

J.J. McDONALD & SONS MINING PTY LTD

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ABN 29 051 399 261

EXPLORATION LICENCE NO. 17/2002

MAYDENA, TASMANIA

ANNUAL REPORT

TO

10 January 2005

GERHARD K. KRUMMEI

DECEMBER 2004

Suite 28, 487 St.Kilda Road, Melbourne Vic 3004 Australia
Telephone and Facsimile: 61 3 9820 2595

ABSTRACT

Difficulty in obtaining a line cutting/gridding crew delayed progress at the Hedgehog Ridge prospect for most of the year. A 4 sq.km area around this prospect has been retained to allow assessment to be completed.

The Loading Bay Spur prospect was downgraded by further reconnaissance work.

Keywords:

Loading Bay Spur Prospect; Silica rock gravel.
Hedgehog Ridge Prospect; Silica flour, Sizings.

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1. INTRODUCTION

Interest in the ground covered by this exploration licence arose as a result of J J McDonald & Sons Mining Pty Ltd activities at the Pine Hill silica sand deposit located within RL 2/2003 immediately adjacent to this tenement in the east.

Regional mapping by MRT geologists indicates that the geological formations potentially prospective for additional resources of silica sand and flour extend into this area in a north westerly direction from the Pine Hill deposit.

An added attraction is the availability of basic access to the main zone of interest.

This report details activities by J J McDonald & Sons Mining Pty Ltd in EL 17/2002 in the second year of tenure to 10.01.2004.

2. TENURE

On the 30th of April 2002 an application was lodged for an exploration licence of 13 sq km covering ground potentially prospective for silica sand/flour and silica rock associated with lower Cambrian sequences 7-10 km WSW of Maydena.

The area applied for is contiguous to the west with RL 2/2003 (formerly part of EL 17/1998) where a limited resource of potentially limited economic, good quality silica flour and silica sands has been delineated.

Ministerial consent to the grant of this exploration licence was obtained on 28/01/03 effective for 5 years to 10th January 2008.

The tenement comprises:

State Forest – Multiple use forest land

Private land

A Crown Reserve – (part of 14 Mile Creek)

MDC Informal Reserve Areas

2 small Mining Leases (held by Norske Skog)

3. LOCATION AND INFRASTRUCTURE

EL 17/2002 lies to the west of Pine Hill with its eastern boundary approximately 6 km west of Maydena and about 90 km by sealed road west of Hobart (Fig.1).

Basic access to the northern and central segments of the area is provided by the sealed Gordon River Road. The southern and western segments are serviced by Maynes Road, with the south eastern section comprising private land given to pine plantations, containing a network of logging tracks

Basic facilities, including housing and labour, are available in the small township of Maydena (pop. ca, 400) and surrounding district.

A single strand power line follows the Gordon River Road through the tenement.

A 700 m long, east-west oriented, fair weather gravel airstrip is located just off the eastern boundary of the tenement.

A narrow gauge railway line from New Norfolk to Maydena has been progressively upgraded as far as the entrance to the Mt Field National Park. There are plans to complete the remaining 15 km section to Maydena within the next 1-2 years.

4. OBJECTIVES AND TARGETS

The overall objective of the exploration activities during tenure of this exploration licence is to add commercially viable resources of high purity silica sand and flour to those already outlined by J J McDonald & Sons Mining Pty Ltd at the Eastern Quarry, Pine Hill, in the adjacent RL 2/2003.

A subsidiary aim, now no longer applicable due to loss of market interest, was to search for and outline occurrences of high quality, low silica dolomite resources potentially suitable for production of magnesium metal, essentially via a chemical route. Tied to this process was the need for silica rock for the production of ferrosilicon used in a stage of the overall manufacturing process. It was possible that some of the silica rock could have been sourced from this tenement.

Following general reconnaissance, the main target remained a 4 x 1 km belt of steeply dipping, lower Cambrian sediments with carbonate sequences, which extend in a north westerly direction from Pine Hill.

1:25,000 scale mapping of the Maydena Sheet was completed by MRT geologists Calver & Forsyth in 1999, providing a basic, up-to-date geological framework for this area. In this context, the first year's activities were to:

- * secure access to, and through, private land in the tenement.
- * negotiate compensation agreements, if necessary
- * familiarisation and orientation reconnaissance to check basic geology as mapped by MRT geologists
- * reconnaissance sampling - rock float and surficial material of interest
- * selection of sub-areas for further follow-up in year 2

5. PREVIOUS EXPLORATION

Although the area was part of BHP's EL 13/65 and EL 8/79 and later also fell within Amoco's EL 14/84, neither company undertook any work related to industrial minerals in this segment of their tenements (Ellis, in Jones, 1989).

Pioneer Silicon Industries Pty. Ltd. (PSI) embraced the area within its EL 14/88 but little, if any, work was carried out in this segment west of Pine Hill.

On taking over PSI's tenement in 1992, the Northwest Bay Co Pty Ltd successfully outlined a small resource of about 355,000 tonnes of good quality, open cuttable dolomite on the southern slopes of Kallista Hill situated approximately 2 km west of Pine Hill (Forster, 1993). Due to the demise of the operator, no production ensued and the ground was ultimately relinquished.

Two small mining leases in the tenement are owned and operated by Norske Skog to source crushed road metal (mostly Cambrian basalt) on an "as needs basis" for its forestry operation haulage roads.

In the early 1990s, Mineral Resources Tasmania (MRT) completed three shallow diamond drill holes as part of its reconnaissance of the Tertiary/Quaternary sequences of the area (for locations see Calver and Forsyth, 1999) :

Hole Styx 2	:	0 - 31m	:	Quaternary sediments
Hole Styx 3	:	0 – 32	:	Quaternary sediments
		32 – 35	:	Cambrian sandstone
Hole Styx 6	:	0 – 21	:	Quaternary sediments
		21- 22	:	Ordovician

In 2002, during its first year of tenure, JJ McDonald & Sons Mining Pty Ltd focused its activities on both the dolomite and silica rock/flour prospectivity of the area. Reconnaissance identified the Loading Spur silica rock/gravel prospect and the Hedgehog Ridge silica flour prospect for further follow-up. A market study and departure of a potential client did not encourage further pursuit of a viable dolomite resource at this time.

Attention during the second year of tenure was concentrated on the two silica prospects outlined, with activities and results described below.

6. CURRENT ACTIVITIES

6.1 Work done:

Loading Bay Spur

- More extensive silica gravel float sampling
- Re-sampling of above due to laboratory incident resulting in serious sample contamination
- Resource potential estimate.

Hedgehog Ridge

- Inspected area with drilling contractor to assess drillability and drill access
- Scoping discussions with CODES aimed at a ground geophysics programme by student
- Particle size analyses on two previously collected near surface samples
- Search for a line cutting/gridding crew.

6.2 Statistical Summary:

Analyses	rock float samples:	16
No. of determinations:	rock float samples:	128
	No. of Mastersizer particle sizings :	2
	Expenditure for 9 months to 30.09.04 :	\$3,047.00
	Total Expenditure to 30.09.04 :	\$15,110.00

7. RESULTS

7.1 Loading Bay Spur:

Measurements accompanying resampling suggest a resource potential, from surface of only a few thousand tonnes of extractable silica rock gravel. The fragments of silica rock are predominantly small, angular, though some very large, rounded boulders were noted. The rock fragments are set in an orange brown clay probably derived from the decomposition of dolerite. The debris pile may be of morainic origin. On the basis of the surface samples assayed (see Appendix 1), the silica rock material averages around 780ppm Al_2O_3 , 500ppm Fe_2O_3 , 224ppm TiO_2 , 150ppm CaO and 60ppm MgO. Some of the samples were contaminated by iron staining suggesting that a measure of quality improvement could be achieved by aggressive washing, thus possibly making the material suitable feed-stock for silicon production. However, a considerable amount of further sampling and testing would be required to underpin these preliminary conclusions. But, in view of the relatively low tonnage potential, these further investigations are not deemed justified at this point in time.

7.2 Hedgehog Ridge:

A visit to assess access to parts of this prospect for further exploration and drilling indicated that line cutting and gridding is the most logical next step in the investigation of the area for the occurrences of silica flour accumulations. This would facilitate further sampling, mapping and eventually, possible geophysical surveys. Aspects of the latter have been discussed with CODES staff at the University of Tasmania with the view of engaging a student to undertake shallow seismic, electrical and magnetometer traverses over the prospect. Field activities remained in abeyance for most of the year while a suitable line cutting/gridding crew was sought in Tasmania.

Towards the end of the year a former contractor agreed to undertake the line cutting task early in 2005.

Two laboratory sizing determinations using a Malvern Mastersizer 2000 were undertaken on two silica flour samples collected previously.

The results suggest the presence of raw material silica flour with a D50 value of around 30 microns (see Appendix 2). There exists blending potential with material derived from the Pine Hill Silica Sand deposit.

8. CONCLUSIONS

- 8.1** The size potential of the Loading Bay Spur silica gravel deposit is too small to be of further immediate interest.
- 8.2** The Hedgehog Ridge prospect requires further investigation and assessment to determine its resource potential.
- 8.3** An area of 4sq.km surrounding the Hedgehog Ridge prospect should be retained and the remaining 9sq.km of the 13sq.km EL.17/2002 should be surrendered.

9. RECOMMENDATIONS

- 9.1** An area of 4sq.km surrounding the Hedgehog Ridge prospect should be retained and the remaining 9sq.km of the 13sq.km EL. 17/2002 can be surrendered.
- 9.2** At the Hedgehog Ridge Prospect, undertake a sequential programme of line cutting, gridding, surface/shallow hand auger sampling, mapping, geophysics and, if warranted, shallow drilling, followed by preliminary metallurgical testing.

10. REFERENCES

- | | | |
|------------------------------|------|--|
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| McBain, M | 2003 | Market Survey – Dolomite in Tasmania
AusITech Services Report |

APPENDIX 1

LOADING BAY SPUR

ASSAY RESULTS

CERTIFICATE OF ANALYSIS



Batch: ST39802
Sub Batch: 0

CONTACT: MR GERHARD KRUMMEI
CLIENT: JJ MCDONALD & SONS MINING P/L
ADDRESS: SUITE 28
487 ST KILDA ROAD
MELBOURNE VICTORIA 3004

LABORATORY: BRISBANE
DATE RECEIVED: 23/04/2004
DATE COMPLETED: 28/05/2004
SAMPLE TYPE: ROCK
No. of SAMPLES: 8

ORDER No.: ALS224177

PROJECT:

COMMENTS

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: BRISBANE

Address
32 Shand Street
Stafford QLD 4053
Australia

Phone: 61-7-3243 7222
Fax: 61-7-3243 7254
Email: shaun.kenny@alschemex.com

Signatory 

LABORATORIES

AUSTRALIA

Brisbane Orange
Alice Springs Perth
Kalgoorlie Townsville

NORTH AMERICA

Vancouver Fairbanks Thunder Bay
Chihuahua Guadalajara Toronto
Elko Reno

SOUTH AMERICA

Santiago Calama Mendoza
Antofagasta Copiapo Quito
Arequipa Lima

AFRICA

Mwanza

Batch: ST39802
 Sub Batch: 0
 Date of Issue: 28/05/2004
 Client: JJ McDONALD & SONS MINING P/L
 Client Reference:

CERTIFICATE OF ANALYSIS



SAMPLE	Element Unit Method	Al2O3 % M289-1	Fe2O3 % M289-1	TiO2 % M289-1	Cr ppm M289-1	CaO % M289-1	MgO % M289-1	MnO % M289-1	V2O5 % M289-1
70464R	LOR	0.001	0.001	0.001	1	0.001	0.001	0.001	0.001
70465R		0.257	0.110	0.012	27	0.018	0.015	<0.001	<0.001
70466R		0.083	0.026	0.020	1	0.019	0.009	<0.001	<0.001
70467R		0.016	0.015	0.020	<1	0.011	0.004	<0.001	<0.001
70468R		0.083	0.048	0.033	1	0.018	0.010	<0.001	<0.001
70469R		0.016	0.018	0.027	<1	0.013	0.004	<0.001	<0.001
70470R		0.015	0.021	0.028	<1	0.011	0.004	<0.001	<0.001
70471R		0.016	0.023	0.026	1	0.018	0.007	<0.001	<0.001
70471R		0.134	0.141	0.013	3	0.011	0.006	<0.001	<0.001

APPENDIX 2

HEDGEHOG RIDGE

SAMPLE SIZING RESULTS

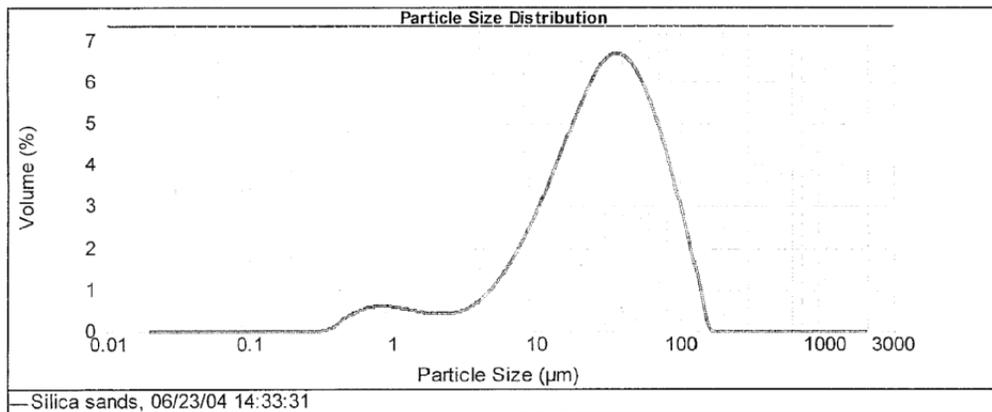
MASTERSIZER

Result Analysis Report — *Hodgchog Zidge*

Sample Name: Silica sands **SOP Name:** **Measured:** 06/23/04 14:33:31
Sample Source & type: Maydena **Measured by:** Stephen Carey **Analysed:** 06/23/04 14:33:32
Sample bulk lot ref: 1 - 70460/1000/1 **Result Source:** Measurement

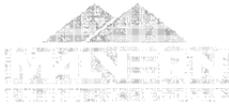
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 13.52 %
Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose
Dispersant Name: Water **Size range:** 0.020 to 2000.000 um **Weighted Residual:** 1.252 %
Dispersant RI: 1.330 **Result Emulation:** Off

Concentration: 0.0203 %Vol **Vol. Weighted Mean D[4,3]:** 37.058 um **Specific Surface Area:** 0.658 m²/g
Span : 2.541 **Uniformity:** 0.776 **Surface Weighted Mean D[3,2]:** 9.119 um
Result units: Volume
d(0.1): 6.043 um **d(0.5):** 29.252 um **d(0.9):** 80.385 um



Size (µm)	Volume In %										
0.010	0.00	0.105	0.00	1.096	0.49	11.482	3.17	120.226	1.33	1258.925	0.00
0.011	0.00	0.120	0.00	1.259	0.46	13.183	3.64	138.038	0.40	1445.440	0.00
0.013	0.00	0.138	0.00	1.445	0.42	15.136	4.12	158.489	0.00	1659.587	0.00
0.015	0.00	0.158	0.00	1.650	0.39	17.379	4.61	181.970	0.00	1905.461	0.00
0.017	0.00	0.182	0.00	1.905	0.39	19.953	5.07	208.930	0.00	2187.762	0.00
0.020	0.00	0.209	0.00	2.188	0.37	22.909	5.47	239.883	0.00	2511.886	0.00
0.023	0.00	0.240	0.00	2.512	0.37	26.303	5.79	275.423	0.00	2884.032	0.00
0.026	0.00	0.275	0.00	2.894	0.39	30.200	5.98	316.228	0.00	3311.311	0.00
0.030	0.00	0.315	0.00	3.311	0.44	34.674	6.04	363.078	0.00	3801.894	0.00
0.035	0.00	0.363	0.00	3.802	0.53	39.811	6.04	416.869	0.00	4365.156	0.00
0.040	0.00	0.417	0.07	4.355	0.66	45.709	5.95	478.630	0.00	5011.872	0.00
0.046	0.00	0.479	0.21	5.012	0.84	52.481	5.72	549.541	0.00	5754.399	0.00
0.052	0.00	0.550	0.34	5.754	1.05	60.256	5.37	630.957	0.00	6606.934	0.00
0.060	0.00	0.631	0.43	6.607	1.32	69.183	4.90	724.436	0.00	7585.776	0.00
0.069	0.00	0.724	0.54	7.586	1.61	79.433	4.34	831.764	0.00	8709.636	0.00
0.079	0.00	0.832	0.54	8.710	1.95	91.201	3.66	954.993	0.00	10000.000	0.00
0.091	0.00	0.955	0.54	10.000	2.32	104.713	2.89	1096.478	0.00		
0.105	0.00	1.096	0.53	11.482	2.73	120.226	2.07	1258.925	0.00		

Operator notes:



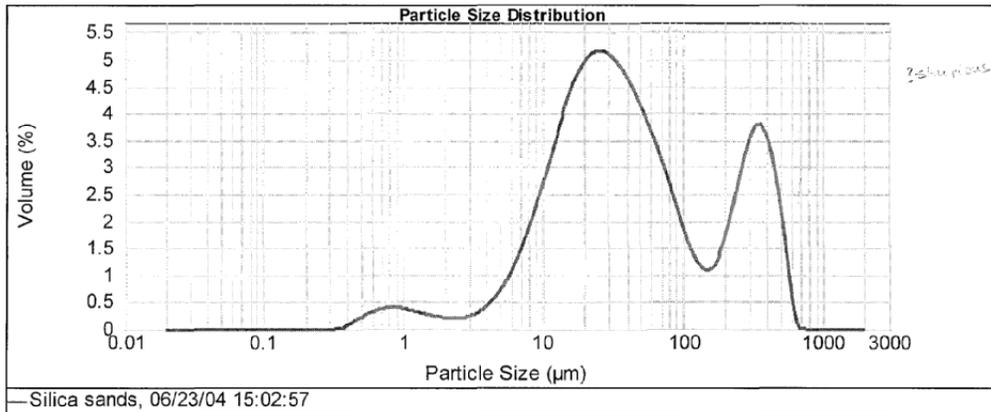
MASTERSIZER 2000

Result Analysis Report

Sample Name: Silica sands **SOP Name:** **Measured:** 06/23/04 15:02:57
Sample Source & type: Maydena **Measured by:** Stephen Carey **Analysed:** 06/23/04 15:02:58
Sample bulk lot ref: 2-70461/1000/2 **Result Source:** Measurement

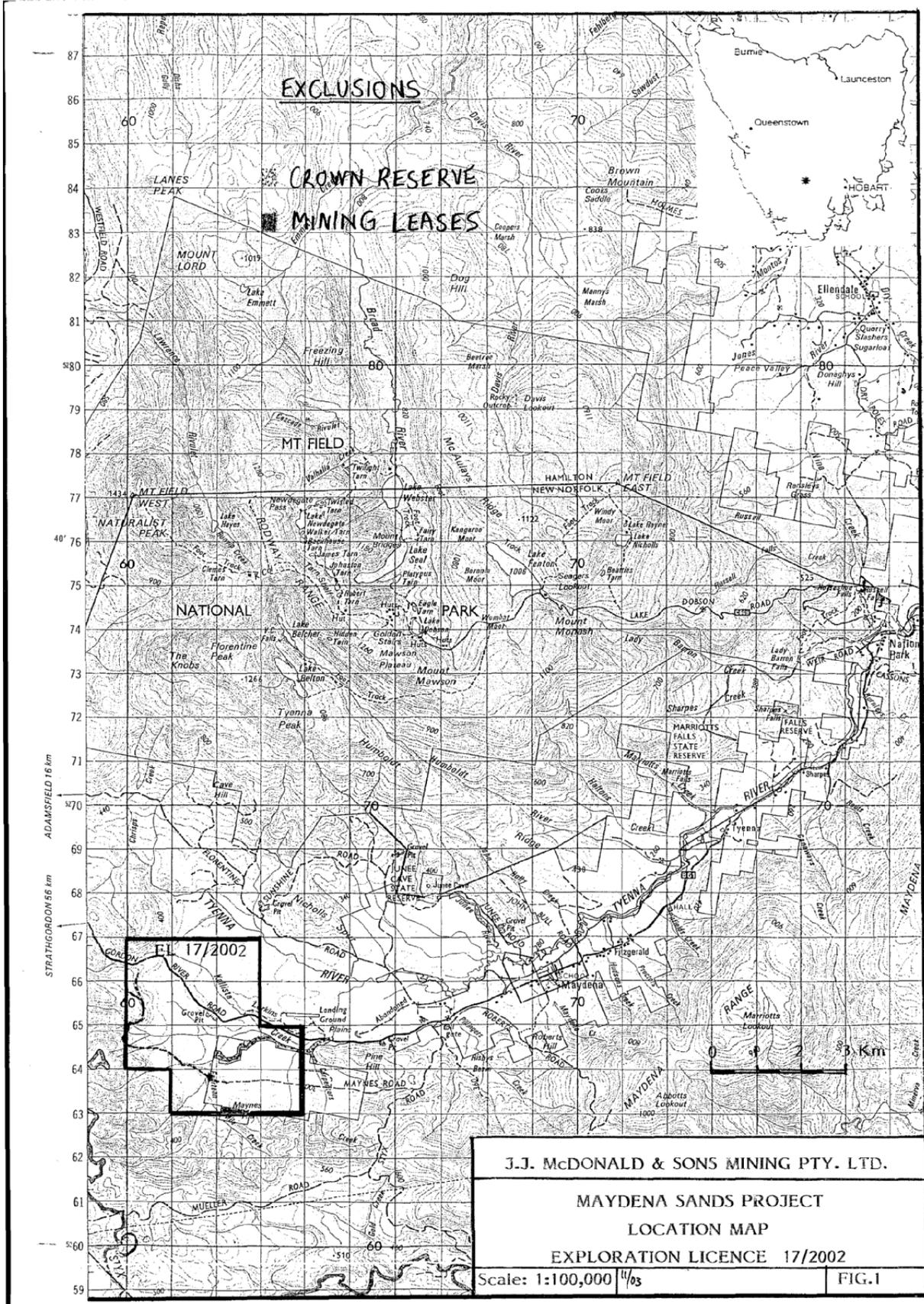
Particle Name: Silica 0.1 **Accessory Name:** Hydro 2000MU (A) **Obscuration:** 13.55 %
Particle RI: 1.544 **Absorption:** 0.1 **Analysis model:** General purpose
Dispersant Name: Water **Size range:** 0.020 to 2000.000 um **Weighted Residual:** 1.406 %
Dispersant RI: 1.330 **Result Emulation:** Off

Concentration: 0.0280 %Vol **Vol. Weighted Mean D[4,3]:** 103.837 um **Specific Surface Area:** 0.473 m²/g
Span: 9.317 **Uniformity:** 2.38 **Surface Weighted Mean D[3,2]:** 12.690 um
Result units: Volume
d(0.1): 8.620 um **d(0.5):** 36.303 um **d(0.9):** 346.864 um



Size (µm)	Volume In %										
0.010	0.00	0.105	0.00	1.096	0.32	11.482	3.15	120.226	1.11	1258.925	0.00
0.011	0.00	0.120	0.00	1.259	0.28	13.183	3.61	138.038	0.99	1445.440	0.00
0.013	0.00	0.138	0.00	1.445	0.25	15.136	4.02	158.489	1.08	1659.587	0.00
0.015	0.00	0.158	0.00	1.650	0.22	17.378	4.34	181.970	1.40	1905.461	0.00
0.017	0.00	0.182	0.00	1.905	0.19	19.953	4.55	208.930	1.92	2187.762	0.00
0.020	0.00	0.209	0.00	2.188	0.19	22.909	4.65	239.883	2.54	2511.886	0.00
0.023	0.00	0.240	0.00	2.512	0.20	26.303	4.64	275.423	3.10	2884.032	0.00
0.026	0.00	0.275	0.00	2.884	0.20	30.200	4.53	316.228	3.41	3311.311	0.00
0.030	0.00	0.316	0.00	3.311	0.30	34.674	4.35	363.078	3.33	3801.894	0.00
0.035	0.00	0.363	0.04	3.802	0.40	39.811	4.11	416.869	2.79	4365.158	0.00
0.040	0.00	0.417	0.13	4.365	0.56	45.709	3.82	478.630	1.90	5011.872	0.00
0.046	0.00	0.479	0.21	5.012	0.77	52.481	3.49	549.541	0.79	5754.399	0.00
0.052	0.00	0.550	0.29	5.754	1.04	60.256	3.12	630.957	0.05	6606.934	0.00
0.060	0.00	0.631	0.34	6.607	1.37	69.183	2.71	724.436	0.00	7585.776	0.00
0.069	0.00	0.724	0.36	7.586	1.77	79.433	2.26	831.764	0.00	8709.636	0.00
0.079	0.00	0.832	0.37	8.710	2.20	91.201	1.81	954.993	0.00	10000.000	0.00
0.091	0.00	0.955	0.35	10.000	2.68	104.713	1.40	1096.478	0.00		
0.105	0.00	1.096		11.482		120.226		1258.925			

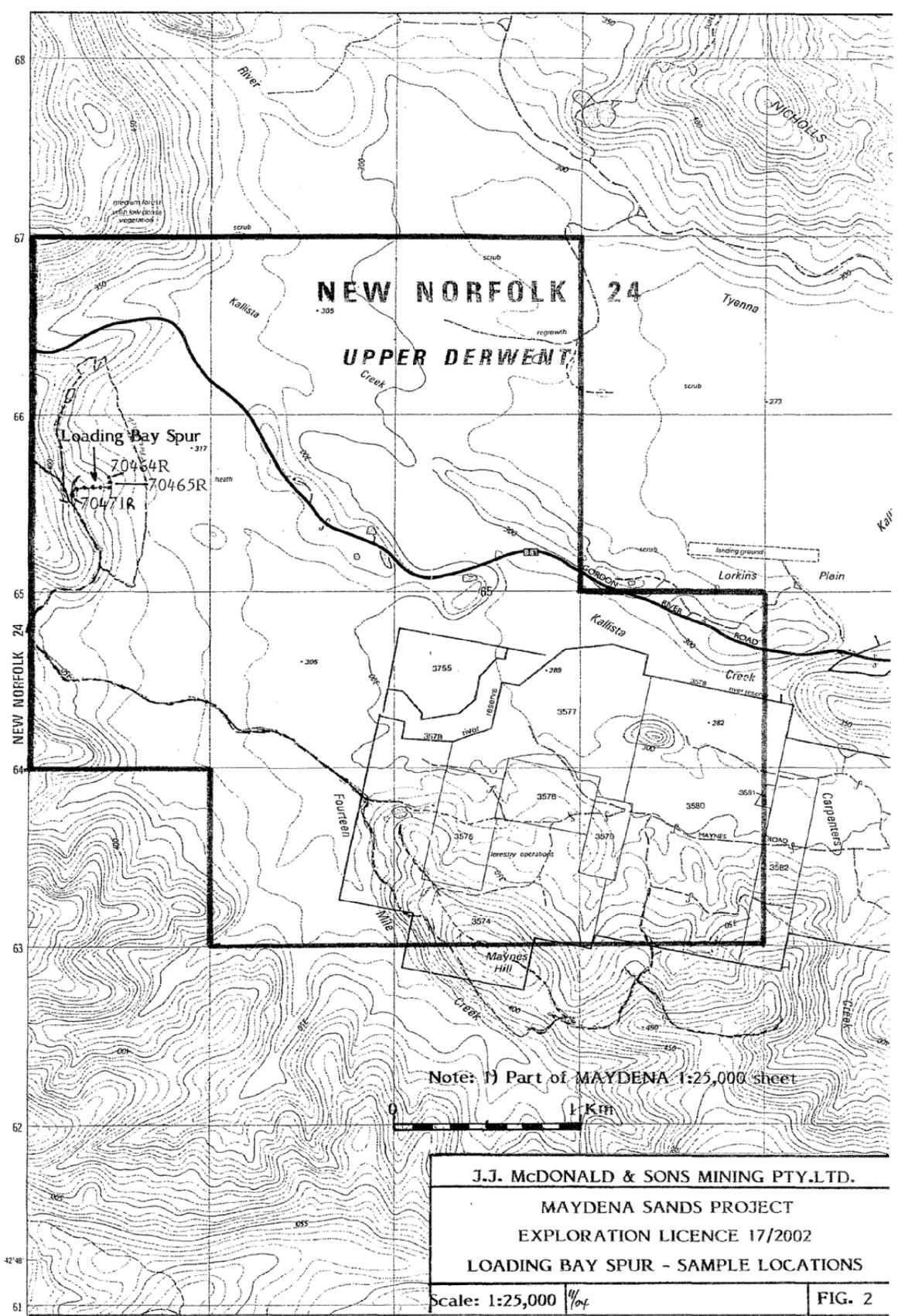
Operator notes: Ultrasonication 1 minute



ADAMSFIELD 16 km

STRATHGORDON 56 km

3 Km



J.J. McDONALD & SONS MINING PTY.LTD.
 MAYDENA SANDS PROJECT
 EXPLORATION LICENCE 17/2002
 LOADING BAY SPUR - SAMPLE LOCATIONS