Licence

Licence number	L6942/1997/13
Licence holder	BHP Iron Ore Pty Ltd
ACN	008 700 981
Registered business address	Level 1, City Square Brookfield Place 125 St Georges Terrace Perth WA 6000
DWER file number	DER2013/000329-1~6
Duration	12/11/2015 to 16/11/2025
Date of issue	12 November 2015
Date of amendment	23 October 2024
Premises details	Eastern Ridge Iron Ore Mine Legal description – Mining Tenement M244SA as defined by the coordinates in Schedule 2 of the Revised Licence

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production / design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	41 000 000 tonnes per annual period
Category 6: Mine dewatering	19 gigalitres per annual period
Category 63: Class I inert landfill site	10,000 tonnes per annual period
Category 85: Sewage facility	52 cubic metres per day

This licence is granted to the licence holder, subject to the attached conditions, on 23 October 2024 by:

Michael Greenslade Digitally signed by Michael Greenslade
Date: 2024.10.23 12:59:18 +08'00'

MANAGER, PROCESS INDUSTRIES

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

Licence history

Date	Reference number	Summary of changes
08/11/2007	L6942/1997/11	Licence amendment to allow processing of iron ore mined from OB23 and OB25 at the OB25 processing facilities.
11/11/2010	L6942/1997/12	Licence reissue.
15/09/2011	W4982/2011/1	Works approval issued for Orebody 24/25 Upgrade Project. Ore Processing Facility (category 5) and Sewage Treatment Facilities (category 85).
6/12/2012	W5282/2012/1	Works approval issued for Orebody 24/25. Addition of Sewage Treatment Facility (category 85) designed to treat 30 m^3/day of effluent.
14/11/2013	L6942/1997/12	Licence amendment following completion of works approved through works approval W4982/2011/1.
12/11/2015	L6942/1997/13	Licence reissue and amendment, updated to licence template version 2.9.
9/05/2018	L6942/1997/13	Amendment Notice 1 Licence amendment to: • Increase the boundary of L6942/1997/13 (west and north) to include Orebody 24 and amendment of the northeastern section of the premises boundary; • Allow for the construction and operation of dewatering infrastructure from Orebody 24 to the existing Eastern Ridge water network; • Increase the surplus water disposal limit of category 6 by 5.1 gigalitres per annum (GLpa) to a total of 19 GLpa; • Include monitoring point D05 (OB25DMDEW005) which receives overflow from the nearby licenced recharge basins; • Increase the limit of category 5 from 31 mtpa to 32 mtpa; and • Remove Discharge Point D03 (OB25DMDEW003) as it is no longer required for operational purposes.
22/03/2019	L6942/1997/13	Amendment Notice 2 Licence amendment to: • Increase the limit of category 5 from 32 mtpa to 41 mtpa; • Include installation of a 5 mtpa relocatable crusher; • Amend the monitoring frequency for surface water emission point D06 to quarterly while discharging; and • Remove the Orebody 24 pipeline works specification.
26/06/2020	L6942/1997/13	Licence amended to: • Allow for the addition of three new inert landfill south of the existing landfill; • Allow for the disposal of inert concrete waste within any landfill; pit void or overburden storage area (OSA) within the prescribed premises; • Remove the reference to clean fill as a waste; • Remove orebody 24 landfarm from schedule 1 maps as a licensed emission point; • Remove emission point D02 from schedule 1 maps as it has

		been decommissioned; • Remove orebody 24 landfarm as a licensed discharge point; and • Include emission point D07 to the licence.
16/01/2023	L6942/1997/13	Newman Operations Dust Review
23/10/2024	L6942/1997/13	Licence amended to: • Change location of background monitor; • Updates to operational requirements for dust controls on 'roads and open areas'; and • Changes to the operational requirements for the Orebody 24 stacker boom sprinklers and requirements for achieving and measuring use of equipment.

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 41,000,000 tonnes of iron ore per annual period.

2. The licence holder must not extract and discharge to the environment more than 19 gigalitres of groundwater per annual period.

Infrastructure and equipment

3. The licence holder must ensure that the site infrastructure and equipment listed in Table 12 and Table 13 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 12 and Table 13 of Schedule 4.

4. The licence holder must be able to accurately measure and achieve a rate of 90% or more for the:

(a) Average Monthly Availability of all:

(i) Boom sprays on stackers;

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

(iii) BOC sprays, and

(b) Average Monthly Performance (time in auto mode) of all boom sprinklers on stackers at OB24 OHP; and

(c) Average Monthly Performance (time in auto mode) for stockyard water cannons and irrigation sprays (for OB25 OHP once constructed in accordance with Condition 8).

5. 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 12 of Schedule 4.

6. 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

7. The licence holder must conduct a review of the Newman dust monitoring network and submit a report to the CEO that identifies dust control improvements and timeframes for implementation.

8. The licence holder must install and undertake the works for the infrastructure and equipment specified in Table 1, to the requirements and by the completion date specified in that table.

Table 1: Dust monitoring and control infrastructure to be installed

Infrastructure	Specifications (design and construction)	Required completion date
PM_{10} monitor	One Beta Attenuation Monitor located between the OB24 OHP 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 (subject to the outcome of the review of the Newman dust monitoring network required by condition 7). The monitor must also include a Real Time Module for the measurement of PM_{10} over 10-minute averaging periods.	N/A
Stockyard sprays (OB25 OHP)	Install an irrigation system or cannons on RC01 Tripper Stacking Structure to water the Pile F; Pile G; Pile H; Pile J; Pile K; Pile L; Pile M; and Pile N.	Within 12 months of the end of any annual period where greater than 5,000,000 tonnes of iron ore is crushed, screened or otherwise processed at OHP25 infrastructure.
BOC sprays	Recommission the automated BOC sprays at CV05/RC01, CV108/CV104 and CV104/CV04.	
Conveyor dust suppression sprays	Automate the manual sprays on CV102, CV106, CV107 and RC03.	
PM_{10} monitor	One Beta Attenuation Monitor located between the OB25 OHP 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 (subject to the outcome of the review of the Newman dust monitoring network required by condition 7). The monitor must also include a Real Time Module for the measurement of PM_{10} over 10-minute averaging periods.	
WBAQRT022 and WBAQRT011 dust monitor	a) Relocation of these monitors must be sited in accordance with AS/NZS 3580.1.1; b) Ensure that impacts of localised dust sources are managed through adequate separation or suppression of dust source; and c) Within 30 calendar days of the relocation, provide notification to the CEO confirming the relocation activities undertaken, including evidence and certification that the requirements of part a) and part b) have been met.	N/A

9. 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 infrastructure to be constructed

Infrastructure	Specifications (design and construction)	Site plan reference
Orebody 24 Ore Handling Plant upgrades	a) Upgrades to the Orebody 24 Primary Crusher (CR1300), including installation of a new 450 kW crusher motor (speed 750 rpm). b) Upgrades to the Orebody 24 Primary Crusher Discharge conveyor (CV1301) including adjustment to the surge bar height setting.	Schedule 1, Figure 1 – infrastructure labelled 'Orebody 24 Crusher and Train Load Out'
Inert Landfills	The landfills must conform to the following: a) Must stockpile soil onsite for use as cover material during landfill operations; b) Landfill one footprint area of approximately 22,560m^2; c) Landfill two footprint area of approximately 96,930m^2; d) Landfill three footprint area of approximately 166,890m^2; and e) Earthen bunding constructed around landfill trenches.	Schedule 1, Figure 1 – Infrastructure labelled inert landfill

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

Column 1	Column 2	Column 3	Column 4	Column 5
Monitoring Station (refer to Figure 5, Schedule 1)	**Parameter**	**Averaging period**	**Frequency**	**Method**
Ambient monitors, as depicted in Figure 5 of Schedule 1: Background 1 (ER) (OB25AQRT001) Newman 1 Town Centre – PM_{10} (WBAQRT010) Newman 3 Town East – PM_{10} (WBAQRT006)	Particles as PM_{10} ($\mu g/m^3$)	1 hour average	Continuous	AS3580.9.11 AS3580.1.1
		10 minute average	Continuous	AS3580.1.1
	Wind speed (m/s)	10 minute average	Continuous	AS3580.14[2]
	Wind direction (°)			
Ambient monitors, as depicted in Figure 5 of Schedule 1: Newman 1 Town Centre – $PM_{2.5}$ (WBAQRT023) Background 3 – $PM_{2.5}$ (WBAQRT022)	Particles as $PM_{2.5}$ ($\mu g/m^3$)	1 hour average	Continuous	AS3580.9.12 AS3580.1.1
Ambient monitors, as depicted in Figure 5 of Schedule 1: Background 3 – PM_{10} (WBAQRT011)	Particles as PM_{10} ($\mu g/m^3$)			
Boundary monitors: ERAQRT004 OB25AQRT014 OB32AQRT016 as depicted in Figure 5 of Schedule 1; and The OHP24 OHP monitor installed in accordance with Table 1 of condition 8, from the date of first operation of that monitor; and The OB25 OHP monitor installed in accordance with Table 1 of condition 8, from the date of first operation of that monitor, if required[3].	Particles as PM_{10} ($\mu g/m^3$)	1 hour average	Continuous	AS3580.9.11[4] AS3580.1.1
		10 minute average		AS3580.1.1
	Wind speed (m/s)	10 minute average		AS3580.14[2]
	Wind direction (°)			
Meteorological station, as depicted in Figure 5 of Schedule 1: Ophthalmia Met Station (OPWS001)	Temperature	1 hour average	Continuous	AS3580.14
	Rainfall (mm)			
	Relative Humidity (%)			
	Wind speed (m/s)	10 minute average		
	Wind direction (°)			

Note 1: All units are referenced to STP dry
Note 2: AS3580.14 Wind speed (m/s) and Wind direction (°) measurement height requirements do not apply to these monitors as they are 2.5m (AS3580.14 requires a height of 10m).
Note 3: Subject to the outcome of the review of the Newman dust monitoring network required by condition 7.
Note 4: AS3580.9.11 is not applicable to ERAQRT004.

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

Row	Column 1	Column 2	Column 3
	Monitoring Station (Schedule 1)	**Management trigger criteria**	**Reportable Event Criteria**
1.	Boundary monitors (OB24 OHP): OB32AQRT016, as depicted in Figures 5 and 6 of Schedule 1, until the date of operation of the new monitor installed in accordance with Table 1 of condition 8; and The monitor installed in accordance with Table 1 of condition 8, from the date of first operation of that monitor[1].	≥300 µg/m^3 PM_{10} (rolling 1 hour average) and wind direction is averaged between wind arc 59° and 69° as measured at that monitor, for any three or more ten minute periods during the rolling 1-hour period. Unless where, OB25AQRT001 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 45° and 80° as measured at that monitor, for any 12 or more hours (cumulative) over the rolling 24 hour averaging period.
2.	Boundary monitors (OB25 OHP): OB25AQRT014, as depicted in Figure 5 of Schedule 1, until the date of operation of the new monitor installed in accordance with Table 1 of condition 8. The monitor installed in accordance with Table 1 of condition 8, if required by condition 8, from the date of first operation of that monitor[1].	≥300 µg/m^3 PM_{10} (rolling 1 hour average) and wind direction is averaged between wind arc 74° and 87° as measured at that monitor, for any three or more ten minute periods during the rolling 1-hour period. Unless where, OB25AQRT001 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 56° and 93° as measured at that monitor, for any 12 or more hours (cumulative) over the rolling 24 hour averaging period.
3.	Ambient monitors, as depicted in Figure 5 of Schedule 1: Newman 1 Town Centre (WBAQRT010) Newman 3 Town East (WBAQRT006)	N/A	≥70 µg/m^3 PM_{10} (24 hour average measured from midnight to midnight)
4.	Ambient monitors, as depicted in Figure 5 of Schedule 1: Newman 1 Town Centre (WBAQRT023)	N/A	≥25 µg/m^3 $PM_{2.5}$ (24 hour average measured from midnight to midnight)

Note 1: Subject to the outcome of the review of the Newman dust monitoring network required by condition 7.

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 OB24 OHP area for triggers identified through row 1 of Table 4, and OB25 OHP area for triggers identified through row 2 of Table 4, as depicted in Figures 2 and 3, if operational, and 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) applying additional dust suppression; and/or

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

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

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 rows 1 and 2 of Table 4 being exceeded, following investigation undertaken in accordance with condition 12, and ore is being handled within the trigger investigation area, the Licence Holder must undertake the following management actions:

(a) operate all available sprays on all conveyors that are handling iron ore, as specified in Table 12 of Schedule 4, unless the moisture content of the iron ore being handled is known to be Wet Ore;

(b) operate all available dust suppression sprays at transfer stations and conveyors, as specified in Table 12 of Schedule 4, when handling lump iron ore;

(c) apply water to all unsealed/untreated trafficable areas within the relevant OHP area/s, where visible dust is generated from vehicle movement, depicted in Figures 2 and 3 of Schedule 1; and

(d) operate available conveyor boom sprinklers/sprays by increasing watering cycle interval.

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 14 (a) to (d) 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 trigger investigation area; and

(b) wind speed is less than 2 m/s at the Ophthalmia meteorological station OPWS001.

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 wastes accepted onto the landfill, WWTP and bioremediation facility are only subjected to the process(es) set out in Table 5.

Table 5: Waste processing

Row	Waste type(s)	Process	Process specifications [1,2]
1.	Inert Waste Type 1 Inert Waste Type 2	Receipt, handling and disposal of waste by landfilling	<u>All waste types</u> a) disposal of waste by landfilling shall only take place within the landfill area shown on the Map in Schedule 1; b) waste is disposed of in a defined trench or within an area enclosed by earthen bunds; c) no waste shall be temporarily stored or landfilled within 35 metres from the boundary of the premises; d) the tipping area is restricted to a maximum linear length of 30 metres and is no greater than 2 metres in height; and e) the separation distance between the base of the landfill and the highest groundwater level shall not be less than 2m <u>Used Tyres and conveyor belts</u> Shall only be buried in overburden storage areas located within the prescribed premises boundary shown in Schedule 1. <u>Tyres shall only be landfilled:</u> Tyres and rubber must only be buried in landfill, above water table pit backfilling areas and/or overburden storage areas located within the prescribed premises boundary shown in Schedule 1, and: a) 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 b) in batches separated from each other by at least 100 mm of soil and each consisting of not more than 1,000 whole tyres. Tyres must be stored in piles of up to 100 units with a 6m separation distance between piles.

			Inert concrete waste Shall only be buried within the licensed landfill facilities, pits or overburden storage areas located within the prescribed premises boundary shown in Schedule 1.
2.	Sewage	Biological, physical and chemical treatment	Accepted through sewer inflows only and discharged in accordance with Table 8 and Table 13 of Schedule 4.
3.	Sewage sludge	Drying and storage	None specified
4.	Hydrocarbon contaminated waste	Bioremediation of contaminated soil	Contaminated soil is only to be remediated within the Bioremediation Facilities that meet the design specifications outlined in Table 13.
5.		Storage, treatment and disposal of hydrocarbon contaminated water	Treated water from oily water separators: a) OWS 1352-OHP; b) OWS 1353 HV/LV washpad; and c) OWS 1354 MEM, must be contained within evaporation ponds that meet the design specifications outlined in Table 13.

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 acceptance criteria 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	Type 1 Inert waste, clean fill or soil	100 mm	Monthly Plastic waste with the potential to become windblown shall be covered as soon as practicable after deposit.

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 AS5667.10;

(c) all surface water sampling is conducted in accordance with AS5667.4 or AS5667.6 as relevant; and

(d) 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;

(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	Frequency
Groundwater abstraction direct discharge to Opthalmia Dam over existing rip-rap disposal area: D01 Groundwater abstraction to recharge ponds (basins): D04-3 D04-4 Sampling to occur before water travels down the v drain towards a recharge basin at the base of the Ophthalmia Dam wall.	Volumetric flow rate (cumulative)	ML/day	Daily	Continuous
	Electrical conductivity	(µS/cm)	Spot sample	Quarterly when discharging
	pH[1]	pH units	Spot sample	
	Total Dissolved Solids Total Hardness as $CaCO_3$ Total Suspended Soilds Total Recoverable Hydrocarbons (TRH) Aluminium (Al) Arsenic (As) Barium (Ba) Boron (B) Calcium (Ca) Cadmium (Cd) Chlorine (Cl) Carbonate (CO_3) Chemical Oxygen Demand (COD) Chromium (Cr) Copper (Cu) Fluoride (F) 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) Silica (SiO_2) Sulfate (SO_4) Total Nitrogen (TN) Total Phosphorus (TP) Vanadium (V) Zinc (Zn)	mg/L		
Contingency discharge of overflow (via v-drains) from the infiltration basins (D04-4 and D04-3): D05				Weekly when overflow from D04-4 and D04-3 occurs

Monitoring point location	Parameter	Units	Averaging period	Frequency
Contingency discharge from the OB25 TPS tank overflow point to Homestead Creek: D06	Volumetric flow rate (cumulative)	ML/day	Daily	Continuous when discharging
	Electrical conductivity	(µS/cm)	Spot sample	From OB25 TPS tank quarterly when discharging
	pH[1]	pH units		
	Total Dissolved Solids	mg/L		
	Total Suspended Solids	mg/L		
	Total Recoverable Hydrocarbons	mg/L		
Contingency discharge from the OB25 TK1337 tank to mine pit via overflow pipeline/v drain: D07	Volumetric flow rate (cumulative)	ML/day	Daily	Continuous when discharging
	Electrical conductivity	(µS/cm)	Spot sample	From tank TK1337 quarterly when discharging
	pH[1]	pH units		
	Total Dissolved Solids	mg/L		
	Total Suspended Solids	mg/L		
	Total Recoverable Hydrocarbons	mg/L		

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;

(e) at the corresponding frequency,

as set out in Table 8.

Table 8: Monitoring of emissions to land

Monitoring point reference and location on map	Parameter	Units	Limit	Averaging period	Frequency
Orebody 25 Biomax Irrigation Area (discharge point): L1 (irrigation area)	Volumetric flow rate (cumulative)	m^3	30 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			
Orebody 24 Admin WWTP (discharge point): Orebody 24 Treated Sewage Evaporation Pond	Volumetric flow rate (cumulative)	m^3	22 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			
Orebody 24 Turkey's Nest: P1	Total Recoverable Hydrocarbons	mg/L	15	Spot sample	Quarterly
Orebody 25 oily water storage tanks: Orebody 25 OWW Tanks	Total Recoverable Hydrocarbons	mg/L	15	Spot sample	Quarterly

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

Records and reporting

31. 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.

32. The licence holder must submit to the CEO, no later than 1 October each year:

(a) a Compliance Report indicating the extent to which the Licence Holder has complied with the conditions in this licence for the preceding annual period;

(b) a monitoring report providing the results of monitoring and any supporting records, information, reports and data as required by:

(i) condition 4 for the Average Monthly Availability and Average Monthly Performance rate of dust control infrastructure, when in effect;

(ii) condition 10 for the air quality monitoring data obtained in accordance

with Table 3, and in the format specified in Schedule 6;

(iii) condition 11 for a summary of the occurrence of Reportable Events, specified in Table 4, when in effect;

(iv) condition 19 for the monthly waste tonnages of the waste types specified in Table 5;

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

(vi) condition 30 for emissions to land monitoring results as specified in Table 8.

33. 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 8 and 0 of this licence;

(c) any maintenance of infrastructure that is performed in the course of complying with condition 3 of this licence;

(d) a record of instances where management actions are not initiated for the reasons specified in condition 15;

(e) monitoring programmes undertaken in accordance with conditions 4, 10, 19, 29 and 30 of this licence; and

(f) complaints received under condition 31 of this licence.

34. The books specified under condition 33 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.

Definitions

In this licence, the terms in Table 9 have the meanings defined.

Table 9: 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.
AS3580.1.1	means the Australian Standard AS 3580.1.1 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment.*
AS3580.9.11	means the Australian Standard AS 3580.9.11 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM10 beta attenuation monitors.*
AS3580.9.12	means the Australian Standard AS 3580.9.12 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM2.5 beta attenuation monitors.*
AS3580.14	Means the Australian Standard AS3580.14 *Methods for sampling and analysis of ambient air Meteorological monitoring for ambient air quality monitoring applications.*
AS4156.6	means the Australian Standard AS4156.6-2000 *Coal preparation, Part 6: Determination of Dust/moisture Relationship for Coal*.
AS5621	means Australian Technical Specification ATS5621-2013 Iron Ores – rapid moisture determination.
AS5667.1	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.*
AS5667.4	means the Australian Standard AS/NZS 5667.4 *Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made.*
AS5667.6	means the Australian Standard AS/NZS 5667.6 *Water Quality – Sampling – Guidance on sampling of rivers and streams.*
AS5667.10	means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters.*
AS5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters.*
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.
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.
BOC	means bulk ore conditioning

Term	Definition
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/100mL	means colony forming units per 100 mililitres.
clean fill	has the meaning defined in Landfill Definitions.
controlled waste	has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*.
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 AS4156.6-2000 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: (a) compliance with the EP Act or this Licence; (b) 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 equipment described in Column 2 of Table 12 in Schedule 4.
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: (a) when iron ore is presenting on the belt at below the minimum throughput threshold of 300 tonnes per hours; (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 boom sprays on the tip of CV1301, in accordance with Condition 3, Table 12, Row 10. (d) when the iron ore being handled is Wet Ore; (e) during 1-hour periods where rain is recorded at meteorological station OPWS001;

Term	Definition
	(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 sprays/cannons when the effectiveness of the cannons is wind inhibited; and/or (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	means 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.
ISO3087:2011	means the International Standardization Organization standard ISO3087:2011 Iron Ores – Determination of the moisture content of a lot.
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.
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: $\boldsymbol{w = \frac{m1 - m2}{m1} \times 100}$ 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 days apart.
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.
OB24 OHP	Orebody 24 Ore Handling Plant, as depicted in Figure 2.
OB25 OHP	Orebody 24 Ore Handling Plant, as depicted in Figure 3.
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.

Term	Definition
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 days apart.
rehabilitation	means the completion of the engineering of a landfill cell and includes capping and/or final cover.
RO	means 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.
STP dry	means standard temperature and pressure (0^{o}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	means train load out.
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	means 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.
WWTP	wastewater treatment plant

Schedule 1: Maps

Premises map

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

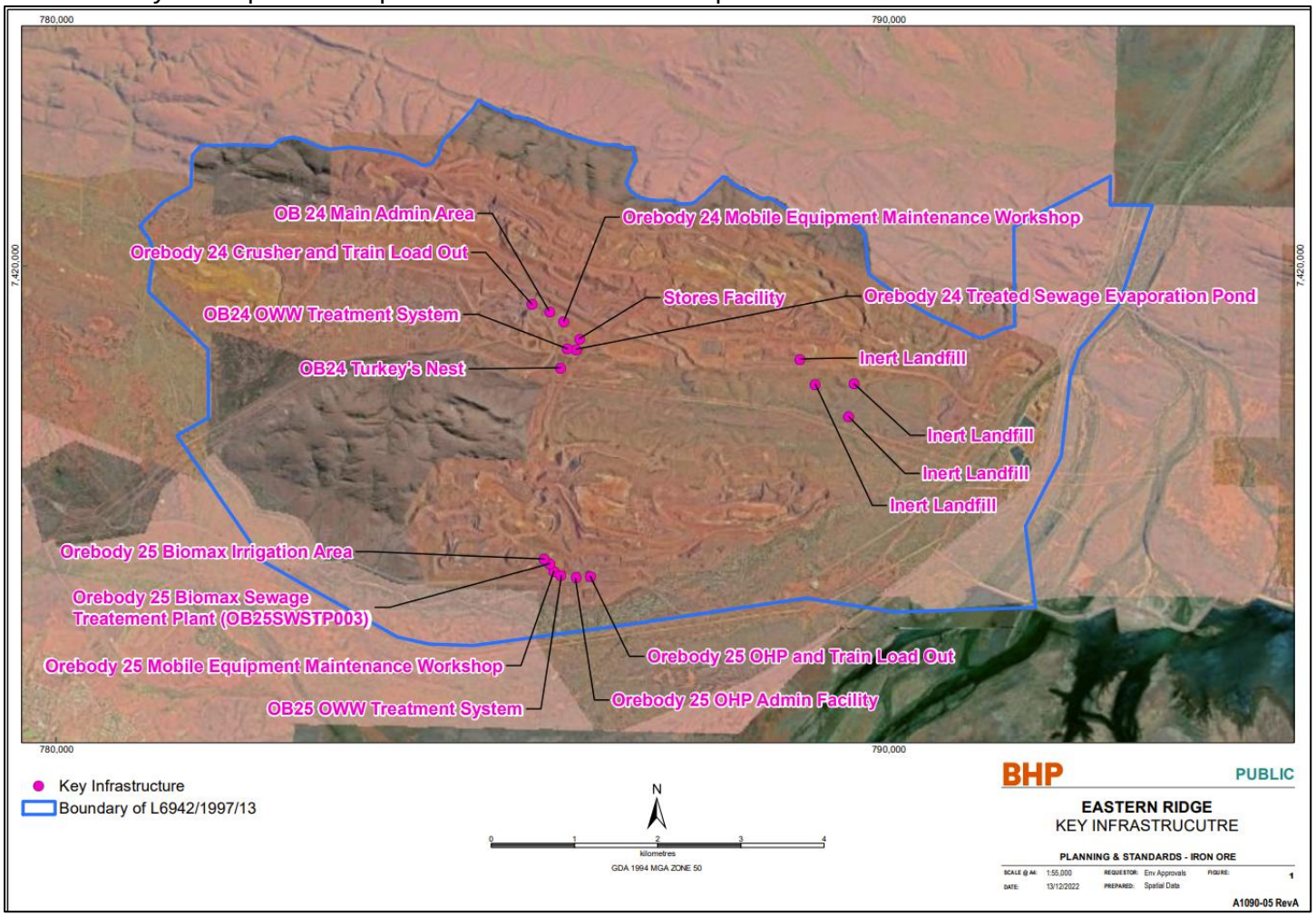

Figure 1: Map of the boundary of the prescribed premises

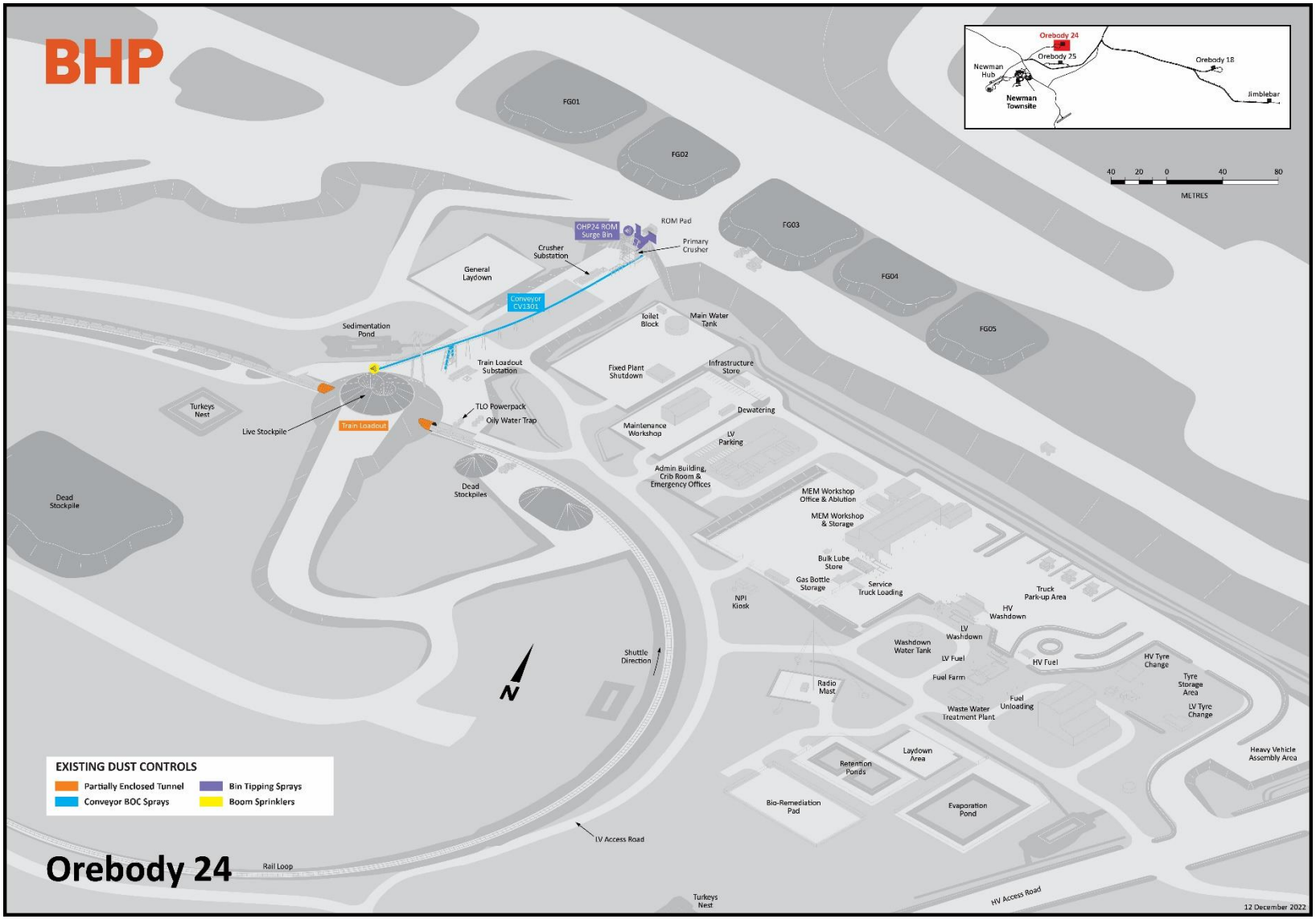

Figure 2: OB24 OHP ore processing infrastructure and associated dust controls

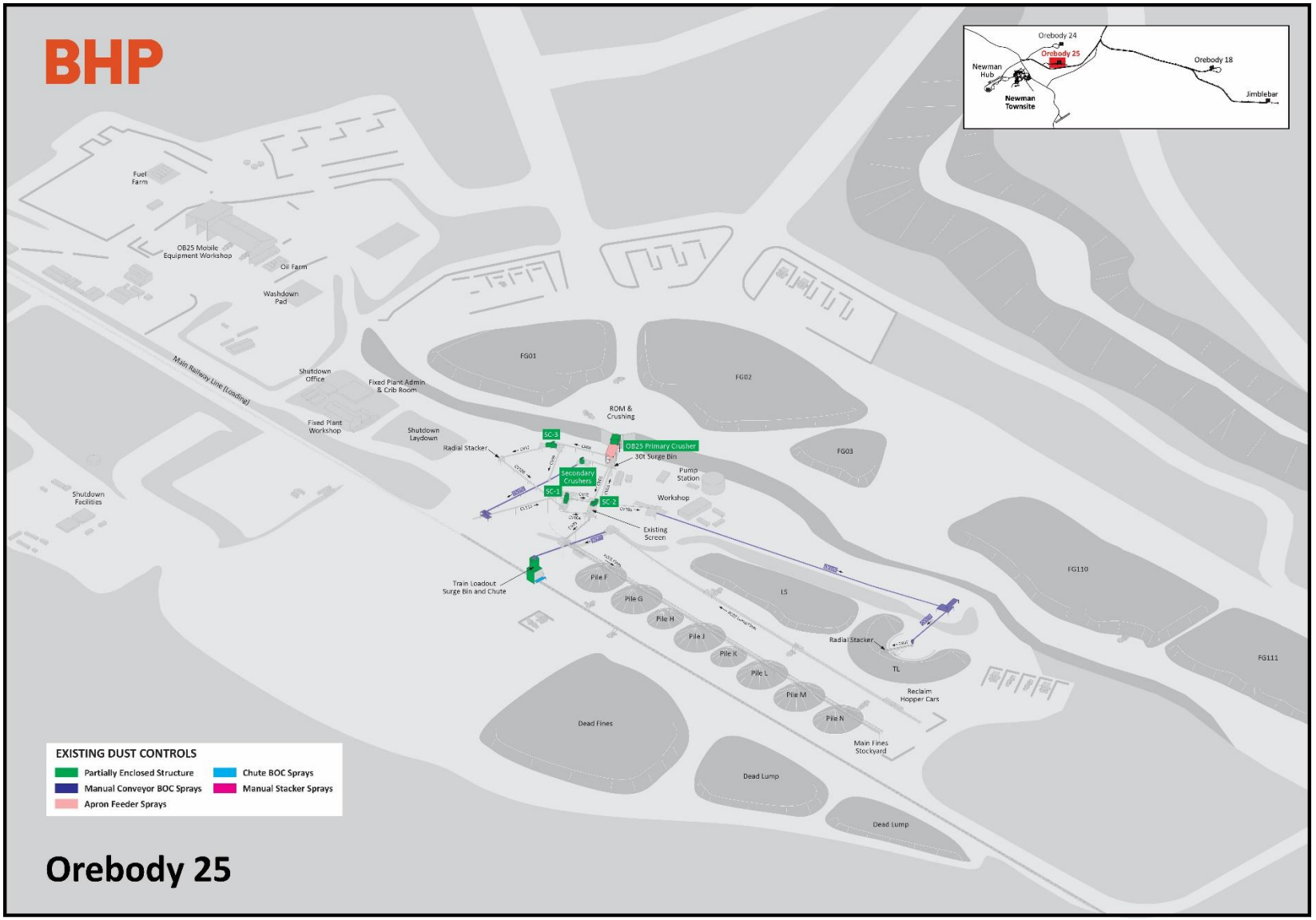

Figure 3: OB25 OHP ore processing infrastructure and associated dust controls

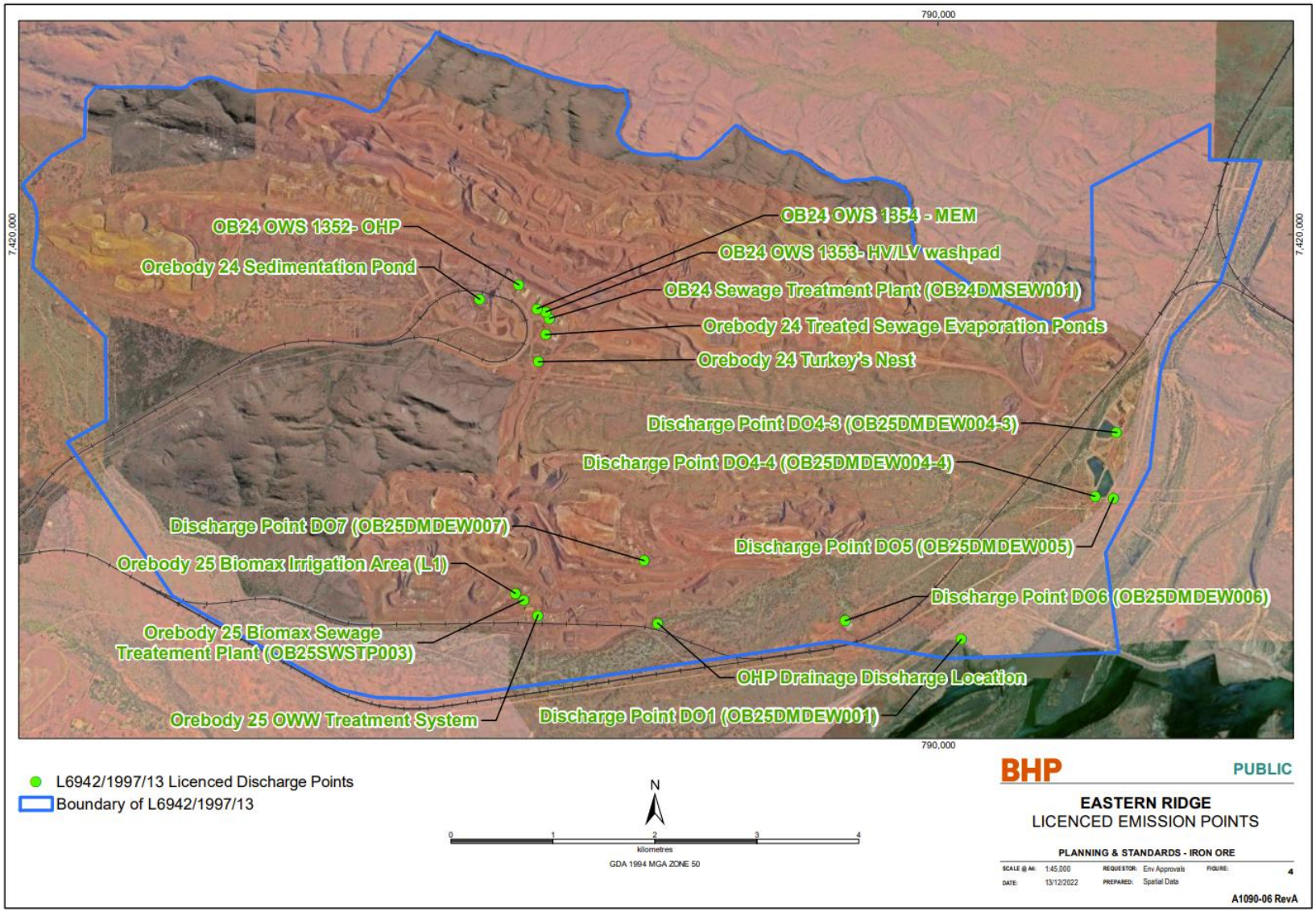

Figure 4: Emission points and OWS ponds

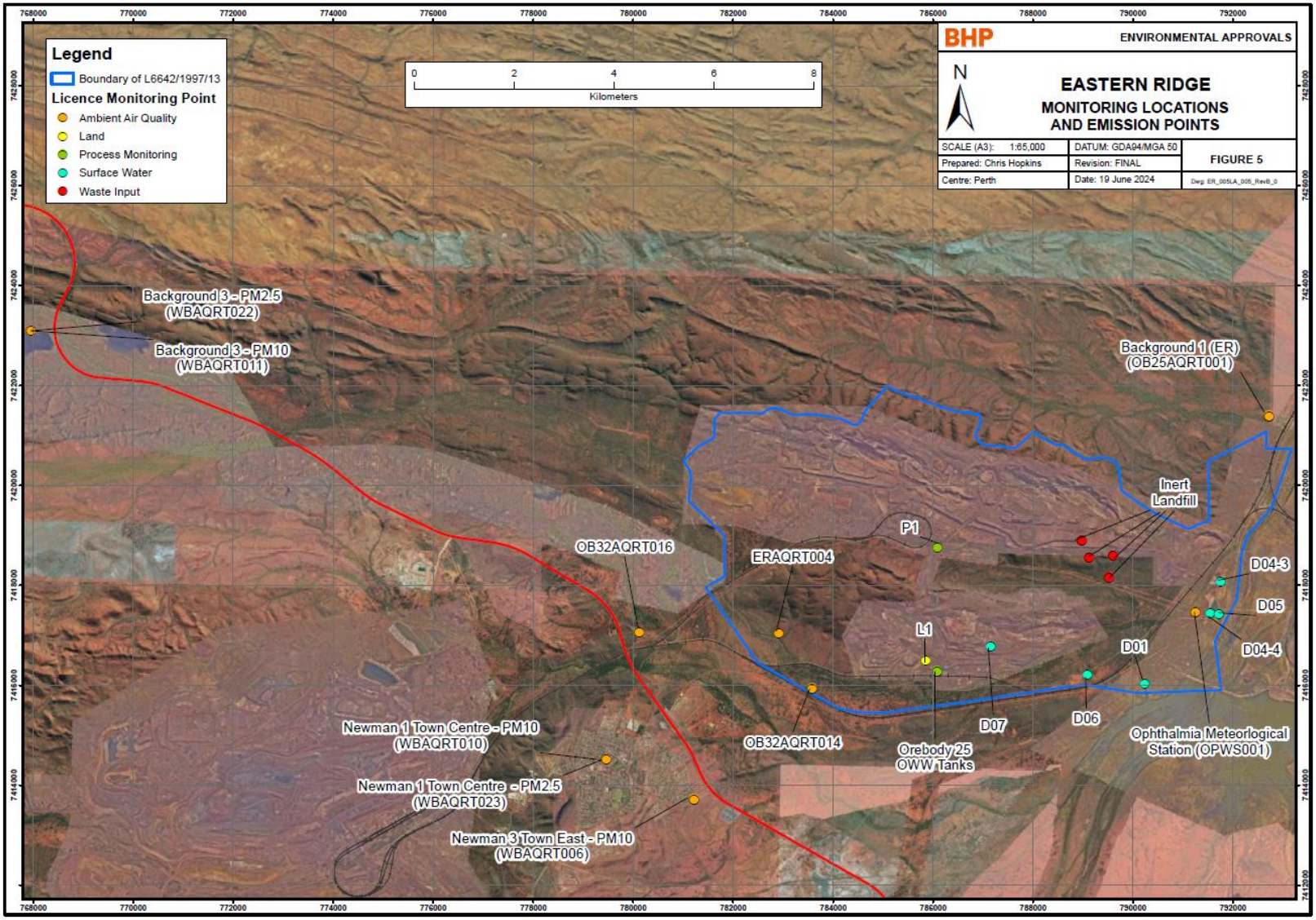

Figure 5: Monitoring locations and emission points

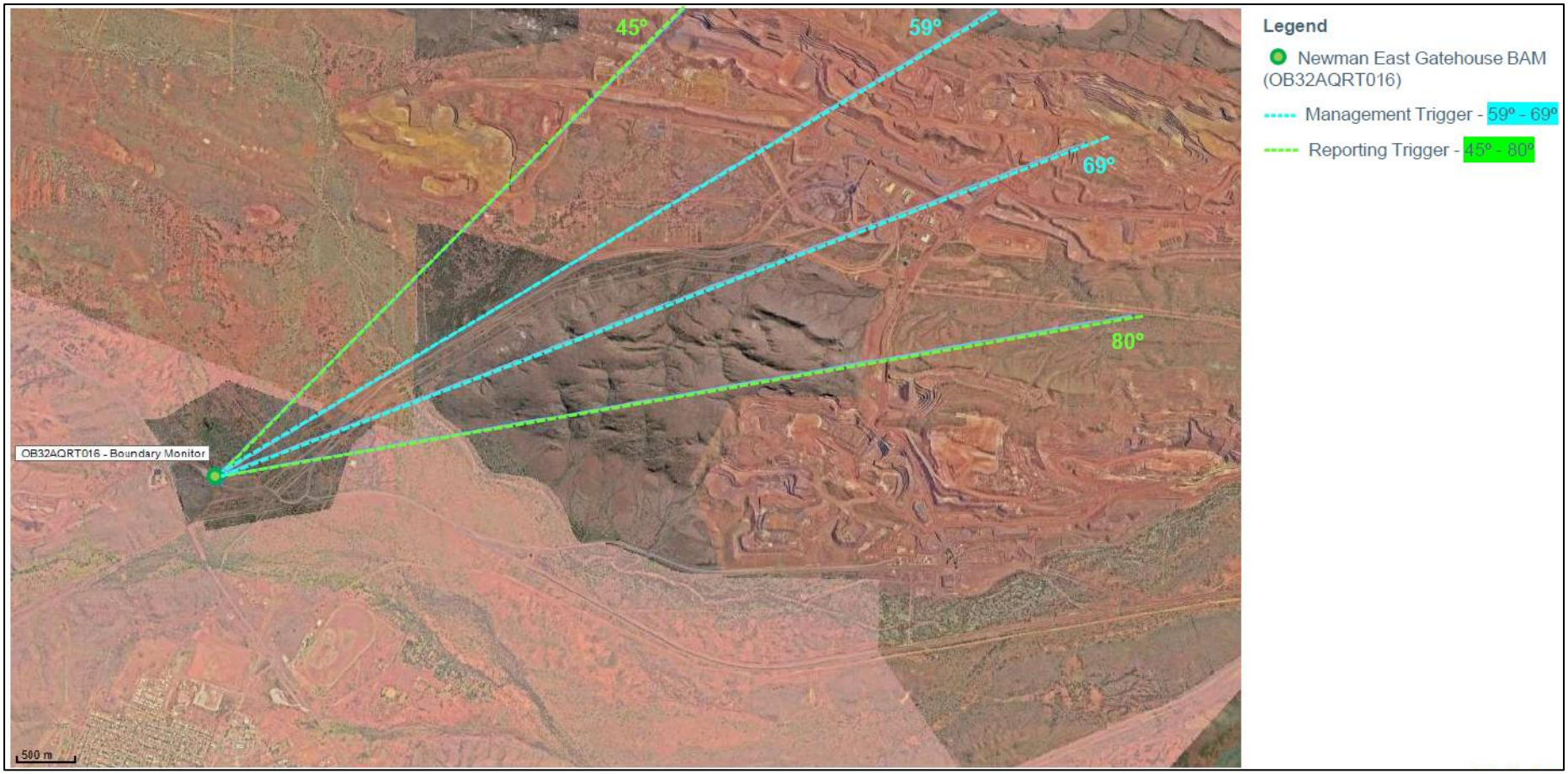

Figure 6: Management trigger wind arcs for boundary monitor

Schedule 2: Premises coordinates

The premises boundary is defined by the coordinates in Table 10.

Table 10: Premises boundary coordinates (GDA94 MGA Z50)

Easting	Northing
786549.76	7421474.9
786661.62	7421462.56
786775.93	7421463.12
786878.33	7421424.38
786958.56	7421432.89
787003.34	7421281.46
786976.35	7421215.58
786954.13	7421176.69
786934.28	7421134.62
786920.79	7421086.2
786889.04	7421000.47
786899.36	7420982.22
786931.11	7420925.86
786940.19	7420910.05
787013.9	7420850.04
787028.04	7420838.52
787124.18	7420804.73
787270.17	7420792.88
787381.73	7420795.61
787386.09	7420795.53
787388.45	7420795.32
787412.48	7420792.66
787416.35	7420792.08
787422.43	7420790.52
787427.7	7420788.47
787457.72	7420774.8
787458.28	7420774.54
787463.79	7420771.52
787549.9	7420752.88
787664.73	7420754.37
787699.02	7420766.11
787723.77	7420781.92
787732.45	7420790.77
787740.92	7420798.77
787756.03	7420811.83
787769.63	7420822.59
787792.07	7420839.19
787808.28	7420850.88
787819.65	7420859.31
787827.47	7420865.37
787838.82	7420874.76
787849.64	7420884.71
787883.68	7420918.26
787917.24	7420952.07
787924.36	7420959.95
787936.11	7420974.12
787943.34	7420982.57
787952.22	7420992.03
787958.11	7420997.3
787965.01	7421002.33
788054.26	7421079.02
788073.47	7421075.15
788073.59	7421075.06
788113.03	7421043.84

Easting	Northing
788184.43	7420984.93
788184.45	7420984.92
788236.41	7420951.47
788285.73	7420933.05
788332.35	7420907.38
788392.22	7420868.48
788449.62	7420842.92
788498.5	7420818.88
788521.99	7420810.94
788542.63	7420818.94
788568.9	7420822.76
788599.62	7420821.88
788633.37	7420814.84
788684.89	7420782.37
788700.41	7420770.79
788757.72	7420742.78
788812.62	7420694.99
788844.73	7420668.11
788869.32	7420651.22
788900.37	7420633.81
788958.85	7420609.62
788992.77	7420592
789017.96	7420566.93
789017.96	7420566.91
789017.96	7420566.87
789017.94	7420566.53
789093.65	7420532.56
789096.53	7420531.35
789098.17	7420530.75
789103.45	7420529.32
789108.22	7420528.51
789113.2	7420528.06
789118.34	7420527.93
789123.16	7420528.06
789134.67	7420529.05
789144.94	7420530.52
789166.06	7420534.42
789200.62	7420541.08
789219.61	7420543.83
789230.02	7420544.82
789240.03	7420545.39
789290.21	7420546.6
789338.19	7420547.87
789339.55	7420548
789339.92	7420548.1
789344.14	7420549.19
789348.51	7420550.64
789373.28	7420559.56
789382.59	7420562.12
789390.82	7420563.8
789403.05	7420565.19
789415.86	7420564.92
789432.26	7420562.81
789443.84	7420560.72
789459.66	7420557.21
789474.75	7420553.35
789503.44	7420545.55

Easting	Northing
789531.24	7420538.01
789550.43	7420533.25
789571.12	7420528.18
789584.4	7420524.36
789596.06	7420520.43
789606.3	7420516.53
789622.61	7420509.47
789635.08	7420503.42
789652.51	7420494.09
789669.82	7420483.94
789677.58	7420478.97
789684.82	7420473.8
789695.48	7420464.99
789703.29	7420457.47
789709.09	7420451.29
789716.59	7420442.31
789723.5	7420432.93
789729	7420424.71
789733.78	7420417.04
789741.02	7420403.91
789746.11	7420392.93
789749.03	7420385.38
789750.31	7420381.85
789753.86	7420370.11
789756.63	7420356.12
789759.01	7420335.54
789761.22	7420308.01
789762.27	7420295.34
789763.5	7420283.69
789766.99	7420260.38
789770.86	7420234.8
789772.77	7420215.72
789773.65	7420198.71
789773.69	7420183.59
789773.44	7420177.56
789779.36	7420130.24
789780.4	7420113.37
789785.06	7420075.62
789804.84	7419914
789837.61	7419887.1
789872.56	7419858.17
790036.2	7419740.37
790081.38	7419708.04
790177.54	7419645.95
790229.23	7419611.6
790243.24	7419600.76
790262.64	7419587.44
790369.79	7419513.98
790409.96	7419491.91
790464.62	7419459.33
790562.86	7419406.91
790787.69	7419307.13
790839.06	7419281.52
790908.46	7419246.46
791012.62	7419195.52
791030.57	7419187.92
791051.72	7419178.3

Easting	Northing
791092.25	7419161.01
791138.85	7419142.77
791139.19	7419142.64
791203.92	7419152.72
791418.62	7419255.44
791477.81	7419264.37
791508.57	7419270.02
791558.2	7419286.28
791546	7420479
792707.76	7421086.51
792700.97	7420743.34
792700.95	7420742.37
792700.95	7420742.35
792700.95	7420742.34
792700.97	7420742.34
792842.48	7420739.51
792847.13	7420739.41
792854.04	7420739.28
793209.52	7420732.16
792861.6	7419711.67
792800	7419531
792795	7419525.34
792332	7419001
792222	7418670
792115	7417719
791964.57	7417429.64
791913.17	7417330.76
791683	7416888
791808	7415908
790128	7415851
789478.4	7415951.86
789178.08	7415998.49
789046	7416019
788635.29	7415958.4
787550.02	7415798.26
786796	7415687
786535.19	7415651.78
785056	7415452
784531	7415466
784145	7415549
783054	7416157
782552.6	7416446.38
782529	7416460
781717.47	7417640.62
781490.79	7417970.4
781872.05	7418185.83
781865.9	7419003.77
781614.56	7419251.83
781614.37	7419251.9
781153.01	7419689.05
781155.25	7419717.12
781155.38	7419719.72
781155.78	7419735.25
781156.38	7419754.17
781157.41	7419769.5
781160.58	7419790.61
781160.7	7419791.47

Easting	Northing
781163.82	7419815.07
781168.34	7419845.66
781168.49	7419846.71
781168.86	7419851.57
781169.37	7419869.71
781172.16	7419895.55
781175.28	7419908.55
781176.25	7419913.85
781178.74	7419933.21
781182.84	7419956.31
781183.02	7419957.4
781185.98	7419976.54
781186.16	7419977.77
781189.05	7420000.11
781189.27	7420002.26
781191.55	7420029.37
781191.69	7420031.56
781192.58	7420053.81
781192.62	7420056.08
781192.38	7420078.02
781192.37	7420078.63
781191.84	7420101.5
781192.2	7420143.68
781193.02	7420180.37
781193.04	7420181.5
781192.99	7420183.67
781191.49	7420218.18
781191.15	7420222.28
781190.79	7420224.63
781186.19	7420250.94
781185.36	7420254.76
781184.22	7420258.57
781176.52	7420281
781176.18	7420281.95
781166.57	7420308.21
781166.1	7420309.43
781165	7420312
781156.48	7420330.44
781154.91	7420333.55
781153.97	7420335.18
781146.67	7420347.35
781146.25	7420348.03
781134.72	7420366.58
781132.69	7420369.59
781117.24	7420390.81
781114.69	7420394.03
781101.75	7420409.04
781089.55	7420424.25
781079.74	7420438.57
781068.71	7420459.6
781067.06	7420462.99
781057.65	7420482.38
781056.28	7420485.56
781061.39	7420502.43
781063.6	7420511.6
781240.4	7420685.34
781334.97	7420778.28

Easting	Northing
781659.34	7420960.12
781672.98	7421335.38
781778.64	7421457.83
781965.37	7421454.68
782145.16	7421459.8
782462.41	7421454.48
782465.08	7421454.67
782477.54	7421454.58
782488.6	7421453.58
782503.86	7421451.15
782522.82	7421447.49
782529.59	7421446.49
782535.95	7421446.03
782563.84	7421445.68
782584.85	7421446.03
782600.18	7421446.82
782611.15	7421447.74
782628.27	7421449.86
782636.1	7421451.16
782643.1	7421452.55
782646.55	7421453.56
782647.6	7421454
782651.27	7421455.93
782653.94	7421457.65
782656.38	7421459.44
782662.84	7421464.8
782693.44	7421493.75
782703.63	7421502.4
782712.29	7421508.89
782719.9	7421513.95
782731.42	7421520.45
782743.85	7421525.9
782762.83	7421532.5
782777.87	7421536.63
782790.05	7421539.06
782799.72	7421540.32
782807.08	7421540.85
782807.65	7421541.35
782903.94	7421553.17
782995.36	7421523.99
783123.11	7421471.25
783218.94	7421432.84
783305.93	7421412.88
783342.7	7421412.18
783545.4	7421431.16
783715.31	7421418.76
783940.02	7421387.02
784118.82	7421348.8
784118.98	7421348.37
784132.79	7421344.72
784137.83	7421343.39
784180.51	7421335.95
784224.94	7421320.36
784247	7421310.18
784360.55	7421257.8
784423.25	7421226.27
784440.33	7421219.53

Easting	Northing
784464.35	7421217.33
784473.21	7421219.71
784487.39	7421222.53
784508.58	7421225.41
784521.57	7421227.32
784528.68	7421228.88
784532.35	7421230.06
784534.12	7421230.84
784534.29	7421231.01
784535.33	7421231.76
784536.5	7421232.84
784543.39	7421239.51
784549.74	7421246.08
784561.24	7421258.82
784578.62	7421279.61
784596.61	7421301.86
784617.1	7421326.46
784625.5	7421337.49
784628.57	7421342.09
784631.4	7421346.81
784631.84	7421347.72
784633.48	7421351.61
784634.53	7421354.84
784636.99	7421364.53
784640.93	7421383.21
784642.14	7421388.19
784643.77	7421394.87
784647.45	7421406.7
784656	7421430.29
784662.67	7421447.68
784668.3	7421461.3
784677.43	7421481.19
784682.85	7421491.79
784688.61	7421502.19
784693.27	7421509.87
784702.02	7421522.57
784710.62	7421533.36
784718.59	7421542.23
784726.19	7421549.88
784738.96	7421561.35
784749.34	7421569.58
784757.58	7421575.55
784994.45	7421836.09
785044.45	7421884.51
785109.07	7421995.71
785137.59	7421981.35
785246.32	7421927.6
785335.09	7421887.22
785439.99	7421856.85
785452.3	7421850.96
785480.92	7421827.17
785495.77	7421820.24
785510.74	7421814.82
785533.85	7421810.01
785642.86	7421785.69
785684.77	7421775.82
785729.26	7421764.45

Easting	Northing
785812.37	7421730.95
785835.13	7421717.03
785868.2	7421694.07
785908.31	7421675.36
785988.82	7421650.74
786048.09	7421634.49
786091.7	7421616.8
786135.94	7421592.07
786194.17	7421570.63
786325.06	7421541.32
786479.81	7421497.09
786549.76	7421474.9

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 Premises is comprised of Orebodies 23, 24, 25 and 32. Ore at OB25 OHP is crushed, screened and stockpiled from where it is loaded on to trains via front-end loaders (either directly or via hoppers and a bin). The OB24 OHP processes ore via a primary crusher onto a single conveyor which feeds a stockpile and associated train loadout where shuttle trains are loaded to be sent to the Newman West Hub.

The Primary Activity infrastructure and equipment situated on, or authorised for construction on, the Premises is listed in Table 11 with infrastructure and equipment depicted in Figures 2, 3, 4 and 5.

Table 11: Infrastructure and equipment

	Infrastructure	**Site Plan Reference**
Prescribed Activity Category 5		
1.	ROM stockpiles	N/A
2.	2 x Primary Crushers (or similar)	Figure 3 (OB25 OHP): OB25 Primary Crusher Figure 2 (OB24 OHP): Primary Crusher
3.	1 x Secondary Crusher	Figure 3 (OB25 OHP): Secondary Crusher
4.	3 x Screens	Figure 3 (OB25 OHP): Screening (3) SC-1, SC-2, SC-3
5.	Conveyor Belts	Figure 2 (OB24 OHP): CV1301 Figure 3 (OB25 OHP): CV01/A, CV02, CV03, CV04, CV05, CV07, CV08, CV09, CV11, CV12, CV101, CV102, CV103, CV104, CV105, CV106, CV107, CV108, CV110, CV111, CV112, CV113
6.	Fines Tripper Stacker (OB25 OHP)	Figure 3 (OB25 OHP): RC01; Main Fines Stockyard
7.	Conveyor boom stacker	Figure 2 (OB24 OHP): CV1301
8.	Radial stacker	Figure 3 (OB25 OHP): CV12 and CV07
9.	Stockpiles	Figure 2 (OB24 OHP): Dead stockpiles, Live Stockpiles Figure 3 (OB25 OHP): LS, TL Main Fines Stockyard: Pile F; Pile G; Pile H; Pile J; Pile K; Pile L; Pile M; and Pile N Dead Lump (2); Dead Fines
10.	Surge bin	Figure 3 (OB25 OHP): 30t Surge Bin

	Infrastructure	Site Plan Reference
11.	2 x Train Loadout	Figure 2 (OB24 OHP): Train Load Out Figure 3 (OB25 OHP): Existing Train Loadout
12.	Train load out hopper bins	Figure 3 (OB25 OHP): Reclaim Hopper Cars; Existing Train Loadout Surge Bin and Chute
Prescribed Activity Category 6		
Mine dewatering to allow mining of ore. Discharges to infiltration basins, Ophthalmia Dam and contingency discharges to mine pit and/or Homestead Creek.		
13.	Direct dewatering discharge	Figure 5: D01
14.	Infiltration basins	Figure 5: D04-3, D04-4, D05
15.	Storage tanks: OB25 TPS tank and OB25 TK1337 tank	Figure 5: D06, D07
16.	Dewatering pipelines	N/A
Prescribed Activity Category 63		
17.	Landfills	Figure 5: Inert Landfill (4)
Prescribed Activity Category 85		
18.	WWTP	Figure 4: OB24 Sewage Treatment Plant (OB24DMSEW001) Orebody 25 Biomax Sewage Treatment Plant (OB25SWSTP003)
19.	Irrigation area	Figure 4: Orebody 25 Biomax Irrigation Area (L1)
20.	Evaporation Pond	Figure 4: Orebody 24 Treated Sewage Evaporation Pond
Ancillary infrastructure to Primary Activities		
21.	Oily water separators	Figure 4: OWS 1352-OHP; OWS 1353 HV/LV washpad; and OWS 1354 MEM
22.	Wastewater storage	Figure 2: Retention Ponds Figure 5: Orebody 25 OWW Tanks Figure 4: Orebody 24 Turkey's Nest
23.	Bioremediation facilities – hydrocarbon contaminated soils	Figure 2: Bio-Remediation Pad New landfarms, constructed to the specifications outlined in Row 5 Table 13, not shown.
24.	Water carts	N/A – mobile

Schedule 4: Infrastructure and Equipment

Table 12: Operational requirements of premises infrastructure and equipment – dust

	Infrastructure	Dust control equipment	Operational requirement	Infrastructure location
	OB25 OHP			
1.	Crushers	Sprays Partial enclosure	Apron feeder spray operational on Primary Crusher whenever handling ore, unless during Exclusion Periods.	Figure 3: Primary Crusher Secondary Crusher
2.	Screens	Partial enclosure	Dust covers on screens in place at all times when screening ore to minimise dust escape.	Figure 3: OB 25 Screens (SC1, SC2 and SC3)
3.	Conveyors (with bulk ore conditioning)	BOC sprays	BOC sprays switched on whenever handling ore, unless during Exclusion Periods.	Figure 3: CV102, CV106, CV107, RC03
4.	Surge bins	Surge bin	Operated to control the flow of ore to screening facilities described in row 2 of this Table.	Figure 3: 30t Surge Bin Existing Train Loadout
5.	Stockyard	Manual stacker sprays	Sprays on Main Fines Stockyard operational whenever handling ore, unless during Exclusion Periods, and once installed in accordance with Table 1.	Figure 3: LS, TL Main Fines Stockyard: Pile F; Pile G; Pile H; Pile J; Pile K; Pile L; Pile M; and Pile N Dead Lump (2); Dead Fines
6.	Train loader	Chute sprays Partial enclosure	Automated dispense chute sprays switched on whenever handling ore, unless during Exclusion Periods. OHP25 train loading via front end loader, and loader fed hopper to surge bin.	Figure 3: Existing Train Loadout
7.	**OB24 OHP**			
8.	ROM	Sprays	ROM tipping Sprays operational whenever handling ore, unless during Exclusion Periods.	Figure 2: OB24-OHP ROM Surge Bin
9.	Conveyors	BOC Sprays	BOC sprays operational whenever handling ore, unless during Exclusion Periods.	Figure 2: CV1301 Conveyor BOC sprays: BOC1301A, BOC1301B, BOC1301C, BOC1301D
10.	Stacker and stockpile (above the train loader)	Boom Spray and Boom Sprinkler	Boom sprinkler routinely operated over the stockpile whenever handling ore, and routinely when ore is not running and the stockpile level is >70%, unless during Exclusion Periods. Boom sprays operational whenever handling ore, unless during Exclusion Periods.	Figure 2: Boom Spray, Boom Sprinkler, Dual Stockpile
11.	Train load out	Partial enclosure	Partially enclosed in a tunnel.	Figure 2: Train load out

12.	**Other**			
13.	Roads and open areas	Water carts Speed limits Chemical dust suppression	In the ore processing areas as depicted in Figure 2 and Figure 3: 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 operated in accordance with condition 14(c) to apply water to sites within areas of operation which have the potential to generate dust. 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.	N/A

Table 13: Other infrastructure controls and operational requirements

	Infrastructure	Operational requirement	Infrastructure location
1.	Evaporation ponds	Receives only treated water from oily water separators: • OWS 1352-OHP; • OWS 1353 HV/LV washpad; and • OWS 1354 MEM, Evaporation ponds are constructed to achieve a permeability of 1 x 10^{-9} m/s or less. Vertical freeboard of 300 mm is maintained	Figure 4: OB24 treated sewage evaporation ponds; OWS 1352-OHP; OWS 1353 HV/LV washpad; and OWS 1354 MEM
2.	OB24 Sedimentation Pond	Receives only treated water from oily water separators: • OWS 1352-OHP; • OWS 1353 HV/LV washpad; and • OWS 1354 MEM, in the event that evaporation ponds described in row 1 of this table do not have capacity to maintain the required freeboard. HDPE or concrete lined to achieve a permeability of 1 x 10^{-9} m/s or less. Vertical freeboard of 300 mm is maintained.	Figure 4: OB24 Sedimentation Pond
3.	OB24 treated sewage evaporation ponds	Treated wastewater from the OB24 Admin Biomax WWTP and are: • HDPE lined to achieve a permeability of 1 x 10^{-9} m/s or less • maintained with a vertical freeboard of 300 mm	Figure 4: OB24 treated sewage evaporation ponds
4.	Turkey's Nest	Receives only treated water from oily water separators: • OWS 1352-OHP; • OWS 1353 HV/LV washpad; and • OWS 1354 MEM Turkey's Nest is HDPE lined to achieve a permeability of 1 x 10^{-9} m/s or less.	Figure 5: P1

		Vertical freeboard of 300 mm is maintained.	
5.	Bioremediation facilities	The Licence Holder must store all recovered hydrocarbon-contaminated soils within a storage area designed to achieve 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 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.
2. The following information to support the investigation of Reportable Event criteria exceedances listed in condition 11:
    - 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 5;
    - 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 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 from the OB25 OHP; and
    - root cause analysis for the exceedances:
        - review of PM_{10} concentrations at the OB25AQRT001 monitors to determine background influence;
        - review of all meteorological data, including temperature, wind speed and direction, as measured at the meteorological monitoring station specified in column 1 of Table 3 and depicted in Figure 5 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 5 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 4 for the 24-hour period of the Reportable Event;
- all corrective and management actions undertaken including but not limited to those specified in, Conditions 13 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