



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

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:

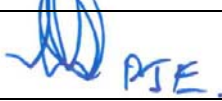
Table with 3 columns: Question, Yes, No. Rows include: Completed all the questions in Part A (essential), Completed all applicable questions in Part B, Included Attachment 1 – location maps, Included Attachment 2 – additional document(s) the proponent wishes to provide (if applicable), Included Attachment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

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, ...David English... (*full name*) declare that I am authorised on behalf of Sirius Gold Pty 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): David English
Position: Project Manager (Processing and Infrastructure)	Company: Sirius Gold Pty Ltd
Date 19 June 2014	

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	Fraser Range
Joint Venture parties (if applicable)	
Australian Company Number (if applicable)	ABN 36 146 091 527
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 1011 Balcatta WA 6914
Key proponent contact for the proposal: <ul style="list-style-type: none">• name• address• phone• email	David English 253 Balcatta Road Balcatta WA 6914 +61 (08) 6241 4200 David.English@siriusresources.com.au
Consultant for the proposal (if applicable): <ul style="list-style-type: none">• name• address• phone• email	Kristy Sell 4 Cook St, West Perth, WA 6005 +61 (08) 9226 3166 ksell@mbsenvironmental.com.au

1.2 Proposal

Title	Nova Nickel Project (Nova Project)
Description	<p>The Nova Project is a greenfields high grade nickel-copper deposit in the Fraser Range area of Western Australia. The project location is shown in Figure 1 of the Support Document.</p> <p>Sirius proposes to develop an underground mine to extract and process nickel and copper from two deposits, Nova and Bollinger with access to the deposits via one boxcut. Ore will be processed using conventional flotation techniques to produce two sulfide concentrates (nickel and copper).</p> <p>Mineral concentrates will be trucked along a private access road to the Eyre Highway, and then along public roads to the Port of Esperance.</p> <p>The project life is estimated to be 12 years including construction, however exploration is ongoing and extension of the project life is considered highly probable.</p>
Extent (area) of proposed ground disturbance.	The extent of ground disturbance will be about 400 ha for the Nova Project and about 700 ha for the access road and borrow pits from the Eyre Highway to the project. About 560 ha will be for short term disturbance for borrow materials for the project.

	The Conceptual Project Layout is shown in Figure 3 of the Support Document.
Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable).	<p>Sirius has lodged an application for the Mining Lease however grant is pending completion of a Native Title Agreement. Applications for approvals cannot be submitted until tenure has been granted.</p> <p>Current planning is working towards the following timeframes:</p> <ul style="list-style-type: none"> • Q1-Q2 2014: Undertake permitting and complete Feasibility Study. • 2015: Commence underground mine development and plant construction • 2016 Commence underground mining and ore processing
Details of any staging of the proposal.	Staging will only relate to construction schedules and access to the two orebodies. The project considers all known economically mineable ore reserves.
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.	This proposal is not related to other proposals in the region.
Does the proponent own the land on which the proposal is to be established? If not, what other arrangements have been established to access the land?	<p>The proponent is the holder of underlying tenement E 28/1724. An application has been made for a Mining Lease (MLA 28/376). Grant is subject to completion of Native Title negotiations.</p> <p>Sirius is currently negotiating access agreements with other exploration tenement owners to allow lodgement of miscellaneous licence applications for the access road corridor. Lodgement of tenure applications will also be subject to completion of Native Title negotiations.</p> <p>Land tenure information is shown in Figure 2 of the Support Document.</p>
What is the current land use on the property, and the extent (area in hectares) of the property?	MLA 28/376 is partially located on the Fraser Range Pastoral Lease (40%) and the remainder is on Unallocated Crown Land (UCL). The proposed project footprint within the MLA is located predominantly on UCL. Fraser Range Station is used for sheep grazing and limited tourism.

	The access road corridor is located on Southern Hills Pastoral Lease (30%) and UCL. Southern Hills Station is used for sheep and cattle grazing.
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1.3 Location

Name of the Shire in which the proposal is located.	Dundas Shire
For urban areas: <ul style="list-style-type: none"> • street address; • lot number; • suburb; and • nearest road intersection. 	N/A
For remote localities: <ul style="list-style-type: none"> • nearest town; and • distance and direction from that town to the proposal site. 	The Nova Project is located approximately 110 km east of Norseman and about 40 km north of the Eyre Highway.
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; • CAD: simple closed 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?: Yes

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?	Yes
If yes, is confidential information attached as a separate document in hard copy?	Yes / No

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
Department of Mines and Petroleum (DMP)	Mining Approval under the <i>Mining Act 1978.</i>	No	Branch: Environment Division–Goldfields Region. Contact: Team Leader: Ian Mitchell
Department of Environment Regulation (DER)	Works Approval and Licence under Part V of the <i>Environmental Protection Act 1986.</i>	No	Branch: Goldfields Region Contact: Regional Leader – Industry Regional, James Milne
DMP	Clearing approval under the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004.</i>	No	Branch: Environment Division–Goldfields Region. Contact: Team Leader: Ian Mitchell
Department of Water	5C Groundwater Licence to abstract groundwater for dewatering and water supply under the <i>Rights in Water and Irrigation Act 1914</i>	Yes	South-West Office Melanie Morcombe, Licencing officer. Andrew Maughan, Hydrogeologist.
Shire of Dundas		No	
Department of Health		No	
Civil Aviation Safety Authority (CASA)		No	CASA Operations Western Regional Office
Main Roads WA	Permit to operate Restricted Access Vehicles in WA.	No	Main Roads WA Goldfields- Esperance Regional Office

PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, by answering the questions contained in Sections 2.1-2.11:

- 2.1 flora and vegetation;
- 2.2 fauna;
- 2.3 rivers, creeks, wetlands and estuaries;
- 2.4 significant areas and/ or land features;
- 2.5 coastal zone areas;
- 2.6 marine areas and biota;
- 2.7 water supply and drainage catchments;
- 2.8 pollution;
- 2.9 greenhouse gas emissions;
- 2.10 contamination; and
- 2.11 social surroundings.

These features should be shown on the site plan, where appropriate.

For all information, please indicate:

- (a) the source of the information; and
- (b) the currency of the 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)?

The total area of vegetation clearing associated with the Nova Project and proposed access road is anticipated to be up to 1,100 ha. This comprises 400 ha for the minesite and associated infrastructure and up to 700 ha for an access road and associated borrow pits from the Eyre Highway to the project 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?

This will be submitted in the future if the project is not formally assessed by the EPA.

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.

A Level 2 flora and vegetation survey of the MLA and access road corridor was conducted by Mattiske Consulting in 2013. A summary and the full report of the survey are contained in Section 3.11 and Appendix 1 respectively of the Support Document.

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.

This was conducted by Mattiske Consulting. Results are documented in Section 3.10 of the Support Document.

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.

No Threatened flora species were recorded within the Nova Project area. Four Priority flora species were recorded within the Nova survey area. Locations of these are shown in Figure 7 of the Support Document. None of the identified populations are located within the proposed project footprint. More information on the species and vegetation communities found within the project area is given in Section 3.10 of the Support Document. No Threatened Ecological Communities were recorded within the Nova survey area.

The project tenements will overlap with two Priority Ecological Communities (PECs). The north western corner of the MLA intersects with the Fraser Range Vegetation Complex and the southern part of the access corridor where it meets the Eyre Highway intersects the Southern Hills Vegetation Complex. More information on these PECs is contained in Section 3.10.2 of the Support Document.

Sirius has met with DPaW to discuss the potential impacts on the PEC's on several occasions. Upon invitation from DPaW, Sirius recommended changes to the PEC boundaries as the current boundaries are mapped based on Beard's work in the 1970s. The new ground truthing, data and mapping conducted by Mattiske Consulting for the PECs covers a very small proportion of the PECs and the recommended changes have been extrapolated to encompass areas that have not been mapped in detail. Given the impacts to PECs are low and a lack of detailed quadrat data for the PEC, DPaW will maintain the current PEC boundaries. Furthermore, DPaW have advised Sirius to assess impacts to vegetation communities during impact assessment at a floristic/community level.

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?

Vegetation has been assessed by Mattiske Consulting to be in relatively good condition. There are areas which have been subjected to intense fires, and some sections have been disturbed by tracks, fencing and mineral exploration activities.

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.

A total of 137 vertebrate fauna species including 40 reptile, 77 bird and 20 mammal species were recorded during a Level 2 Survey of the MLA and access corridor undertaken by Rapallo Environmental (Rapallo) in November 2013. Analyses of acoustic recordings made during the survey identified six different bat species in the area. An additional two species of bats may also be present, however this could not be confirmed as calls could only be reliably confirmed to genus level. More information on this survey is contained in Section 3.12 of the Support Document.

Eight habitat types and one micro habitat were identified in the project area. The distribution of these is shown in Figure 8 of the Support Document. Section 3.12.1 and Appendix 2 of the Support Document provides descriptions of each habitat type.

The proposed clearing of up to 1,100 ha will result in the loss of fauna habitat which is not considered unique or of significant conservation value, and is well represented in the region. It is considered unlikely that this clearing will affect the status of conservation significant fauna species.

Rehabilitation of disturbed areas will re-establish habitat for recolonisation of fauna after mine closure.

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.

A level 2 survey of the MLA and access road corridor was conducted by Rapallo in November 2013 over a 15 day period. Targeted Malleefowl surveys of the access road corridor and borrow pits was undertaken by Rapallo in January, February and May 2014. These reports are summarised and shown in full in Section 3.11 and Appendix 2 and 3 respectively of the Support Document.

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)

This was conducted by Rapallo. Results are summarised in Section 3.11 of the Support Document and provided in full in Appendix 2.

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.

A database search showed that 22 vertebrate species of conservation significance have potential to occur in the project area. Ten were recorded within the habitats of the project area, nine birds and potentially one bat.

Sirius exploration personnel recently recorded the presence of the South-west Carpet Python in the MLA (protected as a Schedule 4 species under the *WC Act*).

One bat species of conservation significance may be present, however analysis of bat calls was unable to confirm reliably whether calls of long-eared bats *Nyctophilus* spp were the lesser long-eared bat *Nyctophilus geoffroyi* or the central subspecies of the Greater Long-eared Bat *Nyctophilus major tor*. The Greater Long-eared Bat *Nyctophilus major tor* is listed as Priority 4 species by DPaW.

Potential is also considered to exist for the presence of the Bush Stone Curlew (Priority 4) as these have been seen in nearby areas by Traditional Owners.

In the fauna survey and a targeted search of the Nova Project area and access road corridor, 29 inactive Malleefowl mounds were recorded. Of these, 11 are classed as dormant Profile 1 (dormant) mounds. The remaining 18 are classed as extinct Profile 6 (extinct) mounds. Of the 11 dormant mounds recorded, six mounds are within or close to project infrastructure. The location of the mounds observed by Rapallo are shown in Figure 12 of the Support Document.

The presence of Specially Protected fauna species in the project area is summarised in Table 2 and explained further in Section 3.11.2 of the Support Document.

Table 1: Conservation Significant Species within Survey Area at Nova Project

Species	Conservation Status	Observation in Project Area
Malleefowl (<i>Leipoa ocellata</i>)	WC Act - Schedule 1 EPBC Act – Vulnerable	Mounds observed in survey area.
South-west Carpet Python (<i>Morelia spilota imbricata</i>)	WC Act – Schedule 4.	Observed by Sirius staff close to survey area. Photographs verified by Rapallo.
Australian Bustard (<i>Ardeotis australis</i>)	Priority 4	Observed by Rapallo during survey.
Crested Shrike-tit (southwestern spp.) (<i>Falcunculus frontatus leucogaster</i>)	Priority 4	Observed by Rapallo during survey.
Shy Heathwren (western spp.) (<i>Calamanthus (Hylocola) cauta whitlocki</i>)	Priority 4	Observed by Rapallo during survey.
Rainbow Eater (<i>Merops ornatus</i>)	EPBC Migratory Species WC Act – Schedule 3	Observed by Rapallo during survey.
Fork-tailed Swift (<i>Apus pacificus</i>)	EPBC Marine and Migratory WC Act – Schedule 3	Observed by Rapallo during survey.
White-browed Babbler (western wheatbelt ssp) (<i>Pomatostomus superciliosus ashbyi</i>)	Priority 4	Observed by Rapallo during survey.
Crested Bellbird (Southern) (<i>Oreoica gutturalis gutturalis</i>)	Priority 4	Observed by Rapallo during survey.
Bush Stone-Curlew (<i>Burhinus grallarius</i>)	Priority 4	Observed by Traditional Owners close to survey area.
Rufous Fieldwren (<i>Calamanthus campestris montanellus</i>)	Priority 4	Observed by Rapallo during survey.
Greater Long-eared Bat (Central Form) (<i>Nyctophilus major tor</i>)	Priority 4	Calls which may belong to this species were recorded in the project area. Calls could only be identified to Genus level.

The results of the surveys have been communicated verbally to DPaW. Reports will be submitted as part of project environmental assessment applications as will information required by Fauna Licences.

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.

JDA Consultant Hydrologists were commissioned by Sirius to assess the hydrology and flood characteristics of the Nova Project and surrounds to assist with planning of mine infrastructure. The access road will cross a small number of ephemeral drainage lines as is shown in Figure 7 of the Support Document.

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.

Clearing of vegetation will occur within 200 m of ephemeral drainage lines as part of development of the access road. JDA Consultant Hydrologists assessed the drainage lines in the Nova Project area. The proposed access road will cross one main channel discharging flow direct from the Fraser Range, and two other significant channels draining to the southeast. All three of these channels will discharge high peak flows in a 100 year Average Recurrence Interval event.

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.

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.

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) Yes No Unsure

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 300 metres 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.

The Nova Project and proposed access road is within the proclaimed Goldfields Groundwater Area (*R/WI Act 1914*). The project is not within a surface water protection 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)

Hydrological investigations are still in progress. Investigations have identified two fractured rock aquifers in the MLA – a botryoidal aquifer and a discrete fractured rock aquifer. These aquifers will provide sufficient water for construction purposes and for the majority of operational requirements. Additional on-ground investigations are currently underway to drill a Southern Borefield immediately south of the MLA. This will be required to provide sufficient water for operations for the life of the project.

Sirius and its consultants have consulted with DoW and obtained necessary approvals for drilling and other hydrological investigation works.

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.

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.

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

Construction phase: 50,000 kilolitres per annum (flow rate of approximately 15 litres per second).

Operations phase: 1,892,160 kilolitres per annum (flow rate of approximately 60 litres per second).

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

Water will be sourced from purpose built borefields.

Hydrogeological studies are being conducted by Groundwater Resource Management (GRM). Studies have identified the presence of a botryoidal fractured rock aquifer above the orebody and another discrete fractured rock aquifer within the MLA. Licences have been obtained from DoW to allow development and testing of bores. Pump testing is currently being carried out to determine the likely sustainable flow rate for bores developed into these aquifers. Current information suggests sufficient water will be able to be abstracted to support project construction needs and the majority of operational water requirements. Additional water supplies will be sourced from the Southern Borefield immediately to the south of the MLA during operations.

The location of proposed bores for the Fractured Rock Aquifer above the orebody are shown in Figure 5 of the Support Document as is the location of planned drilling for the development of the Southern Borefield south of the project area for supply of water for 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.

Table 2: Prescribed Premises of the Nova Project

Category	Description	Production or Design Capacity
Category 5	Processing/beneficiation of metallic or non-metallic ore in which (a) metallic or non-metallic ore is crushed (b) tailings from metallic or non-metallic ore are reprocessed; (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	≥50,000t p/a
Category 52	Electric power generation: premises (other than category 53 or an emergency or standby power generating plant) on which electrical power is generated using a fuel.	10 MW or more in aggregate (using a fuel other than natural gas).
Category 54	Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which sewage is discharged onto land or into waters.	More than 20 but less than 100 cubic metres per day.
Category 64	Class II or III putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996", published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	20 tonnes or more per year.

2.8.3 Will the proposal result in gaseous emissions to air?

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

The main gaseous emissions to air will result from fuel combustion, (vehicle/equipment exhausts, power generation), earth moving (particulates), ore processing (reagent odours) and underground mine vent fans (water vapour and particulates).

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.

Standard package sewerage treatment plants will be used at the accommodation village and minesite offices. Treated liquid effluent discharge will be irrigated to areas that are sufficiently sized to ensure nutrient loadings are within acceptable parameters. The receiving environment is Eucalypt

woodlands and the proposed nutrient loadings are not anticipated to adversely impact the receiving environment.

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.

The proposed activities will result in production of waste rock, tailings and landfill wastes.

Tailings will be used to form an engineered paste product for filling of underground mine voids. Excess tailings not able to be used for underground fill will be placed in a purpose built, engineered Tailings Storage Facility (TSF).

Waste rock will be used for TSF embankments and the ROM pad and other mining infrastructure. Any excess will be used for backfill of underground mining voids.

Solid wastes produced by the accommodation village and the offices will be disposed of in a purpose built landfill facility.

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

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

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?

Please attach the analysis.

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".

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.

If the project uses 3,000 kilolitres of diesel annually, the carbon dioxide equivalent emissions are calculated to be:

$(3,000 \times 36.6 \times 69.2)/1,000 = 7,598$ tonnes of carbon dioxide emissions.

2.9.2 Further, if yes, please describe proposed measures to minimise emissions, and any sink enhancement actions proposed to offset emissions.

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.

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

Yes

No

If yes, please describe.

Soil samples and groundwater samples have been analysed from the project area and no evidence of contaminants were identified in the analysis.

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.

A search of the Department of Aboriginal Affairs (DAA) website was conducted on 18 February 2014 to determine the presence of items or sites of State, National or Aboriginal heritage. No registered Aboriginal heritage sites are located within MLA 28/376 or near the proposed access road. Two sites were located nearby to the project area:

- Symons Hill (Site ID 1396) is an artefact / scatter site that is also a camp, and is classified as insufficient information by the DAA. It is located approximately eight km to the southwest of the Nova Project.
- Fraser Range 2 (Site ID 1338) is an artefact / scatter site that is classified as insufficient information located approximately seven km to the west of the access road.

Sirius has conducted a number of heritage surveys within the exploration tenement during the period 2009 to 2013. Isolated artefacts, snail shell middens and quartz quarries were identified. There are no known sacred, ritual, ceremonial or burial sites within the project area. More details on heritage surveys are provided in Section 3.13.7 of the Support Document.

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.

The Nova Project will require 12 road trains (double trailers) each day travelling from the project to the intersection of the Eyre Highway with the Coolgardie Esperance Highway where it will be transported directly to the Port of Esperance.

This route will bypass the township of Norseman and as such will not affect the amenity of the area.

The Port Access Corridor will be used to minimise adverse impacts on the amenity of Esperance. More information on the transport of concentrate is provided in Section 2.11.2 of the Support Document.

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 |

More information on how these principles have been applied to the project is contained in Section 6 of the Support Document.

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

This proposal has been prepared consistent with the following EPA documents.

- Environmental Assessment Guideline 1: Defining the Key Characteristics of a Proposal.
- Environmental Assessment Guideline 8: Environmental Factors and Objectives.
- Environmental Assessment Guideline 9: Application of a Significance Framework in the Environmental Impact Assessment Process.
- Environmental Assessment Guideline 12: Consideration of Subterranean Fauna in Environmental Impact Assessment in Western Australia.
- EPA Position Statement 2: Environmental Protection of Native Vegetation in Western Australia.
- EPA Position Statement 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection.
- Guidance Statement 6: Rehabilitation of Terrestrial Ecosystems.
- Guidance Statement 12: Minimising Greenhouse Gases.
- Guidance Statement 20: Sampling Short Range Endemic Invertebrate Fauna for Environmental Impact Assessment in WA.
- Guidance Statement 41: Assessment of Aboriginal Heritage.
- Guidance Statement 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia.

- Guidance Statement 55: Implementing Best Practice in Proposals Submitted to the Environmental Impact Assessment Process.
- Guidance Statement 56: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia.

More information on environmental factors, potential project impacts on them and management and mitigation measures planned to be implemented to meet the EPA objectives is contained in Section 4 of the Support Document.

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 taken place and is ongoing. This includes consultation with:

- Regulatory agencies (EPA, DER, DPaW, DoW, DMP, DFES, DoT).
- Pastoralists (Fraser Range Station, Southern Hills Station).
- Dundas Shire Council.
- Traditional Owners (Goldfields Land and Sea Council and Ngadju People).
- Gondwana Link.
- Main Roads.
- Civil Aviation Safety Authority.
- Economic Development Committee's.
- Port authorities (Esperance and Geraldton).

More details on stakeholder consultation are provided in Section 5 of the Support Document.