



Licence number	L8437/2010/3
Licence holder	BHP Nickel West Pty Ltd
ACN	004 184 598
Registered business address	171 Collins Street MELBOURNE VIC 3000
Duration	30/10/2015 29/10/2026
Date of amendment	08/08/2025
Premises details	1. Kwinana Nickel Refinery Lot 100 on Plan 423540 Patterson Road KWINANA BEACH WA 6167 2. Baldivis Facility Lot 820 on Plan 77252 Miller Road BALDIVIS WA 6171

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production capacity
Category 12: Screening, etc of material	280 tonnes per hour
Category 31: Chemical manufacturing	2,701 tonnes per annum of Hydrogen Sulphide Gas 100,000 tonnes per annum (nickel sulphate)
Category 34: Oil or gas refining	6,150 tonnes per annum of Hydrogen Gas
Category 44: Metal smelting or refining	90,000 tonnes per annum of Nickel metal
Category 62: Solid waste depot	27,000 tonnes (dry) of Residue per annum
Category 67: Fuel burning	8,600 kilogram per hour

This amended licence is granted to the licence holder, subject to the attached conditions, on 8 August 2025, by:

MANAGER, PROCESS INDUSTRIES

STATE-WIDE DELIVERY (ENVIRONMENTAL REGULATION)

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

Licence history

Date	Ref number	Summary of changes
23/04/2010	L8423/2010/1	New Licence as previous Licence L5106/1970/1 ceased to have effect through an administrative error.
22/10/2010	L8437/2010/2	Review of Licence to correct errors within the previous Licence.
19/05/2011	L8437/2010/2	Renewal of Licence
29/04/2016	L8437/2010/3	Extension of expiry date from 30/10/2017 to 30/10/2021
11/07/2019	L8437/2010/3	Amendment for the construction of two effluent storage tanks Kwinana Nickel Refinery to hold wastewater during a major shut down and to contain stormwater afterwards.
19/10/2021	L8437/2010/3	Amend to extend expiry and to incorporate changes made to the premises under W6275/2019/1 to increase throughput from 75ktpa to 90ktpa; and W6117/2018/1 to construct a Powder Leach Nickel Sulphate Plant with capacity 22,000 tpa.
26/10/2022	L8437/2010/3	Licence amendment application to increase mechanised evaporation at Baldivis Facility, and to assess evaporation pond capacity, liner integrity ponds and associated pipeline infrastructure.
27/08/2024	L8437/2010/3	Amendment to change the annual reporting period to the financial year and submission date to 30 September
23/12/2024	L8437/2010/3	Amendment to select operational and monitoring conditions not required to be undertaken during care and maintenance periods as a result of the premises operations being temporarily suspended.
26/05/2025	L8437/2010/3	Amendment to alter pollution control requirements for the mixed sulphide precipitation circuit and to remove the requirement to monitor the mixed sulphide packaging shed emission point.
08/08/2025	L8437/2010/3	Amendment to authorise storage of nickel salts at the refinery.

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:

GENERAL CONDITIONS

CALIBRATION

1. The licence holder shall have all monitoring equipment required by any condition of this licence calibrated in accordance with the manufacturer's specifications, requirements of this licence or an appropriate Australian or International (ISO) Standard.
2. The licence holder shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO as soon as practicable accompanied with a report comprising details of any modifications to the methods.

EMISSION TO AIR

POINT SOURCE STACK MONITORING

3. (a) During operational periods, the licence holder shall implement a manual stack monitoring program for the locations specified in column 5 of Table 1 for the parameters specified in column 1 of Table 1 at the frequency specified in column 2 of Table 1, using the sampling method specified in column 3 of Table 1 and in the units specified in column 4 of Table 1, during Normal Operating Conditions.

Table 1 - Point source air emission monitoring program for Kwinana Nickel Refinery

Column 1 Parameter to be Monitored	Column 2 Frequency	Column 3 Monitoring Method	Column 4 Units	Column 5 Location (as depicted in Schedule 2)
Velocity	Biannually	USEPA Method 2	m/min	Pre-oxidation Stack 2 (Number 5); Sinter furnaces Stacks (Numbers 1, 2 and 3); and Baghouses 3T-10, 3T-156, 3T-306 & 3T-308 (Numbers 7, 8, 9 and 10).
Volumetric flow rate			m³/s (STP, dry)	
Isokinetic rate			%	
Stack moisture content		USEPA Method 4	%	
Total Suspended Particulate matter		USEPA Method 5 or USEPA Method 17	mg/m³ (STP, dry) and g/s*	
Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, phosphorus, selenium silver, thallium and zinc		USEPA Method 29		

- (b) The licence holder shall ensure that sampling required under condition 3(a) of this licence is undertaken in accordance with Australian Standard AS/NZS4323.1-1995 *Stationary Source Emissions Method 1: Selection of sampling positions*.

(c) The licence holder shall ensure that all stack monitoring required by condition 3(a) and 3(b) of this licence is conducted by companies and laboratories with current NATA accreditation for the methods and analyses specified.

(d) The licence holder shall record process operating parameters and production rates associated with the monitoring locations in column 5 of Table 1 during stack monitoring in accordance with condition 3(a) of this licence.

METALS BUILDING BAGHOUSES

4. During operational periods, the licence holder shall operate and maintain dust detection probes in the Metals Building Baghouses
5. The licence holder shall undertake the following actions as soon as practicable upon becoming aware of a Step Change event in a Metals Building Baghouse:
 - (i) investigate the cause of the Step Change event as soon as practicable; and
 - (ii) if a bag failure has resulted in the Step Change event, replace affected bag(s) within 24 hours.
6. The licence holder shall maintain a log or database of all baghouse Step Change events that includes but is not necessarily limited to:
 - (i) the date and time of the Step Change event;
 - (ii) the cause of the Step Change event;
 - (iii) the maximum dust detection probe output;
 - (iv) the action taken in response to the Step Change event including whether the response complied with condition 5 of this licence.

TAIL GAS SCRUBBER – CONTINUOUS MONITORING

7. (a) During operational periods, the licence holder shall continuously monitor the 1-minute average ammonia concentrations from the Tail Gas Scrubber and maintain a log or database of data of the concentrations, recorded as 30-minutes averages and in the units of % v/v referenced to STP, dry.
(b) The licence holder shall ensure that the continuous monitor referred to in condition 7(a) of this licence is operated to achieve at least 90% availability on a monthly basis and 95% on an annual basis when the emission source is operational.

TAIL GAS SCRUBBER – EMISSION LIMIT

8. Subject to condition 9, the licence holder shall ensure that ammonia emissions do not exceed an ammonia gas emission limit of 0.75 % v/v, as monitored in accordance with condition 7(a) of this licence.

Pursuant to condition 8, the licence holder is exempt from the emission limit specified in condition 8 of licence during events listed in column 1 of

Table 2 if the actions in column 2 of

9. Table 2 are undertaken.

Table 2 - Actions to be taken for exemption to Tail Gas Scrubber ammonia concentration emission limit.

Column 1 Exemption Event	Column 2 Exemption Action
Continuous monitor calibration correlation through manual stack sampling.	The licence holder has notified the CEO in writing at least 7 days prior to the commencement of the continuous monitor calibration curve correlation.
At any time continuous monitoring in accordance with condition 7(a) of this licence indicates an exceedance of the emission limit specified in condition 8 of this licence.	The licence holder has ceased feed to the leach plant within 60 minutes of the start of any event which exceeds the emission limit specified in condition 8 of this licence, unless ammonia concentrations have already decreased below the emission limit.
The Tail Gas Scrubber has shutdown.	The licence holder has ceased feed to the leach plant prior to the Tail Gas Scrubber shutdown and does not recommence feed until the Tail Gas Scrubber is operational.

10. The licence holder shall not recommence feed to the leach plant until the cause of the emission limit exceedance as specified in condition 8 of this licence, has been rectified.
11. The licence holder shall maintain a log or database of any exceedances of the emission limit as specified in condition 8 of this licence including:
 - (i) the date and time of the exceedance;
 - (ii) the cause of the exceedance;
 - (iii) the extent of the exceedance; and
 - (iv) the corrective action taken to rectify the cause of the exceedance and actions to prevent a recurrence.

AMBIENT MONITORING OF HYDROGEN SULFIDE

12. During operational periods, the licence holder shall operate and maintain hydrogen sulfide monitors around the hydrogen sulfide plant that will cause alarms to sound in the central control room should the ambient hydrogen sulfide level exceed 10 ppm.
13. The licence holder shall maintain a log or database of events where the hydrogen sulfide concentration monitored in accordance with condition 12 of this licence exceeds 10 ppm and this record shall include:
 - (i) the date and time of the exceedance;
 - (ii) the duration of the exceedance in minutes;
 - (iii) the maximum concentration of hydrogen sulfide during the exceedance;
 - (iv) cause of the exceedance; and
 - (v) the corrective action taken to rectify the cause of the exceedance and actions to prevent a recurrence.

WASTE GAS FLARES

14. (a) The licence holder shall shutdown the process which generates waste gas combusted in the hydrogen sulfide plant flare (emission point 19) if the flare is extinguished and is unable to be relit within 15 minutes.
- (b) The licence holder shall not recommence the process referred to in condition 14(a) of this licence until the cause of the hydrogen sulfide plant flare extinguishment has been rectified.

15. (a) The licence holder shall cease the importation of gas which is processed in the pressure swing absorption unit if the Pressure Swing Absorption Flare is extinguished and is unable to be relit within 20 minutes.
- (b) The licence holder shall not recommence the importation of gas referred to in condition 15(a) of this licence until the cause of the Pressure Swing Absorption Flare extinguishment has been rectified.
16. The licence holder shall maintain a log or database of flare events specified in conditions 14(a) or 15(a) of this licence and this record shall include:
- (i) the date and time of the event;
 - (ii) the duration of the event;
 - (iii) the cause of the event; and
 - (iv) the corrective action taken to rectify the cause of the event and actions to prevent a recurrence.

MIXED SULPHIDE PRECIPITATION CIRCUIT SCRUBBERS

17. The licence holder must ensure that all waste gases produced in the mixed sulphide precipitation tank are captured via a ventilation system and treated by a two-stage scrubber system before being discharged to the atmosphere.
18. The licence holder shall ensure the mixed sulphide precipitation tank ventilation and scrubber systems are in operation whenever the mixed sulphide precipitation tank is in operation.

WASTE MINIMISATION / REMOVAL / STORAGE

TAILINGS DISPOSAL

19. The licence holder shall not dispose of solid waste tailings residue at the premises.

TRANSFER, HANDLING AND STORAGE OF WASTE NICKEL SALT SOLIDS

20. The licence holder must ensure that the waste types specified in Table 3 are transported, handled and stored in accordance with the corresponding operational requirements set out in Table 3.

Table 3: Waste delivery, handling and storage requirements

Waste Type	Operational requirements	Storage location
Nickel salt solids	Delivery and handling requirements: <ul style="list-style-type: none"> a) Bulk dried nickel salts must be transported from Baldivis Facility to the Kwinana Nickel Refinery in lined, sealed trucks compatible with the requirements of Class 9 Dangerous Goods under the <i>Australian Code for the Transport of Dangerous Goods by Road & Rail</i> (Australian Dangerous Goods (ADG) Code). b) Loading, unloading and bagging of the bulk salts must occur on hardstand areas within the Amsul storage shed and the Packaging Shed. c) Any spills during loading, unloading and bagging of salts must be immediately cleaned up. 	Marked as 'Amsul Shed' and 'Packaging Shed' in Schedule 2 - Figure 8

	<p>Storage requirements:</p> <ul style="list-style-type: none"> d) No more than 5000m³ of nickel salts to be stored at any one time at the Kwinana premises. e) Bulk nickel salts must only be stored within the Amsul storage shed and Packaging Shed on concrete floors at the Kwinana premises. f) Only bagged (sealed) nickel salts shall be moved to the hardstand area outside the Packaging shed for removal offsite. g) Dust suppression measures must be implemented if visible dust is observed from the storage sheds. h) The storage sheds must be maintained in good working condition. 	
--	---	--

REPORTING CONDITIONS

LIMIT EXCEEDANCES

- 21.** (a) The licence holder shall notify the CEO before 5pm on the next Usual Business Day after becoming aware of any confirmed measurement which indicates an exceedance of the ammonia emission limit specified in condition 8 of this licence that is not covered by an exemption specified in condition 0 of this licence.
- (b) The licence holder shall follow the notification referred to in condition 21(a) of this licence with a written report to the CEO within five (5) working days of receiving the confirmed measurement and shall include, but not be limited to:
- (i) the date and time of the exceedance;
 - (ii) production rates at the time of exceedance;
 - (iii) root cause of the exceedance;
 - (iv) an estimate of the period over which the limit was or is likely to be exceeded;
 - (v) an indication of known or potential environmental impacts;
 - (vi) corrective action taken or planned to mitigate adverse environmental consequences resulting from the exceedance; and
 - (vii) the corrective action taken to rectify the cause of the exceedance and actions to prevent a recurrence.

ANNUAL ENVIRONMENTAL REPORT

- 22.** The licence holder shall provide to the CEO, by 30 September in each year, an Annual Environmental Report containing data collected during the 12-month period beginning 1 July the previous year and ending on 30 June the following year. The report shall contain but not be limited to:
- (i) production throughputs of the refinery during the reporting period;
 - (ii) results and particulars of stack monitoring in accordance with conditions 3(a), 3(b), 3(c) and 3(d) of this licence;
 - (iii) a summary of baghouse Step Change events recorded in accordance with condition 6 of this licence;
 - (iv) a time series graphical representation of continuous Tail Gas Scrubber ammonia concentration monitoring data obtained in accordance with condition 7(a) of this licence and reported in % v/v as 30-minute averages;
 - (v) a tabulated summary of continuous Tail Gas Scrubber availability on a monthly and annual basis in accordance with condition 7(b) of this licence;
 - (vi) a summary of emission limit exceedances recorded in accordance with condition 11 of this licence;

- (vii) a summary of ambient hydrogen sulfide exceedances recorded in accordance with condition 13 of this licence;
- (viii) a summary of waste gas flare extinguishment events recorded in accordance with condition 16 of this licence; and
- (ix) an annual water balance in accordance with condition 45.

23. The licence holder must:

- (i) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
- (ii) prepare and submit to the CEO by no later than 30 September an Annual Audit Compliance Report for the previous annual period in the approved form.

24. The licence holder must notify the CEO in writing within 30 calendar days of the recommencement of operations following the premises being in care and maintenance and provide the following details:

- (i) date and time of the recommencement of operations.

ENVIRONMENTAL PROTECTION (KWINANA) (ATMOSPHERIC WASTE) POLICY 1992 IMPLEMENTATION CONDITIONS

SULFUR DIOXIDE EMISSION LIMITS – PLANT

25. The licence holder shall control the discharge of sulfur dioxide from the industrial sources listed in the Relevant Determination and located within the boundary of the licensed premises to ensure that the quantities of sulfur dioxide discharged comply with the relevant determination.

MONITORING REQUIREMENTS OF THE EPP

26. If the licence holder operates process equipment on the premises with a fuel other than natural gas, the licence holder shall establish and maintain a constant emissions monitoring system to monitor the discharge of waste gases from each of the sources listed in the relevant determination and located within the boundary of the licensed premises.

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

- (i) mass emission rate of sulfur dioxide in g/s;
- (ii) total volume emission rate of waste gases in m³/s; and
- (iii) density of the waste gases in g/m³.

AMBIENT SULFUR DIOXIDE MONITORING

28. The licence holder shall cause to be undertaken a program to monitor the ambient concentration of sulfur dioxide at the following sites, 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 Chief Executive Officer.

Table 4: Ambient Monitoring Stations

Site	Location
4	Western Power gas pumping station, Abercrombie Road, Kwinana
5	BP pumping station, Miguel Road, Cockburn
8	Tindal Avenue, Beeliar

****See note after condition 36****

29. Prior to the commissioning of ambient sulfur dioxide monitoring and data acquisition equipment the licence holder shall obtain approval from the CEO for its use and the relevant procedures to be followed.
30. The licence holder shall ensure that the approved monitoring equipment is operated and calibrated in accordance with approved procedures and is maintained so as to provide reliable data.

METEOROLOGICAL MONITORING

31. The licence holder shall 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. The following meteorological parameters shall be monitored at each location:
 - (i) wind speed;
 - (ii) wind direction; and
 - (iii) air temperature.
32. The following additional meteorological parameters shall be monitored at an approved site:
 - (i) wind direction standard deviation;
 - (ii) differential air temperature;
 - (iii) relative humidity or a related parameter;
 - (iv) barometric pressure;
 - (v) nett radiation; and
 - (vi) rainfall.
33. The meteorological monitoring system shall be maintained so as to provide reliable data.

REPORTING OF METEOROLOGICAL AND AMBIENT SULFUR DIOXIDE MONITORING DATA

34. The licence holder shall provide to the CEO data from each of the meteorological and sulfur dioxide monitoring stations at which monitoring is occurring in accordance with conditions 26 and 28, 29 and 30:
 - (i) The meteorological data shall be provided as a time series listing on an approved computer-readable medium or via telemetry and in a format approved by the CEO.
 - (ii) The sulfur dioxide data shall be summarised in the form of one calendar month tables, one for each monitoring station, and shall 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.
- (iii) The sulfur dioxide data from each monitoring station shall be provided as time-series records of the recorded sulfur dioxide data on an approved computer-readable medium or via telemetry and in a format approved by the CEO.
- (iv) The meteorological and sulfur dioxide monitoring data shall be provided to the CEO no later than 14 days after the last day of the period to which the data relates or within such longer period of time as is approved by the CEO.
35. If the ambient sulfur dioxide concentration measured at any of the monitoring sites at which monitoring is occurring in accordance with conditions 25 to 30 exceeds the standard or limit for that site, for any of the averaging periods as established by the EPP, then the licence holder shall advise the CEO that this has occurred within two Usual Business Days. Further, the licence holder shall provide in writing within five Usual Business Days in the format approved in accordance with condition 25 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.
36. As and when requested by the CEO the licence holder shall provide in written form within five Usual Business Days of that request data from the meteorological and sulfur dioxide monitoring systems. The requested data shall be provided as a time-series listing of the data in an approved format and shall cover the period requested by the CEO.

Note on conditions 25 – 36

Without limiting the licence holder's responsibility and obligation to fulfil all of the requirements for monitoring and reporting specified in conditions 25 – 36, the Chief Executive Officer 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 conditions 31 to 33 must be provided directly by the licence holder.

Condition 25 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. The third monitoring station shall be relocated in accordance with condition 25. A period of one month is allowed for relocation of the monitoring station.

FUGITIVE EMISSIONS

The Licence Holder must install and commission the infrastructure listed in

37. Table 5, in accordance with

- (i) the corresponding design and operational requirements; and
 - (ii) at the corresponding infrastructure location;
- as set out in

Table 5.

Table 5: Design, installation and operational requirements

Infrastructure	Installation and operational requirements	Infrastructure location
Evaporation sprinklers	<ul style="list-style-type: none"> Daily pre-start checks of weather forecast via BoM website Sprinklers runs operate based on prevailing wind speed and direction Pre-start-up inspection of sprinklers for leaks and blocked sprinkler heads Regular cleaning and replacement of sprinkler heads. Regular visual inspection of wind conditions and sprinkler performance At least three checks per shift for spray-drift Immediate shut-down of sprinkler system if spray-drift Periodic photo inspections of vegetation condition 	Figure 5
Pitt Boss Evaporation Units	<ul style="list-style-type: none"> 6 Pitt Boss Evaporator Units, within each evaporation cell (18 units in total) at the Baldivis facility 1 Pitt Boss Unit, within the 12.5 ML effluent holding tank at the Kwinana Nickel Refinery (1 x unit in total). Installed and operated without causing damage to pond liners Centralised weather station, controlling units start up and shut down on set parameters. Daily pre-start checks of weather forecast via Bureau of Meteorology (BoM) website. Evaporator units operate based on prevailing wind speed and direction. Pre-start-up inspection of units. Regular visual inspection of wind conditions and sprinkler performance. At least three checks per shift for spray-drift. Immediate shut-down of Pitt Boss Evaporator System if spray-drift is detected. Periodic photo inspections of vegetation condition. 	Figures 6 and 7
Windsock	<ul style="list-style-type: none"> Maintained to provide a visible indication of wind speed and direction. 	NA

- 38.** The sprinkler system and the Pitt Boss evaporation Units installed on the evaporation ponds shall be operated in manner which does not result in impacts from spray drift to vegetation outside or within the premises boundary;
- 39.** The Licence Holder is required to:
- (i) maintain a target freeboard of at least 467mm from the top of embankment for evaporation cells EC1, EC2, EC3 and the Staging Pond as defined in Attachment 2 Schedule 1 Figure 2;
 - (ii) should the Target freeboard as specified above be less than 467mm, the Licence Holder will immediately implement the Trigger Action Response Plan to reduce water within the affected cells.
- 40.** The Licence Holder is required to:
- (i) operate a continuous leak detection system which is equipped with

- pressure sensors and automatic shut-offs on the above and below ground effluent pipelines between the Baldivis Facility and the Kwinana Refinery; and
 - (ii) undertake daily inspections of the above ground effluent pipelines, pumps and valves, where accessible for leaks, spills and ruptures.
- 41.** The Licence Holder must within 60 calendar days of an item of infrastructure required by Condition 0 being constructed and/or installed:
- (i) undertake an audit of their compliance with the requirements of Condition 0; and
 - (ii) prepare and submit to the CEO an audit report on that compliance
- 42.** The Licence Holder must within 30 days of an item of infrastructure required by Condition 0 being commissioned provide to the CEO
- (i) a summary of the commissioning (including timeframes);
 - (ii) a summary of the monitoring undertaken during commissioning
 - (iii) a summary of the environmental performance of all infrastructure as constructed or installed;
 - (iv) a review of performance and compliance against conditions 0 and 38; and
 - (v) where the design specifications and performance against condition 0 and 38 have not been met, what measures will the Licence Holder take to meet them, and what timeframes will be required to implement those measures.

SPECIFIED ACTIONS

- 43.** The Licence Holder shall by 31 January 2023, shall submit a compliance certificate to the CEO demonstrating that all pipelines containing effluent between the Kwinana Nickle Refinery and the Baldivis Facility are:
- (i) fitted with flow meters to allow for the recording of volumes of effluent leaving the Kwinana Nickel Refinery, the volumes of effluent received at the Baldivis facility the volumes of waste water recycled through the wastewater treatment plant; seepage recovery volumes;
 - (ii) equipped with telemetry systems and pressure sensors to allow the detection of leaks and failures; and
 - (iii) equipped with automatic cut-outs in the event of a pipe failure.
- 44.** The Licence Holder shall undertake an annual water balance for the Baldivis Facility. The water balance shall be submitted within the Annual Environmental Report and as a minimum consider the following:
- (i) site rainfall;
 - (ii) pan evaporation;
 - (iii) wastewater inflow volumes from all sources;
 - (iv) seepage volumes;
 - (v) seepage recovery volumes
 - (vi) volumes of water recycled back into process operations,
 - (vii) the holding capacity of the evaporation ponds and staging pond; and
 - (viii) estimated volume lost to the system via the Pitt Boss evaporation units and sprinkler evaporation system;
 - (ix) an assessment of the ponds to contain a process upsets;

- (x) an assessment of the ponds at the site to contain stormwater inflow from a 1 in 100 year 72 hour rainfall event; and
- (xi) contingency measures to manage surplus process effluent in the event of a 1 in 100 year 72 hour rainfall event and a process upset at the same time.

45. The Licence Holder will undertake a seepage assessment of EC1, EC2 and EC3 which is to be submitted with the Annual Environmental Report. As a minimum, the seepage assessment will consider the following:

- (i) details of the total volume of seepage collected from that pond, via the seepage interception system per year;
- (ii) details of groundwater monitoring results, including testing of ammonium sulphate, metals and metalloid compounds concentrations, to determine any impacts to groundwater from potential seepage; and
- (iii) an upgrade plan for the replacement or repair of the liner systems where required.

46. The Licence Holder shall submit a copy of the report detailing the most recent integrity test results of the evaporation ponds EC1, EC2 and EC3 and staging pond by 31 January 2023.

Definitions

In this licence, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	means a 12 month period commencing from 1 July until 30 June of the immediately following year.
approved form	means the AACR Form template approved by the CEO for use and available via DWER's external website.
biannually	means twice per calendar year separated by at least four months
care and maintenance	a period when there are no emissions from all emission points specified in Table 1 and Schedule 2 for a period 30 calendar days or more.
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EC1	Evaporation Cell 1 as shown in Schedule 2 Figure 5
EC2	Evaporation Cell 2 as shown in Schedule 2 Figure 5
EC3	Evaporation Cell 3 as shown in Schedule 2 Figure 5
emission	has the same meaning given to that term under the EP Act.
Environmentally hazardous substances	include, inter alia, liquid or solid substances pollutant to the aquatic environment and solutions and mixtures of such substances (such as preparations and wastes) (as defined in the Australian Code for the Transport of Dangerous Goods by Road & Rail, 2016)
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EPP	means the <i>Environmental Protection (Kwinana) (Atmospheric Waste) Policy 1999</i>

Term	Definition
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Hydrogen Sulfide Vent Flare	means the emission point at location '19' as depicted in Schedule 2 Figure 4.
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.
Metals Building Baghouses	means baghouses 3T-10, 3T-156, 3T-306 and 3T-308
NATA	means the National Association of Testing Authorities
NATA accredited	means the submission of a sample to a laboratory which is NATA accredited for the analysis specified
Nickel salts	refers to the crystalline nickel double salts composed of ammonium sulphate (35-40%), nickel sulphate (35-40%), cobalt sulphate (3-5%) and other impurities (15-25%), separated from the solid waste stream removed from the Baldyis evaporation ponds during the Baldyis Relining Project.
Normal Operating Conditions	means any operation of a particular process excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring
Operational periods	For any infrastructure, periods of time when that infrastructure is operational and producing emissions or discharges.
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 (Figures 1 and 2) in Schedule 1 to this licence.
Pressure Swing Absorption Flare	means the emission point at location '34' in Schedule 2
Sealed	Means sealed on all sides and is in a suitable condition to ensure no emissions of nickel salts during transport
Step Change	means a dust detection probe in a Metals Building Baghouse has an output of 25 per cent or greater
STP, dry	means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry
Tail Gas Scrubber	means the emission point at location '26' as depicted in Schedule 2
USEPA	means United States (of America) Environmental Protection Agency
USEPA Method 2	means the promulgated Test Method 2 – Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)
USEPA Method 4	means the promulgated Test Method 4 – Determination of Moisture Content in Stack Gases

Term	Definition
USEPA Method 5	means the promulgated Test Method 5 - Determination of Particulate Matter Emissions from Stationary Sources
USEPA Method 17	means the promulgated Test Method 17- Determination of Particulate Matter Emissions from Stationary Sources
USEPA Method 29	means the promulgated Test Method 29 – Determination of Metals Emissions from Stationary Sources
Usual Business Day	means the days Monday to Friday inclusive, excluding public holidays
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figures 1 and 2).



Figure 1: Map of the boundary of the Kwinana Nickel Refinery (Premises number 1 on front page of the licence).



Figure 2: Map of the boundary of the Baldvis Facility (Premises number 2 on front page of the licence).

Source: BHP 2022a, Figure 2: Baldvis Facility evaporation sprinkler system BHP Nickel West Kwinana Licence L8437/2010/3 Licence Amendment Application Supplementary Information Baldvis Evaporation Cells – Sprinkler Operation (2022)

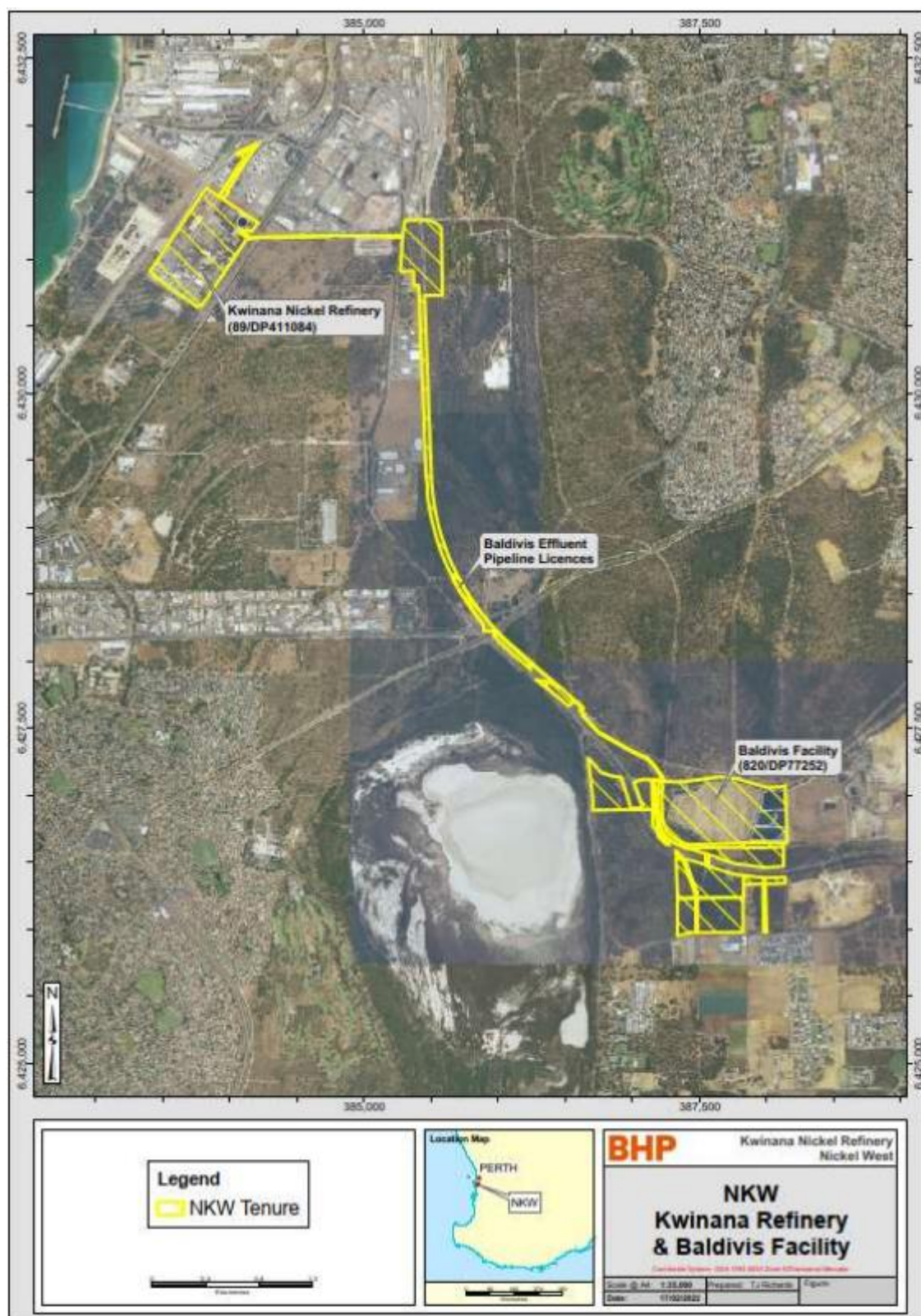


Figure 3: Premises boundary including corridor between Kwinana Nickel Refinery and the Baldvis Facility

Source: BHP 2022a, Figure 2: Baldvis Facility evaporation sprinkler system BHP Nickel West Kwinana Licence L8437/2010/3 Licence Amendment Application Supplementary Information Baldvis Evaporation Cells – Sprinkler Operation (2022)





Figure 5: Baldivis facility: evaporation cells 1, 2 and 3 Sprinkler locations

Source: BHP 2022a, Figure 4: Baldivis Facility evaporation sprinkler system BHP Nickel West Kwinana Licence L8437/2010/3 Licence Amendment Application Supplementary Information Baldivis Evaporation Cells – Sprinkler Operation (2022)

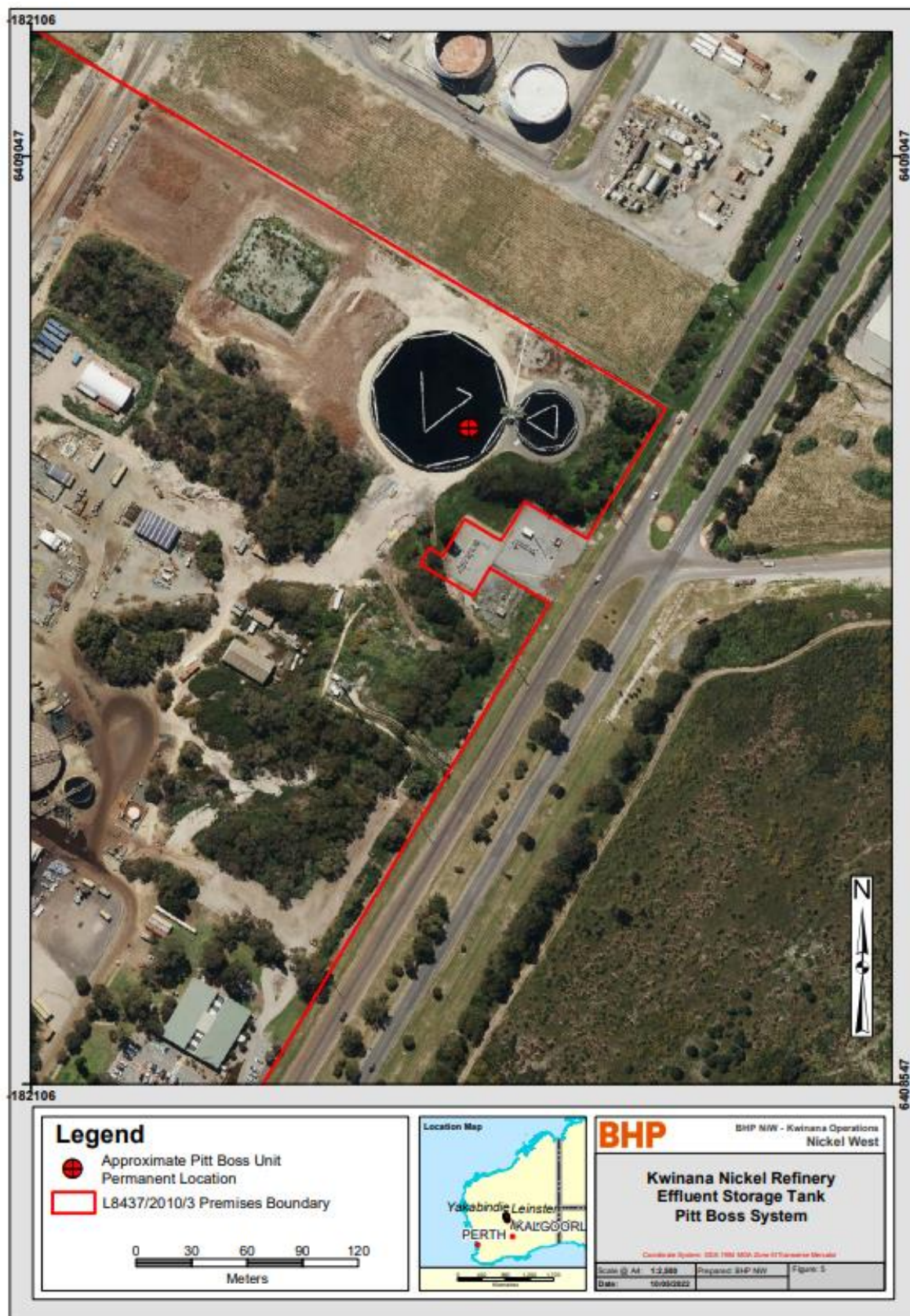


Figure 6: Kwinana Nickel Refinery Pitt Boss evaporation unit location in 12.5 ML effluent tank

Source: BHP 2022b, Figure 5: BHP 2022b, *BHP Nickel West Kwinana Licence L8437/2010/3 Licence Amendment Application Supplementary Information Effluent Storage Facilities – Pitt Boss Evaporator System (2022)*

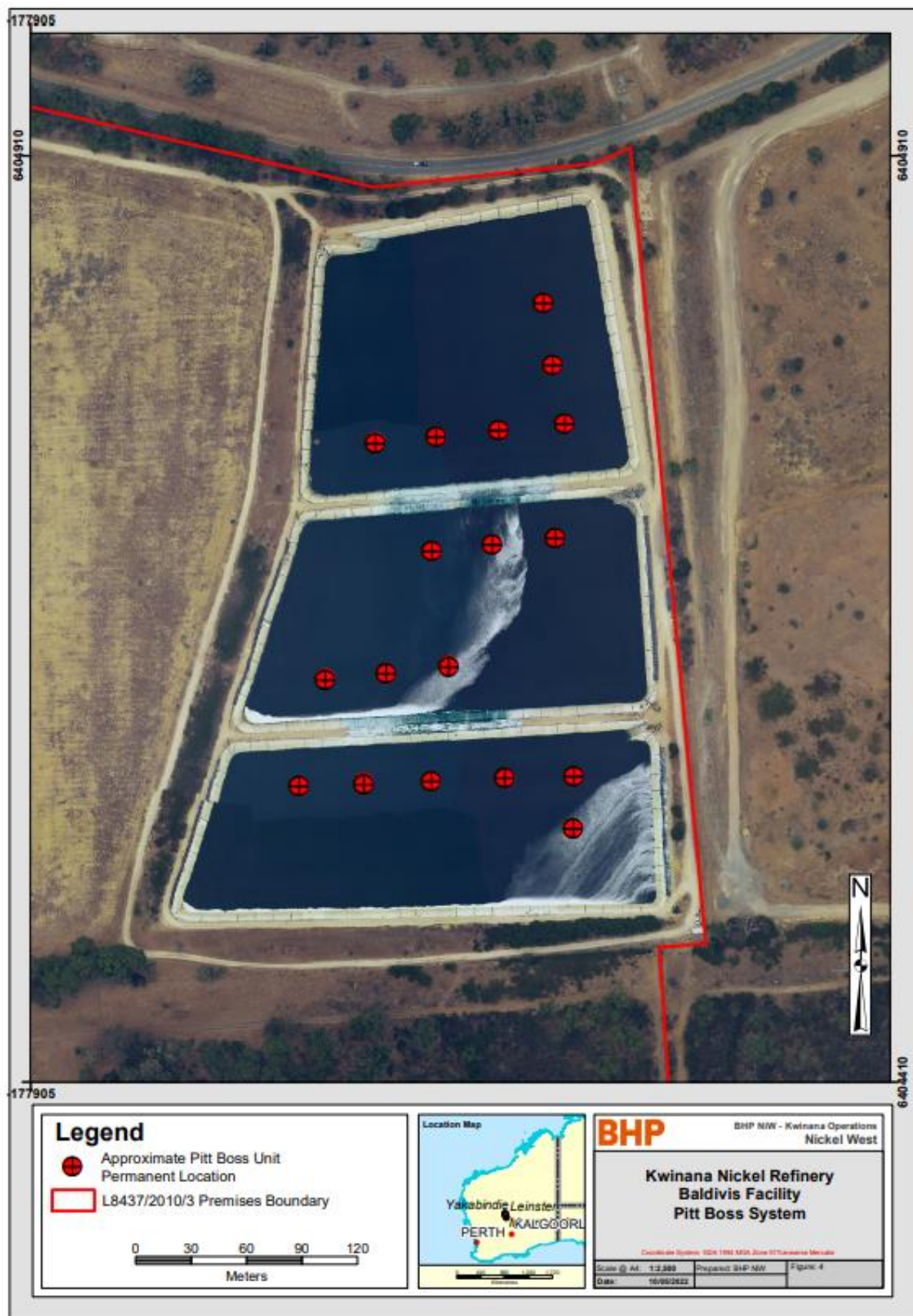


Figure 7: Baldvis Facility Pitt Boss evaporation units in Evaporation Cells 1,2 and 3

Source: BHP 2022b, Figure 4: BHP Nickel West Kwinana Licence L8437/2010/3 Licence Amendment Application Supplementary Information Effluent Storage Facilities – Pitt Boss Evaporator System (2022)



Figure 8: Premises map showing locations of the authorised nickel salt storage sheds