



**Annual Report
to 3rd April 2018**

EL17/2016

Tasmanian Advanced Minerals Pty Ltd

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Date: 2 May 2018

ABSTRACT

- This report covers the first year of exploration, during which some 64 auger holes were drilled and 18 test pits were dug on one hill located near the eastern side of the licence.
- This first round of exploration indicates a large deposit is present, but with variable quality.
- To quantify the extent of a commercial resource, further investigation should include:
 - more drilling to increase understanding of the extent of impurities
 - on-going investigation into the physical and chemical nature of the impurities
 - potential commercial-scale removal techniques
- The licence has other silica targets that are not yet investigated.

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EL172016-2018-Filelisting
EL172016-2018-01-SL_1
EL172016-2018-02-DL_1
EL172016-2018-03-DG_1
EL172016-2018-04-SL_1
EL172016-2018-05-DL_1
EL172016-2018-06-DG_1

1. INTRODUCTION

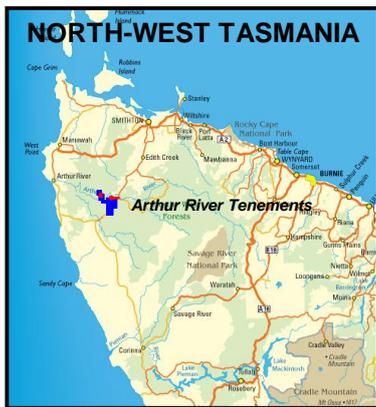
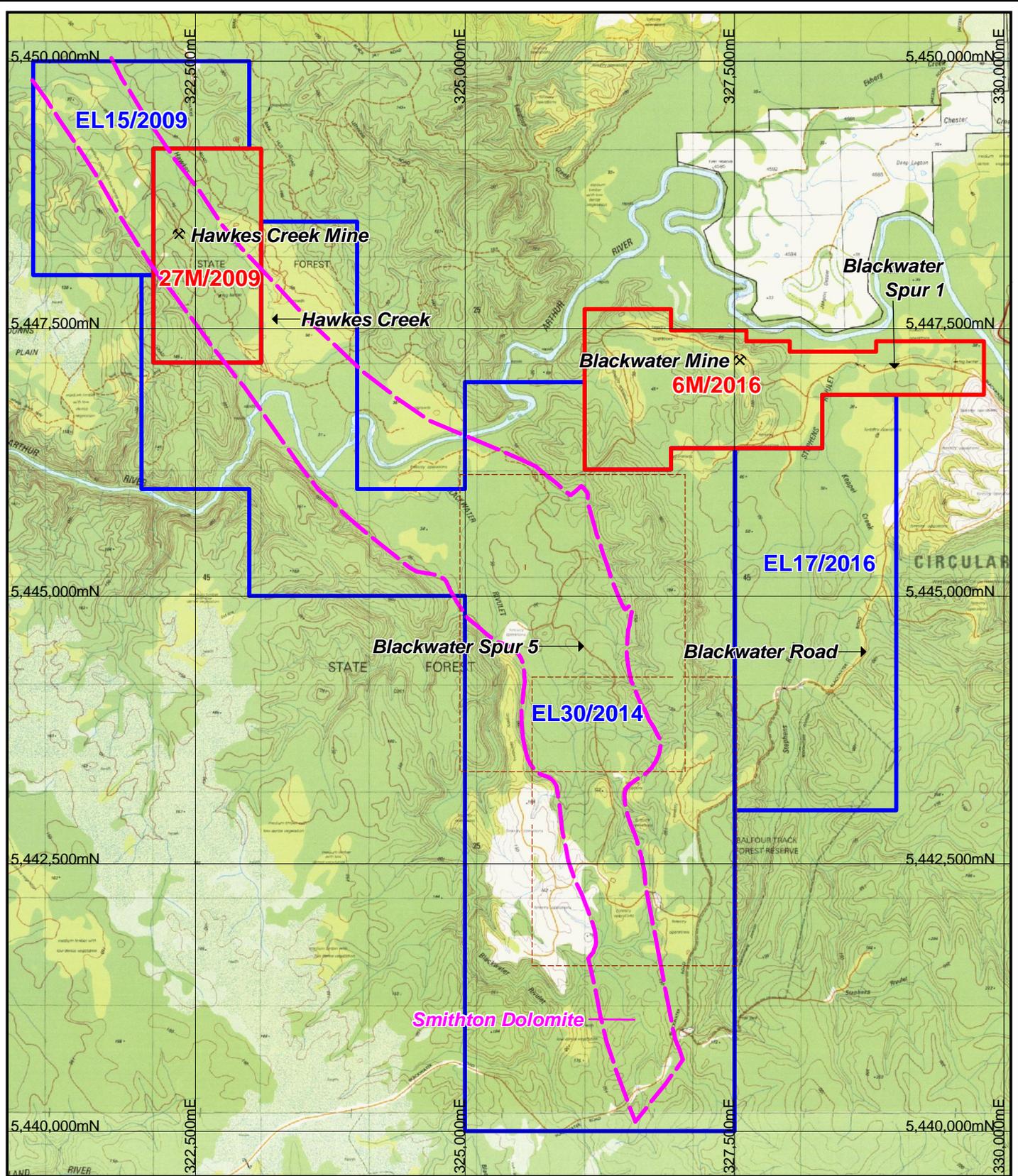
EL 17/2016 is held by Tasmanian Advanced Minerals Pty Ltd (TAM) and is located approximately 40km south-southwest of Smithton (refer to Figure 1, Location Map). The Licence was granted on 3 April 2017. This is the first annual report for the period up to 3 April 2018.

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). TAM also holds other exploration licences in the vicinity, EL15/2009 and EL30/2014. EL17/2016 borders 6M/2016 to the south, and EL30/2014 to the east. 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 that lies within 6M/2016. Those hills are a target of exploration in this licence.

There are potentially other targets on the western side of the licence that are yet to be investigated.

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.



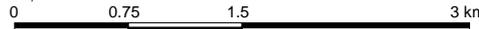
LEGEND

 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

EL61/1994 was granted on 9.6.1995 to HD Nolan the owner of Cominex Pty Ltd. Nolan and Cominex are also shareholders of TAM. The tenement comprised 23 km², in two separate blocks. The southern block was elongated in a NNE – SSW direction, and comprised approximately 17km² following a line roughly along Sumac and Blackwater Roads. The northeast extent was near the intersection of Sumac Road with Canadian Creek (Turner, 2000). Much of EL17/2016 lies within the southern block of EL61/1994.

Turner 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.

3. EXPLORATION COMPLETED DURING THE REPORTING PERIOD

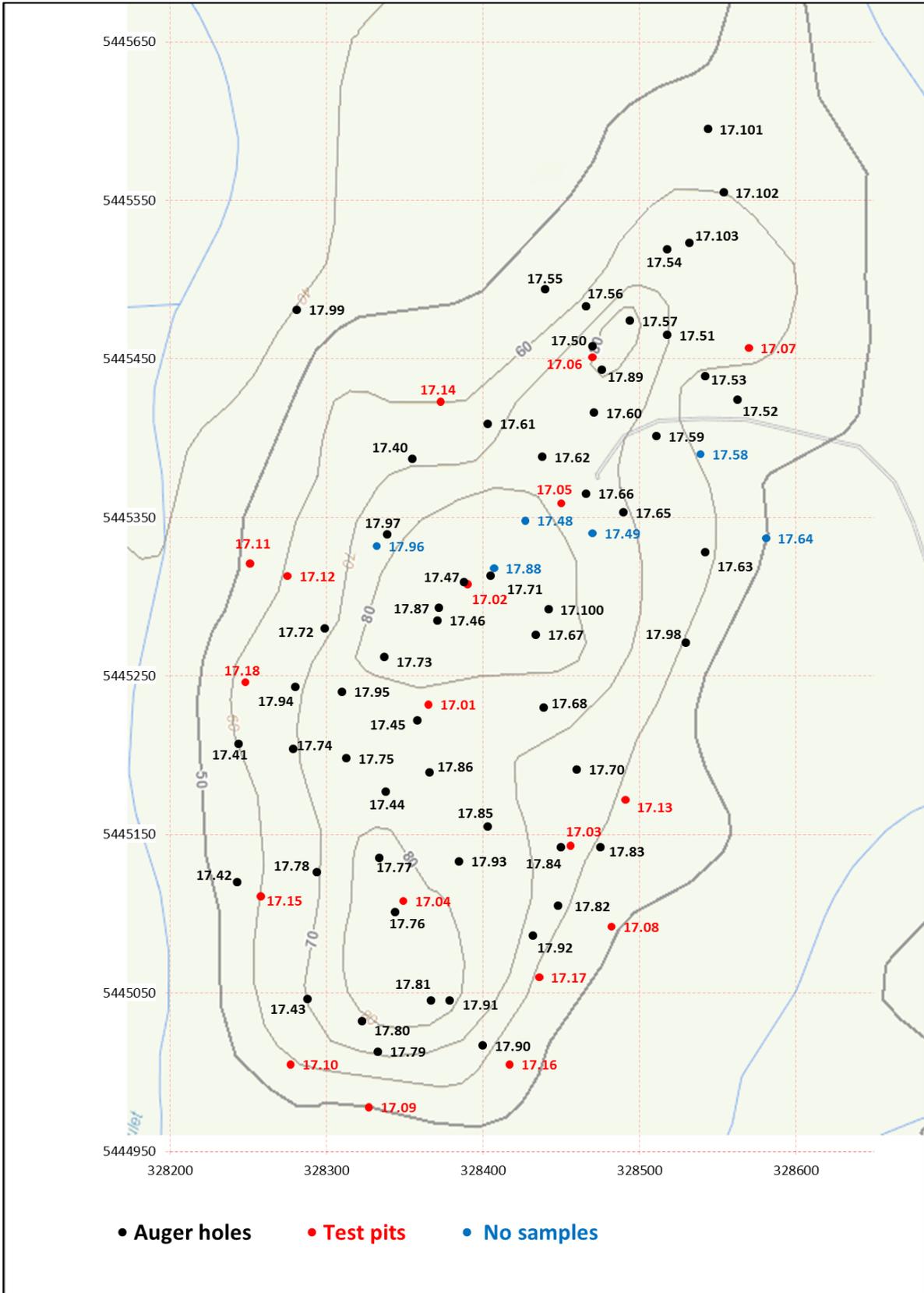
An Exploration Works Program (ref. WPA17/11) was approved on May 17 2017. The program involved auger drilling and test pitting on a hill between 328200 and 328600 Easting, and 5444950 and 5445550 Northing (the Keppel Creek Hill). The hill has been previously logged and has a main access track running north-south along the ridge line. Many snig tracks are also present. These tracks were utilised where possible, and several new tracks were made to enable a systematic grid of pits and holes.

Auger holes were drilled with a Dando Terrier and the pits dug with a 14t Doosan excavator. In total, 18 test pits and 64 auger holes were completed as shown in Figure 2.

Due to the number of drill rods on hand, hole depth was limited to a maximum of 12m.

Samples were taken from each pit and auger hole at approximately 1m intervals and analysed for a range of impurities, particularly CaO, MgO, Al₂O₃ and various transition metals.

Figure 2: Pit and Hole Locations



4. DISCUSSION OF RESULTS

With a few exceptions, almost all holes and pits intercepted silica flour, some of which included substantial agate rock. The flour was variable in quality. Impurities that negatively impact the company's products include Fe_2O_3 , TiO_2 , Cr and other transition metals.

TAM's processing facility at Wynyard is able to remove a large amount of these impurities. Although Fe_2O_3 and Cr impurities are present at high levels throughout much of the resource, recent improvements in magnetic impurity removal at Wynyard means that the extent of those impurities found in the present exploration work, will not constrain its use as a substantial portion of future feed blends to the processing facility. The results do however indicate that TiO_2 impurity will be the limiting factor in commercial exploitation of this resource.

If Titanium is present as a pure mineral such as rutile or ilmenite, removal is quite easy by either gravity, or also by magnetic separation in the case of ilmenite.

It is understood that the Titanium-Iron mineral ilmenite is often present in TAM's silica resources. Ilmenite often contains both Magnesium and Manganese with a chemical formula of $(\text{Fe}, \text{Mg}, \text{Mn}, \text{Ti})\text{O}_3$.

Based on the stoichiometric change observed when comparing untreated silica, and a fraction that has been separated in the laboratory by heavy liquid separation (heavy portion removed, ref. Table 1), and subsequent microscope work on the particles, it is likely that highly altered ilmenite might also be present in the form of leucoxene in which the Iron has been weathered away, increasing the Titanium concentration. Leucoxene particles are less susceptible to magnetic fields due to the decrease in Iron content.

The titanium oxide mineral rutile is also present. It is non-magnetic and will not be removed by magnets. Ergo, these impurities have to be removed by gravity separation – such as spirals.

Table 1: EL17/2016 Silica sample separated by Heavy Liquid (SG 2.8)

Sample ID	Fe₂O₃	TiO₂	Cr	Fe : Ti
Keppel s/2 - <i>before heavy liquid</i>	24	306	0.9	0.08
Keppel s/2 - <i>after heavy liquid</i>	21	110	0.3	0.19
ppm difference	3	196	0.5	
% reduction	12%	64%	60%	
Keppel s/3 - <i>before heavy liquid</i>	24	341	1.2	0.07
Keppel s/3 - <i>after heavy liquid</i>	21	114	0.4	0.18
ppm difference	3	227	0.8	
% reduction	13%	67%	66%	

Spirals however are very efficient when the difference in specific gravity is large (eg Silica 2.6, heavy mineral SG ~4+). However as seen in Table 1 above, much of the titanium is present in a form that has a specific gravity close to silica (only 64-67% removed at 2.8SG).

Due to the large size of the deposit and the promising laboratory results, TAM considers that the Keppel Creek deposit has potential to be of great value in the future. Laboratory testing continues and will hopefully include larger scale mineral separation which will be followed by an industrial investigation to determine if suitable equipment is available to separate the relatively low SG heavy minerals.

Figure 3 shows average TiO₂ levels in ppm through the pit or hole (the value is sometimes modified, eg discarding the results in the top metre due to contamination from overburden). The numbers shown in black indicate silica not capable of being processed at Wynyard. The eastern side of the deposit contains high titanium silica.

There are 3 distinct areas within the Keppel Creek hill – northern, central and southern sub-hills. The Southern sub-hill appears to generally contain useable quality silica flour.

5. CONCLUSIONS

The first year exploration and associated laboratory investigation indicates the presence of a potentially large volume resource at Keppel Creek hill, but with concerns about the portion which will be commercially exploitable due to the presence of titanium mineral impurities.

Additional work will focus on deeper drill in areas where the first year exploration did not reach the bottom contact, and possibly higher drill hole density. Work will also continue on narrow SG range separation.

Additional resource targets within the licence also should be investigated.

6. ENVIRONMENT

Test holes were covered and pits were back filled. Tracks remain open for further exploration work.

EXPENDITURE

Expenditure for the period April 2017 to March 2018 is listed below. The company's general practice is to undertake most exploration works in the summer and early autumn months, while the weather and daylight condition provide high productivity. As a result, much of the laboratory analyses were done near the end, or after the reporting period had concluded (March and April 2018). So there are additional costs associated with this April 2017 – March 2018 exploration work, that will fall into the 2019 reporting period.

Geochemistry/physics	\$	25,275.08
Mapping & Plotting	\$	3,200.00
Drilling & Pitting	\$	36,645.39
Feasibility Studies	\$	1,016.33
Other	\$	5,427.81
Administration	\$	6,836.46
Total Costs	\$	78,401.07

REFERENCES

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