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ASSESSMENT REPORT

BIGHORN PROJECT

GEO-ING Resource Consulting Ltd.

Metallic & Industrial Minerals Permit No. 9399090003

Submitted by GEO-ING Resource Consulting Ltd.

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December 31, 2001
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December 31, 2001

Mineral Agreements and Sales
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Edmonton, Alberta T5J 2G6

Re. Metallic & Industrial Minerals Permit No. 9399090003

Attached are 2 copies of the assessment work report for Metallic & Industrial Minerals Permit No. 9399090003 filed by the permit holder GEO-ING Resource Consulting Ltd. (GEO-ING) for the Bighorn Project.

Also enclosed is an authorization to reproduce and copy the report.

If any further information is required please contact GEO-ING by any the following communication links:

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Sincerely,

[redacted]

Yarko Horachek, P. Eng.

President, GEO-ING Resource Consulting Ltd.

Enclosures

Authorization to Reproduce or Copy

Geo-Ing Resource Consulting Ltd. hereby authorizes the Government of Alberta to reproduce or copy the attached Assessment Report at the end of the 1 year confidentiality period.

December 31, 2001

[redacted]

Yaro Horachek, P. Eng., President
Geo-Ing Resource Consulting Ltd.

ASSESSMENT REPORT

BIGHORN PROJECT

Metallic & Industrial Minerals Permit No. 9399090003 held by Geo-Ing Resource Consulting Ltd.

Term Commencement Date: SEPTEMBER 15, 1999

This report is Submitted by: Geo-Ing Resource Consulting Ltd.

December 31, 2001

[redacted]

Yaro Horachek, P. Eng.
Geological Engineer

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INTRODUCTION

Subject of this report is sandstone found at an outcrop of the Bighorn Formation[1] on Highway 40 25 km east of Grande Cache, Alberta. The rock is a thinly to moderately thick bedded flagstone with a potential for use as a landscaping flagstone and perhaps as a facade stone as well. When initial samples collected in early 1999 confirmed its workability the Metallic & Industrial Minerals Permit was applied for and a permit to excavate was obtained. Almost 30 tonnes of the sandstone was excavated, palletized and trucked to Calgary to introduce it to the building stone market. For the purpose of marketing as a building stone the rock was named the Bighorn Sandstone.

This report provides a brief description of the Bighorn Sandstone deposit and its geology, and presents the total total expenditures on exploration, bulk sampling and initial marketing in the two year period of 1999 to 2001.

LOCATION

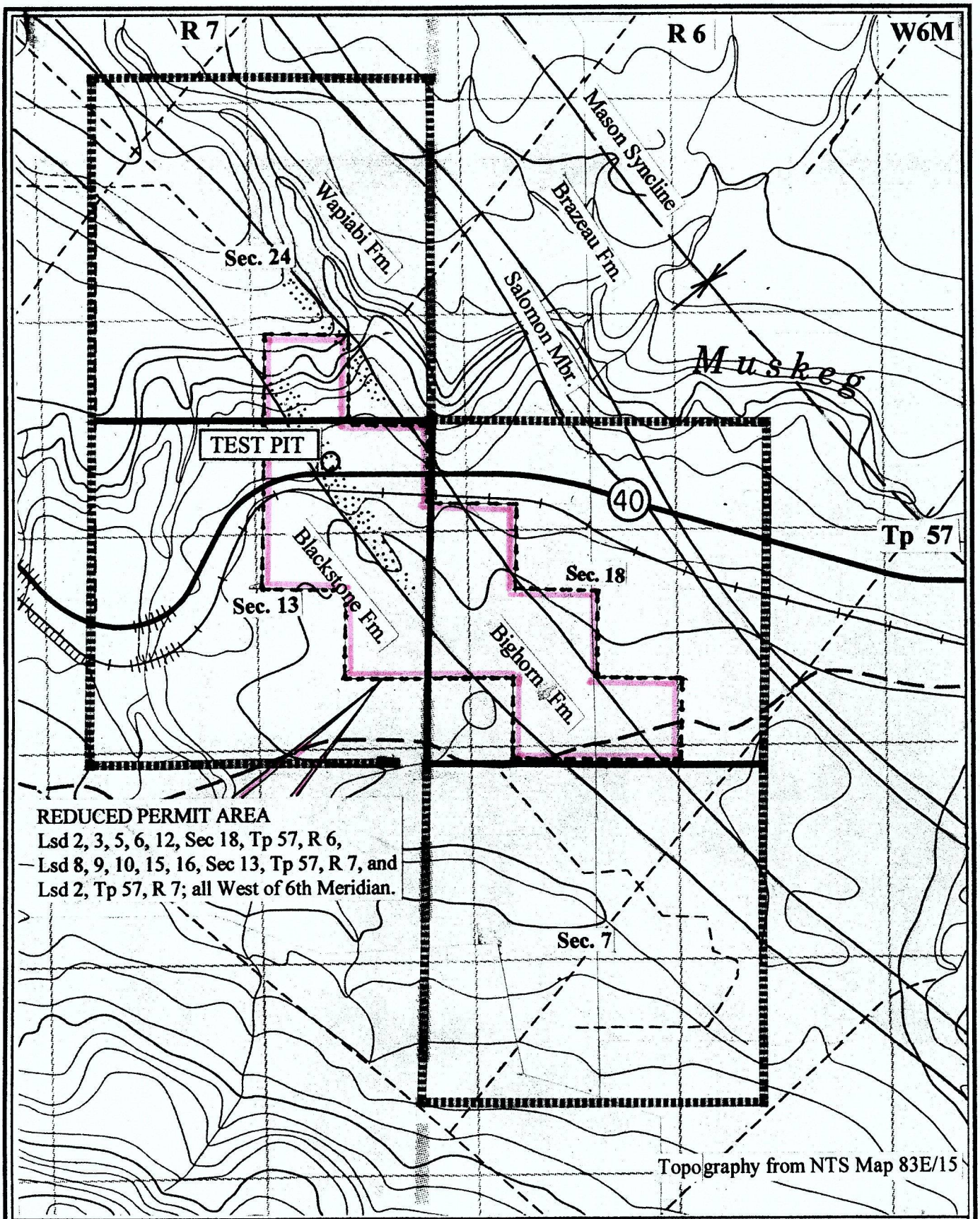
The Metallic & Industrial Minerals Permit No. 9399090003 is located approximately 25 km east from Grande Cache, Alberta. It occupies an area of 1024 ha, 4 sections with the following legal description: Sections 7 an 18 in Township 57, Range 6 West of 6 Meridian, and Sections 13 and 24, in Township 57, Range 7 West of 6 Meridian.

Highway No. 40 and Alberta Resources Railway pass through the permit area in an east-west direction. During the highway and the railway construction a natural outcrop of the Bighorn Formation was intersected and layers of sandstone were well exposed as two man made outcrops. These outcrops are located within a 100 by 200 m area located 6 km east from the railway overpass at Susa Creek. The sandstone exposures at the highway are 3 m high on the north side and 6 m high on the south side. A short distance to the south, on the north side of the railway the exposure is 1.5 to 2 m high. Photos 1 and 2 in the Appendix show both man made outcrops.
A topographical map within which the permit is located is the NTS Map 83 E/15. Location of the permit No. 9399090003 along with the local geology is presented on the following page.
The site plan, in 1 : 1000 scale, is presented on page 7.

REDUCTION OF THE LOCATION OF THE PERMIT

Reflecting geological mapping of the permit area a conclusion has been reached that the location required for further evaluation and possible development of the sandstone resource can be reduced to the following lands:

Legal subdivisons	2, 3, 5, 6 and 12 in Section 18, Township 57, Range 6,
legal subdivisons	8, 9, 10, 15 and 16 in Section 13, Township 57, Range 7, and
legal subdivision	2 in Section 24, Township 57, Range 7;
	all West of 6th Meridian.
Total reduced area:	**176 ha**



METALLIC AND INDUSTRIAL MINERALS PERMIT NO. 939909003

LOCATION AND BASIC GEOLOGY

Permitted area: Sec. 7 & 18 in Twp. 57, Rge 6 and Sec. 13 & 24 in Twp. 57, Rge 7, W of 6th M

Geology from GSC Map 996A, Pierre Grays Lakes. Drawn by Y.H. Scale 1 : 25 000

STATEMENT OF EXPENDITURES Metallic & Industrial Minerals Permit No. 9399090003

DESCRIPTION			COST [$]	SUBTOTAL [$]
Wages	Senior Supervision			
	geology & initial sampling:	4 days @ $ 600/day)	2400.00	
	Report Preparation	15 hrs @ $75 per hr	~~1120.00~~ 1125.00	
	Initial marketing	28 hrs @ $40 per hr	1120.00	
	Drafting (report and leaflet)	8 hrs @ $ 35 per hr	280.00	4925.00
Field Costs	Accommodation (two 2-day vists)	2 days @ $50/day	100.00	
	Accommodation (excavation)	2 days @ $50/day	100.00	
	Meals (two 2-day vists)	4 days @ $45/day	180.00	
	Meals (excavation)	3 days @ $45/day	135.00	
	Field Supplies			
	SS Inc. Shippers (stretch film)	Chq 390	117.27	
	Misc for excavation	MC13Aug99	145.44	
	[redacted]	3 days @ $500/day	1500.00	
	Freight: Northern Industrial Carriers	Chq 410 and invoice	1613.03	
	Travel Costs (3 trips to the site)	1200 km @ $0.50/km	1800.00	5690.74
Equip. Rental	Field Equipment Rental	MC13Aug99	27.00	
	Rock splitter rental		180.00	
	Utility trailer rental (initial sample)	$100/trip	100.00	307.00
Subcontracts	Heyn Construction (excavation)	Chq 407 and invoice	588.50	
	Ancar Holdings (excavation)	Chq 399	1243.34	
	[redacted]	Chq 415	480.00	2311.84
Office, Misc. Maps, Reports, Publications, Photographs				
	Reproduction/Computer Plots			
	Office/Computer Consumables			
	Telephone/Fax, Mail,			
	Marketing leaflet design & print			
	Office Overhead (%)	estimated allowance		600.00
GRAND TOTAL				**$ 13834.48** 58

I certify that these expenditures are valid and were incurred in conducting assessment work on the above permit.

JAN. 3 2002

Signed: [redacted]

Yaro Horachek, P. Eng.

Signature/Stamp: L. LUST COMMISSIONER FOR OATHS #CC72055 MARCH 19 2002

Commissioner for Oaths

ALLOCATION OF EXPENDITURES

All above expenditures are allocated to the reduced area of the Metallic & Industrial Minerals Permit No. 9399090003 as described on page 1 "Reduction of the location of the permit" and as follows:

Legal subdivisons	2, 3, 5, 6 and 12 in Section 18, Township 57, Range 6,
legal subdivisons	8, 9, 10, 15 and 16 in Section 13, Township 57, Range 7, and
legal subdivision	2 in Section 24, Township 57, Range 7; all West of 6th Meridian.

GEOLOGY

Geological map within which the permit is located is the GSC Map 996A Pierre Grays Lakes compiled by A. H. Lange and E. J. Irish in 1947/48. Based on this map the geology of the permit area is illustrated on page 2.

The Bighorn Sandstone belongs to the Upper Cretaceous Bighorn Formation; 4.5 km of its strike length are controlled by the permit No. 9399090003. The permit is located on the south limb of the Mason Syncline. Within the permit area the formation dips at 30 degrees to the northeast. The man-made highway outcrop, located in the northwest quarter of section 13, is 130 m long, see photo 1 in the Appendix. Rocks exposed along its length in west-easterly direction are:

34 m of the uppermost Blackstone Formation shale,
16 m of a transitional zone of interbedded shale and thin argillaceous sandstones,
52 m of thinly to moderately bedded sandstone and
13 m of shale with siltstone bands.

The Bighorn Formation is overlain by Wapiabi Formation but that formation is not exposed at the highway. It outcrops in the gully of a creek flowing into the Muskeg River in the north-east half of section 24. The interval of interest is the 52 m of the thinly to moderately bedded sandstone.

Typical bedding of the sandstone ranges from 15 mm to 100 mm, see photo 6 in the Appendix. Exceptionally, a limited number of the beds is 100 to 150 mm thick. The sandstone unit includes one carbonaceous horizon and one conglomeratic horizon. The sandstone is light gray when fresh and light orange gray when weathered. It is uniformly medium grained (well sorted), fairly hard, clean with siliceous slightly sideritic cement. As a building stone it is described as tawny to silver gray thin to moderately thick (1 to 3 inch) flagstone.

From the highway outcrop the sandstone bed can be followed in a northwesterly direction for about 300 m towards the valley of the Muskeg River. In the opposite direction (to the southeast from the highway outcrop) the sandstone continues towards the railway outcrop (see photo 3 in the Appendix) but further along strike, to the south-east, it disappears under an overburden of unknown thickness.

EXPLORATION

The flaggy to slabby nature of the Bighorn Sandstone was first noted by the author in summer 1995. The decision to evaluate its marketability as a building stone was made in the spring of 1999. Exploration work carried out afterwards consisted of:

1. Two day visit of the area for the purpose of determination of an extension of the sandstone outcrop to the north and to the south of the highway. Additional samples of the rock from the highway outcrop were collected for additional testing. Several other accessible outcrops of the Bighorn Formation in the Grande Cache - Hinton area were visited to determine if flaggy sandstone occurs elsewhere.
   Conclusion of this work was that the flaggy to slabby nature of the sandstone in the permit area is unique in comparison to other accessible locations. Tests of the samples collected confirmed that the stone is well workable.

2. The second two day visit for the purpose of detailed mapping and photography of the outcrop, and selection of a site for bulk sample excavation. The site was surveyed for the purpose of an application for an exploration permit.
Conclusion of this work was a decision to apply for a permit to excavate on the north side of the highway, within the space between the highway ditch and the powerline.

3. Excavation of a 28 pallet bulk sample in the second half of July 1999.

BULK SAMPLE

An Authorization to remove a bulk sample of up to 200 tonnes of rock was issued by Mr. Brian Hudson of the Alberta Resource Development on June 24, 1999 and a permit for a roadside development was granted by Mr. Kenneth Misik of the Alberta Infrastructure on July 02, 1999.

The bulk sample excavation from within a 5 x 20 m test pit area and transport of the palletized stone was done on July 19 to 21, 1999. The sandstone was excavated with a backhoe and hand-stacked on 4 x 4 ft pallets. A total of 28 pallets, each about 1 tonne of stone, was loaded on a flat-deck trailer and hauled to Calgary. Photographs 3, 4 and 5 in the Appendix illustrate this work.

MARKETING

From the rough stone delivered to Calgary a medium sized wall, to represent typical size and workability of split Bighorn Sandstone, was built, see Photo 6 in the Appendix.
The stone was introduced directly to potential users. About thirty samples of the Bighorn Sandstone in a form of three layered pyramids (200 x 200 x 200 mm) along with a one page information leaflet and miscellaneous photographs were distributed to Calgary masons, architects, several builders and a few landscape designers. An example of one of the installations of the stone is on Photo 7 in the Appendix.

CONCLUSION

In terms of application the Bighorn Sandstone is comparable to several other natural building stones available at Calgary stoneyards. The most similar is a light coloured, somewhat softer sandstone imported to Calgary from Utah. The Bighorn Sandstone could replace this stone in practically any application. For many years the Alberta stone market has been dominated by Rundle Rock, also known as Rundlestone, a fine grained calcareous siltstone produced by Thunderstone Quarries Ltd. in Exshaw, Alberta. The Rundle Rock is well established in the market place and it is competitively priced because of its proximity to Banff - Canmore corridor and the Calgary market. Considerable volumes of Rundle Rock are mined and sold annually. The Bighorn Sandstone could replace the dark gray Rundle Rock in many cases if light coloured rock was preferred. Colour is a matter of taste and it is hoped that the light colour will attract interest in the Bighorn Sandstone. In further comparison with the Rundle Rock the lower thickness range of the Bighorn Sandstone (mainly less than 90 mm, 3.5 ") could prove to be a serious disadvantage. Masons tend to consider the Rundle Rock a better

facade stone (wall-stone) as it contains a significant share of thicker stone (100 to 150 mm, 4-6 " thick).

Another locally produced stone is the Paskapoo Sandstone. The Bighorn Sandstone and typical Paskapoo Sandstone are normally in different application categories since the Paskapoo Sandstone is usually massive and bulky stone. Only a small quantity of the Paskapoo sandstone is slabby and usable as flagstone. When that is a case, the Paskapoo sandstone, frequently excavated in some construction areas in northwest Calgary and Cochrane, is extremely competitive with any similar stone sold in Calgary.

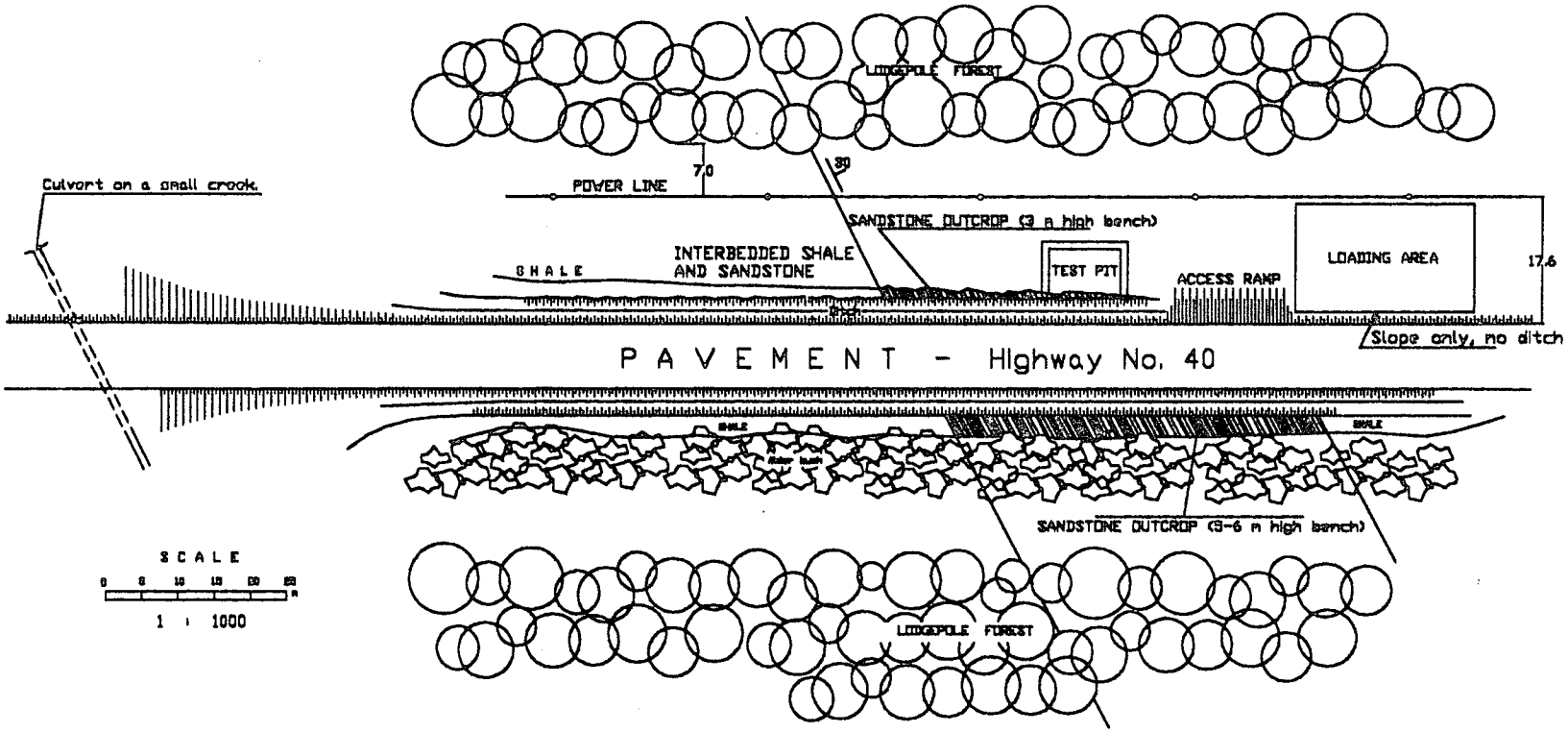
The Tindlestone, a limestone from Manitoba is similar in an overall colour to the Bighorn Sandstone. It is more massive and thus considered more suitable as a wall-stone on larger walls than any thin to moderately thick flagstones.

In the building stone market, place all natural stone is under pressure from the increasingly more available man made imitation stone (fake-stone) which has become quite acceptable to a broad range of customers.

Based of views of masons who evaluated it the Bighorn Sandstone appears more suitable for walls of smaller dimensions on which the thicker stone would look too massive. And for level applications as a true flagstone, especially when a moderately thick (2") stone is required (patios, walkways, stepping-stones).

More marketing work in this direction and re-evaluation of the project economics is required. Until that is done Geo-Ing intends to maintain the Permit and to excavate another shipment of stone sometime during the year 2002.

GEO-ING Resource Consulting Ltd.



BIGHORN SANDSTONE PROJECT BULK SAMPLE TEST PIT

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QUALIFICATIONS

I, YARO HORACHEK, residing at [redacted] Calgary, Alberta T3R 1H7, Canada, do hereby certify:

1. I am a Geological Engineer, registered as a Professional Engineer since 1973 with the Association Of Professional Engineers, Geologists and Geophysicists Of Alberta, Registration No. M22034

2. I am a graduate of the Mining University of Ostrava, Czech Republic, with a M.Sc. in Geological Engineering (1967).

3. I have practised my profession in North America, Finland and Czech Republic for over 30 years.

4. I have maintained an interest in building stone, including building dry retaining walls, mortared stone-clad walls and flat application of flagstone, as well as prospecting for stone, evaluation of waste rock in Alberta coal mines for its usefulness as a building stone and exploration/evaluation of a deposit of roofing slate in British Columbia.

5. This report on the Bighorn Sandstone Project is based on my personal mapping of the permit are, supervision of bulk sampling and study of stone obtained in July 1999, and on marketing efforts in Calgary.

Dated this 31th day of December, 2001, in Calgary, Alberta, Canada.

Yaro Horachek, P.Eng.
Reg. No. M22034
Association Of Professional Engineers, Geologists and Geophysicists Of Alberta

APPENDIX

PHOTOGRAPHS

Photo 1. An outcrop of the Bighorn Sandstone at Highway No. 40.

Photo 2. An outcrop of the Bighorn Sandstone at Alberta Resources Railway.

Photo 3. Excavation of slabs of the Bighorn Sandstone with a backhoe.

Photo 4. Slabs of the Bighorn Sandstone on the site of bulk sample test pit. This photograph is a good representation of the colour of the stone.

Photo 5. The site of the bulk sample test pit and loaded pallets in the background.

Photo 6. Typical dimensions of the Bighorn Sandstone used as a dry-pack wall stone.
Note: The colour of the stone on this photograph is too blue.

Photo 7. An interior wall clad with the Bighorn Sandstone.
Note: The colour of the stone on this photograph is too yellow.