

SAMPLING SMITHTON DOLORITE

**MINING SYSTEMS PTY LTD
FOR
MARBLE QUARRIES**

Exploration Licence No 46 / 70

By
RM Smith

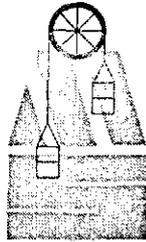
12 January 1971

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MINING SYSTEMS Pty. Limited

18 CLIFF STREET, MILSONS POINT N.S.W. 2061

TELEPHONES: 929 8911 and 920 1294

January 12, 1971

Mr. J.G. Symons,
Director of Mines,
Department of Mines,
G.P.O. Box 124 B,
HOBART. TASMANIA. 7001.

| | | | |
|-----------------|--|----------------|--|
| RECEIVED | | 18 JAN 1971 | |
| ANSWERED | | DEPT. OF MINES | |
| REF. NO. 359/71 | | JN | |

①
② file copy for your records

Dear Sir,

Re : Exploration Licence No. 46/70

We wish to report that to the end of December, 1970 we have spent a total amount of \$2,982.58 on work associated with this E.L.

Nine outcrops were sampled in the latter half of 1970 and the results indicated the majority of these were silicified Dolomites. The analyses are listed below :-

Sample 1. Taken in a quarry at Edith Creek in the same place as sample Number 9 in the section on Smithton Dolomites in the Publication "Limestones in Tasmania".

Sample 2. Taken near Irishtown.

Sample 3. Near Irishtown.
(a) Dark.
(b) Light.
(c) Composite.

Sample 4. Taken from the Public Works Department road metal quarry. This material was weathered Dolomite breccia.

Sample 5. Deposit west of Mengha.

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Sample 6. Forest to Mengha Road.

Sample 7. Black River.

Sample 8. Hills to East of Smithton being worked for road metal.

Sample 9. It is located on the saddle of the headwaters of the Montagu River and the Salmon River which flow into the Arthur River.

The Duck River and the Montagu River both flow through marshes and Dolomite country. Relief is very low and the two Rivers are separated by hills of undifferentiated pre-Cambrian sediments. While there is undoubtedly considerable reserves of Dolomite since the beds are stated to be up to 1,200ft. thick, there is extreme difficulty in finding any place where the rock outcrops as the whole area is covered by swamp and alluvium. The only method of sampling would be to drill. Considerable drilling has been done in the area for water bores but nobody ever bothered to analyse the Dolomites. The Irishtown deposits offer the best mining possibilities from visual inspection. The Black River deposits are the closest to transport but the outcrop is relatively small.

The analyses of these samples are as follows :-

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| Sample Number | Al% | L.O.I.% | CaO% | P% | S% | MgO% | SiO2% | Mn(ppm) | Fe% |
|---------------|------|---------|------|------|------|------|-------|---------|------|
| 1 | BLD | 46.3 | 28.3 | .004 | 0.03 | 22.4 | 2.8 | 135 | 0.32 |
| 2 | " | 0.66 | 0.07 | BLD | 0.04 | 0.02 | 96.1 | 150 | 0.15 |
| 3(a) | " | 1.4 | 0.63 | .001 | 0.04 | 0.46 | 95.6 | BLD | 0.11 |
| 3(b) | " | 35.6 | 19.9 | .002 | 0.04 | 16.4 | 22.6 | 130 | 0.12 |
| 3(c) | " | 12.3 | 5.0 | .003 | 0.04 | 5.7 | 72.6 | 69 | 0.11 |
| 4 | " | 0.57 | 0.04 | .002 | 0.03 | 0.01 | 94.8 | BLD | 0.12 |
| 5 | 0.03 | 0.38 | 0.05 | .005 | 0.02 | 0.02 | 92.5 | BLD | 0.03 |
| 6 | 0.03 | 0.22 | 0.04 | .005 | 0.02 | 0.02 | 98.9 | BLD | 0.12 |
| 7 | 0.02 | 0.56 | 0.06 | .004 | 0.02 | 0.03 | 97.6 | 26 | 0.01 |
| 8 | 0.04 | 0.40 | 0.05 | .004 | 0.02 | 0.02 | 95.2 | BLD | 0.01 |
| 9 | BLD | 0.55 | 0.15 | .001 | 0.02 | 0.09 | 97.0 | 2 | 0.09 |

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(Report by Mr. F.R. Morris, B.Sc.)

The purpose of a visit to the Smithton-Duck River area during the week ending 21st August, 1970 was primarily to peg an area containing possible large reserves of Dolomite and Limestone in close proximity to sea transport. The area selected is in this Smithton-Irishtown-Montagu region in the north-west corner of the State.

Accordingly, an area of 290 square miles was pegged on 18th August, 1970 the boundary of which is outlined on the enclosed map. Subsequently, the application for an Exploration Licence was lodged with the Department of Mines, Tasmania and the Notice to apply for this Exploration Licence advertised in a local newspaper.

Due to limited time available, only preliminary sampling of outcrops was permitted. A number of samples however were collected and analysed, the results and locations of which are now given :-

- Sample 1. Fine grained Dolomite. Blackwood Bridge.
Christmas Hills Road.
- Sample 2. As above.
- Sample 3. Fine grained Dolomite. Small quarry on
bend of Duck River, 5ch. W. of Lower
Scotchtown Road.
- Sample 4. Fine grained Dolomite. Wiltshire-
Irishtown Railway cutting.
- Sample 5. Fine grained Dolomite. Small quarry
next to Fahey Lane W. of Amos Trig.

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| Sample No. | 1 | 2 | 3 | 4 | 5 |
|--------------------|-------|-------|-------|-------|-------|
| Ca % | 21.3 | 20.8 | 20.2 | 21.4 | 21.2 |
| CaO % | 29.8 | 29.1 | 28.3 | 30.0 | 29.7 |
| Mg% | 12.3 | 11.9 | 11.7 | 12.3 | 12.3 |
| MgO% | 20.4 | 19.8 | 19.4 | 20.4 | 20.4 |
| SiO ₂ % | 0.42 | 4.39 | 4.58 | 0.83 | 1.34 |
| L.O.I.% | 47.68 | 45.50 | 45.24 | 47.12 | 46.55 |
| Mn p.p.m. | 54 | 99 | 68 | 41 | 89 |
| Al p.p.m. | 178 | 159 | 2730 | 539 | 78 |
| P p.p.m. | 10 | 10 | 90 | 470 | 175 |
| S % | 0.018 | 0.023 | 0.028 | 0.020 | 0.027 |
| Fe p.p.m. | 669 | 1538 | 5410 | 1032 | 438 |

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Three other samples of suspected Dolomite were sampled and analysed, one from an outcrop within the Duck River flats about one mile West of Edith Creek and the other two from outcrops in roadside cuttings near Nabageena. Unfortunately, analyses revealed that these three samples were extremely high Silica due to metasomatism.

The Smithton Dolomite represents the top most formation of the Pre-Cambrian in the Smithton-Montagu area. Silicification is a common feature within this formation which consists of thick beds of Dolomite, volitic Dolomite, thickly bedded and laminated Cherts and dark grey Slates.

This formation is very extensive and occurs widely throughout the area applied for. However, West of Smithton and Irishtown, outcrops are sparse as they are overlain by soil and alluvial cover in an area of very low relief.

Because of the presence of extensive occurrences of Dolomite close to the coast, it is recommended that an exploration programme be initiated to prove up sufficient reserves. This will be necessary before a feasibility study can be undertaken on the quarrying and transporting of the Dolomite. It is advised that greater attention be given to areas where there is sufficient elevation to permit a low-cost quarrying operation. While quarrying may be possible at shallow depths in the low-lying regions West of Smithton in the vicinity of Duck River, it is advised that better quarrying conditions exist in the undulating, hilly country that extends in the Southern and Western portions of the area applied for. This will involve the locating of all the Dolomite occurrences, careful field mapping and the drilling of the larger deposits such as those at Irishtown. A considerable number of analyses are available from the Irishtown and they reveal much variation in quality due to the effects of silicification and thus in order to delineate the extent of the high-grade material, drilling will be essential.

Details of the proposed exploration programme include:-

- 1) a study of all literature and bore-hole information of the Dolomites in the area under review.
- 2) the locating and mapping of all outcrops together with sampling of the uncontaminated material.

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- 3) diamond drilling of the areas where large reserves of high-grade material have been located;
- 4) grid drilling if the Dolomite is of satisfactory quality;
- 5) laboratory testing of all cores and samples;
- 6) a geological report with accompanying plans.

Further to these reports the area was visited by Mr. J.S. Kaufman, President of the Marble Cliff Quarries Company accompanied by Mr. R.M. Smith of Mining Systems Pty. Limited and Mr. L.W. Morris of Mining Systems (Tasmania) Pty. Limited during which six samples were taken and the results of these are as follows :-

- Sample 1. Blackwood Bridge.
- Sample 2. Blackwood Bridge (higher in the series).
- Sample 3. Edith Creek Quarry.
- Sample 4. Outcrop Irishtown, South of Railway Cutting.
- Sample 5. Scantlebury Hill.
- Sample 6. Dump at foot of Scantlebury Hill.

The results of these are as follows :-

| Sample No. | 1 | 2 | 3 | 4 | 5 |
|------------|-------|-------|-------|-------|-------|
| Silica | 0.70 | 0.40 | 3.89 | 6.70 | 9.51 |
| L.O.I. | 46.55 | 46.81 | 44.95 | 41.39 | 51.10 |

A drilling rig has been arranged to start drilling during January, 1971 during which time further geological surveys will be conducted to locate further promising outcrops.

Yours faithfully,



R. M. SMITH.
MANAGING DIRECTOR.