Government of Western Australia
Department of Water and Environmental Regulation

Amended Licence

Licence number	L5938/1967/12
Licence holder	BP Refinery (Kwinana) Pty Ltd
ACN	008 689 763
Registered business address	717 Bourke Street DOCKLANDS VIC 3008
DWER file number	DER2016/0005128
Duration	09/05/2011 to 08/05/2033
Date of issue	05/05/2011
Date of amendment	1/11/2023
Premises details	BP Refinery Kwinana Mason Road KWINANA BEACH WA 6167 Legal description – Lot 18 on Plan 17311

Prescribed premises category description (Schedule 1, Environmental Protection Regulations 1987)	Assessed production capacity
Category 61: Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	200,000 tonnes per year
Category 73: Bulk storage of chemicals: premises on which acids, alkalis or chemicals that – (a) contain at least one carbon to carbon bond; and (b) are liquid at STP (standard temperature and pressure), are stored.	1,000,000 m^3 in aggregate
Category 81: Metal coating: premises on which metal products (excluding vehicles) are spray painted, powder coated or enamelled.	10,000 litres per year
Category 87: Fuel burning: premises on which gaseous, liquid or solid fuel with a sulfur content of less than 0.25% is burnt in a boiler for the supply of steam or in power generation equipment.	948 kg per hour in aggregate

This amended licence is granted to the licence holder, subject to the attached conditions, on 1 November 2023, by:

Amine Fisher
Digitally signed by Amine Fisher
Date: 2023.11.01 12:18:59 +08'00'

Amine Fisher
A/Manager, Process Industries
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Ref number	Summary of changes
05/05/2011	L5938/1967/12	Licence granted.
27/06/2013	L5938/1967/12	Licence amendment changing the requirements for SO_2 CEMS availability
29/04/2016	L5938/1967/12	Expiry date extended to 08/05/2033
27/10/2016	L5938/1967/12	Amendment Notice 1. Changes in requirements for reporting of spills, changes in reporting requirement for groundwater contamination and removal of greenhouse gas reporting
02/10/2019	L5938/1967/12	Amendment Notice 2. Removes bitumen manufacturing category and amending CEMS monitoring conditions to reflect commissioning of new CEMS
17/06/2022	L5938/1967/12	Licence amendment. Refinery ceased refining in February 2021 therefore licence amended to remove requirements relating to relevant infrastructure decommissioned or placed in care and maintenance. Key changes relate to removing all requirements for the authorisation, control, monitoring and data reporting of point source air emissions that have ceased.
1/11/2023	L5938/1967/12	Licence amendment to extend the due date for the annual environmental report.

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:

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in that table.

Table 1: Infrastructure and equipment requirements

Site infrastructure	Design and operational requirements	Infrastructure location
Bulk fuel storage		
Tank farm	(a) Must only comprise the following infrastructure, either standalone or in various groupings: (i) 6 x 1,500 kL tanks; (ii) 4 x 3,000 kL tanks; (iii) 8 x 5,000 kL tanks; (iv) 25 x 7,000 kL tanks; (v) 16 x 7,700 kL tanks; (vi) 28 x 11,000 kL tanks; (vii) 8 x 25,000 kL tanks; (viii) 4 x 25,800 kL tanks; (ix) 1 x 95,400 kL tank. (b) Each standalone tank, or grouping of tanks, must comprise its own secondary containment that: (i) is designed with an effective containment volume equal to or greater than 100% of the largest tank; (ii) all tanks fitted with a high-level switch; (iii) tanks are to be inspected daily; (iv) all tanks fitted with unexpected movement alarms (c) Must have a suitable pump on standby for managing accumulation of rainwater and spilt materials inside the bunded areas;	Tank Farm on Figure 1 in Schedule 1
Fuel burning		
1 x steam boiler	(a) 1 x 7 MW steam boiler; (b) Must be fitted with low NOx burners; (c) Stack exhaust must be at least 12 metres above as-built ground level;	Figures 5 and 6 in Schedule 1
Liquid waste facility		
Wastewater treatment plant	(a) Must comprise a treatment system with: (i) API oil/solids separator; (ii) 4,700 m^3 Equalisation tank (EQ); (iii) 726 m^3 DAF tank; (iv) 2 x 3,600 m^3 activated sludge units (v) 2 x 1,000 m^3 clarifier tanks (vi) 2 x 10,000 m^3 polishing ponds; (vii) 150 m3 final effluent storage tank (b) Must have a suitable pump on standby for	Wastewater Treatment Plant in Schedule 1 Figure 1

Site infrastructure	Design and operational requirements	Infrastructure location
	managing accumulation of rainwater and spilt materials inside the bunded area;	
Land farm facility		
Land farm facility	(a) 4 x land farm cells: Cells 1 – 4; (b) Cells 1, 3 & 4 must not exceed 1 hectare in size; (c) Cell 2 comprises double HDPE lined of 1 ha in size; (d) Cell 2 must comprise its own secondary containment that comprises a collection sump for recovering spilt materials and rainwater	Land Farm in Schedule 1 Figure 1

Premises operation

Free-phase hydrocarbon recovery programme

2. The licence holder must continue to recover and monitor accumulated free product under the premises.

Waste acceptance

3. The licence holder must only accept onto the premises waste that meets the corresponding acceptance criteria specified in Table 2.

Table 2: Types of waste authorised to be accepted onto the premises

Waste category	Rate at which waste is received	Acceptance specification
J120 Waste oil and water mixtures of emulsions and hydrocarbon and water mixtures or emulsions	≤300,000 litres per annual period	Must only comprise liquid waste (oily wastewater) from BP external pipeline maintenance, terminals and pigging activities
K130 Sewage waste from the reticulated sewerage system	Not specified – no more than necessary for the purpose of reseeding the on-site wastewater treatment plant	Must only comprise biosludge

4. The licence holder must ensure that wastes accepted onto the premises are only subjected to the processes and in accordance with any process limits set out in Table 3.

Table 3: Waste processing

Waste category	Process	Process limits
J120 Waste oil and water mixtures of emulsions and hydrocarbon and water mixtures or emulsions	Treated through the on-site wastewater treatment plant	None specified
K130 Sewage waste from the reticulated sewerage system	Added to the on-site wastewater treatment plant	Must only be used for the purpose of reseeding the on-site wastewater treatment plant

Emissions and discharges

Discharge to air

5. The licence holder must ensure that the emissions specified in Table 4, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 4: Authorised discharge points to air

Emission	Discharge point	Discharge point location
Combustion gases from burning of natural gas	B1103 Stack	As shown in Figure 6 of Schedule 1

Discharges to water

6. The licence holder must ensure that where waste is discharged to water from the discharge points specified in Table 5 and identified on the map of emission points in Schedule 1, it is done so in accordance with the conditions of this licence.

Table 5: Authorised discharge points to water

Discharge	Discharge point	Discharge point location	Discharge requirements
Treated process wastewater from liquid waste facility	SDOOL pipeline outfall	As shown in Schedule 1 figures 2 and 3	Routine discharge
	Cockburn Sound outfall		Only when discharge via SDOOL is unavailable

7. The licence holder must ensure that the process wastewater concentrations and loads for the listed parameters in effluent water discharged in accordance with condition 6, must not exceed the limits specified in Table 6.

Table 6: Process wastewater discharge limits

Parameter	Discharge to SDOOL Pipeline	Discharge to Cockburn Sound	Compliance Period
	Limit	Limit	Limit
Volume	7.93 ML		Daily
Total Nitrogen	200 kg/day	200 kg/day	Daily
Total Suspended Solids	60 mg/l	40 mg/l	Monthly average
Chemical Oxygen Demand	100 mg/l	100 mg/l	
Biological Oxygen Demand	25 mg/l	25 mg/l	
Total Hydrocarbons	120 kg/day	120 kg/day	Daily
Phenolics	20 kg/day	20 kg/day	
Sulphides	10 kg/day	10 kg/day	
Arsenic	0.4 kg/day	0.4 kg/day	Yearly average
Cadmium	0.08 kg/day	0.08 kg/day	
Chromium	0.16 kg/day	0.16 kg/day	
Cobalt	0.16 kg/day	0.16 kg/day	
Copper	0.16 kg/day	0.16 kg/day	
Lead	0.16 kg/day	0.16 kg/day	

Parameter	Discharge to SDOOL Pipeline	Discharge to Cockburn Sound	Compliance Period
	Limit	Limit	Limit
Mercury	0.008 kg/day	0.008 kg/day	
Nickel	0.16 kg/day	0.16 kg/day	
Vanadium	0.16 kg/day	0.16 kg/day	
Zinc	0.8 kg/day	0.8 kg/day	

Monitoring

Monitoring of discharges to water

8. The licence holder must maintain a facility for sampling process wastewater at Location 1 in Schedule 1 figure 2 for the purpose of:

(a) continuous automatic sampling on a daily basis to form a representative sample of the effluent discharge for each day; and
(b) in the event of a failure of an automatic sampling device, manual sampling on at least a 3 hourly basis.

9. The licence holder must undertake the monitoring in Table 7 according to the specifications in that table.

Table 7: Emissions and discharges monitoring

Discharge point	Parameter	Frequency	Unit	Method
Process wastewater	pH	Daily grab sample on days there is a discharge		AS/NZ 5667.1 AS/NZ 5667.10
	Total hydrocarbons	Daily composite sample on days there is a discharge	mg/L Kg/day	
	Nitrogen			
	Phenolics			
	Sulphides			
	COD		mg/L	
	BOD	Daily composite sample collect twice per week except where there is less than 2 days with a discharge then 1 Daily composite on day there is a discharge.		
	TSS			
	Arsenic	Daily composite samples tested once per week		
	Cadmium			
	Chromium			
	Cobalt			
	Copper			
	Lead			
	Mercury			
	Nickel			
	Vanadium			
	zinc			

10. The licence holder must record the results of all monitoring activity required by condition 9.

11. The licence holder must ensure that all non-continuous analysis undertaken pursuant to condition 9 is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) for the methods of sampling and analysis relevant to the corresponding relevant parameter.

Monitoring of ambient groundwater quality

12. The licence holder must undertake the monitoring in Table 8 according to the specifications in that table.

Table 8: Monitoring of ambient groundwater quality

Parameter	Monitoring location	Unit	Frequency	Sampling Method
TPH, Benzene, Toluene, Ethyl Benzene and Xylene, total BTEX, , , Arsenic, Barium, Beryllium, Cadmium, Chromium, Total Chromium (VI), Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Vanadium, Zinc, Total N, N-TKN, N-NO_3 + NO_2, P-PO4, Total P	Monitoring wells as shown in Figure 4 Schedule 1	µg/L	Annually	AS/NZ5667.11

13. The licence holder must record the results of all monitoring activity required by condition 12.

14. The licence holder must monitor the land farm cells for concentrations of the identified parameter(s) in accordance with Table 9.

Table 9: Land farm monitoring

Monitoring location	Parameter	Unit	Frequency	Method
Land farm cells zone of incorporation	pH	-	Active cell bimonthly. Inactive cell quarterly. Dormant cell annually.	2 composite samples per cell
	Moisture	%		
	TPH, Total Nitrogen, Nitrate nitrogen, Ammonium nitrogen, Phosphorous Colwell	mg/kg		
Land farm cells soil cores	TPH and BTEX	µg/kg	Active and inactive cells annually Dormant cell biennially	2 cores per cell each with 3 depth interval samples
	PAH, Aluminium, , Arsenic, Barium, Beryllium Cadmium Chromium total Chromium (VI), Cobalt, Copper, Iron, lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Tin, Vanadium, Zinc			One core per cell each with 3 depth interval samples

15. The licence holder must record the results of all monitoring activity required by condition 14.

Records and reporting

16. 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.

17. 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 45 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

18. 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) monitoring programmes undertaken in accordance with conditions 8 and 12 of this licence; and
(c) complaints received under condition 16 of this licence.

19. The books specified under condition 18 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.

20. The licence holder must submit to the CEO by no later than 45 days after the end of each annual period, an annual environmental report for that annual period for the conditions listed in Table 10, and which provides information in accordance with the corresponding requirement set out in Table 10.

Table 10: Annual Environmental Report

Condition	Requirement
9	• A tabulated data summary of monitoring results. • An interpretation of monitoring data results including comparison to historical trends.
12	• Tabulated groundwater monitoring data for all wells over a four year period and time series graphs for selected wells including those demonstrating significant differences between the current year and previous years results. • An update on the performance of the air sparge systems installed to remediate contaminated groundwater before it discharges off-site. • Comment on any significant differences between the current year and previous year's results • Include an estimate of the net load of each contaminant discharged to Cockburn Sound via the surficial groundwater aquifers each year • Include the results of any groundwater investigations conducted during the year to better define contaminant concentrations and loads in the surficial

Condition	Requirement
	groundwater discharging to Cockburn Sound • Include an estimate of the volume of hydrocarbons recovered over the reporting period in accordance with condition 2. The status and extent of the plume of dissolved-phase hydrocarbons in groundwater in context with the history of the plume and factors affecting natural attenuation of the plume. • The status and extent of the plume of free-phase hydrocarbons in groundwater in the context of historical trends in oil recovery, and intended oil recovery programme for the next three years
14	Regarding the management of the land farm area detailing • The amount of oily sludge applied • The amount of oil contaminated soil treated and how it was disposed of • Results of groundwater and soil monitoring conducted in accordance with condition 14.
16	Complaints record

Environmental Protection (Kwinana) (Atmospheric wastes) Policy 1999 Implementation of Conditions

Ambient sulfur dioxide monitoring

21. The licence holder must ensure the concentration of sulfur dioxide in the relevant portion of the environment at the locations of the monitoring equipment, as outlined in Section 7.2 of EPA Bulletin 644 "Development of an Environmental Protection Policy for Air Quality at Kwinana", is continuously monitored and recorded throughout the period of this licence at the monitoring sites listed in Table 11.

Table 11: Ambient Monitoring Sites

Site	Location
4	Abercrombie Road, Kwinana
5	Miguel Road, Cockburn
8	Fancote Avenue, Beelair

22. The licence holder must ensure the approved monitoring equipment referred to in condition 21 is operated and calibrated as approved and is maintained so as to provide reliable data for greater than 90% of the time in every calendar month and for greater than 95% of the time in any period of twelve calendar months.

Meteorological monitoring

23. The licence holder must obtain meteorological data from a 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 21. The following meteorological parameters must be continuously monitored at each location:

- wind speed;
- wind direction; and
- air temperature.

24. The following additional meteorological parameters must be continuously monitored at an approved site:

- wind direction standard deviation;

- differential air temperature;
- relative humidity or a related parameter;
- barometric pressure;
- net radiation; and
- rainfall.

25. The meteorological monitoring system must be maintained so as to provide reliable data on each meteorological parameter for greater than 90% of the time in every calendar month period and greater than 95% of the time in any 12 consecutive calendar months.

Reporting of meteorological and ambient sulphur dioxide monitoring data

26. The licence holder must provide to the CEO data from each of the meteorological and sulfur dioxide monitoring stations at which monitoring is occurring in accordance with conditions 21, 23 and 24:

(a) 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;

(b) the sulphur 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:

- daily average;
- maximum one-hour average, which may span midnight; and
- percentage data recovery for the day;

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

(d) the meteorological and ambient sulphur dioxide monitoring data must be provided to the CEO no later than 14 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.

27. If the ambient sulfur dioxide concentration measured at any of the monitoring sites at which monitoring is occurring in accordance with condition 21 exceeds the standard or limit for that site, for any of the averaging periods, 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 usual business days in the format approved under condition 26 a listing of sulfur dioxide emissions 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.

28. As and when requested by the CEO the licence holder must provide in writing as soon as practicable within five usual business days of that request, data from the meteorological and sulfur dioxide monitoring systems.

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.

Definitions

In this licence, the terms in Table 12 have the meanings defined.

Table 12: Definitions

Term	Definition
Active cell	means sludge or contaminated soil has been applied within the last 12 months
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 of the same year.
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of wastewaters;*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*
ASU	means activated sludge unit
BTEX	means benzene, toluene, ethylbenzene and xylene
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 info@dwer.wa.gov.au
DAF	Dissolved air floatation
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.
Dormant cell	means no sludge or soil application within the previous 24 months
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	Environmental Protection Regulations 1987 (WA)
Inactive cell	means sludge or contaminated soil has not been added in the 12 months previous but has been added within the last 24 months
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.
PAH	Polycyclic Aromatic Hydrocarbons
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map Figure 1 in Schedule 1 to this licence.
SDOOL	means Sepia Depression Ocean Outlet Landline.
sludge	means non soil, oily solid waste eg. Biosludge from waste water treatment plant, centrifuge cake, oily tank or slops residue.

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

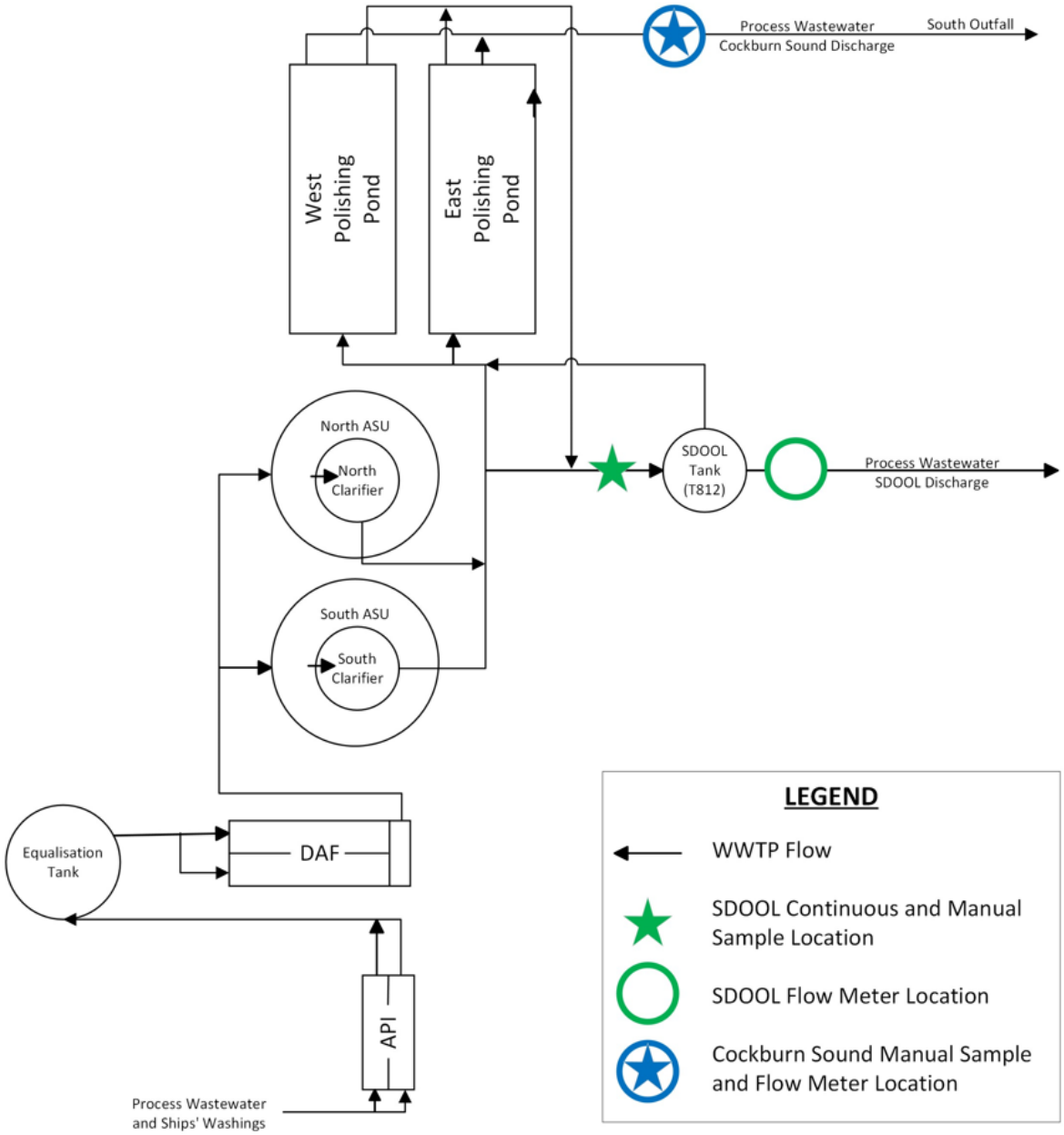

Figure 2: Detail of wastewater and cooling water treatment plant

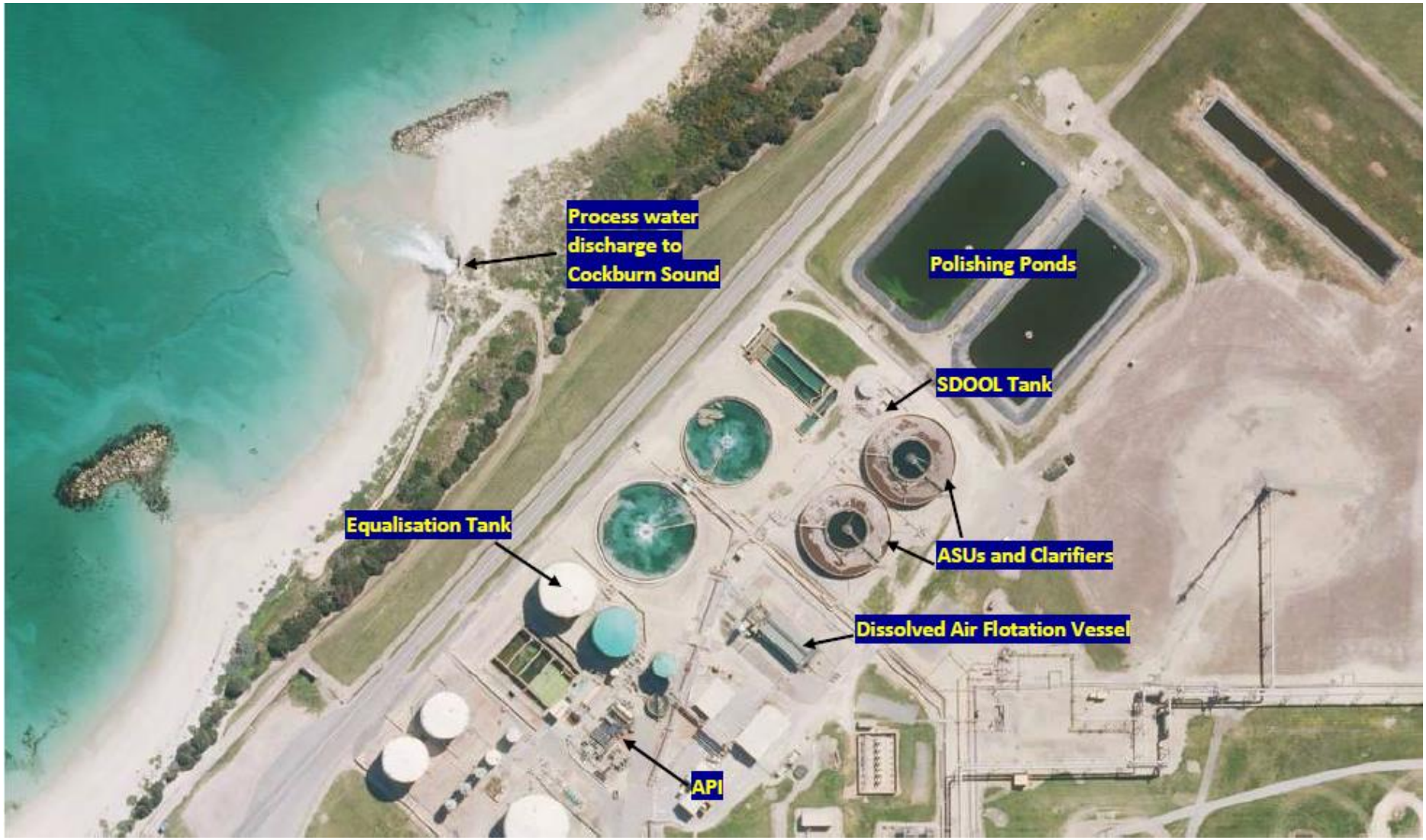

Figure 3: Wastewater and cooling water treatment plant and outfalls

Figure 4: Groundwater Monitoring Points

Figure 5: Location of Steam Boilers

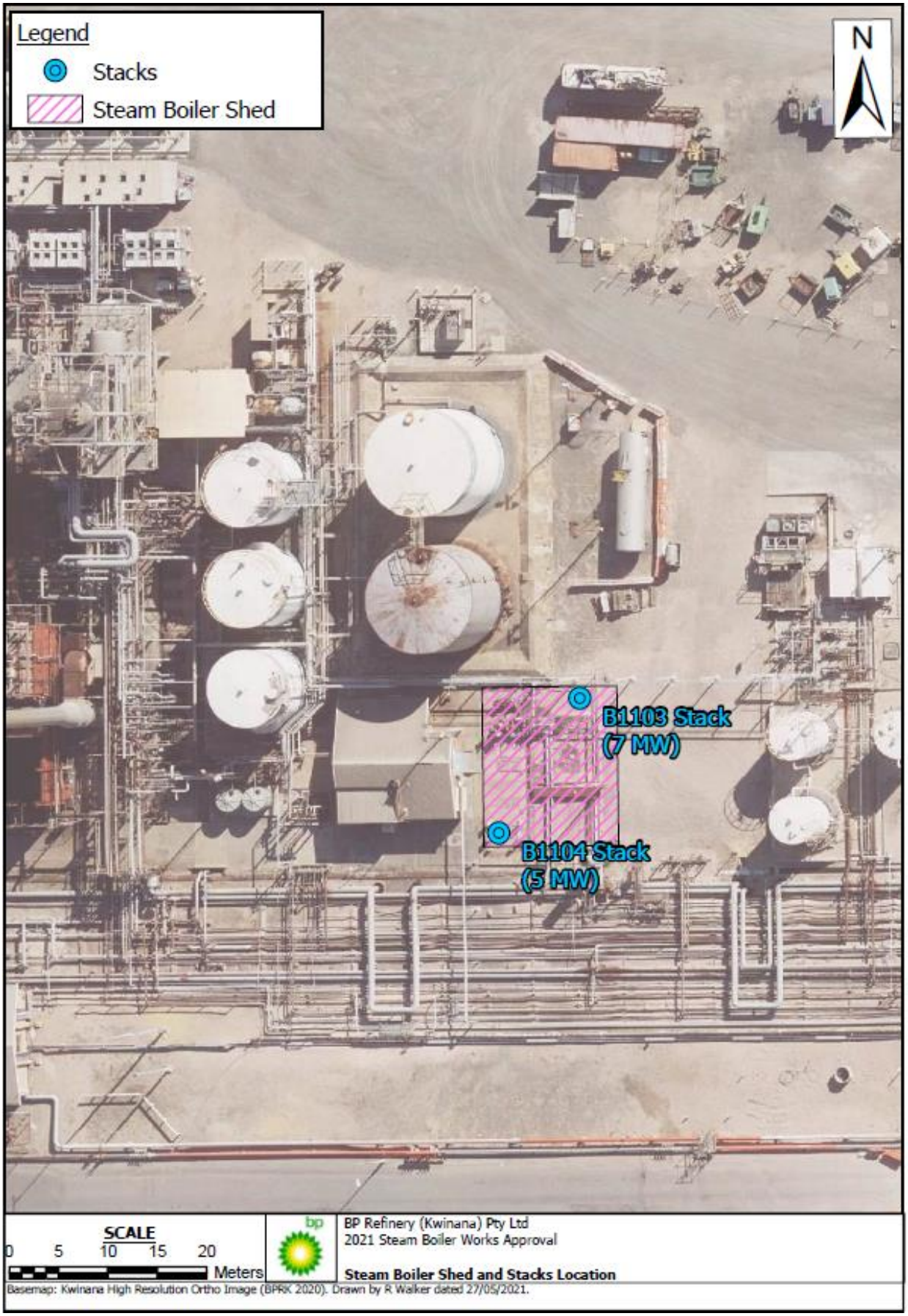

Figure 6: Detail showing steam boiler stacks