Final Report
to 3rd April 2021

EL17/2016

Tasmanian Advanced Minerals Pty Ltd

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Date: 19 July 2021

ABSTRACT

- This report covers the final two years of the licence.
- QEMSCAN analysis was undertaken to profile the types of titanium impurities present in the resource.
- Bulk samples were taken, and trial processing was conducted.
- A mining lease was taken over a portion of the licence.

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1. INTRODUCTION

EL 17/2016 is held by Tasmanian Advanced Minerals Pty Ltd (TAM) and is located approximately 40km south-southwest of Smithton (refer to Figure 1, Location Map). The Licence was granted on 3 April 2017. Mining lease 3M/2020 was granted on 12 April 2021 and includes the portion of EL17/2016 required for extraction activities.

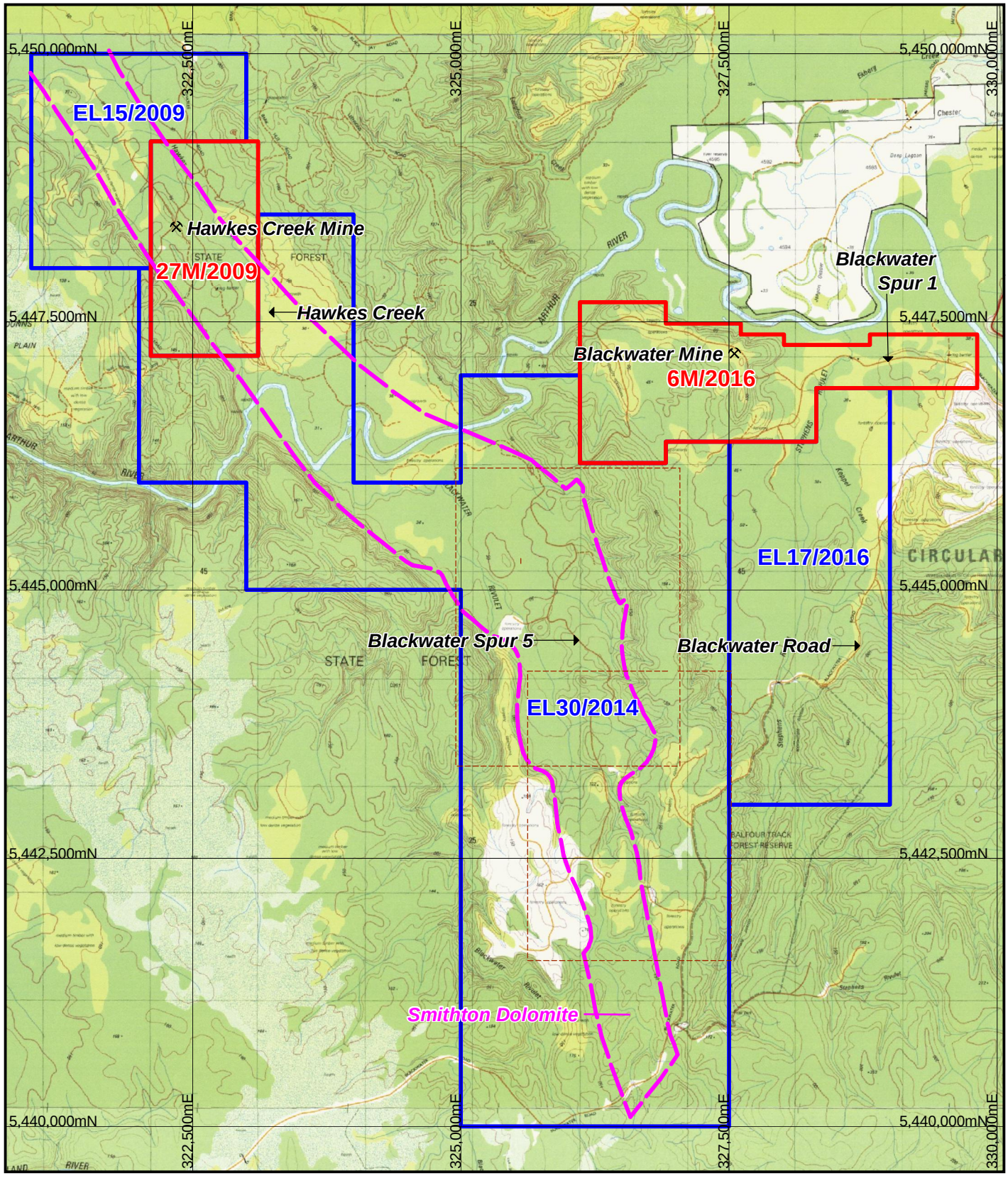
This is the final report for the period up to 3 April 2021.

TAM currently mines 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). Exploration is being undertaken to increase the resources available for processing at TAM's Wynyard factory.

There is a line of strike of small hills in EL17/2017 which runs NNE-SSW adjacent to the Roger River Fault, commencing in the north with the Blackwater East deposit which lies within 6M/2016. Those hills were the main target of exploration in this licence.

There were other potential other targets on the western side of the licence. Reconnaissance by foot and visual inspection of the ground surface eliminated these small hills as having potential silica resources.

Datum used in this report is GDA94.



LEGEND

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

Base image by TASMAP, © State of Tasmania

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 :	Drawn :	Date :	File :
Chris Stuart/Nic Turner	DraftingWorks	01/06/2017	TAM-Tenements.wor

Scale: 1:50,000 — Projection: MGA Zone 55 (GDA94) — 0 — 0.75 — 1.5 — 3 km

Figure No 1

N. J. Turner, Geologist

2. REVIEW OF PREVIOUS WORK

Turner (Turner, 2000) identified two samples of “angular silica rock fragments with silica flour matrix” on the Keppel Creek Hill, and had three samples analysed that were taken from cuttings further south along Blackwater Road. Those occurrences along the road are probably too small to be commercially viable.

TAM conducted the first year of exploration for this licence in 2017 and 2018. The program involved auger drilling and test pitting on a hill between 328200 and 328600 Easting, and 5444950 and 5445550 Northing (the Keppel Creek Hill). The Auger holes were drilled to a depth of 12m with a Dando Terrier and the pits dug with a 14t Doosan excavator. In total, 18 test pits and 64 auger holes were dug/drilled.

Laboratory analysis of the impurities found that titanium impurities are present especially on the eastern side of the Keppel Creek Hill. Most of these impurities were not able to be removed by laboratory scale magnetic separation processes.

Auger drilling and test pitting established the presence of a large resource at Keppel Creek hill, but with concerns about the portion which will be commercially exploitable due to the presence of the titanium mineral impurities.

3. EXPLORATION COMPLETED DURING THE REPORTING PERIOD

Titanium minerals are deleterious impurities in silica used to make glass for LCD and OLED display devices. If the levels are too high the silica cannot be used for this application. These types of impurities not only occur on EL17/2016 but also on former licence EL30/2014 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.

In August 2019 TAM engaged Light Deep Earth (Pty) Ltd of South Africa to undertake QEMSCAN analysis of silica including samples with elevated titanium impurities from EL17/2016. The purpose was to characterise the nature of the titanium minerals in order to understand how/whether the resource can be processed.

An Exploration Works Program (ref. WPA20/15) was approved on 24 April 2020 for extraction of three bulk samples of 100t each for trial processing. Two of the bulk samples were extracted in May 2020. The third sample could not be taken due to waterlogged ground conditions.

The silica was extracted from the two pits, trucked to the company’s nearby Blackwater mine and screened to remove +50mm lump/rock. As the material was screened stockpiles was made for each pit’s silica. During this process samples were taken and composited into two samples of flour from each pit, representing approximately 50t each of extracted silica. In addition, one sample of the -50mm

lump/rock from each test pit were also taken. The samples were analysed for chemical impurities and particle size distribution.

The samples were processed at the Wynyard factory in May 2020.

KC Test Pit 1 – silica flour including rock

KC Test Pit 2 – prior to extraction

4. DISCUSSION OF RESULTS

Discussion of Light Deep Earth QEMSCAN work is presented in Appendix 1 to this report. Much of the titanium is not susceptible to magnetic or gravity separation.

The processing trial revealed that approximately half of the titanium impurities identified in the 45 to 250µm fraction could be removed using the existing process equipment.

5. CONCLUSIONS

A large portion of the resource will be able to be used as a feed component when blended with resources from TAM's other mines. Therefore, the company applied for a mining lease, which was granted in April 2021.

There are additional exploration targets along the line of strike referred to in the Introduction. The company plans to explore these areas, within the new mining lease, in 2022 following completion of a natural values assessment in 2021.

6. ENVIRONMENT

The two test pits were made safe and covered with topsoil. Tracks remain open.

EXPENDITURE

Expenditure for the period April 2019 to March 2021 is listed below.

Geochemistry/Laboratory	$	7,461.01
Drilling / Extraction	$	14,019.27
Other (processing)	$	18,916.00
Administration	$	1,954.81
Total Costs	$	42,351.09

REFERENCES

Turner, N.J. 2000, EL61/94 Arthur River Interim Report to 31st May 2000.

Appendix 1

Tasmanian Advanced Minerals Pty Ltd
(ABN 51 122 089 221)

T.A.M. Laboratory

EL17-2016 TiO_2 removal test work

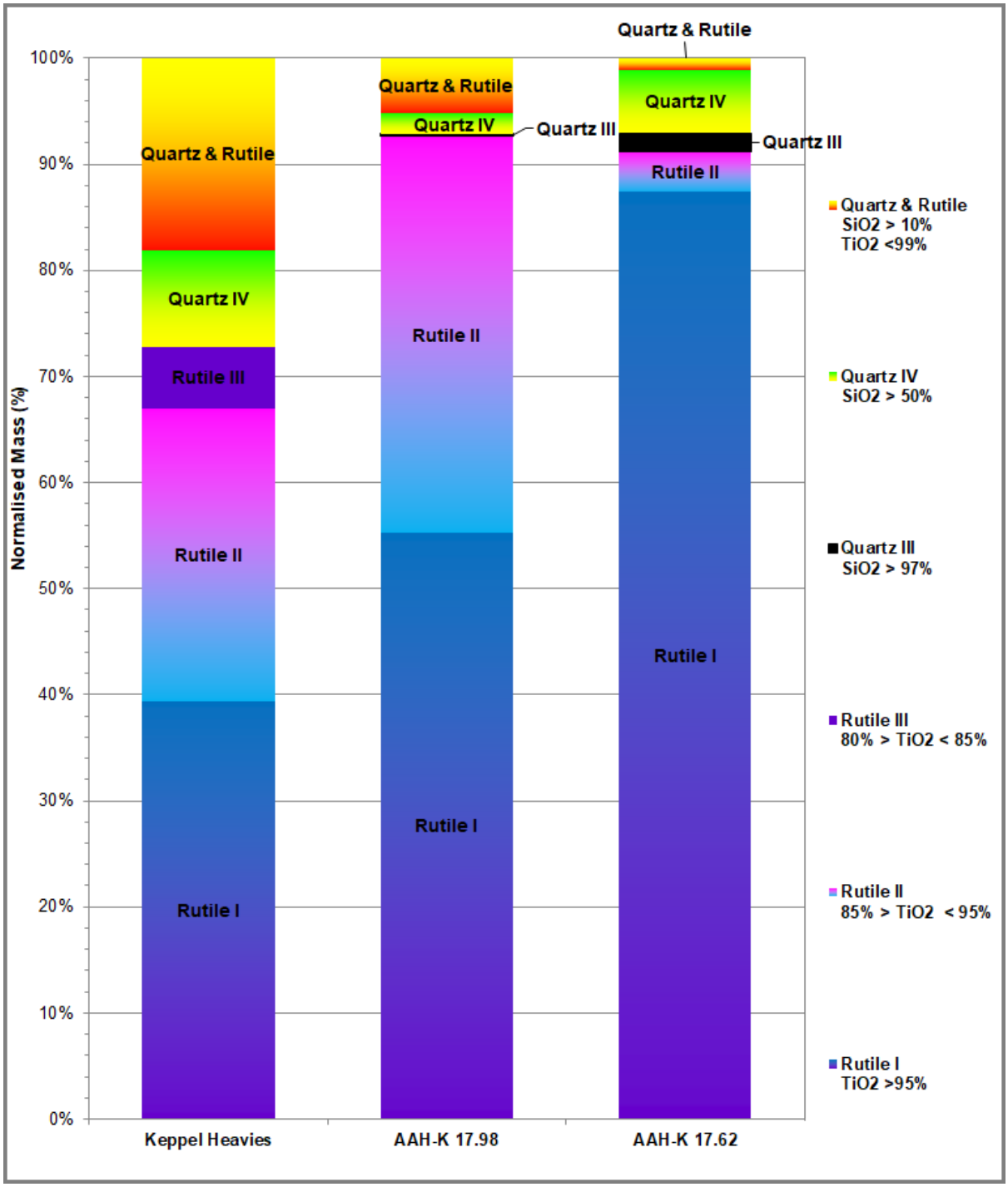
TAM's Titanium challenge is two-fold. Firstly, the 45/250µm portion of the material of certain areas are elevated and approximately 85% of TAM's final product is in this size fraction. Secondly, the finer size fractions are extremely high in Titanium and other impurities. It has been established that TAM's silica contains three different forms of Titanium impurities:

- Individual TiO_2 particles (such as rutile)
- TiO_2 impurities on the surface of the silica
- TiO_2 impurities in the silica crystal matrix

The surface impurities and the impurities in the crystal matrix cannot be removed. Heavy liquid work done by TAM's laboratory has shown significant reduction in the Titanium concentration in the 45/250µm size fraction and it proves that in theory, heavy minerals such as rutile can be separated from the silica by gravity separation.

Sample	Fe_2O_3	TiO_2	Cr
AAH- K 17.62 - before h(l)	77	828	2.3
AAH- K 17.62 - after h(l)	62	335	1.2
% removed	**19%**	**60%**	**46%**
AAH- K 17.98 - before h(l)	45	438	0.7
AAH- K 17.98 - after h(l)	39	266	0.6
% removed	**13%**	**39%**	**25%**

Material from the exploration area was sent for QEMscan analysis and results support this theory. As can be seen from the graph below, a large part of the impurities consists of various forms of rutile. It has to be noted that magnetic impurities were removed from the sample with a strong magnet before analysis.



Keppel Creek - QEMscan results

Currently on the market are MG12 spiral separators which features 12 turns - TAM's current spirals are MG4 (4 turns). The MG12 is highly efficient in separating impurities and it has a higher feed capacity. After obtaining approval from MRT to extract a bulk sample from Keppel Creek, TAM will send this material to be tested on the MG12 spirals.

Laboratory testing on material from TAM's active mines has indicated that most of the impurities are in the -45µm size fraction of the material. The -45µm impurities will report to the Fines portion of TAM's product and approximately 15% of all TAM's product is in the -45µm size fraction. Further testing has indicated that the -25µm portion is extremely high in Titanium and other impurities. TAM believes that it is possible to remove this size fraction and laboratory testing has proven to be very promising.

Sample	Fe_2O_3	TiO_2	Cr
Knob 45/250µm	49	115	11.8
Knob 25/45µm	44	137	3.3
Knob -45µm	98	573	9.1
Knob -25µm	140	910	12.6

The factory will be conducting testing in the future by using hydro-cyclones to remove the -25µm size fraction.