

Statement of Reasons

ALAN JAMES BIRCH – ABT ONE PROJECT

PROPOSAL

Alan James Birch (the Proponent), submitted the Notice of Intent (NOI) for the ABT One Project (the Proposal) to the Northern Territory Environment Protection Authority (NT EPA) on 2 July 2018 for consideration under the *Environmental Assessment Act* (EA Act).

The Proponent proposes to extract sand, soil and gravel from Extractive Mineral Permit 29250 (EMP29250) over the next two or three Dry seasons. The tonnage of the material reserve is not quantified in the NOI. However, the proponent intends on mining 5000 m³ in the next 12 months. The total surface area of the pits is 5.5 hectares, to a maximum depth of two metres.

Extracted material would be transported offsite for screening. An access track is proposed to provide access to the two northern pits. No access road has been proposed to the southern pit. The areas proposed for mining activities and the identified access track are shown in Figure 1. No water extraction is proposed.

Extraction of materials and haulage will operate from 7am to 7pm from Monday to Friday. During operation the Proponent estimates five heavy vehicles and two light vehicles will access the site each day. Vehicle access will be via the Arnhem Highway and unsealed roads north of the tenement.

The tenement lies over an area with a high Wet season water table with an open drainage depression, associated with an ephemeral minor tributary of Sunday Creek, through the central part of the tenement. Material is proposed to be extracted from three pits in the riparian zone of the tributary. The minor tributary that runs through the Proposal site joins Sunday Creek approximately 1 km downstream, south of the Proposal.

EMP29250 is approximately 50 km south east of the Darwin central business district, 5 km east of Humpty Doo and 1.5 km south of Arnhem Highway in the Sunday Creek catchment. The lease is located on Koolpinyah Station in the Litchfield Municipality. Following extraction activities, the Proponent proposes to rehabilitate and stabilise the site.

Litchfield Sub Regional Land Use Plan

The extractive area lies within an area defined as Priority Environmental Management (PEM) under the Litchfield Sub Regional Land Use Plan¹ (LSRLUP). The PEM is described as: *areas where development should give priority to the natural environment and where there may be a need for assessment of potential environmental impacts.*

The LSRLUP states that: *measures for the management of environmentally sensitive areas must be identified in any proposals for activities such as subdivision, aquaculture, extractive mining and horticulture.*

The boundaries of the PEM are only coarsely mapped (Figure 1).

¹ Northern Territory Planning Commission (2016) Litchfield Subregional Land Use Plan 2016, Darwin, NT

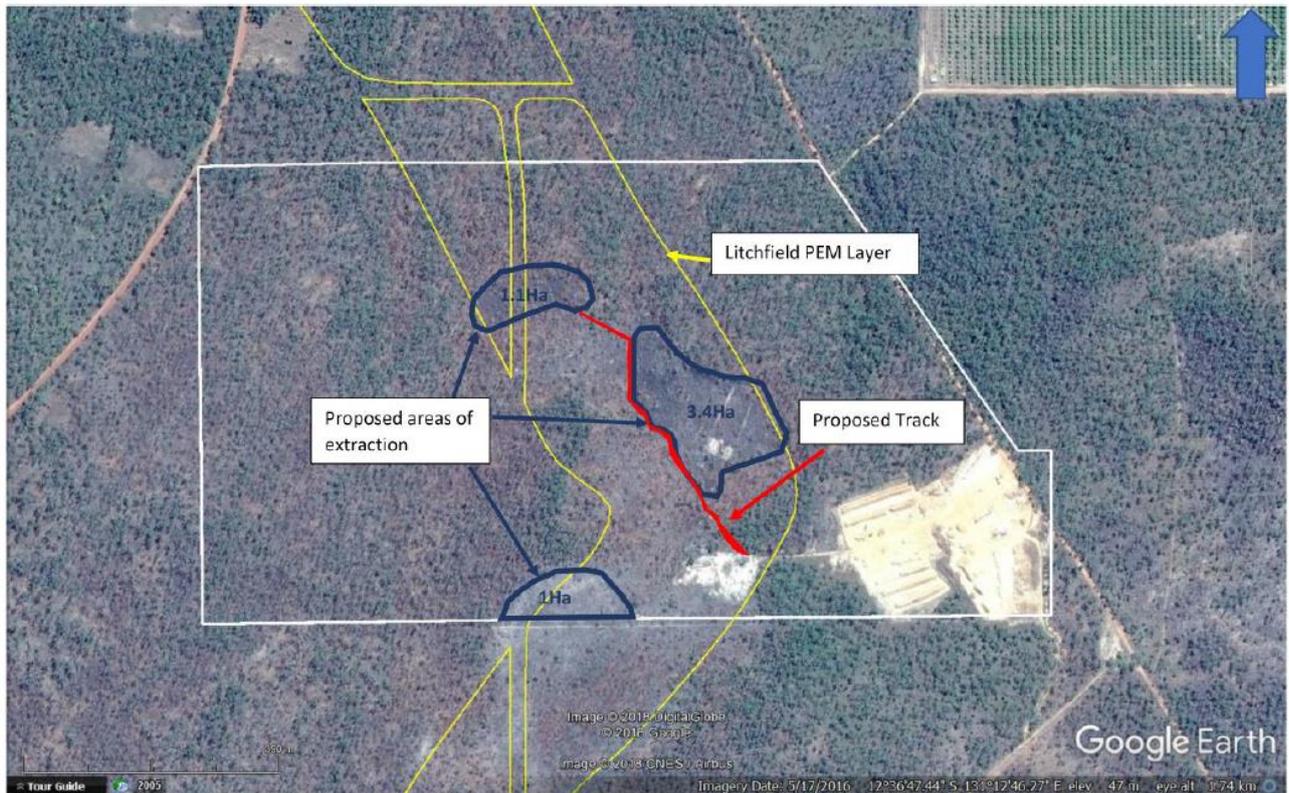


Figure 1. Proposed extractive operations within EMP29250 (Source: NOI)

CONSULTATION

The NOI was reviewed as a notification under the EA Act in consultation with Northern Territory Government (NTG) advisory bodies (see Attachment A) and the responsible Minister, in accordance with clause 8(1) of the Environmental Assessment Administrative Procedures.

JUSTIFICATION

Having regard to the NOI, the NT EPA assessed the potentially significant environmental impacts and risks associated with the Proposal in line with the NT EPA's environmental factors and objectives, and in accordance with the requirements under the EA Act. The NT EPA identified three environmental factors (Table 1) that could be potentially significantly impacted by the Proposal. The NT EPA considered the importance of other environmental factors during the course of its assessment, however those factors were not identified as potentially significantly impacted.

Theme	Key Environmental Factor	Objective
Land	1. Terrestrial flora and fauna	Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.
Water	2. Hydrological processes	Maintain the hydrological regimes of groundwater and surface water so that environmental values are protected.

Theme	Key Environmental Factor	Objective
	3. Inland water environmental quality	Maintain the quality of groundwater and surface water so that environmental values including ecological health, land uses, and the welfare and amenity of people are protected

Table 1 Key environmental factors

1. Terrestrial flora and fauna

Objective: Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.

Vegetation types within EMP29250 comprise sandsheet heath, *Corymbia polycarpa* open woodland with a grassy understorey, woodland, disturbed inundated areas (swamp and pit) and a riparian area associated with a drainage depression that runs through the area of proposed extractive operations. No threatened flora species have been identified.

Two vegetation types in EMP29250 are identified as sensitive or significant under the NT Planning Scheme: sandsheet heath and riparian vegetation. EMP29250 includes areas defined under the LSRLUP as PEM, due to the presence of drainage depressions and drainage lines with sandsheet heath and riparian vegetation.

The Proposal site is 1 km east of the boundary of the Howard sand plains Site of Conservation Significance (SOC). A priority protected area within the Howard sand plains SOC was formalised in July 2017 to protect significant biodiversity values associated with sandsheet heath from mining activities. The Proposal is 10.5 km southeast of the boundary of the priority protected area.

Potential impacts from the Proposal to flora and fauna values include:

- Removal or disturbance of vegetation including sensitive and significant types
- Introduction and/or spread of weeds during clearing and operation
- Removal or reduction in quality of potential habitat of threatened fauna species.

The Proponent proposes to disturb an area of 5.5 ha within the site (Figure 1). The Proponent has not quantified the specific vegetation types that would be cleared. In the absence of specific mapping, and applying a precautionary approach due to known sensitive and significant vegetation types present, it is appropriate to assume that up to 5.5 ha of sensitive or significant vegetation would be cleared, including 1 ha that is mapped as sandsheet heath. However, due to the limited extent of the proposed clearing, relative to the extent of intact sandsheet heath and riparian vegetation in the Litchfield PEM and adjacent SOC, loss of significant or sensitive vegetation from the proposed clearing footprint is unlikely to pose a significant risk to biodiversity values.

Clearing and extractive activities have the potential to introduce and/or spread weeds. The Proponent has committed to controlling invasive species, specifically gamba grass (*Andropogon gayanus*), mission grass (*Cenchrus polystachios*) and humidicola (*Urochloa humidicola*).

No important areas of habitat for threatened species have been identified on the tenement.

Department of Environment and Natural Resources (Flora and Fauna Division) advised that the presence of pale field rat (*Rattus tunneyi*) - listed as vulnerable under the *Territory Parks and Wildlife Conservation Act* (TPWC Act) - is uncertain, but that if the species was present, the impacts from the Proposal are relatively small and are unlikely to pose a significant risk to the species due to the small extent. Sandsheet heath in the Darwin region provides important habitat for the Howard River toadlet (*Uperoleia daviesae*; Vulnerable – TPWC Act), but the site is outside the species' current known distribution, and a large proportion of recorded locations are within the

priority protected area. The Proponent has committed to erosion and sediment control and rehabilitation of disturbed areas following extractive operations, in accordance with a Mining Management Plan. Areas undergoing rehabilitation will be monitored to ensure the rehabilitation program is successful. The Proponent has not provided details of rehabilitation criteria or monitoring programs. NT EPA is of the opinion that a high standard of rehabilitation is required, in recognition of the Proposal's location in a PEM.

The NT EPA recommends the Proponent avoid disturbance to large trees, sufficiently control erosion, maintain hydrological processes and landscape connectivity, and ensure rehabilitation is successful.

With the provision of mitigation measures in the NOI, NT EPA recommendations and a DPIR approved Mining Management Plan required under the *Mining Management Act*, the clearing of the of vegetation and habitat is unlikely to have a significant impact on biodiversity values and values identified under the LSRLUP PEM. The NT EPA's objective for terrestrial flora and fauna is likely to be met.

2. Hydrological processes

Objective: Maintain the hydrological regimes of groundwater and surface water so that environmental values are protected.

The proposed extractive operations are located within a tributary of Sunday Creek, in a drainage depression that is likely to experience overland flows, and flood during the Wet season. The excavation of pits within the drainage depression, to a depth of two metres, would likely intercept surface flows and increase pooling within the tenement. The NT EPA acknowledges that excavation of the pits would likely alter the local hydrology by capturing peak flows during rainfall events. During these events the pits would rapidly fill, trap sediment, and eventually overtop before discharging downstream.

The NT EPA recognises that there are other extractive operations within the greater Sunday Creek catchment that will be contributing to cumulative impacts in the hydrology of the catchment. The depth and size of the pits is small relative to many other extractive operation in the Sunday Creek catchment, and any changes to hydrology resulting from this project would be localised, and unlikely to be significant in a regional perspective.

Groundwater in the Darwin Rural area typically rises to within 2 m of the ground surface during the Wet season. During the Dry season, groundwater levels retreat to approximately 8-10 m below ground level. High groundwater levels during the Wet season may result in some inundation of the pits. This would only occur when groundwater levels are highest with no long-term impacts expected on groundwater availability.

The Proposal is located within the Central zone of the Howard Water Allocation Planning area within the Darwin Rural Water Control District. Groundwater resources in the area are over-allocated. The DENR advised that the proposal is unlikely to significantly impact the aquifer due to its small footprint. The NT EPA notes that there is no plan to screen sand/gravel on site and all water requirements would be sourced from town water. Should groundwater be required for offsite screening or dust suppression within EMP29250 it may be subject to licensing requirements under the *Water Act*.

The Proponent has committed to progressively, and successfully, rehabilitate pits when the resource has been exhausted or works will no longer be conducted in the area. The Proponent has committed to no impact on groundwater quality. In addition, the NT EPA recommend:

- Rehabilitating exhausted pits prior to the onset of the Wet season to minimise potential change to hydrological processes during the Wet season and when the site is inaccessible

- Successful rehabilitation of the tracks if they are not to be retained. Successful rehabilitation should maintain landscape connectivity and hydrological processes to reflect pre-mining conditions.
- In the event the landholder requires tracks to be retained, the tracks should be stabilised so as to not be susceptible to erosion or inhibit water quality and connectivity.

The NT EPA is satisfied that the potential impacts on groundwater have been adequately avoided or mitigated. The NT EPA considers that with the Proponent's measures to minimise potential impacts and the NT EPA recommendations, its objective for hydrological processes is likely to be met.

3. Inland water environmental quality

Objective: To maintain the quality of groundwater and surface water so that environmental values including ecological health, land uses, and the welfare and amenity of people are protected.

During high rainfall events, surface flows would continue through EMP29250 during and after mining. The disturbed ground surface and open pits are vulnerable to erosion and sedimentation, and these areas have the potential to reduce the quality of receiving waters and contribute to cumulative impacts downstream of the Proposal.

The NT EPA notes that the area proposed to be disturbed is small in the context of the Sunday Creek catchment. Furthermore, the proposed extractive operations are of a relatively short duration and in a location that would receive overland flows that are unlikely to significantly mobilise sediment. The commitment to stabilise and successfully rehabilitate the site following mining would ensure that the risks to inland water environmental quality are unlikely to be significant over the medium-long term. However, there is uncertainty about open pits in the Wet season and how the surface water values would be protected during that time.

The Proponent has committed to progressively, and successfully, rehabilitate pits where the resource has been exhausted or works will no longer be conducted in the area. The Proponent has committed to no impact on groundwater quality.

The Proponent has committed to implementing erosion and sediment control measures and rehabilitation. The NT EPA recommends implementation of an erosion and sediment control plan (ESCP) that has been reviewed and approved by a Certified Professional in Erosion and Sediment Control (CPESC). The Proponent must implement the ESCP recommendations prior to commencing mining activities. ESCP measures must be in place prior to the onset of the Wet season i.e. by 31 October for each year of operation.

In addition, the NT EPA recommends:

- rehabilitating exhausted pits prior to the onset of the Wet season to minimise potential change to hydrological processes during the Wet season and when the site is inaccessible
- in the event the landholder requires tracks to be retained, the tracks should be stabilised so as to not be susceptible to erosion or inhibit water quality and downstream values.
- any use of unsealed roads is to be discussed and agreed with the responsible road manager.

The NT EPA considers that with the Proponent's measures to minimise potential impacts and the NT EPA recommendations, the potential impacts to water quality are likely to be minor and be limited to the Wet season. The NT EPA's objective for inland water environmental quality is likely to be met.

Conclusion

The NT EPA considers that significant environmental impacts from the project are unlikely due to the limited scale of the proposed extractive operations, the commitments stated in the NOI, implementation of the NT EPA's recommendations, and the commitment to successfully rehabilitate the site. The NT EPA considers that the potential environmental impacts and risks associated with the Project are not likely to be significant and that the Proposal does not require assessment under the EA Act.

Comments from NTG advisory bodies have been provided to the Proponent and the NT EPA has provided recommendations to the Proponent to ensure that potential impacts on the environment are minimised.

DECISION

The proposed action, which was referred to the NT EPA, has been examined by the NT EPA and preliminary investigations and inquiries conducted. The NT EPA has decided that the potential environmental impacts and risks of the proposed action are not sufficiently significant to warrant environmental impact assessment by the NT EPA under provisions of the *Environmental Assessment Act*. However, the proposed action will require assessment and approvals under the *Mining Management Act* to ensure the environmental issues associated with the proposed action are effectively managed.

This decision is made in accordance with clause 8(2) of Environmental Assessment Administrative Procedures and, subject to clause 14A, the administrative procedures are at an end with respect to the proposed action.



DR PAUL VOGEL

CHAIRMAN

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

1 OCTOBER 2018

Attachment A: Northern Territory Government Advisory bodies consulted on the Notice of Intent

Department	Division
Department of Environment and Natural Resources	Flora and Fauna Water Resources Weeds Environment Bushfires NT Rangelands
Department of Infrastructure, Planning and Logistics	Lands Planning Infrastructure Transport
Department of Primary Industry and Resources	Fisheries Mining Compliance Petroleum Primary Industry
Department of Tourism and Culture	Heritage Tourism NT Arts and Museums Parks and Wildlife
NT Police, Fire and Emergency Services	Business Improvement and Planning
Department of Health	Environmental Health Medical Entomology
Department of Trade, Business and Innovation	Economics and Policy Strategic Policy and Research
Department of Housing and Community Development	Maintenance Planning Housing supply
Power and Water Corporation	
Aboriginal Areas Protection Authority	Technical
Department of the Attorney-General and Justice	Commercial Division NT Worksafe
Land Development Corporation	
Department of the Chief Minister	Economic and Environmental Policy