



Your reference: SSD 5012
Our reference: FIL07/5805-02;DOC13/4851
Contact: Jason Price 02 6969 0700

The Senior Planner
Mining and Industry Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Ms Elliot

Re Atlas-Campaspe mineral sands project – SSD 5012

Thank you for your electronic mail dated 6 June 2013 to the Environment Protection Authority (EPA) seeking our comments on the Environmental Impact Statement (EIS) for the proposed Atlas-Campaspe mineral sands project (SSD 5012) on Exploration Licence No 5359, 80 kilometres north of Balranald.

We have reviewed the information provided and determined that we have no objection to the proposal proceeding as described in the EIS. If the project is approved the EPA recommends that the conditions provided in Attachment 'A' are incorporated into the project approval.

Attachment 'B' contains our assessment of the proposal, including justification for our recommended conditions of approval.

Please note that inclusion of our recommended conditions in any approval granted by the Department of Planning and Infrastructure (DoPI) is important for our ongoing support of the proposal. It is expected that the EPA will be given an opportunity to review and comment on the DoPI's draft conditions of approval for this proposal.

Where approval for the project is granted an application for an Environment Protection Licence will be required to be submitted to the EPA prior to any construction works for the proposal.

If you have any further enquiries about this matter please contact Jason Price by telephoning 02 6969 0700.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Darren Wallett', followed by the date '23/7/13' written in a similar style.

DARREN WALLETT
Head, Griffith Unit
Environment Protection Authority

ATTACHMENT 'A'

The Environment Protection Authority (EPA) recommends that the following conditions are included in any approval granted for the Atlas-Campaspe mineral sands project.

Air Quality

- An 'Air Quality Management Plan' must be prepared in consultation with the Environment Protection Authority. The plan must incorporate all activities conducted within the Atlas-Campaspe mining lease and at the Ivanhoe Rail Facility and be submitted to the Department of Planning and Infrastructure prior to any sand mining operations occurring.

The plan must include, but is not limited to:

- An air quality monitoring program;
 - Dust mitigation measures that will be implemented; and
 - A rehabilitation schedule for disturbed areas.
- All road and rail transport of mineral sand concentrates must have the load completely covered whilst in transit.
- All mineral sand processed waste must be transported in sealed containers.

Noise

Noise from the Atlas-Campaspe mineral sands project must not exceed the limits in the table below at the locations nominated.

Location	Day [dB(A) L_{Aeq} 15 minute]	Evening [dB(A) L_{Aeq} 15 minute]	Night [dB(A) L_{Aeq} 15 minute]	Night [dB(A) L_{A1} 1 minute]
Atlas-Campaspe mine - nearest residential receptor	35	35	35	45
Ivanhoe – nearest sensitive receptors	35	35	35	45
Mungo National Park	50	50	50	-
Mungo State conservation area	50	50	50	-

Note: All noise measurements must be undertaken in accordance with the NSW Industrial Noise Policy (INP). All measurement terms in the table have the same meaning as defined in the INP.

Surface and ground water

- A 'Site Water Management Plan' must be prepared in consultation with the Environment Protection Authority. The plan must incorporate all activities conducted within the Atlas-Campaspe mining lease and at the Ivanhoe Rail Facility and be submitted to the Department of Planning and Infrastructure prior to any sand mining operations occurring.

The plan must include, but is not limited too:

- A groundwater quality monitoring program;
- A surface water quality monitoring program; and
- Contaminated process and stormwater collection systems and associated dam construction.

Waste

- A 'Waste Management Plan' must be prepared in consultation with the Environment Protection Authority. The plan must incorporate all activities conducted within the Atlas-Campaspe mining lease and at the Ivanhoe Rail Facility and be submitted to the Department of Planning and Infrastructure prior to any sand mining operations occurring.

The plan must include, but is not limited too, details on the management of:

- Radioactive waste; and
- Mineral sands process waste transport and disposal.

ATTACHMENT 'B'

Air Quality

The primary concern for this development in terms of air quality is the potential for impacts from dust and associated air pollutants generated from construction works, dry sand mining and stockpiling of overburden and heavy mineral concentrate.

The methodology used in the document titled 'Atlas-Campaspe Mineral Sands Project - Air Quality and Greenhouse Gas Assessment' prepared by Katestone Environmental Pty Ltd and dated May 2013 used to assess the potential impacts from the project is generally consistent with the Environment Protection Authorities (EPA) guideline the 'Approved Methods for the Modelling and Assessment of Air Pollutants in NSW' (EPA 2005).

We note the nearest sensitive receptor (residential premise) is 7 kilometres from the proposed Campaspe sand mine (at year 16) and the modelling predicts that there will be negligible air quality impacts at this premises and other adjoining properties from this project.

Particulate matter less than 10 micro metres in aerodynamic equivalent diameter (PM_{10}) is predicted to exceed the 24 hour averaging criteria in the 'Approved Methods' however the ambient background dust levels predominantly contribute to the exceedence. In isolation the project meets the all the EPA's air quality criteria guidelines.

To assess the actual impacts of the development against the predicted impacts, the EPA recommends conditions are imposed that require the proponent to prepare an 'Air Quality Monitoring Plan' (AQMP). We expect dust mitigation measures and dust monitoring to be included in the AQMP and implemented at the mine consistent with the Environmental Impacts Statement (EIS).

Noise

The Noise Assessment for the project prepared by Wilkinson Murray and dated November 2012 was completed generally in accordance with our Industrial Noise Policy (EPA 2000).

The noise modelling methodology is consistent with our Policy and employs the Environmental Noise Model (ENM) predictive software, which is an acceptable modelling tool. As expected the background noise levels were at the minimum 30 dB(A) (L_{Aeq} 15 minute) limit and, consistent with the Industrial Noise Policy, the project specific noise criteria for the mine is determined at 35 dB(A) (L_{Aeq} 15 minute).

The ENM modelling predicted that noise impacts from plant and vehicle movements associated with the project, at the mining lease and the Ivanhoe Rail Facility will comfortably meet the project specific noise criteria.

To ensure the impacts of the development meet the modelled predictions and that no sensitive receptors are unreasonably impacted from the project, we recommend noise limit conditions are placed on any approval.

Ground and Surface Water

Groundwater sampling at the Atlas-Campaspe mine test bore indicates that the upper aquifer groundwater quality is poor due to being saline (31,728 milligrams per litre) and dominated by sodium and chloride. It is of little agricultural value and the nearest registered groundwater bore is 7 kilometres to the north east and not currently in operation.

The project is a dry sand mining proposal utilising conventional mobile equipment and the Atlas-Campaspe sand deposits are predominantly located above the existing regional groundwater table. Some de-watering

is required for the dry mining process and extraction bores for process water will result in some drawdown (1 metre) up to 3 kilometres from the mining areas.

Based on the poor regional groundwater quality and geochemical test work demonstrating the limited potential for the overburden to produce saline or acid generating leachate, the regional groundwater quality impacts from the project are likely to be negligible.

There are no permanent surface water courses or features within the proposed mining impact areas and the mining lease has an absence of defined surface drainage lines. Temporary ponding of rainfall typically occurs in localised depressions after rain events and the low permeability of soils results in the evaporation of most rainfall.

The proposed surface water management measures (primarily directing clean rainfall runoff from undisturbed areas away from the mine path) will ensure negligible impacts on surface water quality.

Despite the EPA's low impact assessment it is prudent to monitor groundwater and surface water impacts from any significant mining activities and the EPA has recommended conditions for ground and surface water monitoring programmes to be implemented.

Waste

This project proposes to transport mineral sand concentrates from the Atlas-Campaspe mine by road to Ivanhoe and then by rail to the Cristal Mineral Separation Plant (MSP) in Broken Hill which holds Environment Protection Licence No 12314 with the EPA.

At year 12 of the mine (in a proposed 20 year life) mineral sand process waste from the MSP will be transported in sealed containers by rail to Ivanhoe and then by road to the Atlas-Campaspe mine. The process waste will be blended with sand residues and coarse rejects and deposited in the mine void behind the advancing ore extraction areas. The process waste will be deposited above the current groundwater table and covered with a minimum of 10 metres of overburden.

Up to year 12 MSP process waste will be deposited in the mine voids at Crystals' Ginko and Snapper mines. The Atlas-Campaspe mineral sand is from the same Loxton Parilla sand deposits found in the Ginko and Snapper mineral sands and has similar radioactive and geochemical properties, making this disposal option acceptable.

Mineral sands are extremely insoluble in saline water and leachable only under the most extreme chemical or thermal conditions and are unlikely to pose a risk to groundwater by leaching.

The EPA has recommended that a 'Waste Management Plan' is required in the approval conditions. This plan must detail the process waste disposal and radioactive waste management, to ensure appropriate handling, transport and process waste disposal methods are employed.