

**Annual Report  
to 26<sup>th</sup> March 2019**

**EL30/2014  
Blackwater Rivulet**

**Tasmanian Advanced Minerals Pty Ltd**

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**Date:** 17 April 2019

## **ABSTRACT**

- This report covers the fourth year of exploration, during which bulk sample extraction for trial processing was undertaken.
- Auger drilling was done on previous holes which did not reach the silica bottom contact layer in previous exploration rounds.
- Much of potential silica resource on this licence is contaminated with impurities. TAM has engaged a test facility to investigate enhanced processing techniques to reduce contamination. Test work is on-going.

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## **List of Digital Files**

- EL302014-2019-Filelisting**  
**EL302014-2019-01-SL\_1**  
**EL302014-2019-02-DL\_1**  
**EL302014-2019-03-DG\_1**  
**EL302014-2019-04-SL\_1**  
**EL302014-2019-05-DL\_1**  
**EL302014-2019-06-DG\_1**

## 1. INTRODUCTION

EL 30/2014, Blackwater Rivulet, is held by Tasmanian Advanced Minerals Pty Ltd (TAM), and is located approximately 40km south-southwest of Smithton (refer to the location map below). The Licence was granted on 26 March 2015, and this is the fourth annual report for the period up to the March 26 2019 anniversary date.

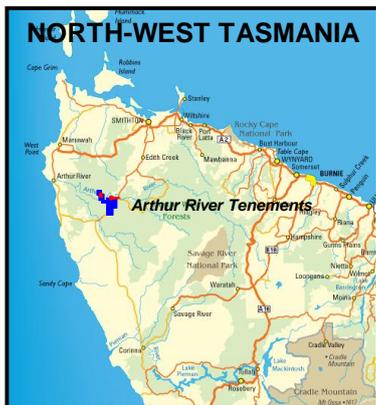
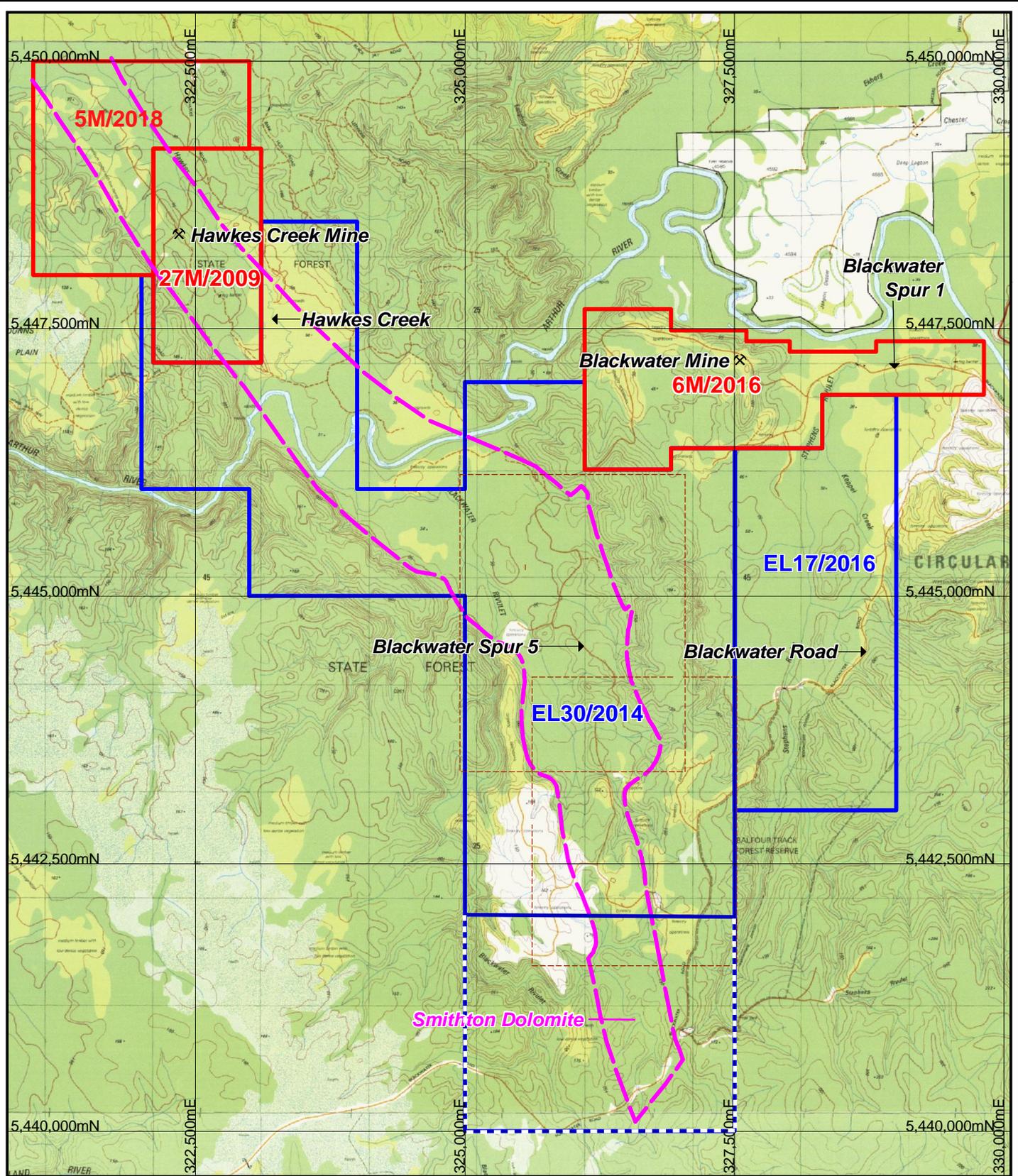
**Location Map: North-West Tasmania**



TAM is actively mining high purity silica from three locations in Tasmania, from one near Corinna, and from two areas near the Arthur River in northwest Tasmania, Blackwater (6M/2016) and Hawkes Creek (27M/2009). EL30/2014 is in the vicinity of Blackwater Rivulet, and the north-western and north-eastern boundaries of the licence adjoin Hawkes Creek and Blackwater leases respectively (refer to Figure 1). Silica deposits on this licence lie on the same line of strike as those in 27M/2009 and 5M/2018.

The company has several exploration licences. Exploration is being undertaken to increase resource available for processing at TAM's Wynyard factory.

Datum used in this report is GDA94.



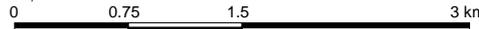
**LEGEND**

 Geological boundary inferred from MRT's Sumac 1:25,000 map

**TASMANIAN ADVANCED MINERALS P/L**  
ARTHUR RIVER TENEMENTS AT 01.06.17

**ML 27M/2009 and EL 15/2009 - HAWKES CREEK**  
**ML 6M/2016 - BLACKWATER**  
**EL 30/2014 - BLACKWATER RIVULET**  
**EL 17/2016 STEPHENS RIVULET**  
**LOCATION PLAN**

Compiled : Chris Stuart/Nic Turner	Drawn : DraftingWorks	Date : 01/06/2017	File : TAM-Tenements.wor
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Scale: 1:50,000	Projection: MGA Zone 55 (GDA94)	Figure No
		1

**N. J. Turner, Geologist**

## **2. REVIEW OF PREVIOUS WORK**

This licence's first year work consisted of test pitting in various locations along the line of strike in the dolomite band (indicated in Figure 1) between 5,444,000N and 5,442,000N (Stuart, 2016).

Work in the second year involved test pitting and auger drilling in five localities in a 4 km interval extending from Spur 5 in the south, northwards along the eastern part of the belt of Smithton Dolomite in a search for silica flour beneath superficial Tertiary gravel. No silica flour was found. It appears that the gravels in this zone are underlain by weathered dolomite and clay that is at least partly after weathered dolomite (Turner 2017).

Drilling and test pitting in the area referred to as 'Little Hill' (Turner 2017) indicated and estimated resource of 135,000 tonnes of silica.

No on-ground work was conducted reporting year to March 2018, due to timing of works program approval and equipment availability.

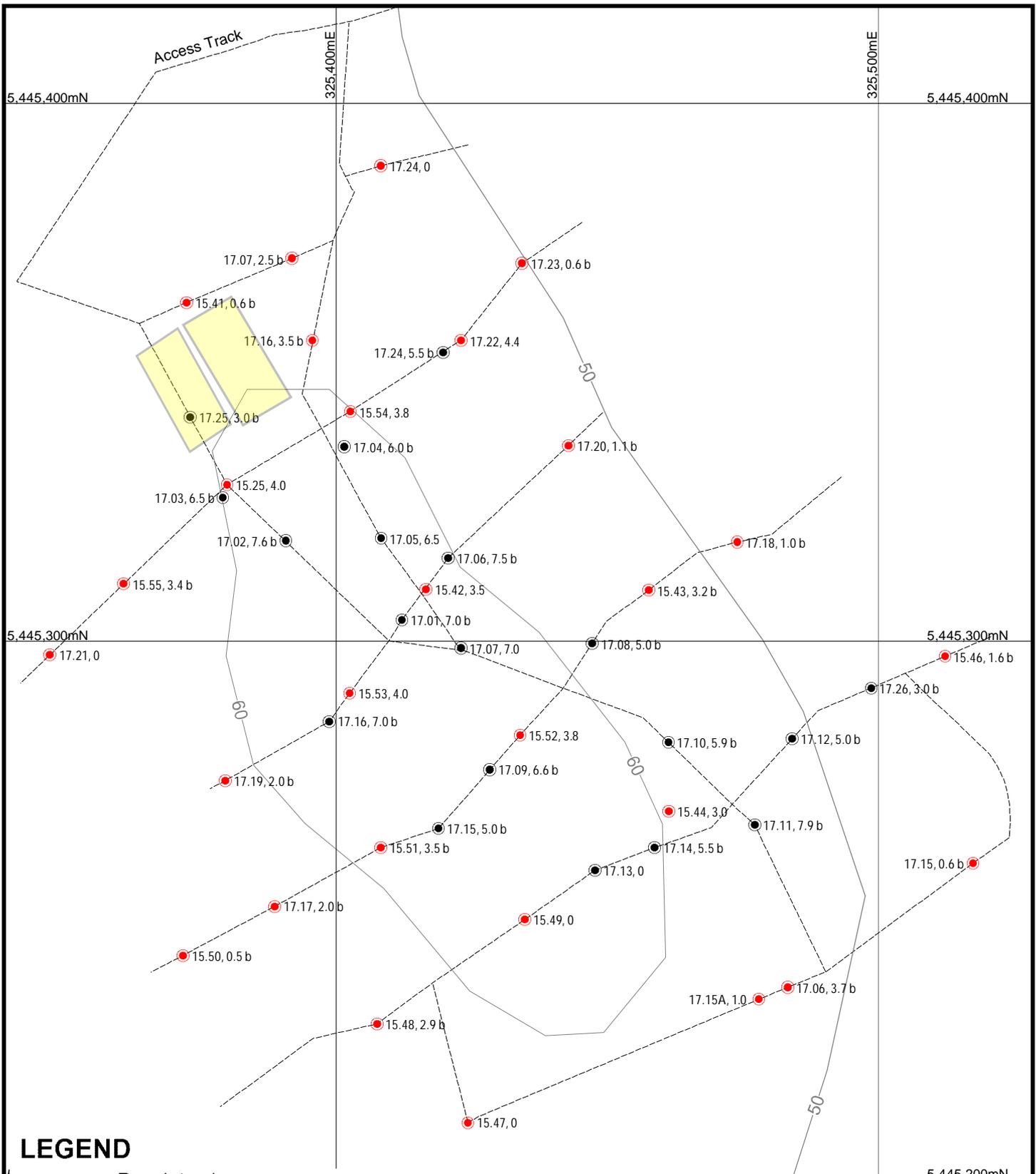
## **3. EXPLORATION COMPLETED DURING THE REPORTING PERIOD**

Between April 9 and April 11 two bulk samples of 500t each were extracted for processing trials at Wynyard. The silica was trucked to TAM's Blackwater mine, where it was screened prior sampling, analysis, and trucking to Wynyard. The pit locations are shown on Figure 2.

The screened silica was divided into approximately 17 equal volumes, each was sampled and analysed. The analytical results are presented in the accompanying excel file EL302014-2019-03-DG\_1.

Five holes were drilled by auger adjacent to 2015 test pits which did not reach the silica flour bottom contact. The purpose was to add depth to the resource volume. The hole locations are shown on Figure 3. Only 2m of additional depth was found at 18.03, 18.04, and 1m at 18.05.

Titanium minerals are deleterious impurities in silica used to make glass for LCD and OLED display devices. 2015 to 2017 exploration revealed that much of the silica on this licence has elevated concentrations of titanium minerals. If the levels are too high the silica cannot be used for this application. These types of impurities not only occur on EL30/2014 but also on TAM other licence EL17/2016 and in some areas of the Blackwater mine 6M/2016. Some titanium impurities can be removed by processing. Non-magnetic titanium impurities which are close in specific gravity to silica are difficult to remove. TAM engaged UTAS to identify the form of the impurities, and engaged Mineral Technologies Pty Ltd to work jointly on potential processing techniques. The Mineral Technologies co-work is on-going.



### LEGEND

- Rough track
- Bulk Test Pit Location
- 15.54, 3.8  
17.07, 2.5b Test pits (ATP) and number with thickness of pale silica flour
- 17.06, 7.5b Auger hole (AAH) and number with thickness of pale silica flour
- b Indicates the bottom of the pale silica flour was reached

Surveyed by compass and "chainman".  
Matched to GDA94 grid using average of 7 GPS measurements at AAH17.04

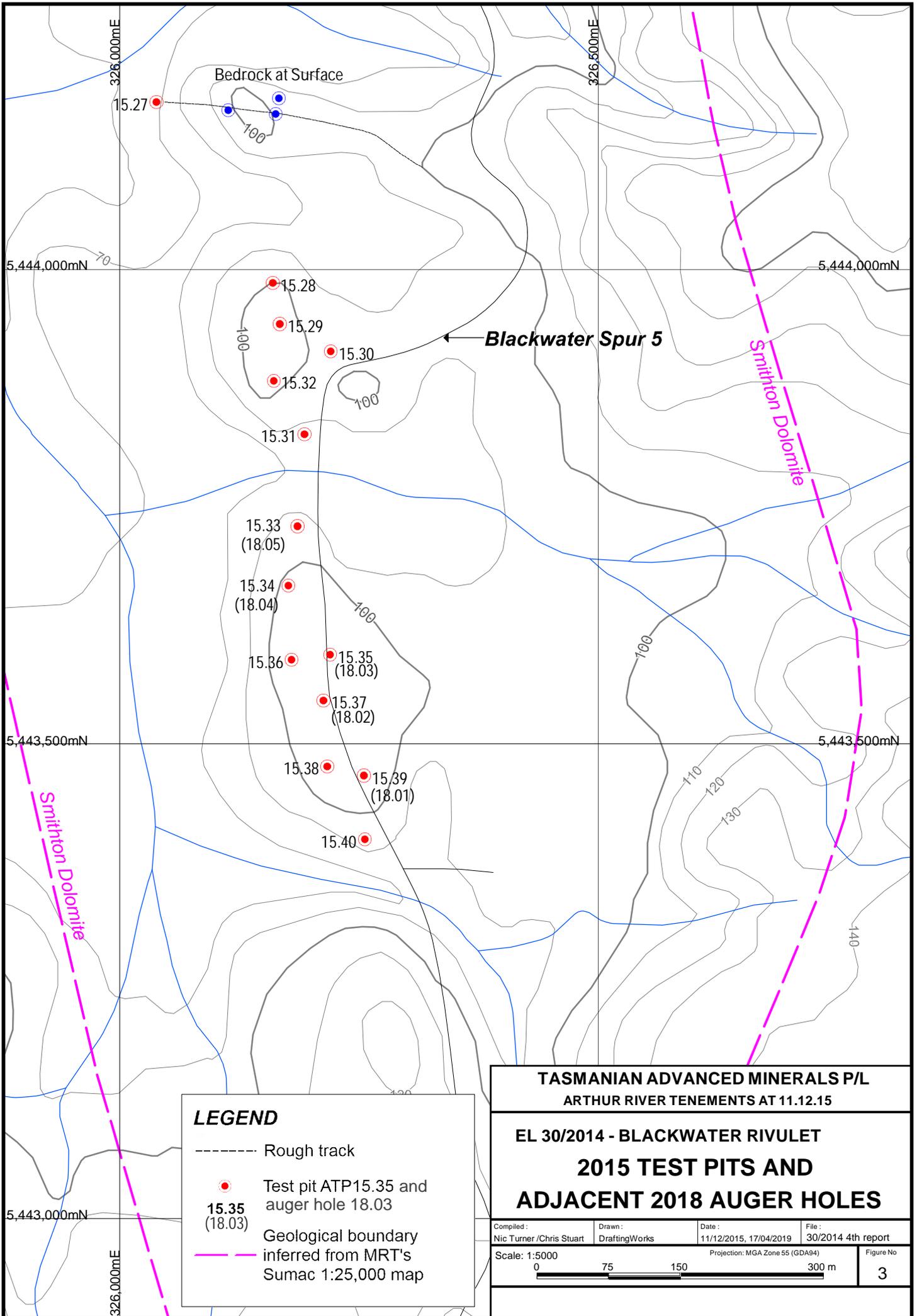
**TASMANIAN ADVANCED MINERALS P/L**  
**ARTHUR RIVER TENEMENTS AT 01.06.17**

**EL 30/2014 - BLACKWATER RIVULET**  
**2018 BULK SAMPLE TEST PITS**  
**AND 2015/2017 EXPLORATION**

Compiled : Nic Turner, Chris Stuart	Drawn : DraftingWorks	Date : 01/06/17, 17/04/19	File : Bulk Samples 2018
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Scale: 1:1000	Projection: MGA Zone 55 (GDA94)	Figure No
		2

**N. J. Turner, Geologist**



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

The bulk samples' analytical results were somewhat variable in transition metal impurities, but generally low, and would be beneficial blend component (ie lower impurity levels than average). The particle size distribution tended to be slightly coarser than silica from the nearby Blackwater mine. This will limit the amount useable in blends as too many coarse particles can lead to screening circuit overload. The processing trials revealed that the bulk sample silica was able to be used at up to 16% of the feed blend. In addition the deposit could be useful in new product development where customers required coarser grades.

The auger drilling added slightly more depth at the resource in the knob located between 5,443,350N and 5,443,800N at auger holes 18.03, 18.04 and 18.05. A speculative, non-JORC resource is estimated at 135,000t (based on an area of 3Ha, 4.5m average depth, 2.0 t/m<sup>3</sup> in-situ bulk density, and 50% waste).

The research into the nature of the high level titanium impurities undertaken by UTAS concluded that a large portion of impurities occurs as complex intergrowth of titanium-oxide in the silica particles. These particles are close in specific gravity to silica and are non-magnetic.

The work by Mineral Technologies into potential processing techniques to reduce titanium impurities is on-going. No conclusions have yet been reached.

#### **5. CONCLUSIONS**

The bulk sampling trial demonstrated that the silica is suitable as a blend component for TAM's current product, and might also be useful in developing new coarse particle size products. Turner (Turner 2017) estimated this resource at 135,000t

The auger drilling on the knob located between 5,443,350N and 5,443,800N indicates an estimated additional 135,000t bringing the total estimate to 270,000t. Therefore TAM intends applying for a mining lease over the area of the licence.

Several potential explorations targets remain, particular near the eastern boundary of the inferred Smithton dolomite boundary. The company intends to undertake auger drilling in those locations.

Processing technique improvement investigation will continue.

#### **6. ENVIRONMENT**

The auger holes were capped and vegetation pulled back over the access track.

Topsoil and vegetation was pulled back over the bulk sample test pits. The test pits are naturally animal safe because of the topography - there being no decline, rather the pit was ramped up into the hill.

## **EXPENDITURE**

Expenditure for the period April 2018 to March 2019 is listed below. These costs do not include third party investigations (UTAS, Mineral Technologies), or processing costs.

Excavator Hire	\$16,680.00
Truck Hire	\$21,457.50
Drilling	\$2,467.02
Administration/Reporting	\$4,060.45
Total Costs	\$44,664.97

## **REFERENCES**

Turner, N.J. 2017 EL30/2014 Blackwater Rivulet Report to 26<sup>th</sup> March, 2017.