



Sibelco Australia Limited  
Mining Services  
100 Eastern Parade, GILLMAN, SA 5013  
PO Box 74, ROSEWATER EAST, SA 5013 Australia

A.C.N. 000 971 844  
Phone:+61 8 8240 8200  
Fax:+61 8 8341 1010

**ANNUAL REPORT FOR PERIOD  
24<sup>th</sup> MARCH 2011 TO 11<sup>th</sup> MARCH 2012**

**EXPLORATION LICENCE 71/2007  
MOLE CREEK LIMESTONE  
TASMANIA**

**BURNIE SK55-03**

<b>Author</b>	<b>R. Martin</b>
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<b>Report No:</b>	<b>RM201202</b>

## **ABSTRACT**

This report details work completed by Sibelco Australia Limited on EL71/2007 during the period 24th March 2011 to 23rd March 2012.

EL71/2007 is located approximately 5km NW of Mole Creek, Tasmania. The EL surrounds the Sibelco operated Mole Creek limestone mine. Work is planned to identify a high quality limestone unit suitable as feed for the Sibelco Mole Creek kiln.

Limestone currently mined in the Mole Creek region is part of the Den Formation, the upper member of the Ordovician Gordon Group. The aim of the work proposed on the EL is to investigate the extensions to the limestone units currently being exploited. Drilling and resource work throughout 96M/1971 suggest that high grade limestone extensions occur outside the lease boundaries.

A total of 5 drill holes for 58 metres were drilled on the Sibelco freehold within the tenement area. Negotiations have been ongoing with the landholder to access the limestone extensions to the west of the Mole Creek operation.

Following access approval, further drilling is planned.

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**EL71-2007\_201002\_01\_Main Report.pdf**

**EL71-2007\_201002\_02\_Drillhole Locations.txt**

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**EL71-2007\_201002\_04\_Lithologs.txt**

**EL71-2007\_201002\_05\_FileList.pdf**

## **1. INTRODUCTION**

EL71/2007 is located approximately 5km NW of Mole Creek, Tasmania. The EL surrounds the Sibelco operated Mole Creek limestone mine. Work is planned to identify a high quality limestone unit suitable as feed for the Sibelco Mole Creek kiln. Work is proposed to investigate the strike extensions to the limestone units currently being mined at the Mole Creek mine site.

### **1.1 Location and Access**

EL 71/2007 is located approximately 5km northwest of Mole Creek, Tasmania (Figure 1). The 6km<sup>2</sup> Exploration Licence surrounds the Sibelco operated Mole Creek limestone mine, and is accessed from Mole Creek township via Den Road.

### **1.2 Tenure**

EL 71/2007 for Category 3 and 5 minerals was granted to Sibelco Lime (Tasmania) Pty Ltd on 24<sup>th</sup> March 2008 for a period of 5 years. The area of the EL is 6km<sup>2</sup>. A partial surrender of 1km<sup>2</sup> in the NE corner of the tenement is to be undertaken, reducing the area of the tenement to 5km<sup>2</sup>.

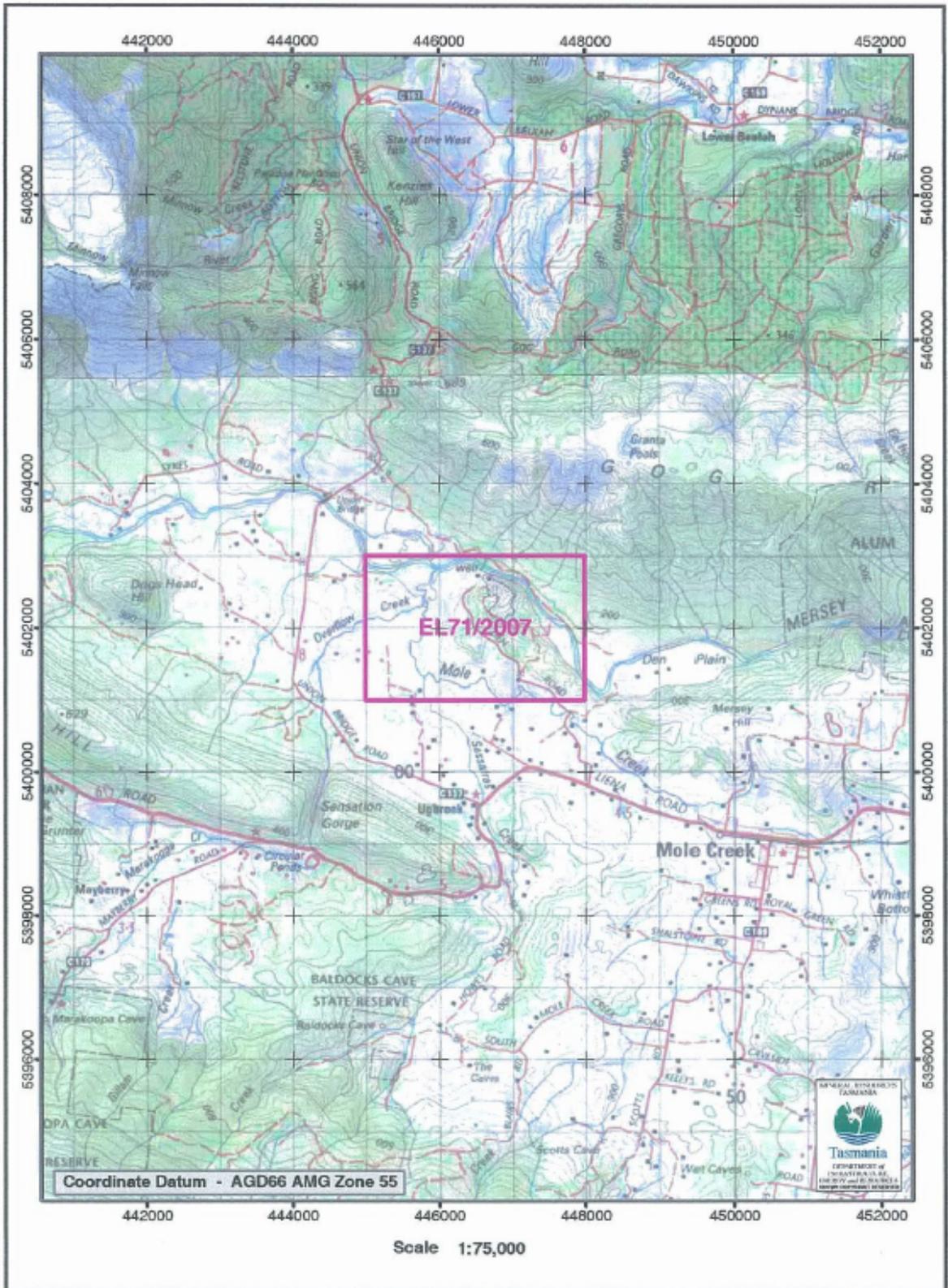
### **1.3 Geology**

The Mole Creek valley is largely made up of calcareous rocks of Ordovician age belonging to the Gordon Group, part of the Wurawina Supergroup.

In the tenement area, the Gordon Group comprises the Overflow Creek Formation dolomite, and the overlying Den Formation which is the host to the high grade limestones currently being mined.

The main geological structure is an ESE trending synclinal fold that is tilted gently to the east. Consequently, the beds of limestone occurring in the Mole Creek mine dip to the south, with the same beds in the south of the tenement area dipping to the north. The axis of the syncline is covered by sandstones and shales of the Eldon Group.

In the mine area the Den Formation limestone can be subdivided into 5 limestone units of varying grades around 200 metres thick, which extend east-west over a strike length of approximately 400 metres in and along strike of the current working pit. The siliceous and middle limestone members are too low in quality to be used in the kiln however. A NW-SE trending fault has split the limestone into two separate blocks, with a smaller 300 metre long unit being displaced to the SE. Both the NE and SW limestones dip to the south at dips of between 40 to 60 degrees. There are intermittent limestone outcrops extending to the west of the SW limestone resource, and these are to be targeted by further exploration.



## **2. PREVIOUS WORK**

The regional geology of the Mole Creek district has been described in two publications of the Geological Society of Australia, “Mole Creek – A Geological and Geomorphological Field Guide, 1987” and “Geology and Mineral Resources of Tasmania, Special Publication 15, 1989”. The area is also covered by the 1:50,000 Geological Series, 1984.

In 1998, a David Mitchell sponsored Honours Thesis titled, “Geology and Structures of the Gordon Group Limestones at Mole Creek, Northern Tasmania” was completed by University of Tasmania student Mark Edwards. The extents of the Den Formation, and the structural setting of the limestone were investigated.

Work conducted by the mine operators prior to the granting of the tenement has been limited to the drilling of 3 shallow reverse circulation holes and the completion of 3 rock chip traverses west of the SE resource located on 96M/1971.

In 1987, a total of 77 metres were drilled in 3 shallow RC holes (DHMC41, 41A, 42) to test the quality of limestone approximately 150 metres west of the Mining Lease boundary. The holes were drilled vertically, and although all intersected limestone, none contained grades suitable for calcining.

In 2004, a total of 113 rock chips were taken on 3 north-south traverse lines spaced 50 metres apart. The most easterly traverse was located 200 metres west of the Mining Lease boundary. Results showed high grade limestone with widths of up to 100 metres. The geometry of the area has yet to be determined so the significance of the seemingly conflicting results between the drilling and rock chips in this area has not been resolved.

In January 2009, AAM Hatch were contracted to conduct an aerial survey over the Mole Creek mine, and the surrounding areas within the Exploration Licence. Landholder negotiations were commenced and the land immediately east of 96M/1971 was purchased, with access to explore the western area granted following access negotiations.

A total of 11 RAB holes for 142.5 metres were drilled in the saddle located west of the Mole Creek limestone operation located on 96M/71. The holes were drilled between the westerly extension of a high grade resource located within 96M/71, and a knoll of limestone which has exhibited high grade zones from surface sampling. A total of 76 samples were submitted for XRF analysis however, the drilling returned intervals of relatively low grade limestone interspersed with clay infill. Some higher grade intervals at the base of one or two holes may indicate the presence of a syncline, although the sudden change from high to low grade limestone along strike would indicate the presence of a fault. The area drilled is unlikely to be suitable as a high grade limestone suitable for mining.

### **3. WORK CONDUCTED DURING THE REPORTING PERIOD**

A five hole, 58 metre RAB drilling programme using the Mole Creek site production rig was completed on Sibelco freehold property in lieu of the work targeted at western extensions of the high grade limestone currently being mined. Although in a less prospective area, the drilling was planned at identifying the southern limb of the Mole Creek syncline of that currently being mined. The drilling was expected to pass through a thin veneer of Eldon Group sediments prior to intersecting underlying Den Formation limestone. No limestone was intersected in any of the holes drilled.

<b>HOLE</b>	<b>EAST MGA</b>	<b>NORTH MGA</b>	<b>RL</b>	<b>AZ</b>	<b>DIP</b>	<b>DEPTH</b>
MCP21	447241	5401560	228.6	0	-90	10.5
MCP22	447225	5401509	223.5	0	-90	8
MCP23	447257	5401604	235.4	0	-90	9.5
MCP24	447274	5401650	239.7	0	-90	12
MCP25	447296	5401700	246.4	0	-90	17.8

### **4. DISCUSSION OF RESULTS**

No limestone was intersected during the drilling conducted as part of the current reporting period.

Work to date has decreased the potential to host a significant limestone deposit suitable for calcining. However, the western extension of outcropping limestone adjacent to the existing ML remains untested by drilling.

A drilling programme is planned to aid in determining the quality of the limestone immediately west of the current mine on the two topographic highs (separated by the drilled saddle) which have returned promising surface results.

### **5. CONCLUSIONS**

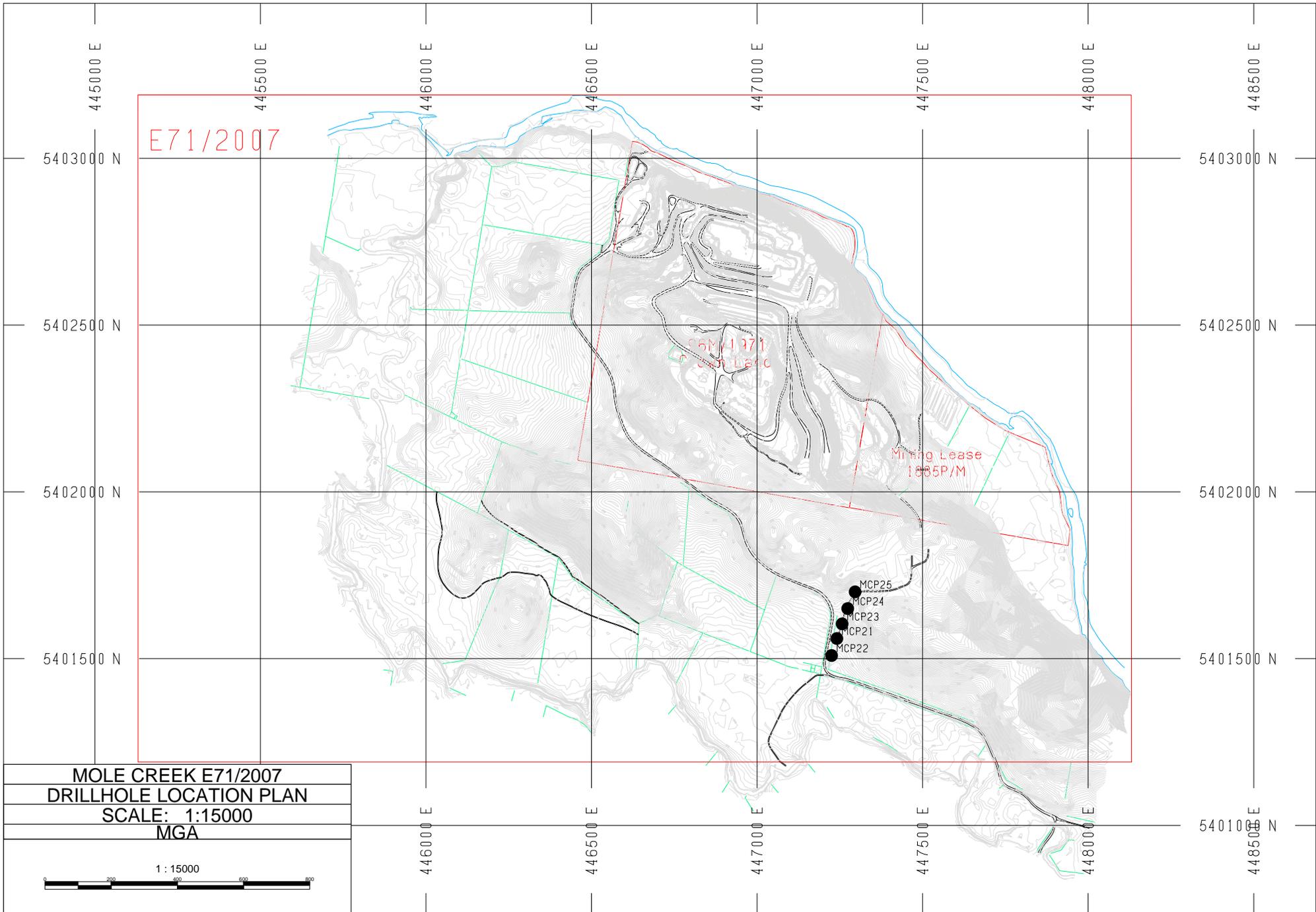
Further drilling is planned on the western extensions to the known limestone. Access to the knoll resource, and earthworks associated with it, will require negotiation with the landholder.

### **6. ENVIRONMENTAL**

A total of 5 RAB holes for 58 metres were drilled on the Sibelco freehold property in the SE corner of E71-2007. The drilling was low impact, using a track mounted rig, along existing site access tracks with no earthmoving or vegetation removal required. All holes drilled, each with a diameter of 89mm, were backfilled at the completion of the drilling.

## **7. BIBLIOGRAPHIC DATA SHEET**

<b>REPORT NUMBER</b>	RM201202
<b>TITLE</b>	ANNUAL REPORT FOR PERIOD 24 <sup>th</sup> MARCH 2011 TO 23 <sup>rd</sup> MARCH 2012 EXPLORATION LICENCE 71-2007 MOLE CREEK TASMANIA
<b>AUTHOR</b>	R. MARTIN
<b>DATE</b>	FEBRUARY 2012
<b>PROSPECT NAME</b>	MOLE CREEK
<b>OWNER/OPERATOR</b>	SIBELCO LIME (TASMANIA) PTY LTD
<b>KEY WORDS</b>	LIMESTONE ORDOVICIAN INDUSTRIAL MINERALS
<b>COMMODITY</b>	LIMESTONE
<b>TECTONIC UNITS</b>	DUNDAS TROUGH WURAWINA SUPERGROUP
<b>1: 250 000 MAP SHEET</b>	BURNIE SK55-03
<b>1: 100 000 MAP SHEET</b>	MERSEY 8114
<b>1: 25 000 MAP SHEET</b>	GOG 4440



MOLE CREEK E71/2007  
DRILLHOLE LOCATION PLAN  
SCALE: 1:15000  
MGA

