Government of Western Australia
Department of Water and Environmental Regulation

Amendment Notice 3

Licence Number	L6131/1990/13
Licensee	Pilbara Manganese Pty Ltd
ACN	074 106 577
File Number:	DER2013/001337
Premises	Woodie Woodie Manganese Project Mining tenements: G45/332, G45/333, G45/334, G45/335, G45/336, G45/37-40, G46/4-5, L46/29, M45/107, M45/429-433, M45/517, M45/600-602, M45/637-641, M45/1218, M46/92-93, M46/108, M46/137, M46/150, M46/161-162, M46/383 and M46/384 MARBLE BAR WA 6760
Date of Amendment	1 November 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* (EP Act), 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: 1 November 2017

Alana Kidd

Manager Licensing, 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
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
DWER	Department of Water and Environmental Regulation
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	Pilbara Manganese Pty Ltd
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
Risk Event	as described in *Guidance Statement: Risk Assessments*
WWTP	Wastewater Treatment Plant

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 notice is limited only to an amendment for Category 6 and 54. No other changes to the aspects of the original Licence or Amendment Notices 1 and 2 relating to Category 5, 73 and 89 have been requested by the 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); and
- *Guidance Statement: Risk Assessment* (February 2017).

Amendment description

On 21 August 2017 Pilbara Manganese Pty Ltd (Licensee) submitted an application (Application, 2017) to DWER for an amendment to the Woodie Woodie Manganese Project (Premises) licence L6131/1990/13. The Licensee has applied for the following changes:

1. Change in treatment methods for the licensed wastewater treatment plant (WWTP); and
2. To allow dewatering water from Hunter pit to be discharged into Cracker Sedimentation Pond, prior to discharge to Muddauthera Creek.

1. Change in WWTP treatment method

The Existing Licence allows for the treatment of 150 cubic metres (m^3) of sewage effluent per day from the onsite WWTP with the treated effluent disposed to a fenced spray field. The current treatment method is via a Biomax system which is currently entering its end of life. The Licensee has purchased a Submerged Aerated Filters (SAFs) which is designed to treat and dispose a maximum of 150 m^3/day. Table 2 shows a comparison of the effluent quality of the Biomax to that of the SAFs (Consolidated Minerals, 2017b). Consolidated Minerals, 2017a states "The *SAFs have been reviewed and approved by the Department of Health under approval to construct or install an apparatus for the treatment of sewage*".

As part of restart plans the SAFs have been moved into the WWTP compound and prepared to be plumbed into the effluent holding tanks. The Licensee is planning to use the Biomax until it reaches its end of life and then switch to using the SAFs as the primary treatment method. The power generators at the Accommodation Village do not allow both systems to be run concurrently therefore the Biomax will be decommissioned when switched off.

Table 2: Comparison of the Biomax and SAFs water quality criteria

Parameter	Biomax effluent quality	SAFs effluent quality	Guideline*
pH	6.5-8.5 pH units	6.5-8.5 pH units	
Biochemical Oxygen Demand	30 mg/L	<20 mg/L	20-30 mg/L
Total Nitrogen	15 mg/L	<30 mg/L	20-50 mg/L
Total Phosphorus	5 mg/L	<8 mg/L	6-12 mg/L
Total Suspended Solids	40 mg/L	<10 mg/L	25-40 mg/L
E.coli	10^5 org/100mL	<10 cfu/100mL	10^5 – 10^6 org/100mL

*Australian Water Quality Management Strategy "Australian Guidelines for Sewage Systems – Effluent Management" (ANZECC 1997)

Decision

The Existing Licence has effluent monitoring requirements for the WWTP. With the installation and operation of the SAFs the existing quarterly effluent monitoring requirements on the Licence will pertain.

The Delegated Officer has determined that, given the Existing Licence conditions; that the SAFs will not increase the volume of the effluent entering the system or treat a volume above the 150 m^3 per day limit; and is designed to treat to the standard shown in Table 2, this change is acceptable and will not result in emissions which are unacceptable to public health or the environment.

2. Disposal of Hunter dewater to Muddauthera Creek via Cracker Sedimentation Pond

Dewatering discharge has historically been pumped from in-pit sumps to licenced sedimentation ponds prior to flowing into surrounding creeks.

The Licensee is planning on recommencing mining within the Hunter pit. The Hunter pit is currently limited to 1-2 mining benches with the base of the pit sitting approximately 280 metres (m) Reduced Level (RL). Dewatering is expected to commence once the mining floor reaches 216 mRL (Consolidated Minerals, 2017b). As such, the construction of a pipeline corridor, Hunter Sedimentation Pond and diversion drain has not been required.

In relation to this Amendment Notice the existing Licence currently allows dewater from the Austin, Big Mack, Lucy Mack, Demon and Hunter SE to be stored in the Cracker Sedimentation Pond (W1); and dewater from the Hunter pit to be stored in the Hunter Sedimentation Pond (W2) (currently not constructed) prior to discharge to Muddauthera Creek.

The Licensee is proposing to dispose of dewater from the Hunter pit to the Cracker Sedimentation Pond. The Cracker Sedimentation Pond is located directly south of the Hunter pit and the Hunter SE pit. A dewatering pipeline is to be constructed along the access road as shown in Figure 1 and into a diversion drain. Discharged water will then be allowed to flow through the Cracker Sedimentation Pond, settling out sediment prior to discharge to Muddauthera Creek (Consolidated Minerals, 2017c). No change in the design capacity for Category 6 is required.

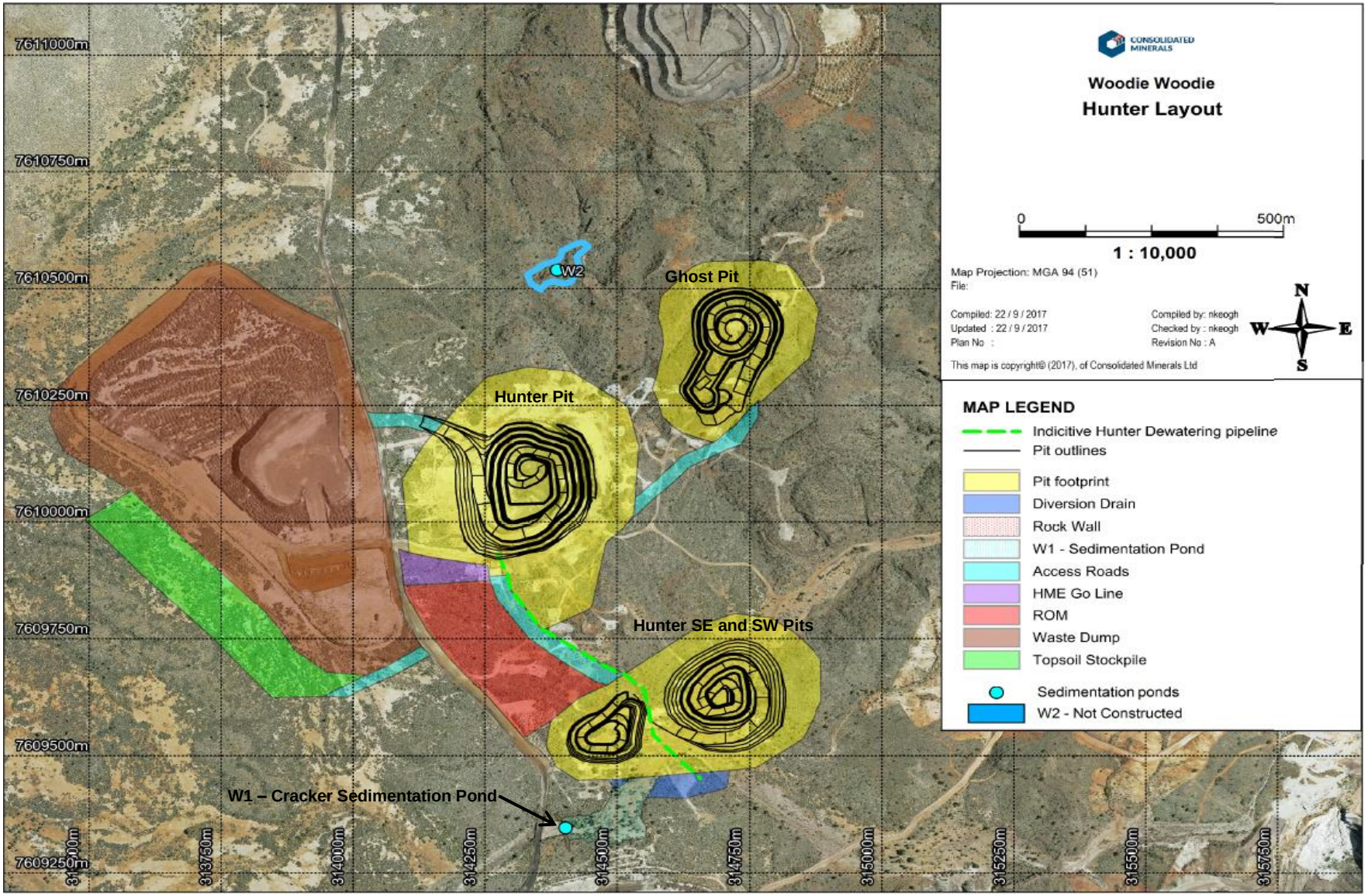

Figure 1: Hunter pit and pipeline location

Amendment history

Table 3 provides the amendment history for L6131/1990/13.

Table 3: Licence amendments

Instrument	Issued	Amendment
L6131/1990/13	30/04/2015	Licence amended for premises operation, monitoring requirements and improvement program conditions.
L6131/1990/13	26/11/2015	Licence amended to include a new sampling point at the sewage facility, new dewatering discharge points, modifications to the improvement conditions and removal of targets.
L6131/1990/13	25/02/2016	Licence amended to add tenements, include the Greensnake landfill and remove improvement conditions for the bioremediation facility.
L6131/1990/13	30/06/2016	Licence amended as mine in Care & Maintenance. Reduction of tailings inspections from daily to weekly and converting back to the use of Telfer's weather stations.
L6131/1990/13	22/12/2016	Amendment Notice 1 Licence amended to update the notification period required from 90 days to 21 days for operations recommencing after care and maintenance.
L6131/1990/13	31/03/2017	Amendment Notice 2 Licence amended to include the Homestead TSF and groundwater monitoring bores.
L6131/1990/13	01/11/2017	Amendment Notice 3 Licence amended to change the WWTP treatment method and allow dewater from the Hunter Pit to be discharged to Muddauthera Creek via the Cracker Sedimentation Pond.

Risk assessment

Tables 4 and 5 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 4: Risk assessment for proposed amendments during construction

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**				
Construction, mobilisation and positioning of infrastructure	Construction of dewatering pipeline from the Hunter pit to Cracker Sedimentation Pond	Dust associated with construction activities of the dewatering pipeline	The closest sensitive receptor is the Accommodation Village at the Nifty Copper Operation located about 40 km east of the Premises	Air / wind dispersion Particulate matter (fugitive dust)	Dust can cause health and amenity impacts to humans	Slight	Rare	Low	The Delegated Officer considers the distance to the nearest sensitive receptor to be sufficient to ensure that there are minimal impacts to public health and amenity on a local scale
		Noise associated with construction activities of the dewatering pipeline		Air / wind dispersion Noise generated by the operation of equipment during construction	Amenity impacts	Slight	Rare	Low	

Table 5: Risk assessment for proposed amendments during operation

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**				
Mine dewatering discharge	Discharge from the Hunter pit to Muddauthera Creek via the Cracker Sedimentation Pond	Mine dewater	Riparian vegetation and water quality of Muddauthera Creek, which is an ephemeral watercourse Cattle are known to congregate around areas of dewater discharge	Discharges to surface water	Water quality and vegetation of the receiving environment	Minor	Unlikely	Medium	Existing Licence conditions for dewater from the Hunter pit to be disposed of to the Hunter Sedimentation Pond prior to discharge to Muddauthera Creek Refer to the risk assessment below – Discharge of mine dewater from Hunter pit to Muddauthera Creek
Transfer of mine dewater via pipelines	Dewatering pipeline	Mine dewater discharged through pipeline leaks or ruptures	Vegetation adjacent to pipelines	Direct discharges to land	Waterlogged soils, impacts to vegetation health depending on the quality of water and volume discharged	Slight	Unlikely	Low	Given the following: • Dewatering pipeline will be: - constructed of high density polyethylene; - contained within windrows; and - flow meters installed to record the volume of all water discharged to the Cracker Sedimentation Pond. • No specified ecosystems

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
									identified as per *Guidance Statement: Environmental Siting* within the Premises; • No Threatened Ecological Communities or Declared Rare Flora within the Premises; and • The quality of groundwater (Table 6) proposed to be discharged has a TDS concentration of 350 – 850 mg/L and pH values mildly alkaline, ranging from 7.2 to 8.8 (Consolidated Minerals, 2017b). It is expected that there would be **slight** if any, consequence of a release to land. Given that the pipeline will be located adjacent to the access road and through already disturbed ground, the likelihood of an impact to vegetation as a result of a pipeline rupture/leak will probably not occur in most circumstances.

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
									Therefore, the likelihood of the consequence occurring is **unlikely**. The overall rating for the rupture/leaks of pipelines from the Hunter pit dewatering is **low**.

Risk Assessment – Discharge of mine dewater from Hunter pit to Muddauthera Creek

Dewatering from the Hunter pit is expected to commence in March-April 2018 and cease in May 2018. The Cracker Sedimentation Pond will have the capacity to hold dewater from the existing pits (Austin, Big Mack, Lucy Mack, Demon and Hunter SE) and Hunter pit based upon the following mine planning (Consolidated Minerals, 2017b):

- *"Austin/Cracker pit dewatering is expected to recommence in September 2019. This pit will also actively be dewatered via the ex-pit Topvar dewatering bores (discharged via W12).*
- *Big Mack pit is currently being dewatered via the Topvar discharge point (W12), there is no current plan to discharge water into W1.*
- *Lucy Mack is inactive with no current plans to recommence mining or dewatering within this domain.*
- *Demon pit is an inactive in-pit TSF and will not be dewatered in the future.*
- *Hunter SE dewatering is expected to commence in mid-2018 and be limited to one month.*

External consultants Rockwater are currently reviewing the sedimentation pond design to ensure capacity (based upon potential dewatering strategies and surface water flows) and to meet discharge requirements".

Water quality at the Premises is of very high quality, described as fresh and neutral to slightly alkaline. A summary of water quality based upon data collected between 1993 and 2014 (Consolidated Minerals, 2017b) is shown in Table 6.

Table 6: Summary of water quality data collected between 1993 and 2014

Parameter	Unit	Site-Wide Pits and Dewatering Discharge Sites (1993 to 2014)	
		Minimum	Maximum
pH	pH units	7.2	8.8
Total Dissolved Solids	mg/L	350	850
Nitrate + Nitrite	mg/L	0.21	8
Kjeldahl Nitrogen	mg/L	<0.01	1.3
Total Nitrogen	mg/L	0.53	4.9
Filterable Reactive Phosphorus	mg/L	<0.002	1
Total Phosphorus	mg/L	<0.001	0.12
Cadmium	mg/L	<0.0001	<0.002
Lead	mg/L	<0.0001	<0.002
Manganese	mg/L	<0.001	0.31
Zinc	mg/L	<0.005	0.03
Calcium	mg/L	18.3	54
Sodium	mg/L	39	220
Magnesium	mg/L	24.5	55

Given the following:

- The closest sensitive receptor is the Accommodation Village at the Nifty Copper Operation located about 40 km east of the Premises;
- There are no specified ecosystems identified as per *Guidance Statement: Environment Siting* within the Premises;

- There are no Threatened Ecological Communities or Declared Rare Flora species within the Premises;
- Dewater will be discharged through the Cracker Sedimentation Pond prior to discharge to Muddauthera Creek;
- Historical monitoring results (1993-2014) generally indicate that the water quality for dewater discharged is fresh to slightly brackish, neutral to slightly alkaline with a high nitrate/nitrite concentration; and
- Existing Licence condition 2.2.2 limits the Total Suspended Solids (TSS) that may be discharged to surface water.

It has been determined that the discharge of mine dewater from the Hunter pit to Muddauthera Creek via the Cracker Sedimentation Pond will have low level on-site impacts and minimal off-site impacts on a low scale. Therefore, the consequence is considered to be **minor**.

The likelihood of an environmental impact from the discharge of mine dewater from the Hunter pit to Muddauthera Creek will probably not occur in most circumstance. Therefore, the Delegated Officer considers the likelihood of the consequence occurring to be **unlikely**.

The overall rating for the discharge of mine dewater for the Hunter pit through the existing Cracker Sedimentation Pond to Muddauthera Creek is **medium**.

Decision

Construction

The key emissions associated with the construction of the dewatering pipeline from the Hunter pit to the Cracker Sedimentation Pond are fugitive dust and noise emissions. The Delegated Officer considers there is no credible risk associated with these emissions due to the distance away from the nearest sensitive receptor.

The Licensee's controls for the construction of the dewatering pipeline have been conditioned on the Licence through condition 1.3.13 and were derived from the Licensee's obligations within Consolidated Minerals, 2017b.

Conditions 1.3.13 and 1.3.14 have been included on the Licence via this Amendment Notice and relate to the operation of the Hunter dewatering pipeline following submission of the compliance document now required under condition 4.3.1.

Operation

The key emissions associated with the discharge of mine dewater from Hunter pit to the Muddauthera Creek are discharges to surface water. The Delegated Officer considers the risk associated with this emission to be *medium*. It is however noted that the Existing Licence has conditions relating to the monitoring of emissions to surface water and a TSS limit, which the Delegated Officer considers sufficient in terms of regulatory control.

Existing Licence condition 2.2.1 has been updated via this Amendment Notice to allow dewater from the Hunter pit to be discharged to the Cracker Sedimentation Pond.

Other amendments

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

- All references to DER changed to DWER.
- Updates to the definitions of 'CEO' and 'CEO for the purposes of notification'.
- Condition 4.1.1 updated to reference the correct number.

- Table 4.2.1 updated to remove reference to the Annual Audit Compliance Report.
- Condition 4.2.2 updated to remove reference to “any relevant process, production or operation data recorded under Condition 3.1.3”. Condition 3.1.3 relates to calibration of monitoring equipment so not relevant to this reference.
- Removal of the Annual Audit Compliance Report Proforma from Schedule 2.
- Form WR2 for monitoring of point source emissions to surface water updated via this Amendment Notice to include the parameters added under Amendment Notice 2.

Licensee’s comments

The Licensee was provided with the draft Amendment Notice on 13 October 2017 for review and comment. The Licensee responded on 30 October 2017 waiving the remaining comment period.

Amendment

1. 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:

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

   ‘CEO’ *for the purposes of notification means:*

   ~~*Chief Executive Officer*~~ ***Director General***
   Department ***Administering the*** ~~*Div.3 Pt. V*~~ *EP Act*
   Locked Bag 33 Cloisters Square
   ~~*Perth*~~ ***PERTH*** *WA 6850*
   ~~*info@der.wa.gov.au*~~ ***info-der@dwer.wa.gov.au****;*

2. The License is amended by the insertion of the following Condition 1.3.13:

   Condition 1.3.13
   The Licensee shall construct the Hunter dewatering pipeline, in accordance with the requirements specified in the infrastructure requirements detailed in Table 1.3.6. The Licensee must not depart from the requirements specified in Table 1.3.6 except:
   (a) *where such departures are minor in nature and do not materially change or affect the infrastructure; or*
   (b) *where such departure improves the functionality of the infrastructure and does not increase the risks to public health, public amenity or the environment;*
   and all other conditions in this Licence are still satisfied.

Table 1.3.6: Infrastructure requirements	
Infrastructure	***Requirements (design and construction)***
Hunter dewatering pipeline	• *Constructed of high density polyethylene* • *Pipeline contained within windrows, constructed from inert material* • *Flow meters installed to record volume of all water discharged into the Cracker Sedimentation Pond*

3. The License is amended by the insertion of the following Condition 1.3.14:

Condition 1.3.14
The Licensee shall operate the Hunter dewatering pipeline in accordance with the conditions of this Licence, following submission of the construction compliance document required under condition 4.3.1.

4. Condition 2.2.1 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:

2.2.1 The Licensee shall ensure that where waste is emitted to surface water from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission points to surface water			
Emission point reference	***Emission point reference on Map of emission points***	***Description***	***Source including abatement***
W1	*Cracker (CK1)*	*Discharge to Muddauthera Creek*	*Sedimentation Pond originating from dewatering at Austin, Big Mack, Lucy Mack, Demon**, ~~and~~ Hunter SE **and Hunter** pits.*
W2	*Hunter (H2)*		*Sedimentation Pond originating from dewatering at Hunter pit.*
W3	*Radio Hill (RH1)*		*Sedimentation Pond originating from dewatering at Radio Hill pit.*
W4	*Sardine (SD1)*		*Sedimentation Pond originating from dewatering at Dhufish pit.*
W5	*Greensnake (GS1)*	*Discharge to Warri Warri Creek*	*Sedimentation Pond originating from dewatering at Greensnake pit.*
W6	*Lox (LX1)*		*Sedimentation Pond originating from dewatering at Lox pit.*
W7	*Airport (AP1)*	*Discharge to Brumby Creek*	*Sedimentation Pond originating from dewatering at Airport pit.*
W8	*Chris D (CD1)*		*Sedimentation Pond originating from dewatering at Chris D pit.*
W9	*Chutney (CT1)*		*Sedimentation Pond originating from dewatering at Chutney, Paystar and Chutney West pit.*
W10	*Homestead (HS1)*		*Sedimentation Pond originating from dewatering at Homestead pit.*
W11	*Rhodes (RD)*		*Sedimentation Pond originating from dewatering at Rhodes pit.*
W12	*Topvar (TD)*		*Dewatering from Big Mack pit and the Topvar Hub Dewatering Bores.*

5. Condition 4.1.1 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:

4.1.1 All information and records required by the Licence shall:
- *(a) be legible;*
- *(b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;*
- *(c) except for records listed in ~~5~~**4**.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and*
- *(d) for those following records, be retained until the expiry of the Licence and any subsequent licence:*
- *(i) off-site environmental effects; or*
- *(ii) matters which affect the condition of the land or waters.*

6. Condition 4.2.1 of the Licence is amended by the deletion of the text shown in strikethrough below:

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 30 November each year. 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*
1.3.4	*Water balance*	*None specified*
Table 2.2.2	*Monitoring of point source emissions to surface water results – Total Suspended Solids (Limit)*	*WR1*
Table 2.3.2	*Total Recoverable Hydrocarbon*	*LR1*
	Loading of Total Nitrogen and Total Phosphorus	*LR2*
Table 3.2.1	*Monitoring of point source emissions to surface water results – pH, Total Dissolved Solids, Nitrate and Nitrite Nitrogen, Total Kjeldahl, Total Nitrogen, Filterable Reactive Phosphorus, Total Phosphorus, Sodium, Magnesium, Zinc, Lead, Cadmium, Manganese, Chloride, Sulfate, Sodium, Potassium, Cobalt, Iron, Nickel, Selenium, Mercury, Chromium (VI) and Total Chromium*	*WR2*
Table 3.3.1	*Monitoring of emissions to land*	*LR1*
Table 3.4.1	*Volume (cumulative) recycled for on-site irrigation*	*LR3*
Table 3.4.1	*Inert Waste Type 1, Inert Waste Type 2, Putrescible Waste and Clean Fill*	*None specified*
Table 3.5.1	*Process Monitoring: volume of tailings deposited and volume of water recovered.*	*None specified*
Table 3.6.1	*Downstream sites: pH, Total Suspended Solids, Total Dissolved Solids, Nitrate and Nitrite Nitrogen, Total Kjeldahl, Total Nitrogen, Filterable Reactive Phosphorus, Total Phosphorus, Sodium, Magnesium, Zinc, Lead, Cadmium, Manganese,*	*WR3*

	Chloride, Sulfate, Sodium, Potassium, Cobalt, Iron, Nickel, Selenium, Mercury, Chromium (VI) and Total Chromium	
	Background sites: pH, Total Suspended Solids, Total Dissolved Solids, Nitrate and Nitrite Nitrogen, Total Kjeldahl, Total Nitrogen, Filterable Reactive Phosphorus, Total Phosphorus, Sodium, Magnesium, Zinc, Lead, Cadmium, Manganese, Chloride, Sulfate, Sodium, Potassium, Cobalt, Iron, Nickel, Selenium, Mercury, Chromium (VI) and Total Chromium, Chlorophyll-a and Phaeophytin	*WR4*
Table 3.6.2	*Sediment - Chlorophyll-a and Phaeophytin*	*WR5*
Table 3.6.3	*Groundwater: Standing water level, pH, Total Dissolved Solids, Total Nitrogen, Arsenic, Molybdenum, Selenium, Uranium, Hexavalent Chromium*	*GR1*
Table 3.6.4	*Average foliage, health score and general environmental description*	*None specified*
	Identical photographs of foliage density and shadow areas beneath trees	*Photographs*
Table 3.6.5	*Management actions EA1 and EA2*	*None specified*
4.1.2	*Compliance*	*Annual Audit Compliance Report ~~(AACR)~~*
4.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

7. Condition 4.2.2 of the Licence is amended by the deletion of the text shown in strikethrough below:

4.2.2 The Licensee shall ensure that the Annual Environmental report also contains~~:~~

~~(a) any relevant process, production or operation data recorded under Condition 3.1.3; and~~

~~(b)~~ an assessment of the information contained within the report against previous monitoring results and Licence limits.

8. Condition 4.3.1 of the Licence is amended by 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]***
-	*Breach of any limit specified in the Licence*	*Part A: As soon as practicable but no later than 5pm of the next usual working day.*	*N1*
		Part B: As soon as practicable	
1.3.7	*Standing Water Level exceeding 6 mbgl*	*Within 7 calendar days of becoming aware of Standing Water Levels exceeding 6 mbgl*	*None specified*

1.3.14	***The Licensee shall submit a construction compliance document to the CEO, following construction of the Hunter dewatering pipeline. The compliance document shall:*** ***(a) Clearly detail how the Hunter dewatering pipeline has been constructed to meet the infrastructure requirements of Condition 1.3.13 and identify any departures;*** ***(b) Be certified by a qualified professional engineer stating that the infrastructure specified in Table 1.3.6 has been constructed in accordance with the conditions of the Licence with no material defects; and*** ***(c) Be signed by a person authorised to represent the Licensee and contain the printed name and position of that person within the company.***	***Within 7 days after the completion of construction***	***None specified***
3.1.4	*Calibration report*	*As soon as practicable.*	*None specified*
-	*Recommencing start-up of operations (after a period of care and maintenance)*	*At least 21 days prior to recommencing production*	*None specified*

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

9. The Licence is amended by the deletion of the Annual Audit Compliance Report Proforma in Schedule 2.

10. The WR2 Form in Schedule 2 is deleted and replaced with the form in Attachment 1 of this Amendment Notice.

Attachment 1

Licence: L6131/1990/13 Licensee: Pilbara Manganese Pty Ltd
Form: WR2 Period:
Name: Monitoring of point source emissions to surface water

Form WR2: Monitoring of point source emissions to surface water					
Emission point	**Parameter**	**Result**	**Averaging period**	**Method**	**Sample date & times**
W1 – W12	Volume (cumulative dewatering water)	m^3/day	Continuous		
	pH	pH units	Spot sample		
	Total Dissolved Solids	mg/L			
	Nitrate and Nitrite Nitrogen	mg/L			
	Total Kjeldahl Nitrogen	mg/L			
	Total Nitrogen	mg/L			
	Filterable Reactive Phosphorus	mg/L			
	Total Phosphorus	mg/L			
	Sodium	mg/L			
	Magnesium	mg/L			
	Zinc	mg/L			
	Lead	mg/L			
	Cadmium	mg/L			
	Manganese	mg/L			
	Chloride	mg/L			

	Sulfate	mg/L			
	Sodium	mg/L			
	Potassium	mg/L			
	Cobalt	mg/L			
	Iron	mg/L			
	Nickel	mg/L			
	Selenium	mg/L			
	Mercury	mg/L			
	Chromium (VI)	mg/L			
	Total Chromium	mg/L			

Signed on behalf of Pilbara Manganese Pty Ltd: …….. Date: …….

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Amendment Notice 1 – L6131/1990/13	Amendment Notice 1	accessed at www.dwer.wa.gov.au
2	Amendment Notice 2 – L6131/1990/13	Amendment Notice 2	
3	*Guidance Statement: Decision Making*, Department of Environment Regulation, February 2017	*Guidance Statement: Decision Making*	accessed at www.dwer.wa.gov.au
4	*Guidance Statement: Regulatory Principles,* Department of Environment Regulation, July 2015.	*Guidance Statement: Regulatory Principles*	
5	*Guidance Statement: Risk Assessments*, Department of Environment Regulation, February 2017	*Guidance Statement: Risk Assessments*	
6	*Guidance Statement: Setting Conditions,* Department of Environment Regulation, October 2015	*Guidance Statement: Setting Conditions*	
7	Licence L6131/1990/13 – Woodie Woodie Manganese Project	L6131/1990/13	accessed at www.dwer.wa.gov.au
8	RE: Woodie Woodie L6131 1990 13 licence amendment form, received from Nathan Keogh (Consolidated Minerals), 20 September 2017	Consolidated Minerals, 2017b	DWER records (A1526369)
9	RE: Woodie Woodie L6131 1990 13 licence amendment form, received from Nathan Keogh (Consolidated Minerals), 22 September 2017	Consolidated Minerals, 2017c	DWER records (A1528612)
10	Woodie Woodie DWER licence amendment – L6131/1990/13, received from Nathan Keogh (Consolidated Minerals), 11 August 2017	Consolidated Minerals, 2017a	DWER records (A1522792)
11	Woodie Woodie L6131 1990 13 licence amendment form, received from Nathan Keogh (Consolidated Minerals), 21 August 2017	Application, 2017a	DWER records (A1508630)