Licence

Licence Number	L8194/2007/3
Licence Holder	Fortescue Metals Group Ltd (ACN 002 594 872)
Registered business address	87 Adelaide Terrace EAST PERTH WA 6004
Duration	16 April 2014 to 23 April 2027
Amendment	24 September 2021
Prescribed Premises	Category 58 - Bulk material loading or unloading; and Category 70 - Screening, etc. of materials
Premises	Anderson Point Materials Handling Facility Part of Lot 1497 on Plan 404497, Part of Lot 370 on Plan 35619, Part of Lot 556 on Plan 60836, Part of Lot 321 on Plan 74344 and Lot 322 on Plan 74344 PORT HEDLAND WA 6721 within coordinates defined in Schedule 1

This Licence is granted to the Licence Holder, subject to the following conditions, on 24 September 2021, by:

Paul Newell
Senior Manager
Industry Regulation (Process Industries)

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

Explanatory notes

These explanatory notes do not form part of this Licence.

Defined terms

Definition of terms used in this Licence can be found at the start of this Licence. Terms which are defined have the first letter of each word capitalised throughout this Licence.

Department of Water and Environmental Regulation

The Department of Water and Environmental Regulation (DWER) is established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the *Environmental Protection Act 1986* (WA) (EP Act). The Department also monitors and audits compliance with licences, takes enforcement action and develops and implements licensing and industry regulation policy.

Licence

Section 56 of the EP Act provides that an occupier of Prescribed Premises commits an offence if Emissions are caused or increased, or permitted to be caused or increased, or Waste, noise, odour or electromagnetic radiation is altered, or permitted to be altered, from Prescribed Premises, except in accordance with a works approval or licence.

Categories of Prescribed Premises are defined in Schedule 1 of the *Environment Protection Regulations 1987* (WA) (EP Regulations).

This Licence does not authorise any activity which may be a breach of the requirements of another statutory authority including, but not limited to the following:

- conditions imposed by the Minister for Environment under Part IV of the EP Act;
- conditions imposed by DWER for the clearing of native vegetation under Part V, Division 2 of the EP Act;
- any requirements under the *Waste Avoidance and Resource Recovery Act 2007;*
- any requirements under the *Environmental Protection (Controlled Waste) Regulations 2004*; and
- any other requirements specified through State legislation.

It is the responsibility of the Licence Holder to ensure that any action or activity referred to in this Licence is permitted by, and is carried out in compliance with, other statutory requirements.

The Licence Holder must comply with the Licence. Contravening a Licence Condition is an offence under s.58 of the EP Act.

Responsibilities of a Licence Holder

Separate to the requirements of this Licence, general obligations of Licence Holders are set out in the EP Act and the regulations made under the EP Act. For example, the Licence Holder must comply with the following provisions of the EP Act:

- the duties of an occupier under section 61; and
- restrictions on making certain changes to Prescribed Premises unless the changes are in accordance with a works approval, Licence, closure notice or environmental protection notice (s.53).

Strict penalties apply for offences under the EP Act.

Reporting of incidents

The Licence Holder has a duty to report to DWER all discharges of waste that have caused or are likely to cause Pollution, Material Environmental Harm or Serious Environmental Harm, in accordance with s.72 of the EP Act.

Offences and defences

The EP Act and its regulations set out a number of offences, including:

- Offence of emitting an Unreasonable Emission from any Premises under s.49.
- Offence of causing Pollution under s.49.
- Offence of dumping Waste under s.49A.
- Offence of discharging Waste in circumstances likely to cause Pollution under s.50.
- Offence of causing Serious Environmental Harm (s.50A) or Material Environmental Harm (s.50B).
- Offence of causing Emissions which do not comply with prescribed standards (s.51).
- Offences relating to Emissions or Discharges under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA).*
- Offences relating to noise under the *Environmental Protection (Noise) Regulations 1997 (WA).*

Section 53 of the EP Act provides that a Licence Holder commits an offence if Emissions are caused, or altered from a Prescribed Premises unless done in accordance with a Works Approval, Licence or the requirements of a Closure Notice or an Environmental Protection Notice.

Defences to certain offences may be available to a Licence Holder and these are set out in the EP Act. Section 74A(b)(iv) provides that it is a defence to an offence for causing Pollution, in respect of an Emission, or for causing Serious Environmental Harm or Material Environmental Harm, or for discharging or abandoning Waste in water to which the public has access, if the Licence Holder can prove that an Emission or Discharge occurred in accordance with a Licence.

This Licence specifies the Emissions and Discharges, and the limits and Conditions which must be satisfied in respect of Specified Emissions and Discharges, in order for the defence to offence provision to be available.

Authorised emissions and discharges

The Specified and General Emissions and Discharges from Primary Activities conducted on the Prescribed Premises are authorised to be conducted in accordance with the Conditions of this Licence.

Emissions and Discharges caused from other activities not related to the Primary Activities at the Premises have not been Conditioned in this Licence. Emissions and Discharges from other activities at the Premises are subject to the general provisions of the EP Act.

Amendment of licence

The Licence Holder can apply to amend the Conditions of this Licence under s.59 of the EP Act. An application form for this purpose is available from DWER.

The CEO may also amend the Conditions of this Licence at any time on the initiative of the CEO without an application being made.

Amendment Notices constitute written notice of the amendment in accordance with s.59B(9) of the EP Act.

Duration of Licence

The Licence will remain in force for the duration set out on the first page of this Licence or until it is surrendered, suspended or revoked in accordance with s.59A of the EP Act.

Suspension or revocation

The CEO may suspend or revoke this Licence in accordance with s.59A of the EP Act.

Fees

The Licence Holder must pay an annual licence fee. Late payment of annual licence fees may result in the licence ceasing to have effect.

Definitions and interpretation

Definitions

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

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Air Guideline Value	refers to the Government-endorsed 24-hour PM_{10} air guideline value for Port Hedland of 70 µg/m^3.
Amendment Notice	means an amendment granted under s.59 of the EP Act in accordance with the procedure set out in s.59B of the EP Act.
Annual Period	means a 12 month period commencing from 1 January until 31 December in that year.
Application	refers to the licence amendment application submitted by the Licence Holder to DWER on 24 December 2019.
Approved Policy	has the same meaning given to that term under the EP Act.
AS3580.1.1	means the Australian Standard AS3580.1.1 *Methods for sampling and analysis of ambient air - Guide to siting air monitoring equipment.*
AS3580.9.11	means the Australian Standard AS3580.9.11 *Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} beta attenuation monitors.*
AS3580.10.1	means the Australian Standard AS3580.10.1 *Methods for sampling and analysis of ambient air Method 10.1: Determination of particulate matter— Deposited matter— Gravimetric method*
AS3580.10.2	means the Australian Standard AS3580.10.2 *Methods for sampling and analysis of ambient air-Determination of particulate matter - Impinged matter - Gravimetric method*
AS3580.14-2014	means the Australian Standard AS3580.14-2014 *Methods for sampling and analysis of ambient air – Meteorological monitoring for ambient air quality monitoring applications* as amended from time to time.
AS4156.6-2000	means the Australian Standard AS4156.6-2000 *Coal preparation, Part 6: Determination of Dust/moisture Relationship for Coal* as amended from time to time.
AS5621-2013	means Australian Technical Specification AS5621-2013 *Iron ores – rapid moisture determination* as amended from time to time.
AS5667.10-1998	means the Australian Standard AS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters* as amended from time to time.
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

Term	Definition
	operating. Equipment is considered 'unavailable' when it is not operating, despite being required to operate in accordance with Conditions of this Licence.
Belt Wash Stations	Devices or infrastructure equipped with water sprays and scrapers that are designed to minimise the carry back of ore stuck to the underside of return conveyors.
Books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Continuous	means a data recovery rate of at least 90% per financial year quarter.
Deluge Cycle	means the targeted operation of water cannons to stockpiles for no less than two minutes out of every 15 minutes.
DEM Level	means the dust extinction moisture. It is the Moisture Content of the product at which the Dust Number is 10 derived from the Australian Standard AS4156.6-2000 or alternative standard as approved by the CEO.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
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 (c) 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	means an itemised list for all dust control equipment used at the Premises including but not limited to the equipment described in column

Term	Definition
Equipment Inventory	2 of Table 15 in Schedule 3.
DWER	Department of Water and Environmental Regulation.
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
General Description	means the description of activities and operations carried out on the Premises as set out in Schedule 3 of this Licence.
Hematite	means Iron Ore composed of predominantly hematite and/or goethite mineral phase.
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Iron Ore	means a type of Iron Ore produced from a mine site or blended Iron Ore from multiple mine sites.
ISO3087:2011	means International Standardization Organization ISO3087:2011 *Iron ores – Determination of the moisture content of a lot.*
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
Magnetite	means magnetite Iron Ore.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
Ore Handling Activities	means activities occurring within the Premises which involve the movement and/or disturbance of Iron Ore, including, but not limited to, in-loading, stacking, reclaiming, transferring and out-loading of Iron Ore.
OWS	Means Oily Water Separator.
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map 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 2, at the locations shown in Schedule 1.
Quarterly	means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December in that year.
Reportable Event	means an exceedances of the reporting trigger level specified in Conditions 29.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Static Stockpile	refers to any ore stockpile greater than 50,000m^3 and/or 12 meters in height above ground level that has been stacked and not reclaimed for a period of six weeks or more.
Strong Wind Conditions	means wind speeds of 14 metres per second or greater.
TRH	means Total Recoverable Hydrocarbons.
TUL	means Train Unloading Facility.
Unreasonable Emission	has the same meaning given to that term under the EP Act.
Waste	has the same meaning given to that term under the EP Act.
Works	refers to the Works described in Conditions 6 and 7 of this Licence to be carried out at the Premises, subject to the Conditions.

Conditions

Emissions

1. The Licence Holder must not cause any Emissions from the Primary Activities on the Premises except for Specified Emissions and General Emissions described in column 1, subject to the exclusions, limitations or requirements specified in column 2 of Table 2.

Table 2: Authorised Emissions Table

Column 1	**Column 2**
Emission Type	**Exclusions/Limitations/Requirements**
Specified Emissions	
Fugitive dust	Subject to Conditions 2 to 37.
Discharge of wash water and stormwater from the Premises	Subject to: • Conditions 2 and 38 to 39.
General Emissions (excluding Specified Emissions)	
Emissions which arise from the Primary Activities set out in Schedule 2.	Emissions excluded from General Emissions are: • Unreasonable Emissions; or • Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or • Discharges of Waste in circumstances likely to cause Pollution; or • Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or • Emissions or Discharges which do not comply with an Approved Policy; or • Emissions or Discharges which do not comply with a prescribed standard; or • Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or • Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental *Protection (Unauthorised Discharges)*

Column 1	Column 2
Emission Type	**Exclusions/Limitations/Requirements**
	Regulations 2004.

Infrastructure and equipment

2. The Licence Holder must ensure that the infrastructure and equipment named and described in column 1 and column 2 of Table 15 in Schedule 3, is adequately maintained in good working order to ensure it can be operated in accordance with the requirements specified in column 3 of Table 15 in Schedule 3.

3. The Licence Holder must maintain an Average Monthly Availability rate of 90% or more for all:

(a) water sprays on stackers, reclaimers and ship loaders;

(b) stockyard water cannons;

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

(d) belt wash stations.

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 equipment specified in Tables 12 of Schedule 2 and 15 of Schedule 3.

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.

Further Works

6. The Licence Holder must construct and/or install the infrastructure and equipment listed in Table 3, in accordance with:

(a) the design and installation requirements;

(b) at the infrastructure location; and

(c) within the timeframe,

specified in Table 3 below.

Table 3: Construction and installation requirements

Row	Column 1	Column 2	Column 3	Column 4
	Infrastructure	**Design and construction requirements**	**Infrastructure location, as depicted in Figures 2, 3, 4 and 5 of Schedule 1**	**Timeframe**
1.	In-load conveyors	Fitted with belt scrapers for the purpose of reducing carry back ore.	CV302, CV902, CV909, CV918, CV939, SH906A	
2.	Ore stacker	Luffing stacker capable of lowering to minimise the	SK705	

		drop height of stacked ore. Fitted with water sprays at the end of the boom.		Works must be complete within 5 years from the date of amendment, as specified on page 1 of this Licence.
3.	Transfer station	Enclosed with skirting system for the purpose of minimising dust emissions. Dust spray bar fitted to the boom end.	TS909	
4.	Stockyard	Six additional live stockpile rows and two additional bulk-out rows Water cannons installed at the foot of all new stockpile rows.	G1 – G6	
5.	Sample stations	Capable of performing moisture content analysis in accordance with AS5621-2013	SS913, SS914, SS917	
6.	Belt wash stations	Capable of cleaning conveyor belts for the purpose of minimising ore carry-back.	CV915, CV921, CV944, CV945	N/A
7.			CV916, CV948 and CV911	
8.			CV912, CV922, CV950	

7. The Licence Holder is authorised to construct and/or install the additional infrastructure and equipment listed in Table 4, in accordance with:

(a) the design and installation requirements;

(b) at the infrastructure location; and

(c) within the timeframe,

specified in Table 4 below.

Table 4: Construction and installation requirements

Row	Column 1	Column 2	Column 3	Column 4
	Infrastructure	**Design and construction/ installation requirements**	**Infrastructure location, as depicted in Figures 2, 3, 4 and 5 of Schedule 1**	**Timeframe**
1.	Belt wash stations	Capable of cleaning conveyor belts for the purpose of minimising ore	CV302, CV918, CV927, CV932	N/A

		carry-back.		
2.	Surge bins	Enclosed with covers or permanent enclosure and equipped with air extraction to a baghouse filter or wet scrubber.	BN921, BN948	Works must be complete within 5 years from the date of amendment, as specified on page 1 of this Licence.
3.	Out-load conveyors	Fitted with belt scrapers for the purpose of reducing carry back ore.	CV921A, CV948A	Works must be complete within 5 years from the date of amendment, as specified on page 1 of this Licence.

8. The Licence Holder must install dust deposition gauges:

(a) at the locations depicted in Figure 8 and specified in column 1 of Table 9;

(b) for the purpose of sampling deposited dust in accordance with AS3580.10.1; and

(c) at least 12 months prior to the first receipt of Magnetite ore at the Premises.

9. Where visible dust is generated from construction activities, the Licence Holder must:

(a) implement controls to minimise dust emissions from construction activities; and

(b) ceasing all dust-generating construction activities during Strong Wind Conditions; and

(c) ceasing all dust-generating construction activities where average wind directions are between 201º and 231º for any three or more ten minute periods during the hour, or between 305º and 340º for any three or more ten minute periods during the hour.

10. The Licence Holder must take proactive dust management measures where possible to prevent dust generation, this includes at a minimum the wetting down of exposed areas prior to construction and/or clearing activities that involve ground disturbance, and as needed in accordance with Condition 10.

11. The Licence Holder must not depart from the requirements specified in Table 3 of Condition 6 and Table 4 of Condition 7 except where:

(a) such departure does not increase risks to public health, public amenity and the environment; and

(b) all other Conditions in this Licence are still satisfied.

12. The Licence Holder must undertake an audit of compliance, prepare and submit to the CEO an Environmental Compliance Report on that compliance within 30 days for design and construction requirements as specified in:

(a) rows 1 to 5 of Table 3;

(b) row 6 of Table 3;

(c) row 7 of Table 3; and

(d) row 8 of Table 3.

13. The Licence Holder must undertake an audit of compliance, prepare and submit to the CEO an Environmental Compliance Report on that compliance within 30 days for design and construction requirements as specified in:

(a) row 1 of Table 4; and

(b) rows 2 and 3 of Table 4.

14. The Environmental Compliance Report/s required by Conditions 12 and 13, must include as a minimum the following:

(a) certification that the infrastructure or component of infrastructure specified in Table 3 and Table 4 has been constructed in accordance with the relevant requirements specified in each table;

(b) where a departure from the requirements specified in Table 3 and Table 4 occurs and is of a type allowed by Condition 11, the Licence Holder must provide to the CEO a description of, and explanation for the departure and demonstration of achievement of no increase in risk to public health, public amenity and the environment;

(c) the operational start date for the infrastructure installed; and

(d) be signed by a person authorised to represent the Licence Holder and contains the printed name and position of that person.

15. The Licence Holder must undertake a review of dust control infrastructure specified in rows 6 to 8 of Table 3 and submit a Dust Control Validation Report with the information specified in Schedule 4, and within 12 months of the submission of the final Environmental Compliance Report in accordance with Condition 13, to demonstrate that controls achieve at least the rate of proposed dust abatement or emission rate specified in the Application.

16. In the event that the Dust Control Validation Report submitted in accordance with Condition 15 does not demonstrate equal or lower dust emission rates to those emission rates specified in the Application, the Licence Holder must:

(a) install the infrastructure specified in row 1 of Table 4 within 6 months of the date of submission of the Dust Control Validation Report required by Condition 15; and

(b) undertake a review of dust control infrastructure specified in row 1 of Table 4 and submit a Dust Control Validation Report within 12 months of installation of infrastructure specified in row 1 of Table 4, with the information specified in Schedule 4 to demonstrate that there is/will be no net increase in dust when operating at 210Mtpa.

Throughputs

17. The Licence Holder must not bulk handle any Iron Ore at the Premises from sources not specified in Schedule 2, that:

(a) contains asbestos in concentrations equal to or greater than 0.01% w/w for non-friable asbestos or 0.01% w/w for fibrous asbestos; or

(b) contains respirable silica equal to or greater than 1% w/w; or

(c) contains equal to or less than 10.2% of total particles with a diameter of 10 micron or smaller.

18. The Licence Holder is authorised to load not more than:

(a) 175,000,000 tonnes of wet Iron Ore per Annual Period, unless in accordance with part (b), (c), (d) or (e) to this Condition;

(b) 181,000,000 tonnes of wet hematite ore per Annual Period upon notification of installation in accordance with Condition 13 for infrastructure specified in row 6 of Table 3;

(c) 185,000,000 tonnes of wet hematite ore per Annual Period upon notification of installation in accordance with Condition 13 for infrastructure specified in row 7 of Table 3;

(d) 188,000,000 tonnes of wet Hematite ore per Annual Period upon notification of installation in accordance with Condition 13 for infrastructure specified in row 8 of Table 3; and

(e) 188,000,000 tonnes of wet Hematite ore per Annual Period and up to 22,000,000 tonnes of wet Magnetite ore received from the Iron Bridge Concentrate Handling Facility constructed in accordance with Works Approval W6394/2020/1.

Moisture content monitoring and management

19. The Licence Holder must undertake the following actions in the event that an Iron Ore stockpile has become a Static Stockpile:

(a) ensure, and be able to demonstrate using the method outlined in ISO3087:2011, that the stockpile contains a moisture content at or above the corresponding DEM Level for that stockpile; or

(b) apply a physical barrier or chemical stabiliser to stabilise the surface of the stockpile to prevent dust emissions.

20. The Licence Holder must not re-stockpile a Static Stockpile for the purpose of avoiding requirements of Condition 19.

21. The Licence Holder must operate water cannons at least 2 minutes of every hour on any ore stockpile that:

(a) is less than 50,000m^3 in volume; and

(b) has been stacked and not reclaimed for a period of six weeks or more.

22. The Licence Holder must ensure that at least 90% of Hematite Iron Ore in-loaded to the Premises has a Moisture Content at or above the DEM level derived from application of AS4156.6-2000 and updated on an annual basis through laboratory analysis.

23. The Licence Holder must ensure that 100% of ore received from the Iron Bridge Concentrate Handling Facility, from the commencement of operations, has a Moisture Content at or above the DEM level derived from application of AS4156.6-2000 and updated on an annual basis through laboratory analysis.

24. The Licence Holder must ensure that until 30 June 2022 at least 95% of Iron Ore out-loaded from the Premises, as averaged per cargo hold, has a Moisture Content at or above the DEM level derived from application of AS4156.6-2000 and updated on an annual basis through laboratory analysis.

25. The Licence Holder must ensure that by 1 July 2022, 99% of Iron Ore out-loaded from the Premises, as averaged per cargo hold, has a Moisture Content at or above the DEM level derived from application of AS4156.6-2000 and updated on an

annual basis through laboratory analysis.

26. The Licence Holder must obtain Moisture Content monitoring data for all Iron Ore handled at the Premises:

(a) for the parameter,

(b) at the locations,

(c) calculated as an average, over the period,

(d) during the frequency,

(e) using the method,

specified in Table 5.

Table 5: Moisture Content monitoring

Column 1	Column 2	Column 3	Column 4	Column 5
Parameter	**Location**	**Averaging Period**	**Frequency**	**Method**
Moisture Content	As measured at the Iron Bridge Concentrate Handling Facility[1]	Averaged for every 10,000 tonnes of Magnetite	Continuous monitoring for all in-loaded Iron Ore accepted at the Premises via sample station SS301.	N/A
Moisture Content	Train unloaders TUL001, TUL002, TUL003 depicted in Figure 2 of Schedule 1	Averaged for each train for Hematite.	At least one sample per 10,000 tonnes of material.	Analyser calibrated at least every six months against: ISO3087:2011; or AS5621-2013; or alternative method approved by the CEO.
Moisture Content	Moisture Analysers located at Sample Stations SS903, SS944, SS945, SS913, SS914 and SS917, depicted in Figure 4 of Schedule 1	Averaged for each cargo hold.	At least one sample per cargo hold, or at least one sample per 10,000 tonnes of material, obtained through automated Sample Station.	ISO3087:2011; or ATS5621-2013; or alternative method approved by the CEO.

Note 1: Data must be obtained from the occupier of the adjacent Iron Bridge Concentrate Handling Facility, IB Operations Pty Ltd.

Dust monitoring and management

Boundary air quality monitoring

27. The Licence Holder must undertake air quality and meteorological monitoring:

(a) at the monitoring stations,

(b) for the parameters,

(c) calculated as an average over the period,

(d) at the frequency,

(e) in accordance with the method,

specified in Table 6.

Table 6: Air quality and meteorological monitoring

Column 1	Column 2	Column 3	Column 4	Column 5
Monitoring Station	**Parameter**	**Averaging Period**	**Frequency**	**Method**
Wharf, End of Road, NW Corner, NE Corner, Finucane, SW Corner, SE Corner and TUL SW as depicted in Figure 6 of Schedule 1.	Particles as PM_{10} ($\mu g/m^3$)	10 minutes	Continuous	AS3580.1.1
		1 hour		AS3580.1.1 AS3580.9.11
TUL SE as depicted in Figure 6 of Schedule 1.	Particles as PM_{10} ($\mu g/m^3$)	10 minutes	Continuous	AS3580.1.1
		1 hour		AS3580.1.1 AS3580.9.11
Richardson St, Kingsmill St, Taplin St, Neptune Pl, BOM, Wedgefield, South Hedland, Yule as depicted in Figure 7 of Schedule 1[1].	Particles as PM_{10} ($\mu g/m^3$)	10 minutes	Continuous	N/A
TUL Met Station as depicted in Figure 6 of Schedule 1.	Rainfall (mm)	10 minutes	Continuous	AS3580.14
	Wind direction (°)			
	Wind speed (m/s)			

Note 1: Provision of this data to the Licence Holder is via the Port Hedland Industries Council, of which Fortescue is a member, or from DWER once the Department obtains control of monitoring data.

28. The Licence Holder is authorised to relocate the Wharf monitor, specified in Table 6, to the end of the AP3 Wharf following written notification to the CEO at least 7 calendar days prior to relocating the monitor.

Monitoring and management response

29. The Licence Holder must maintain a record of any instances where ambient PM_{10} concentrations:

(a) at the monitoring locations listed in column 1 of Table 7;

(b) exceed the corresponding management trigger criteria and Reportable Event criteria specified in columns 2 and 3 of Table 7; and

(c) when monitored in accordance with Condition 27.

Table 7: Dust management during dust events

Column 1	Column 2	Column 3
Monitoring location	**Management trigger criteria**	**Reportable Event Criteria**
Wharf and NE Corner	≥280 µg/m^3 PM_{10} (rolling 1 hour average) when wind direction is averaged between wind arc 201 and 231° inclusive for any three or more ten minute periods during the rolling 1-hour period, as measured at the TUL Met Station. Unless where, BOM or Yule River monitoring stations[1] have recorded ≥100 µg/m^3 PM_{10} (rolling 1 hour average) within 3 hours prior to the trigger event.	≥145 µg/m^3 PM_{10} (rolling 24-hour average) when averaged wind is direction is between 201° and 231° inclusive, for any 12 or more hours (cumulative) over the rolling 24-hour averaging period.
SE Corner	≥300 µg/m^3 PM_{10} (rolling 1 hour average) when wind direction is averaged between wind arc 305 and 340° inclusive for any three or more ten minute periods during the rolling 1-hour period, as measured at the TUL Met Station. Unless where, BOM or Yule River monitoring stations[1] have recorded ≥100 µg/m^3 PM_{10} (rolling 1 hour average) within 3 hours prior to the trigger event.	≥120 µg/m^3 PM_{10} (rolling 24-hour average) when averaged wind is direction is between 305 and 340° inclusive, for any 12 or more hours (cumulative) over the rolling 24-hour averaging period.
Taplin Street[1]	≥100 µg/m^3 PM_{10} (rolling 1 hour average) when averaged wind direction is between wind arc 201 and 231° inclusive for any three or more ten minute periods during the rolling 1-hour period, as measured at the TUL Met Station. Unless where, BOM or Yule River monitoring stations[1] have recorded ≥100 µg/m^3 PM_{10} (rolling 1 hour average) within 3 hours prior to the trigger event.	≥70 µg/m^3 (24 hour average measured from midnight to midnight)

Note 1: Taplin Street: Provision of this data to the Licence Holder is via the Port Hedland Industries Council, of which Fortescue is a member, or from DWER once the Department obtains control of monitoring data.

30. Immediately upon being notified of management trigger criteria and/or Reportable Event criteria specified in Condition 29 being exceeded, the Licence Holder must:

(a) conduct a site investigation to identify any visible dust generation at the Premises; and

(b) upon identification of visible dust generation during the site 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, where applicable; and/or

(iii) stopping all activities resulting in visible dust generation.

31. In the event that no visible dust can be identified within 20 minutes of the management trigger criteria and/or Reportable Event criteria exceedance notification, the Licence Holder must undertake the following management actions:

(a) operate all stockyard water cannons on Deluge Cycle; and

(b) apply water to all unsealed trafficable areas where vehicle movement has occurred in the previous hour.

32. The Licence Holder must continue actions specified in Conditions 30 and/or 31 for the duration of management trigger criteria and/or Reportable Event criteria being exceeded.

33. The Licence Holder must obtain monitoring data:

(a) at the location;

(b) for the parameter;

(c) for the averaging period;

(d) for the frequency; and

(e) in accordance with the method,

specified in Table 8.

Table 8: Ambient air quality monitoring

Column 1	Column 2	Column 3	Column 4	Column 5
Location	**Parameter**	**Averaging Period**	**Frequency**	**Method**
Taplin Street[1]	Particles as PM_{10} ($\mu g/m^3$)	24 hour average (measured from midnight to midnight)	N/A[1]	AS3580.9.11
		Annual average		

Note 1: Taplin Street: Provision of this data to the Licence Holder is via the Port Hedland Industries Council, of which Fortescue is a member, or from DWER once the Department obtains control of monitoring data.

34. The Licence Holder must undertake dust deposition monitoring:

(a) at the monitoring stations,

(b) for the parameters,

(c) calculated as an average over the period,

(d) at the frequency,

(e) in accordance with the method,

specified in Table 9.

Table 9: Dust deposition monitoring

Column 1	Column 2	Column 3	Column 4	Column 5
Monitoring Station	**Parameter**	**Averaging Period**	**Frequency**	**Method**
Dust Deposition Gauge 1 to 7 (inclusive), as depicted in Figure 8 of Schedule 1	Total mass (dry weight in grams) Deposition rate (g/m^2)	Monthly	Continuous once deposition gauges are installed in accordance with Condition 9.	AS3580.1.1 AS3580.10.1
	Total crystalline material (g and % of total mass) Mineral phases present in the sample (as g and % of total crystalline material)[1]. Combustible material/ash (g and %) Total elemental analysis: Al, Ba, Ca, Fe, K, Mg, Mn, Na, Si, S, P	Monthly	Continuous once deposition gauges are installed in accordance with Condition 9.	Semi-quantitative x-ray diffraction analysis

Note 1: Including, but not limited to the identification and quantification of hematite, magnetite and goethite.

Air quality monitoring reports

35. The Licence Holder must investigate, undertake the actions and report in accordance with Schedule 5, in the event that Reportable Events Criteria as specified through Condition 29 is exceeded.

36. The Licence Holder must submit to the CEO a Dust Monitoring Report that incorporates the information specified in Schedule 6 within 15 months from the completion of the installation of the infrastructure specified in Table 3, and Table 4 if required by Condition 17.

37. The Licence Holder must submit the dust deposition data specified in Table 9 submitted to the CEO on a quarterly basis, by the last day of the following month in each year:

- April (for January to March),
- July (for April to June),
- October (for July to September); and
- January (for October to December) in any year,

from the month of installation of monitoring equipment installed in accordance with Condition 9.

Wash water monitoring and limits

38. The Licence Holder must undertake wash down water monitoring:

(a) for the parameters;

(b) at the locations;

(c) at the frequency;

(d) using the method,

specified in Table 10.

Table 10: Wash water monitoring

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Parameter	**Location**	**Period**	**Limit**	**Sample**	**Method**
Total recoverable hydrocarbons (TRH)	L1 and L2. Post treatment water contained in the process water tanks shown in the map in Schedule 1	Quarterly	15mg/L	Grab sample	AS5667.10: 1998

39. The Licence Holder must ensure that the parameter specified in column 1 of Table 10 of Condition 38 for the discharge of wash water, do not exceed the limit specified in column 4.

Record-keeping

40. 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) dust control availability monitoring undertaken in accordance with Condition 3;

(c) dust control equipment inventory undertaken in accordance with Condition 4;

(d) monitoring undertaken in accordance with Conditions 26, 27, 34 and 38 of this Licence;

(e) Reportable Events reported in accordance with Condition 29 of this Licence;

(f) complaints received under Condition 41 of this Licence; and

(g) any ores handled at the premises from mine sites not specified in Schedule 2, and all analysis conducted to demonstrate compliance with Condition 17.

In addition, the Books must:

(a) be legible;

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

(c) be retained for at least 3 years from the date the Books were made; and

(d) be available to be produced to an Inspector or the CEO.

41. The Licence Holder must record the number and details of any complaints received by the Licence Holder relating to its obligations under this Licence and its compliance with Part V of the EP Act at the Premises, and any action taken by the

Licence Holder in response to the complaint. Details of complaints must include:

(a) an accurate record of the concerns or issues raised, for example a copy of any written complaint or a written note of any verbal complaints made;

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

(c) the date of the complaint; and

(d) the details and dates of the actions taken by the Licence Holder in response to the complaints.

42. The Licence Holder must submit to the CEO no later than 1 April 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; and

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

(i) Condition 3 for Average Monthly Availability of controls;

(ii) Condition 26 for Moisture Content and DEM level of iron ore received to, and out-loaded from the Premises;

(iii) Condition 27 for air quality monitoring at Wharf, End of Road, NW Corner, NE Corner, Finucane, SW Corner, SE Corner, TUL SW and TUL SE and meteorological monitoring at TUL Met Station depicted in Schedule 1, Figure 6, in the format specified in Schedule 7;

(iv) Condition 33 for air quality monitoring at Taplin Street including a comparison of monitoring results against the Air Guideline Value; and

(v) Condition 38 for wash water monitoring at L1, L2 and post treatment water contained in the process water tanks shown in the map in Schedule 1, as specified in Table 10.

43. The Licence Holder must comply with a Department Request, within 7 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.

Schedule 1: Coordinates and Maps

Table 11: Premises coordinates

Reference Point	Northing	Easting
0	663015.974	7746950.757
1	663099.4574	7747255.851
2	662738.8544	7747259.847
3	662719.1457	7747259.485
4	662679.6994	7747487.69
5	663128.2181	7749890.306
6	663180.1003	7749929.26
7	663755.4703	7749805.97
8	664039.5832	7750912.963
9	664039.7716	7750913.698
10	664039.2861	7750913.267
11	664037.5359	7750915.057
12	664000.4598	7750952.967
13	663996.2638	7750949.29
14	663991.6822	7750946.083
15	663986.759	7750943.379
16	663981.5418	7750941.202
17	663976.0806	7750939.575
18	663970.4282	7750938.512
19	663964.6389	7750938.024
20	663958.7685	7750938.116
21	663952.8736	7750938.786
22	663947.0108	7750940.028
23	663941.2368	7750941.831
24	663935.607	7750944.177
25	663930.1757	7750947.043
26	663924.9953	7750950.401
27	663920.1155	7750954.22
28	663915.5834	7750958.463
29	663911.4427	7750963.088
30	663907.7332	7750968.052
31	663904.4906	7750973.306
32	663901.7462	7750978.799
33	663899.5263	7750984.48
34	663897.8525	7750990.293
35	663896.7407	7750996.182
36	663896.2018	7751002.09
37	663896.2408	7751007.961
38	663896.8575	7751013.738
39	663898.0458	7751019.365
40	663899.7944	7751024.789
41	663902.0864	7751029.957
42	663904.8997	7751034.818
43	663908.2072	7751039.327
44	663911.9771	7751043.441
45	663884.6781	7751071.354
46	663851.7799	7751071.399
47	663829.4115	7751041.582
48	663828.3979	7751040.231
49	663814.7289	7751050.508
50	663784.6116	7751073.152
51	663784.069	7751073.661
52	664246.2404	7751696.36
53	664293.2603	7751761.03
54	664354.9803	7751716.67
55	665206.6503	7751110.64
56	665262.4903	7751070.31
57	665243.4404	7751041.94
58	664302.9804	7751707.97
59	664281.6203	7751635.27
60	664313.3705	7751627.361
61	664310.2746	7751603.339
62	664330.252	7751564.663
63	664311.5346	7751490.448
64	664284.9731	7751394.848
65	664238.8856	7751363.926
66	664205.4797	7751246.493
67	664138.6446	7750993.926
68	664192.5615	7750980.092
69	664185.1898	7750951.361
70	664125.1404	7750942.894
71	664122.4404	7750932.69
72	663747.8603	7749495.2
73	663416.2803	7747690.02
74	663381.7503	7747499.99
75	663252.9616	7746805.601
76	663136.2716	7746875.129
77	663102.1845	7746690.535
78	663164.0174	7746580.324
79	663112.5934	7746353.076
80	662982.6375	7746376.951

Reference Point	Northing	Easting
81	662808.7196	7746425.635
82	662857.5403	7746617.77
83	662933.7504	7746602.43
84	663024.6691	7746943.684

Premises Map

The Premises and Discharge monitoring locations are shown in the map below. The green line depicts the boundary to the Premises.

Figure 1: Premises map

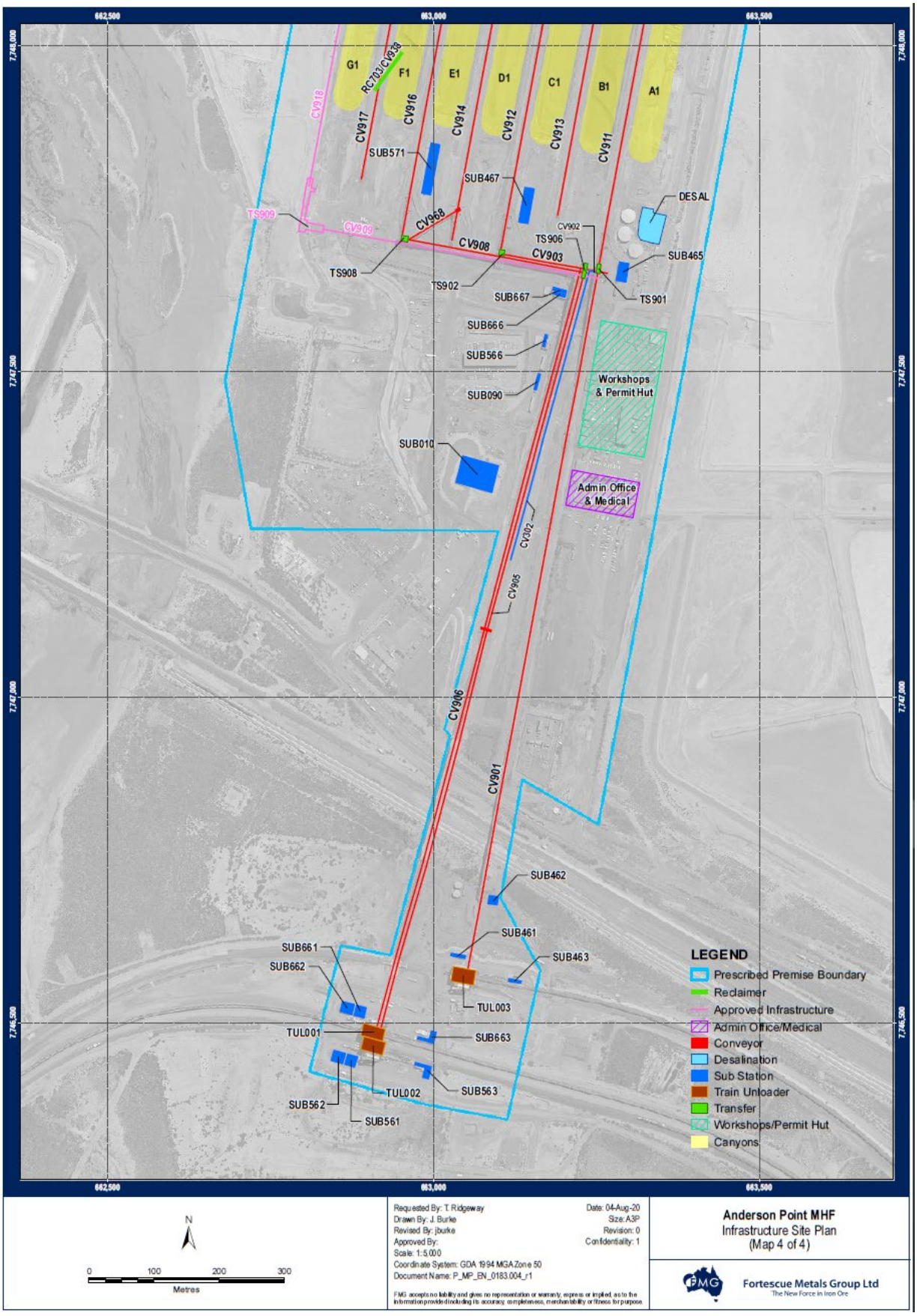

Figure 2: Site plan – stockyard in-load

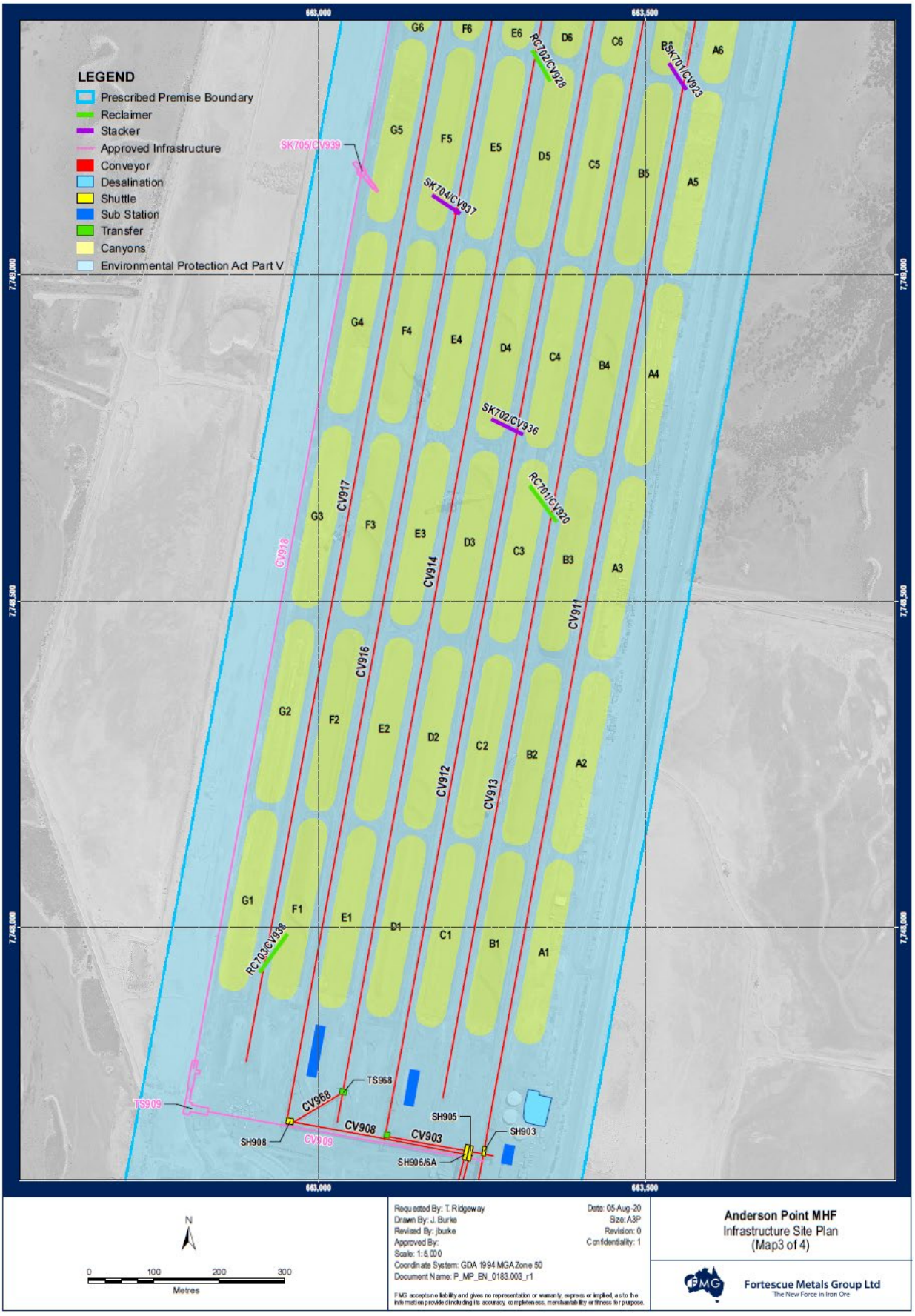

Figure 3: Site plan – stockyard

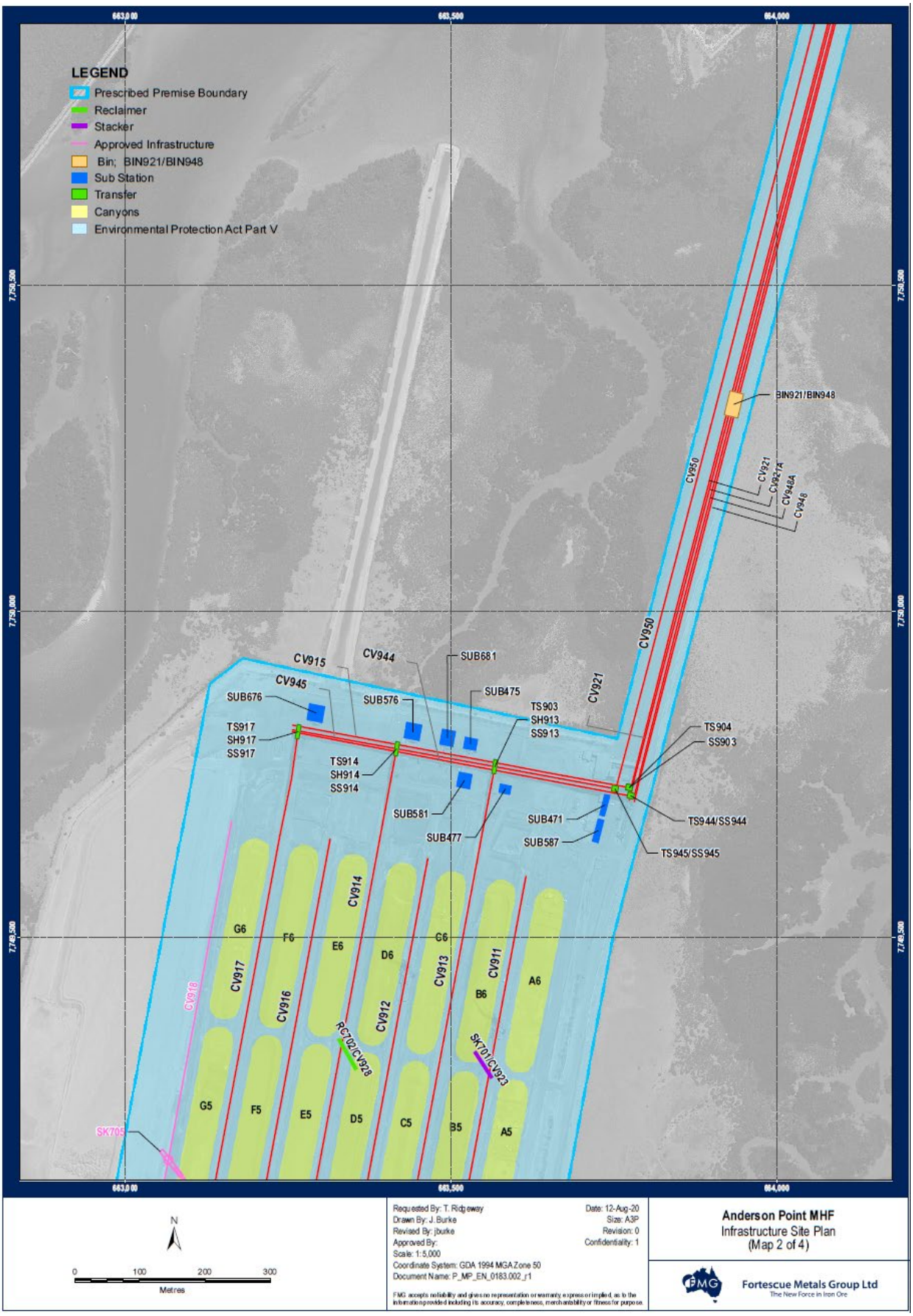

Figure 4: Site plan – stockyard outload

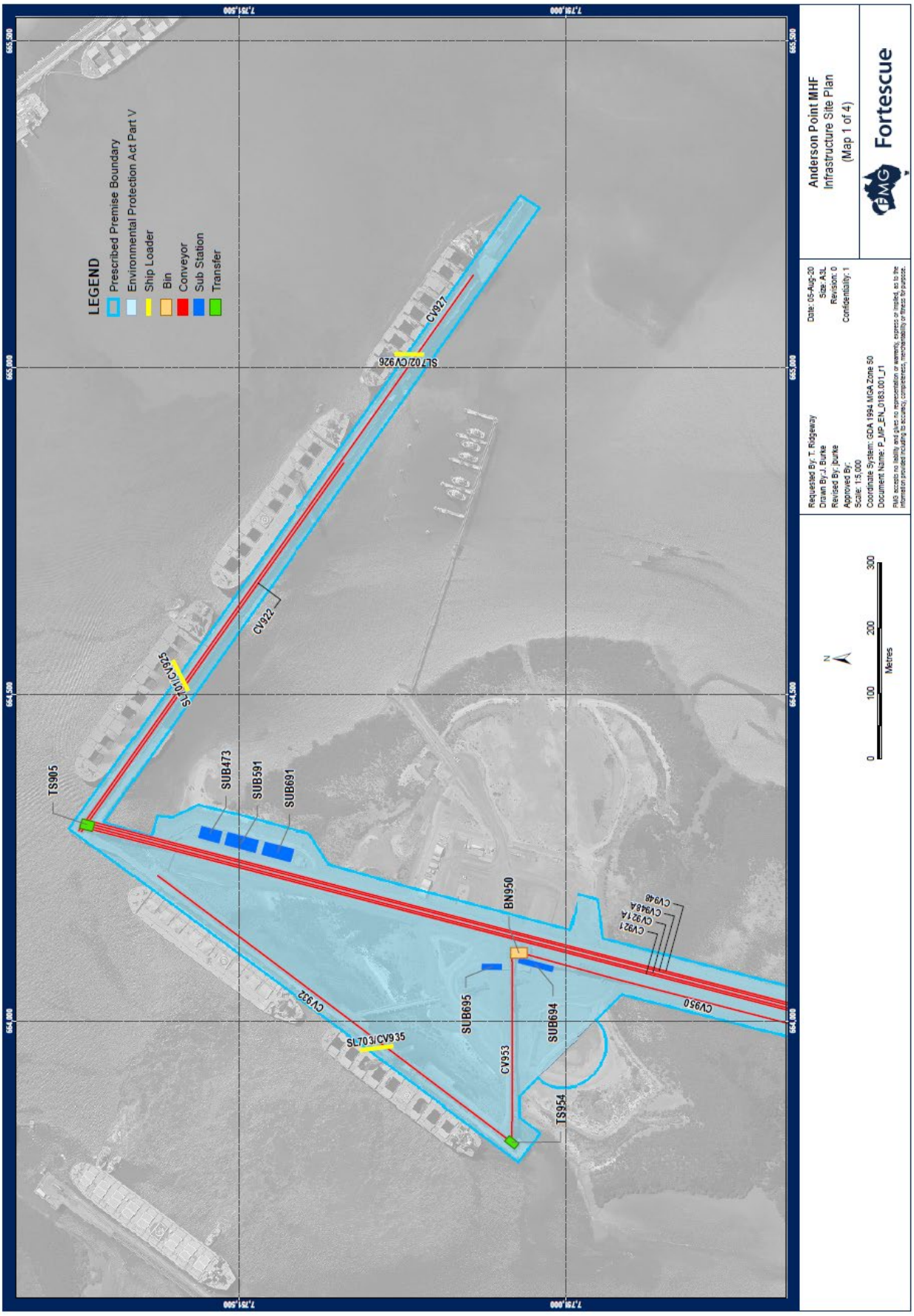

Figure 5: Site plan – shiploading

Figure 6: Premises dust monitoring network

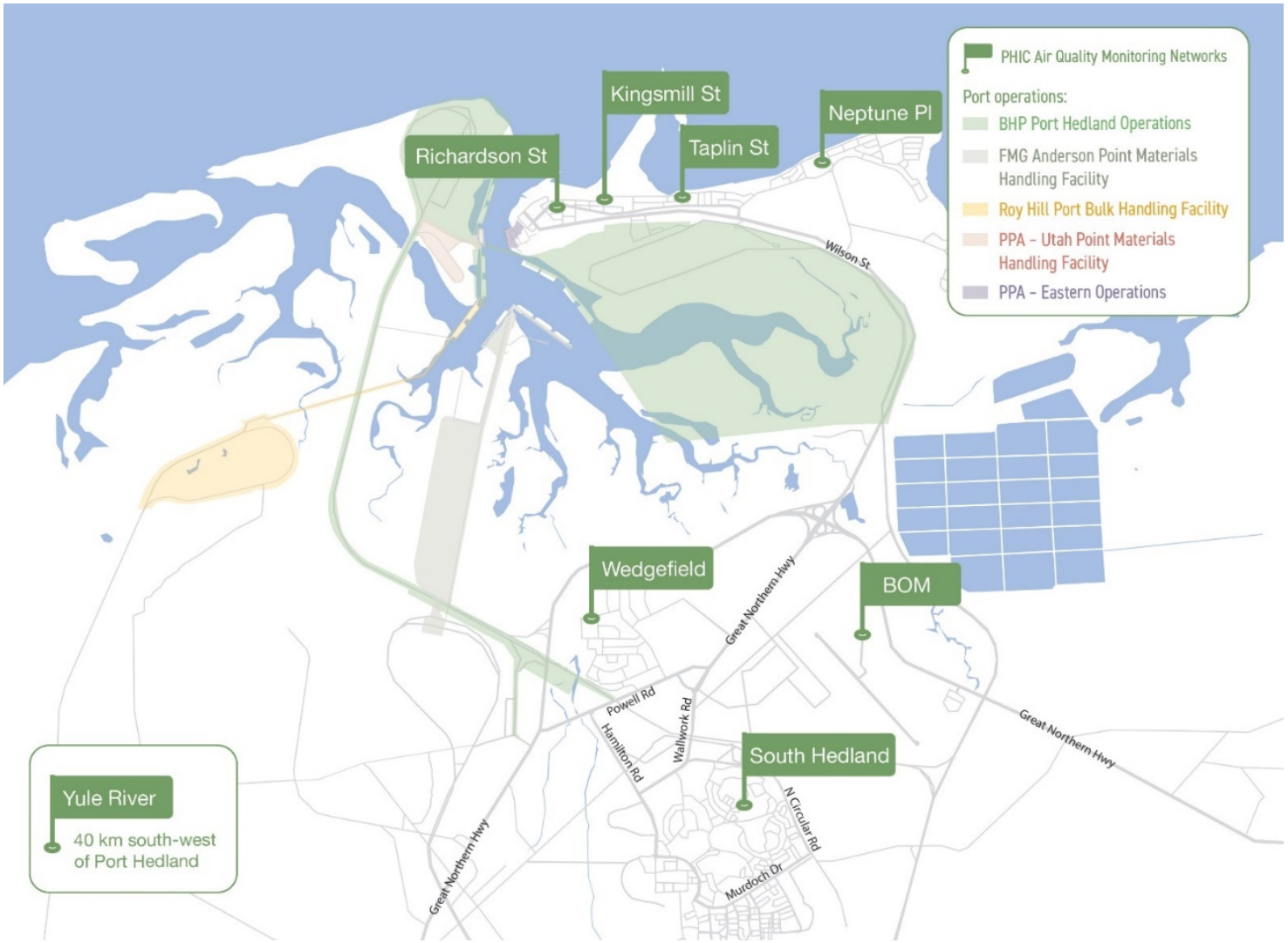

Figure 7: Ambient monitoring locations

Figure 8: Dust deposition monitoring locations

Figure 9: Stormwater and washwater discharges

Schedule 2: General Description

At the time of assessment, the following activities and operations were considered in the determination of the risk and related conditions for the Premises.

The Licence Holder is carrying out activities at the Premises which fall within the meaning of Prescribed Premises under the EP Act. The Premises constitute:

- Category 58 - Bulk material loading or unloading: Premises on which clinker, coal, ore, ore concentrate, or any other bulk granular material (other than salt) is loaded onto or unloaded from vessels by an open materials loading system.

- Category 70 - Screening etc. of material: Premises on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.

Infrastructure and equipment

The following infrastructure and equipment are either situated or authorised for installation at the Premises:

Table 12: Infrastructure and equipment

No.	Infrastructure	Plan reference
1.	3 x Train unloaders	Figure 2: TUL001, TUL002, TUL003
2.	4 x Stackers	Figure 3: SK701/CV923, SK702/CV936, SK704/CV937, SK705/ CV939
3.	3 x Reclaimers	Figure 3: RC701/CV920, RC702/CV928, RC703/CV938
4.	Stockpiles 6 rows of live stockpiles 2 rows of bulk-out stockpiles	Figure 3: B1-B6, C1-C6, D1-D6, E1-E6, F1-F6, G1-G6
5.	In-load Conveyors	Figures 2 and 3: CV302, CV901, CV902, CV903, CV905, CV906, CV908, CV909, CV911, CV912, CV916, CV918, CV968
6.	Outload Conveyors	Figures 3 and 4: CV913, CV914, CV917, CV944, CV915, CV921, CV921A,CV922, CV927, CV932, CV945, CV948, CV948A, CV950, CV953
7.	Transfer Stations	Figures 2, 3, 4 and 5: TS901, TS902, TS903, TS904, TS905, TS906, TS908, TS909, TS914, TS917, TS944, TS945, TS954, TS968,
8.	Shuttle conveyors	Figures 2 and 5: SH913, SH914, SH917, SH906A
9.	Surge and blending bins	Figure 5: BN921, BN948, BN950
10.	Sample Stations	Figure 4: SS903, SS917, SS914, SS913, SS944, SS945
11.	5 x Berths	Figure 5
12.	Ship loaders	Figure 5: SL701/CV925, SL702/CV926, SL703/CV935
13.	Mobile screening plant	N/A
14.	Maintenance workshop	N/A
15.	Wash bay	N/A
16.	Stormwater discharge points and associated sedimentation ponds	Figure 9: W1, W2, W3, W4 and W5
17.	Oily water separators (OWS)	Figure 9: OWS1 and OWS2
18.	Process water tanks for OWS 1 and 2	Figure 9: OWS1 and OWS2
19.	OWS 3 for Train Unloader 3 Silt Trap discharge	Figure 9: L2
Other Infrastructure		
20.	Desalination plant	N/A
21.	Desalination plant emission point	N/A

No.	Infrastructure	Plan reference
22.	Fuel farm (1 x 52,400 L tank)	N/A

Bulk materials loaded and unloaded

The bulk material (listed in Table 13) arrives at the Premises' rotary car dumpers via trains from the Licence Holder's four inland mines (Cloudbreak, Christmas Creek, Solomon and Eliwana mines). Magnetite ore is also received from the Iron Bridge North Star Mine via the Iron Bridge Concentrate Handling Facility.

The ore is then conveyed to a stockpile by a stacker for stockpiling at the stockyard area.

Ore is then removed from the stockpiles by reclaimers and transferred to the ship loading section of the Premises via conveyor.

Table 13: Bulk material volumes assessed

Commodity	Volume (annual)
Iron Ore (hematite ore)	up to 188,000,000 tonnes in accordance with Condition 18
Iron Ore (magnetite ore) from the Iron Bridge Concentrate Handling Facility	up to 210,000,000 tonnes (exported) in accordance with Condition 18
Total volume	**210,000,000 tonnes in accordance with Condition 18**

Screening of material

The Licence Holder uses a mobile screening plant to rescreen rail ballast from stacker lines in the stockyard at the rate listed in Table 14.

Table 14: Screening throughput volumes assessed

Material	Volume (annual)
Rail ballast	up to 45,000 tonnes
Total volume	**45,000 tonnes**

Schedule 3: Infrastructure and Equipment

Table 15: Infrastructure Controls Table

Row	Column 1	Column 2	Column 3	Column 4
	Site Infrastructure	**Description**	**Operation requirements**	**Reference to plan**
Dust control infrastructure				
1.	Stackers	Water sprays fitted to the conveyor boom of the stackers	Stacker water sprays operated at all times while stacking material, unless when: (a) it is raining; or (b) stacking Cloudbreak Super Special Fines, Cloudbreak Blended Fines or Christmas Creek Special Fines; (c) dust control equipment is unavailable, in accordance with Condition 3. Drop height from stacker minimised to as low as reasonably practicable for the purpose of reducing dust.	Figure 3: SK701/CV923, SK702/CV936, SK704/CV937, SK705/ CV939
2.	Reclaimer	Water sprays fitted to the reclaimer wheel bucket	Sprays on bucket wheels and boom conveyor operated whenever ore is being reclaimed, unless when: (a) it is raining; or (b) reclaiming unblended Cloudbreak Super Special Fines, Cloudbreak Blended Fines or Christmas Creek Special Fines; or (c) dust control equipment is unavailable, in accordance with Condition 3. Sprays mounted close to the bucket toward the digging face to provide a misting curtain.	Figure 3: RC701/CV920, RC702/CV928, RC703/CV938
3.	Stockyard	Water cannons adjacent to stockpiles	Water cannons routinely operated to prevent visible dust lift off. Weather forecasting is utilised to maximise effectiveness of dust suppression by cannon operation.	Figure 3: B1-B6, C1-C6, D1-D6, E1-E6, F1-F6, G1-G6
4.	Train unloaders	In-loading Iron Ore from trains and onto conveyors	Partially enclosed structure with dry dust extraction system (bag house) operating at all times during unloading. Water sprays activated when receiving Iron Ore with a Moisture Content below the DEM Level for that Iron Ore, as determined under	Figure 2: TUL001, TUL002, TUL003

Row	Column 1	Column 2	Column 3	Column 4
	Site Infrastructure	**Description**	**Operation requirements**	**Reference to plan**
			Condition 26.	
5.	Conveyors	Transport of ore from the car dumper to the stockyard and then to the ship loading facility	Belt scrapers automatically operate when the conveyor is running to remove material carried back from the belt. Belt wash sprays activated at each conveyor CV302, CV902, CV903, CV905, CV909, CV911, CV912, CV913, CV914, CV915, CV916, CV917, CV920, CV921, CV922, CV925, CV926, CV927, CV928, CV932, CV935, CV936, CV937, CV938, CV939, CV944, CV945, CV948, CV950, CV953 and SH906A once installed in accordance with Condition 7 and when the conveyor is running to remove material carried back from the belt. Belt wash stations activated at each conveyor CV918, CV927, CV932, CV921A, CV948A once installed in accordance with Condition 8 and when the conveyor is running to remove material carried back from the belt. Sprays activated when handling Iron Ore with a Moisture Content below the DEM Level for that Iron Ore, as determined under Condition 25, unless when dust control equipment is unavailable, in accordance with Condition 3. Spillage from under the conveyors is removed regularly to prevent suspension of material.	Figures 2, 3, 4 and 5: CV302, CV901, CV902, CV903, CV905, CV906, CV908, CV909, CV911, CV912, CV913, CV914, CV915, CV916, CV917, CV918, CV920, CV921, CV922, CV925, CV926, CV927, CV928, CV932, CV935, CV936, CV937, CV938, CV944, CV945, CV948, CV948A, CV950, CV953, CV968, SH913, SH914, SH917, SH906A
6.	Transfer stations	Transport of ore from one conveyor to another	Transfer stations enclosed. Water sprays operated for dust and/or product moisture control at all times when handling Iron Ore with a Moisture Content below the DEM Level for that Iron Ore, as determined under Condition 26, unless when dust control equipment is unavailable, in accordance with Condition 3. Water sprays and rubber skirts	Figures 2, 3, 4 and 5: TS901, TS902, TS903, TS904, TS905, TS906, TS908, TS909, TS914, TS917, TS944, TS945, TS954, TS968

Row	Column 1	Column 2	Column 3	Column 4
	Site Infrastructure	**Description**	**Operation requirements**	**Reference to plan**
			fitted to the exit of transfer points.	
7.	Ship loading	Transfer of ore from stockpiles to the vessel via surge bins	Sprays operated on boom discharge and conveyor during loading unless when: (a) it is raining; or (b) unblended Cloudbreak Super Special Fines, Cloudbreak Blended Fines or Christmas Creek Special Fines are being loaded into the vessel; or (c) dust control equipment is unavailable, in accordance with Condition 3. Shiploaders lowered into the hatch to minimise drop height.	Figure 5: SL701/CV925, SL702/CV926, SL703/CV935
8.	Surge and blending bins	Storage of ore to feed shiploading conveyors	Dust extraction operated at all times during ore handling. Covers in place to enclose surge bins at all times during ore handling.	Figure 5: BN921, BN948, BN950
9.	Mobile screening plant	Removal of fines from lump ore using vibrating feeders and screens	Enclosed screens with dry dust extraction and collection (baghouse).	N/A – mobile
10.	Unsealed roads and trafficable areas	Watercarts and dust suppressants	Travel at 40 km/hr per hour or less. Use of watercarts on all unsealed roads and/or maintenance of dust suppressant chemicals (e.g. hydro-mulch) on all unsealed roads and trafficable areas.	N/A
11.	Wharf	Road sweeper	Manual dry sweep area at the wharf undertaken daily whenever shiploading occurs.	N/A
12.	Boundary monitoring equipment	Dust monitoring stations	PM_{10} dust monitoring network operated at the Premises boundary. Alarm system with internal trigger values and response procedure in place. If a trigger value is exceeded, an email notification is sent to the Licence Holder's staff and an investigation is implemented. If investigation finds operational related exceedance,	Figure 6: Wharf, End of the Road, NW Corner, NE Corner, Finucane, SW Corner, SE Corner, TUL SW, TUL SE

Row	Column 1	Column 2	Column 3	Column 4
	Site Infrastructure	**Description**	**Operation requirements**	**Reference to plan**
			contingency action is taken.	
Stormwater and wastewater management				
13.	Stormwater discharges points	Sedimentation ponds, silt traps and discharge points	Stormwater runoff from areas other than those areas handling or storing hydrocarbons (specifically workshop, vehicle washdown bay, train unloader, conveyor transfer points, refuelling areas and fuel storage tanks) is directed to sedimentation ponds. Stormwater is retained within the sedimentation ponds/silts traps for a sufficient period for the majority of suspended particles to settle prior to discharge from the following locations: • W1 - Sedimentation basin discharging to South West Creek; • W2 - Australia Island silt trap discharge; • W3 - Sample laboratory silt trap discharged via overflow pipe into South West Creek; • W4 – Australia Island Settlement Pond; • TUL1 Stormwater discharge point; and • L2 - Train Unloader 3 Silt Trap discharge to rail loop;	Figure 9: W1, W2, W3 and L2
14.	Train unloading infrastructure area sump and OWS	Impermeable concrete sump OWS	Area of the train unloading facilities to drain into sump for treatment through the OWS. TUL001 has a concrete containment area and OWS TUL002 and TUL003 have their own discharge point through L2. Treated water stored within the process water tanks prior to use including dust suppression.	Figure 2: TUL001, TUL002, TUL003

Row	Column 1	Column 2	Column 3	Column 4
	Site Infrastructure	**Description**	**Operation requirements**	**Reference to plan**
15.	Workshop, Light Vehicle refuelling area, vehicle washdown bays, fuel farm and OWS	Impermeable concrete sump OWS	Area workshop, light vehicle refuelling area, vehicle washdown bays and fuel farm drain to sump for treatment through the OWS. Treated water stored within process water tanks prior to use for dust suppression.	Figure 9: OWS1 and OWS2
Spill control infrastructure				
16.	Conveyor	Concave conveyor design	Conveyor sides concave to prevent spillage of ore	N/A
17.		Enclosed conveyor transfer points	Transfer points covered to prevent spillage of ore onto the ground.	N/A
18.	Wharf (berths)	Concrete flooring	Dedicated cleaning crew engaged to undertake clean-up of ore built under conveyors and transfer stations on daily basis. Inspections undertaken on regular basis (minimum daily) to determine whether ore has spilt and requires clean-up and removal. Clean-up undertaken using street sweeper or appropriate alternative method/equipment. Significant spills cleaned-up and removed within 72 hours.	Figure 5
19.	Spill kits	Equipped with hydrocarbon spill kit equipment.	Equipment deployed in the event of hydrocarbon spills and leaks.	N/A
20.	Conveyor	Concave conveyor design	Conveyor sides concave to prevent spillage of ore	N/A
21.		Enclosed conveyor transfer points	Transfer points covered to prevent spillage of ore onto the ground.	N/A
22.	Wharf (berths)	Concrete flooring	Dedicated cleaning crew engaged to undertake clean-up of ore built under conveyors and transfer	Figure 5

Row	Column 1	Column 2	Column 3	Column 4
	Site Infrastructure	**Description**	**Operation requirements**	**Reference to plan**
			stations on daily basis. Inspections undertaken on regular basis (minimum daily) to determine whether ore has spilt and requires clean-up and removal. Clean-up undertaken using street sweeper or appropriate alternative method/equipment. Significant spills cleaned-up and removed within 72 hours.	
23.	Spill kits	Equipped with hydrocarbon spill kit equipment.	Equipment deployed in the event of hydrocarbon spills and leaks.	N/A

Schedule 4: Dust Control Validation Report

The following schedule specifies the contents for the Dust Control Validation Report/s required by Condition 15 and/or Condition 16.

The experimental design of the validation study should consider but not be limited to the following aspects:

- Monitoring setup appropriate for the type of emission source and pollutant type, for example linear (conveyor), averaging period, meteorological monitoring.
- Controlled conditions to observe effects of control status (on/off).
- Data evaluation to include dust data, materials data (eg ore type and moisture levels), meteorological data and operational data (equipment and infrastructure status).
- Evaluation of uncertainty and significance of results using a statistically sound approach.

Contents of Report

The report must contain at a minimum, but not be limited to:

Dust control equipment monitoring

- A detailed description of the methodology used to validate the effectiveness of belt wash stations installed in accordance with Condition 12 and/or 13. For example, at the time of measurements provide:
    - frequency of measurements;
    - product characteristics (namely moisture and dust extinction moisture);
    - meteorological data at each measurement;
    - boundary data; and
    - other upwind sources and the controls in place/not in place for these sources.
- All data recorded during the validation study, including those not used to estimate site specific emission rates.
- All data that are used to estimate site specific emission rates and control efficiencies, plus supporting information. This includes:
    - instrument data (e.g. DustTrak, boundary monitor, wind sensor);
    - parameter estimates (e.g. sigma Z) where measured data not available; and
    - instrument details (e.g. DustTrak model, wind sensor model, etc).
- Process flow data in emission spreadsheets and flowcharts of the process. The emission data should be presented in a way that identifies: each product, activity, hourly ore moisture data and when each product does or does not meet DEM.
- All spreadsheets related to the emission validation process including all input data in computer readable and editable format (e.g. TSG files, dustiness index for each ore type, hourly tonnage data, estimated hourly moisture content for each ore type and controls etc.) for all emission sources tested both with and without belt wash stations operating and in the format specified in Schedule 7.
- Information on the statistical tests or other procedures adopted to ensure that the data used in final emissions estimations are robust, or that the uncertainty is properly understood and accounted for.

- A comparison of measured emissions reductions when dust controls are operating against modelled rates of emissions reduction provided in the Application.
- Include an assessment of statistical significance and uncertainty, for example by using methods of the U.S Environmental Protection (2007) *Agency Emissions Factor Uncertainty Assessment*.

Schedule 5: Quarterly reporting

The following schedule outlines the investigation and reporting requirements triggered as a result of Condition 29.

Reporting Frequency

Reports for the above mentioned must be submitted to the CEO on a quarterly basis, by the last day of the following months in each year:

- April (for January to March),
- July (for April to June),
- October (for July to September); and
- January (for October to December) in any year.

Contents of Report

The quarterly report must contain:

- ore moisture monitoring data as a comparison against the DEM Level for each respective ore, in accordance with Condition 26; and
- the following details for the period(s) in which Reportable Events occurred, as specified in Condition 29:
    - date(s), time and duration of event;
    - type(s) and total amount (in wet tonnes) of bulk material in-loaded and out-loaded at the Premises for the 24-hour periods before, during and after the Reportable Event;
    - the monitoring data, in tabulated form, recorded at those Monitoring Stations, listed in column 1 of Table 6 as specified in Condition 27, in the format specified in Schedule 7;
    - time series graphical plots for the Monitoring Stations referred to above on the day/s on which the event occurred;
    - a summary of how each boundary monitor is, or is not compliant with Australian Standard AS3580.1.1;
    - details and findings of an investigation into the Reportable Event including, but not limited to the following:
        (a) confirmation that data received is correct (no instrument fault);
        (b) determination of the source of the Reportable Event through:
            – review of PM_{10} concentrations at the Yule and BoM background monitors;
            – review of meteorological data (including temperature, wind speed, rainfall and direction);
            – review of the dust scatter plots to determine dust concentrations recorded as coming from the offsite sector;
            – review of background dust levels recorded at an upwind boundary monitor;
            – Moisture Content of materials received at the time of the exceedance with a comparison against the DEM Level;

- comparison of boundary dust levels against dust levels recorded at Richardson St, Kingsmill St, Taplin St and South Hedland ambient dust monitoring stations (24 hour average);
- review of boundary dust data to identify premises dust sources that may have contributed to the exceedance; and
- availability rates for all dust control equipment.

(c) a description of all Ore Handling Activities which had occurred at the Premises during the Reportable Event and the 24 hours preceding the Reportable Event;

(d) a description of actions taken by site personnel as a response to the any high level alarms with reference to the specific dust sources identified;

- for Reportable Events at the Taplin Street monitor, a comparison of PM_{10} concentrations against boundary monitor peaks (including peak times) and 24-hour averaged levels recorded during the 24-hour period; and
- all corrective and management actions undertaken for Reportable Events.

Schedule 6: Dust Monitoring Report

The following schedule specifies the contents for the Dust Monitoring Report required by Condition 36.

Contents of Report

The report must contain at a minimum, but not be limited to the following information for the purpose analysing how dust concentrations at the Premises are reflected by the boundary monitoring network. Specifically to assess the:

- effects of dust control interventions;
- extent to which the network is capturing dust emissions from premises' sources;
- connection between elevated dust levels at boundary monitors and at the receptor sites of Kingsmill St, Richardson St, Taplin St and South Hedland, as depicted in Figure 7 of Schedule 1; and
- difference between background dust and premises' emissions,

the Licence Holder must provide:

- a review and analysis of PM_{10} data from the monitoring stations:
    - Wharf, End of Road, NW Corner, NE Corner, Finucane, SW Corner, SE Corner, TUL SW and TUL SE, as depicted in Figure 6 of Schedule 1,

  for a period of at least 12 months prior to, and 12 months after installation of the infrastructure specified in Table 3;
- an analysis of PM_{10} monitoring station data with associated weather data and spatial data (location of monitor and locations of dust sources);
- an analysis of PM_{10} monitoring station data in comparison with concentrations at ambient monitors Richardson St, Kingsmill St, Taplin St and South Hedland where there are:
    - exceedances of the Air Guideline Value at Richardson St, Kingsmill St and Taplin St monitors; and
    - Reportable Events as specified in column 3 of Table 7,

  using suitable timeframes to account for plume travel from the Premises to the sensitive receptors;
- meaningful graphs, such as line graphs, polar plots and radial graphs to visualise the analysis findings;
- all validated, computer readable and editable data used for the report are to be provided as part of the report with the monitoring data meeting the specified format outlined in Schedule 7.

Schedule 7: File format for monitoring data

The Licence Holder must ensure that validated (particle, gas and meteorological instrument data) results of air monitoring are provided as a comma delimited time series listing on a suitable computer readable medium in the following format:

```
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 time stamp 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.

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 $\mu g/m^3$)
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)
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 from the Senior Manager, Air Quality Services to use alternative units.

The Licence Holder 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. This means that the 1 hour offset inherent in BAMs must be corrected so that both the 1-hour and 10-minute data presented in reports represent the conditions existing at the time of the measurement.