



Environmental Protection Authority

Referral of a Proposal by the Proponent to the Environmental Protection Authority under Section 38(1) of the *Environmental Protection Act 1986*.

EPA REFERRAL
FORM
PROPONENT

PURPOSE OF THIS FORM

Section 38(1) of the *Environmental Protection Act 1986* (EP Act) provides that where a development proposal is likely to have a significant effect on the environment, a proponent may refer the proposal to the Environmental Protection Authority (EPA) for a decision on whether or not it requires assessment under the EP Act. This form sets out the information requirements for the referral of a proposal by a proponent.

Proponents are encouraged to familiarise themselves with the EPA's *General Guide on Referral of Proposals* [see Environmental Impact Assessment/Referral of Proposals and Schemes] before completing this form.

A referral under section 38(1) of the EP Act by a proponent to the EPA must be made on this form. A request to the EPA for a declaration under section 39B (derived proposal) must be made on this form. This form will be treated as a referral provided all information required by Part A has been included and all information requested by Part B has been provided to the extent that it is pertinent to the proposal being referred. Referral documents are to be submitted in two formats – hard copy and electronic copy. The electronic copy of the referral will be provided for public comment for a period of 7 days, prior to the EPA making its decision on whether or not to assess the proposal.

CHECKLIST

Before you submit this form, please check that you have:

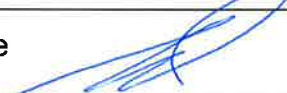
	Yes	No
Completed all the questions in Part A (essential).	X	
Completed all applicable questions in Part B.	X	
Included Attachment 1 – location maps.	X	
Included Attachment 2 – additional document(s) the proponent wishes to provide (if applicable).	X	
Included Attachment 3 – confidential information (if applicable).		
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but excluding confidential information.	X	

Following a review of the information presented in this form, please consider the following question (a response is optional).

Do you consider the proposal requires formal environmental impact assessment?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="checkbox"/> Not sure	
If yes, what level of assessment?	
<input type="checkbox"/> Assessment on Proponent Information	<input type="checkbox"/> Public Environmental Review

PROPONENT DECLARATION (to be completed by the proponent)

I, KEN BELL, (full name) declare that I am authorised on behalf of...Cristal Mining Australia Ltd... (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 	Name (print) <u>Ken Bell</u>
Position <u>Operations Manager</u>	Company <u>Cristal Mining Australia Ltd</u>
Date <u>7/11/2013</u>	

SUPPORTING DOCUMENTATION

- Attachment 1 Figure 1: Regional setting.
Figure 2: Proposed mine layout.
Figure 3: Surrounding land use.
- Attachment 2 Mining Proposal for the Wonnerup South Mineral Sands Deposit M70/785, Yalyalup Western Australia (16 October 2013), with attachments.
- Attachment 3 Environmental noise impact assessment for the proposed Wonnerup South mining operations. SVT Engineering Consultants, 20 September 2013.
- Attachment 4 Additional fauna survey reports: Harewood (2006) and Green Iguana (2011).
- Attachment 5 **Won_South_Proposed_Development_Area.zip**
Polygon of the proposed development envelope on M70/785 presented as Esri shapefile. GDA 94 UTM Zone 50.

PART A - PROPONENT AND PROPOSAL INFORMATION

(All fields of Part A must be completed for this document to be treated as a referral)

1 PROPONENT AND PROPOSAL INFORMATION

1.1 Proponent

Name	Cristal Mining Australia Ltd
Joint Venture parties (if applicable)	
Australian Company Number (if applicable)	ACN 009 247 858
Postal Address (where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)	PO Box 133, Bunbury WA 6231
Key proponent contact for the proposal: <ul style="list-style-type: none"> • name • address • phone • email 	Phil Johnston SHE Manager Cristal Mining Australia PO Box 133, Bunbury WA 6231 08 9791 0200 Phil.Johnston@cristal.com
Consultant for the proposal (if applicable): <ul style="list-style-type: none"> • name • address • phone • email 	Neil Dixon c/- PO Box 133, Bunbury WA 6231 0407 263 635 ndixon@cristal.com

1.2 Proposal

Title	Wonnerup South Mining Proposal (M70/785) – Provided as Attachment 2.
Description	Mining of mineral sands on Loc 3819, Yalyalup, City of Busselton.
Extent (area) of proposed ground disturbance.	190 ha
Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable).	Start site works Q1 2016; production end Q3 2018; final rehabilitation Q2 2022.
Details of any staging of the proposal.	N/A
Is the proposal a strategic proposal?	No
Is the proponent requesting a declaration that the proposal is a derived proposal? If so, provide the following information on the strategic assessment within which the referred proposal was identified: <ul style="list-style-type: none"> • title of the strategic assessment; and • Ministerial Statement number. 	No
Please indicate whether, and in what way, the proposal is related to other proposals in the region.	The proposal is an extension to an existing project (Wonnerup mineral sands mine - previously referred to EPA in March 2010 and not assessed.
Does the proponent own the land on which the	The proposal is located within Mining

proposal is to be established? If not, what other arrangements have been established to access the land?	Lease M70/895. The underlying land is freehold and owned by R & S Manning. Mining will take place under an access agreement in accordance with the Mining Act. Agreement to proceed with environmental and heritage approvals has been secured.
What is the current land use on the property, and the extent (area in hectares) of the property?	The property on which the proposal is to located is 590 ha and it used for pasture/cattle production. The mining lease M70/895 is 411 ha and does not align with the property boundary (see Figure 2 in Attachment 1).

1.3 Location

Name of the Shire in which the proposal is located.	City of Busselton
For urban areas: <ul style="list-style-type: none"> • street address; • lot number; • suburb; and • nearest road intersection. 	See Figure 1 and 2 in Attachment 1.
For remote localities: <ul style="list-style-type: none"> • nearest town; and • distance and direction from that town to the proposal site. 	Located 6 km southeast of Busselton and 2.3 km from Wonnerup. See Figure 3 in Attachment 1.
Electronic copy of spatial data - GIS or CAD, geo-referenced and conforming to the following parameters: <ul style="list-style-type: none"> • GIS: polygons representing all activities and named; • datum: GDA94; • projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA); • format: Arcview shapefile, Arcinfo coverages, Microstation or AutoCAD. 	Enclosed as Attachment 5.

1.4 Confidential Information

Does the proponent wish to request the EPA to allow any part of the referral information to be treated as confidential?	No
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1.5 Government Approvals

Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.		No	
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, please complete the table below.		Yes	
Agency/Authority	Approval required	Application lodged Yes / No	Agency/Local Authority contact(s) for proposal
DMP	Mining Proposal	Yes	Mining SW
DMP	Vegetation Clearing	No	
DER	Works Approval	No	DER Bunbury
DOW	Dewatering (5C)	No	DoW Bunbury
DAA	S18	Yes	
DotE	Referral to determine if the project may constitute a Controlled Action (Impacts to MNES)	No	

DMP - Department of Mines and Petroleum (WA)
 DER - Department of Environmental Regulation (WA)
 DOW - Department of Water (WA)
 DAA - Department of Aboriginal Affairs (WA)
 DotE - Department of the Environment (Commonwealth)

PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

2. ENVIRONMENTAL IMPACTS

Cristal Mining has prepared a Mining Proposal, which provides a detailed description of the Wonnerup South project, including its interaction with the existing Wonnerup mine.

The Mining Proposal also describes the environmental, social and cultural setting of the site and how the values of the site and the surroundings will be managed to avoid, minimise or mitigate potential impacts.

In addition, a Noise Assessment has been conducted by SVT Engineering Consultants. This is also attached as supporting information.

2.1 Flora and Vegetation

2.1.1 Do you propose to clear any native flora and vegetation as a part of this proposal?

[A proposal to clear native vegetation may require a clearing permit under Part V of the EP Act (Environmental Protection (Clearing of Native Vegetation) Regulations 2004)]. Please contact the Department of Environment and Conservation (DEC) for more information.

(please tick) Yes **If yes**, complete the rest of this section.
 No **If no**, go to the next section

2.1.2 How much vegetation are you proposing to clear (in hectares)?

Five separate small and degraded remnants (totalling 4 ha) and up to 90 individual paddock trees within the mine development area.

2.1.3 Have you submitted an application to clear native vegetation to the DEC (unless you are exempt from such a requirement)?

Yes No **If yes**, on what date and to which office was the application submitted of the DEC?

An application to clear native vegetation is in preparation and will be submitted to the DMP by the end of November 2013.

2.1.4 Are you aware of any recent flora surveys carried out over the area to be disturbed by this proposal?

Yes No **If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

If no, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

The Proponent has conducted two vegetation and flora surveys and a wetland survey. See Section 3.8 of Mining Proposal for further information and references.

2.1.5 Has a search of DEC records for known occurrences of rare or priority flora or threatened ecological communities been conducted for the site?

Yes

No

If you are proposing to clear native vegetation for any part of your proposal, a search of DEC records of known occurrences of rare or priority flora and threatened ecological communities will be required. Please contact DEC for more information.

As described in the Mining Proposal, two flora and vegetation surveys (Onshore 2006 and Ekologica 2012) have been conducted over the proposal site by experienced botanists. Both surveys included searches of DPAW and WA Museum databases for records of rare and priority flora species within a 10 km radius of the proposal area. The more recent request by Ekologica (2012) returned 60 records and these are listed in Ekologica's report. This is very similar to the results returned in the Onshore (2006) study (61 records).

Ekologica also conducted a database search for records of threatened ecological communities (TEC) and priority ecological communities (PEC) within 10 km of the proposal site. The search recorded three TEC: "*Corymbia calophylla* woodlands on heavy soils of the southern Swan Coastal Plain" (SCP01b); "Herb rich saline shrublands in clay pans" (SCP07); and "Shrublands on dry clay flats" (SCP10a) (FCT07) all of which are listed as "Vulnerable".

Several priority ecological communities are known from within a 10 km radius of the proposal area, including;

- *Eucalyptus cornuta*, *Agonis flexuosa* and *Eucalyptus decipiens* forest on deep yellow-brown siliceous sands over limestone ('Busselton Yate community') - Priority 1
- *Eucalyptus rudis*, *Corymbia calophylla*, *Agonis flexuosa* Closed Low Forest (near Busselton) – Priority 1
- *Eucalyptus patens*, *Corymbia calophylla*, *Agonis flexuosa* Closed Low Forest (near Busselton).

2.1.6 Are there any known occurrences of rare or priority flora or threatened ecological communities on the site?

Yes

No

If yes, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

Neither of the two surveys (2006 and 2012) recorded any rare or priority flora. Of the 40 plant species identified by Ekologica, only ten were native species

See Section 3.8 of Mining Proposal for further information and references.

2.1.7 If located within the Perth Metropolitan Region, is the proposed development within or adjacent to a listed Bush Forever Site? (You will need to contact the Bush Forever Office, at the Department for Planning and Infrastructure)

- Yes ✓ No **If yes**, please indicate which Bush Forever Site is affected (site number and name of site where appropriate).

2.1.8 What is the condition of the vegetation at the site?

Completely Degraded (6) using the Bush Forever scale.

Because of their high level of degradation, the areas of remnant vegetation in the proposal area have little value with regard to floristic values, having no native species in the understorey and no more than three or four native species in any one remnant. The likelihood of natural regeneration within these remnants is very low because of grazing by livestock and the competition from established pasture species and therefore they are not self-sustaining. The remnants are also considered to have little or no conservation value as representatives of the original vegetation (Ekologica 2013)

See Section 3.8 of Mining Proposal for further information and references.

2.2 Fauna

2.2.1 Do you expect that any fauna or fauna habitat will be impacted by the proposal?

- (please tick) ✓ Yes **If yes**, complete the rest of this section.
 No **If no**, go to the next section.

2.2.2 Describe the nature and extent of the expected impact.

The proposal will disturb 190 ha of mostly farmland, with the exception of five separate small and degraded remnants (totalling 4 ha) and up to 90 individual paddock trees. These will be cleared and 5 ha of farmland restored to native vegetation communities using endemic species.

The remnants and paddock trees include mature Marri, Jarrah and Peppermint trees, which are known to provide habitat for Western Ringtail Possum (WRP) and Black Cockatoo.

See Section 3.9 of Mining Proposal for further information and references.

2.2.3 Are you aware of any recent fauna surveys carried out over the area to be disturbed by this proposal?

- ✓ Yes No **If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).
If no, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

The Proponent has conducted two targeted fauna and habitat surveys for the site, as well as multiple surveys for the adjacent Wonnerup mine site. Additionally, a comprehensive fauna review of the proposed Busselton Regional Airport expansion area, which includes the proposal site, has been utilised in the assessment (Green Iguana 2011).

See Section 3.9 of Mining Proposal for further information and references.

2.2.4 Has a search of DEC records for known occurrences of Specially Protected (threatened) fauna been conducted for the site?

Yes No (please tick)

Searches were conducted by Harewood (2006) and Green Iguana (2011), with the following threatened fauna records for the wider area:

Schedule 1	Carnaby's Black Cockatoo <i>Calyptorhynchus latirostris</i> Baudin's Black Cockatoo <i>Calyptorhynchus baudinii</i> Western Ringtail Possum <i>Pseudocheirus occidentalis</i> Brush-tailed Phascogale (southern) <i>Phascogale tapoatafa tapoatafa</i>
Schedule 3	Great Egret <i>Ardea alba</i> Long-toed Stint <i>Calidris subminuta</i> Pectoral Sandpiper <i>Calidris melanotos</i> Curlew Sandpiper <i>Calidris ferruginea</i> Fork-tailed Swift <i>Apus pacifica</i>
Schedule 4	Peregrine Falcon <i>Falco peregrinus</i>

These two survey reports are provided as Attachment 4.

2.2.5 Are there any known occurrences of Specially Protected (threatened) fauna on the site?

Yes No **If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

Three vertebrate fauna species of conservation significance have been positively identified as using the proposal area (Harewood 2013), these being:

- Baudin's Black-Cockatoo *Calyptorhynchus baudinii*
- Carnaby's Black-Cockatoo *Calyptorhynchus latirostris*
- Western Ringtail Possum *Pseudocheirus occidentalis*.

Harewood (2013) recorded the following observations:

- no WRP dreys were located in the proposal area and no scats recorded
- a single WRP and five common brush-tail possum were observed on the night survey – previous surveys of the Sabina River by Cristal have typically recorded none to few WRP
- although approximately half of the trees proposed to be cleared have a trunk diameter greater than 50 cm (i.e. dbh > 50 cm), approximately 1/3 were *Eucalyptus rudis*, which has minimal habitat value to Black Cockatoo; of the remaining trees, only one suitable hollow was recorded, although no evidence of utilisation by Black Cockatoo was observed
- no existing roosting trees were recorded, and the closest known roost showed no evidence of recent use..

See Section 3.9 of Mining Proposal for further information and references.

2.3 Rivers, Creeks, Wetlands and Estuaries

2.3.1 Will the development occur within 200 metres of a river, creek, wetland or estuary?

- (please tick) Yes **If yes**, complete the rest of this section.
 No **If no**, go to the next section.

The Proposed development comes within 100 m of the Sabina River and includes a service crossing over the river. See Section 3.7 of the Mining Proposal for further information and references.

2.3.2 Will the development result in the clearing of vegetation within the 200 metre zone?

- Yes No **If yes**, please describe the extent of the expected impact.

The Proposal includes a river crossing (culverts) for services and light vehicles (Section 4.2 of Mining Proposal) and a degraded section of the river has been selected, so clearing will be restricted.

For the remainder of the proposal, a 100m buffer from the Sabina River has been established. The standoff includes cleared farmland. Approximately 12 paddock trees will be cleared within the 100-200m distance (see Section 5.5 of the Mining Proposal).

2.3.3 Will the development result in the filling or excavation of a river, creek, wetland or estuary?

- Yes No **If yes**, please describe the extent of the expected impact.

A service road crossing over the Sabina River is proposed. This has been discussed with DoW as the landowner of the Sabina River Reserve where the crossing will be located. DoW will be further consulted regarding final design and placement.

For the remainder of the Proposal, a 100m buffer has been included in the design.

2.3.4 Will the development result in the impoundment of a river, creek, wetland or estuary?

- Yes No **If yes**, please describe the extent of the expected impact.

2.3.5 Will the development result in draining to a river, creek, wetland or estuary?

- Yes No **If yes**, please describe the extent of the expected impact.

All site water including storm and groundwater will be pumped to Wonnerup for use and treatment in the existing process water management system.

The Wonnerup site has licensed discharge points with established water quality criteria and monitoring requirements for the release of surplus water from the system. See Sections 4.3-4 and 5.7-8 for more information and references.

2.3.6 Are you aware if the proposal will impact on a river, creek, wetland or estuary (or its buffer) within one of the following categories? (please tick)

Conservation Category Wetland	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Perth's Bush Forever site	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
The management area as defined in s4(1) of the <i>Swan River Trust Act 1988</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Which is subject to an international agreement, because of the importance of the wetland for waterbirds and waterbird habitats (e.g. Ramsar, JAMBA, CAMBA)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure

The Sabina River discharges 2 km to the north into the Vasse-Wonnerup system, which is Ramsar listed. The proposal, which is the continuation of an existing operation, is not expected to affect the quality or quantity of flows from the Sabina River, however, following consultation with the Commonwealth Department of the Environment (DotE), the proposal will be referred for assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). See Sections 3.7.3 and 5.7 for further information and references.

2.4 Significant Areas and/ or Land Features

2.4.1 Is the proposed development located within or adjacent to an existing or proposed National Park or Nature Reserve?

Yes No **If yes**, please provide details.

2.4.2 Are you aware of any Environmentally Sensitive Areas (as declared by the Minister under section 51B of the EP Act) that will be impacted by the proposed development?

Yes No **If yes**, please provide details.

2.4.3 Are you aware of any significant natural land features (e.g. caves, ranges etc) that will be impacted by the proposed development?

Yes No **If yes**, please provide details.

2.5 Coastal Zone Areas (Coastal Dunes and Beaches)

2.5.1 Will the development occur within 300metres of a coastal area?

(please tick) Yes **If yes**, complete the rest of this section.

✓ No **If no**, go to the next section.

2.5.2 What is the expected setback of the development from the high tide level and from the primary dune?

N/A

2.5.3 Will the development impact on coastal areas with significant landforms including beach ridge plain, cusped headland, coastal dunes or karst?

Yes ✓ No **If yes**, please describe the extent of the expected impact.

2.5.4 Is the development likely to impact on mangroves?

Yes ✓ No **If yes**, please describe the extent of the expected impact.

2.6 Marine Areas and Biota

2.6.1 Is the development likely to impact on an area of sensitive benthic communities, such as seagrasses, coral reefs or mangroves?

Yes ✓ No **If yes**, please describe the extent of the expected impact.

2.6.2 Is the development likely to impact on marine conservation reserves or areas recommended for reservation (as described in *A Representative Marine Reserve System for Western Australia*, CALM, 1994)?

Yes ✓ No **If yes**, please describe the extent of the expected impact.

2.6.3 Is the development likely to impact on marine areas used extensively for recreation or for commercial fishing activities?

Yes ✓ No **If yes**, please describe the extent of the expected impact, and provide any written advice from relevant agencies (e.g. Fisheries WA).

2.7 Water Supply and Drainage Catchments

2.7.1 Are you in a proclaimed or proposed groundwater or surface water protection area? (You may need to contact the Department of Water (DoW) for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes ✓ No **If yes**, please describe what category of area.

2.7.2 Are you in an existing or proposed Underground Water Supply and Pollution Control area?

(You may need to contact the DoW for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes No **If yes**, please describe what category of area.

2.7.3 Are you in a Public Drinking Water Supply Area (PDWSA)?

(You may need to contact the DoW for more information or refer to the DoW website. A proposal to clear vegetation within a PDWSA requires approval from DoW.)

Yes No **If yes**, please describe what category of area.

2.7.4 Is there sufficient water available for the proposal?

(Please consult with the DoW as to whether approvals are required to source water as you propose. Where necessary, please provide a letter of intent from the DoW)

Yes No (please tick)

[See 2.7.7 below.](#)

2.7.5 Will the proposal require drainage of the land?

Yes No **If yes**, how is the site to be drained and will the drainage be connected to an existing Local Authority or Water Corporation drainage system? Please provide details.

[Temporary lowering of the water table \(superficial aquifer\) will be required for mining. Recovered groundwater will be incorporated within the mining and wet separation process. See Section 5.8 of the Mining Proposal for further information and references.](#)

2.7.6 Is there a water requirement for the construction and/ or operation of this proposal?

(please tick) Yes **If yes**, complete the rest of this section.

No **If no**, go to the next section.

What is the water requirement for the construction and operation of this proposal, in kilolitres per year?

[Up to 300,000 kL per year will be required for dust suppression and primary wet screening.](#)

2.7.7 What is the proposed source of water for the proposal? (e.g. dam, bore, surface water etc.)

[Water will be sourced from the existing allocation and bore currently approved for use at the Wonnerup operations.](#)

2.8 Pollution

2.8.1 Is there likely to be any discharge of pollutants from this development, such as noise, vibration, gaseous emissions, dust, liquid effluent, solid waste or other pollutants?

(please tick) Yes **If yes**, complete the rest of this section.

No **If no**, go to the next section.

2.8.2 Is the proposal a prescribed premise, under the Environmental Protection Regulations 1987?

(Refer to the EPA's *General Guide for Referral of Proposals to the EPA under section 38(1) of the EP Act 1986* for more information)

Yes No **If yes**, please describe what category of prescribed premise.

[Category 6 Mine dewatering](#)

[Category 8 Mineral sands mining or processing](#)

2.8.3 Will the proposal result in gaseous emissions to air?

Yes No **If yes**, please briefly describe.

2.8.4 Have you done any modelling or analysis to demonstrate that air quality standards will be met, including consideration of cumulative impacts from other emission sources?

Yes No **If yes**, please briefly describe.

2.8.5 Will the proposal result in liquid effluent discharge?

Yes No **If yes**, please briefly describe the nature, concentrations and receiving environment.

[All site stormwater, mine dewater and process return water will be pumped from the site to the Wonnerup operations for treatment and re-use, storage or discharge in accordance with its environmental authorisations issued by DER, DoW and DotE. These authorisations include the requirement to monitor the receiving environment \(Sabina River\) up and downstream of the minesite. See Sections 5.7-9 of the Mining Proposal for further information and references.](#)

2.8.6 If there is likely to be discharges to a watercourse or marine environment, has any analysis been done to demonstrate that the State Water Quality Management Strategy or other appropriate standards will be able to be met?

Yes No **If yes**, please describe.

2.8.7 Will the proposal produce or result in solid wastes?

Yes

No

If yes, please briefly describe the nature, concentrations and disposal location/ method.

Curbside (putrescible), inert, recyclable and controlled wastes (hydrocarbon) will be collected and disposed to the appropriate licensed premises by suitable operators.

2.8.8 Will the proposal result in significant off-site noise emissions?

Yes

No

If yes, please briefly describe.

Noise emissions from the Wonnerup South proposed operations will mostly be from mobile equipment, pumps and screens. Wet processing of the mineral ore will be conducted using the existing Wonnerup plant.

The site is adjacent to the Bussell Highway and the Busselton Regional Airport. The nearest noise sensitive premises are 1 km from the edge of the mining operations, so as an additional safeguard, noise bunds have been included in the mine plan.

An acoustic model for the proposed mining activities has been developed by SVT using SoundPlan v7.1 and used to predict noise levels at the closest noise sensitive premises to the proposed mine site for day and night time operations under both worst-case and calm meteorological conditions. In addition, noise contours for the worst-case meteorological conditions have also been provided. Please refer to the attached SVT report for details on noise sources and characteristics.

The Noise Management Plan that has been developed and implemented at the Wonnerup operations will be expanded to include Wonnerup South and will set out the special management areas, controls and monitoring locations.

2.8.9 Will the development be subject to the Environmental Protection (Noise) Regulations 1997?

Yes

No

If yes, has any analysis been carried out to demonstrate that the proposal will comply with the Regulations? Yes

Please attach the analysis.

A noise assessment has been prepared by SVT Engineering (Attachment 3). The main findings are:

For construction activities (daytime only): The predicted worst-case noise levels are below the day-time assigned noise levels at the closest noise sensitive premises except at R5, where a half decibel exceedance is predicted (note this exceedance includes a 5dB penalty for tonality – without the penalty, noise levels would be 4.5 dB within the assigned levels).

For mining operations: The predicted worst-case noise levels from any of the proposed mining operations (adjusted for tonality where required) are below the assigned noise levels at all noise sensitive premises.

Please refer to the attached SVT report for details on the location of sensitive receptors and compliance margins.

Cristal will liaise with DER on the management of noise for the construction and operation phases, as part of the preparation of the Works Approval. Cristal is also expanding its neighbourhood and community consultation program for the Wonnerup site to include premises that may be affected by the Wonnerup South proposal.

- 2.8.10 Does the proposal have the potential to generate off-site, air quality impacts, dust, odour or another pollutant that may affect the amenity of residents and other “sensitive premises” such as schools and hospitals (proposals in this category may include intensive agriculture, aquaculture, marinas, mines and quarries etc.)?

Yes

No

If yes, please describe and provide the distance to residences and other “sensitive premises”.

The proposal has the potential to generate dust; however this potential will be managed through standard controls including water carts and stabilisation of open areas and stockpiles using clay fines or other additives. See Section 5.12 of the Mining Proposal for more details.

The closest receptor is 1 km from the edge of operations.

- 2.8.11 If the proposal has a residential component or involves “sensitive premises”, is it located near a land use that may discharge a pollutant?

Yes

No

Not Applicable

If yes, please describe and provide the distance to the potential pollution source

2.9 Greenhouse Gas Emissions

- 2.9.1 Is this proposal likely to result in substantial greenhouse gas emissions (greater than 100 000 tonnes per annum of carbon dioxide equivalent emissions)?

Yes

No

If yes, please provide an estimate of the annual gross emissions in absolute and in carbon dioxide equivalent figures.

2.10 Contamination

2.10.1 Has the property on which the proposal is to be located been used in the past for activities which may have caused soil or groundwater contamination?

Yes ✓ No Unsure **If yes**, please describe.

The Proposal site is currently used for agricultural purposes (beef and dairy farming). Areas where any potentially contaminating activities may have occurred, such as the storage of hydrocarbons and agricultural chemicals, are not evident within the proposed disturbance area.

2.10.2 Has any assessment been done for soil or groundwater contamination on the site?

Yes ✓ No **If yes**, please describe.

2.10.3 Has the site been registered as a contaminated site under the *Contaminated Sites Act 2003*? (on finalisation of the CS Regulations and proclamation of the CS Act)

Yes ✓ No **If yes**, please describe.

2.11 Social Surroundings

2.11.1 Is the proposal on a property which contains or is near a site of Aboriginal ethnographic or archaeological significance that may be disturbed?

✓ Yes No Unsure **If yes**, please describe.

The Sabina River is a Registered Site and will be disturbed by the river crossing. A S18 application has been prepared and submitted to DAA. See Sections 3.10 and 6.1 of the Mining Proposal for further information and references.

2.11.2 Is the proposal on a property which contains or is near a site of high public interest (e.g. a major recreation area or natural scenic feature)?

Yes ✓ No **If yes**, please describe.

2.11.3 Will the proposal result in or require substantial transport of goods, which may affect the amenity of the local area?

Yes ✓ No **If yes**, please describe.

3. PROPOSED MANAGEMENT

3.1 Principles of Environmental Protection

3.1.1 Have you considered how your project gives attention to the following Principles, as set out in section 4A of the EP Act? (For information on the Principles of Environmental Protection, please see EPA Position Statement No. 7, available on the EPA website)

- | | | |
|----------------------------------------------------------------------------------------|-----------------------------------------|-----------------------------|
| 1. The precautionary principle. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. The principle of intergenerational equity. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. The principle of the conservation of biological diversity and ecological integrity. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Principles relating to improved valuation, pricing and incentive mechanisms. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. The principle of waste minimisation. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

3.1.2 Is the proposal consistent with the EPA's Environmental Protection Bulletins/Position Statements and Environmental Assessment Guidelines/Guidance Statements (available on the EPA website)?

- Yes No

3.2 Consultation

3.2.1 Has public consultation taken place (such as with other government agencies, community groups or neighbours), or is it intended that consultation shall take place?

- Yes No **If yes**, please list those consulted and attach comments or summarise response on a separate sheet.

Consultation has been undertaken with the following agencies:

- DER, regarding works approvals and licences and relationship to existing Wonnerup operations
- DoW, regarding licences for dewatering and relationship to existing Wonnerup operations
- DotE, regarding main topics for the pending referral and relationship to existing Wonnerup operations (previously approved under EPBC Act)
- City of Busselton, regarding timing of future developments in the area, including the potential expansion of the Busselton Regional Airport, which could significantly intrude onto the proposal location.
- DMP, regarding the potential sterilisation of mineral resources, posed by the airport expansion.

Consultation is underway with the landowner in a staged process that has been agreed to by both parties.

For the surrounding residences, Cristal will adopt the following consultation strategy:

- A brief project description and invitation to contact will be sent out to all householders within 1.5 km of the proposal and the Provence residential estate; this will be timed to coincide with the first round of public advertisements associated with the environmental approvals process.
- Following this, on a six-monthly basis, newsletters will be mailed to all residences within 1 km of the proposal; all agency and NGO stakeholders, and all respondents to the previous invitation.
- Annual Minesite Open Days are scheduled for next year onwards. In addition to public notices, stakeholders will also be invited to attend.

The stakeholder identification and consultation process for Wonnerup South is built on the current process that Cristal has established for the Wonnerup mine site.