

# SHREE MINERALS LTD



9<sup>th</sup> August 2018

The General Manager  
Circular Head Council  
33 Goldie St Smithton  
Smithton, TAS 7330 .  
Via email

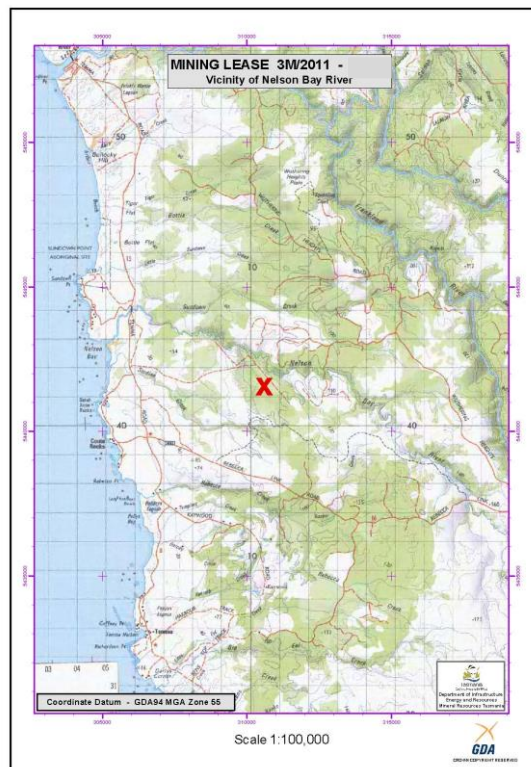
Dear Sir,

**Re: NELSON BAY RIVER IRON PROJECT**

## Development Application

This letter accompanies a completed Development Application form and is intended to provide back ground information for the application.

The location of the project is shown in **Figure 1**.



**FIGURE 1** MINING LEASE 3M/2011 LOCATION – NW TASMANIA

**SHREE MINERALS LTD, ACN 130618683**  
**Unit 38, The Pines Business Centre,**  
**18 Stirling Highway, Nedlands, WA6009**  
**Phone: + 61 (08) 61507565, FAX: +61 (08) 93891199**  
**www.shreeminerals.com**

## 1 Background

Shree Minerals is an ASX listed mining & mineral exploration company (ASX: SHH). Shree is well supported by cornerstone investors including , RB Investments Pte Ltd, a Singapore based investment group and China Alliance International Holdings Group Limited, a Chinese investment group . The Company's 100% owned Nelson Bay River Project is an advanced project that has significant iron resources estimated as per the Australasian Code for Reporting of Mineral Resources and Ore Reserves (the 'JORC Code' or 'the Code') guidelines.

We are the first company to conceptualise and discover direct shipping ore (DSO) iron ore resources in Tasmania, paving way for other similar discoveries and investments in the region , like Venture Minerals.

Due to delays in the environmental approval process, the mine was delayed by some 2 years and as such did not start until November 2013 and pushed the project out to the bottom of commodity price cycle. Unfortunately, the start-up coincided with a marked decline in iron ore prices by nearly 50%. This rendered the project uneconomic and it was placed in care and maintenance in June 2014 with excavation of the SDSO pit only about 25% complete.

Nelson Bay River Iron Project is the first Greenfield mine in North West Tasmania in many years creating economic benefits for the region. For the brief period the mine operated, over 50 people were directly employed through the company and/ or Contractors working for the mine with a huge spin off multiplier effect.

The project development is in North West Tasmania – an area in need of stimulus & economic development for employment generation. The economic activity generated by the project to date has been over approximately \$27 million with substantial employment. At Current (June 2018) Commodity prices for the current mine life, the project can generate over \$300 mn of economic activity with substantial exploration upside.

## 2 The Nelson Bay River (NBR) Mine Project

### 2.1 History of Mine Development and Regulation

The NBR project has a JORC compliant global Iron resource of 11.3 Million tonnes (MTs) including goethitic-hematite resource of 1.4 Mts and magnetite resource of 7.8 Mts.

Shree was granted a permit (DA 2001/00171) to operate from the Circular Head Council the mine in 2012 . The information provided for the planning application was a DPEMP (with supplements), which also became endorsed documents and part of the development consent ( Pitt and Sherry, 2011, Pitt and Sherry 2012(a), 2012 (b), 2012 (c), 2012 (d) .

The Permit (DA 2001/00171) included the EPA Permit Conditions – Environmental No 8568. These Permit conditions essentially divide the Mine Development into two stages. Stage 1 and Stage 2 refer to the two stages of mining defined in sections of the first DPEMP Supplement dated 23 March 2012 ( Pitt and Sherry, 2012(a).

Stage 1 refers to the mining of oxidised hematite (DSO) from the Southern DSO Pit (SDSO) and beneficial oxide ore (BFP) from the Main (magnetite) Pit, and Stage 2 includes any mining and processing (including tailings) of magnetite ore. CN5 of the EPA Permit Conditions requires a Stage 2 Feasibility Plan to be submitted at least 6 months prior to the commencement of construction of Stage 2.

The Tasmanian EPA approval terms & conditions stipulated that all PAF rock excavated as part of mining, should be stored below permanent ground water level – this is practically an impossible condition to be achieved for a first open pit mine & can be achieved for second open pit at the same location as the void in the first pit below permanent ground level would become available. To our knowledge, to-date such a condition has not been imposed in any open pit mine anywhere in the world for a first open pit mine at a given location.

PAF rock storage above surface to contemporary environmental practice globally provides long term solution as well as provides flexibility for any changes in PAF rock quantities mined as there is no limitation of space being the size of void available below permanent ground water level. Every mine would progressively change mine life & hence quantities of material to be excavated, including ore & waste (NAF & PAF). Such changes within the same open pit & same waste dumps normally do not require permit changes & amendments.

Consequently, Shree submitted an application to vary the permit conditions to the EPA in October 2013 (Nelson Bay River Mine Temporary PAF Storage Proposal – information to support Permit Variation (V3) (Shree Minerals 28 October 2013).

The EPA issued EPN 8977/1 (1 Nov 2013) which varied the original permit (PCE 8568) to allow the temporary storage of Potentially Acid Forming (PAF) waste rock outside the footprint of the SDSO Pit.

Consequently, Shree designed and operated the SDSO pit with the PAF materials mined and stored in the temporary waste dump with the planned long-term storage to be in the SDSO pit after mining of this pit was completed.

Due to a marked decline in iron ore prices by nearly 50% , the project was placed in care and maintenance in June 2014 with excavation of the SDSO pit only about 25% complete.

In a letter dated 30 March 2015, the Tasmanian EPA Director advised that as a consequence of a judgment in the Supreme Court of Tasmania, he advised that since the current PAF Storage Dump is situated outside the footprint of the SDSO pit, He required actions to bring PAF waste rock management at the mine site into compliance with the requirements of PCE 8568. This included the management of the PAF waste rock while it is located outside the Pit.

Shree has been in constant discussions and communication with Tasmanian Government authorities and investigated various options including preparing a management plan for relocating the current PAF dump to within southern end of SDSO pit, and making a new development application from the Circular Head Council.

Tasmanian Resource Minister in August 2015 advised Shree to apply for an approval for above surface PAF rock waste storage facility.

In a letter dated 3 March 2016, the EPA advised that the proposal could not be considered anything other than an integral aspect of the mine and therefore it was not possible to consider assessment of the management of mine wastes rock in isolation from the mine. Further, it advised Shree that it should apply for a new permit for the mine, incorporating the above ground waste rock facility.

Shree, in a letter to the EPA dated 3 June 2016 has agreed to apply for a new permit for the mine. Consequently a development Application was submitted in October 2016 & guidelines for preparing DPEMP was received in February 2017.

In Nov 2017 , Shree completed & submitted draft reports for waste rock characterisation (Geochemical work & geology work ). Shree believes these meet the guidelines for the DPEMP.

In a meeting in Dec 17 , EPA advised that in their and MRT's opinion, the work was adequate for DSO pit but not sufficient for the magnetite pit . They recommended further drilling & test work for magnetite pit waste rock.

The current Permit 8568, contains a condition that prior to commencement of magnetite pit , Shree would complete further technical studies & obtain EPA approval. The current recommendation to do further drilling & test work for magnetite pit is bringing forward work for that stage upfront. hree has been working with EPA for last few months to mutually agree on that further required work for magnetite pit .

However , with the delays in the approval process and ongoing costs is a huge financial impost on Shree . Hence, bringing forward the work for the magnetite pit upfront will cause financial hardship. This is further exasperated by the loss of confidence in capital markets due to ongoing uncertainty with regulatory environment in Tasmania. This may result in the company being pushed to a situation where it is forced to close the mine & any resultant rehabilitation will permanently sterilise the mineral resource which would be a significant loss for the North West Tasmanian community besides loss of royalties & other taxes for the Government .

Consequently, Shree is now making this Development e Application for the new permit for DSO operations only.

The major reasons to apply for a new permit is:

- i. Because the SDSO pit is only 25% complete, there is insufficient space for the PAF waste rock dump to be stored below surface and ultimate flood level of the pit; and
- ii. That this action ( storage PAF waste rock in the deepest part of SDSO pit before mining of the pit is completed) would sterilise the remaining resources in the SDSO pit ; and
- iii. PAF storage above ground level in a safe environmental manner is universally practiced throughout the world by almost all open cut mines and with adequate procedures like truck dumping, compaction, alkali addition ( by trucking it in from offsite sources) etc will meet generally accepted mining industry practice. To our knowledge NBR is globally the only bulk mining open cut project to have this condition of storing PAF rock below ground level under permanent water cover, probably due to lack of alkali material at site & not considering the possibility of trucking it in from offsite sources; and
- iv. While, there are no adverse effects on the surrounding environment by disposal of PAF rock in an above surface storage dump, under the current legislative framework in Tasmania there is no simple procedure / mechanism which applies to an application to amend an extant planning permit. In consequence , there is no choice but to make a new development application for precisely the same approved development and use, but which specifies a different methodology for storage of the PAF rock , in a safe environmental manner.
- v. Consequently, Shree requests the new permit for DSO operations only, currently. The DSO pit is partially mined (approx. 25%) under the permit 8568 and EPN 8777/1 and the entire infrastructure for it is already

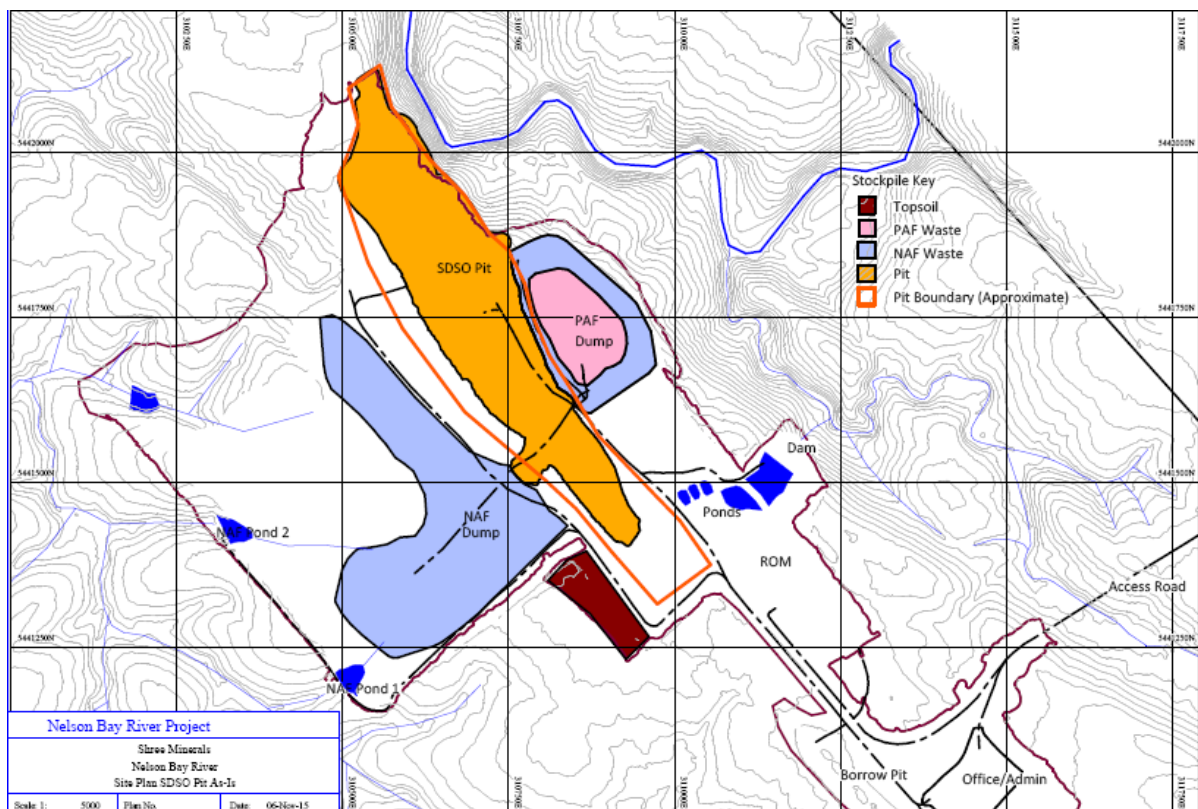
developed. There would be no increase in the footprint of the disturbance for mining the balance of the DSO pit & there is no requirement to install any fixed processing plant or develop any further infrastructure. The magnetite operations are distinct & independent of the DSO operations and Shree has not yet completed requisite studies to make a decision to proceed with that project.

- vi. At an appropriate time in future, Shree would consider completing the further studies for magnetite project. If a decision is taken to proceed with the magnetite project, Shree would make an application for a permit for the development of the magnetite pit, processing plant and required infrastructure like tailings dam etc.

## 2.2 Mine Development to Date

The SDSA pit is some 25% complete, with waste rock materials deposited in two dumps designated as the NAF (Non Acid Forming) waste rock dump, and the Potentially Acid Forming (PAF) waste rock dump..

**Figure 2** shows the existing mine development on site. The main features are the SDSA pit and waste dumps. Other elements are the mine water treatment dams, run of mine (ROM) stockpile area and the facilities area. **Figure 3** shows a Google Image.



**FIGURE 2** EXISTING SITE PLAN



*FIGURE 3 GOOGLE IMAGE December 2015*

### **3 Proposed Project Description**

The mine site is located adjacent to the Nelson Bay River. As described below, the site has been substantially cleared of vegetation (after appropriate surveys under the requirements of the Permit and Commonwealth Government approvals). The bush fires in 2016 went through the site & have essentially burnt out most of the vegetation.

#### **3.1 Planning Scheme**

Shree was granted the permit (DA 2001/00171) to operate the mine from the Circular Head Council in 2012. On the 19 October 2013, the Circular Head Interim Planning Scheme 2013 was declared. This replaced the Circular Head s.46 Planning Scheme No. 1, 1995.

The mine project therefore has existing use rights.

For the purposes of the development application, "The Land" will be the Mining Lease 3M/2011. The mining lease is valid and current until 2027.

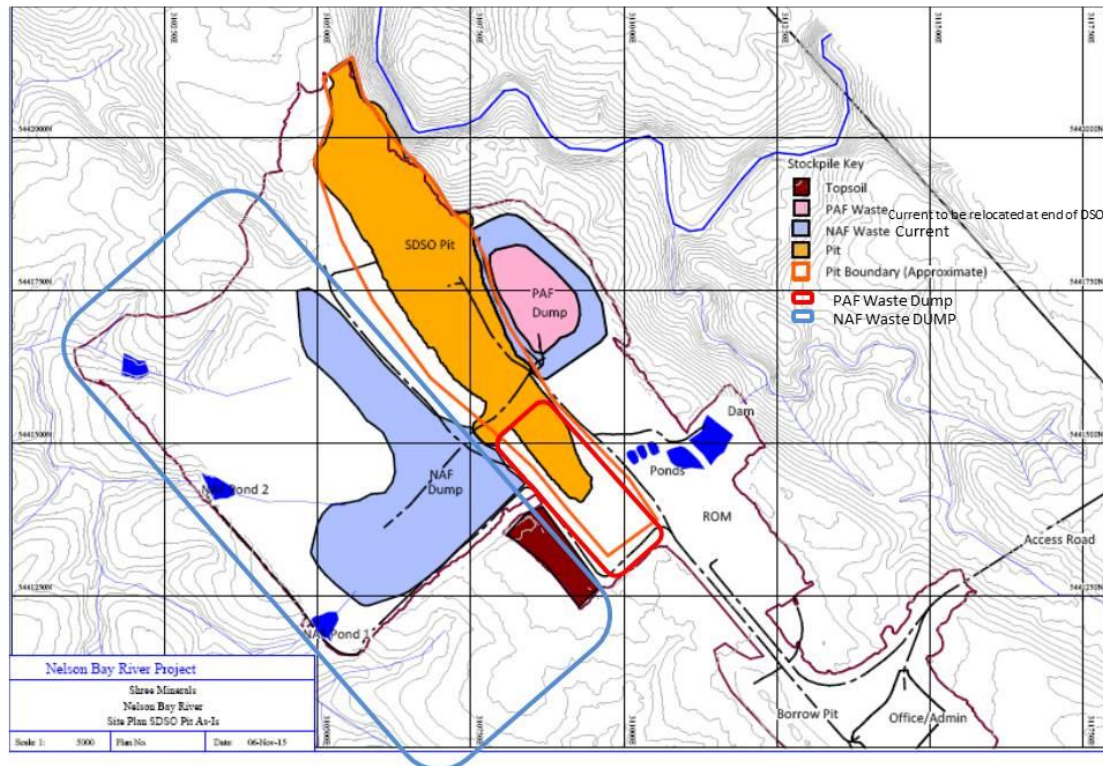
The ML is zoned as ;

- Rural Resource; and
- Environmental Management.

Extractive Industry is a permitted use in the Rural Resource Zone ( if not on prime agricultural land) and in Environmental Management Zone, discretionary.

### 3.2 General Arrangement

The project will as per the mine site plan as shown in **Figure 4** which shows the general arrangement.



**FIGURE 4** PROPOSED SITE PLAN

Essentially most of this area has been cleared of vegetation (after appropriate surveys under the requirements of the Permit and Commonwealth Government approvals). Bush Fires in early 2016 has passed through the mining lease & all the vegetation in the lease area has been essentially burnt away.

The project will comprise the SDO pit, which has been commenced and partly completed. This will involve the continuation of mining and disposal of waste rock to the NAF dump and a PAF dump, ore mining and mine dewatering and treatment. No additional areas are planned to be cleared within the existing footprint. The direct shipping ore will be stored on the existing ROM pad, crushed, screened and trucked to Port to markets overseas.

Mining will continue in the existing pit and to a depth of approximately 90m. As per current design and current known resources in SDO pit, a total amount of 256,688 BCMs of ore (770,073 tonnes ) and 1,881,790 BCMs of waste would be mined from the SDO pit ( including mining to date ).

As the EPBC approval restricts trucking to daylight hours & as per current road conditions & trucking capacity availability in the region, it is planned for an annual production rate of approximately 240,000 tonnes of Ore.

Mine dewatering will continue as is the existing practice with mine waters discharged via a lime treatment plant to settling ponds and recycle dam.

Waste rock will be deposited in one of two dumps – the NAF dump and the PAF dump.

### 3.2.1 Waste Rock Materials

The waste rock excavated in the pit will consist of:

- The country rock: predominantly quartz sandstone with lesser amounts of grey laminar bedded siltstone, of the Proterozoic Rocky Cape Group (Cowrie Siltstone).
- Some oxidised ore that is not of sufficiently high iron concentration for direct shipment.
- Ultramafic dyke material, and.
- Thermally metamorphosed sediments: dyke-country rock contact material (skarn).

The waste rock materials are primarily sediments which weather and break down to form clay which can be compacted and become virtually impermeable. This has resulted in both the NAF and PAF dumps having minor or negligible seepage from their bases, unlike the Volcanics and hard rock of most of the other West Coast Mines.

Some of this material will be PAF and some non-acid forming (NAF).

Geo-Environmental Management was commissioned for calibration and review of the NAG test work results, in the early months of the mining operation.

The review recommended the criteria provided in the table below be assigned to any previous and all future data. It also recommends that a similar review/calibration of the field NAG tests results be conducted at least annually to check for consistency of the waste rock classification as the mine potentially moves into different geochemical material types.

#### Field NAG Test Criteria Classification

NAGpH	<3.0	PAF
NAGpH	3.0 to 4.4	PAF/LC ( $\leq 5$ kg H <sub>2</sub> SO <sub>4</sub> /t)
NAGpH	$\geq 4.5$	NAF

A separate study has been undertaken for alkali addition to treat the typical lower capacity PAF waste rock for disposal along with non-acid forming (NAF) material prior in the NAF dump. This testwork has indicated that a relatively low application rate of limestone or similar, will adequately treat the low capacity PAF for disposal to NAF dumps and ongoing mine operations can incorporate alkali addition in ongoing operations.

### 3.2.2 Waste Rock Dumps

Waste rock mined from the SDSO pit when mining recommences will be managed in accordance with a PAF Materials Separation and Verification Plan (Permit Condition PO1) which will be revised for EPA review and approval prior to mining operations recommencing.

NAF waste rock (together lower capacity PAF waste rock treated with alkaline materials) will be placed in the existing NAF waste rock dump, and the identified PAF waste rock trucked from the pit to the new PAF dump site within the SDSO pit footprint.

The proposed new PAF waste rock storage consists of following:

- A permanent storage for all PAF waste rock that will be mined from the SDSO pit going forward as per existing approved plans but differs to the extent that the new storage is above permanent flood level of the SDSO pit.



- a temporary PAF waste rock storage dump for all previously mined PAF rock and stored in the previously approved temporary PAF rock dump as constructed in 2014 and approved under EPN 8977/1 (approximately 75,000 bank cubic metres (bcm) of PAF rock) (**Figure 2**). All drainage is directed to the SDSO pit. This PAF rock is proposed to be relocated to the SDSO pit after completion of mining in the SDSO pit.

The construction of the PAF waste rock dump will be in accordance with generally accepted mining industry practice, which will include:

- material segregation (higher capacity PAF materials identified)
- base preparation;
- rock dumping method;
- alkalinity addition;
- compaction;
- encapsulation;
- periodic and final covering; and
- drainage management.

If you have any questions relating to the proposal please contact the undersigned, or John Miedecke our consultant. (0418 130672).

Yours sincerely,



Sanjay Loyalka

Director