Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L4503/1975/14
Licence holder	BHP Iron Ore Pty Ltd
ACN	008 700 981
Registered business address	Level 1, City Square Brookfield Place 125 - 137 St Georges Terrace PERTH WA 6000
DWER file number	DER2013/000901-2
Duration	17/11/2013 to 16/11/2032
Date of issue	17 November 2013
Date of amendment	10 April 2024
Premises details	Mt Whaleback/Orebody 29/30/35 NEWMAN WA 6753 Legal description – Tenements E52/2009-I, ML244SA, ML244SA, G52/019-G52/256, G52/258-G52/274, G52/276, G52/277, G52/279,L47/92, L52/99, L52/185 K858923 and N088235 As defined by the premises map in Schedule 1 and defined by the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	Assessed production capacity
Category 5: Processing or beneficiation of metallic or non-metallic ore	80,000,000 tonnes per annual period
Category 6: Mine dewatering	8,000,000 tonnes per annual period
Category 54: Sewage facility	183.2 m^3 per day
Category 61: Liquid waste facility	9,348,600 tonnes per annual period
Category 64: Class II or III putrescible landfill site	14,500 tonnes per annual period
Category 73: Bulk storage of chemicals, etc.	13,000 m^3

This licence is granted to the licence holder, subject to the attached conditions, on 10 April 2024 by:

Michael Greenslade
Digitally signed by Michael Greenslade
Date: 2024.04.10 15:21:32 +08'00'

MANAGER, PROCESS INDUSTRIES

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

Licence history

Reference number	Date	Summary of changes
L4503/1975/5	17/11/2000	First licence noted in the Industry Licensing System
L4503/1975/6	17/11/2001	Licence reissue
L4503/1975/7	17/11/2002	Licence reissue
L4503/1975/8	17/11/2003	Licence reissue
L4503/1975/9	17/11/2004	Licence reissue
L4503/1975/10	17/11/2005	Licence reissue
L4503/1975/11	17/11/2006	Licence reissue
W4255/2006/1	8/03/2007	Works approval for the construction of processing infrastructure (car dumper, crushing and screening plant and ore stockyard)
L4503/1975/12	17/11/2007	Licence reissue
L4503/1975/13	17/11/2010	Licence reissue
W4972/2011/1	4/08/2011	Works approval for category 85B
W5017/2011/1	6/10/2011	Works approval for the installation of a Biomax wastewater treatment plant (STP) and hydrocarbon storage area at the expanded warehouse
W5024/2011/1	6/10/2011	Works approval for the installation of a Biomax STP at the new drug and alcohol testing facility at the Newman gatehouse
L4503/1975/13	22/12/2011	Licence amendment to increase capacity of category 5 to 58Mtpa, change premises boundary and include category 61 to the licence
L4503/1975/13	16/02/2012	Licence amendment to include category 85B constructed under W4972/2011/1
W5242/2012/1	6/09/2012	Works approval to construct a new movable (mobile) crushing and screening plant, with a design capacity of 5Mtpa
L4503/1975/13	7/11/2012	Licence amendment to incorporate three additional water treatment cells to the existing Newman temporary water treatment plant
L4503/1975/14	7/11/2013	Licence reissue
L4503/1975/14	9/10/2014	Licence amendment – additional discharge points and REFIRE format

L4503/1975/14	11/06/2015	Licence amendment – two inert landfills, oily water separator treated wastewater evaporation pond and contingency discharge point, extension of the hydrodynamic trial timeframe and disposal of used conveyor belts
L4503/1975/14	28/04/2016	Licence amendment to extend the duration of the hydrodynamic trial.
L4503/1975/14	30/06/2016	Licence amendment to include category 6, increase category 73 approved design capacity, contingency discharge of RO reject water to Ophthalmia Dam, increase in RO reject water discharge to ARD facility, remove WWTPs less than 20 m^3 per day capacity and updates to monitoring requirements.
L4503/1975/14	1/09/2016	Licence amendment to update the premises address and include a new asbestos disposal location.
L4503/1975/14	27/08/2020	Licence amalgamation for Amendment Notices 1, 2 and 3.
L4503/1975/14	16/01/2023	DWER initiated risk-based licence review of dust. Licence also amended to increase landfill capacity and for administrative amendments to conditions in the revised licence format.
L4503/1975/14	10/04/2024	Licence amendment: • For authorisation to install and operate a 2mtpa mobile screening plant for a maximum throughput of 300 ktpa and operational duration (non-consecutive) of 8-weeks per annum; • For administrative aspects to: ○ Updates to condition 2 to provide clarity on the location of infrastructure; ○ Updates to condition 13 to provide clarity on the reportable event triggers and when multiple triggers are considered the one event; ○ Changing reference to ‘Real Time Module’ to ‘ES642’; and ○ Update to condition 20 to ensure that reporting in accordance with Schedule 5 is undertaken with immediate effect. • Updates to infrastructure tables where relevant; • Updating of the format and appearance of the licence; and • Correcting clerical mistakes and unintentional errors.

Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this licence:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Throughput limits

1. The licence holder must not crush, screen or otherwise process more than 80,000,000 tonnes of iron ore per annual period.

Infrastructure and equipment

2. The licence holder must ensure that the premises infrastructure and equipment listed in Table 14 and Table 15 of Schedule 4, and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 14 and Table 15 of Schedule 4.

3. The licence holder must accurately measure and achieve a rate of 90% or more for the:

(a) Average monthly availability of all:

(i) water sprays on stackers and reclaimer;

(ii) transfer station (OHP5) and conveyor dust suppression sprays; and

(iii) bulk ore conditioning (BOC) sprays, and

(b) Average monthly performance (time in auto mode) of all stockyard water cannons.

4. The licence holder must maintain a dust control equipment inventory which includes an itemised list for all dust control equipment used at the premises and includes but is not limited to the infrastructure and equipment specified in Table 14 of Schedule 4.

5. The licence holder must not remove any dust control equipment from the dust control equipment inventory, without replacing that equipment with equipment that provides the same or greater level of dust mitigation, unless approved by the CEO in writing.

Further works

6. The licence holder must design and construct/install new infrastructure/equipment in accordance with the requirements specified in Table 1 and by the required completion date specified in Table 1.

Table 1: Dust control and monitoring infrastructure/equipment to be constructed/ installed

No.	Infrastructure/ Equipment	Design and construction/installation requirements	Required completion date
1	OHP2 and OHP3 truck unloading hoppers	Install tipping hopper sprays designed to minimise dust generated during the transfer of ore from the tipped haul truck to the gyratory crusher hopper.	31 December 2024
2	OHP4 screenhouse	Replace screen top covers to improve the enclosure of the screens and minimise dust escape.	31 December 2024

3	TLO	Complete the installation of ore conditioning sprays at the train load out infrastructure.	30 August 2024
4	OHP2 secondary crusher	Install a partial enclosure at the M101 shuttle transfer.	31 December 2024
5	PM_{10} monitor	One beta attenuation monitor (BAM) located between the fixed west plant and the Newman townsite to measure PM_{10} in accordance with AS3580.9.11 and sited in accordance with AS3580.1.1, for the purpose of performing as a dust management trigger monitor in accordance with condition 11. The monitor must also include an ES642 sensor for the measurement of PM_{10} over 10-minute averaging periods.	16 July 2024
6	VVVF Drive Upgrade Procurement	Structural and electrical design upgrades to following infrastructure are completed and procured (but not installed until the old equipment requires replacing): a) Key Water Pump VVF Drive (PW691A); b) Dust Collector VVF Fan Drives (DC507, DC508, DC415, DC455); and c) Dust Collector VVF Long Travel Drives (DC415, DC416 and DC455).	30 June 2025
7	BOC603 Dust Suppression Sprays	Relocation of dust spray on conveyor CV603 to after the transfer station from OHP5.	30 January 2025
8	Mobile screening Plant	a) Screening Plant with a capacity of 2 mtpa; b) Water sprays at the transfer point between the screen and stacker; c) Water sprays between stacker to the relevant conveyor; d) Stacker to be positioned immediately prior to an existing water spray (on the relevant conveyor to be loaded); and e) To be located within Fixed Plant West area and no closer than 3.5 km to the Town of Newman.	Prior to operation of plant

7. The licence holder is authorised to install and undertake the works for the infrastructure and equipment specified in Table 2, to the requirements specified in that table.

Table 2: Authorised landfill infrastructure to be constructed

Infrastructure	Specifications (design and construction)
New inert landfill	(a) Inert waste disposal; (b) Hydrocarbon contaminated wastes will not be disposed of at the facility; and (c) Waste disposal in designated areas depicted in Figure 1 of Schedule 1.

Infrastructure	Specifications (design and construction)
New putrescible landfill	(a) Facility designed to prevent runoff leaving the facility; (b) Hydrocarbon contaminated wastes will not be disposed of at the facility; (c) Windrows implemented to direct clean stormwater around the landfill; and (d) Waste disposal in designed areas depicted in Figure 1 of Schedule 1.
Two new asbestos disposal areas	(a) Asbestos waste is managed in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004*, the *Code of Practice for the Management and Control of Asbestos in Workplaces, Code of Practice for the Safe Removal of Asbestos, Australian Standard 2601 – The Demolition of Structure*; (b) Disposed in accordance with Table 5 and Table 6 of this licence; and (c) Waste disposal in designated areas depicted in Figure 1 of Schedule 1.

8. The licence holder must within 28 calendar days of the completion of construction and/or installation of all infrastructure or equipment listed in Table 2:

(a) undertake an audit of compliance with the requirements in Table 2; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance and certified by the licence holder.

9. For works undertaken in condition 7, the licence holder must not depart from the specifications detailed in Table 2, except where:

(a) such departure is minor in nature and does not materially change or affect the infrastructure or equipment; or

(b) such departure improves the functionality of the infrastructure or equipment and reduces the risk to public health, amenity and/or the environment; or

(c) the licence holder determines to not construct, install and/or operate infrastructure in accordance with condition 7, and

all other conditions in this licence are still satisfied.

Dust monitoring and management

10. The licence holder must undertake air quality monitoring for concentrations of the parameters listed in Table 3:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less than the corresponding frequency;

(d) for the corresponding averaging period; and

(e) using the corresponding method,

as set out in Table 3.

Table 3: Air quality monitoring

Monitoring Station (refer to Figure 4, Schedule 1) ID and Name	**Parameter** (including units[1])	**Averaging period**	**Frequency**	**Method**
Ambient monitors, as depicted in Figure 4 of Schedule 1: • WBAQRT011 – Background 3 North PM10; • WBAQRT004 – Background 2 South; • WBAQRT010 – Town Centre PM10; and • WBAQRT006 – Town East.	Particles as PM_{10} ($\mu g/m^3$)	1 hour average	Continuous	AS/NZS 3580.9.11 AS/NZS 3580.1.1
		10 minute average	Continuous	AS/NZS 3580.1.1
	Wind speed (m/s)	10 minute average	Continuous	AS/NZS 3580.14[2]
	Wind direction (°)			
Ambient monitors, as depicted in Figure 4 of Schedule 1: • WBAQRT023 – Town Centre PM2.5; and • WBAQRT022 – Background 3 North PM2.5.	Particles as $PM_{2.5}$ ($\mu g/m^3$)	1 hour average	Continuous	AS/NZS 3580.9.12 AS/NZS 3580.1.1
Prescribed premises boundary and ambient monitors: • WBAQRT012 – Boundary 1 North; • WBAQRT013 – Boundary 2 West; • WBAQRT027 – Background 4 West, as depicted in Figure 4 of Schedule 1; and The monitor installed in accordance with Table 1 of condition 6, from the date of first operation of that monitor.	Particles as PM_{10} ($\mu g/m^3$)	1 hour average	Continuous	AS/NZS 3580.1.1
		10 minute average		AS/NZS 3580.1.1
	Wind speed (m/s)	10 minute average		AS/NZS 3580.14[2]
	Wind direction (°)			

Prescribed premises boundary and ambient monitors: • WBAQRT017 – Channel 2 TLO; • WBAQRT018 – OHP4 Screenhouse; • WBAQRT019 – OHP2 Secondary Crusher; • WBAQRT020 – WB Stockyard West; • WBAQRT021 – WB CV751 CV752; • WBAQRT024 – WB Creek Channel 1; • WBAQRT025 – WB Met Station; and • WBAQRT026 – W39 North, as depicted in Figure 4 of Schedule 1.	Particles as PM_{10} (µg/m^3)	10 minute average	Continuous	AS/NZS 3580.1.1
	Wind speed (m/s)	10 minute average	Continuous	AS/NZS 3580.14[2]
	Wind direction (°)	10 minute average	Continuous	
Meteorological station, as depicted in Figure 4 of Schedule 1: WBWS001 – Whaleback AWS	Temperature	1 hour average	Continuous	AS/NZS 3580.14
	Rainfall (mm)			
	Relative Humidity (%)			
	Wind speed (m/s)	10 minute average		
	Wind direction (°)			
Stockyard weather sensor as depicted in Figure 4 of Schedule 1: • AT796 – AT796 Stockyard	Rainfall (mm)	1 hour average	Continuous	N/A
	Wind speed (m/s)	10 minute average		
	Wind direction (°)			

Note 1: All units are referenced to standard temperature and pressure (STP) dry.

Note 2: AS/NZS 3580.14 wind speed (m/s) and wind direction (°) measurement height requirements do not apply to these monitors as they are 2.5 m (AS/NZS 3580.14 requires a height of 10 m).

Monitoring and management response

11. The licence holder must maintain a record of any instances where dust (as PM_{10} and/or $PM_{2.5}$) concentrations at the monitoring locations, listed in column 1 of Table 4, exceed the corresponding management trigger criteria and reportable event criteria specified in columns 2 and 3 of Table 4, when monitored in accordance with condition 10.

Table 4: Dust management trigger and reportable dust event criteria

No.	Column 1	Column 2	Column 3
	Monitoring station (Schedule 1)	**Management trigger criteria**	**Reportable event criteria**
1.	Boundary monitor: • WBAQRT013, as depicted in Figure 4 and Figure 5 of Schedule 1, until the date of operation of the new monitor installed in accordance with Table 1 of condition 6. • The monitor installed in accordance with Table 1 of condition 6, from the date of first operation of that monitor.	≥300 µg/m^3 PM_{10} (rolling 1 hour average) and wind direction is averaged between 240° and 278° as measured at that monitor, for any three or more ten-minute periods during the rolling 1-hour period. Unless where, 'WBAQRT011 – Background 3 North PM10' monitoring station has recorded ≥100 µg/m^3 PM_{10} (rolling 1 hour average) within 3 hours prior to the trigger event.	≥200 µg/m^3 PM_{10} (rolling 24-hour average) when wind direction is averaged between wind arc 200° and 293° inclusive, for any 12 or more hours (cumulative) over the rolling 24-hour averaging period.
2.	Ambient monitors, as depicted in Figure 4 and Figure 5 of Schedule 1: • WBAQRT010 – Newman 1 Town Centre; • WBAQRT006 – Newman 3 Town East.	≥100 µg/m^3 PM_{10} (rolling 1 hour average) when wind direction is between: a) 233° and 262° as measured at WBAQRT010 –Town Centre PM10; and/or b) 248° and 270° as measured at WBAQT006 –Town East, for three or more ten-minute periods during the hour. Unless where, 'WBAQRT011 – Background 3 North PM10' monitoring station has recorded ≥100 µg/m^3 PM_{10} (rolling 1 hour average) within 3 hours prior to the trigger event. Unless where boundary monitors WBAQRT013 monitoring station has recorded ≤100 µg/m^3 PM_{10} averaged over the previous hour.	≥70 µg/m^3 PM_{10} (24-hour average measured from midnight to midnight)[1]

No.	Column 1	Column 2	Column 3
	Monitoring station (Schedule 1)	**Management trigger criteria**	**Reportable event criteria**
3.	Ambient monitor, as depicted in Figure 4 of Schedule 1: • WBAQRT023 –Town Centre PM2.5	N/A	≥25 µg/m^3 $PM_{2.5}$ (24-hour average measured from midnight to midnight)

Note 1: The reportable event is triggered in the event one or both monitors (WBAQRT010 and WBAQRT006) meet the criteria. If both monitors meet the criteria in the same 24 hour period this is to be considered a single reportable event.

12. Immediately upon being notified of management trigger criteria specified in condition 11 being exceeded, the licence holder must:

(a) conduct a trigger investigation of:

(i) the fixed plant west area, as depicted in Figure 2, within 20 minutes of being alerted to the management trigger criteria exceedance; and

(ii) the broader premises, as depicted in Figure 1, within 60 minutes of being alerted to the management trigger criteria exceedance,

to identify any potential cause of the management trigger criteria exceedance; and

(b) upon identification of a potential on-site source/s during the trigger investigation conducted in accordance with part (a) of this condition, immediately control visible dust emissions by:

(i) ceasing mobile screening activities; and/or

(ii) applying additional dust suppression; and/or

(iii) activating dust extraction equipment, if not already operating and where applicable; and/or

(iv) ceasing or modifying iron ore handling activities for the purpose of eliminating that dust source, for example changing the feed source or adjusting handling rates and/or routes.

13. Where the management trigger criteria is exceeded from the same monitor on multiple occasions within a three-hour period, the source of the exceedance may be considered as one event, requiring one trigger investigation in that period.

14. In the event that the source dust cannot be identified within 60 minutes of the management trigger criteria specified in items 1 and 2 of Table 4 being exceeded, following investigation undertaken in accordance with condition 12, the licence holder must undertake the following management actions:

(a) ceasing or modifying the operation of front-end loading associated with dead ore stockpiles where OHP4 continues to operate during the same period;

(b) operate all available BOC sprays on all conveyors that are handling iron ore, as specified in Table 14 of Schedule 4, unless the moisture content of the iron ore being handled is known to be wet ore;

(c) apply water to all unsealed, untreated trafficable areas within the fixed plant west area where visible dust is generated from vehicle movement, depicted in Figure 2 of Schedule 1;

(d) operate stockpile cannons by increasing watering cycle interval; and

(e) operate all available dust suppression sprays at transfer stations and conveyors, as specified in Table 14 of Schedule 4, when handling lump iron ore.

15. Management actions specified in condition 14 are not required at the relevant location of dust control where:

(a) the operation of the dust control specified in condition 14(a) to 1(e) would adversely impact safe operations; and/or

(b) it can be visually identified on-the-ground and confirmed that the activity is not generating any visible dust.

16. The licence holder must maintain a record of events where management trigger criteria are exceeded and no management action is undertaken in accordance with condition 15.

17. The licence holder must continue actions specified in condition 14 for the duration of the management trigger criteria being exceeded, unless:

(a) there continues to be no visible, or otherwise identifiable sources of dust from any location within the fixed west plant area; and

(b) wind speed is less than 2 m/s, as measured at the meteorological monitoring station WBWS001 – Whaleback Meteorological Tower; and

(c) the forecasted mixing height is less than 200 m.

18. The licence holder must investigate, undertake the actions and report in accordance with Schedule 5, in the event that any reportable event criteria (as specified through condition 11) is exceeded.

Waste management

19. The licence holder must ensure that waste types specified in Table 5 are only subjected to the corresponding processes, and corresponding process specifications. set out in Table 5.

Table 5: Waste processing

No.	Waste type	Processes	Process specifications [1,2]
1.	• Inert Waste Type 1 (excluding inert concrete waste) • Inert Waste Type 2 • Putrescible Waste • Special Waste Type 1	Receipt, handling, storage prior to disposal by landfilling	(a) Disposal of waste by landfilling must only take place within the areas shown in Schedule 1. (b) No waste shall be temporarily stored or landfilled within 35 m from the boundary of the premises. (c) The separation distance between the base of the landfills and the highest groundwater level must not be less than 2 m.
2.	Inert Waste Type 1 (inert concrete waste)	Disposal of waste by landfilling	Inert concrete waste permitted for burial within landfill facilities depicted in Figure 1, pit backfilling areas, or within overburden storage areas located within the prescribed premises boundary shown in Schedule 1.

No.	Waste type	Processes	Process specifications [1,2]
3.	Inert Waste Type 2 – Tyres [1], plastics and rubbers including used conveyor belts	Receipt, handling, storage prior to disposal by landfilling	(a) Tyres and rubber must only be buried in landfill and/or overburden storage areas located within the prescribed premises boundary shown in Schedule 1, and: ○ in batches separated from each other by at least 100 mm of soil and each consisting of not more than 40 m^3 of tyres reduced to pieces; or ○ in batches separated from each other by at least 100 mm of soil and each consisting of not more than 1,000 whole tyres. (b) Tyres must be stored in piles of up to 100 units with a 6 m separation distance between piles.
4.	Putrescible Waste	Receipt, handling, storage prior to disposal by landfilling	Must only be placed in the putrescible landfills shown in Figure 1 of Schedule 1.
5.	Special Waste Type 1 (Asbestos Waste[2])	Receipt, handling and disposal by landfilling	(a) Cement bonded and fibrous asbestos only. (b) Must only be disposed of into the designated asbestos disposal areas shown in Figure 1 of Schedule 1. (c) Not to be deposited within 2 m of the final tipping surface of the landfills. (d) No works shall be carried out on the landfills that could lead to a release of asbestos fibres.
6.	Controlled waste: oils and emulsions	Receipt, handling and storage prior to removal from site	(a) No more than 5,100 tonnes/year. (b) Only stored in designated waste oil storage areas as depicted in Figure 1 of Schedule 1.
7.	Reverse osmosis (RO) reject water discharge from Yarnima Power Station	Receipt and disposal by evaporation	RO Water Treatment Plant, blowdown water from heat recovery system generation and cooling tower only disposed of at the acid rock drainage (ARD) facility within Dam C (L4) and evaporation cells 1 (P7), 2 (P8), 3 (P9), 4 (P10), 5 (P11) as depicted in Figure 3 of Schedule 1.
8.	RO reject water discharge from Newman Water Treatment Plant	Receipt and disposal by evaporation and discharge point	Reject water discharged to Tank XD57 contingency discharge point (L2) and at the ARD facility within Dam C (L4) and evaporation cells 1 (P7), 2 (P8), 3 (P9), 4 (P10), 5 (P11), in accordance with Table

No.	Waste type	Processes	Process specifications [1,2]
			15 of Schedule 4, and as depicted in Figure 3 of Schedule 1.
9.	Tailings	Treatment and storage	(a) Only stored in TSF as depicted in Figure 1 of Schedule 1. (b) A minimum freeboard of 300 mm maintained at the TSF.
10.	Sewage	Biological, physical and chemical treatment	Accepted to sewer facilities only as depicted in Figure 1 of Schedule 1 and discharged in accordance with Table 15 of Schedule 4.
11.	Sewage sludge	Drying and storage	None specified.
12.	Hydrocarbon contaminated waste	Bioremediation	Contaminated soil is only to be remediated within bioremediation facilities that meet the design specifications outlined in Table 15 of Schedule 4.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the Environmental Protection Regulations 1987.

Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the Environmental Protection (Controlled Waste) Regulations 2004.

Landfill operations

20. The licence holder must maintain monthly records of total waste disposed at each disposal location.

21. The licence holder must ensure that where waste does not meet the waste type set out in condition 19 it is removed from the premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.

22. The licence holder must manage the landfilling activities to ensure:

(a) waste is placed and compacted to ensure all faces are stable and capable of retaining rehabilitation material; and

(b) rehabilitation of a cell or phase takes place within 6 months after final disposal in that cell or phase has been completed.

23. The licence holder must ensure that cover is applied and maintained on landfilled wastes in accordance with Table 6 and that sufficient stockpiles of cover are maintained on site at all times.

Table 6: Cover requirements[1]

Waste type	Cover material	Depth	Timescales
Inert Waste Type 1	N/A	N/A	No cover required
Inert Waste Type 2 (excluding tyres)	Inert Waste Type 1, Clean Fill or Uncontaminated fill	100 mm	As soon as practicable following the achievement of final process limits

Inert Waste Type 2 (tyres)		500 mm	As soon as practicable following the achievement of final process limits
Putrescible Waste		150 mm	As soon as practicable and not later than weekly
		1,000 mm	Within 3 months of achieving final waste contours
Special Waste Type 1		300 mm	As soon as practicable after deposit and prior to compaction
		1,000 mm	By the end of the working day in which the asbestos waste was deposited

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the Environmental Protection Regulations 1987.

24. The licence holder must prevent unauthorised access to the landfills.

25. The licence holder must ensure that wind-blown waste is contained within the boundary of the premises and that wind-blown waste is returned to the tipping area on at least a monthly basis.

Monitoring and limits

26. The licence holder shall ensure that:

(a) all water samples are collected and preserved in accordance with AS5667.1, with the exception of holding times where these are not achievable;

(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;

(c) all surface water sampling is conducted in accordance with AS/NZS 5667.4 or AS/NZS 5667.6 as relevant;

(d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and

(e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters to be measured unless indicated otherwise in the relevant table.

27. The licence holder shall ensure that all monitoring equipment used on the premises to comply with the conditions of this licence is calibrated in accordance with the manufacturer's specifications.

28. The licence holder shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

Emissions to surface water monitoring and limits

29. The licence holder must monitor emissions:

(a) at the corresponding monitoring point location;

(b) for the corresponding parameter;

(c) in the corresponding unit;

(d) for the corresponding averaging period; and

(e) at the corresponding frequency,

as set out in Table 7.

Table 7: Monitoring of point source emissions to surface water, including limits

Monitoring point location	Parameter	Units	Averaging period	Limit	Frequency
RO reject water monitoring point: P3	Volumetric flow rate (cumulative)	ML/day	Daily	Not more than 6 ML/day. Discharges occur for a cumulative period of no more than 8 weeks per annual period.	Weekly when discharging to Ophthalmia Dam (W1)
	pH [1]	-	Spot sample	N/A	
	Total dissolved solids (TDS) [1]	mg/L		6,000 mg/L	
• Ophthalmia Dam discharge point: W1 • Whaleback Creek discharge point: W2	Volumetric flow rate (cumulative)	ML/day	Monthly	W1: 8 GL/year W2: N/A	Continuous when discharging
	Total recoverable hydrocarbons (TRH)	mg/L	Spot sample	15 mg/L	Quarterly when discharging
	Total suspended solids (TSS)	mg/L	Spot sample	N/A	Quarterly when discharging
	Total dissolved solids (TDS) [1]				
Ophthalmia Dam discharge point: W1	pH [1]	-	Spot sample	N/A	Quarterly when discharging
	Aluminium (Al)	mg/L		N/A	
	Arsenic (As)				
	Boron (B)				
	Calcium (Ca)				
	Cadmium (Cd)				
	Chloride (Cl)				
	Carbonate (CO_3)				
	Chemical Oxygen Demand (COD)				

Monitoring point location	Parameter	Units	Averaging period	Limit	Frequency
	Chromium (Cr)				
	Copper (Cu)				
	Iron (Fe)				
	Bicarbonate (HCO_3)				
	Mercury (Hg)				
	Potassium (K)				
	Magnesium (Mg)				
	Manganese (Mn)				
	Molybdenum (Mo)				
	Sodium (Na)				
	Nickel (Ni)				
	Nitrate (NO_3)				
	Lead (Pb)				
	Selenium (Se)				
	Silver (Ag)				
	Sulfate (SO_4)				
	Zinc (Zn)				

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

Emissions to land monitoring and limits

30. The licence holder must monitor emissions to land:

(a) at the corresponding monitoring point location;

(b) for the corresponding parameter;

(c) in the corresponding unit;

(d) for the corresponding averaging period; and

(e) at the corresponding frequency,

as set out in Table 8.

Table 8: Monitoring of emissions to land

Monitoring point location	Parameter	Units	Limit	Averaging period	Frequency
EPCO STP: L1	Volumetric flow rate (cumulative)	m^3/day	183.2 m^3/day	Daily	Continuous
	pH[1]	-	N/A	Spot sample	Quarterly
	Biochemical Oxygen Demand (BOD)	mg/L			
	Total Suspended Solids (TSS)				
	Total Nitrogen (TN)				
	Total Phosphorous (TP)				
	E.coli	cfu/100 ml			
Newman Water Treatment Plant discharge to Tank XD57	Volumetric flow rate (cumulative)	ML/year	6,205 ML/year	Annual	Continuous
	Total dissolved solids (TDS)[1]	mg/L	2,000 mg/L	Spot sample	Quarterly
Contingency discharge from Tank XD57 in the event that temporary storage and reuse and tank storage has been exhausted (L2)	Volumetric flow rate (cumulative)	ML/day	-	Monthly	Each discharge event
	Total dissolved solids (TDS)[1]	mg/L	2,000 mg/L	Spot sample	
Hub Turkey's Nest contingency discharge in the event that temporary storage and reuse, and Turkey's Nest storage has been exhausted (L3)	Volumetric flow rate (cumulative)	ML/day	N/A	Monthly	Each discharge event
	Total dissolved solids (TDS)[1]	mg/L	2,000 mg/L	Spot sample	
Newman Water Treatment Plant discharge to: • ARD facility within Dam C (L4); and • ARD facility within evaporation Cells 1 to 5	Volumetric flow rate (cumulative)	ML/year	2,080.5 ML/year	Annual	Continuous
	Total dissolved solids (TDS)[1]	mg/L	6,257mg/L	Spot sample	

Monitoring point location	Parameter	Units	Limit	Averaging period	Frequency
(P7, P8, P9, P10 and P11)					
Yarnima Power Station discharge to: • ARD facility within Dam C (L4); and • ARD facility within evaporation Cells 1 to 5 (P7, P8, P9, P10 and P11)	Volumetric flow rate (cumulative)	ML/year	1,058 ML/year	Annually	Continuous
	pH[1]	-	N/A	Spot sample	Quarterly
	Total dissolved solids (TDS)[1]	mg/L	5,900 mg/L		
OWWTP Evaporation Pond: P2	Volumetric flow rate	ML/year	N/A	Annually	Continuous
	pH[1]	-	N/A	Spot sample	Each discharge event
	Total dissolved solids (TDS)[1]	mg/L	N/A		
	Total recoverable hydrocarbons (TRH)	mg/L	15 mg/L		
P4 – ARD facility within Dam A P5 – ARD facility within Dam B P6 – ARD facility within Dam C P7 – ARD facility within Evaporation Cell 1 P8 – ARD facility within Evaporation Cell 2 P9 – ARD facility within Evaporation Cell 3 P10 – ARD facility within Evaporation Cell 4 P11– ARD facility within Evaporation dPond 5 As depicted in Figure 3 of Schedule 1.	pH[1]	-	N/A	Spot sample	Quarterly
	Oxidation-reduction potential[1]	Volts (v)			
	Total dissolved solids (TDS)[1]	mg/L			
	Aluminium (Al)				
	Antimony (Sb)				
	Arsenic (As)				
	Bicarbonate (HCO_3^-)				
	Cadmium (Cd)				
	Calcium (Ca)				
	Chloride (Cl^-)				
	Chromium (Cr)				
	Cobalt (Co)				

Monitoring point location	Parameter	Units	Limit	Averaging period	Frequency
	Copper (Cu)				
	Iron (Fe)				
	Mercury (Hg)				
	Magnesium (Mg)				
	Molybdenum (Mo)				
	Manganese (Mn)				
	Nickel (Ni)				
	Lead (Pb)				
	Potassium (K)				
	Selenium (Se)				
	Sodium (Na)				
	Sulfate (SO_4)				
	Sulfide (S^{2-})				
	Thallium (Tl)				
	Uranium (U)				
	Zinc (Zn)				

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

31. The licence holder must ensure that emissions measured at the monitoring points listed in Table 7 and Table 8 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with conditions 29 and 30.

Groundwater monitoring

32. The licence holder must undertake groundwater monitoring for concentrations of the parameters listed in Table 9:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less than the corresponding frequency; and

(d) for the corresponding averaging period,

as set out in Table 9.

Table 9: Groundwater monitoring

Monitoring point location[1]	Parameter	Unit	Averaging period	Frequency
<u>Upstream of ARD Facility:</u> • WBGW050S • WBGW050D	pH[2]	-	Spot sample	Quarterly
	Oxidation-reduction potential[2]	Volts (v)		
<u>Around Evaporation Cells:</u> • WBGW022 • WBGW023 • WBGW041D • WBGW041S • WBGW042S • WBGW043D • WBGW043S • WBGW044S • WBGW045D • WBGW045S • WBGW046D • WBGW046S • WBGW047S • WBGW048D • WBGW048S • WBGW049D • WBGW049S • WBGW051D • WBGW051S	Total dissolved solids (TDS)[2]	mg/L		
	Aluminium (Al)			
	Antimony (Sb)			
	Arsenic (As)			
	Bicarbonate (HCO_3^-)			
	Cadmium (Cd)			
	Calcium (Ca)			
	Chloride (Cl^-)			
	Chromium (Cr)			
	Cobalt (Co)			
	Copper (Cu)			
	Iron (Fe)			
	Mercury (Hg)			
	Magnesium (Mg)			
	Molybdenum (Mo)			
<u>Downstream of ARD Facility:</u> • WBGW009 • WBGW014 • WBGW015 • WBGW016 • WBGW017 • WBGW018 • WBGW019 • WBGW020 • WBGW021	Manganese (Mn)			
	Nickel (Ni)			
	Lead (Pb)			
	Potassium (K)			
	Selenium (Se)			
	Sodium (Na)			
	Sulfate (SO_4)			
<u>Near Power Station Creek:</u>	Sulfide (S^{2-})			

Monitoring point location[1]	Parameter	Unit	Averaging period	Frequency
• WBGW010 • WBGW011	Thallium (Tl)			
	Uranium (U)			
	Zinc (Zn)			

Note 1: Monitoring bore locations as depicted in Figure 3.

Note 2: In-field non-NATA accredited analysis permitted.

33. The licence holder must undertake surface water monitoring for concentrations of the parameters listed in Table 10:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less than the corresponding frequency; and

(d) for the corresponding averaging period,

as set out in Table 10.

Table 10: Monitoring of point source emissions to surface water

Monitoring point location	Parameter	Units	Averaging period	Frequency
Background monitors: • Whaleback Creek upstream (WBSW042) • Whaleback Creek downstream (WBSW043) • Power Station Creek downstream (WBSW049)	pH[2]	N/A	Spot sample	Quarterly when flowing
	Total dissolved solids (TDS)[2]	mg/L		
	Total suspended solids (TSS)			
	Total recoverable hydrocarbons (TRH)			
	Total Nitrogen			
	Total Phosphorous			
	Aluminium (Al)			
	Arsenic (As)			
	Boron (B)			
	Calcium (Ca)			
	Cadmium (Cd)			
	Chloride (Cl)			
	Carbonate (CO_3)			

Monitoring point location	Parameter	Units	Averaging period	Frequency
	Chemical Oxygen Demand (COD)			
	Chromium (Cr)			
	Copper (Cu)			
	Iron (Fe)			
	Bicarbonate (HCO_3)			
	Mercury (Hg)			
	Potassium (K)			
	Magnesium (Mg)			
	Manganese (Mn)			
	Molybdenum (Mo)			
	Sodium (Na)			
	Nickel (Ni)			
	Nitrate (NO_3)			
	Lead (Pb)			
	Selenium (Se)			
	Silver (Ag)			
	Sulfate (SO_4)			
	Zinc (Zn)			

Note 1: Monitoring points as depicted in Figure 3.

Note 2: In-field non-NATA accredited analysis permitted.

Records and reporting

34. The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.

35. The licence holder must submit to the CEO, no later than 1 October each year, an Annual Audit Compliance Report (AACR) indicating the extent to which the licence holder has complied with the conditions in this licence for the annual period.

36. The licence holder must submit to the CEO, no later than 1 October each year an Annual Environmental Report providing the results of monitoring and any supporting records, information, reports and data as required by:

(a) condition 3 for the average monthly availability and average monthly performance rate of dust control infrastructure, when in effect;

(b) condition 10 for the air quality monitoring data obtained in accordance with Table 3, and in the format specified in Schedule 6;

(c) condition 11 for a summary of the occurrence of reportable events, specified in Table 4;

(d) condition 20 for the monthly waste tonnages of the waste types specified in Table 6;

(e) condition 29 for dewater discharge and surface water monitoring as specified in Table 7;

(f) condition 30 for emissions to land monitoring results as specified in Table 8;

(g) condition 32 for groundwater monitoring results as specified in Table 9; and

(h) condition 33 for wastewater discharge monitoring results as specified in Table 10, including the date and duration of the discharge and reason for the discharge.

37. The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence;

(b) the works conducted in accordance with conditions 6 and 7 of this licence;

(c) any maintenance of infrastructure that is performed in the course of complying with condition 2 of this licence;

(d) a record of instances where management actions are not initiated for the reasons specified in condition 16;

(e) monitoring programmes undertaken in accordance with conditions 3, 10, 20, 29, 30, 32 and 33 of this licence; and

(f) complaints received under condition 34 of this licence.

38. The books specified under condition 37 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the licence holder for the duration of the licence; and

(d) be available to be produced to an inspector or the CEO as required.

39. The licence holder must comply with a department request, within 14 calendar days from the date of the department request or such other period as agreed to by the Inspector or the CEO.

Definitions

In this licence, the terms in Table 11 have the meanings defined.

Table 11: Definitions

Term	Definition
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the department's website).
annual period	a 12 month period commencing from 1 July until 30 June of the immediately following year.
ARD	acid rock drainage
AS/NZS 3580.1.1	means the Australian Standard AS/NZS 3580.1.1 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment.*
AS/NZS 3580.9.11	means the Australian Standard AS/NZS 3580.9.11 *Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 beta attenuation monitors.*
AS/NZS 3580.9.12	means the Australian Standard AS/NZS 3580.9.12 *Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM2.5 beta attenuation monitors.*
AS/NZS 3580.14	means the Australian Standard AS/NZS 3580.14 *Methods for sampling and analysis of ambient air – Meteorological monitoring for ambient air quality monitoring applications.*
AS 4156.6-2000	means the Australian Standard AS 4156.6-2000 *Coal preparation – Determination of dust/moisture relationship for coal*.
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water quality – Sampling – Guidance of the design of sampling programs, sampling techniques and the preservation and handling of samples.*
AS/NZS 5667.4	means the Australian Standard AS/NZS 5667.4 *Water quality – Sampling – Guidance on sampling from lakes, natural and man-made.*
AS/NZS 5667.6	means the Australian Standard AS/NZS 5667.6 *Water quality – Sampling – Guidance on sampling of rivers and streams.*
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 *Water quality – Sampling – Guidance on sampling of waste waters.*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water quality – Sampling – Guidance on sampling of groundwaters.*
asbestos	means the asbestiform variety of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals and includes actinolite, amosite, anthophyllite, chrysolite, crocidolite, tremolite and any mixture containing 2 or more of those.
asbestos fibres	has the meaning defined in the Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009).
average monthly availability	means the combined average percentage availability of equipment, calculated for each calendar month by dividing the time that the equipment is operating, by the time the equipment is required to be operating.

Term	Definition
average monthly performance	means the average percentage in automatic mode of equipment, calculated for each calendar month by dividing the time that the equipment is operating in automatic mode, by the time the equipment is required to be operating, taking into account exclusion periods if applicable.
averaging period	means the time over which a limit or target is measured or a monitoring result is obtained.
average recurrence interval	means the average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration.
BAM	beta attenuation monitor
BOC	means bulk ore conditioning
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
cfu/100 mL	means colony forming units per 100 millilitres
clean fill	has the meaning defined in Landfill Definitions.
controlled waste	has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*.
°	degree
dead ore stockpiles	refers to any stockpile referred to as "Dead Fines Stockpile" or "Dead Lump Stockpile" in that is not reclaimed by the bucketwheel reclaimer BS702A/B, as depicted in Figure 2 of Schedule 1.
DEM level	means the dust extinction moisture number. It is the moisture content of the iron ore at which the dust number is 10 derived from the Australian Standard AS 4156.6-2000 or a standard approved by the CEO.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the licence holder in writing and sent to the licence holder's address for notifications, as described at the front of this Licence, in relation to: (d) compliance with the EP Act or this Licence; (e) the Books or other sources of information maintained in accordance with this Licence; or the Books or other sources of information relating to Emissions from the Premises.
discharge	has the same meaning given to that term under the EP Act.
Dust control equipment inventory	means an itemized list for all dust control equipment used at the premises including but not limited to the infrastructure/equipment described in column 2 of Table 14 in Schedule 4.

Term	Definition
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Exclusion Periods	refers to periods during which the dust controls referred to in condition 3 are not required to be operated, being the following:3 (a) when iron ore is presenting on the belt at below the minimum throughput threshold of 500 tonnes per hour; and/or (b) conditions in which operation of the dust control equipment would adversely impact safe operations; (c) when iron ore fines are being handled, not including the operation of the following boom sprays: (i) BS752B, BS752C, BS752D; or (ii) BS302B and BS302C unless when fines ore from the Beneficiation Concentrator Plant is running along this route; (d) when the iron ore being handled is Wet Ore; (e) during 1-hour periods where rain is recorded at meteorological station (WBWS001 – Whaleback AWS) or the stockyard weather station (AT796 - AT796 Stockyard); (f) when there is a risk of slumping of, or a machine is operating on, the coarse ore stockpile or stockyard stockpiles; (g) stockyard water cannons when the effectiveness of the cannons is wind inhibited; (h) during the hosing of chutes.
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
GL	gigalitres
HDPE	high density polyethylene.
Inert Waste Type 1	has the meaning defined in Landfill Definitions.
Inert Waste Type 2	has the meaning defined in Landfill Definitions.
Iron ore	means a type of iron ore produced from the Premises or brought to the Premises from another mine site via rail.
ktpa	kilo tonnes per annum
Landfill Definitions	means the document titled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer of the Department of Environment as amended from time to time.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
m	metre
m^3	cubic metre
m^3/day	cubic meter per day
µg/m^3	microgram per cubic metre

Term	Definition
mg/L	milligrams per litre
ML/day	megalitre per day
mm	millimetre
mtpa	million tonnes per annum
moisture content	means the ratio of the mass of water in a sample to the mass of solids in the sample, expressed as a percentage. In equation form: $w = \frac{m1-m2}{m1} \times 100$ Where: w = moisture content of the sample; m1 = initial mass, in grams, of the sample; and m2 = mass, in grams, of the sample after drying.
monthly	monthly, when referring to non-continuous monitoring, means monitoring that is undertaken at least 15 calendar days apart.
m/s	metres per second
N/A	not applicable
NATA	National Association of Testing Authorities (Australia)
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
No.	typographic abbreviation of the word number(s).
PM	means total particulate matter including both solid fragments of material and miniscule droplets of liquid.
$PM_{2.5}$	means particulate matter with an aerodynamic diameter of less or equal to 2.5 µm
PM_{10}	means particulate matter with an aerodynamic diameter of less or equal to 10 µm and includes $PM_{2.5}$.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map Figure 1 in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
primary activities	refers to the prescribed premises activities listed on the front of this licence as described in Schedule 3, at the locations shown in Schedule 1.
putrescible	has the meaning defined in Landfill Definitions.
quarterly	means the 4 inclusive periods from, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March, 1 April to 30 June. Quarterly, when referring to non-continuous monitoring, means monitoring that is undertaken at least 45 calendar days apart.
rehabilitation	means the completion of the engineering of a landfill cell and includes capping and/or final cover.
RO	reverse osmosis
Special Waste Type 1	has the meaning defined in Landfill Definitions.
spot sample	means a discrete sample representative at the time and place at which the sample is taken.

Term	Definition
STP	sewage treatment plant
STP dry	means standard temperature and pressure (0 degrees celsius and 101.325 kilopascals respectively), dry.
tipping area	means the area of the landfill in which waste other than cover material is being deposited.
TLO	train load out.
TSF	tailings storage facility
trigger investigation	means an investigation which includes but is not limited to a review of monitoring stations for wind speed, direction and PM_{10} concentrations and a visual observation of activities being undertaken within the prevailing wind arc of the monitoring station which recorded the trigger exceedance.
µS/cm	microsiemens per centimetre.
waste	has the same meaning given to that term under the EP Act.
wet ore	means iron ore which: (a) has been mined following dewatering of the orebody; (b) is known to be at or above DEM Level; or (c) is otherwise such that the addition of moisture could lead to the iron ore becoming bogged, bridged, blinded or buried.
wind inhibited	Where wind is recorded as greater than 8 m/s and against the direction of the stockyard cannon sprays (for stockyard cannons only), as measured at the stockyard (AT796 Weather Sensor), depicted in Figure 2.
WWTP	wastewater treatment plant

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below.

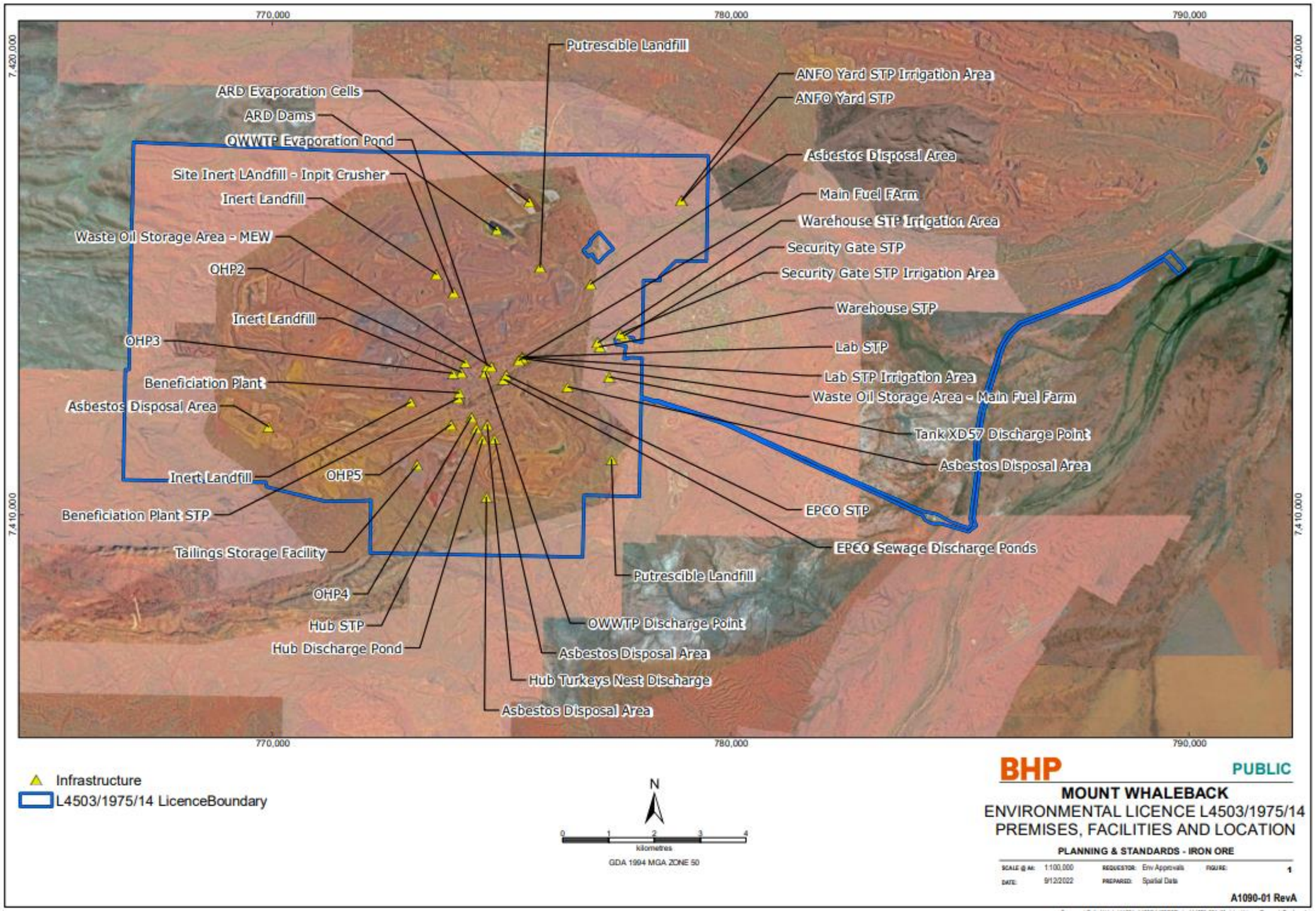


Figure 1: Map of the boundary of the prescribed premises

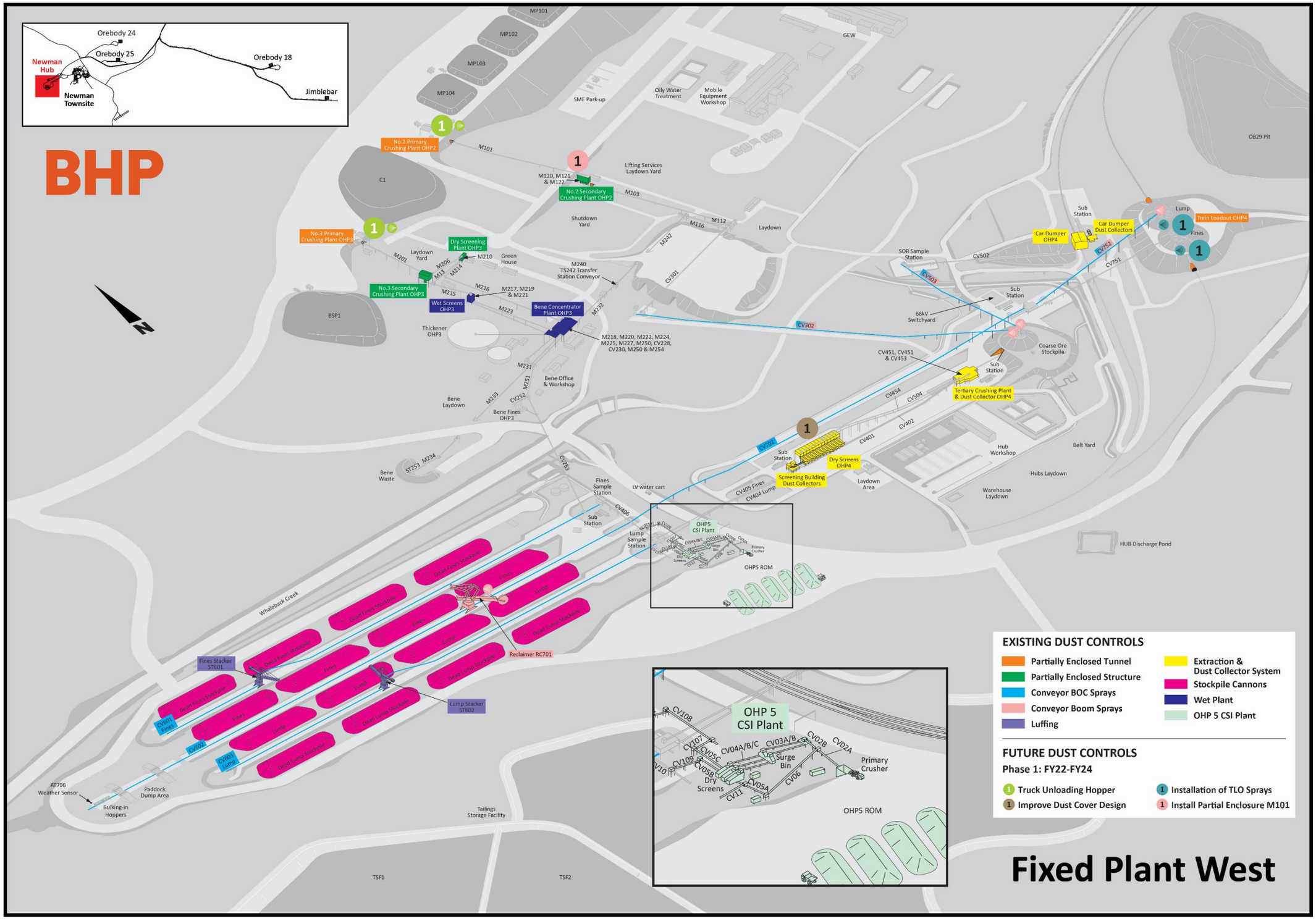


Figure 2: Existing and proposed dust controls at the 'fixed plant west'

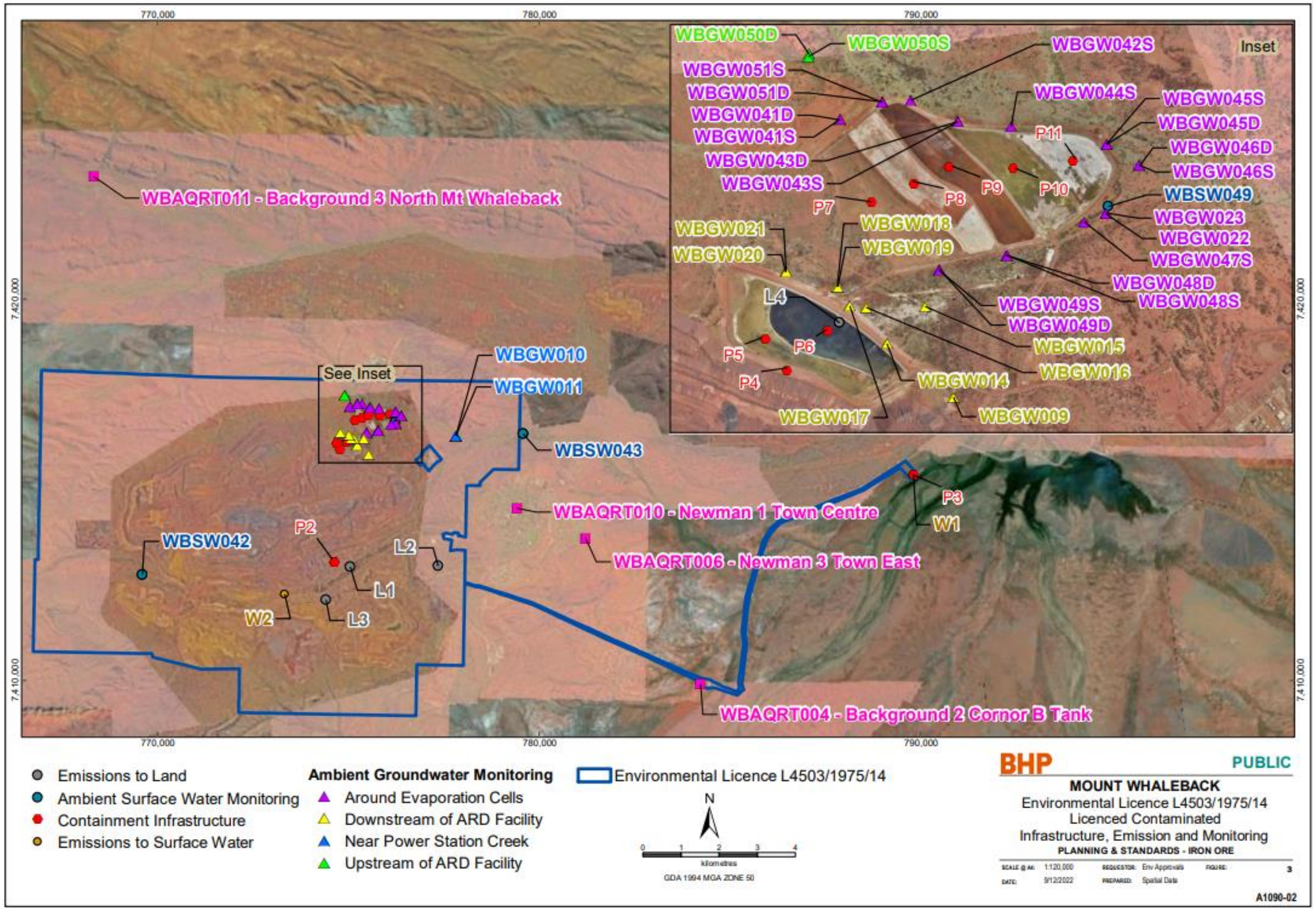
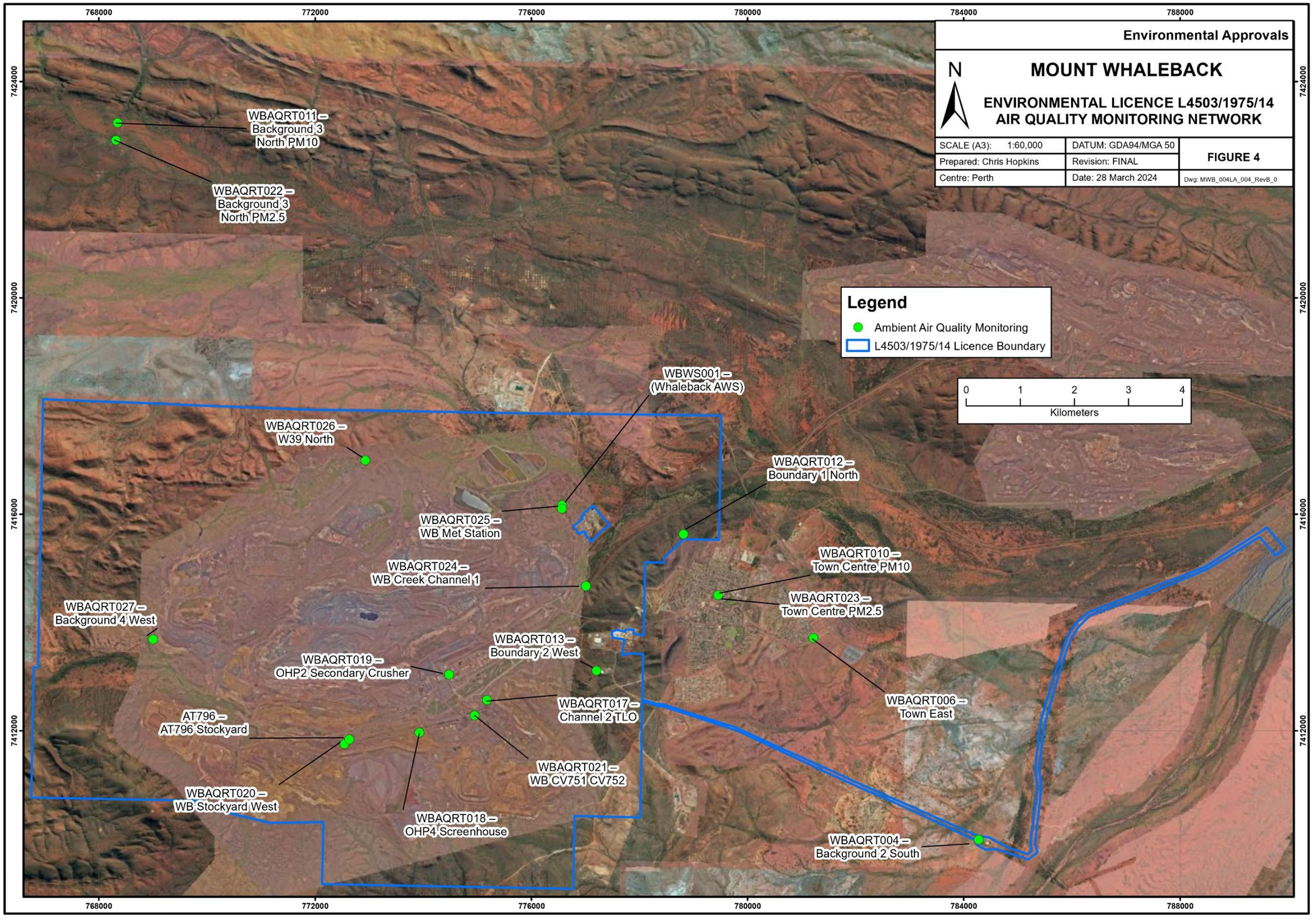


Figure 3: Map of containment infrastructure, emission and monitoring points



Document Path: G:\AssetDev\Env A&I\01 Approvals\02 WB Hub\03 Licence & WA\010 WB Screening Plant LA\05 Spatial\Dust MP\Figure 4 MWB_004LA_004_RevB_0.mxd

Figure 4: Air quality monitoring network

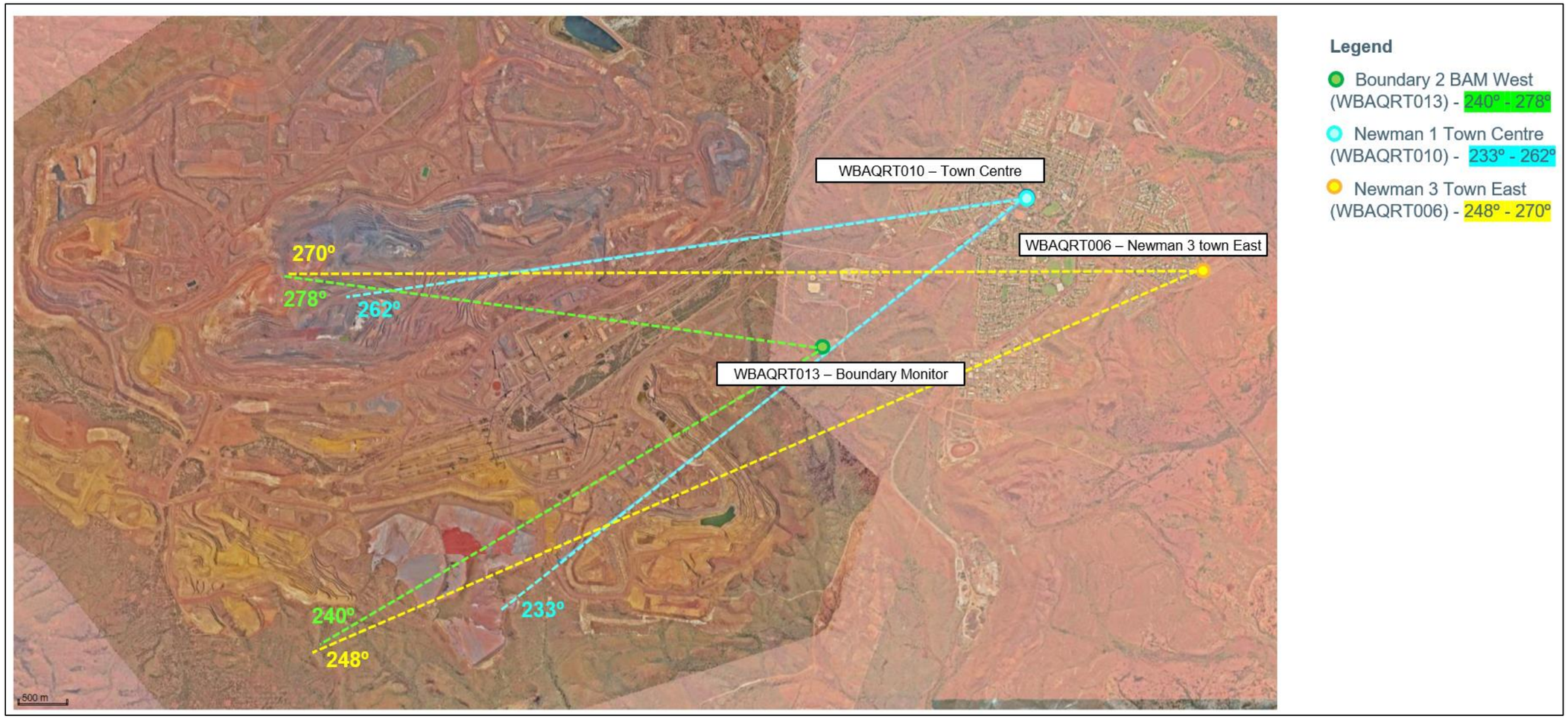


Figure 5: Management trigger wind arcs for boundary and ambient monitors

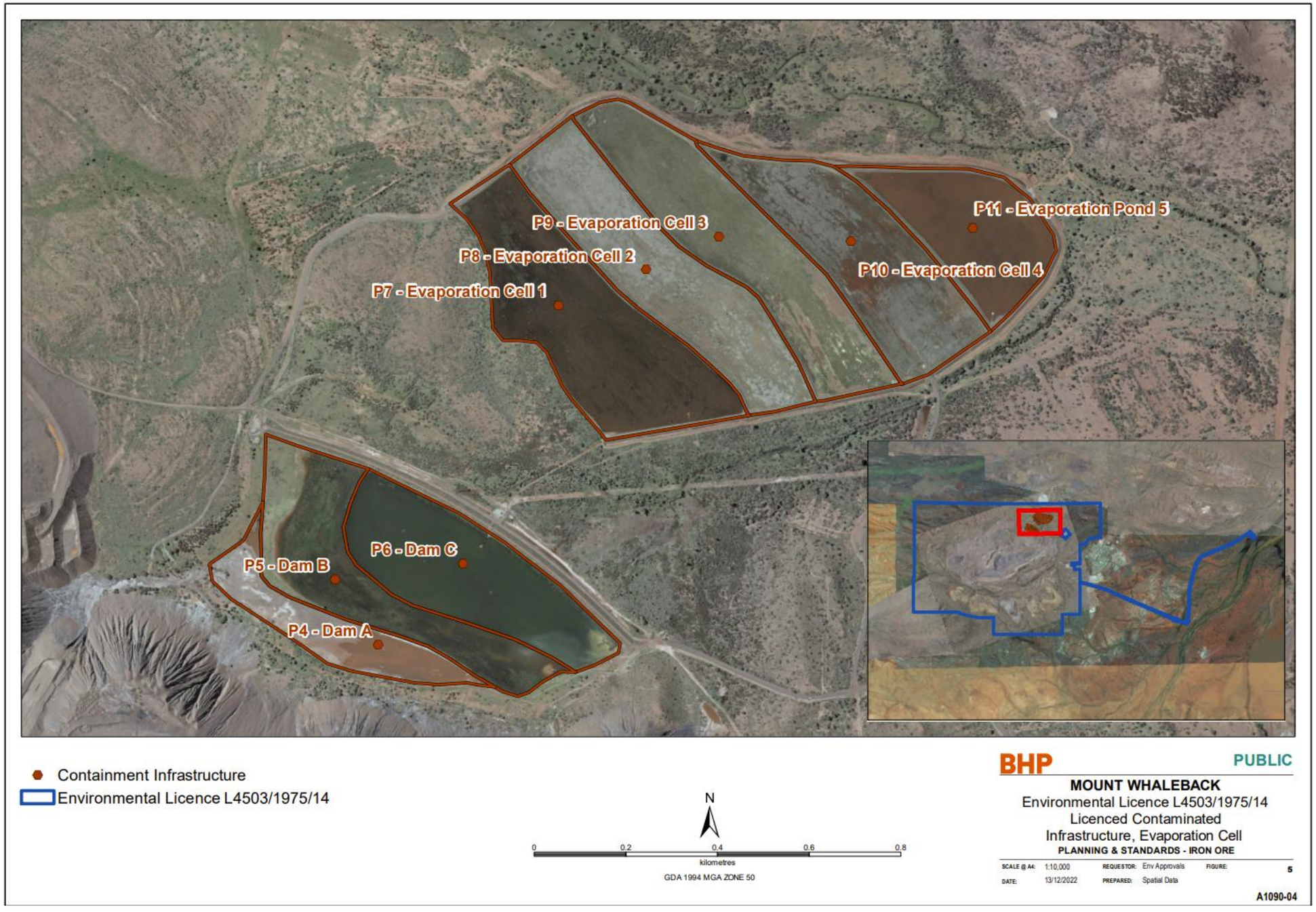


Figure 6: ARD Facility

Schedule 2: Premises coordinates

The premises boundary is defined by the coordinates in Table 12.

Table 12: Premises boundary coordinates (GDA94 MGA Z50)

Easting	Northing
779513.71	7417827.58
779470.28	7415531.20
778814.47	7415543.48
778458.11	7415199.77
778456.43	7415110.05
778102.77	7415116.72
778077.29	7413765.48
778073.62	7413765.32
777904.82	7413790.52
777887.23	7413793.15
777894.69	7413861.37
777880.64	7413863.19
777775.48	7413876.82
777745.68	7413860.27
777734.64	7413835.98
777601.63	7413858.76
777573.49	7413863.58
777487.40	7413830.46
777487.40	7413830.42
777502.85	7413720.09
777717.52	7413685.89
777690.39	7413494.10
777679.31	7413406.76
777703.74	7413403.74
777830.67	7413432.44
778039.51	7413418.30
778066.09	7413416.50
778070.69	7413415.09
778054.88	7412576.53
778066.81	7412572.72
778076.24	7412569.70
778171.18	7412539.37
778244.52	7412515.94
778275.69	7412505.98
778322.93	7412497.24
778362.60	7412491.81
778407.10	7412493.96
778415.15	7412494.35
778421.17	7412494.64
778435.11	7412490.08
778562.63	7412448.36
778614.16	7412431.51

Easting	Northing
778646.91	7412420.79
778756.40	7412384.97
778764.66	7412382.27
778828.33	7412361.44
778914.77	7412334.02
779040.58	7412294.10
779309.00	7412208.95
779410.14	7412176.86
779688.45	7412088.57
779799.08	7412053.47
779822.79	7412042.59
780018.09	7411952.92
780147.89	7411893.32
780489.58	7411736.44
780539.67	7411713.44
780622.09	7411675.60
780948.36	7411530.14
781010.14	7411502.60
781394.47	7411331.25
781491.59	7411287.95
781499.32	7411284.50
781624.79	7411226.03
781779.47	7411153.95
781988.18	7411056.68
782030.42	7411037.00
782113.24	7411000.86
782423.16	7410865.65
782531.79	7410818.25
782628.03	7410776.26
782839.08	7410683.20
782933.81	7410641.44
783347.40	7410459.07
783368.49	7410449.77
783422.88	7410425.79
783810.77	7410249.45
783927.05	7410196.58
784032.77	7410148.52
784036.55	7410147.07
784072.04	7410133.38
784221.56	7410075.73
784240.40	7410068.46
784255.72	7410062.56

Easting	Northing
784265.93	7410060.82
784273.29	7410059.57
784478.28	7410024.77
784499.10	7410013.18
784548.17	7409985.85
784633.49	7409938.33
784785.30	7409853.78
784849.92	7409831.58
784877.47	7409822.11
784965.28	7409791.94
785183.96	7409716.80
785257.15	7409785.59
785259.35	7409787.65
785250.97	7409825.76
785245.83	7409849.13
785243.68	7409858.90
785230.06	7409920.85
785239.85	7409993.83
785262.59	7410163.46
785271.92	7410233.02
785277.12	7410271.81
785284.85	7410329.43
785320.75	7410600.08
785363.26	7410945.83
785323.58	7411320.87
785338.70	7411493.75
785386.65	7411900.45
785392.55	7411950.50
785432.22	7412210.76
785456.88	7412296.81
785607.93	7412823.86
785832.39	7413521.51
785909.85	7413726.50
786068.75	7413982.99
786139.10	7414046.45
786300.20	7414191.76
786579.94	7414298.56
786680.78	7414337.06
786736.28	7414358.25
786905.57	7414422.88
787119.23	7414504.45
787217.13	7414542.73

Easting	Northing
787789.45	7414766.53
787905.59	7414811.94
788466.35	7415032.06
788778.33	7415229.22
789143.50	7415460.00
789503.00	7415690.91
789532.60	7415709.93
789606.77	7415757.57
789638.01	7415721.63
789692.48	7415658.95
789853.81	7415473.33
789939.30	7415374.97
789919.09	7415359.48
789891.71	7415338.49
789771.71	7415246.50
789701.51	7415323.70
789505.14	7415539.64
789468.47	7415579.97
789071.70	7415333.41
788778.33	7415157.42
788489.02	7414983.88
788410.87	7414951.32
787829.07	7414708.97
787080.64	7414419.49
786337.98	7414132.25
786239.43	7414035.04
786130.15	7413927.25
786125.23	7413919.59
785979.76	7413693.44
785908.91	7413504.50
785896.29	7413464.55
785860.70	7413351.85
785689.18	7412808.75
785516.28	7412193.05
785473.79	7411973.18
785454.32	7411801.23
785400.30	7411324.19
785398.21	7411305.76
785435.56	7410946.83
785318.86	7409913.30
785364.21	7409758.37
785363.14	7409757.49
785336.95	7409735.76
785197.94	7409620.45
785103.92	7409650.18
784604.65	7409808.10
784591.64	7409812.22

Easting	Northing
784494.99	7409807.52
784397.04	7409802.77
784238.33	7409888.74
784191.48	7409988.87
784090.82	7410034.20
783594.53	7410264.66
783256.62	7410422.01
782606.30	7410723.36
782089.64	7410940.82
781703.75	7411118.26
781605.97	7411163.23
781342.29	7411284.47
781334.00	7411288.28
780589.85	7411639.91
780584.30	7411642.54
780256.08	7411795.42
779835.93	7411991.12
779508.10	7412099.72
779323.14	7412160.99
779185.84	7412206.48
779174.72	7412210.16
779017.83	7412262.13
778983.26	7412273.58
778948.76	7412284.78
778921.48	7412293.63
778736.26	7412353.73
778586.11	7412402.44
778415.50	7412457.80
778406.53	7412457.18
778406.41	7412457.17
778390.08	7412456.04
778352.70	7412453.45
778348.46	7412453.16
778311.64	7412464.84
778054.31	7412546.53
778016.77	7410554.76
778014.09	7410398.86
776799.83	7410422.92
776774.56	7409077.43
773273.49	7409142.97
772931.95	7409149.11
772532.04	7409156.58
772129.57	7409164.07
772134.17	7409413.36
772138.78	7409663.45
772143.40	7409913.55
772148.01	7410163.63

Easting	Northing
772150.72	7410310.49
772150.71	7410310.49
772129.67	7410310.22
772129.47	7410310.22
771957.95	7410308.08
771159.02	7410298.08
770529.12	7410450.11
770520.52	7410452.19
769872.04	7410608.70
769850.88	7410706.53
769534.05	7410712.41
766747.30	7410762.65
766791.00	7413171.49
766874.20	7413170.70
766877.64	7413354.40
766882.32	7413604.50
766887.00	7413854.49
766891.67	7414104.47
766896.35	7414354.46
766901.02	7414604.44
766905.70	7414854.42
766910.37	7415104.41
766915.05	7415354.39
766919.72	7415604.39
766924.40	7415854.39
766929.07	7416104.39
766933.74	7416354.39
766938.41	7416604.40
766947.76	7417104.41
766957.10	7417604.41
766966.97	7418132.43
767162.41	7418124.55
767540.41	7418109.30
767940.41	7418093.17
768340.42	7418077.03
768740.42	7418060.90
769140.42	7418044.77
769540.43	7418028.63
769940.44	7418012.50
770340.44	7417996.36
771040.44	7417968.13
771940.44	7417937.04
772740.45	7417923.44
773940.48	7417903.04
775140.52	7417882.64
775287.56	7417880.14
779513.71	7417827.58

Easting	Northing
776778.55	7415778.56
776891.19	7415640.23
776943.61	7415682.76
776956.62	7415668.99
776976.47	7415683.38
777006.00	7415647.30
776994.46	7415637.90
777024.40	7415601.71
777114.30	7415493.02
777136.46	7415524.11
777155.97	7415548.26
777174.82	7415569.09
777205.58	7415600.84
777229.06	7415623.00
777243.72	7415636.69
777341.18	7415728.69
777349.45	7415734.79
777356.72	7415740.74
777370.28	7415750.00
777391.45	7415762.57
777410.30	7415775.14
777431.14	7415790.68
777446.35	7415804.57
777398.48	7415860.20
777200.14	7416090.66
777139.92	7416160.62
777050.87	7416090.66
776964.46	7416022.76
776953.88	7416014.45
776968.94	7415995.89
776968.00	7415995.19
776921.31	7415955.57
776944.65	7415920.83
776778.55	7415778.56

Schedule 3: Primary activities

At the time of assessment, emissions and discharges from the primary activities associated with the prescribed premises categories described on the cover page to this licence, were considered in the determination of the risk and related conditions for the premises.

The iron ore's considered in the determination of risk and related conditions for the premises includes the iron ore produced from the premises from the Mt Whaleback Pit and Orebodies 29, 30, 35, Eastern Syncline, Silver Knight and Bill's Hill; in addition to ore received at the premises via rail and car dumper from Eastern Ridge Operations (Orebodies 24, 25, 32 and 33) and Orebody 17/18/31 and Jimblebar (Wheelarra Hill).

The primary activity infrastructure and equipment situated on, or authorised for construction on, the premises is listed in Table 13 with infrastructure and equipment depicted in Figure 1, Figure 2 and Figure 3.

Table 13: Infrastructure and equipment

No.	Infrastructure/Equipment	Site plan reference
Category 5: Processing or beneficiation of metallic or non-metallic ore		
1.	3 x Primary crushers (or similar)	Figure 2: • OHP2; OHP3; OHP5
2.	4 x Secondary crushers	Figure 2: • OHP2 (3 in total); OHP3 (1 in total);
3.	3 x Tertiary crushers	Figure 2: • OHP4 (3 in total)
4.	22 x Screens	Figure 2: • OHP3 (3 x wet screens; 3 x dry screens); • OHP4 (13 dry screens); • OHP5 (3x dry screens)
5.	1 x 2mtpa mobile screening plant	Figure 2: Located withing the Fixed Plant West area, no less than 3.5 km from the Town of Newman.
6.	Beneficiation Plant – ore concentrator to beneficiate lower grade ore.	Figure 2: OHP3 (Bene Concentrator Plant; Thickener; Bene Waste)
7.	Conveyor Belts	Figure 2: <u>OHP2:</u> • M101, M103, M112, M120, M121, M122, CV301, CV302 <u>OHP3:</u>

No.	Infrastructure/Equipment	Site plan reference
		M13, M201, M206, M210, M214, M215, M216, M217, M218, M219, M220, M221, M222, M223, M224, M225, M227, M231, M232, M116, M233, M234, M240, M242, M250, M251, CV228, CV230, CV234, CV235, CV252, CV253, CV301, CV302 <u>OHP4:</u> CV401, CV402, CV404, CV405, CV406, CV451, CV452, CV453, CV454, CV501, CV502, CV503, CV504, CV601, CV602, CV603, CV604, CV701, CV702, CV751, CV752 <u>OHP5:</u> CV02A/B, CV03A/B, CV04A/B/C, CV05A/B/C, CV06, CV107, CV108, CV109, CV10, CV11, ST101.
8.	Stockpiles	Figure 2: Lump; Fines; Dead Lump Stockpile(s); Dead Fines Stockpile(s)
9.	3x Stackers	Figure 2: OHP3: ST253 – Waste OHP4: ST601 – Fines; ST602 – Lump
10.	1x Reclaimer	Figure 2: OHP4: RC701
11.	Car Dumper (CD501) to receive primary crushed ore from orebodies OB24 (Eastern Ridge) and OB18	Figure 2: OHP4: Car Dumper
12.	Train Loadout	Figure 2: OHP4: Train Loadout; Fines; Lump
13.	Tailings Storage Facility	Figure 1: Tailings Storage Facility
14.	Water cart: One water cart for light vehicle roads in the Fixed Plant West area. One watercart dedicated to the 2mtpa mobile screening plant (when the plant is in use) to water the running track of the plant loaders between the stockpile and screening plant and suppressing dust lift off from the stockpile.	N/A – mobile

No.	Infrastructure/Equipment	Site plan reference
Category 6: Mine dewatering		
15.	Dewatering discharge points	Figure 3: • W1; W2; P3 Figure 1: • Tank XD57 Discharge Point
16.	Dewatering pipeline	N/A
Category 54: Sewage facility		
17.	7 x WWTP	Figure 1: • EPCO STP, • Beneficiation Plant STP; • ANFO Yard STP; • Hub STP; • Lab STP; • Security Gate STP; • Warehouse STP
18.	4 x WWTP irrigation areas	Figure 1: • ANFO Yard STP Irrigation Area; • Lab STP Irrigation Area; • Security Gate STP Irrigation Area; • Warehouse STP Irrigation Area
19.	2 x WWTP discharge ponds	Figure 1: • EPCO Sewage Discharge Ponds; • Hub Discharge Pond
Category 61: Liquid waste facility		
20.	Waste oil storage	Figure 1: • Waste Oil Storage Area Main Fuel Farm; • Waste Oil Storage Area MEW
Category 64: Class II or III putrescible landfill site		
21.	4 x Inert Landfills	Figure 1: • Inert Landfill (4 in total)
22.	2 x Putrescible Landfills	Figure 1: • Putrescible Landfill (2 in total)

No.	Infrastructure/Equipment	Site plan reference
23.	5 x Asbestos Disposal Areas: These accept Type 1 special wastes (asbestos) contained within demolition debris waste from onsite and from other BHP premises in the vicinity of Newman. Fibrous material from drill holes during exploration and production drilling are also disposed of at these asbestos disposal sites	Figure 1: • Asbestos Disposal Area (5 in total)
24.	1 x tyre dump Tyres are buried in piles of up to 100 units with 6 m separation distance between each pile. Tyre burial areas are located within the overburden (waste rock dumps) within the Premises boundary depicted in Schedule 1 of the Amended Licence.	N/A – not shown
Category 73: Bulk storage of chemicals etc.		
25.	Fuel storage area	Figure 1: • Main Fuel Farm
Ancillary infrastructure to primary activities		
26.	ARD management areas	Figure 1: • ARD Dams A, B and C; • ARD Evaporation Cells 1-5 Figure 3: • P4; P5; P6; P7; P8; P9; P10; P11
27.	Bioremediation facilities – hydrocarbon contaminated soils	New landfarms, constructed to the specifications outlined in row 9 of Table 15, not shown.
28.	Water carts	N/A – mobile

Schedule 4: Infrastructure and equipment

Table 14: Operational requirements of premises infrastructure and equipment – dust

No.	Infrastructure and equipment	Dust control equipment	Operational requirement	Infrastructure location
	Dust control equipment and infrastructure			
1.	Primary Crushers	Partial enclosure	The ore is primary crushed underground and is fed onto a conveyor inside partially enclosed in a tunnel.	Figure 2: • OHP2 Primary Crusher • OHP3 Primary Crusher
2.	OHP5 Relocatable Crusher	Water sprays; Dust covers and curtains; Belt scrapers and sprays; Transfer station sprays; Secondary cone crusher hoods.	OHP5 Primary Crusher ROM bin hopper spray operating when transporting iron ore, unless during Exclusion Periods. Dust covers on sizing screens in place at all times when screening ore to minimise dust escape. Micro droplet water spray system at transfer chute entry and outlet to contain dust within transfer chutes, unless during Exclusion Periods. Crusher transfer points are enclosed and fitted with water sprays operational when handling ore, unless during Exclusion Periods. Dust sealing rubber curtain at head chute and skirt discharge to contain dust within transfer system. Water sprays must operate on the following equipment, unless during Exclusion Periods: SB01, AF01, CV02A/B, CV03A/B, CV04A/B/C, CV05A/B/C, CV06, CV107, CV108, CV109, CV10, ST101. Secondary Cone Crushers are fed from screens which are fitted with hoods for containment of dust.	Figure 2: • OHP5 CSI Plant
3.	Secondary Crushers	Partial enclosure	The ore is secondary crushed and is fed onto a conveyor underground inside a partially enclosed tunnel.	Figure 2: Secondary Crushing Plant OHP2
4.	Tertiary Crushers and screening	Dry bag dust collectors	Tertiary Crushers have dust hoods and negative pressure extraction to a dry bag dust	Figure 2: Tertiary Crushing Plant OHP4 (Hub)

No.	Infrastructure and equipment	Dust control equipment	Operational requirement	Infrastructure location
			collector DC455. Dust laden air within the screens is extracted with air released via the following dry bag dust collectors that operate to remove particulates: DC415, DC416	Dry Screens OHP4
5.	Truck unloading hoppers	Sprays	Sprays are operated at OHP2 and OHP3 hoppers whenever trucks are unloading ore, once installed in accordance with condition 8, and unless during Exclusion Periods.	Figure 1: OHP2; OHP3
6.	Car Dumper	Wet scrubbers Tunnel and building enclosure	Car dumpers receive ore within the car dumper building. Dust laden air within the car dumper building is extracted with air released via the following wet scrubbers that operate to remove particulates: DC507, DC508 Maintaining newly installed low flow alarm and control system for wet scrubbers DC507 & DC508.	Figure 2: Car Dumper OHP4
7.	All Conveyors (with bulk ore conditioning)	BOC sprays	The following BOC sprays on conveyors must be operated: • BOC503A, BOC603 and BOC752A – whenever transporting ore; • BOC302A – operational except when fines ore from the Beneficiation Concentrator Plant is running along this route; and • BOC702D and BOC702E – operational whenever transporting lump ores, unless during Exclusion Periods.	Figure 2: CV503; CV302; CV603; CV702; CV752
8.	Shuttle Conveyor CV454	Secondary scraper; 2 x spray bars on the bend pulley	Scraper to remove material from underside of the belt.	Figure 2: CV454
9.	Coarse Ore Stockpile Boom Conveyors	Boom sprays	The following boom sprays located on the boom tip of stackers must be operated: • BS302B and BS302C – operational except when fines	Figure 2: CV302 CV503

No.	Infrastructure and equipment	Dust control equipment	Operational requirement	Infrastructure location
			ore from the Beneficiation Concentrator Plant is running along this route. • BS503B and BS503C – whenever transporting ore, unless during Exclusion Periods.	
10.	Stackers (Yard)	Luffing	Stackers are lowered to as low as reasonably practicable to minimise the drop height of ore to the stockpile.	Figure 2: ST601; ST602
11.	Stockyard	Stockyard water cannons	128 stockyard water cannons are routinely operated over the stockpile area except when: • the Stacker or Reclaimer has custody of the pile; • during Exclusion Periods.	Figure 2: Dead Fines Stockpile; Fines; Lump; Dead Lump Stockpile
12.	Reclaimer	Boom sprays	Boom sprays must operate on BS702A and BS702B, except during Exclusion Periods.	Figure 2: RC701
13.	Boom conveyors at TLO stockpiles	Boom sprays	Unless during Exclusion Periods, the following boom sprays on boom tip and underneath the belt must operate when handling ore: BS752B; BS752C; BS752D.	Figure 2: CV751 CV752
14.	Train Loadout	Sprays; Partial enclosure.	Partially enclosed in a tunnel. Sprays operated to condition ore in the train load out, once installed in accordance with condition 8, unless when loading ore with a Moisture Content above the DEM Level for that ore, or during Exclusion Periods.	Figure 2: Train Loadout OHP4
15.	Unsealed roads and open areas	Water carts; Speed limits; Chemical dust suppressants	In the Fixed Plant West area as depicted in Figure 2: • 20km/h speed limit on all unsealed road corners for all light vehicles and total area speed reduction during high dust risk periods. • Water truck/s available during day shift to wet down light vehicle roads. • Water truck operated in accordance with condition 16	N/A

No.	Infrastructure and equipment	Dust control equipment	Operational requirement	Infrastructure location
			(c). Chemical dust suppressants applied to and maintained on unsealed light vehicle roads that are not regularly serviced by a watercart. Chemical suppressants applied to and maintained on unsealed and un-trafficked, non-operational areas.	
16.	2 mtpa Mobile Screening Plant	Dedicated watercart. Water sprays at the: • Transfer point between the screen and stacker; and • Transfer point between the stacker and relevant conveyor.	Maximum throughput of 300 ktpa and maximum operational period of 8-weeks or 56 days (non-consecutively) per annum. To be operated no closer than 3.5 km from the Town of Newman. Operated in a manner that avoids accumulation of waste materials. Dedicated watercart will water running track of loaders between stockpile and plant, and the stockpile. Water sprays at the transfer point between screen & stacker, and stacker to relevant conveyor as to be operated whenever materials are being processed by the crushing and screening plant. Stacker to be positioned immediately prior to an existing water spray (on the relevant conveyor to be loaded). Maintain record of operational dates and times of the mobile screening plant so these can be reviewed against monitoring data.	Figure 2

Table 15: Other infrastructure / equipment controls and operational requirements

No.	Infrastructure/ Equipment	Operational requirement	Infrastructure location
1.	Wastewater treatment vessels and EPCO ponds	The licence holder must manage the wastewater treatment vessels and EPCO ponds such that: (a) overtopping of the wastewater treatment vessels does not occur; (b) stormwater runoff is prevented from entering the wastewater treatment vessels; and (c) vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the wastewater treatment vessels.	Figure 1: Beneficiation Plant STP ANFO Yard STP EPCO STP Hub STP Lab STP Security Gate STP Warehouse STP
2.	OWWTP Evaporation Pond (P2)	Accepts only treated water from the Mobile Equipment Workshop oily water separator. 1.5 mm HDPE lined evaporation pond to achieve a permeability of equal to, or less than 10^{-9} m/s; and Minimum vertical freeboard of 300 mm, unless in a 1 in 100 year, 72 hour duration average recurrence interval rainfall event. Discharges to the OWWTP Discharge Point. Discharge monitored for the parameters specified in condition 31. Discharge quality satisfies limits specified in condition 31.	Figure 1: OWWTP Discharge Point OWWTP Evaporation Pond
3.	EPCO STP unlined pond	Receives only treated wastewater from EPCO STP. Minimum vertical freeboard of 500 mm, unless in a 1 in 100 year, 72 hour duration average recurrence interval rainfall event.	Figure 1: EPCO Sewage Discharge Ponds
4.	Tank XD57	Authorised to receive RO reject water from the Newman WTP for blending with dewater that is used for dust suppression. Brine reject water from the WTP will only be discharged to the Tank XD57 discharge point in the event that the ARD Facility is temporarily unavailable e.g. undergoing maintenance or is at capacity. Discharges to the Tank XD57 Discharge Point only in the event that temporary storage and reuse, and tank storage has been exhausted, and in accordance with volume and quality limits specified in condition 32.	Figure 3: L2
5.	Hub Turkeys Nest	Contingency discharge from Hub Turkeys Nest in the event that temporary storage and reuse, and Turkeys Nest storage has been exhausted.	Figure 3: L3
6.	Ophthalmia Dam discharge point	Discharge of dewater abstracted from Orebody 29/30/35 and reject water from Newman Water Treatment Plan and in accordance with volume and quality limits specified in condition 31. Contingency discharge of RO reject water from P3 for a period of up to eight (8) weeks per annual period.	Figure 3: W1, P3

7.	Whaleback Creek discharge point	Only to accept stormwater from the west end of Whaleback Pit. Emergency discharge to Whaleback Creek in the event that reuse and storage of water have been exhausted.	Figure 3: W2
8.	ARD dams and evaporation cells	Licence holder must manage the wastewater treatment dams and evaporation cells such that: (a) overtopping of the ponds does not occur; (b) a freeboard at or below 500 mm, unless in a 1 in 100 year, 72 hour duration average recurrence interval rainfall event; (c) the integrity of the containment infrastructure is maintained; and (d) vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.	Figures 3 and 6: P4, P5, P6, P7, P8, P9, P10, P11
9.	Bioremediation facilities	The licence holder must store all recovered hydrocarbon-contaminated soils within a storage area that achieves a permeability of equal to, or less than 10^{-9} m/s and designed to contain all potentially contaminated stormwater.	N/A

Schedule 5: Quarterly Reporting

The following schedule outlines the investigation and reporting requirements triggered as a result of condition 11, Reportable Events as a result of dust monitoring boundary or ambient Reportable Event Criteria (as specified in Table 4) being exceeded.

Reporting Frequency

Reports must be submitted to the CEO on a quarterly basis, within 45 calendar days of the end of each quarter defined below:

- 1 January to 31 March,
- 1 April to 30 June,
- 1 July to 30 September; and
- 1 October to 31 December.

Contents of Report

The Quarterly report must contain the following details:

1. All validated boundary air quality and meteorological monitoring data for the quarterly period as recorded at those Monitoring Stations specified in Table 3 of condition 10, and provided in the format specified in Schedule 6. Monitoring Stations must refer to the same Station Name and Station ID as specified in Table 3 of condition 10.
2. The following information to support the investigation of Reportable Event criteria exceedances listed in condition 13:
    - date(s), time and duration of event;
    - a comparison of boundary air quality monitoring data and meteorological data with the data recorded at ambient monitoring stations specified in Table 3, and as depicted in Figure 4;
    - time series graphical plots of PM_{10}, including but not necessarily limited to dust scatter plots (dust roses), for the Monitoring Stations referred in Table 3 on the day/s on which the event occurred;
    - a comparison of moisture content against DEM levels for each ore outloaded during the 24-hour period; and
    - root cause analysis for the exceedances:
        - review of PM_{10} concentrations at the WBAQRT010, WBAQRT011, WBAQRT004 and WBAQRT006 monitors to determine background influence;
        - review of all meteorological data, including temperature (meteorological stations only), wind speed and direction, as measured at each monitoring station specified in column 1 of Table 3 and depicted in Figure 4 of Schedule 1;
        - review of boundary and on-site dust data from monitoring stations specified in column 1 of Table 3 and depicted in Figure 4 of Schedule 1, to identify potential premises dust sources that may have contributed to the exceedance;
    - investigation by the licence holder into the cause(s) of the Reportable Event, including the extent to which the licence holder's activities contributed to the Reportable Event through the provision of the following information:

- in the 24-hour period of the Reportable Event, a breakdown of total amount (in wet tonnes) and source of iron ore:
  - in-loaded at the Premises;
  - outloaded to rail from the Premises; and
  - crushed and screened at each ore handling plant;
- the availability of dust control infrastructure as per Condition 3, for the 24-hour period of the Reportable Event;
- all corrective and management actions undertaken including but not limited to those specified in, Conditions 12 and 14; and
- all corrective and mitigation measures proposed for the avoidance of similar Reportable Events where it is determined that Premises activities are a significant contributor to the Reportable Event.

- complaints received that may have been caused by this exceedance.

Schedule 6: File format for monitoring data

The licence holder must ensure that validated (particle, gas and meteorological instrument data) results of air quality monitoring are provided as a comma delimited time series listing on a suitable computer readable medium. An example is given below. Variations on this format may be acceptable to DWER following discussions and approval from the DWER Air Quality Branch.

SITE NAME:XXXXXXXXXX

column description

ddmmyyyy HHMM,x,x,x,…

ddmmyyyy HHMM,x,x,x,…

↓

↓

↓

ddmmyyyy HHMM,x,x,x,…

where:	**dd** is the two digit day of the month i.e. 01, 02,…,31
	mm is the two digit month of the year i.e. 01, 02,…,12
	yyyy is the four digit year i.e. 2009, 2010, …
	HH is the two digit hour code i.e. 00, 01,…,23
	MM is the two digit minute code i.e. 00, 10, 15,…,55
	x,x,x is the comma delimited decimal data.

The time period for comma delimited time series listing must represent the end of the data period. Hence the first timestamp for any day must be 0005 hours and the data associated with this time stamp must be the averaged data for the period up to this time i.e. from midnight to 0005 hours. The last time for any day must be 2400 and the data associated with this time stamp must be the averaged data for the period up to this time i.e. from 2355 hours to midnight.

If the above method of timestamping is not achievable by your system, then the time series listing can be timestamped at the **start** of the period with the first timestamp of each day being 0000 hours which represents data from midnight to 00:05 and ends at 2355 hours which represents data from 23:55 to midnight on the same day. Erroneous or invalid data must be denoted as a blank (**not** a space) or a numeric error code such as -99.0 within the data set. There should be no spaces in the data lines other than that between the date and time.

The covering documentation will indicate if the data timestamp is at the start of the data averaging period or the end of the data averaging period.

The following additional data is also required for each transect:

- Upwind concentration
- Windspeed during traverse
- Ambient temperature
- Sigma theta (maybe not)

An example five-minute averaged data set comprising eight parameters is provided below.

SITE NAME:- GENERIC AQMS

Date_Time,CO_ppm,NO_ppb,NO2_ppb,NOx_ppb,SO2_ppb,O3_ppb,PM10_ ug_m3,PM2.5_ug_m3

26/04/2013 2325,0.2,31.4,11.4,42.8,,0.2,10.0,5.3

26/04/2013 2330,0.2,26.6,12.6,39.3,,0.1,8.6,4.7

26/04/2013 2335,0.1,14.8,14.6,29.4,,0.1,8.2,5.1

26/04/2013 2340,,,,,,,,

26/04/2013 2345,,,,,,,,

26/04/2013 2350,0.2,25.7,16.2,42,,0.5,14.6,13.4

26/04/2013 2355,0.2,,15.8,36,,0.6,14.2,11.3

26/04/2013 2400,0.2,,15.1,35,,0.5,14.3,9.7

27/04/2013 0005,0.2,24.8,15.3,40.1,,0.5,12.8,9

27/04/2013 0010,0.3,27.1,14.6,41.8,,0.4,12.7,9.2

27/04/2013 0015,0.4,33.2,14.5,47.7,,0.4,13.0,8.9

27/04/2013 0020,0.5,26.5,12.6,39.1,,0.2,12.0,7.9

The following units must be used for data submitted as a comma delimited time series listing:

Pollutant	Units	Minimum precision
Carbon monoxide	parts per million	X.X (tenth of a ppm)
all other gases	parts per billion	X (tenth of a ppb)
particles	micrograms per cubic metre	X.X (tenth of a µg/m^3)
wind speed	metres per second	X.X (tenth of a m/s)
wind direction	degrees from north	X.X (tenth of a degree)
sigma	degrees	X.X (tenth of a degree)
air temperature	degrees Celsius	X.X (tenth of a degree)

Pollutant	Units	Minimum precision
relative humidity	%	X.X (tenth of a %)
pressure	hectopascals	X.X (tenth of a hPa)
solar radiation	watts per square metre	X.X (tenth of a watt/m^2)

These units must be used unless approval has been obtained Air Quality Branch to use alternative units.

The proponent must provide:

- Data as five or 10 minute averages. If these are not available, then at shortest available averaging period;
- Site name, instrument manufacturer and model number;
- Site location (Latitude/Longitude GPS coordinates);
- Data validation procedure used to validate data; and
- all reported data must be time-stamped with the actual time to which the measurement refers.

END OF CONDITIONS