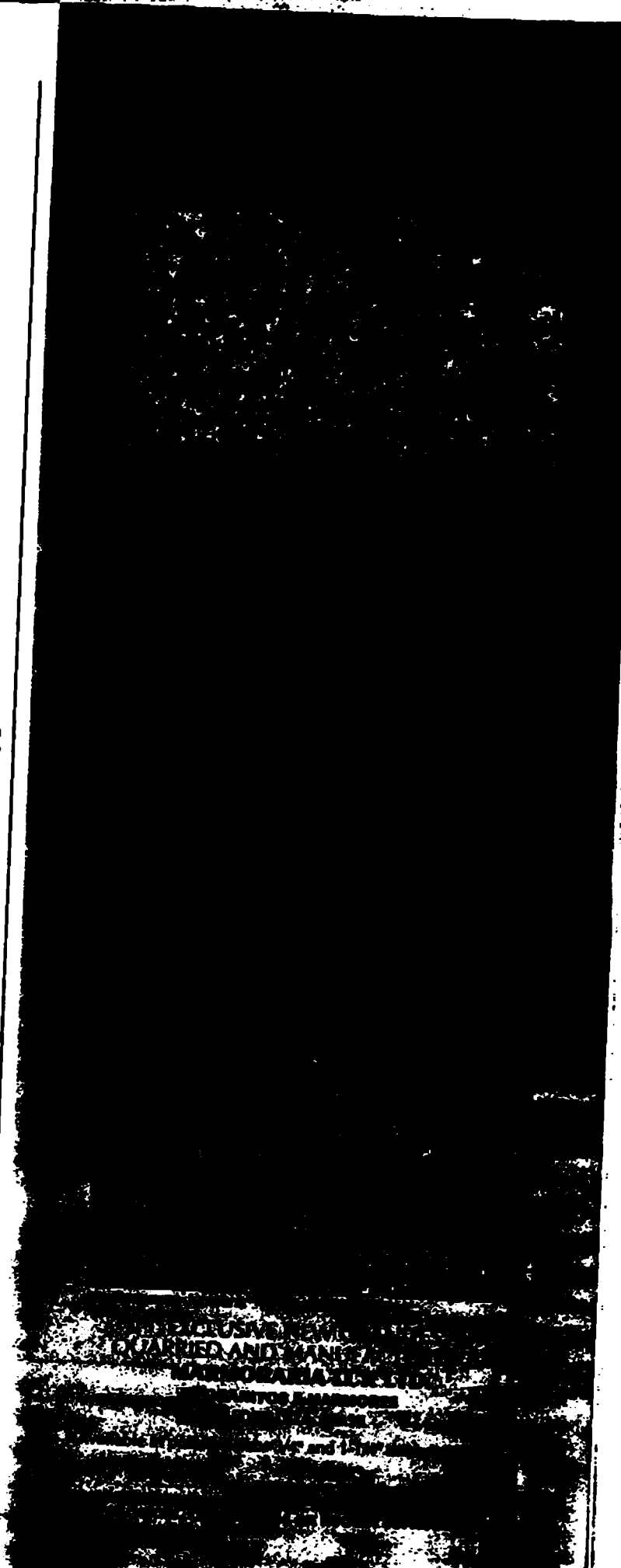


New Canadian marbles quarried in Ontario by Jarvis Resources Ltd.



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JARVIS RESOURCES LTD.

# Jarvis Resources Ltd.

106 Fielding Road, Lively,  
Ontario, Canada, POM 2E0

OMIP FILE NO. OM91-127

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22-08-91	JR-248	Erana Mines Limited	1	63	789.00
22-08-91	JR-249	Erana Mines Limited	3	14	310.00
30-08-91	JR-258	Erana Mines Limited	3	156	3 519.50
23-09-91	JR-266	Erana Mines Limited	2	15	243.50
15-10-91	76760	Khouri Granite	-	10	440.00
07-11-91	JR-284	Erana Mines Limited	3	152	2 427.25
14-11-91	JR-304	Erana Mines Limited	1	159	3 026.50
***11-12-91	-----	Jarvis Employee	1	625	7 251.75
				<u>\$ 1 398</u>	<u>\$ 21 859.00</u>

### NOTES

Goods and Services Tax not included in above amounts.

Shop rental and supplies purchases for a total of \$ 2 296.32 make up the difference for the balance of \$ 24 155.32 reported on January 30, 1992, Application for Grant.

\*\*\*Direct employee of Jarvis Resources Ltd.

# Jarvis Resources Ltd.

106 Fielding Road, Lively,  
Ontario, Canada, P0M 2E0

OMIP FILE NO. OM91-127

## BREAKDOWN OF CONSTRUCTION LABOUR AND SUPPLIES

<u>DATE</u>	<u>PAYEE</u>	<u>AMOUNT</u>	<u>LABOUR</u>	<u>SUPPLIES</u>	<u>DESCRIPTION</u>
25-06-91	Erana Mines Limited	\$ 541.50	\$ 541.50		-Booth design
11-07-91	Erana Mines Limited	990.00	990.00		-Booth design & const.
11-07-91	Erana Mines Limited	1 355.00	1 355.00		-Booth design & const.
07-08-91	Erana Mines Limited	546.00	546.00		-Booth design & const.
30-08-91	Erana Mines Limited	987.00	987.00		-Booth design & const.
05-09-91	Office P/C	323.59		\$ 323.59	-Plywood & paint
18-09-91	Office P/C	239.31		239.31	-Electrical supplies
07-10-91	Office P/C	128.39		128.39	-Frames & misc supplies
28-10-91	Staff Exp. MIA	<u>940.00</u>	<u>          </u>	<u>          </u>	-Assisting M. Jewell at MIA Convention
<b>TOTAL</b>		<b><u>\$ 6 050.79</u></b>	<b><u>\$ 4 419.50</u></b>	<b><u>\$ 691.29</u></b>	

### NOTES

Goods and Services Tax not included in above amounts.

Summer student designed and built display booth and assisted at the MIA Convention in Quebec.  
Total labour hours were 398.

S00331R



**TABLE 4**  
**Abrasion Resistance of Stone**  
**Subjected to Foot Traffic - C 241**  
**Green Marble Samples**

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Abrasion Resistance (-)	6	17.54	23.32	19.52	min. 10.00

**TABLE 5**  
**Flexural Strength - C 880**  
**Green Marble Samples**

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Flexural Strength (MPa)	7	7.31 <sup>***</sup>	12.04	9.00	min. 7.00

Standard deviation,  $s = 1.72$  MPa

\*\*\* One of the specimens failed at 6.21 MPa, however the failure occurred outside the middle half of the span, along a hairline fracture (probably due to blasting). This test was not included in Table 5.



**SO0331R**


2



relatively lower load and the failure occurred outside the middle half, along the fracture. We excluded this test from calculating the average value of flexural strength.

We trust that this is satisfactory to you. Should you have any questions, please do not hesitate to contact our office.

Yours very truly,  
**TROW CONSULTING ENGINEERS LTD.**

  
\_\_\_\_\_  
Jacek Nodryński

S00331R



**TABLE 1**  
Absorption and Density - C 97  
Green Marble Samples

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Absorption (%)	10	0.04	0.20	0.11	max. 0.75
Density (kg/m <sup>3</sup> )	10	2699	2740	2714	-- <sup>a</sup>

**TABLE 2**  
Modulus of Rupture - C 99  
Green Marble Samples

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Modulus of Rupture (MPa)	5	8.97	11.52	9.96	min. 7.00

**TABLE 3**  
Uniaxial Compressive Strength - C 170<sup>\*\*</sup>  
Green Marble Samples

Test	Number of Specimens Tested	Min. Value	Max. Value	Average Value	ASTM C 503 Requirements
Uniaxial Compressive Strength (MPa)	6	98	112	106	min. 52

\* Based on visual examination only, the rock can be classified as calcitic dolomite marble, therefore the minimum density requirement is within 2595 and 2800 kg/m<sup>3</sup> range.

\*\* Core specimens were tested and the strength results were converted to those of corresponding cube (according to the standard requirements).



4115SW0062 OM91-127 PARKIN

030

**JARVIS RESOURCES LTD.**

**OMIP SUMMARY REPORT  
JUNE 18,1991 - DECEMBER 11,1991**

**PARKIN TOWNSHIP, ONTARIO**

**January 30,1992  
Sudbury, Ontario**

**OMIP FILE NO. OM91-127**

**Mark A. Jewell  
Marketing**

**Debra A. Dupuis  
Director**



<b>Summary</b> .....	<b>1</b>	<b>-</b>	<b>2</b>
<b>Property Description, Location, and Access</b> ....	<b>2</b>	<b>-</b>	<b>3</b>
<b>Previous Exploration</b> .....	<b>3</b>	<b>-</b>	<b>5</b>
<b>Regional Geology</b> .....	<b>5</b>	<b>-</b>	<b>7</b>
<b>Results of the 1991 Exploration Program</b>			
<b>Field Work</b> .....	<b>7</b>	<b>-</b>	<b>8</b>
<b>Marketing</b> .....	<b>8</b>	<b>-</b>	<b>11</b>
<b>Conclusion</b> .....	<b>11</b>		
<b>Appendix A</b>			
<b>Key Map (3)</b>			
<b>Map 1</b>			
<b>Map 2</b>			

## SUMMARY

Jarvis Resources Ltd. owns a one hundred (100) percent interest in a contiguous block of twenty-three (23) unpatented mining claims in central Parkin Township. The claims lie twenty-five (25) miles northeast of Sudbury, and cover approximately 950 acres. Jarvis also holds exclusive marble mining rights on another five (5) leased claims southeast of the owned claims. These five claims cover an area of approximately 200 acres. From June 18, 1991 to December 11, 1991, extensive exploration work was carried out in selected areas, (namely claims 854519, 1136790, 734706), and on a newly discovered marble outcropping on claim 647602. Overburden was stripped, and cap rock was removed to better assess the consistency and continuity of the deposit. Large blocks of material were removed for testing and sample preparation. As of December 31, 1991, a total of 7,100 tons of material was removed, leaving approximately 1,100 tons of usable marble intact.

The company also researched quarrying techniques and equipment, which resulted in the decision to employ diamond belt saws at this stage of pit exploration and block extraction.

Jarvis Resources Ltd. continued its market research during the period, hiring one full-time employee for this purpose, and a student from Ryerson Polytechnical for the summer. Several key trade shows were attended, and stone industry data compiled. Numerous contacts with marble end-users were made, and meetings with major marble distributors held. This was part of the continuing program to ascertain the marketability of Jarvis' marble, and to best establish a marketing niche. Research indicates that any future sales of a marble product would, in the United States, be

best achieved via major distributors, and, in Canada, through direct sales to architects and project developers. With this in mind, the company targeted, and established contacts with, two major distributors in the United States, and a knowledgeable agent in Canada.

Based on results from both the marketing research and the completion of the 1991 quarry exploration and extraction phase, the company plans to expand all three pits in order to fully assess their economic potential, and to continue to explore the newly discovered outcrop known as Pit # 4. This next phase of expansion, exploration, and future market development will cost approximately \$350,000.

#### PROPERTY DESCRIPTION, LOCATION, AND ACCESS

Jarvis Resources Ltd. has a one hundred (100) percent interest in a contiguous block of eight (8) unpatented mining claims situated in central Parkin Township. The claims are shown in Map 1, and may be further described as:

Claim No.	Survey Description
S. 915491	Con. 111 Lot 6 N 1/2 SW 1/4
S. 991550	Con. 111 Lot 6 N 1/2 SE 1/4
S. 983604	Con. 111 Lot 6 S 1/2 SW 1/4
S. 994013	Con. 11 Lot 6 N 1/2 NW 1/4
S. 985091	Con. 11 Lot 6 N 1/2 NE 1/4
S. 1136790	Con. 111 Lot 6 S 1/2 NE 1/4
S. 1136791	Con. 111 Lot 5 S 1/2 NW 1/4
S. 1136792	Con. 111 Lot 6 S 1/2 SE 1/4

The claims cover roughly 320 acres, and are presently in good standing. The vendor retains a royalty per ton shipped and sold.

Jarvis Resources Ltd. has also purchased an additional 15 contiguous, unpatented mining claims, which host lenses of various colour marbles. These claims are also shown in Map 1, and may be

further described as: Claim Numbers 734215, 734709, 734715, 734216, 734711, 734716, 734217, 734712, 734717, 730705, 734713, 734718, 734706, 734714, and 854519. Also, exclusive marble mining rights have been granted to Jarvis Resources Ltd. on five (5) additional unpatented leased claims shown in Map 2. The vendor also retains a per ton royalty.

All claims total approximately 1,150 acres of land. The claims lie twenty-five (25) miles northeast of Sudbury, and ten (10) miles northeast of Capreol. Access is via the Moose Mountain road (Highway 545) for 4.6 miles and then east on the Whistle Mine all weather bush road for 5.3 miles. A fair weather bush road then goes northward toward Mowat Creek. This road branches at the end of a small lake. Taking the northeast branch, the bush road proceeds a half-mile onto the property. Drill roads and old overgrown logging trails allow access to both the marble site and the rest of the property. Refer to Maps 1 and 2, which are abbreviations of maps prepared by Wiseman Mining Consultants Ltd. of Sudbury. Also refer to Map 3, which is a key map.

#### PREVIOUS EXPLORATION

In his report filed with the Ministry of Northern Development and Mines, with respect to OMIP # OM90-174, Mr. David Constable outlines the following history:

"Placer gold occurs in the gravels in or near the Vermillion River and was discovered in 1896. The gravels have been the focus of numerous evaluation programs. While the gold content in these places is impressive, it is also erratic over any distance. The gold is flour gold and, generally, cannot be recovered through gravitational methods."

"Stratabound massive sulphide base metal deposits are also reported in Hutton Township, west of the Vermillion River. Limited drilling to date has not appreciably expanded these showings."

"The other main feature in the area is the Quartz Diorite Breccia or Parkin offset. This feature trends north 30 degrees east within the Huronian Supergroup. The Milnet Mine of Jonsmith Mines Limited lies on this offset and is located in Lots 2 to 7 in Concession 11 and 111. First drilled in 1947 and again in 1950-51 the property hosted two distinct ore bodies capped by Espanola limestone (marble). Production from 1952-54 was shipped to Falcobridge Nickel Mines Limited smelter."

Mr. Constable also states:

"Numerous surface showings of base metal in veins, often with significant precious metal values, occur in both Parkin and Hutton Townships. One such pyrite-chalcopyrite-galena-sphalerite vein system occurs in Jarvis' claim S. 1136790. The veins occur on the western contact between silicified, brecciated marble and dioritic intrusions. Old pits and trenches were observed for a length of 200 feet and veins of massive sulphides, while quartz and carbonate were noted. The veins were irregular and, in addition to trending north-south along the contact, they also cut easterly into the marble. The latter veins are less than 6 inches wide. In addition to base metal values, high gold assays were reported."

"The Espanola limestone unit trends discontinuously from Hutton Township, easterly or southeasterly, across Parkin Township. In places, the unit is turned to marble. H.D. Meyn, in his 1970 ODM



Geological Report 80 on Hutton and Parkin Township, sampled the limestone from five locations. CaO content varied from 29.3% to 49.4%, MgO from 0.69% to 17.4%, SiO<sub>2</sub> from 7.04% to 18.7% and Al<sub>2</sub>O<sub>3</sub> from 1.55% to 4.47%. At that time only one sample met the requirement for Portland cement. No mention was made of dimension stone possibilities."

Exploration work conducted by Jarvis from September to December 1990 eventually delineated deposits of high quality marble, totaling approximately 20 million tons.

A total of thirteen (13) holes were drilled, totalling 2765.5 feet. Data obtained from this program enabled the company to confirm and delineate a 200-foot wide marble band. This area was then stripped and excess earth was removed using a high pressure air hose. Once exposed, the marble outcrop was mapped in detail. Marble colours in this location vary from light green, pink and buff through dark green, grey, grey with black bands and white with black bands. In his report filed February 8 1991, (OMIP OM90-174.), Constable states: " More work must be done in the spring to assess these marbles from both the technical and aesthetic viewpoints". He further noted that: " Marketing of the marble samples will intensify, including production of sample sets for display at marble dealers."

#### REGIONAL GEOLOGY

In his OMIP summary report of February 8, 1991, Mr. Constable describes the regional and property geology as follows:

"Most of Parkin Township is underlain by units of the Huronian Supergroup, which strike northwest and dip steeply or vertically.

The southwest corner of the Township is an assemblage of Archean metavolcanics. The northwest-southeast trending contact between the two rock groups is a major unconformity. An Algoman-aged granitic complex intrudes the Archean metasediments in the extreme southwestern corner of Parkin Township. The Archean rocks are schistose and this schistosity trends from north-south to north-northwest".

"The first unit exposed at the bottom of the Huronian Supergroup is the Mississagi Formation composed of quartzites, argillites and conglomerates. Above the Mississagi Formation are quartzites and conglomerates of the Bruce Formation. This is followed by lenses and bands of Espanola Formation limestones with major greywacke units. The quartzites and conglomerates of the Serpent Formation is the last unit in the Bruce Group. The Gowganda Formation argillites, quartzites and conglomerates and quartzites of the Lorraine Formation comprise the Cobalt Group".

"The entire sequence is intruded by the quartz diabase and diorite dykes of the older Diabase Intrusion. Later the quartz diorite breccia of the Parkin offset dykes of the Nickel Irruptive cross part of the Huronian and Archean sequences near the Jonsmith Mine. A final Proterozoic olivine diabase intrudes Huronian sediments from Dean Lake southeastward for 6 miles beyond Kosmerly Lake".

"Large faults cut and displace the sequences and move large blocks out of sequence. The faults trend northwest, northeast and, less frequently, westward. The faults do exhibit a curvature".

"The Archean metavolcanic sequence is intensely folded about a

north 50 degree west axis. An F2 fold about a north 30 degree east axis is also documented. Huronian folds are more obscure but most of this sequence is folded into a near vertical orientation. The lack of clear marker horizons made fold definition difficult. Clearly, the malleable Espanola limestone has been distorted into wisps and lenses by the fold episode(s)".

### RESULTS OF THE 1991 EXPLORATION PROGRAM

#### Field Work:

In accordance with the recommendations, Jarvis Resources Ltd. began field exploration work in June 1991, and continued until December 31, 1991. The main focus of this work was to further expand the dimensions of the original marble outcrop which had been drilled and stripped in 1990, and to begin assessing the marbles from both a technical and aesthetic viewpoint. Stripping, removal of overburden and block extraction took place in three areas, with the fourth to be explored in 1992.

Testing of the material was carried out in accordance with ASTM standards, and marbles from Jarvis' quarries tested either met or exceeded the industry requirements for Exterior Building Stone, ASTM 503-C (Marble) .

Approximately \$204,000 was expended on surface stripping and removal of cap rock on the three pits located on Parkin Township shown in Maps 1 and 2. A breakdown of surface work is as follows:

PIT	AREA STRIPPED	TONNAGE REMOVED	BLOCKS REMOVED
1	200"x300'x20'	2,000 Tons	50 Tons
2	200'x300'x12'	3,000 Tons	600 Tons
3	350'x190'x5'	2,100 Tons	450 Tons
		=====	=====
	TOTALS:	7,100 Tons	1,100 Tons

Recommendations have been made for expansion of the three pits, in order to up-date reserves, and assess economic potential. Work is also planned for a newly-discovered fourth outcropping.

The cost for market research during the period is approximately \$42,500.

Total program cost is \$297,773., as tabulated in Appendix A of this report.

#### **Marketing:**

Marble samples were cut and polished into 12"x12", 6"x6" tiles, and polished slab. This work was done by Khouri Marble and Granite of Sudbury. In August of 1991, Jarvis Resources purchased its own radial arm polisher, enabling the company to polish certain samples. Stone removal for sample purposes cost approximately \$28,000, and sample cutting, polishing, and preparation cost \$24,000.

Samples of Jarvis Resources Ltd., material were displayed at the International Tile Exposition in Miami, Florida, Stonetec 1991 held in Osaka, Japan, and at the Marble Institute of Americas convention in Quebec City. Response to Jarvis' product was overwhelmingly positive, generating numerous requests by end-users for samples, prices, etc. (This is in addition to the +100 inquiries generated by a September 1991 advertisement in Stone World magazine.) Two major U.S. stone distributors are monitoring Jarvis' progress, with the goal of eventually distributing Jarvis' product in the United States.

In order to examine state-of-the-art quarrying and processing equipment, quarrying sites, and in order to discuss European

marketing strategies and status, employees of Jarvis Resources Ltd. toured marble plants and quarries in Germany and Italy.

Further exploration and quarry development work is scheduled to take place in 1992; the company's ultimate goal is the establishment of a marble tile and slab cutting and processing plant, located in Sudbury, Ontario. The target is to produce a value-added, import replacement product; the company is not at present contemplating the sale of raw blocks of marble.

#### Market Summary, Canada:

The past decade has indicated a growing trend in North America towards the use of granite and marble, in all areas of commercial, residential, and institutional construction and renovation. Stone fabrication (mostly granite) has grown as dimension stone producers, who have traditionally shipped unfinished blocks from their quarries, are now manufacturing slabs and tiles. However, much of the rough and finished marble used in the domestic market is imported into Canada due to the lack of quality marble or due to limited quarry potential. As of December 1991, there were only five granite tile manufacturers and six companies producing either granite or marble slab for construction usage. (Again, the tiles and slab are predominantly granite.)

The building stone fabricating industry is concentrated mainly in Quebec, with plants in Ontario, Manitoba, and British Columbia. A major portion of Canadian building stone products is exported to the United States, which also relies on imports to meet its domestic stone needs. Trade in this area has been stimulated by the Free Trade Agreement. It is interesting to note that tariffs on Canadian

marble exports to the United States are being halved this year, and are scheduled for complete elimination in 1993.

In Canada, there is not a network of distributors as extensive and well-developed as exists in the United States. Jarvis' research indicates that successful marketing in Canada should, at least initially, be targeted directly at architects, designers, and construction project managers, via commissioned sales. There is a number of small-to-medium sized end-users who are presently underserved, and who, collectively, make up a sizeable market. Jarvis has established a link with an experienced Canadian agent, who is assisting the company during this early stage of marketing, and who will eventually work with Jarvis Resources Ltd. in introducing its products to the Canadian market.

#### Market Summary, United States:

There is continued growth in the dimensional stone industry, and insiders have expectations for increasing demands for natural stone.

Distribution in the United States is primarily carried out via large networks which cater to small and large accounts alike. Five large companies form the hub of this distribution network. Discussions with three of these firms revealed a keen interest in the establishment of a Canadian marble source. The following advantages were mentioned time and again:

- 1) Geographic location - with our proximity to the United States, there would be significantly lower freight costs to American customers, who now import primarily from Europe and Asia. Product availability, and reliability, are sought-after qualities;

2) Tests to date indicate that the quality of Jarvis' marble meets or exceeds Italian marbles, which are the standard of the industry. Fresh new colours of quality marble will no doubt be in demand; and

3) Canada and the United States share common language and culture.

While the company's research has concentrated on Canadian and U.S. markets, it should be noted that North America's marble imports pale in comparison with stone consumed by countries such as Japan. It is expected that while Jarvis will initially market its products in North America, Japanese interest in the product will be the catalyst for overseas expansion.

#### CONCLUSION

The company plans to continue the exploration and expansion of its marble deposits, as well as to study and establish the market for marble products such as tile and slab.

Field work will resume in May, 1992.

  
D. A. DUPUIS  
MARK A. JEWELL

APPENDIX AJARVIS RESOURCES LTD.OMIP EXPENDITURESPARKIN TOWNSHIP PROPERTYOMIP FILE - OM91-127

<u>DATE</u>	<u>INVOICE #</u>	<u>COMPANY PAID</u>	<u>WORK PERFORMED</u>	<u>AMOUNT</u>
25-06-91	JR-219	ERANA MINES LIMITED	MARKETING STUDIES	\$ 541.50 =
25-06-91	JR-221	ERANA MINES LIMITED	STRIPPING OVERBURDEN BLOCK REMOVAL SUPERVISION	16,547.38
26-06-91	JR-222	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	18,068.75
28-06-91	JR-225	ERANA MINES LIMITED	MARKETING STUDIES	312.87 =
30-06-91	744	ERANA-PLAST LIMITED	STRIPPING OVERBURDEN ROAD WORK	620.00
08-07-91	JR-226	ERANA MINES LIMITED	STRIPPING OVERBURDEN BLASTING	15,973.25
09-07-91	VOUCHER #56	MARK JEWELL	MARKETING STUDIES	921.79 ✓
09-07-91	VOUCHER #57	MARK JEWELL	MARKETING STUDIES	197.76 ✓
09-07-91	0600042	ERANA MINES LIMITED	MARKETING STUDIES	1,825.27 =
10-07-91	JR-227	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	3,564.50
10-07-91	JR-228	ERANA MINES LIMITED	STRIPPING OVERBURDEN	5,001.44
11-07-91	JR-229	ERANA MINES LIMITED	MARKETING STUDIES	990.00 =
11-07-91	JR-230	ERANA MINES LIMITED	STRIPPING OVERBURDEN LINE CUTTING	629.00
11-07-91	JR-231	ERANA MINES LIMITED	MARKETING STUDIES	1,388.29 =
11-07-91	JR-232	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	2,503.01
11-07-91	010847	TRADELINK PUBLISHING COMPANY	MARKETING STUDIES	516.45 /
19-07-91	RM1052	TROW CONSULTING ENG. LTD.	MARKETING STUDIES LAB TESTING	3,220.70 2
25-07-91	JR-234	ERANA MINES LIMITED	MARKETING STUDIES	1,355.00 =



DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
25-07-91	JR-235	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	2,087.23
25-07-91	JR-236	ERANA MINES LIMITED	SAMPLE PREPARATION	2,362.00
25-07-91	JR-236A	ERANA MINES LIMITED	SAMPLE PREPARATION LINE CUTTING	289.00
25-07-91	JR-237	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPERVISION	6,705.50
25-07-91	JR-238	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	16,682.75
25-07-91	JR-241	ERANA MINES LIMITED	STRIPPING OVERBURDEN	40.06
26-07-91	00005980	GEORGE A. GRAY CUSTOMS	STRIPPING OVERBURDEN FREIGHT	689.61
29-07-91	13746	TREVOR JONES	STRIPPING OVERBURDEN LINE CUTTING	1,246.80
31-07-91	746	ERANA-PLAST LIMITED	STRIPPING OVERBURDEN ROAD WORK	2,220.00
06-08-91	JR-58	OFFICE PETTY CASH	STRIPPING OVERBURDEN SUPPLIES	29.03
07-08-91	JR-241A	ERANA MINES LIMITED	MARKETING STUDIES	546.00
07-08-91	JR-242	ERANA MINES LIMITED	STRIPPING OVERBURDEN	5,944.50
08-08-91	00006497	GEORGE A. GRAY CUSTOMS	STRIPPING OVERBURDEN FREIGHT	69.41
15-08-91	VOUCHER #61	MARK JEWELL	MARKETING STUDIES	138.57
16-08-91	JR-243	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	15,718.50
16-08-91	JR-244	ERANA MINES LIMITED	SAMPLE PREPARATION	1,200.50
16-08-91	JR-246	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	5,430.48
19-08-91	1245682	COCHRANE-DUNLOP IND. PROD.	SAMPLE PREPARATION	55.66
20-08-91	TRJ-45	TRIANGLE DRILLING CO. LTD.	STRIPPING OVERBURDEN SUPPLIES	2,608.00
22-08-91	JR-248	ERANA MINES LIMITED	SAMPLE PREPARATION	789.00
22-08-91	JR-249	ERANA MINES LIMITED	SAMPLE PREPARATION	310.00

DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
22-08-91	JR-250	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK SUPERVISION	12,693.50
22-08-91	JR-251	ERANA MINES LIMITED	STONE REMOVAL	4,536.00
22-08-91	JR-252	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	4,424.00
22-08-91	JR-253	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	1,590.55
22-08-91	JR-254	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	3,375.12
30-08-91	JR-255	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	6,146.50
30-08-91	JR-256	ERANA MINES LIMITED	STONE REMOVAL SUPERVISION	3,057.00
30-08-91	JR-257	ERANA MINES LIMITED	STRIPPING OVERBURDEN ROAD WORK	7,587.00
30-08-91	JR-258	ERANA MINES LIMITED	SAMPLE PREPARATION	3,519.50
30-08-91	JR-259	ERANA MINES LIMITED	MARKETING STUDIES	987.00 =
30-08-91	JR-260	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	1,578.46
30-08-91	JR-261	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	238.61
30-08-91	52674	BOYES EXPLOSIVES	STRIPPING OVERBURDEN BLASTING SUPPLIES	456.00
31-08-91	748	ERANA-PLAST LIMITED	STRIPPING OVERBURDEN ROAD WORK	1,210.00
05-09-91	38534	QUEBEC CITY CONVENTION CENTRE	MARKETING STUDIES	102.60 3
05-09-91	VOUCHER #62	OFFICE PETTY CASH	MARKETING STUDIES	323.59 4
05-09-91	JR-264	ERANA MINES LIMITED	STRIPPING OVERBURDEN	4,532.00
13-09-91	544498	W. HYYTIAINEN FUELS LTD.	STRIPPING OVERBURDEN SUPPLIES	2,047.50
13-09-91	502829	FLYGT CANADA	STRIPPING OVERBURDEN EQUIPMENT RENTAL	613.60
18-09-91	VOUCHER #64	OFFICE PETTY CASH	MARKETING STUDIES	239.31 5
19-09-91	JR-263	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	6,152.75

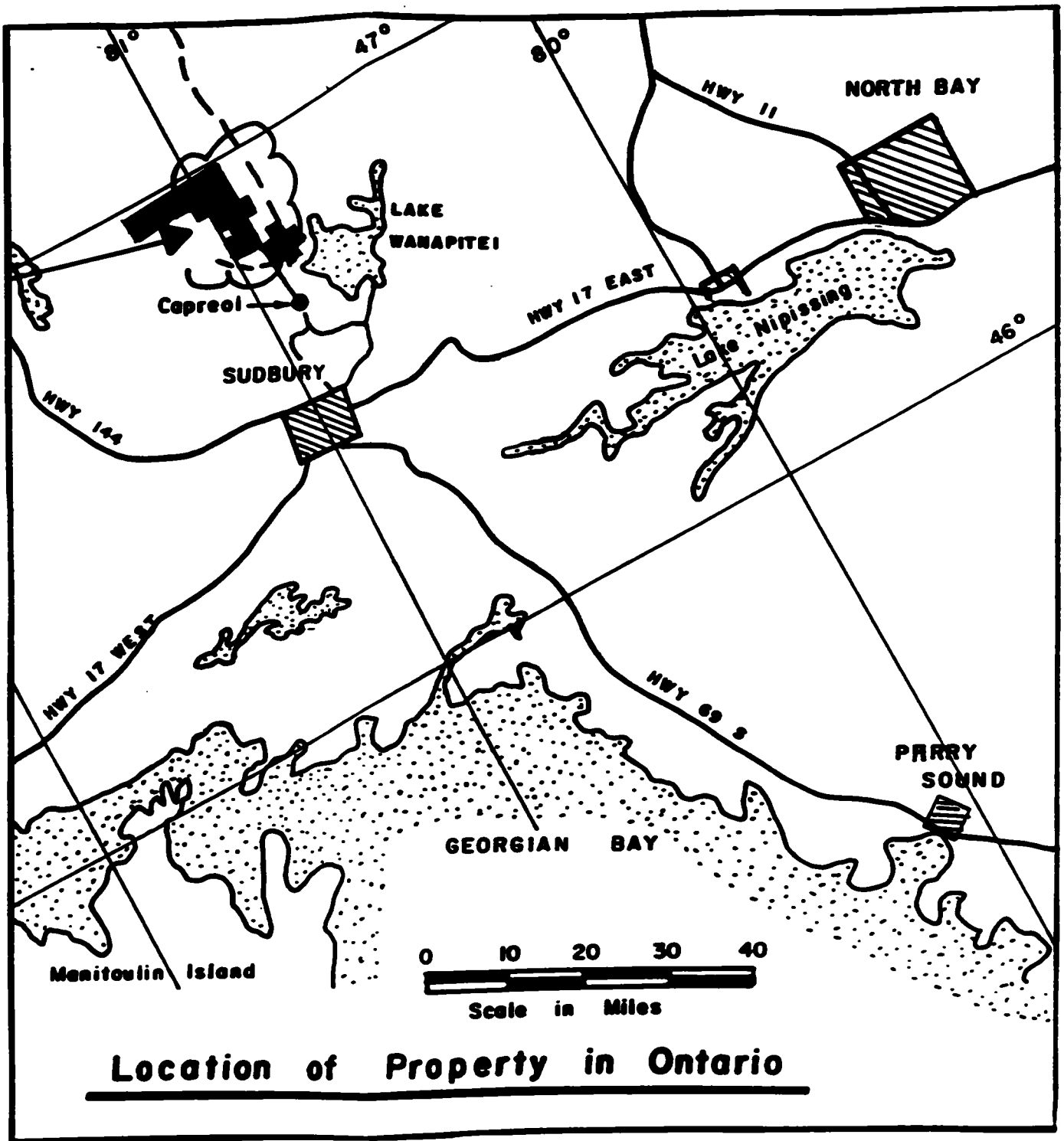
DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
23-09-91	JR-264	ERANA MINES LIMITED	STRIPPING OVERBURDEN DRILLING, BLASTING STONE REMOVAL	3,905.50
23-09-91	JR-265	ERANA MINES LIMITED	STONE REMOVAL	739.00
23-09-91	JR-266	ERANA MINES LIMITED	SAMPLE PREPARATION	243.50
23-09-91	JR-267	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	556.07
23-09-91	JR-267A	ERANA MINES LIMITED	SAMPLE PREPARATION	68.75
24-09-91	JR-268	ERANA MINES LIMITED	STRIPPING OVERBURDEN STONE REMOVAL SUPPLIES	1,112.13
24-09-91	JR-269	ERANA MINES LIMITED	STONE REMOVAL	281.60
24-09-91	JR-270	ERANA MINES LIMITED	MARKETING STUDIES OFFICE RENTAL	250.00 =
25-09-91	VOUCHER #63	MARK JEWELL	MARKETING STUDIES	420.88 ✓
25-09-91	VOUCHER #65	MARK JEWELL	MARKETING STUDIES	426.02 ✓
25-09-91	VOUCHER #66	MARK JEWELL	MARKETING STUDIES	662.76 ✓
01-10-91	25488	DERUSHA SUPPLY	SAMPLE PREPARATION SUPPLIES	265.75
01-10-91	645-178	W. HYYTIAINEN FUELS LTD.	STRIPPING OVERBURDEN SUPPLIES	454.70
04-10-91	JR-277	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	595.18
04-10-91	JR-278	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	506.38
04-10-91	JR-279	ERANA MINES LIMITED	STRIPPING OVERBURDEN SUPPLIES	521.14
04-10-91	JR-280	ERANA MINES LIMITED	SAMPLE PREPARATION SHOP RENTAL	1,284.00
04-10-91	24933	MARLIN TRAVEL	MARKETING STUDIES TRAVEL	298.90 6
07-10-91	VOUCHER #67	OFFICE PETTY CASH	MARKETING STUDIES	128.39 7
07-10-91	JR-281	ERANA MINES LIMITED	STRIPPING OVERBURDEN DRILLING, BLASTING	4,386.00
07-10-91	JR-282	ERANA MINES LIMITED	STONE REMOVAL	157.50
07-10-91	JR-283	ERANA MINES LIMITED	STRIPPING OVERBURDEN	5,476.00

DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
07-10-91		A. JEROME VOUCHERS	STONE REMOVAL TRAVEL	119.62
11-10-91	JR-286	ERANA MINES LIMITED	STRIPPING OVERBURDEN EQUIPMENT RENTAL	3,298.00
11-10-91	JR-286A	ERANA MINES LIMITED	MARKETING STUDIES OFFICE RENTAL	250.00 =
11-10-91	VOUCHER #70	MARK JEWELL	MARKETING STUDIES	213.45 ✓
15-10-91	76760	KHOURI GRANITE LIMITED	SAMPLE PREPARATION	440.00
20-10-91	0002450	DISCOUNT CAR & TRUCK RENTALS	MARKETING STUDIES	524.65 8
22-10-91		WISEMAN MINING CONSULTANTS LTD	STRIPPING OVERBURDEN CONSULTING	3,524.00
22-10-91	53293	BOYES EXPLOSIVES LIMITED	STRIPPING OVERBURDEN BLASTING SUPPLIES	456.00
28-10-91	JR-289	ERANA MINES LIMITED	MARKETING STUDIES	2,448.50 =
28-10-91	JR-290	ERANA MINES LIMITED	STONE REMOVAL	7,125.25
28-10-91	JR-291	ERANA MINES LIMITED	STONE REMOVAL	1,892.25
28-10-91	JR-292	ERANA MINES LIMITED	STONE REMOVAL SUPPLIES	736.76
28-10-91		STAFF EXP - MIA CONVENTION	MARKETING STUDIES	940.00 9
29-10-91	JR-294	ERANA MINES LIMITED	MARKETING STUDIES	332.36 =
29-10-91	JR-297	ERANA MINES LIMITED	STRIPPING OVERBURDEN DRILLING, BLASTING	955.00
29-10-91	JR-298	ERANA MINES LIMITED	STONE REMOVAL	1,219.50
29-10-91	JR-299	ERANA MINES LIMITED	STONE REMOVAL	4,574.50
29-10-91	JR-301	ERANA MINES LIMITED	MARKETING STUDIES	4,168.00 =
30-10-91	JR-302	ERANA MINES LIMITED	STRIPPING OVERBURDEN EQUIPMENT RENTAL	2,782.00
30-10-91	PCJ-06	MARK JEWELL	MARKETING STUDIES	1,985.65 ✓
31-10-91	752	ERANA-PLAST LIMITED	STONE REMOVAL	1,050.00
03-11-91	JR-275	ERANA MINES LIMITED	SAMPLE PREPARATION	622.16
06-11-91		MARK JEWELL	MARKETING STUDIES TRAVEL	100.87 ✓
07-11-91	VOUCHER #69	OFFICE PETTY CASH	MARKETING STUDIES	354.47 10

DATE	INVOICE #	COMPANY PAID	WORK PERFORMED	AMOUNT
07-11-91	JR-284	ERANA MINES LIMITED	SAMPLE PREPARATION	2,427.25
09-11-91		TRADELINK PUBLISHING COMPANY	MARKETING STUDIES	1,895.00 <sup>11</sup>
14-11-91	JR-304	ERANA MINES LIMITED	SAMPLE PREPARATION	3,026.50
14-11-91	JR-305	ERANA MINES LIMITED	STONE REMOVAL DRILLING, BLASTING	2,002.75
11-12-91	PAYROLL	EMPLOYEE WAGES (GROSS)	MARKETING STUDIES (\$737.50/WK - 16 WKS)	11,800.00 <sup>12</sup>
11-12-91	PAYROLL	EMPLOYEE WAGES (GROSS)	SAMPLE PREPARATION (DIAMOND SAW OPERATOR 555 REG. HRS @ \$11.00/HR 69.5 O/T HRS @ \$16.50/HR)	7,251.75
11-12-91		CHRYSLER CREDIT LTD.	MARKETING STUDIES (VEHICLE LEASE - \$441.73 - 4 MONTHS)	<u>1,766.92</u> <sup>13</sup>
				297,773.46
11-12-91		5% MANAGEMENT AND ADMINISTRATION FEES		<u>14,888.67</u>
				<u>\$ 312,662.13</u>

SUMMARY OF EXPENDITURES

SURFACE STRIPPING AND REMOVAL OF CAP ROCK	\$ 203,552.89
SURFACE DIMENSION - STONE REMOVAL	27,491.73
SAMPLE PREPARATION FOR MARKETING (CUTTING, POLISHING, ETC.)	24,155.32
MARKETING STUDIES	<u>42,573.52</u>
	<u>\$ 297,773.46</u>





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J A R V I S   R E S O U R C E S   L T D .

APPENDIX B  
REPORT ON MARKETING ACTIVITIES  
JUNE 18, 1991 - DECEMBER 11, 1991

PARKIN TOWNSHIP, ONTARIO

February 14, 1992  
Sudbury, Ontario

Mark A. Jewell  
Marketing

OMIP FILE NO. OM91-127

**REPORT ON MARKETING ACTIVITIES  
JUNE - DECEMBER, 1991**

While Jarvis Resources Ltd. continued to explore and define its marble quarries in Parkin Twp., early marketing duties and objectives consisted of:

1) Establishing contacts in the marble industry at all levels, to assess marble product demands and needs;

2) Displaying and providing marble samples in order to gauge early response, and promote recognition of the company as a future marble producer;

3) Monitoring and determining trends in design, colour, demand, etc., with respect to marble, and to the stone industry in general;

4) Establishing and maintaining a reference library cataloguing contacts, research documents, periodicals, etc.

Working with a third-year interior design student (Ryerson) hired by Erana Mines Limited, we canvassed marble end-users, distributors, and suppliers in Canada and in the United States. Our main questions dealt with the contacts' current needs, with problems encountered with stone imports, and how they felt a quality North American marble product would be received.

(Names, addresses, and responses are confidential, as many contacts requested confidentiality.)

The reference library of materials was increased during the period of this report. Sources were key trade publications in the United States and Britain, manuals and reports from Italy, as well as a number of government sources in both Canada and the United States. It is expected that a computer database will



be organized this summer.

A number of samples was prepared during the period of this report. With the help of a local company, Khouri Marble and Granite, marble samples were cut and polished. (Sizes generally 12" x 12", and 6" x 6"). In August, Jarvis Resources Ltd. was able to prepare some of its own smaller samples with a small cutter and polisher. Samples and company information were taken directly to the offices of end-users and one major U.S. distributor from June - September. (These meetings were held in Toronto and New York.) Visits were made to quarries in Vermont and in Quebec in order to discuss and examine processing equipment, to examine quarry products, and to discuss the stone industry in general.

The major work project during the period of this report was the preparation for two key stone expositions. We travelled to the International Tile Exposition in Miami in June, gathering much information there about other stone suppliers, and we provided samples and hand-out materials with respect to our own marble. Samples and informational hand-outs were also provided for display in Osaka, Japan as part of the Canadian Government's participation at the 1991 StoneTec convention. During October 14-17, 1991 Jarvis Resources participated in the 47th annual Marble Institute of America's convention in Quebec City. In preparation for the event, Jarvis Resources Ltd. placed an advertisement in the September 1991 issue of Stone World magazine, a trade publication. The ad was placed to draw attention to the fact that a new North American marble product was coming on stream, and to create interest in our booth at the MIA show. A booth (with lighting, mounted photo displays of

the quarries, and various sizes and shapes of coloured, polished marble from the Jarvis quarries, as well as a marble table created for the booth) was constructed, and taken to the show in October. (The booth is made to be assembled and disassembled quickly, and may be used for a subsequent show if required.) Hand-outs were also printed and made available to the participants. The interest in the marble product was rather overwhelming, and we added numerous names to our industry contact list.

**SEE THE ATTACHED TABLE FOR A COST BREAKDOWN.**

The following is a brief market summary:

**Market Summary, Canada:**

The past decade has indicated a growing trend in North America towards the use of granite and marble, in all areas of commercial residential, and institutional construction and renovation. Stone fabrication (mostly granite) has grown as dimension stone producers, who have traditionally shipped unfinished blocks from their quarries, are now manufacturing slabs and tiles. However, much of the rough and finished marble used in the domestic market is imported into Canada due to the lack of quality marble or due to limited quarry potential. As of December 1991, there were only five granite tile manufacturers, and six companies producing either granite or marble slab for construction usage. (Again, the tiles and slab are predominantly granite.)

The building stone fabricating industry is concentrated mainly in Quebec, with plants in Ontario, Manitoba, and British

Columbia. A major portion of Canadian building stone products is exported to the United States, which also relies on imports to meet its domestic stone needs. Trade in this area has been stimulated by the Free Trade Agreement. It is interesting to note that tariffs on Canadian marble exports to the United States are being halved this year, and are scheduled for complete elimination in 1993.

In Canada, there is not a network of distributors as extensive and well-developed as exists in the United States. Jarvis' research indicates that successful marketing in Canada should, at least initially, be targeted directly at architects, designers, and construction project managers, via commissioned sales. There is a number of small-to-medium sized end-users who are presently underserved, and who, collectively, make up a sizeable market.

Jarvis has established a link with an experienced Canadian agent, who is assisting the company during this early stage of marketing, and who will eventually work with Jarvis Resources Ltd. in introducing its products to the Canadian market.

#### Market Summary, United States:

There is continued growth in the dimensional stone industry, and insiders have expectations for increasing demands for natural stone.

Distribution in the United States is primarily carried out via large networks which cater to small and large accounts alike. Five large companies form the hub of this distribution network. Discussions with three of these firms revealed a keen interest in the establishment of a Canadian marble source. The following advantages were mentioned time and again:

1. Geographic location - with our proximity to the United States, there would be significantly lower freight costs to American customers, who now import primarily from Europe and Asia. Product availability, and reliability, are sought-after qualities;

2. Tests to date indicate that the quality of Jarvis' marble meets or exceeds Italian marbles, which are the standard of the industry. Fresh new colours of quality marble will no doubt be in demand; and

3. Canada and the United States share a common language and culture.

While the company's research has concentrated on Canadian and U.S. markets, it should be noted that North America's marble imports pale in comparison with stone consumed by countries such as Japan.

Armed with the knowledge that there is a definite niche for a new North American marble product, the company plans to continue the exploration and expansion of its marble deposits, as well as to study and pinpoint the market for marble products such as tile and slab.

  
Mark A. Jewell  
Marketing

# Jarvis Resources Ltd.

106 Fielding Road, Lively,  
Ontario, Canada, POM 2E0

March 13, 1992

Via Telecopier and First Class Mail

Ministry of Northern Development  
and Mines  
159 Cedar St.  
4th Floor  
Sudbury, Ontario  
P3E 6A5

MINISTRY OF NORTHERN  
DEVELOPMENT AND MINES

MAR 13 1992

Attention: Mr. R. Ken Germundson  
Re: OM91-127

INCENTIVES OFFICE

Dear Sir:

In reply to your letter of February 28, 1992, we are providing the following information:

1. New Consulting Engineers Ltd. report;
2. The September 1991 advertisement in Stone World, and of the October 1991 advertisement breakdown for sample cutting and polishing;
3. Labour and supplies breakdown for portable display booth;
4. If you refer to the Marketing Expenditures breakdown attached to Appendix B, you will see that the \$11 800 was included in the final column for sake of convenience only. It is clearly shown that this represents employee wages (Mr. M. Jewell), and that we are referring you to the report prepared by Mr. Jewell who outlined his activities during the period in question. Mr. Jewell was hired by Jarvis Resources Ltd. specifically to research the marble market in general, and to establish and develop a marketing niche for our future products; and
5. Again, I refer you to Appendix B, dated February 14, 1992. A careful reading of this appendix should make it clear that Mr. Jewell is fulfilling his marketing mandate with Jarvis Resources Ltd. However, for your information, please note:
  - a) Telephone contacts with end-users, distributors, architects, and information sources (government, library, trade publications) are well into the hundreds. Survey contacts were numerous, and confidential.
  - b) These are the major meetings and visits during the period in question:
    - visits to Bybee, Quebec (well-known site of granite quarries and stone processors), and to Vermont Marble, Vermont.  
Purpose: to gain insight into stone processing equipment now in use, to view available marble products, and to discuss the demand for stone products.
    - first part of August, four meetings in New York and New Jersey with two major U.S. distributors.  
Purpose: to discuss Jarvis' marble samples, methods of distribution in the United States, and to acquire an understanding of basic strategies involved in marketing a "new" marble product;
    - visit to Germany and Italy, first week August.  
Purpose: examine state-of-the-art stone processing equipment in use, to examine marble products being prepared for export, and to get a sense of the competitive environment;

Page 2

-September and October: Five meetings with certain architects and developers in Toronto, Barrie, Owen Sound, and Kitchener.

Purpose: to display samples, create awareness of our project and objectives, and to learn more about the building specification process with respect to marble.

As your approval process is now into its sixth week, we ask your group to consider this response, and advise immediately if further information is needed. Please call me directly if this is the case.

Yours truly,

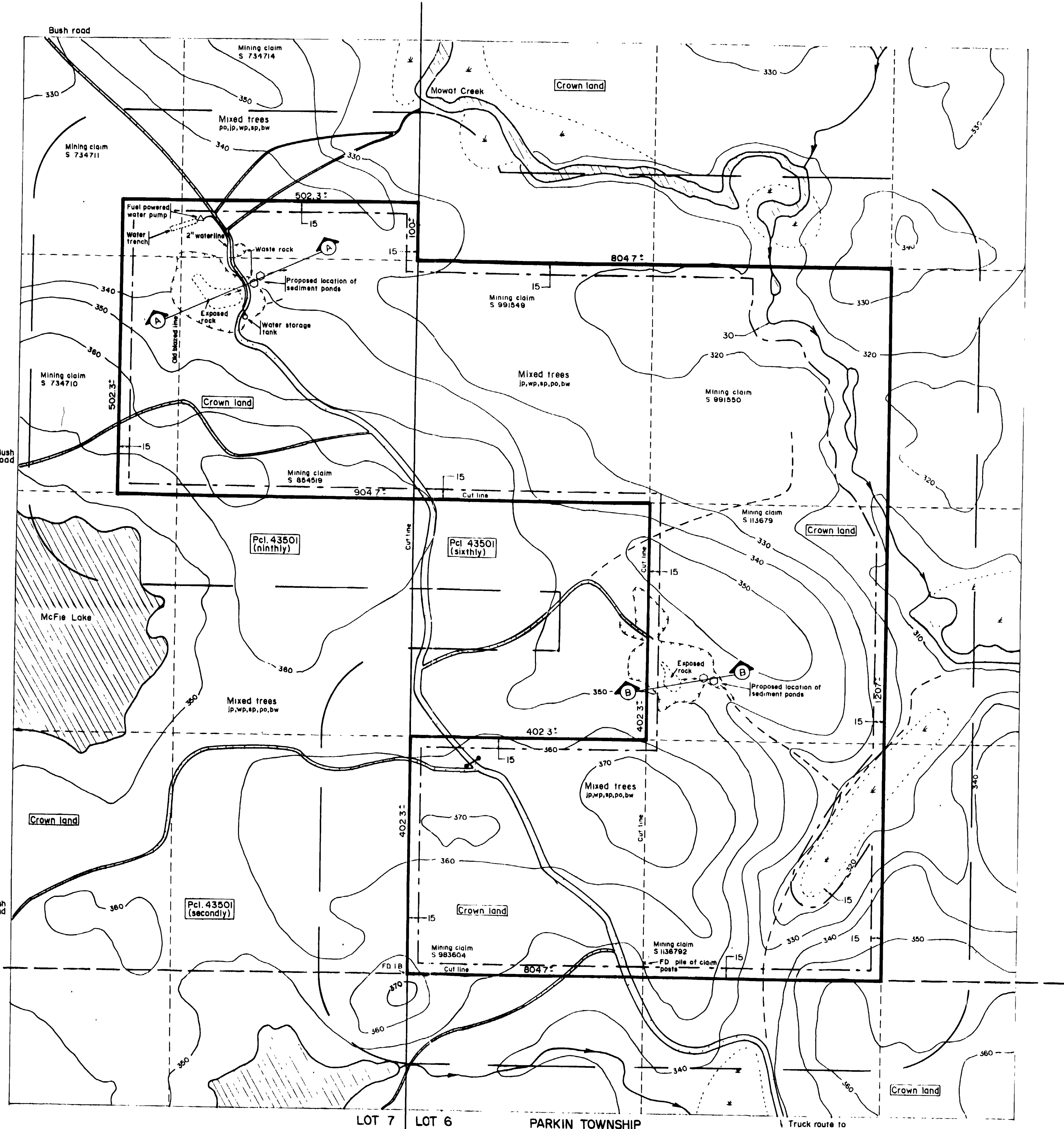
JARVIS RESOURCES LTD.

Per: D.A. Dupuis  
Director

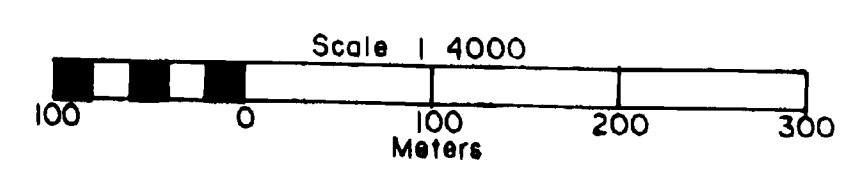
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LEGEND			
	Boundary of Licence		River or Stream with direction
	Limits of Operation		Seasonal drainage
	Direction & Phase of Operations		Proposed drainage
	Contour		Lake or Pond
	Index		Marsh or Swamp
	Intermediate		Wooded area
	Supplementary		Road
	Depression		Hard surface
	Spot elevation		Loose surface
	Parcel or existing permit boundary		-existing
	Existing pit or cliff		-proposed
	Slope of land (estimated)		Trail
	Building		Bridge
	Earth berm		Culvert
	Railroad		Beaver dam
	Gate		Fence
	-existing		Power transmission line
	-proposed		



CON III  
CON II

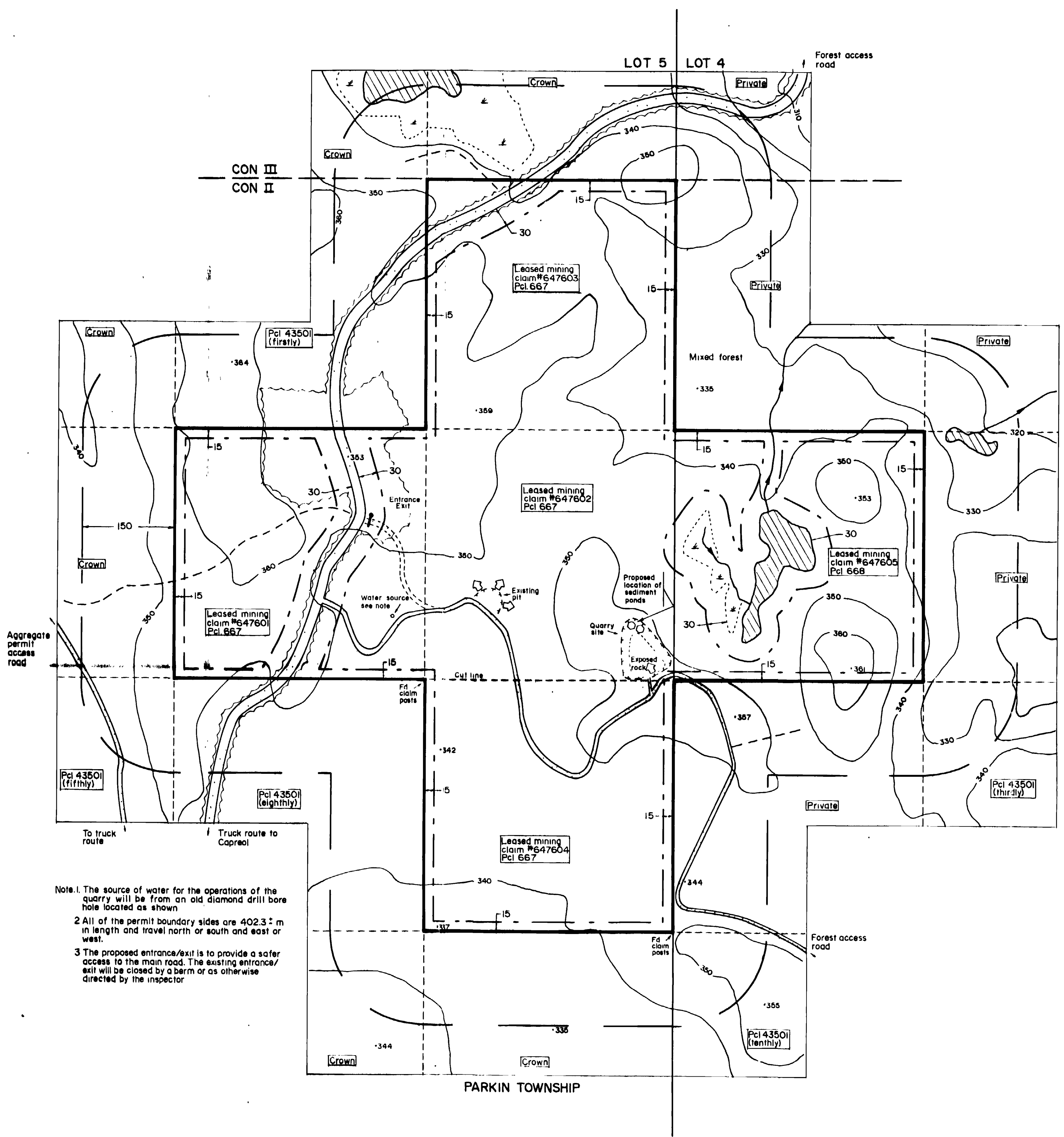
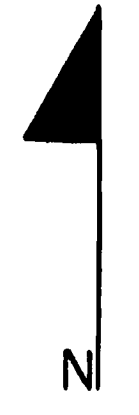


Note: All boundary lines extend north to south and east to west.

MAP #1



LTD.



**LEGEND**

	Boundary of Licence		River or Stream with direction
	Limits of Operation		Seasonal drainage
	Direction & Phase of Operations		Proposed drainage
	Contour		Lake or Pond
	Index		Marsh or Swamp
	Intermediate		Wooded area
	Supplementary		Road
	Depression		Hard surface
	Spot elevation		Loose surface
	Parcel or existing permit boundary		-existing
	Existing pit or cliff		-proposed
	Slope of land (estimated)		Trail
	Building		Bridge
	Earth berm		Culvert
	Railroad		Beaver dam
	Gate		Fence
	-existing		Power transmission line
	-proposed		

Note: 1. The source of water for the operations of the quarry will be from an old diamond drill bore hole located as shown  
 2. All of the permit boundary sides are 402.3 m in length and travel north or south and east or west.  
 3. The proposed entrance/exit is to provide a safer access to the main road. The existing entrance/exit will be closed by a berm or as otherwise directed by the inspector.

