Government of Western Australia
Department of Water and Environmental Regulation

Amendment Notice 2

Licence Number	L8148/2006/4
Licensee	Koolan Iron Ore Pty Ltd
ACN	099 455 277
File Number:	DER2014/000374
Premises	Koolan Iron Ore Mine and Port Facility Mining Tenements M04/416, M04/417 and L04/29 KOOLAN ISLAND (BUCCANEER ARCHIPELAGO) WA 6733
Date of Amendment	18/10/2017

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Date signed: 18 October 2017

Danielle Eyre

Senior Manager

Industry Regulation (Resource Industries)

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Annual Period	means a 12 month period commencing from 1 January until 31 December in that year
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 33 Cloisters Square PERTH WA 6850 info-der@dwer.wa.gov.au
Decision Report	refers to this document
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act
DMIRS	Department of Mines, Industry Regulation and Safety (As of 1 July 2017, the Department of Mines and Petroleum became part of the Department of Mines, Industry Regulation and Safety (DMIRS))
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986 (WA)*
EP Regulations	*Environmental Protection Regulations 1987 (WA)*
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Amendment
Licensee	Koolan Iron Ore Pty Ltd

Term	Definition
Minister	the Minister responsible for the EP Act and associated regulations
MS	Ministerial Statement
NTU	Nephelometric Turbidity Unit
Prescribed Premises	has the same meaning given to that term under the EP Act
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
TSS	Total Suspended Solids

Department of Water and Environmental Regulation

As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER), see https://publicsector.wa.gov.au/public-administration/machinery-government/2017-machinery-government-changes for further details.

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This Amendment Notice is limited only to an amendment for Category 6 and 64. No other changes to the aspects of the original Licence or Amendment Notice 1 relating to Category 5, 12, 54, 58 and 73 activities have been requested by Koolan Iron Ore Pty Ltd (Licensee).

The following guidance statements have informed the decision made on this amendment*:*

- *Guidance Statement: Regulatory Principles* (July 2015);
- *Guidance Statement: Setting Conditions* (October 2015);
- *Guidance Statement: Decision Making* (February 2017);
- *Guidance Statement: Risk Assessments* (February 2017); and
- *Guidance Statement: Environmental Siting* (November 2016).

Amendment description

On 19 May 2017, the Licensee submitted an application (Koolan Island, 2017) to amend the Koolan Iron Ore Mine and Port Facility (Premises) licence L8148/2006/4.

This Amendment Notice is the result of the Licensee applying for an amendment under section 59B of the EP Act.

The Licensee has applied to make the following changes:

1. Increase in Category 6 design capacity for mine dewatering from 50,000 tonnes per Annual Period to 5,000,000 tonnes per Annual Period as shown in Table 2; and
2. Increase in Category 64 design capacity for the putrescible landfill from 20 tonnes per Annual Period to 4,500 tonnes per Annual Period as shown in Table 2.

Table 2: Proposed design capacity changes requested in amendment

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
6	50,000 tonnes per Annual Period	5,000,000 tonnes per Annual Period	Recommencement of dewatering and mining in the Main Pit
64	20 tonnes per Annual Period	4,500 tonnes per Annual Period	Disposal of wastes from re-construction of the seawall and upon return to mining

1. Increase in Category 6

In November 2014, a collapse in a section of the engineered seawall resulted in ocean water inundating the Main Pit, which is the source of haematite usually mined and shipped for export by the Licensee.

On 19 May 2017, the design capacity for Category 6 was reduced to the minimum threshold amount for when a licence is required as set out in Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations). This reduction was a result of the Premises going into care and maintenance on 31 March 2016.

The Licensee has completed a design phase for re-constructing the seawall with the plan to re-commence mining in the Main Pit in 2018. The reconstructed seawall would prevent seawater ingress into the Main Pit from the sea. As the seawall reconstruction nears completion, seawater entrained within the Main Pit will be pumped out over the seawall and returned to the ocean to allow mining of iron ore and waste rock materials from the Main Pit.

Dewatering of the Main Pit will occur in two stages:

- Phase 1 dewatering occurs concurrently with completion of the reconstruction of the seawall and, once the integrity of the seawall has been confirmed, the rate of dewatering would be accelerated to reach the bottom of the Main Pit (approximately 80 metres (m) below sea level). In total, this is expected to occur over a period of 6 months, after which Phase 2 dewatering for the resumption of the mine operations would commence. Phase 1 involves capital dewatering of up to 25 gigalitres (GL) of seawater directly to the ocean.

  Phase 1 will be managed through the *Koolan Island Iron Ore Mine and Port Facility Project – Statement Re-Implementation (Stage 1 of 2) – Marine Management Plan 2016* (MMP v20, 2016), approved by the Environmental Protection Authority (EPA) in 2016 and Ministerial Statement (MS) 715 (refer to the section titled Part IV of the EP Act, MS 715).

- Phase 2 involves dewatering immediately prior to or for routine mine operations and is regulated under the Existing Licence.

Decision – Phase 2 only

The Licensee originally requested approval to construct and operate two additional contingency discharge outlets (Koolan Island, 2017). The Licensee retracted this request on 21 September 2017 (Koolan Island, 2017b) stating "*that the direct release dewatering from Main Pit (during the emptying prior to return to mining) will need not be Part V licensed, as it will be regulated only by DWER EPA Services via an amended Statement 715 Schedule 1 and put into effect by implementation of the approved Marine Management Plan. As a result the additional outlet points in The Canal in the zone seaward of the seawall and abutments for the capital dewatering phase (before return to mining) will not be needed within the amended licence*".

The Existing Licence requires dewater from the Main Pit to be directed via the established settlement pond and marine diffuser. The settlement pond is used to reduce the sediment load (minimum 40 hour retention period and a minimum 98% reduction in suspended solids) of discharge waters to below 20 mg/L Total Suspended Solids (TSS) or equivalent measure of turbidity (<6 Nephelometric Turbidity Unit (NTU)). Water from the settlement pond is then decanted into an outflow pipe and gravity fed to the diffuser outlet 70 m offshore (on the sea floor).

The Existing Licence has two contingency discharge points, which are near-surface outlets for direct dewatering (of near-pure seawater) from the Main Pit to The Canal (Koolan Island, 2017a).

The Delegated Officer has determined that, given the Existing Licence conditions and existing obligations under Part IV of the EP Act (MMP v20, 2016 and MS 715) the increase in dewater for Category 6 (from 50,000 tonnes per Annual Period to 5,000,000 tonnes per Annual Period) will not result in emissions which are unacceptable to public health or the environment.

Existing Licence condition 1.3.5 has been updated via this Amendment Notice to increase the premises production or design capacity limit for Category 6 from 50,000 tonnes to 5,000,000 tonnes per Annual Period.

2. Increase in Category 64

On 19 May 2017, the design capacity for Category 64 was reduced to the minimum threshold as set out in Schedule 1 of EP Regulations. This reduction was a result of the Premises going into care and maintenance on 31 March 2016.

Inert and putrescible waste has previously been buried in dedicated landfill trenches within Waste Rock Dumps. The Licensee is now proposing to utilise these existing Waste Rock Dumps to dispose of wastes from the re-construction phase and for when the mining operations re-commence.

Koolan Island, 2017 states that the following management measures are implemented by the Licensee:

- Landfill trenches are excavated and maintained within the areas approved under the Existing Licence;
- A new trench is only ever opened as required at completion of an active trench;
- The trenches have suited site operations for control of windblown losses, fauna incursions, odour management and fire risk; and
- Waste disposed in trenches is covered weekly.

Decision

The Existing Licence has conditions relating to waste acceptance, quantity limit and specifications and waste processing, including cover requirements. The Delegated Officer considers these conditions sufficient in terms of regulatory control and that the increase in design capacity for Category 64 (from 20 tonnes per Annual Period to 4,500 tonnes per Annual Period) will not result in emissions which are unacceptable to public health or the environment.

Existing Licence condition 1.3.2 has been updated via this Amendment Notice to increase the quantity limit for the landfill from 20 tonnes to 4,500 tonnes per Annual Period.

Other activities

Concrete batching will be undertaken onsite in accordance with the *Concrete Batching and Cement Product Manufacturing) Regulations 1998* and will be used across construction activities including as a key component of the seepage barrier to be vertically emplaced in the wall when constructed.

The Licensee has stated (Koolan Island, 2017) that another licence amendment application will be submitted to allow for the alteration of other prescribed premises categories on the licence (Category 5, 58 and 73) to allow for mining and related activities to recommence in full during 2018.

Part IV of the EP Act

Aztec Resources Limited referred a proposal to the EPA to manage existing contamination within the project area, develop an iron ore mine and construct associated infrastructure and a port facility on Koolan Island. A Report and recommendations of the EPA (Bulletin 1203) was released to the Minister for Environment (Minister) in November 2005. MS 715 granting approval for the project to be implemented was signed by the Minister on 22 February 2006.

MS 715

MS 715 has conditions that require the proponent to prepare and implement the following Plans:

- Closure Plan;
- Marine Management Plan (MMP) to maintain the ecological integrity and biodiversity of the marine environment; avoid impacts that arise from the implementation of the proposal on the coral pool community at Mangrove Inlet; and manage project activities to ensure that impacts on marine habitats, communities and biota outside the project footprint are avoided;
- Water Management Plan to maintain the quality and quantity of water so that existing and potential environmental values, including ecosystem maintenance are protected;
- Quarantine Management Plan to manage the environmental impacts concerning introduced flora and fauna species;
- Contamination Plan to identify and manage contamination that may be disturbed by the implementation of the proposal to manage the risks to human health and the environment; and
- Asbestos Management Plan to ensure that asbestos does not become airborne and represent an unacceptable risk to human health.

The MMP v20, 2016 follows the *Environmental Factor Guidelines: Marine Environmental Quality*, EPA, Western Australia, and the requirements of MS 715 Condition 7 and relates to the management of potential direct and indirect effects of the proposal for partial reconstruction of the seawall and capital dewatering.

The Licensee has submitted a section 45C application for amendment to MS 715 for the partial seawall reconstruction and capital dewatering. The primary amendment was for the increase in the volume of water released to the sea from pit dewatering. The amendment to the proposal will include dewatering of the main pit associated with the re-construction of the seawall and the discharge of 25 GL of seawater over a period of up to six month (Phase 1).

Other approvals

The Licensee has provided the following information relating to other approvals as outlined in Table 3.

Table 3: Relevant approvals

Legislation	Number	Approval
Mining Act 1978	Reg ID 60751	Addendum to Koolan Island Iron Ore Mining Proposal Reg ID 5601 – Seawall construction and mine pit dewatering on M04/416, M04/417 & L04/29 submitted to the former Department of Mines and Petroleum (now DMIRS) on 20 September

		2016 and decided 20 April 2017
Environmental Protection and Biodiversity Conservation Act 1999	N/A	The referral (EPBC 2016/7848) was determined to be 'Not Controlled" in February 2017

Consultation

A letter of referral was sent to the DMIRS on 1 August 2017 and the following comments were received on 16 August 2017:

- The Mining Proposal (Reg ID 60751) did not apply for any new landfill areas or change to existing landfills; and
- In relation to progress on the seawall rebuild, DMIRS were informed on 4 August 2017 that the initial quartzite earthworks to isolate the Koolan Island main pit from the ocean had been completed (first stage in a multi-stage process to reinstate a seawall).

Amendment history

Table 4 provides the amendment history for L8148/2006/4.

Table 4: Licence amendments

Instrument	Issued	Amendment
L8148/2006/4	12/06/2014	New Licence and conversion to new format
L8148/2006/4	18/06/2015	Licence amendment following Minister's appeal determination number 123 of 2014
L8148/2006/4	31/03/2016	Licence amendment to include category 12 to allow for the crushing and screening of quartzite to produce aggregate for construction purposes, increase the category 73 design capacity and make changes to the groundwater monitoring requirements. The Licence was also updated in accordance with the licence template and relevant guidance statements
L8148/2006/4	29/04/2016	Amendment of Licence expiry date
L8148/2006/4	19/05/2016	Licence amendment to change the approved production limits for each Licence category to the minimum threshold amount when a licence is required
L8148/2006/4	17/02/2017	Amendment Notice 1 Licence amendment to increase the throughput for category 12
L8148/2006/4	18/10/2017	Amendment Notice 2 Licence amendment to increase the design capacity of category 6 and 64

TSS to be replaced with Turbidity

During this amendment the Licensee has requested that TSS with a limit of 20 mg/L be replaced by turbidity (in-field sampling using a hand held nephelometer) with a limit of 7 NTU to align with the MMP v20, 2016 (prepared under MS 715).

The Licensee has stated (Koolan Island, 2017) that in the past they have used "*its site laboratory for sample testing (with a resultant lag time in reporting and management). However, in the absence of mining at site in 2017 and 2018, the analytical lab will not be operational; any TSS testing would require wet chemistry analysis on the mainland*. *This feature too makes it impractical to routinely sample and test TSS at site. Regular (twice yearly)*

calibration between TSS and turbidity would be undertaken to check the empirical relationship between turbidity (measured by calibrated instruments at site) and TSS, and to confirm Turbidity as the prime parameter".

Koolan Island, 2017 states the relationship between turbidity (NTU) and TSS (in mg/L) has been investigated and a calibration curve developed specifically for waters within the pit which is proposed to be dewatered and discharged into the marine environment. The relationship is understood to be: *TSS (mg/L) = 3 x NTU.* Data supporting this equation was not provided and has not been reviewed. However, the relationship between TSS and NTU is claimed to have a correlation coefficient of R=0.99, suggesting a strong statistical correlation between the two parameters.

DWER, 2017 states that "*whilst related, TSS and turbidity are different measurements which are affected by different types of particulates. However, based on available information, it appears that appropriate data collection and analysis has been undertaken to allow for the interpolation of TSS from turbidity data (in NTU). Such an approach may not be applicable to a variety of different environmental settings with different particulates contributing to turbidity/TSS. However, in this instance the nature of the particulates is likely to remain the same over time and consistent with those within the samples used for the calibration of TSS against NTU. Any changes that may occur over time, for example through disturbing deeper sediments as the works progress, should be satisfactorily addressed through the proposed biannual re-calibration of the TSS and NTU relationship*".

Existing Licence condition 2.2.3 has been updated via this Amendment Notice to change TSS with a limit of 20 mg/L to turbidity with a limit of 7 NTU for discharges to surface water.

Existing Licence condition 3.2.1 has been updated via this Amendment Notice to remove TSS and replace with turbidity for monitoring of emissions to surface water and to allow in-field analysis.

Existing Licence conditions 4.2.1, 4.2.3 and 4.3.1 have been updated via this Amendment Notice to remove TSS and replace with Turbidity as applicable. The forms associated with these conditions have also been updated where required to remove TSS and replace with turbidity.

TSS requested to be removed from ambient groundwater monitoring

During this amendment the Licensee has requested (Koolan, 2017a) that TSS be removed from ambient groundwater quality monitoring stating *"TSS isn't applicable to groundwater quality*".

Table 5 shows the TSS monitoring results for ambient groundwater quality as reported in the Annual Environmental Reports for the 2016 and 2015 reporting periods. Based on these results and that TSS has remained relatively steady for each of the bore samples, the Delegated Officer has determined that TSS can be removed from the ambient groundwater quality monitoring requirements.

Existing Licence conditions 3.4.1 and 4.2.1 have been updated via this Amendment Notice to remove TSS from ambient groundwater quality monitoring.

Table 5: TSS monitoring results for ambient groundwater quality

Parameter	Date of Collection	Units	M1 (V01) Method: Sample Tap – Production Bore	M3 (K9) Method: Discrete Interval Sample	M4 (K3) Method: Sample Tap – Production Bore	M5 (K2) Method: Discrete Interval Sample	M6 (K1) Method: Discrete Interval Sample	M9 (K8) Method: Discrete Interval Sample	M10 (I01) Method: Sample Tap – Production Bore
Total Suspended Solids Dried at 103-105ºC	13/06/2016	mg/L	<5	170	-	27	49	14	<5
	17/12/2015			110	<5				<5
	16/12/2015						67	150	
	10/12/2015		41		<5				<5
	9/11/2015		7		<5				<5
	21/10/2015		<5		<5				<5
	24/09/2015		11	37	<5	41		39	<1
	11/08/2015		<5						<5
	6/07/2015				<5				<5
	10/06/2015			44		21	41	130	
	6/05/2015				<5				<5
	9/04/2015		<5		<5				<5
	18/03/2015		7	37	<5		37		<5
	24/02/2015		11		<5				<5
	20/01/2015		<5		<5				<5

Other amendments

During this amendment the following changes have also been made to the Licence:

- All references to DER are changed to DWER.
- Addition of definition for 'NTU' and updates to the definitions for 'Annual Period', 'CEO', 'CEO' for the purposes of notification, and 'quarterly'.

Licensee comments

The Licensee was provided with the draft Amendment Notice on 26 September 2017 for review and comment. The Licensee responded on 16 October 2017 stating "*we have received the Notice and have no further comment to offer. We would be happy for its issue*" (Koolan Island, 2017c).

Amendment

1. Pages 1 and 2 of the Licence are amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

Category number	***Category description***	***Category production or design capacity***	***Approved Premises production or design capacity***
5	*Processing or beneficiation of metallic or non-metallic ore: premises on which* *(a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed;* *(b) tailings from metallic or non-metallic ore are reprocessed; or* *(c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam*	*50,000 tonnes or more per year*	*50,000 tonnes per Annual Period*
6	*Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.*	*50,000 tonnes or more per year*	*~~50,000~~ **5,000,000** tonnes per Annual Period*
12	*Screening, etc. of material*	*50,000 tonnes or more per year*	*2,000,000 tonnes per Annual Period*
54	*Sewage facility: premises –* *(a) on which sewage is treated (excluding septic tanks); or* *(b) from which treated sewage is discharged onto land or into waters.*	*100 cubic metres or more per day*	*100 cubic metres per day*
58	*Bulk material loading or unloading: premises on which clinker, coal, ore, ore concentrate or any other bulk granular material (other than salt) is loaded onto or unloaded from vessels by an open materials loading system.*	*100 tonnes or more per day*	*100 tonnes per day*
64	*Class II or III putrescible landfill site:*	*20 tonnes or*	*~~20~~ **4,500** tonnes*

	premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	*more per year*	*per Annual Period*
73	*Bulk storage of chemicals, etc.: premises on which acids, alkalis or chemicals that – (a) contain at least one carbon to carbon bond; and (b) are liquid at STP (standard temperature and pressure), are stored.*	*1,000 cubic metres in aggregate*	*1,000 cubic metres in aggregate*

2. Definitions of the Licence are amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

'Annual Period' *means* ***a 12 month*** ~~*the inclusive*~~ *period* ***commencing*** *from 1 January until 31 December in that year;*

'CEO' *means* ***Chief Executive Officer*** ~~*CEO of the Department of Environment Regulation*~~*;*

'CEO' *for the purpose**s*** *of* ***notification*** ~~*correspondence*~~ *means;*

> ***Director General*** ~~*Chief Executive Officer*~~
> *Department Administering the Environmental Protection Act 1986*
> *Locked Bag 33* ***Cloisters Square***
> ***PERTH*** ~~*CLOISTERS SQUARE*~~ *WA 6850*
> *Email:* ***info-der@dwer.wa.gov.au*** ~~*info@der.wa.gov.au*~~*;*

'NTU' means Nephelometric Turbidity Unit;

'quarterly' *means the 4 inclusive periods from* ***1 January to 31 March,*** *1 April to 30 June, 1 July to 30 September*~~*,*~~ ***and*** *1 October to 31 December* ~~*and 1 January to 31 March*~~ *in the* ~~*following*~~ ***same*** *year;*

3. Condition 1.3.2 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

1.3.2 The Licensee shall only bury waste on the Premises if:
- *(a) it is of a type listed in Table 1.3.1;*
- *(b) the quantity accepted is below any limit listed in Table 1.3.1; and*
- *(c) it meets any specification listed in Table 1.3.1.*

Table 1.3.1: Waste acceptance		
Waste	***Quantity Limit***	***Specification***
Clean fill	*Combined total of up to* ~~*20*~~ ***4,500*** *tonnes per Annual Period*	*None specified*
Inert Waste Type 1		
Inert Waste Type 2		
Putrescible waste		
Special Waste Type 1		*Must be wrapped in heavy*

(Asbestos)		*duty plastic prior to acceptance*
Special Waste Type 2 (Biomedical and Clinical Waste)		*The Licensee or their representative must note in writing any discrepancies between waste declared and waste received*
Contaminated Solid Waste		*Must be supported by documentation that demonstrates compliance with the acceptance criteria for Class II landfills as defined in the document 'Landfill Waste Classification and Waste Definitions 1996 (As amended)'.*

4. Condition 1.3.5 of the Licence and Amendment Notice 1 is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

1.3.5 The Licensee shall ensure the limits specified in Table 1.3.4 are not exceeded.

Table 1.3.4 Production or design capacity limits		
Category[1]	***Category description[1]***	***Premises production or design capacity limit***
5	*Processing or beneficiation of metallic or non-metallic ore*	*50,000 tonnes of ore per Annual Period*
6	*Mine dewatering*	*~~50,000~~ **5,000,000** tonnes per Annual Period*
12	*Screening, etc. of material*	*2,000,000 tonnes per Annual Period*
54	*Sewage facility*	*100 cubic metres per day*
58	*Bulk material loading or unloading*	*100 tonnes per day*
73	*Bulk storage of chemicals*	*1,000 cubic metres in aggregate*

Note 1: Environmental Protection Regulations 1987, Schedule 1.

5. Condition 2.2.3 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

2.2.3 The Licensee shall not cause or allow point source emissions to surface water greater than the limits listed in Table 2.2.2.

Table 2.2.2: Point source emission limits to surface water				
Emission point reference	***Parameter***	***Limit (including units)***	***Averaging period***	***Frequency***
W1 *W2* *W3* *W4*	*Total Recoverable Hydrocarbons*	*15 mg/L*	*Spot sample*	*Daily*
	~~*Total Suspended Solids*~~ ***Turbidity[1]***	~~*20 mg/L*~~ ***7 NTU***		

Note 1: In-field non-NATA accredited analysis permitted.

6. Condition 3.2.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of point source emissions to surface water				
Monitoring point reference	***Parameter***	***Units***	***Frequency***	***Analytical Specifications***
M12	*Volumetric flow rate*	*m^3*	*Monthly*	*Flow meter*
M13 - M15	*Volumetric flow rate*	*m^3*	*Monthly*	*Estimate*
M12 - M15	~~*Total Suspended Solids*~~ ***Turbidity[1]***	~~*mg/L*~~ ***NTU***	*Daily (during discharge)*	~~*Analysis in premises onsite laboratory in accordance with laboratory procedure specified in Schedule 3*~~ ***Hand held nephelometer (calibrated as required by manufacturer's specifications)***
M12 - M15	*Total Recoverable Hydrocarbons*	*mg/L*	*Monthly*	*NATA Accredited Laboratory*

Note 1: In-field non-NATA accredited analysis permitted.

7. Condition 3.4.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

Table 3.4.1: Monitoring of ambient groundwater quality				
Monitoring point reference and location	***Parameter***	***Units***	***Averaging period***	***Frequency***
M1 *M3* *M4* *M5* *M6* *M9* *M10*	*Standing water level*	*m(AHD)*	*Spot sample*	*Annually*
	pH[1]			
	Electrical conductivity	*µS/cm*		
	~~*Total Suspended Solids*~~	*mg/L*		
	Total Recoverable Hydrocarbons			
	Hardness (as equivalent $CaCO_3$)			
	Total Alkalinity (as $CaCO_3$)			
	Total Nitrogen			
	Total Phosphorus			
	Bicarbonate			

	Carbonate			
	Nitrate			
	Sulfate			
	Aluminium			
	Arsenic			
	Barium			
	Boron			
	Cadmium			
	Calcium			
	Chromium			
	Copper			
	Iron			
	Lead			
	Magnesium			
	Manganese			
	Mercury			
	Molybdenum			
	Nickel			
	Potassium			
	Selenium			
	Sodium			
	Zinc			

Note 1: In-field non-NATA accredited analysis permitted.

8. Condition 4.2.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 90 calendar days after the end of the Annual Period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report		
Condition or table (if relevant)	***Parameter***	***Format or form[1]***
-	*Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the Annual Period and any action taken*	*None specified*
2.2.1	*Contingency dewatering discharge activities*	*CD1*
*Table**s** 2.2.2 and 2.3.2*	*Limit Exceedances*	*None specified*
Table 3.2.1	*Volumetric Flow Rate, ~~Total Suspended Solids~~ **Turbidity** and Total Recoverable Hydrocarbons*	*WR1*
Table 3.3.1	*Volumetric flow rate, Biochemical Oxygen Demand, Total Dissolved Solids, pH, Total Nitrogen, Total Phosphorus, E.coli, Total Recoverable Hydrocarbons*	*LR1*
Table 3.4.1	*Standing water level, pH, Electrical conductivity, ~~Total Suspended Solids,~~ Total Recoverable Hydrocarbons, Hardness (as equivalent $CaCO_3$), Total Alkalinity (as $CaCO_3$), Total Nitrogen, Total Phosphorus, Bicarbonate, Carbonate, Nitrate, Sulfate, Aluminium, Arsenic, Barium, Boron, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum,*	*GR1*

	Nickel, Potassium, Selenium, Sodium, Zinc	
4.1.3	*Compliance*	*Annual Audit Compliance Report*
4.1.4	*Complaints summary*	*None specified*
-	*Throughputs for each prescribed activity on the premises*	*None specified*

Note 1: Forms are in Schedule 2

9. Condition 4.2.3 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	***Parameter***	***Reporting period***	***Reporting date (after end of the reporting period)***	***Format or form[1]***
Table 2.2.2	*~~Total Suspended Solids~~* ***Turbidity*** *limit exceedances*	*Quarterly*	*28 calendar days*	*ET1*

Note 1: Forms are in Schedule 2

10. Condition 4.3.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	***Parameter***	***Notification requirement[1]***	***Format or form[2]***
Table 1.3.1 *Table ~~1.3.9~~* ***1.3.4*** *Table 2.2.2 Table 2.3.2*	*Breach of any limit specified in the Licence (exempt parameter of ~~Total Suspended Solids~~* ***Turbidity*** *from Table 2.2.2)*	*Part A: As soon as practicable but no later than 5pm of the next usual working day.* *Part B: As soon as practicable*	*N1*
2.3.2	*Contingency dewatering discharge*	*Within 24 hours of activation of a contingency dewatering discharge activity*	*CD1*
2.3.2	*Contingency dewatering discharge*	*Within 7 days of cessation of a contingency dewatering discharge activity*	*CD1*

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act
Note 2: Forms are in Schedule 2

11. The Licence is amended by the deletion of the Premises map from Amendment Notice 1, replaced with the map in Attachment 1 of this Amendment Notice.

12. Form WR1 in Schedule 2 of the Licence has been updated as per Attachment 2 of this Amendment Notice.

13. Form GR1 in Schedule 2 of the Licence has been updated as per Attachment 3 of this Amendment Notice.

14. Form ET1 in Schedule 2 of the Licence has been updated as per Attachment 4 of this Amendment Notice.

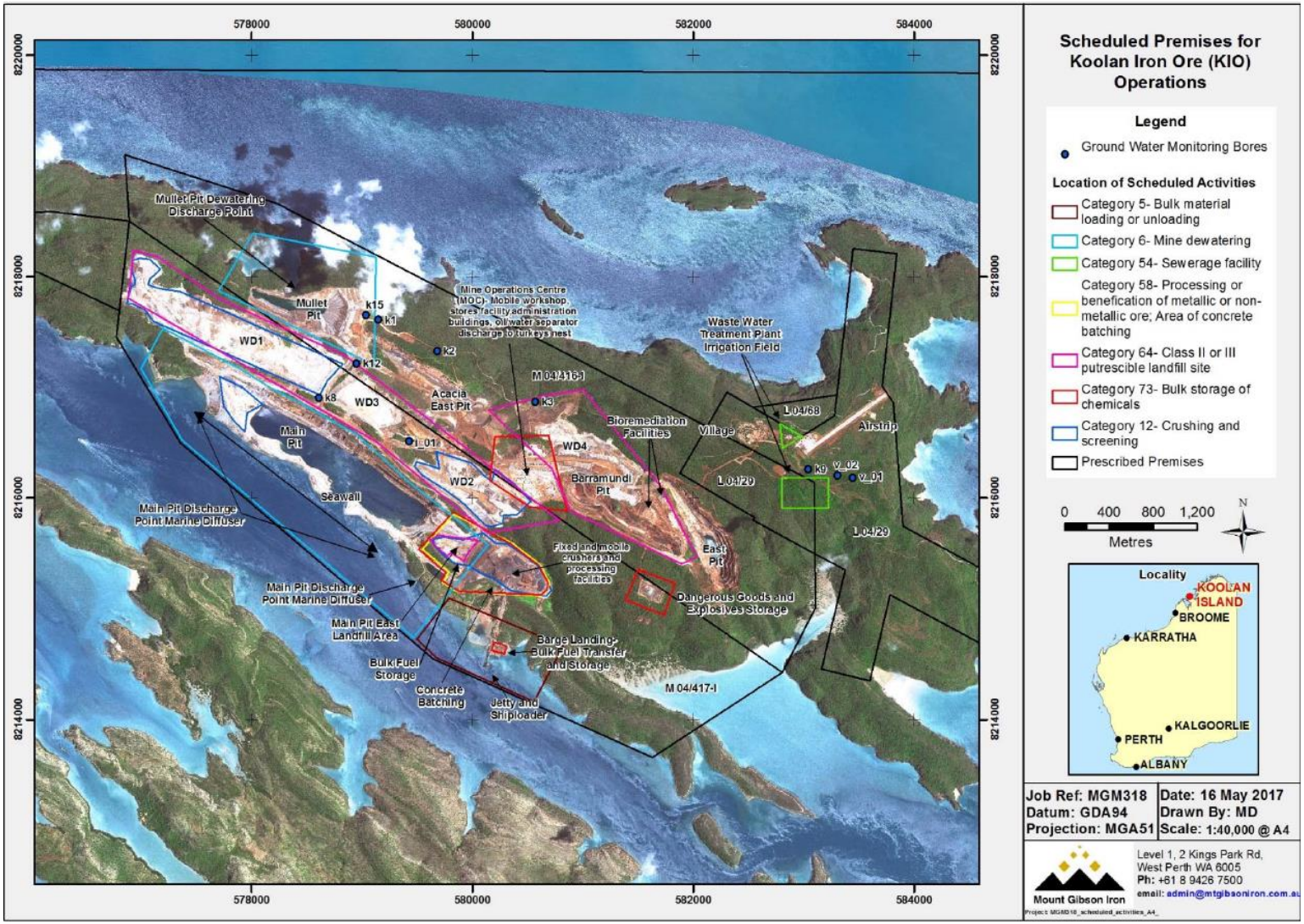
15. Form CD1 in Schedule 1 of the Licence has been updated as per Attachment 5 of this Amendment Notice.

16. Schedule 3 of the Licence has been deleted via this Amendment Notice.

Attachment 1

Premises map

The Premises is shown in the map below. The outer black line depicts the Premises boundary.



Licence: L8148/2006/4

Attachment 2

Licence: L8148/2006/4 Licensee: Koolan Iron Ore Pty Ltd
Form: WR1 Period:
Name: Monitoring of point source emissions to surface water

Form WR1: Monitoring of point source emissions to surface water							
Emission point	**Parameter**	**Limit**	**Result[1]**	**Result[1]**	**Averaging period**	**Method**	**Sample date & times**
M12	Volumetric flow rate	-	m^3/day	m^3/month	Spot sample		
M13	Volumetric flow rate	-	m^3/day	m^3/month	Spot sample		
M14	Volumetric flow rate	-	m^3/day	m^3/month	Spot sample		
M15	Volumetric flow rate	-	m^3/day	m^3/month	Spot sample		
M12	Turbidity	7 NTU	NTU		Spot sample		
M13	Turbidity	7 NTU	NTU		Spot sample		
M14	Turbidity	7 NTU	NTU		Spot sample		
M15	Turbidity	7 NTU	NTU		Spot sample		
M12	Total Recoverable Hydrocarbons	15 mg/L	mg/L		Spot sample		
M13	Total Recoverable Hydrocarbons	15 mg/L	mg/L		Spot sample		
M14	Total Recoverable Hydrocarbons	15 mg/L	mg/L		Spot sample		
M15	Total Recoverable Hydrocarbons	15 mg/L	mg/L		Spot sample		

Signed on behalf of Koolan Iron Ore Pty Ltd: …….. Date: …….

Attachment 3

Licence: L8148/2006/4
Form: GR1
Name: Monitoring of ambient groundwater quality

Licensee: Koolan Iron Ore Pty Ltd
Period:

Form GR1: Monitoring of point source emissions to groundwater					
Emission point	**Parameter**	**Result[1]**	**Averaging period**	**Method**	**Sample date & times**
M1 – M10	Standing water level	m(AHD)	Spot sample		
M1 – M10	pH		Spot sample		
M1 – M10	Electrical conductivity	µS/cm	Spot sample		
M1 – M10	Total Recoverable Hydrocarbons	mg/L	Spot sample		
M1 – M10	Hardness (as equivalent CaCO3)	mg/L	Spot sample		
M1 – M10	Total Alkalinity (as CaCO3)	mg/L	Spot sample		
M1 – M10	Total nitrogen	mg/L	Spot sample		
M1 – M10	Total Phosphorus	mg/L	Spot sample		
M1 – M10	Bicarbonate	mg/L	Spot sample		
M1 – M10	Carbonate	mg/L	Spot sample		
M1 – M10	Nitrate	mg/L	Spot sample		
M1 – M10	Sulfate	mg/L	Spot sample		
M1 – M10	Aluminium	mg/L	Spot sample		
M1 – M10	Arsenic	mg/L	Spot sample		
M1 – M10	Barium	mg/L	Spot sample		
M1 – M10	Boron	mg/L	Spot sample		
M1 – M10	Cadmium	mg/L	Spot sample		
M1 – M10	Calcium	mg/L	Spot sample		
M1 – M10	Chromium	mg/L	Spot sample		

M1 – M10	Copper	mg/L	Spot sample		
M1 – M10	Iron	mg/L	Spot sample		
M1 – M10	Lead	mg/L	Spot sample		
M1 – M10	Magnesium	mg/L	Spot sample		
M1 – M10	Manganese	mg/L	Spot sample		
M1 – M10	Mercury	mg/L	Spot sample		
M1 – M10	Molybdenum	mg/L	Spot sample		
M1 – M10	Nickel	mg/L	Spot sample		
M1 – M10	Potassium	mg/L	Spot sample		
M1 – M10	Selenium	mg/L	Spot sample		
M1 – M10	Sodium	mg/L	Spot sample		
M1 – M10	Zinc	mg/L	Spot sample		

Note 1: All units are referenced to STP dry

Signed on behalf of Koolan Iron Ore Pty Ltd: …….. Date: …….

Attachment 4

Licence:	L8148/2006/4	Licensee:	Koolan Iron Ore Pty Ltd
Form:	ET1	Period:	
Name:	Turbidity limit exceedances		

Form ET1: Turbidity limit exceedances
Please provide an analysis of the target exceedances for the month, including but not limited to: (a) the emission point (b) the root cause analysis for the exceedances; (c) any common or contributory factors; (d) a description of remedial measures taken or planned to be taken, including those taken to prevent recurrence of the exceedances; (e) complaints received that may have been caused by this exceedance; and (f) for those exceedances that may have caused complaints, meteorological details: rainfall, temperature, wind speed and wind direction, humidity.

Signed on behalf of Koolan Iron Ore Pty Ltd: …….. Date: …….

Attachment 5

Licence: L8148/2006/4
Form: CD1
Name: Contingency Discharge Form

Licensee: Koolan Iron Ore Pty Ltd
Date of discharge:

Form CD1: Contingency Discharge					
Emission point	**Discharge Commencement Date & Time**	**Discharge Cessation Date & Time**	**Total Volume Discharged**	**Volumetric flow rate**	**Turbidity levels (average of daily analysis)**
			m^3	m^3/day	NTU
			m^3	m^3/day	NTU

1. Please provide details of the contingency discharge, including but not limited to:
   (a) Copies of daily results of Turbidity monitoring during discharge;
   (b) Other monitoring data as relevant (e.g. Visual / photographic monitoring)
   (c) Reason discharge required; and
   (d) Recorded rainfall (mm) onsite during discharge period.

Signed on behalf of Koolan Iron Ore Pty Ltd: …….. Date: …….

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Amendment Notice 1 – L8148/2006/4 Koolan Island Iron Ore Mine and Port	Amendment Notice 1	accessed at www.dwer.wa.gov.au
2	FW: Licence amendment L8148 – Koolan Island, received from Troy Collie (Mount Gibson Iron Limited), 6 September 2017	Koolan Island, 2017a	DWER records (A1517705)
3	*Guidance Statement: Regulatory principles,* Department of Environment Regulation, July 2015	*Guidance Statement: Regulatory principles*	accessed at www.dwer.wa.gov.au
4	*Guidance Statement: Setting conditions,* Department of Environment Regulation, October 2015	*Guidance Statement: Setting conditions*	
5	*Guidance Statement: Risk Assessments*, Department of Environment Regulation, February 2017	*Guidance Statement: Risk Assessments*	
6	*Guidance Statement: Decision Making*, Department of Environment Regulation, February 2017	*Guidance Statement: Decision Making*.	
7	Koolan Iron Ore Pty Ltd – Licence Amendment Application and Koolan Island Iron Ore Mine Work to effect Seawall Rebuild followed by Capital Dewatering of Inundated Main Pit, Licence Amendment Supporting Documentation – Attachments 2 to 9 received from Troy Collie, (Mt Gibson Iron) 19 May 2017	Koolan Island, 2017	DWER records (A1435023)
8	Koolan Island Iron Ore Mine and Port Facility, Report and recommendations of the Environmental Protection Authority, Bulletin 1203, November 2005	Bulletin 1203	accessed at www.epa.wa.gov.au
9	Koolan Island Iron Ore Mine and Port Facility Project Statement Re-Implementation (Stage 1 and 2) Marine Management Plan (Ver 20, 6 September 2016), Mount Gibson Iron	MMP v20, 2016	DWER records (A1435023)

	Limited		
10	Koolan Island Iron Ore Project Annual Environmental Report 2016 & Annual Audit Compliance Report Licence L8148/2006/4, Mount Gibson Iron, 21 February 2017	2016 Annual Environmental Report	DWER records (A1412702)
11	Koolan Island Iron Ore Project Annual Environmental Report 2015 & Annual Audit Compliance Report Licence L8148/2006/3&4, Mount Gibson Iron, 30 March 2016	2015 Annual Environmental Report	DWER records (A1073899)
12	Licence L8148/2006/4 – Koolan Island Iron Ore Mine and Port	L8148/2006/4	accessed at www.dwer.wa.gov.au
13	Memorandum from Hydrobiology to Troy Collie (Mt Gibson Iron Ltd), dated 31 August 2016	Hydrobiology, 2016	DWER records (A1435023)
14	Memorandum - Request of technical advice – Koolan Island – Change of Monitoring Parameter Total Suspended Solids to Turbidity, DWER, dated 15 August 2017	DWER, 2017	DWER records (A1508914)
15	Ministerial Statement 715	MS 715	accessed at www.epa.wa.gov.au/
16	Referral and Supporting Document, Application to DEC/DMP for Construction of Landfill Trenches, Koolan Island Iron Ore Pty Ltd, Tenements M 04/416, M 04/417, May 2013	Koolan Island, 2013	DWER records (A1435023)
17	RE: Applicant Notification – L8148/2006/4 – Notice of Proposed Amendment to Licence, received from Troy Collie (Mt Gibson Iron Limited), dated 16 October 2017	Koolan Island, 2017c	DWER records (A1541355)
18	RE: Licence amendment L8148 – Koolan Island, received from Troy Collie (Mt Gibson Iron Limited), dated 21 September 2017	Koolan Island, 2017b	DWER records (A1527340)