Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L5320/1988/15
Licence holder	Tronox Management Pty Ltd
ACN	009 343 364
Registered business address	Lot 22 Mason Road KWINANA BEACH WA 6167
DWER file number	INS-0001197
Duration	12/07/2011 to 11/07/2035
Date of amendment	13 June 2025
Premises details	Tronox Kwinana Pigment Plant Lot 22 on Diagram 088339 Mason Road KWINANA BEACH WA 6167

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)
Category 31: Chemical Manufacturing. Premises (other than premises within category 32) on which chemical products are manufactured by a chemical process.
Category 60: Incineration. Premises (other than premises within category 59) on which waste, excluding clean paper and cardboard, is incinerated.
Category 61: Liquid Waste Facility Premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.
Category 67: Fuel Burning Premises on which gaseous, liquid or solid fuel is burnt in a boiler for the supply of steam or in power generation equipment.

This amended licence is granted to the licence holder, subject to the attached conditions, on 13 June 2025 by:

Michael Greenslade Digitally signed by Michael Greenslade
Date: 2025.06.13 14:58:04 +08'00'

SENIOR MANAGER, PROCESS INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference number	Summary of changes
12/07/2011	L5320/1988/14	Licence granted.
29/04/2016	L5320/1988/14	Notice of amendment to extend expiry date to 11/07/2025.
20/09/2022	W6701/2022/1	Works approval issued for the staged construction of scour sand system upgrades and associated infrastructure.
17/07/2023	L5320/1988/14	Licence holder-initiated amendment to update the licence to reflect upgrades to the sand scour system infrastructure conducted under works approval W6701/2022/1 including installation of a new baghouse and stack (S3047).
13/06/2025	L5320/1988/15	CEO initiated Notice of Amendment to extend expiry date

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:

Emissions and discharges

Air Pollution Control Conditions

1. The licence holder must during normal operations only discharge waste gases though the following discharge points as depicted in Table 1

Table 1: Atmospheric discharge points

(i)	Snake stack (X532)	**(xiv)**	Tertiary cyclone bag filter (S416)
(ii)	FWGI stack (X253)	**(xv)**	Bulk bagging dust collector (S429)
(iii)	SWGI stack (X217)	**(xvi)**	Bag filter (D470) bulk bin (S470)
(iv)	STO stack (X261)	**(xvii)**	Steam superheater chimney (B401)
(v)	Synthetic Rutile Recovery Plant (SRRP) Dryer Stack (X684)	**(xviii)**	Swirl Fluidised Dryer (x2) (B405A&B)
(vi)	Vent Stack (X2256)	**(xix)**	Steam boiler stack (X501)
(vii)	Chlorinator sump scrubber (D204)	**(xx)**	TiCl4 Preheater chimneys (x4) (B301A, B, C and B3301D)
(viii)	Truck Unloading filter (S103)	**(xxi)**	Oxygen preheater chimneys (x4) (B305A, B, C and B3305D)
(ix)	Microniser tower snake (S469)	**(xxii)**	Bagging unit primary bag filter (S444)
(x)	Sand dust collector (S308)	**(xxiii)**	Microniser scrubber vacuum pump (G485)
(xi)	Dust collection bag filter (S406)	**(xxiv)**	Secondary oxygen heater stacks (x3) (B330A, B & C)
(xii)	Bag filter (D439) bagging bin (S439)	**(xxv)**	Toluene vent (D587)
(xiii)	Secondary cyclone bag filter (S417)	**(xxvi)**	Media transfer dust collector (S3047)

Air Emissions Limits

2. The licence holder must control the discharge of NOx so that during normal operations NOx emission from the SRRP Dryer stack does not exceed 0.2 g/s. Compliance with this condition must be demonstrated through an annual stack test conducted during normal operations.

Environmental Protection (Kwinana) (Atmospheric Waste) Policy 1999 Implementation Conditions

Sulphur Dioxide Discharge Limits - Plant

3. The licence holder must control the discharge of sulfur dioxide from the industrial sources listed in the relevant determination and located within the boundary of the licensed premises so as to ensure that the quantities of sulfur dioxide discharged comply with the relevant determination.

Discharge Through Vent Stack

4. (a) The licence holder must ensure waste process gas is not discharged through the Vent Stack unless necessary for the safe operation of the premises, or as

otherwise approved by the CEO.

(b) the licence holder must record the time, date and duration of the discharge, for each discharge of waste process gas through the Vent stack.

5. The information specified in condition 4 together with the accumulated duration of all waste process gases discharges for the year, must be included in a report provided to the CEO for each six-month period in accordance with condition 36.

Marine Pollution Control Conditions

Wastewater Discharge Point

6. The licence holder must discharge all process wastewater to the on-site synthetic lined wastewater settling ponds, prior to discharge to the environment through the sub-marine outfall, or when the sub-marine outfall is not available, through the use of the approved "*Tiwest Alternate Discharge Plan."*

Wastewater Discharge Limits

7. The licence holder must ensure that the limits cited in Table 2 are not exceeded for samples of wastewater collected in accordance with conditions 25 and 26 of this licence.

Table 2: Wastewater Discharge Limits

Parameter	Discharge limit	Averaging Period
Suspended Solids	50 mg/L	Monthly
pH	6.5 – 10.0	Daily
Manganese	12 mg/L	Weekly (shift composite)

Monitoring

Monitoring Equipment Reliability

8. The licence holder must maintain the continuous emissions monitoring systems specified in this licence to provide reliable and accurate data for:

(a) greater than 90 percent of the time that waste gases are emitted from the specified stack in every calendar month period; and

(b) greater than 95 percent of the time that waste gases are emitted from the specified stack in any period of twelve consecutive calendar months.

9. The licence holder must l maintain the ambient monitoring systems as specified in this licence to provide reliable and accurate data for:

(a) greater than 90 percent of operating time of the premises in every calendar month period; and

(b) greater than 95 percent of the operating time of the premises in any period of twelve consecutive calendar months.

Stack Sampling

10. The licence holder must maintain stack sampling ports on the atmospheric discharge points numbered (ii) to (v) in condition 1.

Air Emission Monitoring

11. The licence holder must monitor and record each of the parameters as stated in Column 2 of Table 3, in the units as stated in Column 5 of Table 3, by the monitoring method as specified in Column 4 of Table 3, at the frequencies stated in Column 3 of Table 3, in the exit gases emitted from each of the sources specified in Column 1 of Table 3.

Table 3: Atmospheric Emission Point Sources

Column 1	Column 2	Column 3	Column 4	Column 5
Source	**Parameter to be monitored**	**Monitoring frequency**	**Monitoring Method**	**Units**
FWGI stack	SO_2	Annual	USEPA Method 8 or USEPA Method 6	mg/m^3 @ STP, dry g/s*
SWGI stack	SO_2	Annual	USEPA Method 8 or USEPA Method 6	mg/m^3 @ STP, dry g/s*
SRRP Dryer stack	SO_2	Annual	USEPA Method 6C or USEPA Method 13.0	mg/m^3 @ STP, dry g/s*
SRRP Dryer stack	NOx	Annual	USEPA Method 7E	mg/m^3 @ STP, dry g/s*

Note: * Mass emission rates (i.e., g/s) are to be calculated using the values derived from the concentration values of the parameter in question, and the volumetric flow rate

12. The licence holder must continuously monitor SO_2 emissions from the STO stack while the stack is being used for the discharge of waste gases.

Emission Monitoring and Reporting – Sulfur Dioxide Monitoring Requirements of EPP

13. The licence holder must maintain an emissions monitoring system consisting of approved monitoring equipment to monitor the discharge of waste gases from the STO stack.

14. The emissions monitoring system must measure or otherwise estimate using approved procedures, the following quantities for each specified source:

(a) Mass emission rate of sulfur dioxide in g/s;

(b) Total volume emission rate of waste gases in m^3/s; and

(c) Density of waste gases in g/m^3.

Ambient Chlorine Monitors

15. The licence holder must operate a network of at least seven ambient chlorine monitors (designated PAE1731, CAE1731, DAE1731, EAE1731, TAE1731, HAE1731, and NWE1731), positioned around the operations where there is a potential for chlorine release.

16. The licence holder must maintain and calibrate the ambient chlorine monitors in accordance with the QAP where records must be kept of these activities.

17. The licence holder must ensure that the ambient chlorine detectors are set to alarm at a concentration which is not higher than 2.0ppm Cl., and the alarm must stay set to alarm until the concentration is less than the alarm set-point.

18. The licence holder must retain records for at least six months of all the results of ambient chlorine alarms recorded in accordance with condition 17 of this licence.

Ambient Sulfur Dioxide Monitoring

19. The licence holder must undertake a program to monitor the ambient concentration of sulfur dioxide at the sites shown in Table 4, as outlined in Section 7.2 of EPA Bulletin 644 "*Development of an Environmental Protection Policy for Air Quality at Kwinana*", or otherwise as determined by the CEO.

Table 4: Ambient Monitoring Sites

Site	Location
4	Western Power gas pumping station, Abercrombie Road, Kwinana
5	Hydrocarbon pumping station, Miguel Road, Cockburn
8	Within the locality of Munster

****See note after condition 35****

20. Prior to making any significant changes to the operation of the sulfur dioxide monitoring and data acquisition equipment, the licence holder must obtain approval from the CEO for its use and the equipment operation and calibration procedures to be followed.

Meteorological Monitoring

21. The licence holder must obtain meteorological data from meteorological monitoring system comprised of approved instruments and data acquisition equipment, at each location at which sulfur dioxide concentrations are being monitored in accordance with condition 19 above. The following meteorological parameters must be monitored at each of these locations:

(a) Wind speed;

(b) Wind direction; and

(c) Air temperature.

22. The following additional meteorological parameters must be monitored at ambient monitoring site 4:

(a) Wind direction standard deviation;

(b) Differential air temperature;

(c) Relative humidity or a related parameter;

(d) Barometric pressure;

(e) Net radiation; and

(f) Rainfall.

Wastewater Monitoring Requirements

23. The licence holder must maintain a sampling point and a flow recorder on the discharge from the on-site wastewater ponds to the sub-marine pipelines, such that:

(a) Water samples can easily be taken from the sampling point;

(b) Samples collected are representative of the wastewater discharged; and

(c) The sampling point and the flow recorder output is accessible at all times to an Inspector.

24. The licence holder must, when discharging wastewater, continuously measure the flow at the location specified in condition 23 of this licence and record the daily total

quantity in cubic metres.

25. The licence holder must, when discharging wastewater, continuously measure the pH and suspended solids (which may be inferred from this turbidity) of wastewater discharged at the location specified in condition 23 of this licence and record the daily average of these parameters.

26. The licence holder must sample and analyse wastewater from the location specified in condition 23 of this licence, in accordance with Table 5.

Table 5: Sample Analysis Parameters and Frequency of Analysis

Parameter	Sampling Frequency	Analysis Frequency
Aluminium, Cadmium, Calcium, Copper, Iron, Lead, Manganese, Sulphate, Titanium, Total Phosphorus, Vanadium, Zinc	Continuous automatic sampling during discharge. If the continuous automatic sampling system fails, licence holder must take at least every 4 hours of discharge a manual sample.	At least weekly
Mercury	Monthly Spot sample	Monthly
Total nitrogen	Weekly Spot sample	Weekly

Note (1): Analyses are to be reported in milligrams per litre (mg/L) if appropriate.

Sediment Monitoring Programme – Cockburn Sound

27. The licence holder must, during the period of the licence, undertake marine sediment quality monitoring in Cockburn Sound in accordance with the monitoring programme titled "*Tiwest Treated Process Wastewater Discharge Marine Monitoring Programme Proposal*", prepared by Oceanica and dated March 2007.

General Monitoring Requirements

28. The licence holder must ensure that all wastewater samples are collected in accordance with Australian Standard 5667.

29. The licence holder must ensure that all wastewater samples are submitted to a laboratory with current NATA accreditation for the specified analyses.

Groundwater Monitoring

30. The licence holder must conduct groundwater monitoring in accordance with the "*RICH Consulting Services – Groundwater Sampling, Measurement and Analysis plan, 2007*"

31. The licence holder must ensure that all groundwater samples are collected in accordance with the relevant parts of Australian Standard 5667.

32. The licence holder must ensure that all groundwater samples are submitted to a laboratory with current NATA accreditation for the specified analyses and analysed in accordance with the current "*Standard Methods for Examination of Water and Wastewater-APHA-AWWA-WEF*".

Records and reporting

Reporting of Meteorological and Ambient Sulfur Dioxide Monitoring Data

33. (a) The licence holder must, on a monthly basis, provide to the CEO, data from each of the meteorological and sulfur dioxide monitoring stations at which monitoring is occurring in accordance with conditions 19, 20, 21 and 22.

(b) The meteorological data must be provided as a time series listing on an approved computer-readable magnetic medium or via telemetry and in a format approved by the CEO.

(c) The sulfur dioxide data must be summarised in the form of one calendar month tables, one for each monitoring station, and must contain for each day in the one month period the following:

(i) daily average;

(ii) maximum one-hour average, which may span midnight; and

(iii) percentage data recovery for the day.

(d) The sulfur dioxide data from each monitoring station must be provided as time-series records of the recorded sulfur dioxide data on an approved computer-readable magnetic medium or via telemetry and in a format approved by the CEO.

(e) The meteorological and sulfur dioxide monitoring data must be provided to the CEO no later than 28 days after the last day of the one calendar month period to which the data relates or within such longer period of time as is approved by the CEO.

34. If the ambient sulfur dioxide concentration measured at any of the monitoring sites at which monitoring is occurring in accordance with condition 19 exceeds the standard or limit for that site, for any of the averaging period, as established by the EPP, then the licence holder must advise the CEO that this has occurred, within two working days. Further, the licence holder must provide in writing within five working days in the format as required under condition 37 a listing of sulfur dioxide discharges from each source listed in the relevant determination and located within the boundary of the licensed premises, for the period which includes and extends one hour either side of the period in which the exceedance occurred.

35. (a) As and when requested by the CEO the licence holder must provide, orally as soon as practicable and in written form within five working days of that request, data from the meteorological and sulfur dioxide monitoring systems.

(b) The requested data must be provided as a time-series listing of the data in an approved format and must cover the period requested by the CEO.

Note on conditions 19-22 and 33-35.

Without limiting the licence holder's responsibility and obligation to fulfill all of the requirements for monitoring and reporting specified in conditions 19-22 and 33-35, the CEO will, if so requested by the licence holder, approve the monitoring and reporting functions being performed on behalf of the licence holder by a nominated agent, as part of a cooperative arrangement between industries. Notwithstanding this, advice on exceedances of the standard or limit together with sulfur dioxide emissions during those exceedances as required by condition 35 must be provided directly by the licence holder.

Condition 19 requires that a total of three ambient sulfur dioxide monitoring stations are maintained in the relevant portion of the environment, pursuant to Clause 11(1)b of the EPP. Two of the monitoring stations are permanently located at sites 4 and 5.

36. (a) The licence holder must, for each six-month period, provide to the CEO a report containing:

(i) The results of air emission monitoring or estimation, at the frequency specified for each source, as specified by conditions 11 and 12;

(ii) Information related to the discharge of waste gases through the Vent Stack as specified by condition 5;

(iii) Results of the sulfur dioxide emission monitoring data as specified by condition 37; and

(iv) Results of the water monitoring as specified by conditions 26 and 30.

(b) The report must contain data collected over the preceding six-month period.

(c) The report for the six-month period from 1 January must be provided no later than 28 days after the last day of the six-month period to which the data relates.

(d) The report for the six-month period from 1 July must be included in the annual report.

37. The licence holder must provide to the CEO, no later than 28 days after the last day of the six month period to which the data relates or within such a longer period of time as is approved by the ~~r~~ CEO, the emissions data for each quantity specified in condition 14 as a time-series listing of the recorded emissions data for period of six months on an approved computer-readable magnetic medium and in an approved format.

38. As and when requested by the CEO, the licence holder must provide within five working days of that request, data from the emissions monitoring system. The emissions data must be provided as a time-series listing of the data in an approved format and must cover the period requested by the CEO.

39. 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.

40. The licence holder must submit to the CEO by no later than 1 April, an Annual Environmental Report for that annual period for the conditions listed in Table 6, and which provides information in accordance with the corresponding requirement set out in Table 6.

Table 6: **Annual Environmental Report**

Condition	Requirement
42	A summary of all exceedances reported in accordance with condition 42 during the previous annual reporting period
8	Compliance with condition 8
36	Information and results required by condition 36

11	Results of air emission monitoring or estimation as specified by condition 11
27	Results of sediment monitoring as specified by condition 27
N/A	The nature, quantity and plant source of process wastes disposed of, on or off-site to land
N/A	Details of the nature and quantity of all significant spillage to the environment

41. The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO by no later than 1 April an Annual Audit Compliance Report in the approved form.

Reporting of Exceedance of Licence Limits

42. The licence holder must notify the CEO before 5pm on the next working day after becoming aware that any monitoring result has exceeded a reportable threshold as specified in any condition of this licence.

43. The licence holder must provide an exceedance report to the CEO where any monitoring results are in excess of reportable threshold specified in any condition of this licence within 15 working days of that exceedance becoming known. The exceedance report must contain:

(a) The amount by which the threshold was exceeded, supported by the relevant monitoring data;

(b) Time series listing, where the exceedance was recorded by continuous emissions monitoring system, of the emissions monitoring data from the relevant source in an approved format, for the period which includes and extends one hour either side of the period of the exceedance;

(c) Reasons for the emission levels being in excess of the threshold;

(d) An outline of corrective action taken by the licence holder to ensure that emission levels are maintained below the threshold, where applicable; and

(e) The emissions monitoring data provided within the exceedance report must be certified on each page as a true and correct representation of the emissions monitoring data by the signature of an authorised delegate of the licence holder together with the printed name and position of that person within the company.

44. 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) any maintenance of infrastructure that is performed in the course of complying with the conditions of this licence;

(c) monitoring programmes undertaken in accordance with conditions 11, 12, 13, 14, 15, 18, 19, 24, 25, 26, 27, 28, 29, 30, 31, and 32 of this licence; and

(d) complaints received under condition 39 of this licence.

45. The books specified under condition 44 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 7 have the meanings defined.

Table 7: Definitions

Term	Definition
ACN	Australian Company Number
Advise	means advise in writing from time to time by the CEO.
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 January until 31 December.
APHA-AWWA-WEF	means American Public Health; American Water Works Association; Water Environment Federation
Australian Standard 5667	means the most recent version and relevant part of AS/NSZ 5667
books	has the same meaning given to that term under the EP Act.
CEMS	means continuous emission monitoring system
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
Cl	means chlorine
CO2	means carbon dioxide
daily average	Means the average over a period of 24 hours (midnight to midnight) of validated hourly averages obtained by continuous measurements
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.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
EPA	means Environmental Protection Authority
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
FWGI	means First Waste Gas Incinerator
g/s	means grams per second
g/m^3	means grams per cubic metre

Term	Definition
Inspector	means a person appointed as an Inspector under Section 88 of the *Environmental Protection Act 1986*
kg/m^3	means kilograms per cubic metre, expressed at stack conditions
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.
mg/m^3 @ STP, dry	means the concentration of the parameter in milligrams per cubic metre of dry air at 0 degrees Celsius and one atmospheric pressure (101.325 kilopascals)
m^3/s	means cubic metres per second, expressed at stack conditions
mg/L	means milligrams per litre
monthly period	means a one-month period commencing from the start of the first day of the month to the end of the last day of the same month, midnight to midnight
NATA	means National Association of Testing Authorities
normal operations	means any operation of a particular process (including abatement equipment) excluding start up, shut down and upset conditions
NOx	means oxides of nitrogen
O_2	means oxygen
ppm	means parts per million expressed as v/v
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises maps (Figure 1) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
QAP	means the licence holder's quality assurance program
Relevant determination	means a determination under clause 7(3) of the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999, determining the sulfur dioxide limits for the icence holder
six-month period	means the six month periods commencing 1 January and 1 July
SO2	means sulfur dioxide
SRRP	means Synthetic Rutile Recovery Plant
STO	means Stand-by Thermal Oxidiser
SWGI	means Second Waste Gas Incinerator
the EPP	means the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*
TiCl	means titanium tetrachloride
USEPA	means the United States Environmental Protection Authority
waste	has the same meaning given to that term under the EP Act.

Term	Definition
waste process gases	means any gases produced while recycle chlorine is being fed into any of the chlorinators
Weekly (sampling frequency)	means sampling conducted such that there are at least 4 days in between the days on which samples are taken in successive weeks
Weekly (averaging period)	means the average obtained over a period of 7 days for data collected within that period

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

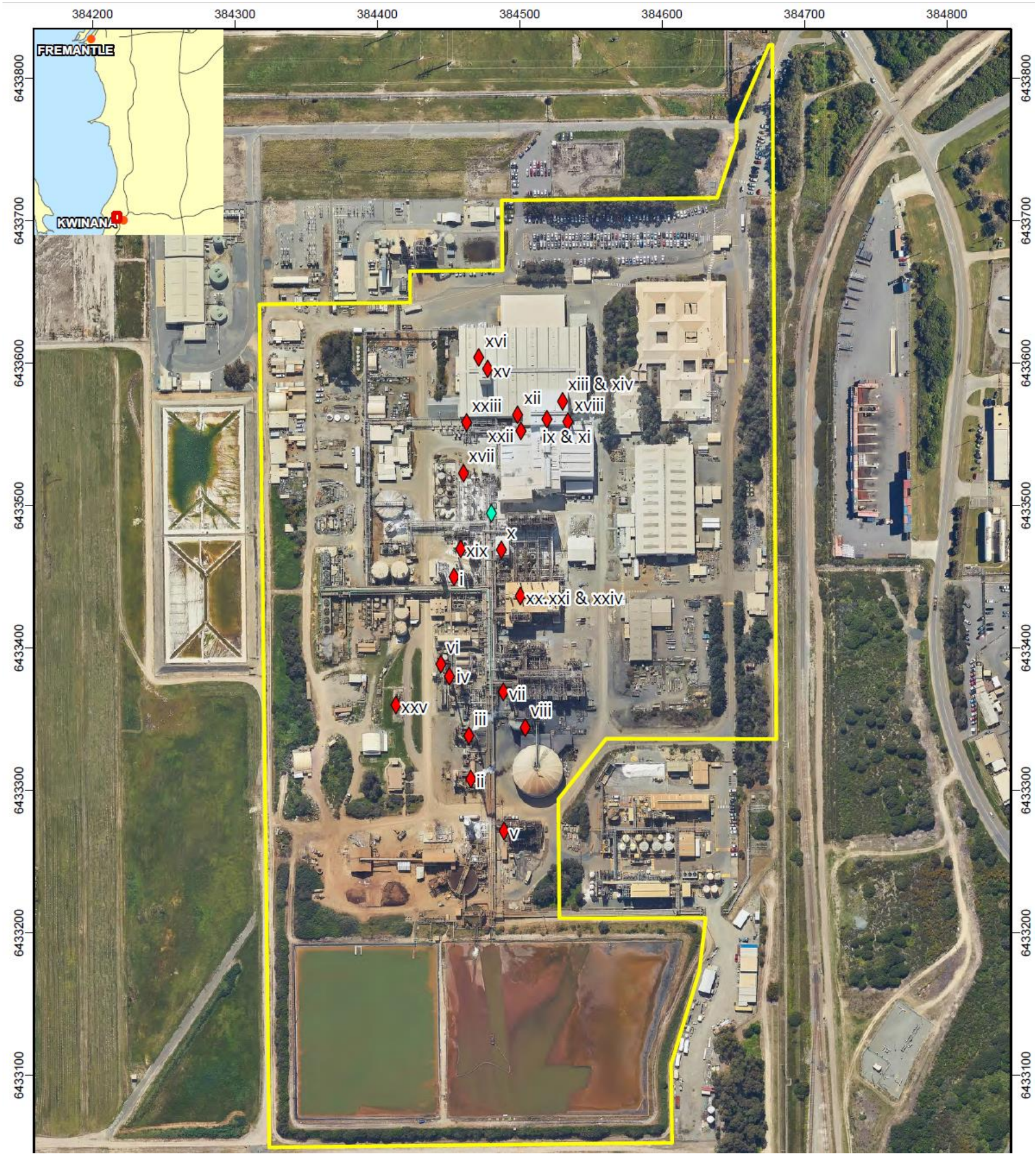

Figure 1: Map of the boundary of the prescribed premises and authorised emission points (red and blue markers)

Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 8.

Table 8: Premises boundary coordinates (GDA2020)

	Zone	Easting	Northing
1.	50	384324	6433049
2.	50	384317	6433641
3.	50	384423	6433642
4.	50	384487	6433665
5.	50	384487	6433714
6.	50	384638	6433716
7.	50	384652	6433757
8.	50	384652	6433770
9.	50	384675	6433823
10.	50	384677	6433823
11.	50	384680	6433336
12.	50	384560	6433336
13.	50	384527	6433293
14.	50	384527	6433210
15.	50	384630	6433210
16.	50	384626	6433173
17.	50	384606	6433107
18.	50	384606	6433052