



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:


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

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, GERRY BRADLEY, (full name) declare that I am authorised on behalf of BC IRON LIMITED (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>GERRY BRADLEY</u>
Position <u>SUSTAINABILITY MANAGER</u>	Company <u>BC IRON LIMITED</u>
Date <u>8-7-2013</u>	

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	BC Iron Nullagine Pty Ltd (BC Iron), a subsidiary of BC Iron Limited
Joint Venture parties (if applicable)	Fortescue Metals Group Limited (75/25) unincorporated joint venture
Australian Company Number (if applicable)	120 646 924
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)	GPO Box 2811 Perth WA 6001
Key proponent contact for the proposal: <ul style="list-style-type: none"> • name • address • phone • email 	N: Gerry Bradley (Sustainability Manager) BC Iron Limited A: GPO Box 2811 Perth WA 6001 P: (08) 6311 3400 E: Gerry.Bradley@bciron.com.au
Consultant for the proposal (if applicable): <ul style="list-style-type: none"> • name • address • phone • email 	N: Tim Bowra (General Manager and Senior Principal) Strategen Environmental Consultants A: PO Box 243 Subiaco WA 6904 P: (08) 9380 3100 E: t.bowra@strategen.com.au

1.2 Proposal

Title	Nullagine Iron Ore Extension Project
Description	<p>BC Iron Limited (BC Iron) proposes to develop the Nullagine Iron Ore Extension Project (the proposal). The proposal is an extension of the Nullagine Iron Ore Project (NIOP) that was approved under the <i>Mining Act 1978</i> and commenced production in late 2010, near Nullagine in the eastern Pilbara region of Western Australia (Figure 1). The proposal involves an extension of mining operations into two new mining areas, including Bonnie East and Warrigal North mesas (Figure 2). The proposal will comprise an expected iron ore resource of approximately 22 million tonnes (Mt) which will extend the mine life by up to 5 years.</p> <p>The proposal comprises the following major components:</p> <ol style="list-style-type: none"> 1. Mining of a direct shipping ore (DSO) resource of 10.8 Mt at Bonnie East and 11.0 Mt at Warrigal North through surface mining of a number of mesas as open pits/panels above the creekline level. 2. Clearing up to 740 ha of native vegetation. 3. Overburden and mineral waste dumps and low grade stockpiles will be constructed within the respective nominated areas as outlined by Figures 3 and 4. Expected average strip ratio of waste to ore of approximately 1.9:1. Approximately 40.0 Mt of overburden/low grade resource (waste rock) is expected to be generated during the life of the proposal. 4. Crushing and screening of ore during the initial stages of the proposal is expected to be undertaken at the existing Mining Operations Centre. There is potential for the crushing and screening plant to be re-located to the Bonnie East and/or Warrigal North mining areas, if practicable, at the end of 2015.

	<p>There is also potential for an additional small mobile crushing and screening plant to be operated near the proposed Bonnie East mine area to meet production targets. The rate of crushing and screening of ore mined from the extension areas is anticipated to be up to 6 Mt per annum (Mtpa).</p> <p>5. Existing supporting infrastructure such as the main haul road to the Christmas Creek rail head, accommodation camp, MOC including administration offices, workshops and crushing and screening plant, groundwater supply bores, communication towers and access tracks will be utilised where practicable. Construction of supporting infrastructure such as access and haul roads to the extension deposits will form part of the proposal and will be constructed within the respective nominated areas as outlined by Figures 3 and 4. Conveyors may also be used to transfer ore across surface water features where practicable to limit the environmental impact to surface water features and gorge/breakaway habitat. Communication towers might also be constructed in the proposed development envelope.</p>
Extent (area) of proposed ground disturbance.	The proposal requires the clearing of up to 740 ha of native vegetation, within a 2995 ha proposed disturbance envelope.
Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable).	Subject to regulatory approvals, it is anticipated that construction will commence for the Nullagine Iron Ore Extension Project in Q1 2014, with operations commencing in Q2 2014.
Details of any staging of the proposal.	The proposal will not be staged; however the proposal forms part of a larger action where mining of the Bonnie East resource below the creekline and above the groundwater table is expected to be referred under the EP Act (Part IV). This will be referred once the surface water dynamics of the proposed operations are better understood and surface water management further developed by the proponent.
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 would extend the life of the existing NIOP by up to 5 years.

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?	The proposal occurs within Mining Lease M46/522 (pending) and M46/523 (pending). Miscellaneous Licences under the Western Australian <i>Mining Act 1978</i> will be sought for access to land for construction of any road infrastructure outside these tenements.
What is the current land use on the property, and the extent (area in hectares) of the property?	The proposal is located within the Bonney Downs and adjacent to the Hillside (pastoral) Stations. The proposal locality and surrounds has historically been used for stock grazing and more recently exploration and mining. Mining leases M46/522 and M46/523 comprise an area of 2995 ha.

1.3 Location

Name of the Shire in which the proposal is located.	Shire of East Pilbara
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 proposal is located in the eastern Pilbara region of Western Australia approximately 20 km southwest of Nullagine and 150 km north of Newman (Figure 1).
Electronic copy of spatial data - GIS or CAD, georeferenced 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. 	Attached.

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
If yes, is confidential information attached as a separate document in hard copy?	N/A

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 Sustainability, Environment, Water, Population and Communities (DSEWPaC)	Approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .	Yes	N: Pablo Shopen Assessment Officer, DSEWPaC P: +61 2 62744 1111
Department of Water	Licences to construct wells and take groundwater are required from the DoW under the RIWI Act (WA).	Groundwater licences issued for existing operation will cover water requirements for this proposal.	N/A
Department of Mines and Petroleum	Approval will be required from the DMP for implementation of the proposal under the <i>Mining Act 1978</i> (Mining Act). A Native Vegetation Clearing Permit will be submitted to DMP for assessment and approval of clearing activities under the Mining Act, in accordance with provisions of the Memorandum of Understanding between DMP and EPA/DEC.	No	TBD
Department of Environment and Conservation	Works Approvals and associated licences to construct and operate Prescribed Premises identified by Environmental Protection (Controlled Waste) Regulations 2004 (WA) will be required from DEC in relation to waste discharges to the environment. Such as an ore processing plant (crusher) at Bonnie East and/or Warrigal North. A Works Approval application will be submitted to DEC for the assessment and approval of the construction of the potential crushing and screen plant(s) for the proposal under Part V of the EP Act. An Operating Licence application(s) to permit emission of the waste discharges associated with operation of Premises will be submitted to DEC following construction of the crushing and screen plant(s).	No	TBD

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)?

Up to approximately 740 ha of vegetation will be cleared as part of this proposal within a development envelope of 2995 ha.

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?

In the event the proposal is not assessed formally by the EPA, an application to clear native vegetation will be submitted to DMP, concurrent to the Mining Proposal application.

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.

Refer to Section 5.2.1 (Vegetation and flora) and Appendix 2 of the Referral supporting document.

Vegetation and flora method statement is attached.

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.

Refer to Section 5.2.1 (Vegetation and flora) and Appendix 2 of the Referral supporting 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.

Refer to Section 5.2.1 (Vegetation and flora) and Appendix 2 of the Referral supporting document.

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).

Not applicable

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

The majority of the vegetation in the proposed disturbance envelope was assessed as being in Very Good condition, with minor infestations of weeds and little alteration to vegetation structure; large areas of vegetation in the proposed disturbance envelope were assessed as ranging from Good to Degraded (Plantecology 2012). Additional information is provided in the Section 5.2.1 (Vegetation and flora) of the Referral supporting document.

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.

Refer to Section 5.2.2 (Terrestrial fauna), Section 5.2.3 (Subterranean fauna) and Section 6 (Potential environmental impacts and management) of the Referral supporting document for more detail.

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.

Refer to Section 5.2.2 (Terrestrial fauna), Section 5.2.3 (Subterranean fauna) and Appendix 3, 4 and 5 of the Referral supporting document for more detail.

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)

Refer to Section 5.2.2 (Terrestrial fauna) and Appendix 3 of the Referral supporting document for more detail.

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.

Refer to Section 5.2.2 (Terrestrial fauna) and Appendix 3, 4 and 5 of the Referral supporting document for more detail.

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 proposal will occur within 200 m of the Bonnie Creek, a small unnamed tributary of Bonnie Creek and Bonnie Pool (a permanent pool at Warrigal North). Excluding two proposed creek crossings of Bonnie Creek to access ore (one at Bonnie East and one at Warrigal North) no disturbance to these water courses or water bodies will occur as part of the proposal.

Mining of the Bonnie East resource below the creekline level and above the groundwater table is planned for the future, however this development phase will be referred as a separate proposal under Part IV of the EP Act once surface water dynamics and associated management measures are better understood.

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.

Vegetation clearing within the 200 m zone will occur as part of the proposal as defined by the resource model.

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.

There are many drainage lines that occur in the proposed disturbance envelope that will remain undisturbed and drain to larger surface water features such as Bonnie Creek. Runoff from areas of direct disturbance, including the working mesa surface(s), waste dumps, roads and other infrastructure such as the MOC will be directed to and captured by drainage sumps/settlement basins before being re-used for dust suppression or discharged down gradient. Diversion structures will include bunds and sediment traps/basins in addition to utilising natural drainage lines to divert and capture runoff.

Surface water will be managed in accordance with existing management measures, as defined by the Erosion and Surface Flow Management Plans, which are implemented for the NIOP to protect the flow and quality of surface water and groundwater. These management measures are summarised in Section 6 of the Referral supporting document.

The proposal will not impact on a creek, wetland or estuary.

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

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.

The proposal is not located within or adjacent to an existing or proposed National Park or Nature Reserve.

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.

No ESAs will be impacted by the proposal.

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.

No features of particular note (in addition to that already described) occur within the proposed disturbance envelope.

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.

Not applicable.

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

Not applicable.

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.

Not applicable.

2.5.4 Is the development likely to impact on mangroves?

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

Not applicable.

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.

Not applicable.

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.

Not applicable.

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).

Not applicable.

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 proposal is located within the Pilbara Surface Water Area, proclaimed under the RIWI Act. Licences are required for construction of wells and to take groundwater.

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.

The proposal is located upstream of the Nullagine Water Reserve, gazetted as a Public Drinking Water Source Area. No drainage into the PDWSA will occur as a result of the proposal.

Surface water will be managed in accordance with existing management measures, as defined by the Erosion and Surface Flow Management Plans, which are implemented for the NIOP to protect the flow and quality of surface water and groundwater. These management measures are summarised in Section 6 of the Referral supporting document.

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)

Water requirements for the proposal will be met by the water allocation (*GWL171278(1)*) for the existing NIOP. Existing production bores will be utilised for abstraction of groundwater.

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.

Additional information relevant to surface water and drainage is summarised in Section 6.1.4 of the Referral supporting document.

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.

Water supply is required for construction and operation of the proposal. The water requirement will be met from the existing mine site water allocation and managed in accordance with the RIWI Act.

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

Groundwater abstraction volumes for construction and operation of the proposal is anticipated to be less than the allocated volume of the existing abstraction licence GWL 171278(1) and similar to the abstraction regime implemented for the NIOIP; the total groundwater abstraction volume for operation of the NIOIP from 1 July 2011 to 30 June 2012 was 470 094 kL

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

Groundwater will be sourced from fractured rock aquifers that supply current operations at the NIOIP. Groundwater will continue to be sourced from these aquifers for proposal activities.

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.

An application for a Works Approval and subsequent licences under EP Act Part V will be made for construction and operation of a crushing plant at Bonnie East or Warrigal North as required by the mine plan. It is expected that a Works Approval Application will be submitted to DEC in mid 2015.

2.8.3 Will the proposal result in gaseous emissions to air?

Yes

No

If yes, please briefly describe.

Gaseous emissions will be negligible and primarily result from utilisation of the mine fleet.

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.**

The proposal is located in a remote location in the Pilbara; due to the location and size of the proposal it is highly unlikely that air emissions will result in a significant impact to any receptors. Emissions management will continue to be implemented in accordance with the existing NIOP.

2.8.5 Will the proposal result in liquid effluent discharge?

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

Surface water (i.e. rainfall) runoff from areas of direct disturbance, including the working mesa surface(s), waste dumps, roads and other infrastructure such as the MOC will be directed to and captured by drainage sumps/settlement basins before being re-used for dust suppression or discharged down gradient. Diversion structures will include bunds and sediment traps/basins in addition to utilising natural drainage lines to divert and capture runoff.

Potential pollutants (i.e. hydrocarbons) and sediment generation will be managed in accordance with the Erosion and Surface Flow Management Plans that are already implemented for existing operations to reduce any potential impacts associated with water quality. These management measures are summarised in Section 6 of the Referral supporting document.

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.**

Discharge will be in the form of surface water runoff only as described in Section 2.3.5 of this form.

A number of management actions have been implemented and monitoring events undertaken to ensure surface water discharge that drains to Bonnie Creek from the disturbance areas of the existing NIOP is of an appropriate quality in accordance with the Water Quality Protection Guidelines (WRC 2000) and the Nullagine Water Reserve Source Protection Plan (WRC 1999).

These monitoring results have been presented to the DEC and DMP in various Annual Monitoring Reports demonstrating that this aspect of the existing operations has and is being appropriately managed and the management framework for surface water can be confidently applied to the proposal. BC Iron is currently undertaking baseline surface water quality studies at various locations in the proposed disturbance envelope for the monitoring of surface water quality implementation of the proposal in accordance with the Erosion and Surface Flow Management Plans.

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 proposal will result in the production of 40 Mt of overburden/low grade resource (waste rock). The final footprints of the waste dumps will be minimised as it is expected that some of this material will be used as backfill for rehabilitation.

In addition, waste rock dumps may further reduce in size if low-grade material can be sold to market; the proponent is currently exploring options to reduce mineral waste in this manner.

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

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

Noise emissions are not anticipated to be significant due to the remote locality of the proposal. Additional information regarding impacts of noise is discussed in Section 7.4 of the Referral supporting document.

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.

The nearest sensitive receptor (i.e. the accommodation camp) is located approximately 20 km away from the proposed extension (disturbance) areas; therefore, noise impacts from this proposal to surrounding sensitive receptors are expected to be negligible.

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 nearest sensitive receptor (i.e. the accommodation camp) is located approximately 20 km away from the proposed extension (disturbance) areas; therefore, impacts associated with air quality, dust and odour resulting from this proposal are expected to be negligible.

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

The nearest sensitive receptor (i.e. the accommodation camp) is located approximately 20 km away from the proposed extension (disturbance) areas.

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.

Emissions of greenhouse gases will mainly be generated from combustion of diesel fuel within the mining fleet and other vehicles. The total amount of emissions generated by the proposal is estimated (using the Clean Energy Regulator's [Australian Government] *Threshold Estimator* tool) to be approximately 17 500 tonnes of carbon dioxide equivalents per annum based on the combustion of 6.5 million litres of diesel per annum during construction and operations. Indirect emissions will also result from the consumption of electricity. BC Iron will continue to report in accordance with the *National Greenhouse and Energy Reporting (NGER) Act 2007*.

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

N/A.

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 is located within a greenfields site; therefore it is unlikely that contamination exists.

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

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

Baseline soil and groundwater quality investigations have been undertaken and summarised in Section 5 of the Referral supporting document.

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.

Refer to Section 5.3.1 of the Referral supporting 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 proposal will result in the transport of ore from the mine site to processing infrastructure; following processing, ore is transported from the mine area to the Christmas Creek rail head, via an existing 58 km private haul road. Ore is then transported from Chichester to FMG's dedicated iron ore berths at Port Hedland via an existing rail line.

Transport of ore within the mine area and to the rail head will be undertaken within previously disturbed and utilised haul roads. Given the remote location and existing disturbance associated with haulage routes transport of ore is not anticipated to result in a significant impact to the amenity of the local area. Transport of ore from Chichester to Port Hedland will be undertaken along existing rail infrastructure, therefore no additional impacts to the local amenity of the area are anticipated.

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 |

BC Iron has considered the above principles in project design and will continue to do so as part of project implementation. Aspects of the proposal consistent with the above principles include but are not limited to the following:

1. Impacts to Bonnie Creek as a result of mining below the creekline at the Bonnie East resource and associated creek diversion activities have not been adequately investigated through detailed assessments into surface water dynamics, therefore mining of the below creekline portion of the Bonnie East resource has been postponed until further knowledge is attained and will be subject to a separate referral.
2. BC Iron has undertaken detailed investigations into the impact of the proposal on the existing physical and social environment and the likely impacts following completion of the proposal. BC Iron will manage environmental impacts to achieve an acceptable environmental outcome.
3. BC Iron will minimise impacts to Bonnie Creek and other high conservation significant habitat associated with Bonnie Creek through implementation of the following:
 - a. Utilising existing infrastructure of the NIOP, including rail transport to port, to minimise the proposed disturbance envelope and associated vegetation and habitat removal.
 - b. Employ surface mining measures on the top of mesas to reduce the disturbance area typically associated with conventional drill and blast mining methods. Disturbance is also limited to the top portion of the mesa, thereby ensuring a significant proportion of core rocky gorge and gully habitat is retained on the lower slopes of the mesas.
 - c. Waste dumps and supporting infrastructure will be located to avoid direct clearing of significant fauna habitat; including limiting haul road widths.
 - d. Installation of culverts along linear infrastructure may be considered to minimise habitat fragmentation and allow safe movement of fauna.

- e. Potential use of conveyors to transfer ore across surface water features where practicable to limit the environmental impact to surface water features and gorge/breakaway habitat.
4. BC Iron will continue to implement the proposal in accordance with measures currently implemented for the NIOP, including waste management and recycling and associated costing. In addition BC Iron will develop adequate funding provisions for closure and rehabilitation activities.
5. BC Iron will continue to manage waste on site through the Class II landfill facility, incorporating waste separation facilities to enable recycling and reuse of materials where possible. BC Iron will continue to investigate ways to minimise waste, including the sale of low-grade material to reduce mineral waste.

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

Position statements

EPA 2000, *Environmental Protection of Native Vegetation in Western Australia*, Position Statement No. 2.

EPA 2002, *Terrestrial Biological Surveys as an Element of Biodiversity Protection*, Position Statement No. 3.

EPA 2004a, *Environmental Protection of Wetlands*, Position Statement No. 4.

EPA 2004b, *Principles of Environmental Protection*, Position Statement No. 7.

EPA 2005, *Environmental Protection in Natural Resource Management*, Position Statement No. 8.

Guidance statements

EPA 2006, *Rehabilitation of Terrestrial Ecosystems*, Guidance Statement No. 6.

EPA 2007, *Environmental Noise*, Draft Guidance Statement No. 8.

EPA 2002, *Guidance Statement for Minimising Greenhouse Gas Emissions*, Guidance Statement No. 12.

EPA 2008, *Environmental Offsets – Biodiversity*, Guidance Statement No. 19.

EPA 2009, *Sampling of Short Range Endemic Invertebrate Fauna for Environmental Impact Assessment in Western Australia*, Guidance Statement No. 20.

EPA 2004a, *Assessment of Aboriginal Heritage*, Guidance Statement No. 41.

EPA 2004b, *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia*, Guidance Statement No. 51.

EPA 2003, *Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia*, Guidance Statement No. 54.

EPA 2004c, *Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*, Guidance Statement No. 56.

Environmental management of potential impacts associated with the proposal will be undertaken in accordance with existing management implemented at the NIOP. Section 6 of the Referral supporting document describes key management measures for environmental factors.

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.

Refer to Section 4 (Community and other stakeholder consultation program) of the Referral supporting document for further detail.