IRON ORE HOLDINGS LTD

ABN 17 107 492 517

URS

2 August 2011

Environmental Protection Authority
Locked Bag 33
CLOISTERS SQUARE
WA 6850

Attention: Peter Tapsell, Office of the Environmental Protection Authority

EPA REFERRAL: PROPOSED IRON VALLEY IRON ORE PROJECT

Dear Peter,

Following a meeting with yourself and Mark Jefferies on 25 May 2011 to introduce this Project, please find attached a completed EPA Referral Form for Iron Ore Holdings Ltd's (IOH) proposed Iron Valley Iron Ore Project (the Project).

Information regarding the Project, including the status of baseline studies and consultation undertaken to date, is detailed in the EPA Referral Form.

Please note that IOH will also be submitting an Environmental Protection and Biodiversity Conservation (EPBC) Act Referral to the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA) soon after lodgement of this EPA Referral.

Should you wish to discuss any aspect of the Project in more detail, please do not hesitate to contact Don Best on 9483 2000 or Hannah Fletcher on 9326 0132 if you have any further queries.

Yours faithfully,

Don Best
Iron Valley General Manager - Technical
Iron Ore Holdings Limited

Hannah Fletcher
Senior Environmental Scientist
URS Australia Pty Ltd

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GOVERNMENT OF WESTERN AUSTRALIA

Environmental Protection Authority

EPA REFERRAL FORM PROPONENT

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

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) 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, have you

	Yes	No
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 the proponent wishes to provide (if applicable)		✓
Included Attachment 3 – confidential information (if applicable)		✓
Enclosed the CD 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?

✓ **YES** ☐ NO ☐ NOT SURE

IF YES, WHAT LEVEL OF ASSESSMENT?

✓ **ASSESSMENT ON PROPONENT INFORMATION**

☐ PUBLIC ENVIRONMENTAL REVIEW

PROPONENT DECLARATION (To be completed by the proponent)

I, DONALD BRUCE BEST ....., *(full name)* declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature	Name (print) **Don Best**
Position **Iron Valley General Manager - Technical**	Company **Iron Ore Holdings Ltd**
Date 1ST AUGUST 2011.	

PART A - PROPONENT AND PROPOSAL INFORMATION
(All fields of this Part must be completed for this document to be treated as a referral)

1.1 PROPONENT

Name	Iron Ore Holdings Ltd (IOH)
Joint Venture parties (if applicable)	N/A
Postal Address	Iron Ore Holdings Ltd PO Box 1761 West Perth, Western Australia, 6872
Key proponent contact for the proposal • Name • Address • Phone • Email	Iron Ore Holdings Ltd Mr Don Best, Iron Valley General Manager – Technical Level 1, 1 Altona St, West Perth, WA 6005 (08) 9483 2000 dbest@ironoreholdings.com
Consultant for the proposal (if applicable) • Name • Address • Phone • Email	URS Australia Pty Ltd (URS) Hannah Fletcher, Senior Environmental Scientist Level 4, 226 Adelaide Terrace, East Perth, WA 6000 (08) 9326 0100 hannah_fletcher@urscorp.com

1.2 PROPOSAL

Title	Iron Valley Iron Ore Project (the Project)
Description	IOH proposes to develop an iron ore mine on its Iron Valley tenement in the Eastern Pilbara Region of Western Australia, hereafter referred to as the Iron Valley Project (the Project). The Project Area is located approximately 90 km north-west of Newman and 150 km east of Tom Price (Figure 1). The Project is located in close proximity to a number of operating iron ore mines including Rio Tinto Iron Ore's (RTIO) Yandicoogina operation, BHP Billiton Iron Ore's (BHPBIO) Yandi operation and Fortescue Metals Group (FMG) Cloudbreak operation (Figure 2). The site is currently accessed via BHPBIO's Rail access Road and RTIO's access road. IOH has authorisation from BHPBIO and RTIO to access the site for exploration activities and an access agreement would be sought from BHPBIO and RTIO to access the site for the operation of the Project. The Project will comprise the following components: - An expected mineable reserve of up to 200 million tonnes (Mt) with a mine life of approximately 15 years. It is expected that up to 20 Mt of iron ore fines product will be produced each year. The resource is a high grade Brockman-style iron ore deposit with relatively low alumina and silica levels. - An expected average strip ratio of waste to ore of approximately 1.6. It is expected that approximately 320 Mt of waste rock will be generated during the life of the Project. - Dewatering to access ore located below the water table. It is expected that a percentage of the water from dewatering will be utilised for aspects of mining operations such as process water, dust suppression and potable water. A number of mine water disposal options are also currently being investigated.

	- Crushing and screening of ore at an on-site process plant with an anticipated throughput of 15 to 20 Mt per annum (Figure 3). The Project may also include an ore washing process which will generate ore slurry, which would then be deposited to a materials storage facility. Only water would be used during the washing process, with no chemical additives. - Associated supporting infrastructure such as an accommodation village, mine site offices, workshop and access roads. The area of disturbance required for any future transport corridors is not considered as part of this Project, and an access agreement would be sought from BHPBIO and RTIO to access the site for the operation of the Project. The potential secondary processing of the ore slurry (for potential future sale) deposited in the materials storage dam is also not considered as part of this Project.
Extent (area) of proposed ground disturbance	The ground disturbance for the Project is expected to be up to 1,200 ha. Up to 1085 ha is likely to be disturbed within Mining Lease M47/1439 for the mine, processing plant and waste dumps. Up to 115 ha is likely to be disturbed within Exploration Licence E47/1385 for construction of the site accommodation village, the village access road and any associated support facilities. IOH will apply for a Miscellaneous Licence for the accommodation camp, village and site access roads and any associated support facilities, prior to construction.
Timeframe in which the activity or development is proposed to occur. (Include start and finish dates where applicable)	Subject to regulatory approvals, it is anticipated that construction will commence at Iron Valley in Quarter 1 2013, with operations commencing in Quarter 3 2014. The life of the Project is expected to be approximately 15 years.
Details of any staging of the proposal	The accommodation village and site and village access roads will be constructed as the first phase of the Project, followed by the mine and processing plant. Mining of the Project will be staged as follows: • Stage 1: Mining of the main pit (excluding the northern section). Approximately 75% of mining will be above the water table. • Stage 2: Mining of the main pit (excluding the northern section). Approximately 10% of mining will be above the water table. Stages 1 and 2 will mine approximately 85 Mt of ore during Years 1-6. • Stage 3: Mining of the northern section of the main pit and the northern satellite pit. Approximately 25% of mining will be above the water table. Stage 3 will mine approximately 75 Mt of ore during Years 7-11. • Stage 4: Mining of the southern satellite pit. Mining will be below the water table. Stage 4 will mine approximately 15 Mt of ore during Year 12. • Years 14-15: Decommissioning and closure.
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	No

referred proposal was identified - • Title of the strategic assessment • Ministerial Statement number	
Indicate whether, and in what way, the proposal is related to other proposals in the region.	The Project is not directly related to any other proposals in the region. IOH has been discussing information sharing with other mining companies to provide a regional context to the baseline environmental studies undertaken.
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?	Yes. IOH is the holder of Mining Lease M47/1439 and Exploration Licence E47/1385. IOH will apply for a Miscellaneous Licence on Exploration Licence E47/1385 for the accommodation village and village access road. The Project Area is currently accessed via BHPBIO's Rail access Road and RTIO's access road. IOH has authorisation from BHPBIO and RTIO to access the site for exploration activities and an access agreement would be sought to access the site for the operation of the Project. IOH is currently investigating the potential for dewatering disposal outside of the Project Area, but within tenure held by IOH adjacent to the Project Area.
What is the current land use on the property, and the extent (area in hectares) of the property?	The current land use for the Project Area is pastoral and the site occurs within the Marillana Pastoral Station. The Project Area occurs within Mining Lease M47/1439 (which is 1,085 ha in area), with minor disturbance to occur on Exploration Licence E47/1385 (9,713 total ha). The accommodation village and village access road is proposed to be located within Exploration Licence E47/1385. IOH will seek a Miscellaneous Licence for the construction and operation of the village, village access road and any associated support facilities.

1.3 LOCATION

Name of the Shire in which the proposal is located	Shire of East Pilbara
For urban areas – • street address • lot number • suburb • nearest road intersection	N/A
For remote localities – • nearest town • distance and direction from that town to the proposal site	The Project Area is located approximately 90 km north-west of Newman and 150 km east of Tom Price (Figure 1). The Project is located in close proximity to a number of operating iron ore mines including RTIO Yandicoogina operation, BHPBIO Yandi operation and FMG Cloudbreak operation (Figure 2).
Electronic spatial data - GIS or CAD on CD, geo-referenced and conforming to the following parameters: • 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** / No

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, provide details.		No	
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, complete the table below -		Yes	
Agency/Authority	**Approval Required**	**Application lodged Yes / No**	**Agency/Local Authority contact/s for proposal**
Environmental Protection Agency (EPA)	This Referral is being made to the EPA under Part IV of the *Environmental Protection Act* 1986 (EP Act).	No	Mark Jefferies/Peter Tapsell
Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC)	A Referral under the *Environment Protection and Biodiversity Act* 1999 (EPBC Act) will be submitted to DSEWPaC soon after this EPA Referral.	No	To be determined
Department of Environment and Conservation (DEC)	A Works Approval (and Licence) will be required from the DEC under the EP Act 1986 in relation to waste discharges associated with construction of prescribed premises, such as ore processing, mine dewatering, sewage	No	Fiona Esszig (or designated officer)

	disposal, site landfill and energy generation. A Works Approval Application for the Project will be submitted to the DEC towards the end of the Part IV process under the EP Act. The DEC will not be able to issue the Works Approval until approval has been received from the Minister for the Environment (WA) under Part IV of the EP Act. Licence applications will also be required from the DEC for waste discharges associated with operation of prescribed premises and will be submitted following the construction of the Project.		
Department of Mines and Petroleum (DMP)	Approval will be required from the DMP for the construction and operation of the Project under the *Mining Act* 1978. A Mining Proposal will be submitted to DMP towards the end of the Part IV process under the EP Act. The DMP will not be able to grant approval until approval has been received from the Minister for the Environment (WA) under Part IV of the EP Act. IOH will also apply for a Miscellaneous Licence for the accommodation village, village and site access roads and any associated support facilities, prior to construction.	No	Demelza Dravnieks (or designated officer)
Department of Water (DoW)	A Licence to Take Groundwater will be required from the DoW under the *Rights in Water and Irrigation Act* 1914 for dewatering (5C Licence) and will be submitted to DoW towards the end of the Part IV process under the EP Act. The DoW will not be able to issue the Licence to Take Groundwater until approval has been received from the Minister for the Environment (WA) under Part IV of the EP Act. A Section 11/17/21A Permit to interfere with bed and banks of watercourses for construction of road crossings located within the Project Area is likely to be assessed as part of the Mining Proposal under the Memorandum of Understanding (MoU) between DMP and DoW.	No	Gary Humphries (or designated officer)
Shire of East Pilbara	Approvals will be required from the Shire of East Pilbara, such as a Building Licence, a Planning Development Application for the accommodation village, and a permit for the wastewater treatment plant. The permit application for the wastewater treatment plant may also be submitted directly to the Department of Health.	No	To be determined
Department of Indigenous Affairs (DIA)	Consent will be sought under Section 18 of the *Aboriginal Heritage Act* 1972 if disturbance to any Aboriginal sites is required.	No	To be determined
	A Land Access Agreement has been formalised under the *Native Title Act* 1993 between IOH and the Nyiyaparli Native Title Claimant Group.	N/A	N/A

A summary of the baseline environmental studies undertaken on the Project to date is provided in Table 1.2 below. These and other baseline studies proposed to be undertaken are further described in Section 2 and Table 2.3.

Table 1.2: Summary of Baseline Environmental Studies Undertaken for the Iron Valley Project

Baseline Environmental Study	Environmental Consultant	Date of Study
Flora and Vegetation Survey (Level 2)	Astron Environmental	April 2011, report to be completed November 2011
Vertebrate Fauna Survey (Level 2)	Bamford Consulting Ecologists	May 2011, report to be completed December 2011
Invertebrate Fauna Survey	Dalcon Environmental	May 2010 and June 2011, report to be completed September 2011
Troglofauna Survey	Bennelongia Environmental Consultants	May, July and November 2009, January 2010. Targeted surveys scheduled August/September 2011.
Stygofauna Surveys	Bennelongia Environmental Consultants	May and November 2009. Targeted surveys scheduled August/ September 2011.
Groundwater Assessment	URS Australia Pty Ltd	Preliminary Report July 2011 – further studies to commence August 2011
Surface Water Assessment	URS Australia Pty Ltd	Preliminary Report July 2011 – further studies to commence August 2011
Geochemical Characterisation	SRK Consulting/URS Australia Ltd	Preliminary Report July 2011, further studies to commence August 2011

PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, through the questions below:

(i) flora and vegetation #;

(ii) fauna #;

(iii) rivers, creeks, wetlands and estuaries;

(iv) significant areas and/ or land features;

(v) coastal zone areas;

(vi) marine areas and biota #;

(vii) water supply and drainage catchments;

(viii) pollution;

(ix) greenhouse gas emissions;

(x) contamination; and

(xi) 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

* 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***

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

IOH proposes to clear up to 1,200 ha of vegetation for the Project (excluding any future transport corridors).

* 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?

❑ 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.)

Astron Environmental Services (Astron) commenced a flora and vegetation survey in April 2011, as part of the Environmental Impact Assessment (EIA) for the Project. A second survey commenced in late July 2011.

* 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.

A DEC database search of Threatened Flora (Rare and Priority) and Threatened Ecological Communities that are likely to occur within the Project Area was undertaken in April 2011.

The search of the DEC Threatened Flora and Threatened Ecological Communities database, which includes any results from the Western Australian Herbarium Specimen database, indicated that there are a total of 46 species of conservation significance that may occur in the Project Area, comprising:

- Two Declared Rare Flora (DRF)[1] listed under the *Wildlife Conservation Act* 1950. One of these species is also listed as Vulnerable[2] under the EPBC Act.

[1] **Declared Rare Flora – Extant Taxa:** Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection and have been gazetted as such

[2] **Vulnerable**: A native species that is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium term future.

- 13 Priority 1 taxa[3] listed by DEC.
- Six Priority 2 taxa[4] listed by DEC.
- 22 Priority 3 taxa[5] listed by DEC.
- Three Priority 4 taxa[6] listed by DEC.

The EPBC Act Protected Matters database listed one vulnerable flora species of national environmental significance that may occur in the Project Area.

These species are listed in Table 2.1 below.

Table 2.1: List of Threatened Flora Species that May Occur in the Project Area

Species name	Conservation Status
*Lepidium catapycnon (*Hamersley Lepidium, Hamersley Catapycnon)	Vulnerable (EPBC Act) and DRF (DEC database)
Thryptomene wittweri (Mountain Thryptomene)	DRF
Barbula ehrenbergii	Priority 1
Bothriochloa decipens var.	Priority 1
Calotis squamigera	Priority 1
*Eragrostis sp.*Mt Robinson (S. van Leeuwen 4109)	Priority 1
Eremophila sp. West Angelas (S.van Leeuwen 4086)	Priority 1
Eremophila sp. Snowy Mountain (S. van Leeuwen 3737)	Priority 1
Eremophila spongiocarpa	Priority 1
Eucalyptus lucens	Priority 1
Genus sp. Hamersley Range hilltops (S. van Leeuwen 4345)	Priority 1
Goodenia sp. East Pilbara (AA Mitchell PRP 727)	Priority 1
Sida sp. Hamersley Range (K. Newbey 10692)	Priority 1
Tetratheca fordiana ms	Priority 1
Vittadinia sp. Coondewanna Flats (S. van Leeuwen 4684)	Priority 1
Adiantum capillus-veneris	Priority 2
Eremophila forrestii subsp. Pingandy (M.E Trudgen 2662)	Priority 2
*Oxalis sp. Pilbara (*M.E. Trudgen 12725)	Priority 2
Pilbara trudgenii	Priority 2
Scaevola sp. Hamersley Range basalts (S. van Leeuwen 3675)	Priority 2
Spartothamnella puberula	Priority 2
Acacia daweana	Priority 3

[3] **Priority One – Poorly Known Taxa:** Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
[4] **Priority Two – Poorly Known Taxa:** Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but urgently need further survey.
[5] **Priority Three – Poorly Known Taxa:** Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but need further survey.
[6] **Priority Four – Rare Taxa:** Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years.

Species name	Conservation Status
Acacia subtiliformis	Priority 3
Amaranthus cuspidifolius	Priority 3
Atriplex flabelliformis	Priority 3
Calotis latiuscula	Priority 3
Dampiera anonyma ms	Priority 3
Dampiera metallorum ms	Priority 3
Eremophila forrestii subsp. *viridis*	Priority 3
Eremophila magnifica subsp. *Velutina*	Priority 3
Fimbristylis sieberiana	Priority 3
Geijera salicifolia	Priority 3
Glycine falcate	Priority 3
Indigofera gilesii subsp. *gilesii*	Priority 3
Indigofera sp. Bungaroo Creek (S. van Leeuwen 4301)	Priority 3
Iotasperma sessilifolium	Priority 3
Oldenlandia sp. Hamersley Station (A.A. Mitchell PRP 1479)	Priority 3
Polymeria sp. Hamersley (M.E. Trudgen 11353)	Priority 3
Rhagodia sp. Hamersley (M. Trudgen 17794)	Priority 3
Rostellularia adscendens subsp. *adscendens* var. *latifolia*	Priority 3
Tephrosia sp. Cathedral Gorge (F.H. Mollemans 2420)	Priority 3
Triodia sp. Mt. Ella (M.E. Trudgen 12739)	Priority 3
Sida sp. Barlee Range (S. van Leeuwen 1642)	Priority 3
Acacia bromilowiana	Priority 4
Eremophila magnifica subsp. *Magnifica*	Priority 4
Rhynchosia bungarensis	Priority 4

No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) are known to occur in the Project Area. The closest TEC is located approximately 17 km from the Project Area.

The Project is located to the west of Weeli Wolli Creek and 15-20km downstream of Weeli Wolli Spring (a PEC) (Figure 2). Weeli Wolli Creek supports a permanent series of pools which are fed by Weeli Wolli Spring for up to 10 km from the spring. As the Project is located downstream of Weeli Wolli Spring, no impacts on the spring are likely.

A flora and vegetation survey is being undertaken as part of the EIA for the Project. These surveys are being undertaken in accordance with the EPA's Guidance Statement No. 51 and Position Statement No. 3.

An assessment of groundwater dependent ecosystems (GDEs) will be undertaken if required. Potential impacts and issues for GDEs will be identified as part of the hydrogeological assessment.

* 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.

Occurrences of rare and priority flora, and threatened ecological communities within the Project Area are being investigated as part of the flora and vegetation surveys.

* 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 ✓ N/A **If yes**, please indicate which Bush Forever site is affected (site number and name of site where appropriate).

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

The Project Area has historically been used for pastoral activities. In the last several years, mineral exploration has also been undertaken within the Project Area. The vegetation condition of the Project Area is being assessed during the flora and vegetation survey undertaken as part of the EIA for the Project. Some of the vegetation within the southern portion of the tenement has been impacted by a fire that occurred in approximately January 2009. Astron noted that weed species were present (predominantly *Cenchrus cillaris* Buffel Grass), particularly around ephemeral creeklines. Other vegetation disturbance was associated with livestock grazing and trampling.

2.2 Fauna

* 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***

❑ Describe the nature and extent of the expected impact.

Vertebrate Fauna

The potential impact on vertebrate fauna and vertebrate fauna habitat relates to the clearing of up to 1,200 ha of native vegetation. It is likely that mobile fauna will move away from cleared areas and relocate in suitable habitat nearby, although there is the potential for the loss of non-mobile or poorly dispersed individuals. Vertebrate fauna may also be impacted by noise, light and vibration generated from the Project and from changes in surface water flows that may affect vegetation condition and fauna habitat.

Invertebrate Fauna

The potential impact on Short Range Endemic (SRE) invertebrate fauna and SRE invertebrate fauna habitat, if they occur within the Project Area, relates to the clearing of up to 1,200 ha of native vegetation. SRE invertebrates may be restricted at small spatial scales, and lack the mobility of many vertebrate fauna, therefore resulting in the potential loss of individuals. Invertebrate fauna may also be impacted by vibration as a result of construction and operation of the Project and from changes in surface water flows that may affect vegetation condition and fauna habitat.

Subterranean Fauna

The potential impact on subterranean fauna or subterranean fauna habitat, if they occur within the Project Area, relates to excavation of the pit and pit dewatering. The Project may impact on stygofauna and troglofauna species through the loss of individuals or their habitat.

❑ 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.)

Vertebrate Fauna

A vertebrate fauna survey was undertaken by Bamford Consulting Ecologists (Bamford) in May 2011 as part of the EIA for the Project. A second survey is planned for September 2011. These surveys are being undertaken in accordance with the EPA's Guidance Statement No. 56 and Position Statement No. 3.

Prior to commencing the first survey, consultation was undertaken with the DEC Environmental Management Branch (EMB) and the OEPA to discuss the timing and methodology of the proposed survey. The OEPA sought additional information following the meeting, and upon provision of this agreed to a regional survey methodology.

Invertebrate Fauna

An invertebrate fauna survey was undertaken by Dalcon Environmental (Dalcon) during May and June 2010. Prior to commencing the survey, a meeting was held with the DEC EMB on 16 April 2010 to discuss the timing and methodology of the proposed survey. A further meeting was held with the DEC EMB on 16 December 2010 to discuss the preliminary results. The DEC advised on 11 May 2011 that a further targeted survey was required to further investigate the spider (*Aganippe*) and scorpion (*Urodacus*) species. The targeted survey was undertaken in late May 2011, with the survey timing coinciding with rainfall which enabled male *Aganippe* species to be recorded.

Analysis of the targeted survey is still being completed, with the results to be discussed with the DEC and/or the Office of the EPA (OEPA). The findings of the invertebrate fauna survey will be provided in the EIA for the Project.

Subterranean Fauna

Stygofauna and troglofauna sampling for the Project commenced in May 2009, with additional rounds of sampling undertaken by Bennelongia Environmental Consultants (Bennelongia) in July 2009, November 2009 and January 2010. This sampling was undertaken in accordance with EPA Guidance Statements No. 54 and 54A.

Preliminary results of the subterranean fauna surveys were discussed with the DEC EMB on 3 June 2010. Following completion of the survey report, a meeting was held with the DEC EMB on 16 December 2010 to discuss the results. However, after the initial surveys were undertaken the pit footprint was expanded, and no sampling as yet has been undertaken outside of the impact area for stygofauna and troglofauna. The DEC advised on 11 May 2011 that further sampling is required beyond the impact area.

Further troglofauna sampling is proposed to be undertaken within new drill holes in August/September 2011 located outside the impact area at Iron Valley. Stygofauna sampling will be undertaken within new or existing drillholes outside of the Iron Valley Project Area at IOH's Phil's Creek, Kurrajura, Yandicoogina and Lamb Creek tenements.

The results of the subterranean fauna surveys will be discussed with the DEC and/or OEPA and provided in the EIA for the Project.

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

✓ Yes ☐ No (please tick)

A DEC database search of Threatened and Priority Fauna was undertaken in June 2009.

A search of the DEC Threatened Fauna database, which includes species listed under the *Wildlife Conservation Act* 1950 and DEC Priority List, indicated that there are 13 Threatened and Priority fauna species that could potentially occur in the Project Area, comprising:

- Four Schedule 1[7] species listed under the Wildlife Conservation Act 1950.
- One Schedule 4[8] species listed under the Wildlife Conservation Act 1950.
- One Priority 1[9] species listed by DEC.
- One Priority 2[10] species listed by DEC.
- Six Priority 4[11] species listed by DEC.

An EPBC Act Protected Matters database search was also undertaken in June 2009. The report listed 10 fauna species of National Environmental Significance that may potentially occur in the Project Area, comprising:

- Two Endangered[12] species.
- Three Vulnerable[13] species.
- Five migratory species.

All of these species are listed in Table 2.2 below.

Table 2.2: List of Threatened Fauna Species that May Occur in the Project Area

Species	EPBC Act Conservation Status	DEC Conservation Status
Birds		
Pezoporus occidentalis (Night Parrot)	Endangered and migratory terrestrial species	Schedule 1, fauna which is rare or likely to become extinct
Merops ornatus (Rainbow Bee-eater)	Migratory terrestrial species	-
Ardea ibis (Cattle Egret)	Migratory terrestrial, migratory wetland and migratory marine species	-
Ardea alba (Great Egret, White Egret)	Migratory wetland and migratory marine species	-
Charadrius veredus (Oriental Plover, Oriental Dotterel)	Migratory wetland species	-
Apus pacificus (Fork-tailed swift)	Migratory marine species	-
Ardeotis australis (Australian Bustard)	-	Priority 4

[7] **Schedule 1:** Fauna that are rare or likely to become extinct
[8] **Schedule 4:** Other specially protected fauna.
[9] **Priority 1: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
[10] **Priority 2: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
[11] **Priority 4: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
[12] **Endangered:** is not critically endangered; and is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
[13] **Vulnerable:** is not critically endangered or endangered; and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

Burhinus grallarius (Bush Stonecurlew)	-	Priority 4
Falco hypoleucos (Grey Falcon)	-	Priority 4
Falco peregrinus (Peregrine Falcon)	-	Schedule 4, other specially protected fauna
Neochima ruficauda subclarescens (Star Finch [western])	-	Priority 4
Mammals		
Dasyurus hallucatus (Northern Quoll)	Endangered	Schedule 1
Macrotis lagotis (Greater Bilby)	Vulnerable	-
Rhinonicteris aurantius (Pilbara form) (Pilbara Leaf-nosed Bat, Orange Leaf-nosed Bat)	Vulnerable	Schedule 1
Macroderma gigas (Ghost Bat)	-	Priority 4
Pseudomys chapmani (Western Pebble-mound Mouse, Ngadji)	-	Priority 4
Reptiles		
Liasis olivaceus barroni (Olive Python [Pilbara subspecies])	Vulnerable	Schedule 1
Ramphotyphlops ganei	-	Priority 1
Ctenotus uber johnstonei	-	Priority 2

* 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.

The occurrence of any Specially Protected (Threatened) fauna is being investigated as part of the vertebrate fauna survey.

2.3 Rivers, Creeks, Wetlands and Estuaries

* Will the development occur within 200m 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***

* Will the development result in the clearing of vegetation within the 200 m zone?

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

Unnamed ephemeral watercourses flow through the Project Area and clearing of riparian vegetation near watercourses may be undertaken (Figure 3). These watercourses are likely to be diverted around the areas of disturbance within the Project Area. A surface water assessment study is currently being undertaken as part of the EIA for the Project.

* 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.

Minor unnamed watercourses or drainage lines will be disturbed to construct creek crossings. Some minor drainage lines will be filled in to construct infrastructure areas and these minor watercourses are likely to be diverted around the areas of disturbance within the Project Area.

* 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.

* 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.

A hydrological and hydrogeological investigation is being undertaken as part of the EIA for the Project, which is assessing flood paths and dewatering disposal options, and it is possible that water will drain from the Project site to ephemeral creeks.

* 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	☐ Yes	✓ No	☐ Unsure
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	☐ Yes	✓ No	☐ Unsure
Perth's Bush Forever site	☐ Yes	✓ No	☐ Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	☐ Yes	✓ No	☐ Unsure
The management area as defined in s4(1) of the *Swan River Trust Act* 1988	☐ Yes	✓ No	☐ 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

* 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.

* 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.

* 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)

* Will the development occur within 300m of a coastal area?

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

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

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

Not Applicable

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

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

* 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

* 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.

* 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.

* 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

* 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.

* 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.

* 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.

* 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 for the Project will be sourced from pit dewatering, which is required to access the lower levels of the orebody. It is expected that the mine dewater will be utilised for all aspects of mining operations, including ore crushing and screening, dust suppression and potable water. The volume of dewatering is expected to cover all water needs on site for the Project.

A hydrogeological investigation and assessment is being undertaken as part of the EIA for the Project, and approval to abstract groundwater will be sought from the DoW prior to construction of the Project. IOH is undertaking a dewatering disposal assessment to investigate options for the disposal of any excess mine dewater generated by the Project.

IOH's preferred option is to contain excess water in a 'surface dam' and dispose of any short term water excesses via aquifer reinjection within the Project Area, and the feasibility of these options is still being investigated in the dewatering disposal options assessment.

IOH is also investigating the potential for disposing dewatering in a 'surface dam' outside of the Project Area but located within IOH's adjacent exploration tenure. IOH has committed to discussing the results of the dewatering disposal options assessment with the DEC and DoW and it is IOH's intention is to return any excess dewatering to the local catchment area.

* 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.

* 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 kl/year?

Water demand is estimated to be up to 200 litres per tonne of ore mined, and an annual water requirement of 3.2 gigalitres. It is expected that the water from dewatering will be utilised for all aspects of the mining operations.

* What is the proposed source of water for the proposal? (eg dam, bore, surface water etc.)

Dewatering is required for the Project in order to obtain safe and stable conditions to mine ore that is located below the water table. All mining operational water resource needs (including process water, dust suppression and potable water) will be supplied from dewatering requirements.

2.8 Pollution

* 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***

* Is the proposal a prescribed premise, under the Environmental Protection Regulations? (Refer to the EPA *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.

A Works Approval to construct and a Licence to operate the Project are likely to be required for Ore Processing (Category 5), Mine Dewatering (Category 6), Electricity Generation (Category 52/84), Site Sewerage Facility (Category 54/85) and Putrescible Landfill (Category 89).

* Will the proposal result in gaseous emissions to air?

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

Greenhouse gas emissions associated with operation of fuel operated vehicles, plant, machinery, crushing operations and power generation will be generated as a result of the Project.

Some fugitive dust will also be generated from exposed areas as a result of clearing of vegetation, from vehicle movements, stockpiles and crushing and screening operations. IOH will implement dust suppression measures during construction and operation to manage dust impacts on-site.

* 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.

An air quality assessment will likely be undertaken as part of the EIA for the Project, which would include a screening assessment and air dispersion modelling.

* Will the proposal result in liquid effluent discharge?

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

All sewage and wastewater generated as a result of the Project will be treated in wastewater treatment plants to produce effluent to at least Class C standards. Any ore slurry (a mixture of ore and water) produced will be deposited to a materials storage facility.

A detailed geochemical characterisation study will soon commence to characterise the ore, waste rock and ore slurry to determine if the Project may generate acid forming material. If the Project is found to generate acid forming material, management strategies to address this issue would be developed and presented in the EIA for the Project. Note that any potential future reprocessing of the ore slurry material is not considered as part of this Project.

* 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.

No direct discharge to watercourses is proposed.

* Will the proposal produce or result in solid wastes?

✓ Yes ☐ No **If yes**, please briefly describe the nature, concentrations and disposal location/ method.

The Project will generate waste rock that will be deposited in waste dumps within the Project Area as well as other solid wastes.

IOH will integrate a waste hierarchy into the Project (i.e. avoid, reduce, re-use, recycle, treat, dispose) to minimise waste generated as a result of the Project. General domestic and putrescible waste associated with the accommodation village will be disposed of in an on-site landfill. IOH will recycle waste products, where practicable, and industrial wastes (such as scrap metal) will be stored and transported off site for commercial disposal (if economically viable) or disposed of in the site landfill.

Hazardous materials (such as waste oils and solvents) and wastes generated from servicing of machinery and equipment will be collected in suitable containers and stored on-site in a segregated bunded hazardous waste area. These will be removed off-site by licensed contractors for recycling or disposal to an approved waste disposal facility.

A detailed geochemical characterisation study will soon commence to characterise the ore, waste rock and ore slurry to determine if the Project may generate acid forming material.

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

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

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

✓ 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 Project is located in a relatively remote area near other existing iron ore mines. Noise will be generated as a result of the Project due to the operation of vehicles, plant and equipment.

The Project will comply with the Environmental Protection (Noise) Regulations 1997 and a noise and vibration assessment will be undertaken as part of the EIA for the Project. This assessment will be undertaken given the Project's proximity to RTIO's Yandicoogina mine camp (approximately 5km west of the Project Area) and will include noise monitoring and modelling.

* 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".

* 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

* 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.

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

An air quality assessment will be undertaken as part of the EIA for the Project, which includes a screening assessment and air dispersion modelling.

2.10 Contamination

* 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.

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

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

* 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

* 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 Pilbara Region contains many places of cultural and spiritual significance and Aboriginal heritage sites may occur within the Project Area. A search of the DIA Heritage Inquiry System identified 3 heritage sites within Mining Tenement M47/1439 and nine of these heritage sites may potentially be impacted by the Project. A number of unrecorded sites are also known to be present within the Project Area.

An archaeological and ethnographic survey will be undertaken as part of the EIA for the Project. Section 18 clearance under the *Aboriginal Heritage Act* 1972 will be sought if any sites will be disturbed as a result of the Project.

* Is the proposal on a property which contains or is near a site of high public interest (for example, a major recreation area or natural scenic feature)?

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

* 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.

A summary of the environmental baseline studies that have been undertaken, or are planned to be undertaken, as well as the potential impacts and management of environmental factors, are detailed in Table 1.3.

Table 2.3: Summary of Environmental Baseline Studies and Potential Impacts and Management

Environmental Factor	Investigations Commenced/Planned	Potential Impacts	Management Objectives and Criteria	Potential Management Actions
Biophysical				
Flora and Vegetation	***Survey Overview*** A Level 2 flora and vegetation survey was commenced by Astron Environmental Services (Astron) in April 2011. A second survey commenced in late July 2011. These surveys are undertaken in accordance with the EPA Position Statement No. 3 and Guidance Statement No. 51. ***Purpose of Survey*** The purpose of the survey is to identify and describe the flora and vegetation present within the Project Area, including any species or communities of significance. Any conservation significant flora present within the Project Areas is recorded and catalogued. Any weed species present within the Project Area are also identified.	There is the potential for threatened flora species to occur within the Project Area. ***Potential Direct Impacts*** Flora and vegetation will be directly affected from the clearing of native vegetation. Approximately 1,200 ha of land will be cleared for this Project. ***Potential Indirect Impacts*** Flora and vegetation may be indirectly impacted from dust associated with the Project. Weed species may be introduced as a result of the Project. ***Current Results Status*** Astron advised that the seasonal condition for the first survey was predominantly good for vegetation sampling due to the occurrence of prior summer rains. Astron also advised that vegetation condition varied across the quadrats surveyed within the Project Area. Astron observed that some flora and vegetation within the Project Area has been disturbed by livestock grazing and trampling. Astron indicated that weed species (predominantly *Cenchrus ciliaris* Buffel Grass) are present within the Project footprint, particularly around ephemeral creeklines. Desktop studies indicate that there is the potential for threatened species to occur within the Project Area, and the results of the flora and vegetation surveys will determine whether any conservation significant species are present within the Project Area.	▪ Maintain the abundance, species diversity, geographic distribution and productivity of plant communities through the avoidance and/or management of adverse impacts and improvement of knowledge. ▪ Protect Declared Rare Flora (DRF) and Priority Flora if they occur in the Project Area, consistent with the provisions of the *Wildlife Conservation Act* 1950 ▪ Protect any flora listed in the Schedules of the EPBC Act if they occur in the Project Area. ▪ Protect flora of other conservation significance (e.g. undescribed taxa, range extensions, outliers, Groundwater Dependent Ecosystems (GDEs), Threatened Ecological Communities (TECs)). ▪ Maintain the abundance, species diversity, geographic distribution and productivity of plant communities through minimising the spread of weed species. ▪ Prevent the introduction of new weeds into the Project Area and surrounding environment. ▪ Maintain control of noxious and environmental weeds in the Project Area through weed hygiene practices and eradication programmes, if or when necessary.	***Potential Management Actions*** The results from the flora and vegetation surveys will be used to assist in developing measures to manage and mitigate any potential impacts of the Project on flora and vegetation, particularly any conservation significant flora species or vegetation communities that may be present within the Project Area. If any Priority Flora species are present within the Project Area, IOH will consult with the DEC regarding avoiding or relocating Priority Flora. Should any DRF be present within the Project Area, ministerial approval under the *Wildlife and Conservation Act* 1950 will be sough for any disturbance to DRF. Dust suppression measures will be undertaken during construction and operation of the Project, and progressive rehabilitation of cleared areas will be undertaken throughout the Project. Management of any impacts to flora and vegetation and threatened species will be managed through IOH's Environmental Management System (EMS), and any Environmental Management Plans should they be required.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Vertebrate Fauna	***Survey Overview*** A Level 2 vertebrate fauna survey was commenced by Bamford Consulting Ecologists (Bamford) in May 2011. A second survey is planned in September 2011. These surveys are being undertaken in accordance with EPA Position Statement No. 3 and Guidance Statement No. 56. The methodology of these surveys was discussed and agreed to by the DEC and OEPA prior to commencing (see stakeholder consultation table below). ***Purpose of Survey*** The purpose of the survey is to undertake a desktop review and field investigations that target specific species and identify key fauna environments and ecological processes that maintain the fauna assemblage. This approach was proposed by Bamford as there is extensive survey data available from other fauna surveys undertaken in the vicinity of the Project Area. This approach was approved by both the DEC and the OEPA.	There is the potential for threatened fauna species to occur within the Project Area. ***Potential Direct Impacts*** Vertebrate fauna and vertebrate fauna habitat will be directly impacted by clearing of up to 1,200 ha of native vegetation. It is likely that mobile fauna will move away from cleared areas and relocate in suitable habitat nearby, although there is the potential for the loss of non-mobile or poorly dispersed individuals. Vertebrate fauna may also be impacted by noise, light and vibration generated from the Project, and from changes in surface water flows that may affect vegetation condition and fauna habitat. ***Potential Indirect Impacts*** The Project may also result in increased feral fauna and vermin populations. ***Current Survey Results*** Bamford have provided an interim report of the first survey. Three conservation significant bird species were recorded during the survey, the Rainbow Bee-eater, the Western Pebble-mound Mouse and the Australian Bustard. An additional conservation significant species, the Mulgara, was recorded just outside the Project boundary.	▪ Maintain and enhance the abundance, species diversity, geographic distribution and productivity of fauna through the avoidance and/or management of adverse impacts and improvement of knowledge. ▪ Protect specially Protected (Threatened) Fauna, consistent with the provisions of the *Wildlife Conservation Act* 1950. ▪ Protect fauna listed in the Schedules of the EPBC Act.	***Potential Management Actions*** A more detailed assessment of the Project's impacts on vertebrate fauna, along with management recommendations, will be provided by Bamford after the second survey. Specific management measures will be suggested to manage and mitigate any potential impacts on any conservation significant species that are present within the Project Area. The Australian Bustard is vulnerable to road mortalities as it is slow to take flight, and speed restrictions will be implemented where appropriate. Western Pebble-mound Mouse mounds will be avoided where practicable, such as routing roads around the mounds. The Rainbow Bee-eater is unlikely to be impacted upon unless a nesting site is disturbed. Other vertebrate fauna may be impacted by noise, light and vibration generated from the Project, and where appropriate, management measures will be implemented in IOH's EMS or Environmental Management Plan. Progressive rehabilitation of cleared areas will be undertaken throughout the Project.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Invertebrate Fauna	***Survey Overview*** A Short Range Endemic (SRE) invertebrate fauna survey was undertaken by Dalcon Environmental (Dalcon) during May and June 2010. The survey was undertaken in accordance with the EPA's Guidance Statement No. 20, sampling of invertebrate Fauna for Environmental Impact Assessment in WA. Consultation was undertaken with the DEC prior to commencing the survey, to reach agreement on the survey timing and methodology. A further targeted survey was undertaken in late May 2011 at the request of the DEC. ***Purpose of Survey*** The purpose of the initial survey was to provide an inventory of potential SRE invertebrate fauna species occurring within the Iron Valley Project Area. The invertebrate fauna surveys also defined the regional context and distribution of any conservation significant invertebrate fauna species recorded. ***Additional Survey*** Following consultation with the DEC regarding the results of the initial survey, a targeted SRE invertebrate fauna survey was undertaken in May and June 2011. The Mygalomorph spider *Aganippe* sp. and the Scorpion *Urodachus* sp. were specifically targeted during the survey. This survey was undertaken using targeted methodologies as requested by the DEC.	There is potential for SRE invertebrate fauna species to occur in the Project Area. ***Potential Impacts*** Invertebrate fauna may be impacted by vibration as a result of construction and operation of the Project and from hydrology changes that may affect vegetation condition and fauna habitat. A change in fire regimes can also impact invertebrate fauna. ***Initial Survey Status*** No definite SRE species were collected during the initial survey. Two taxa, the Mygalomorph spider *Aganippe* sp. and the Scorpion *Urodachus* sp. were considered as potential SRE taxa. Only female specimens were found of the spider *Aganippe* sp., and adult males required for identification to species level. In the case of the Scorpion *Urodachus* sp., only juveniles were recorded and adult specimens required for identification to species level. ***Targeted Survey Status*** The results of the targeted invertebrate SRE survey are currently being analysed. However, the targeted survey timing coincided with rainfall which enabled a male *Aganippe* spider species to be recorded, and DNA analysis is being undertaken to determine whether or not this species is an SRE.	▪ Maintain and enhance the abundance, species diversity, geographic distribution and productivity of terrestrial invertebrate fauna through the avoidance and/or management of adverse impacts and improvement of knowledge.	***Potential Management Actions*** To limit the impacts on any SREs that occur within the Project Area the following actions are likely to be implemented by IOH: ▪ Keep clearing of native vegetation to a minimum. ▪ Avoid, where possible, habitat that is likely to contain SRE, such as base of gullies and mulga stands. ▪ Rehabilitate cleared areas as soon as possible with plants endemic to the Project Area. ▪ Implement dust suppression measures during construction and mining as well as speed restrictions on unsealed roads. ▪ Ensure vehicles do not introduce or spread any weeds or soil pathogens. ▪ Minimise impact on vegetation by grazing cattle and feral animals. ▪ Implement a fire prevention strategy. The results of the invertebrate fauna surveys will be used to assist in developing specific measures to manage and mitigate any potential impacts of the Project on invertebrate fauna and SREs.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Subterranean Fauna	***Survey Overview*** Stygofauna and troglofauna sampling for the Project commenced by Bennelongia Environmental Consultants (Bennelongia) in May 2009, with additional rounds of sampling undertaken in July 2009, November 2009 and January 2010. The subterranean fauna surveys were undertaken in accordance with EPA's Guidance Statements No. 54 and 54a. ***Purpose of Survey*** The specific aims of the subterranean survey at the Iron Valley Project were to document the subterranean fauna communities of the Project Area and their constituent species and determine the likely impact of the Iron Valley Project on the subterranean fauna community. ***Additional Survey*** Following consultation with the DEC on the results of the initial survey, further targeted surveys are required to be undertaken. Troglofauna sampling is proposed to be undertaken at Iron Valley within new drill holes located outside of the pit during August 2011. Stygofauna sampling will be undertaken within new or existing drillholes outside the Iron Valley Project Area at IOH's Phil's Creek, Kurrajura, Yandicoogina and Lamb Creek tenements, to be undertaken in August/September 2011.	There is potential for stygofauna to occur in the groundwater systems of the Project Area and potential for troglofauna to occur in the subterranean caves of the Project Area. ***Potential Direct Impacts*** Activities that cause direct habitat loss are considered to be the primary impacts likely to lead to extinction of subterranean species. At the Iron Valley Project, the primary activities which may potentially result in direct impacts to subterranean fauna are pit excavation and pit dewatering. ***Potential Indirect Impacts*** Activities at the Iron Valley Project that may result in secondary impacts to subterranean fauna or their habitat include: ▪ De-watering below troglofauna habitat. ▪ Percussion from blasting. ▪ Overburden stockpiles and waste dumps. ▪ Aquifer recharge with poor quality water. ▪ Contamination of groundwater by hydrocarbons. ***Initial Survey Status*** Four species of troglofauna are currently known only from within the proposed mine pits at the Iron Valley Project and the Project currently poses conservation risks for these species: Lagynochthonius sp. B6, Armadillidae sp. B4, Troglarmadillo sp., and Chilopoda sp. Two stygofauna species appear to be at risk from Project (the ostracod Meridiescandona sp. BOS 171 and the syncarid Chilibathynella sp. B4), and the status of two other stygofauna species is still to be determined. ***Targeted Survey Status*** Targeted sampling of both troglofauna and stygofauna is scheduled to be undertaken both within the Iron Valley Project Area, and at other IOH tenements, to determine the extent of these species outside of the impact area.	▪ Minimise the impact on the abundance, diversity, geographic distribution and productivity of subterranean fauna at species and ecosystem levels. ▪ Protect rare or priority fauna (listed under the *Wildlife and Conservation Act* 1950, or the EPBC Act) habitat.	***Potential Management Actions*** Management of potential impacts on subterranean fauna will be further informed following the targeted surveys by Bennelongia, and these will be discussed with the DEC/OEPA. Additional management measures are likely to include appropriate surface water drainage and monitoring to ensure surface and groundwater quality, and management of groundwater drawdown in consultation with the DEC/OEPA, in the event that subterranean fauna are likely to be impacted.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Soils and Landforms	***Survey Overview*** A soils and landform assessment is scheduled to be undertaken by URS in August/September 2011. ***Purpose of Survey*** The objectives of the soil and landforms assessment are to identify major landforms within the Project Area, characterise the soil profile and determine the soil potential for reuse and/or rehabilitation at mine closure. The physical and chemical properties of the soils will be determined during the soils and landforms assessment. This will be used to derive the erosion potential of the soils and for use in rehabilitation of the site.	The Project may result in disturbance to landform features. There is the potential for soils at the Project site to be dispersive, sodic, or contain elevated levels of metals. ***Potential Impacts*** Impacts on landforms may result in instability that needs to be addressed prior to closure. Erosion may occur around waste dumps and other built up areas, which may runoff into ephemeral creeks. Inadequate topsoil management during construction and operations will influence the success of rehabilitation and acceptance of the site for closure. ***Current Survey Status*** The soils and landforms assessment is yet to commence.	▪ Maintain the integrity, ecological functions and environmental values of soils and landform in the Project Area. ▪ Minimise the footprint of disturbance during the life of the Project.	***Potential Management Actions*** The results from the soils and landforms assessment will be used to inform specific management measures depending on the characteristics of the soils and landforms encountered within the Project Area. Management measures will be suggested by URS based on the results of the field and analytical results of the soils testing. Erosion control measures are likely to be required to be implemented, especially around heavily disturbed areas such as roads, stockpiling areas and the waste dumps, to ensure surface water quality is not impacted. IOH will ensure that any topsoil removed on-site is stockpiled for future re-use and rehabilitation, and such topsoil will be stored in a manner to ensure that its ecological integrity is maintained. A Closure Plan will also be developed prior to construction of the Project to ensure that potential soil and landform closure issues are adequately managed.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Biodiversity Values	A range of baseline environmental surveys are being undertaken at the Project site to assess the potential impacts on: ▪ Flora and vegetation. ▪ Vertebrate fauna. ▪ Invertebrate fauna. ▪ Subterranean fauna. ▪ Soils and Landforms. The results of these studies will be used to assist in developing measures to manage and mitigate any potential impacts of the Project on biological diversity and ecological integrity.	Biodiversity may be reduced within, or adjacent to the Project Area due to impacts arising as a result of the Project. ***Potential Impacts*** The key potential direct impacts to biodiversity include: ▪ The potential loss of native vegetation. ▪ The potential loss of conservation significant flora and fauna habitat. ▪ The reduction of soil seed banks. ▪ Loss of genetic diversity. ▪ The introduction or spread of weed and pest species.	▪ Avoid adverse impacts on biological diversity at the species and ecosystem level of diversity.	***Potential Management Actions*** Baseline environmental surveys are being undertaken within the Project Area to determine the species present within the Project Area. The results from these baseline environmental surveys will be used to manage potential impacts to biodiversity. Management of biodiversity issues such as introduced flora and fauna species are likely to be managed through IOH's EMS or any required Environmental Management Plans. IOH will minimise clearing of native vegetation where possible, including along ephemeral creeklines, in order to minimise disturbance to flora and fauna habitat. IOH will ensure that any topsoil removed on-site is stockpiled for future re-use and rehabilitation, and such topsoil will be stored in a manner to ensure that its ecological integrity is maintained.
Conservation Values	Baseline environmental studies are currently being undertaken within the Project Area to assess the potential impacts on conservation values, including conservation significant species, communities and ecosystems and geological features. ***Purpose of surveys*** The surveys will identify the presence of any conservation significant species, including flora, vertebrate fauna, invertebrate fauna and subterranean fauna within the Project Area.	There are no conservation estates present within the Project Area. No TECs or PECs occur within the Project Area. ***Direct Impacts*** The main potential impact to conservation values is the clearing of vegetation and disturbance to conservation significant species habitat. ***Indirect Impacts*** Indirect impacts to conservation significant flora and fauna may occur due to wildfires, weed infestation and modification to local hydrology, which may impact flora and fauna habitat.	▪ Protect the environmental values of areas identified as having significant environmental attributes. ▪ Ensure that conservation values of the Project Area are adequately represented elsewhere.	***Potential Management Actions*** The results of the baseline surveys will be used to assist in developing measures to manage and mitigate any potential impacts of the Project on biological diversity and ecological integrity impacts. Management of any conservation values are likely to be managed through the implementation of IOH's EMS of any Environmental Management Plan where required.

Table 2.3 Continued

Pollution Management				
Environmental Factor	**Investigations Required**	**Potential Impacts/Current Status**	**Management Objectives and Criteria**	**Potential Management**
Air Emissions - Dust and Air Quality	***Survey Overview*** An air quality assessment will likely be required for the Project, which would be undertaken by URS in approximately August/September 2011. The air quality assessment would include a scoping and screening assessment, with air dispersion modelling undertaken based on the outcomes of the screening assessment. ***Purpose of surveys*** The air quality assessment would determine the baseline air quality at the Project Area and assess the potential of impacts of dust from the Project. The scoping and screening assessment is an invaluable tool to determine whether impacts are likely at sensitive receptors. Dispersion modelling would enable further understanding of the impact of emissions on surrounding land uses, if required.	Dust emissions are likely to be generated during the construction phase and operation phases of the Project, and which may extend beyond the Project boundaries. ***Potential Impacts*** Mining activities, such as crushing, screening, excavations, stockpiles, waste dumps haulage and clearing, have the potential to cause dust emissions. Localised dust may be generated from the movement of vehicles and the handling of ore and have the potential to impact on mine employees, visual amenity and vegetation. The Project is located away from settled areas and there are likely to be few, if any, sensitive receptors that are significantly impacted by dust emissions. Sensitive receptors in the nearby vicinity of the Project include other mine site accommodation villages, specifically RTIO's Yandicoogina camp located approximately 5km to the west of the Project Area. ***Current Survey Status*** The air quality assessment is yet to commence.	▪ Ensure that emissions do not adversely affect environmental values or the health, welfare and amenity of people and land users, by meeting statutory requirements and appropriate criteria. ▪ Ensure that dust emissions, both individually and cumulatively, do not cause an environmental or human health problem or significantly impact on amenity, by meeting statutory requirements and appropriate criteria. ▪ Minimise dust emissions associated with the construction and operation of the Project. ▪ Minimise exposed surfaces through progressive rehabilitation.	***Potential Management Actions*** Specific management dust emissions will be detailed in IOH's EMS and any required Environmental Management Plans. Dust will be controlled by minimising exposed areas and through the use of dust suppressant techniques, such as water sprays in the plant area and water carts in operational areas of the mine and on roads. A high standard of housekeeping will be implemented to reduce build-up of dust on buildings, machinery etc, and by visually monitoring dust. IOH will undertake progressive rehabilitation of cleared areas throughout the life of the mine, along with implementing dust suppression techniques, to reduce the impact of dust.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Air Emissions - Greenhouse Gases	***Survey Overview*** Greenhouse gas will be assessed as part of the EIA for the Project, and if required, a detailed Greenhouse Gas Assessment will be prepared by URS. ***Purpose of surveys*** The greenhouse gas assessment would identify greenhouse gas emission sources associated with the Project.	Greenhouse gas emissions such as carbon dioxide, carbon monoxide and methane may be produced from the combustion of fossil fuels. ***Potential Impacts*** Fuel consumption (gas and diesel) and power generation as a result of the Project will contribute to greenhouse gas emissions. Greenhouse gas emissions can be reduced through innovative design of the Project. Given the scale of the Project and that no on-site processing with chemicals is being undertaken, greenhouse gas emissions are unlikely to significantly contribute to the environmental impact of the Project. ***Current Survey Status*** The greenhouse gas assessment will be incorporated into the EIA document and is yet to commence.	▪ Minimise emissions to as low as reasonably practicable on an on-going basis and consider offsets to further reduce cumulative emissions. ▪ Comply with relevant regulations.	***Potential Management Actions*** Specific management greenhouse gas emissions will be detailed in IOH's EMS and any required Environmental Management Plans. Greenhouse gas emissions can be minimised through the use of energy efficient machinery and by using energy consumption as a criterion in equipment selection. Monitoring of air pollutants and greenhouse gas emissions will be undertaken as per the Western Australian Mine*s Safety and Inspection Act* 1994 and Mines Safety and Inspection Regulations 1995.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Liquid and Solid Waste Disposal	A range of solid and liquid wastes will be generated as a result of the Project, such as general domestic wastes, domestic sewage, inert waste, hazardous waste and the ore slurry as an output from the crushing and screening process. A number of investigations/designs will be undertaken by IOH to identify the potential impacts and required management of liquid and solid waste disposal as a result of the Project. The geochemical characterisation study and the groundwater and surface water studies will further inform management of some of these wastes, particularly the ore slurry, with the other wastes requiring specific licences from the DEC and/or Local Government.	The Project has the potential to produce domestic wastes, waste oils, greases, lubricants sewage and recyclable products. Some waste discharge to the environment will occur as a result of the Project *General Domestic Waste* Domestic wastes that may be produced include general refuse such as waste metal, cardboard and packaging, as well as inert wastes. Putrescible wastes will be deposited within an on site landfill. Inadequate management of domestic waste disposal has the potential to increase the presence of vermin, impact native fauna species and pollute soils and water systems. *Domestic Sewage* Domestic sewage waste will be produced from the accommodation camp and site offices. Wastewater systems will be constructed on site for the disposal of sewage. *Inert Waste* The Project may produce industrial wastes such as infrastructure and machinery components. *Hazardous Waste* There is the potential for incorrect transport, handling and storage of hazardous waste and substances. These may potentially result in the contamination of soil, surface water and groundwater. *Ore Slurry* The ore crushing and screening process will generate an ore slurry which will be deposited to a materials storage facility. Only water will be used during the washing process, with no chemical additives. Potential impacts of ore slurry from the Project may include impacts to vegetation soils and surface waters from runoff if the facility is not appropriately contained, or if the ore slurry is found to be acid-generating. The materials storage facility will also be assessed in the Mine Closure Plan for the Project.	▪ Compliance with the EP Act, *Health Act* 1911 and other applicable standards. ▪ If required, the materials storage facility (for the ore slurry), will designed in accordance with the DMP's Tailings Storage Guidelines, and will be designed to ensure there is no release to the environment. ▪ Where possible, waste should be minimised, re-used or recycled. ▪ Liquid and solid wastes should be treated on-site or disposed of off-site at and appropriate landfill facility. Where this is not feasible, contaminated material should be managed on-site to prevent surface water and groundwater contamination or risk to public health. ▪ Management of hazardous wastes will comply with relevant legislation and regulations.	***Potential Management Actions*** IOH will integrate a waste hierarchy into the Project, which will include avoid, reduce, recycle, treat and dispose of wastes. Liquid and solid waste disposal will be managed through the implementation of IOH's EMS or any required Environmental Management Plans. *General Domestic Waste* IOH will reduce the volume of waste through reuse and recycling and will ensure that liquid and solid wastes are disposed of in an appropriate manner. Liquid and solid wastes will be treated on-site, or disposed of off-site at an appropriate facility. General domestic and putrescible waste associated with the accommodation village will be disposed of to the on-site landfill once a Licence for its use is approved by the DEC. *Domestic Sewage* All sewage and wastewater generated as a result of the Project will be treated in wastewater treatment plants to process effluent to at least Class C standards. *Inert Waste* IOH will recycle waste products where practicable and industrial wastes (such as scrap metal) will be stored and transported off-site for commercial disposal (if economically viable) or disposed of in the site landfill (once licensed). The mine site landfill will be licensed under Part V of the EP Act and will comply with appropriate conditions and local health regulations. *Hazardous Waste* Hazardous wastes (such as waste oils and solvents) and wastes generated from servicing of machinery and equipment will be collected in suitable containers and stored in a segregated bunded hazardous waste area. These will be removed from site by a licensed contractor for recycling or disposal to an approved waste disposal facility. *Ore Slurry* The ore slurry from the ore crushing and screening process will be deposited to a materials storage facility and will require appropriate construction and management to ensure no leaks or spillages occur. Ongoing monitoring of the materials storage facility will be undertaken during the life of the Project.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Waste Rock	***Survey Overview*** A Geochemical Characterisation Study of ore and waste rock will be undertaken to determine whether any potentially acid forming material is likely to be encountered on site and require specific management. The waste dump will also be required to be constructed to ensure that landform is safe, stable and non-polluting following decommissioning and closure. ***Purpose of surveys*** A preliminary Characterisation Geochemical Characterisation Study has been undertaken by SRK Consulting and further Geochemical Characterisation work is required to: ▪ Improve the reliability of acid and metalliferous drainage (AMD) predictions for waste rock and ore; ▪ Obtain samples to populate a block model of different ore grades and waste rock; and ▪ Provide mitigation strategies for waste rock and ore stockpiles.	The Project will generate waste rock that will be deposited in waste dumps within the Project Area. Waste rock at the Project site may be potentially acid forming, dispersive or sodic, or contain elevated levels of metals which may impact surface waters and revegetation success. ***Potential Impacts*** If ore and waste rock are potentially acid forming (PAF) there may be issues associated with acid drainage. Other impacts that may be caused as a result of the Project include large volumes of waste rock, visual impacts from waste dumps (new landforms), modification of the existing landform, dust generation, erosion and sedimentation. Landscape impacts will be most evident with respect to development of the pit and the waste rock dumps. ***Current Survey Status*** A detailed Geochemical Characterisation Study is expected to commence in August 2011.	▪ Design and construct the waste dump as a stable landform to minimise the potential for erosion and improve rehabilitation success for closure. ▪ Waste rock piles will be constructed in accordance with the Environmental Notes on *Mining Waste Rock Dumps* and the *Landform Design for Rehabilitation*. ▪ Preventing the release of acid and metalliferous drainage directly to the environment. ▪ Bunding to contain the waste dump and prevent runoff to any watercourses.	***Potential Management Actions*** The results of the detailed Geochemical Characterisation Study will be used to manage and mitigate any potential impacts of the Project to surface water, groundwater and soils. If acid forming material is present, this will be encapsulated with non-acid forming material in the waste dump to ensure it does not react with air or water. Surface drainage will be directed away from stockpiles and the waste rock dump. A safe, stable and non-polluting waste dump will minimise the potential for erosion and improve rehabilitation success for the Project.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Noise and Vibration	***Survey Overview*** A noise and vibration impact assessment is scheduled to be undertaken by SVT Engineering Consultants in August/September 2011. The noise and vibration assessment will be undertaken in accordance with the EPA's draft Guidance statement No. 8. ***Purpose of Survey*** This assessment is required due to the proximity of the Project to RTIO's Yandicoogina mine camp (approximately 5km west of the Project Area), and noise modelling is likely to be required. The noise and vibration impact assessment will assess: ▪ Ambient noise. ▪ Receivers and assigned noise levels. ▪ Noise level prediction. ▪ Comparison with noise criteria. ▪ Noise reduction measures. ▪ Construction noise levels. ▪ Ground borne vibration assessment.	Noise and vibration may be generated through the operation of plant and machinery during the construction and operational phases of the Project. The mine is proposed to operate on a 24 hour basis. Noise and vibration has the potential to affect people and native fauna. Noise may disrupt fauna species, or even alter community structure. Vibration is known to disrupt some sub-surface dwelling invertebrates (such as spiders) and can affect human health. ***Current Survey Status*** The noise and vibration assessment is yet to commence.	▪ Ensure that noise emissions, both individually and cumulatively, do not adversely impact on the amenity of nearby residents and fauna by meeting statutory requirements and appropriate criteria. ▪ Minimise noise and vibration associated with the construction and the operation of the Project. ▪ Ensure that noise and vibration levels meet statutory requirements and acceptable levels. ▪ Manage the impacts of noise under the EP Act and the Environmental (Noise) Regulations 1997.	***Potential Management Actions*** IOH will ensure noise impacts emanating from construction and operation activities comply with statutory requirements including the Environmental (Noise) Regulations 1997. Any impacts of noise and vibration, including on mine site employees and contractors is likely to be managed through the implementation of the IOH's EMS and in compliance with relevant legislation and standards.
Light	The impacts of light from the Project are likely to be minimal and no specific investigations into the impacts of light from the Project will be undertaken.	The mine will operate on a double shift (24 hours) and it is expected that the Project will have no significant off-site light emissions. Fauna is unlikely to occur in the Project Area due to noise and vibration and therefore there should be minimal impacts on fauna from light associated with the Project.	▪ Minimise the impacts of light on native fauna.	The impacts of light from the Project are likely to be minimal. If light is likely to require specific management, any impacts will be managed through IOH's EMS.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Surface Water	***Survey Overview*** A surface water quantity and quality assessment is currently being undertaken by URS. ***Purpose of Survey*** The purpose of the Surface Water Assessment is to characterise the existing local hydrological regime of the site, its interaction with the regional system, and any potential risks to the Project associated with flooding. The Study will also establish a baseline water quality regime for the site and surrounding watercourses.	The Project is located to the west of Weeli Wolli Creek and 15-20 km downstream of Weeli Wolli Spring. As the Project is located downstream of Weeli Wolli Spring, no impacts on the Spring are likely. ***Potential Impacts*** Surface water quantity may be impacted by alterations to surface water flow paths as a result of the development. Surface water quality can also be impacted by disturbance to stream bed and banks through clearing, construction and mining operations. Unnamed ephemeral watercourses flow through the Project site and clearing of riparian vegetation near watercourse may be undertaken. These watercourses are likely to be diverted around the areas of disturbance within the Project site. It is possible that an ephemeral creek running through the site will have a flood protection earth bund constructed to prevent it overtopping and flowing into the mining pits. ***Current Survey Status*** Preliminary surface water baseline information has been established, including flood flows and extents. Further surface water quantity assessment tasks, including assessment of mine infrastructure within the determined flood extents, will be undertaken in August/September 2011. Further surface water quality assessments including sampling to determine a baseline water quality regime for the site will be undertaken pre-wet season 2011.	▪ Maintain surface water quality to ensure that existing and potential users, including ecosystems, are protected. ▪ Minimise the disturbance to drainage lines in and around the Project Area. ▪ Where possible, wastewater should be minimised, re-used or recycled. ▪ Contaminated material should be managed on-site to prevent surface water contamination or risk to public health.	***Potential Management Actions*** The results of the Surface Water Assessment will be used to manage and mitigate any potential impacts of the Project to surface water regimes and minimise alterations to hydrology. Based on information to date, initial surface water investigations indicate that the regional surface water regime does not enter the Project Area, therefore impacts are likely to be minimal and surface water flows and quality of the regional Weeli Wolli Creek system are likely to be maintained. It is likely that an ephemeral creek running through the site will require some disturbance/diversions to ensure that the mine site is adequately protected from flooding. Water management measures will likely be incorporated by IOH to manage potential surface water quality impacts. These measures include: ▪ Construction being undertaken during the dry season where possible. ▪ Catch ponds and sediment traps/ponds to be constructed around stockpiles and other disturbed areas. ▪ Appropriate design of creek crossings. ▪ On-site surface water monitoring. ▪ Planning for surface water on mine closure. ▪ Bunding of fuel, crushing and screening and chemical storage in accordance with DMP guidelines.

Table 2.3 Continued

Environmental Factor	Investigations Required	Potential Impacts/Current Status	Management Objectives and Criteria	Potential Management
Groundwater	***Survey Overview*** A groundwater quality and quantity (Hydrogeological) Assessment is currently being undertaken by URS. ***Purpose of Survey*** The purpose of the Hydrogeological Assessment is to identify the risks and impacts of the Project on groundwater quantity and quality, and to quantify the baseline hydrogeological characteristics of the Project. The Assessment includes an assessment of the current groundwater baseline with pump testing of groundwater production bores and the installation of monitoring bores. It also includes the construction of a groundwater flow model. The results of the flow model will provide predictions of groundwater drawdown from dewatering and predictions of dewatering volumes. The study includes an assessment of dewatering disposal options as well as a water balance. The potential for groundwater dependent ecosystems (GDEs) occurring in the vicinity of the Project Area may also need to be assessed.	***Potential Impacts*** The preliminary flow model results indicate that groundwater drawdown may potentially impact surface watercourses close to the mining area, and this is being investigated further. Groundwater quality may be impacted by increased salt loads if evaporation based water disposal options are used. Small scale contamination of soil and groundwater water through sedimentation, spills and leaks of hydrocarbons and other chemicals and acid drainage may occur. If GDEs are present they may potentially impacted by disturbance to the area and loss of water due to dewatering. ***Current Survey Status*** An initial Hydrogeological Assessment included the completion of a preliminary groundwater baseline and a preliminary groundwater flow model. This defined a preliminary understanding of the hydrogeological setting within the Project Area and included a preliminary dewatering disposals options study. Further hydrogeological investigations will be undertaken starting in August/September 2011 to further define the groundwater baseline and groundwater flow. Management and mitigation measures for potential impacts on groundwater will be assessed and identified.	▪ Prevent or minimise impacts on surface watercourses. ▪ Maintain water quality, including groundwater quality, to ensure that existing and potential users and ecosystems are protected. Ensure that beneficial uses of groundwater can be maintained. ▪ Contaminated material should be managed on-site to prevent groundwater contamination or risk to public health. ▪ Protect any Groundwater Dependant Ecosystems. ▪ Where possible, mine dewatering should be minimised, re-used or recycled, such as use in processing and dust suppression activities. ▪ Engage in consultation with relevant regulators regarding appropriate disposal of dewatered groundwater (preferred option to return excess dewater to the local catchment area).	***Potential Management Actions*** The results of the Hydrogeological Assessment will be used to determine the potential Project impacts on groundwater quantity and quality. This will inform the implementation of appropriate groundwater management actions. Based on the preliminary information to date, initial water balance results indicate a surplus of groundwater that is likely to require disposal (after dewatering has been utilised in processing, dust suppression and potable supply). Further work will be undertaken to optimise the dewatering plan with the mine plan to minimise the dewatering surplus. The dewatering disposal options study will include assessment of a combination of disposal options in order to scale disposal options efficiently according to short term fluctuations in groundwater supply/demand.

Table 2.3 Continued

Mine Closure	***Survey Overview*** Preparation of a Mine Closure Plan will commence by URS in August/September 2011, during preparation of other baseline studies for the Project. ***Purpose of Surveys*** The Mine Closure Plan will cover the following tasks: ▪ Collation of information and Identification of Data Gaps. ▪ Stakeholder Consultation. ▪ Risk Assessment Workshop. ▪ Financial Provisioning for Closure. ▪ Mine Closure Plan Reporting. It is the intended that during preparation of the Mine Closure Plan discussions will be undertaken with the authors of other studies, including surface water and groundwater assessments, the soils and landforms survey and other studies where relevant. This will ensure that Mine Closure is being factored into all aspects of the Project.	Poor or no planning for Mine Closure prior to construction or operations will not be accepted by regulators, and does not allow opportunities for closure to be incorporated into all phases of the Project (for example, ensuring topsoil and subsoil is stockpiled during construction activities for later use in rehabilitation/ revegetation). ***Potential Impacts*** Lack of investigations into aspects such as pit void management could result in toxic waters being present in the pit lake which may kill flora and fauna. Lack of investigations into how potentially acid forming materials will be encapsulated within the waste dump could result in contaminated surface and groundwater and flora and fauna deaths. Lack of investigations into waste dump and pit stability could result in unstable landforms that do not encourage vegetation growth and permit the Project Area from being returned to pre-mining uses, such as pastoral activities.	▪ Ensure that rehabilitation achieves a long term safe, stable and functioning landform which is consistent with the surrounding landscape and other environmental values. ▪ Fulfil commitments made to stakeholders and regulators regarding closure outcomes. ▪ Ensure that mine closure is undertaken in accordance with relevant and applicable standards and guidelines, such as the DMP/EPA *Guidelines for Preparing Mine Closure Plans*.	***Potential Management Actions*** The Mine Closure Plan will detail how to ensure successful closure, to result in a post mining landuse that is safe, stable, sustaining and non-polluting. Closure tasks are proposed to be undertaken throughout the life of the Project, commencing in the Planning/Pre-Feasibility Phase and resulting in Decommissioning and Closure of the Project. Particular areas that will require specific management actions to ensure successful closure include management of the pit voids (such as water quality), understanding the geochemistry of the waste dump and ore slurry, ensuring that the pit and waste dump slopes are stable and that vegetation re-growth is encouraged.

Table 2.3 Continued

Social Surroundings				
Aboriginal Heritage	***Survey Overview*** IOH is undertaking Aboriginal heritage surveys with the Nyiyaparli people, who have Native Title within the Project Area. ***Purpose of Surveys*** The purpose of the Aboriginal heritage surveys is to identify sites of archaeological and ethnographic significance to the Nyiyaparli people and identify any additional sites that are not currently registered under the *Aboriginal Heritage Act* 1972.	***Potential Impacts*** The Project site contains registered Aboriginal Heritage sites, and some of these sites are likely to be disturbed where the mine pits are to be developed. Further heritage sites may be discovered during construction and operation of the Project. IOH will seek Section 18 approval under the *Aboriginal Heritage Act* 1972 to disturb these sites following an archaeological and ethnographic survey to confirm the location of registered sites and the identification of any additional currently unknown sites.	▪ Ensure that the proposal complies with the requirements of the *Aboriginal Heritage Act* 1972. ▪ Ensure that changes to biological and physical environment resulting from the Project do not adversely affect historical and cultural associations with the area and comply with relevant heritage legislation. ▪ Comply with relevant Aboriginal Heritage legislation. ▪ Ensure that indigenous communities are not adversely impacted through changes to the biological and physical environment and the increase in population to the area from the Project workforce.	***Potential Management Actions*** Aboriginal heritage sites will be avoided where possible, and managed in accordance with the recommendations of the Aboriginal heritage survey. Section 18 clearance under the *Aboriginal Heritage Act* 1972 will be sought for any sites that will be disturbed as a result of the Project, in consultation with the Nyiyaparli people. If any potential Aboriginal sites are observed during construction or operations, these will be reported to the DIA. The site will be cordoned off and further disturbance will be avoided. All contractors and employees will be instructed in respect of their obligations under the *Aboriginal Heritage Act* 1972 with regard to disturbance of heritage sites and Cultural Awareness Training will be undertaken by all personnel involved in the Project.

3. PROPOSED MANAGEMENT

3.1 Principles of Environmental Protection

- ❑ 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 web.)

1.	The precautionary principle.	✓ Yes	☐ No
2.	The principle of intergenerational equity.	✓ Yes	☐ No
3.	The principle of the conservation of biological diversity and ecological integrity.	✓ Yes	☐ No
4.	Principles relating to improved valuation, pricing and incentive mechanisms.	✓ Yes	☐ No
5.	The principle of waste minimisation.	✓ Yes	☐ No

1. Precautionary Principle

Careful evaluation has been undertaken and sufficient knowledge developed to address potential environmental impacts in relation to the Project.

A risk and opportunities assessment process was undertaken for the Project to assess the likelihood and consequences of identified risks and opportunities in order to avoid, where practicable, serious or irreversible damage to the environment. Risks and opportunities were identified in relation to health, personnel safety, environmental and social impacts that will be incorporated into the Project.

2. Principle of Intergenerational Equity

The Project will be managed to ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

Vegetation clearing and loss of biodiversity may occur but IOH will ensure that areas disturbed are rehabilitated progressively throughout the mine life where practicable. Wherever possible disturbed areas will be rehabilitated to return the environment to a condition that will enable a long term land use for pastoral activities.

Greenhouse gas emissions associated with the Project will not be long term in nature and, with respect to EPA Guidance Statement No. 12, are not expected to be significant.

Landscape impacts will be most evident with respect to development of the pit and the waste rock dumps.

3. Principle of the Conservation of Biological Diversity and Ecological Integrity

Conservation of biological diversity and ecological integrity is a fundamental consideration of the Project. Baseline environmental studies are being undertaken at the Project site to assess the potential impacts on flora and vegetation, vertebrate fauna, invertebrate fauna and subterranean fauna. The results of these studies will be used to assist in developing measures to manage and mitigate any potential impacts of the Project on biological diversity and ecological integrity.

IOH will ensure that any topsoil removed on-site is stockpiled for future re-use and rehabilitation, and such topsoil will be stored in a manner to ensure that its ecological integrity is maintained. Waste discharges as a result of the Project comprise domestic solid and liquid wastes, waste rock from mining, mine dewater and ore slurry (mixture of ore and water). IOH will ensure that these wastes are disposed of in an appropriate manner.

4. Principles relating to Improved Valuation, Pricing and Incentive Mechanisms

No incentive structures/market mechanisms are applicable to this Project.

5. Principle of Waste Minimisation

IOH will integrate a waste hierarchy into the Project (i.e. avoid, reduce, re-use, recycle, treat, dispose) to minimise waste generated as a result of the Project. This waste management hierarchy will be incorporated into the Project's EMS currently being developed.

Wastewater treatment plants will treat sewage and wastewater from the accommodation village and site offices. Mine dewater will be used for the water demand of all mining operations including processing, dust suppression and potable uses. IOH will ensure that all wastes generated as a result of the Project are disposed of in an appropriate manner.

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

✓ Yes ☐ No

The relevant EPA Position Statements and a brief description on how the proposal is consistent with each Position Statement are outlined in the table below.

EPA Position Statement No.	**Relevant EPA Position Statement**	**Proposal's Consistency with the Position Statement**
2	Environmental Protection of Native Vegetation in Western Australia	Clearing of native vegetation is required for the Project and it is unlikely that clearing will result in the loss of any specific flora or fauna species. IOH is committed to identifying and managing impacts associated with clearing activities and will progressively rehabilitate the Project Area following ground disturbance throughout the life of the Project.
3	Terrestrial Biological Surveys as an Element of Biodiversity Protection	Flora and Fauna surveys have been undertaken by reputable scientists in accordance with EPA Position Statement No. 3 and relevant Guidance Statements.
4	Environmental Protection of Wetlands	The Project is located adjacent to major watercourses and minor watercourses flow through the Project Area. The Project is unlikely to have any impact on adjacent major watercourses, however surface and groundwater assessments are being undertaken by reputable scientists to avoid, remedy and mitigate any potential impacts of surface or groundwater.
5	Environmental Protection and Ecological Sustainability of the Rangelands of Western Australia	The Project is located within the Rangelands of Western Australia, which contains a wealth of diverse native plant and animal species and habitats, unique geological formations, extraordinary landscapes and a rich heritage of Indigenous and non-Indigenous culture and tradition. The Project design and proposed construction and operations will be undertaken with consideration of EPA Position Statement No. 5.
6	Towards Sustainability	IOH will incorporate sustainability principles into the Iron Valley Project where possible during design, construction and operations.

7	Principles of Environmental Protection	The Principles of Environmental Protection have been considered as part of the environmental referral process and will be addressed in detail as part of the EIA for the Project.
8	Environmental Protection In Natural Resource Management	Not applicable.
9	Environmental Offsets	Clearing of native vegetation is required for the Project and IOH is committed to identifying and managing impacts associated with clearing and closure rehabilitation. As cleared areas will be rehabilitated progressively during operations, environmental offsets will not apply to this Project.

3.2 Consultation

- ❑ 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 in relation to the Project has been undertaken from 2008 to date and is ongoing. Consultation undertaken to date is outlined in Table 3.1 below.

Table 3.1: Summary of Consultation Undertaken to Date

Stakeholder	Date of Consultation	Items Discussed	Outcomes
State and Commonwealth Government			
Office of the Environmental Protection Authority (OEPA)	25 May 2011 **Meeting Attendees:** Peter Tapsell and Mark Jefferies (OEPA), Don Best (IOH), Hannah Fletcher and Jenny Moro (URS)	A meeting was held with the OEPA prior to submitting the Referral Form to: • Introduce and discuss the Iron Valley Project. • Discuss environmental baseline surveys/studies conducted to date and/or proposed and key environmental issues of the Project including groundwater, surface water, flora and vegetation, vertebrate fauna, invertebrate fauna, subterranean fauna, materials characterisation and closure.	• Referral Form to be submitted to the OEPA in the next few weeks. • The OEPA provided advice about individual environmental components of the Project, and what they would like detailed in the referral. The OEPA advised during the meeting that the key issues of the Iron Valley Project are likely to be: ▪ Groundwater disposal ▪ Pit water quality at closure ▪ Regional context required for troglofauna and stygofauna results. ▪ Regional context required on flora, fauna and SREs results.
	May 2011 Email and phone correspondence between Bamford Consulting Ecologists and John Dell (OEPA)	• Following the meeting with the DEC (April 2011 – see DEC consultation below) supporting information was provided to John Dell regarding Bamford Consulting Ecologists request to undertake a targeted fauna survey at Iron Valley.	• John Dell responded that the approach provided by Bamford was acceptable.
Department of Environment and Conservation (DEC) Environmental Management Branch (EMB)	20 May 2011 Phone correspondence with Murray Baker	• Discussed proposed timing of Dalcon's targeted survey (Short Range Endemic Fauna) in late May. • DEC advised that they are aware of timing constraints. The DEC will take guidance from the OEPA and to contact to clarify timing.	• The OEPA advised at the meeting on 25 May that timing is okay if the DEC has agreed to this.
	April/May 2011 Email correspondence from Brad Durrant and Murray Baker (DEC)	• The DEC EMB advised that further targeted surveys are required for both the Short Range Endemic Invertebrate Fauna and Subterranean Fauna Surveys at Iron Valley.	• Further targeted surveys planned for Short Range Endemic and Subterranean Fauna Surveys.

Stakeholder	Date of Consultation	Items Discussed	Outcomes
State and Commonwealth Government			
Department of Environment and Conservation (DEC) Environmental Management Branch (EMB)	18 April 2011 **Meeting Attendees:** Nick Woolfrey (DEC EMB), John Dell (OEPA), Don Best (IOH)	• Discussed the vertebrate fauna survey methodology. • Bamford Consulting Ecologists sought approval to undertake a targeted fauna survey given that a number of other surveys have recently been undertaken in the general area.	• It was agreed that a targeted fauna survey could be undertaken at Iron Valley.
	February/March 2011	• Email and phone correspondence with the DEC EMB regarding the desktop work prepared for the Short Range Endemic Fauna and Subterranean Fauna.	• DEC EMB is reviewing the information provided and will advise whether further work required.
	16 December 2011 **Meeting Attendees:** Brad Durant and Anthea Jones (DEC EMB), Don Best (IOH) and Hannah Fletcher (URS)	• a meeting was held to provide a summary of the Subterranean Fauna and Short Range Endemic Invertebrate surveys undertaken at the Iron Valley Project, and discussion of the results.	• The DEC EMB requested that the distribution of all troglofauna species (restricted and non-restricted) needs to be mapped against prospective habitat. • Need to define drawdown impacts on stygofauna. • Map locations of potential Short Range Endemic Invertebrate species and overlay on a habitat map. • URS sent a draft of the report to Brad Durrant for comment. • Discuss results of desktop work with DEC before further action undertaken.

	3 June 2010 **Meeting Attendees:** Brad Durant and Anthea Jones (DEC EMB), Blair Hardman and Hannah Fletcher (URS)	• A meeting was undertaken with the DEC EMB to discuss the preliminary subterranean fauna results at Iron Valley. • Items discussed included troglofauna and stygofauna results.	• DEC requested the maximum possible extent of the pit boundaries for assessment of potential subterranean fauna impacts. • IOH to clearly define the impact scenario. • Once the impact scenario is defined then the results to be given to the DEC for comment. • Final Short Range Endemic Invertebrate report to be provided to DEC Mapping distribution of troglofauna and Short Range Endemic Invertebrate species, define drawdown impacts on stygofauna.
Stakeholder	**Date of Consultation**	**Items Discussed**	**Outcomes**
State and Commonwealth Government			
Department of Environment and Conservation (DEC) Environmental Management Branch (EMB)	16 April 2010 **Attendees:** Bradley Durant, Anthea Jones and Karen Courtney (DEC EMB), Stuart Helleren and Mark Heath (Dalcon Environmental) and Hannah Fletcher (URS)	• Provide an overview and discuss the proposed Short Range Endemic (SRE) Invertebrate Fauna Survey at Iron Valley. • Discussed survey locations and methodology, survey timing, foraging and by-catches. • Discussed the proposed SRE Invertebrate Fauna Survey, which was proposed for end of April/early May (towards the end of the preferred timing in the EPA Guidance Statement No. 20).	• The DEC advised that traps will need to be left for a minimum of 4 weeks which would be acceptable by DEC licensing. • DEC advised that the proposed timing of late April-late May was acceptable. • The DEC advised that in order to reduce by-catches that lids on top of the pitfall traps is recommended and that the preservative that is appropriate to use in the wet traps is Propolene Glycol. • Dalcon to submit a proposal to the DEC outlining the survey methodology as agreed at the meeting.
Department of Mines and Petroleum (DMP) Minerals Branch, Environment Division:	November 2008	• A meeting was held during November 2008 to introduce the proposed Project.	• IOH will ensure ongoing consultation with the DMP.

Department of Water (DoW)	20 April 2011	• The 26D Water Licence Application was submitted to the DoW	• The 26D Water Licence Application was approved by the DoW on 23 May 2011 with conditions.
	20 April 2011 **Attendees:** Simon Rodgers (DoW), Matthew Curtis (URS) and Madolyn Morel (URS)	• Request information on the Fortescue Marsh. Advice was sought for surface water modelling at Iron Valley.	• DoW provided URS with data required for the Iron Valley Surface Water Assessment. • The DoW was satisfied with the surface water modelling methodology being used for Iron Valley.
Stakeholder	**Date of Consultation**	**Items Discussed**	**Outcomes**
Native Title Claimant groups			
Nyiyaparli Native Title Group (NYI)	Ongoing	• The NYI Group hold claims over the current disturbance area of the Project. • IOH has formerly signed a Land Access Agreement with the NYI, covering the Project Area.	• IOH will continue consultation with the NYI Group as the Project progresses.
Local Landowners			
Fortescue Metals Group (FMG)	June 2011 **Attendees:** Shaun Grein (FMG) and Hannah Fletcher and Peter Elliott (URS)	• Discuss the potential for sharing information regarding environmental baseline studies and other project information at the IOH Iron Valley and FMG Nyidinghu Projects.	• FMG and IOH determined that there are synergies between FMG and IOH and will use technical experts on studies together to map synergies further • Critical Information to share includes Biological Baseline and Water data
BHP Billiton Iron Ore (BHPBIO)	April/May 2011	• URS contacted BHPBIO about the possibility of sharing environmental information and data.	• IOH will ensure ongoing consultation with Rio Tinto Iron Ore.
Rio Tinto Iron Ore (RTIO)	12 May 2011	• URS contacted Rio Tinto Iron Ore about the possibility of sharing environmental information and data	• IOH will ensure ongoing consultation with Rio Tino Iron Ore.

FIGURE 1:

BROAD SCALE LOCATION PLAN (REGIONAL)

IRON ORE HOLDINGS LIMITED

Date:	08/10/10	Iron Valley Project
Drawn:	DMF	Broad Scale Locality Plan
Chk:	DMF	
App:		
Date:	08/10/10	Scale 1:1,500,000 | Dgn No: IOH-IV-00066 | Rev: 1.0 | A3

N

Datum: GDA94 Projection: MGA Zone 50

300,000 350,000 400,000 450,000 500,000 550,000 600,000 650,000 700,000 750,000 800,000 850,000

7,750,000 7,700,000 7,650,000 7,600,000 7,550,000 7,500,000 7,450,000 7,400,000

INDIAN OCEAN

PORT HEDLAND

DAMPIER

PANNAWONICA

IOH IRON VALLEY

BHP YANDI

RTIO YANDI

TOM PRICE

PARABURDOO

NEWMAN

PILBARA

HAMERSLEY RANGE

CHICHESTER RANGE

Area of Interest

NEWMAN

PERTH

FIGURE 2:

MID SCALE LOCATION PLAN

IRON ORE HOLDINGS LIMITED

IRON VALLEY
MID SCALE
LOCATION PLAN

Date:	29/06/11
Drawn:	DMF
Chk:	MRG
App:	
Date:	29/06/11

Datum: GDA94 Projection : MGA Zone 50

Scale 1:500,000 | Dgn No: IOH-PP-00038 | Rev: 1.0 | A3

N

FORTESCUE MARSH

BHBP YANDI

IRON VALLEY

RTIO YANDICOOGINA

NEWMAN

IOH Iron Valley

Kilometers

0 5 10 20 30 40 50

Area of Interest

NEWMAN

PERTH

FIGURE 3:

GENERAL ARRANGEMENT (INDICATIVE SITE LAYOUT)

IRON ORE HOLDINGS LIMITED

Date:	24/05/11	Iron Valley General Arrangement			
Drawn:	DMF				
Chk:	DB				
App:					
Date:	24/05/11	Scale 1:30,000	Dgn No: IOH-IV-00099	Rev: 3.0	A3

N

0 0.15 0.3 0.6 0.9 1.2
Kilometers

732,000 733,000 734,000 735,000 736,000 737,000 738,000 739,000 740,000 741,000 742,000 743,000

7,487,000 7,486,000 7,485,000 7,484,000 7,483,000 7,482,000 7,481,000 7,480,000

E 47/1385

M 47/1439

PROPOSED PROCESS PLANT

PROPOSED WASTEDUMP

PROPOSED ACCOMODATION

- Proposed Process Plant
- Proposed Accomodation Village
- Mining Lease
- Conceptual Pit
- Waste Dump
- Exploration Lease