



Licence number L6453/1990/12

Licence holder BHP Billiton Nickel West Pty Ltd

ACN 004 184 598

Registered business address Level 41
125 St Georges Terrace
PERTH WA 6000

DWER file number 2011/009443-1

Duration 27/04/2015 to 26/04/2030

Date of amendment 03/06/2022

Premises details Mt. Keith Operations
WILUNA WA 6646

Legal description -

Mining tenements M36/294, M36/467, M36/658, M36/677, M53/56-57, 165-167, 208, 215-217, M53/218, 327-328, M53/489, General purpose lease G53/11-14 and Miscellaneous licence L36/206

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed design capacity
Category 5: Processing or beneficiation of metallic or non-metallic ore	13 500 000 tonnes per year
Category 54: Sewage facility	510 m ³ per day
Category 57: Used Tyre Storage	120 tyres
Category 64: Class II putrescible landfill	3,200 tonnes per year
Category 73: Bulk storage of chemicals	13 500 m ³ in aggregate

This amended licence is granted to the licence holder, subject to the attached conditions, on 3 June 2022, by:

Alana Kidd

Manager, Resource Industries

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

Licence history

Date	Reference number	Summary of changes
22/04/2010	L6453/1990/11	Licence re-issue
15/04/2013	W5352/2013/1	Works approval issued
18/11/2013	W5517/2013/1	Works approval issued
28/02/2014	L6453/1990/11	Licence amendment
23/04/2015	L6453/1990/12	Licence reissue and conversion to new format
21/01/2016	L6453/1990/12	Licence amendment for Licence Holder administrative change to AER/AACR submission date; correction also made to remove limit on Standing Water Level due to previous error.
18/08/2016	L6453/1990/12	Licence amendment to alter condition 1.3.13 (c) to reduce the number of level alarms on the bulk diesel tank. General conditions not considered enforceable have been removed from the Licence in accord with DER's <i>Guidance Statement: Setting Conditions</i> , October 2015.
04/05/2021	L6453/1990/12	Licence amendment to include a mine dewater pipeline between the Southern Dam at Mt Keith Nickel mine (NMK) to the turkey's nest at Mt Keith Satellite operation (MKS). The premises boundary is needed to accommodate the pipeline route.
25/05/2022	L6453/1990/12	Licence amendment to increase the Category 64 Class II putrescible waste throughput capacity by 1000 tonnes per year, from 2200 tonnes per year to 3200 tonnes per year.

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 Table 1.

Table 1: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
TSF 1 and TSF 2 (TSF 2 also known as CDTSF)	Lined with clay sand to achieve a permeability of at least $<10^{-7}$ m/s.	As shown in Schedule 1, Figures 1, 2, 3 and 4
TSF 1 landfill area.	Located within TSF 1 cell 1. No more than 3200 tonnes of waste in total to be disposed to either the WRL landfill area or the TSF 1 landfill area per year. No putrescible waste is to be disposed at the TSF 1 landfill area. Designated asbestos (Special Waste Type 1) disposal area located within TSF 1 landfill area.	
Western Rock Landform (WRL) landfill area	Located within the southern portion of the Western Waste Rock Landform. No more than 3200 tonnes of waste in total to be disposed to either the approved WRL landfill area or the TSF 1 landfill area per year. All putrescible waste disposed to the WRL landfill area. Bunds constructed around the WRL landfill area to contain all potentially contaminated surface water run-off.	
Tyre disposal cell Eastern Waste Rock landform	Used tyre storage limited to no more than 120 tyres at any one time. Used tyres to be temporarily stored at the maintenance and contractor workshop laydown area prior to being disposed to the tyre disposal cell located within the Eastern Waste Rock Landform.	
Decant Water Pond	Lined with HDPE material with a permeability of $<10^{-9}$ m/s or equivalent.	
Nickel concentrate blending and storage area	Processing or beneficiation of metallic or non-metallic ore limited to no more than 13 500 000 tonnes per year. The nickel concentrate stockpile and blending area perimeter embankments shall be constructed to a minimum height of 2.5 metres.	
Dewatering evaporation ponds: North West Dam, North turkey's nest, Southern turkey's nest,	North West Dam lined with clay material with a permeability of $<10^{-7}$ m/s.	

Site infrastructure and equipment	Operational requirement	Infrastructure location
Southern dam.	<p>North turkey's nest – HDPE lined.</p> <p>Southern turkey's nest – clay material with a permeability of $<10^{-7}$ m/s.</p> <p>Southern dam – caprock material with a permeability of 5×10^{-6} m/s.</p>	
Wastewater treatment ponds 1 and 2	<p>Sewerage facility limited to throughput of no more than 510 m³ per day.</p> <p>Lined with HDPE material with a permeability of $<10^{-9}$ m/s or equivalent.</p>	
Saline water pipelines Tailings pipelines	<p>Pipelines to be equipped with telemetry systems and pressure sensors and/or secondary containment.</p> <p>Equipped with automatic cut-outs in the event of a pipe failure.</p>	

Emissions and discharges

2. The Licence Holder shall ensure that any saline dewatering effluent shall only be managed in the following manner:
 - a) Used for dust suppression in a manner that minimises damage to the surrounding vegetation; and
 - b) Discharge to dewatering evaporation ponds listed in Table 1.
3. The Licence Holder shall manage containment cells, dams or ponds in Table 1 such that a minimum top of embankment freeboard of 300mm or a 1 in 100 year/72 hour storm event (whichever is greater) is maintained.
4. The Licence Holder shall manage the wastewater treatment ponds in a manner such as:
 - (a) There is no discernible seepage loss from the ponds; and
 - (b) Vegetation (emergent or otherwise) shall be prevented from growing in the pond wastewaters or on the inner pond embankments.
5. The Licence Holder shall manage the TSF's such that:
 - (a) A seepage collection system and recovery system is provided and used to capture seepage from the TSF; and
 - (b) Seepage is returned to the TSF or re-used in processing.
6. The Licence Holder shall manage the nickel concentrate blending and storage area on TSF 1 such that:
 - (a) the moisture content of the nickel concentrate is sufficient to prevent nickel concentrate dust generating from truck loading and unloading, blending, and stockpiling;
 - (b) the height of the nickel concentrate stockpiles will not exceed the height of the lowest perimeter embankment;
 - (c) stormwater is prevented from entering or exiting the bunded area of the blending and storage facility; and
 - (d) no water ponding occurs in the concentrate stockpile area for a length of time greater than the duration of the preceding rainfall event.
7. The Licence Holder shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal, they are managed in accordance with the requirements in Table 2.

Table 2: Management of Waste

Waste type ¹	Management Strategy	Requirements, ^{1,2,3}
Inert waste type 1	Receipt, handling, associated storage and disposal of waste by landfilling	No more than 3200 tonnes per year of all waste types cumulatively shall be disposed of by landfilling;
Inert waste type 2		disposal of waste by landfilling shall only take place within the approved WRL landfill area and TSF 1 landfill area shown in Figure 3, Schedule 1;
Putrescible waste		the separation distance between the base of the TSF 1 landfill area and the highest groundwater level shall not be less than 2m;
Clean Fill		Waste at both landfill areas shall be placed in a defined trench or within an area enclosed by earthen bunds; and the Licence Holder shall ensure that the tipping area at both approved landfill areas is less than 30 metres in length. Ensure that no wind-blown waste escapes from the Premises and that wind-blown waste is collected on at least a fortnightly basis and returned to the tipping area.
Special Waste Type 1 ³ (asbestos waste)		Only to be disposed of into a designated asbestos disposal area within TSF 1 landfill area. Not to be deposited within 2 metres of the final tipping surface of the landfill No works should be carried out on the landfill that could lead to the release of asbestos fibres
Hydrocarbon contaminated waste	Bioremediation	Ensure soil is bioremediated by: <ul style="list-style-type: none"> • maintaining a suitable soil thickness • maintaining an appropriate moisture content and nutrient level within the soil which sustains biological activity; • at least quarterly soil aeration; and • disposal of hydrocarbon contaminated waste shall only take place within the bioremediation area shown in Figure 3, Schedule 1.
Sewage	Physical and biochemical treatment	No more than 510 m ³ per day with treated wastewater effluent discharged to the wastewater treatment pond and then to TSF 2.
Biosolids (Sewage sludge)	Sludge from the effluent storage/evaporation ponds	Dispose of sewage sludge in accordance with Western Australian guidelines for biosolids management (December 2012) Sludge removed from the storage/evaporation ponds is temporarily stored on site within a hardstand area or approved drying bed with adequate bunding to prevent surface runoff of leachate from the sludge. Where possible the sludge leachate shall be returned to the effluent storage evaporation ponds. Sludge that is not reused or recycled, excluding hazardous substances, shall be disposed of in a landfill located away from areas subject to erosion or flooding.

Note 1: Types of waste as defined in the Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website

Note 2: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Note 3: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

8. The Licence Holder shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 3 and that sufficient stockpiles of cover are maintained on site at all times.

Table 3: Cover Requirements

Waste Type	Cover requirements
Putrescible wastes	To be covered fortnightly with sufficient quantities of Type 1 inert waste, clean fill or other appropriate cover material to prevent the spread of fire and harbouring of disease vectors.
Inert Waste Type 1	No cover required
Inert Waste Type 2 (Tyres ¹)	To be covered by as per the current waste rock dumping schedule with sufficient quantities of Type 1 inert waste or clean fill to prevent the spread of fire and harbouring of disease vectors.
Special Waste Type 1 ²	Covered with a minimum of 300mm of inert waste type 1 or clean fill as soon as practicable after deposit and prior to compaction and by no later than the end of the working day.

Note 1: Additional requirements for final cover of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Note 2: Asbestos waste to be disposed as per the requirements of the Environmental Protection (Controlled Waste) regulations 2004

9. The Licence Holder shall not burn vehicle tyres except for emergency response training. No more than 20 vehicle tyres may be burnt for emergency response training in any annual period. The Licence Holder must notify the CEO at least 24 hours prior to any planned emergency response training.
10. The Licence Holder shall:
- not store more than 6,225 kL of diesel in the bulk diesel storage tank at any time;
 - maintain a compound at the bulk diesel storage, designed to contain at least 6,847.5 kL;
 - maintain the level alarms which will be triggered at 15% and 67% of the maximum capacity of the bulk diesel storage tank; and
 - measure the bulk diesel storage tank volume daily and maintain a log book to record the measurements.

Monitoring

11. The Licence Holder shall:
- undertake inspections as detailed in Table 4;
 - where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
 - maintain a record of all inspections undertaken.

Table 4: Inspection of Infrastructure

Scope of inspection	Type of inspection	Frequency of inspection
Tailings pipelines	Visual	12 hourly
Return water lines	Visual	12 hourly
Dewater pipelines	Visual	24 hourly

External walls of the TSF	Visual	24 hourly
Borefield pipelines, pump stations	Visual	24 hourly
Contingency tailings delivery pipeline 291 and associated bunding	Visual check of physical integrity	Prior to discharge of tailings into pipeline 291 and 6 hourly while in operation

12. The Licence Holder shall ensure that:
 - (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
 - (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
 - (d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.
13. The Licence Holder shall ensure that:
 - (a) monthly monitoring is undertaken at least 15 days apart;
 - (b) quarterly monitoring is undertaken at least 45 days apart; and
 - (c) annual monitoring is undertaken at least 9 months apart.
14. The Licence Holder shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications, and the requirements of the Licence.
15. The Licence Holder shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.
16. The Licence Holder shall undertake the monitoring in Table 5 according to the specifications in that table.

Table 5: Process Monitoring

Process description	Parameter	Units	Frequency	Method
Tailings deposition	Volumes of tailings deposited into the TSF	m ³	Monthly	None specified
	Volumes of water recovered from the TSF			
	Volumes of seepage recovered			
	Volumes of treated wastewater effluent deposited onto the TSF			
Mine Dewatering Re-use	Volume of mine dewater sourced from Nickel West Cliffs Underground Mine	m ³	Monthly	None specified
	Volume of dewater using in dust suppression			

17. The Licence Holder shall undertake the monitoring in Table 6 according to the specifications in that table and record and investigate results that do not meet any limit specified.

Table 6: Monitoring of Ambient Groundwater Quality

Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency
KMB03, KMB04, KMB05, KMB06, KMB07, KMB08, KMB10, KMB11, KMB12, KMB13, KMB14, KMB15, KMB16, KMB17, KMB18, KMB25, KMB26, KMB27, KMB32.	Standing water level (SWL) ¹	-	mbgl	Spot sample	Quarterly
	pH ²	6 - 9	-	Spot sample	Annually
	Total dissolved solids, Selenium, copper, zinc, nickel	-	mg/L		
Howards Well and Two Tanks Well	pH ²	6 - 9	-	Spot sample	Annually
	Total dissolved solids	6000	mg/L		
	Copper	0.5	mg/L		
	Zinc	20	mg/L		
	Selenium	0.02	mg/L		
	Nickel	1	mg/L		
Tailings decant pond water	pH ² TDS, arsenic, cadmium, chromium, copper, lead, nickel, selenium, and zinc.	-	mg/L	Spot sample	Annually
KMB03, KMB04, and KMB05	Arsenic	-	mg/L	Spot sample	Quarterly

Note 1: SWL to be determined prior to collection of water samples.

Note 2: pH can be measured in the field.

Records and reporting

18. The Licence Holder shall conduct an annual assessment of the risk associated with seepage from tailings storage facilities and if necessary, install and operate additional seepage recovery measures to ensure vegetation impact is minimised during operation and after closure.
19. 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.

- 20.** The Licence Holder must:
- undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
 - prepare and submit to the CEO by no later than 60 days after the end of that annual period an Annual Audit Compliance Report in the approved form.
- 21.** The Licence Holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:
- the calculation of fees payable in respect of this licence;
 - monitoring programmes undertaken in accordance with conditions 11 to 17 of this licence; and
 - complaints received under condition 19 of this licence.
- 22.** The books specified under condition 21 must:
- be legible;
 - if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
 - be retained by the licence holder for the duration of the licence; and
 - be available to be produced to an inspector or the CEO as required.
- 23.** The Licence Holder shall submit to the CEO, an Annual Environmental Report (AER), within 90 days after the end of the annual period. The AER shall contain the information listed in Table 7 in the format or form specified in that table.

Table 7: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
-	Total throughput for categories 5, 54, 64 and 73 for the reporting period.	None specified for categories 5, 54 and 73 Total throughput for category 64 to be reported in graph format separated into waste types (as defined in the Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website) disposed to both the WRL landfill area and the TSF 1 landfill area in tonnes per year.
Condition 18	Annual assessment of the risk associated with seepage from TSFs.	None specified
Table 5	Process monitoring	Graph showing trend compared to past years and table listing data for current year
Table 6	Ambient groundwater quality	None specified
Condition 20	Compliance	Annual Audit Compliance Report (AACR)
Condition 19	Complaints summary	None specified

24. The Licence Holder shall submit the information in Table 8 to the CEO, according to the specifications in that table.

Table 8: Non-annual reporting

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form
-	Copies of original monitoring reports submitted to the Licence Holder by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licence Holder from third parties
-	Decision and reason to operate the contingency tailings delivery pipeline 291, monitoring of pipeline 291 as per Table 4, and the intended duration of use	Duration of use	Next business day	None specified
-	Follow up report of length of operation of the contingency tailings delivery pipeline 291, and monitoring of pipeline 291 as per table 4	The length of use	Next business day after cessation	None specified
Condition 9	The Licence Holder shall inform the CEO prior to undertaking emergency response training using tyres.	Not Applicable	24 hours prior to the training	None specified

25. The Licence Holder shall ensure that the parameters listed in Table 9 are notified to the CEO in accordance with the notification requirements of that table.

Table 9: Notification requirements

Condition or table (if relevant)	Parameter	Reporting period	Format or form
-	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day Part B: As soon as practicable	N/A

Definitions

In this licence, the terms in Table 10 have the meanings defined.

Table 10: Definitions

Term	Definition
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 1 January until 31 December of the immediately following year.
Asbestos fibres	has the meaning defined in the Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009)
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 <i>Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples</i>
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 <i>Water Quality – Sampling – Guidance on sampling of waste waters</i>
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 <i>Water Quality – Sampling – Guidance on sampling of groundwaters</i>
averaging period	means the time over which a limit is measured or a monitoring result is obtained
Biosolids	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer of the Department. “submit to / notify the CEO” (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
clean fill	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website

Term	Definition
controlled waste	has the definition in <i>Environmental Protection (Controlled Waste) Regulations 2004</i>
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.
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.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point
hardstand	means a surface with a permeability of 10^{-9} metres/second or less
HDPE	means high density polyethylene
Inert Waste Type 1	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website
Inert Waste Type 2	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website
Landfill Definitions	means the document titled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer of the Department of Environment as amended from time to time.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
NATA	means the National Association of Testing Authorities, Australia
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis
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 in Schedule 1 to this licence.
prescribed	has the same meaning given to that term under the EP Act.

Term	Definition
premises	
Putrescible Waste	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website
quarterly	means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September, 1 October to 31 December
Special Waste type 1	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 - as amended from time to time and published on the Department's website
spot sample	means a discrete sample representative at the time and place at which the sample is taken
TSF	means an engineered containment pond or dam used to store tailings
usual working day	means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia
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 yellow in Figure 1 below

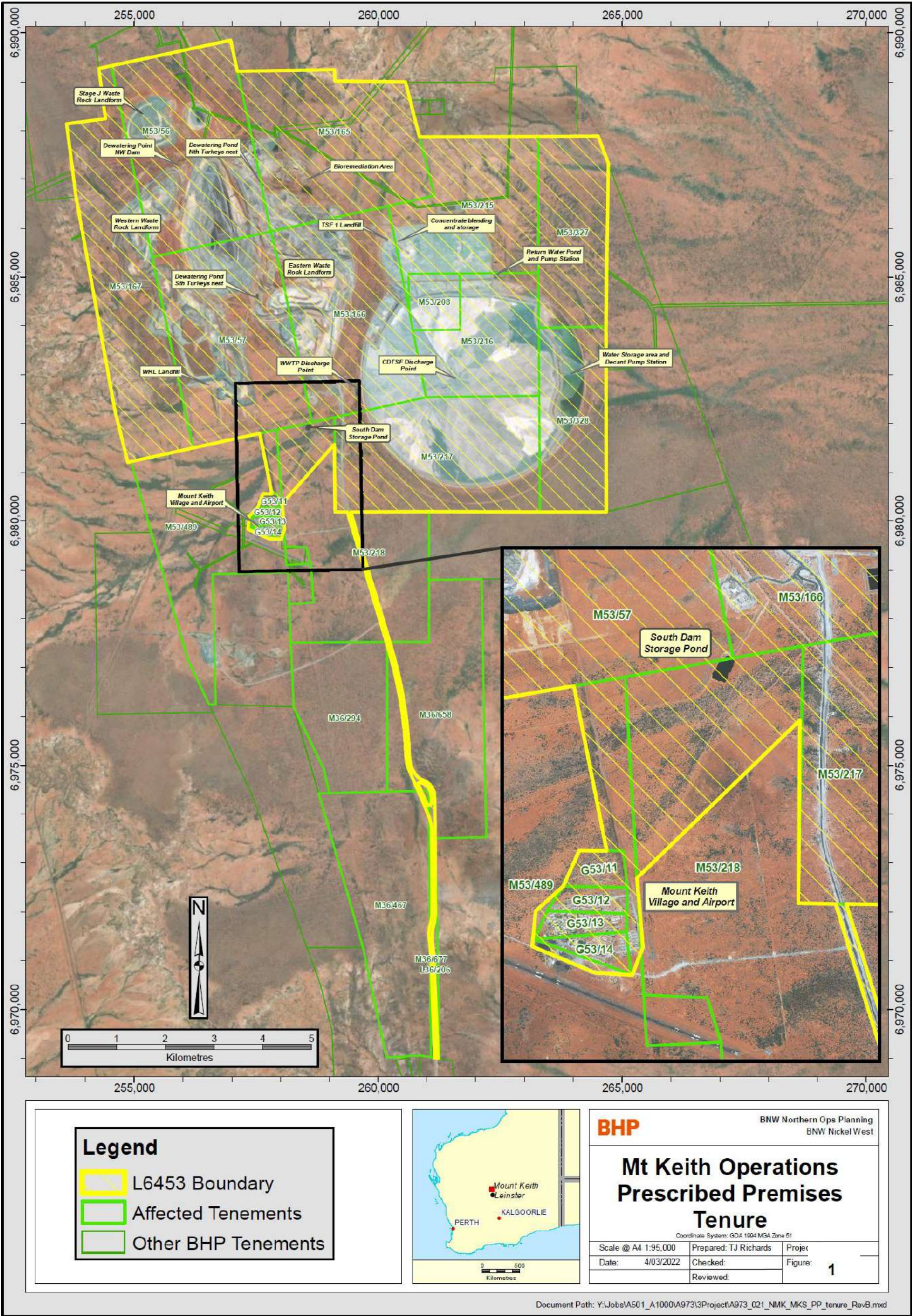


Figure 1: Map of the boundary of the prescribed premises

L6453/1990/12 Amended: 3 June 2022

IR-T06 Licence template (v7.0) (February 2020)

Monitoring map

The location of monitoring points defined in Table 6, are shown in Figure 2 below

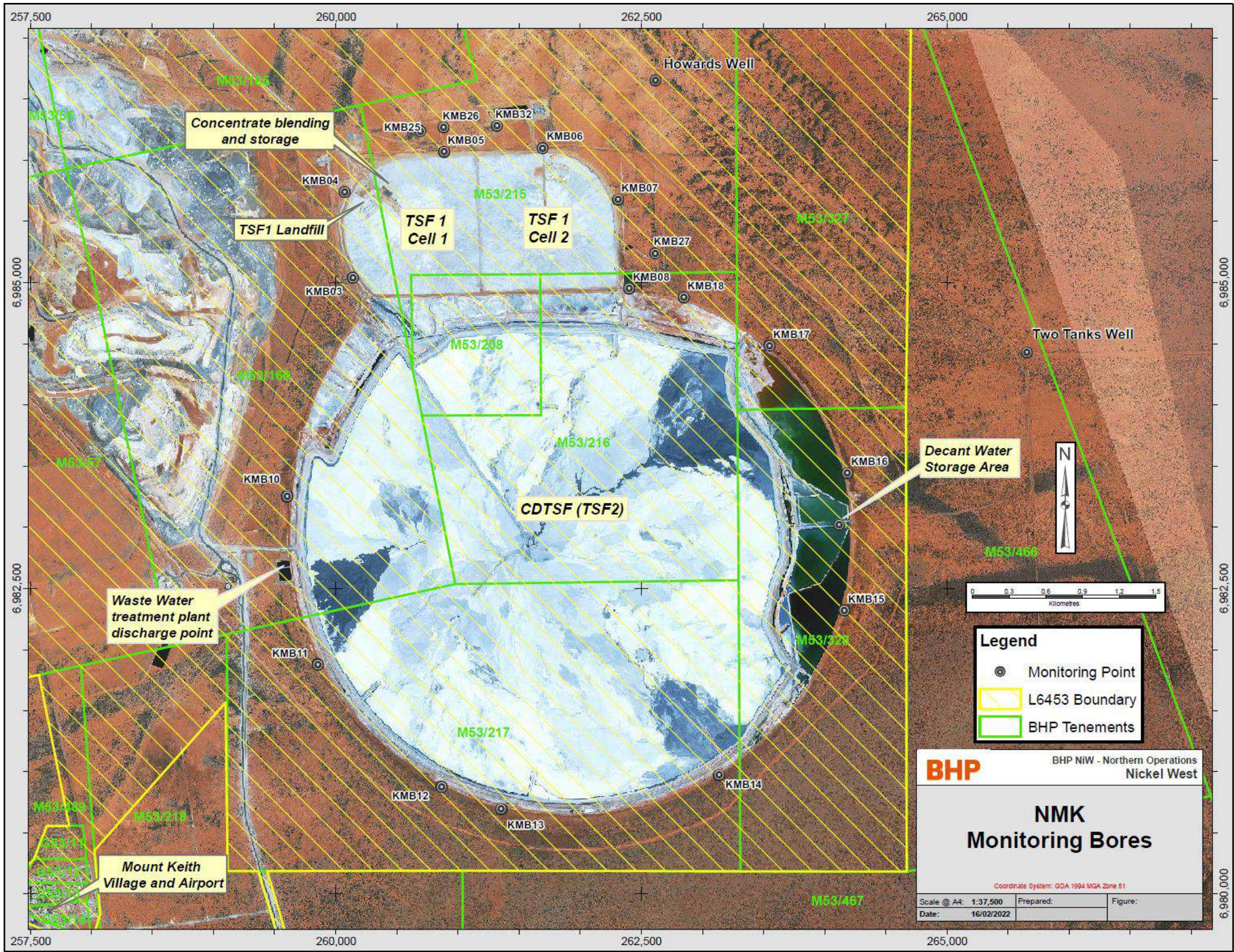


Figure 2: Map of ambient monitoring locations

Infrastructure location map

The location of key infrastructure as defined in Tables 1 and 2, are shown in Figures 3 and 4 below

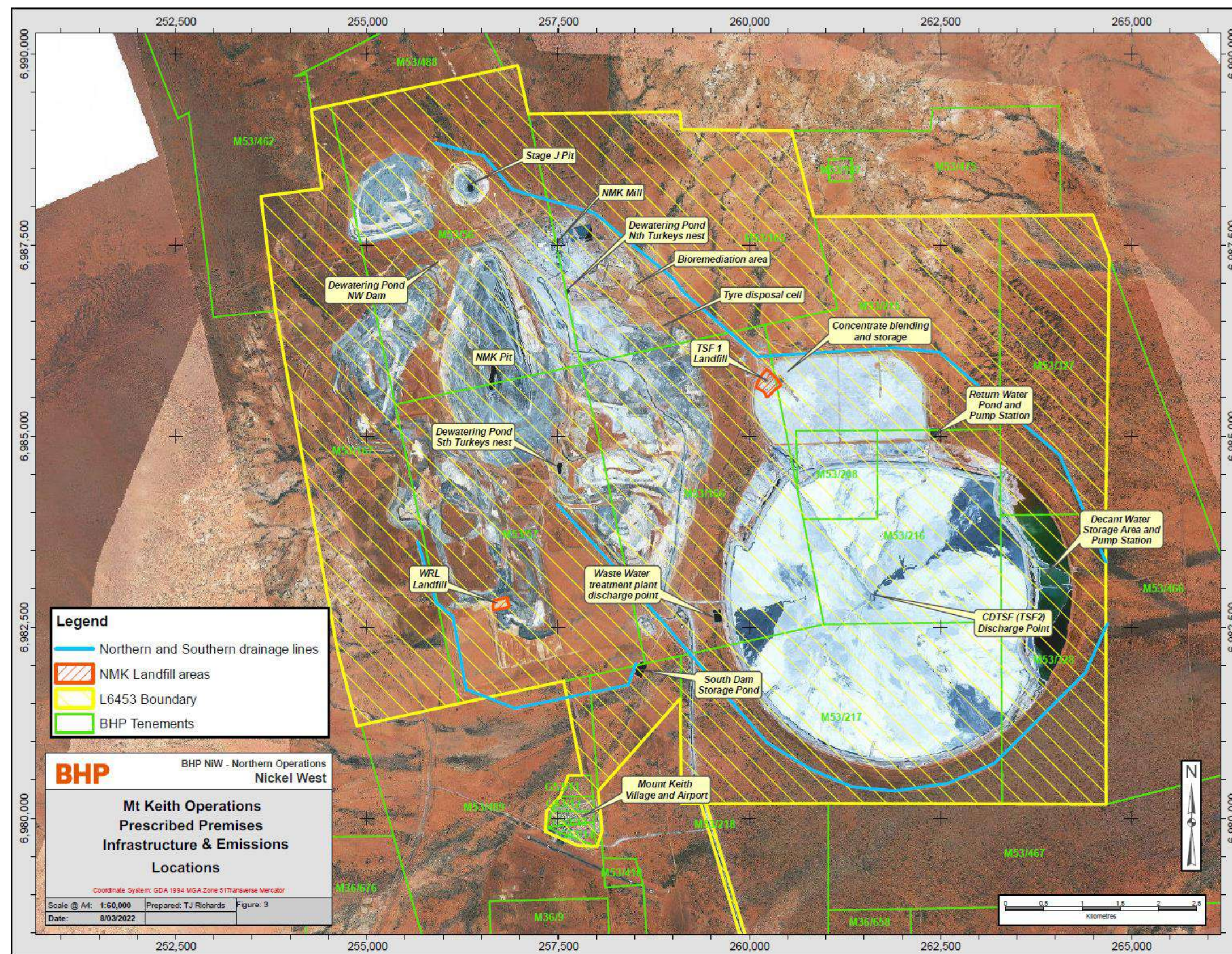


Figure 3: Infrastructure and emission locations

L6453/1990/12 Amended: 3 June 2022

IR-T06 Licence template (v7.0) (February 2020)

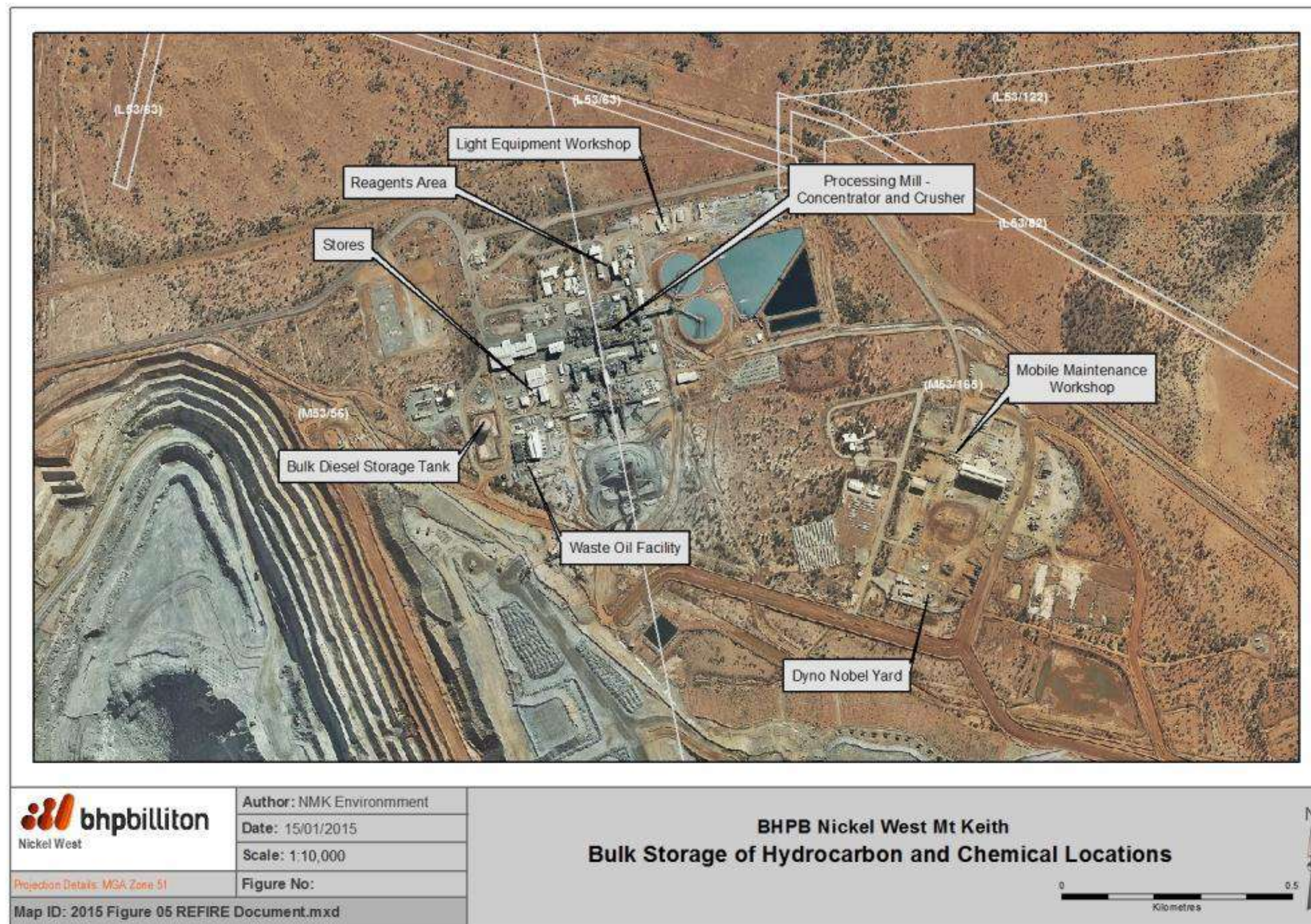


Figure 4: Bulk storage containment locations

L6453/1990/12 Amended: 3 June 2022

The location of contingency tailings delivery pipelines defined in Table 4 are shown in Figure 5 below

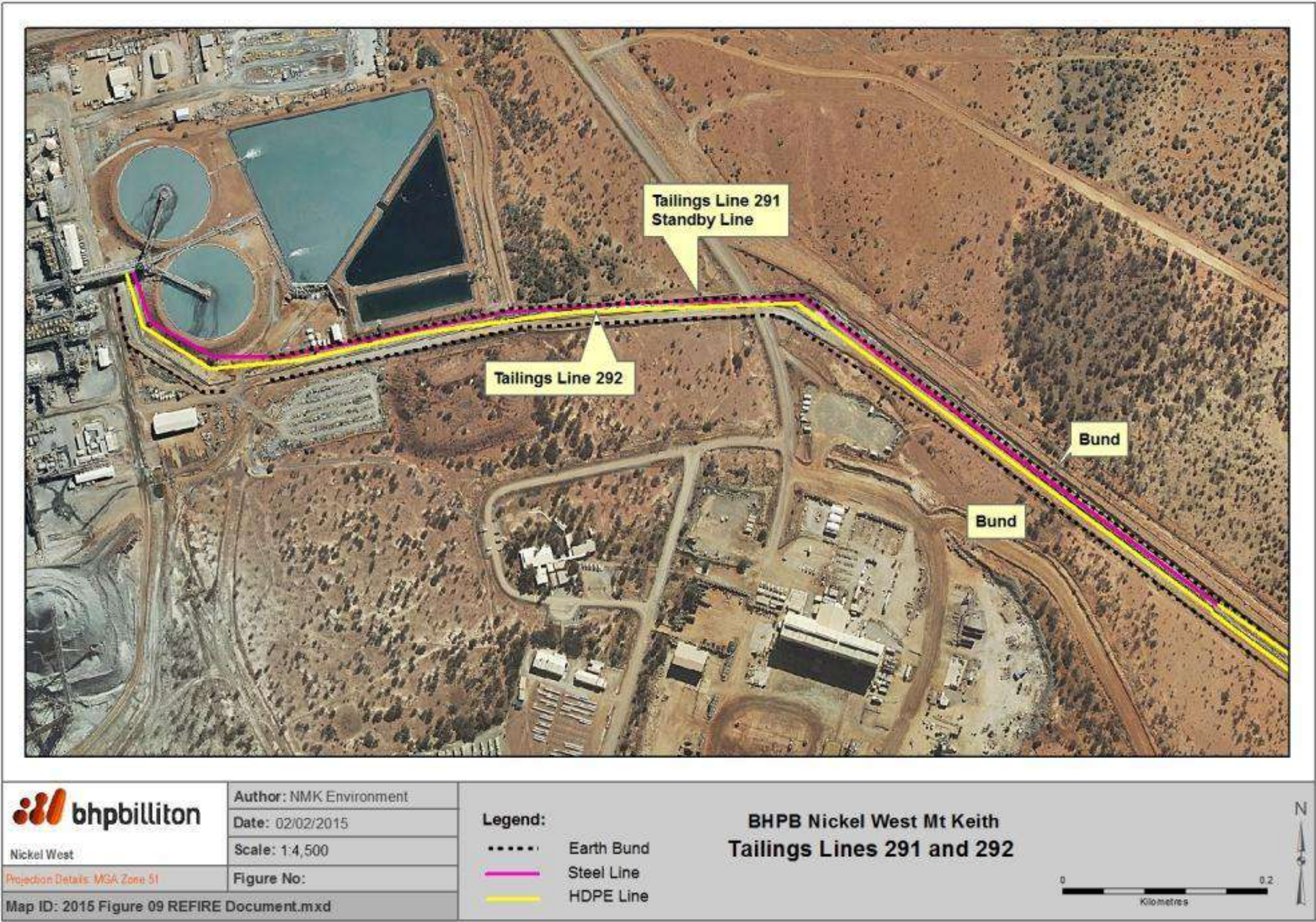


Figure 5: Contingency pipeline location