Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L6498/1995/11
Licence holder	Northern Star Resources Ltd
ACN	092 832 892
Registered business address	388 Hay Street SUBIACO 6008
DWER file number	2012/006868-1
Duration	21/11/2013 to 21/11/2042
Date of issue	21/11/2013
Date of amendment	24/04/2024
Premises details	Jundee Operations SHIRE OF WILUNA WILUNA WA 6646 Mining tenements: G53/20, L53/52, L53/60, L53/68, L53/69, L53/70 - L53/73, L53/75, L53/99, L53/100, L53/102, L53/112, L53/113, L53/117, L53/136 - L53/138, L53/142, L53/143, L53/153, L53/169, L53/174, M53/155, M53/156, M53/182, M53/191, M53/192, M53/196 - M53/198, M53/199, M53/221, M53/226, M53/228 - M53/230, M53/235 - M53/237, M53/245 - M53/250, M53/326, M53/347, M53/372, M53/412 - M53/414, M53/441, M53/446, M53/451, M53/452, M53/461, M53/477 - M53/480, M53/492, M53/535 - M53/541, M53/552, M53/588, M53/589, M53/611, M53/707, M53/708, M53/711, M53/712, M53/836, M53/874, M53/895, M53/911, M53/929, M53/935, M53/940, M53/966, PL34 as depicted in Schedule 1.

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed production /or design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	3,500,000 tonnes per annual period
Category 6: Mine dewatering	3 000 000 tonnes per annual period
Category 52: Electric power generation	42.34 MW
Category 54: Sewage Facility	350m^3 per day
Category 64: Class II or III Putrescible Landfill	820 tonnes per annual period
Category 73: Bulk storage of chemicals	10 000m^3

This amended licence is granted to the licence holder, subject to the attached conditions, on 24 April 2024 by:

Christine Pustkuchen
Digitally signed by Christine Pustkuchen
Date: 2024.04.24 11:48:56 +08'00'

A/MANAGER, RESOURCE INDUSTRIES REGULATORY SERVICES

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

Licence history

The licences and works approvals issued for the Premises since 2010 are:

Instrument log	Date issued	Summary of changes
Instrument	**Issued**	**Description**
L6498/1995/10	22/11/2010	Licence re-issue
W5164/2012/1	25/06/2012	Works approval for Stage 6 embankment raise of 2m on TSF 2 (includes condition to develop a Groundwater Recovery and Seepage Management plan)
L6498/1995/11	22/11/2013	Licence re-issue
W5744/2014/1	22/12/2014	Works approval for Stage 7 embankment raise of 2m on TSF 2
L6498/1995/11	17/09/2015	Licence amendment to current format, including transfer of ownership
W5855/2015/1	19/10/2015	TSF1 Stage 4 embankment raise
L6498/1995/11	04/08/2016	Licence amendment to increase capacity of power station by to 42.2 MW.
W6179/2018/1	03/01/2019	TSF1 raise to RL2566.0m (stage 5), TSF2 raise to RL2562m (stage 8)
W6311/2019/1	11/02/2020	Raise of TSF1 to RL2569.0m (stage 6)
W6388/2020/1	27/05/2020	Works approval for stage 9 and stage 10 embankment raise on TSF2 to 2567m RL
L6498/1995/11	31/07/2020	Various amendments including throughput for Category 54 and 64, dewatering and monitoring.
W6522/2021/1	14/09/2021	Works approval for construction and time limited operations of TSF3 (3 cells, and lifts to all)
L6498/1995/11	20/12/2021	Amendment to category 5, 54 and 64, addition of low tonnage landfill adjacent to Ramone open pit, administrative amendments to Table 1.2.1. Increase of throughput for category 5 (existing infrastructure).
L6498/1995/11	30/10/2023	Operation of TSF3 Cell 1, and changes to dewatering and electric power generation.
L6498/1995/11	24/04/2024	Administrative amendment to licence condition 4.2.4 to change submission date for geophysical survey from 31 March 2024 to 30 September 2024.

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986;*

'AHD' means the Australian height datum;

'Annual Audit Compliance Report' means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO from time to time and published on the Department's website;

'annual period' means the inclusive period from 1 January until 31 December in the same year;

'AS 4323.1' means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions;*

'**AS 4482.1**' means the Australian Standard AS4482.1 2005 *Guide to the investigation and sampling of sites with potentially contaminated soil; Part 1: Non-volatile and semi-volatile compounds*;

'AS 4482.2' means the Australian Standard AS4482.2 1999 *Guide to the sampling and investigation of potentially contaminated soil; Part 2: Volatile substances*;

'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 waste waters;*

'AS/NZS 5667.11' means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters;*

'averaging period' means the time over which a limit or target is measured or a monitoring result is obtained;

'bioremediation' means the above-ground remediation of soils to reduce the concentrations of hydrocarbons through biodegradation. The process involves the stimulation of bacteria in the soil, which consume hydrocarbons as an energy source, releasing water and carbon dioxide as the ultimate breakdown products. This may include bioaugmentation of microbes to target specific contaminants;

'CEMS' means continuous emissions monitoring system;

'CEMS Code' means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions, Department of Environment & Conservation, Government of Western Australia;

'CEO' means Chief Executive Officer of the Department of Water and Environmental Regulation;

'CEO' for the purpose of correspondence means;

Director General
Department Administering the Environmental Protection Act 1986
Locked Bag 10
JOONDALUP DC WA 6027
Telephone: (08) 6367 7000
Facsimile: (08) 6367 7001
Email: info@dwer.wa.gov.au

'Department' means the department established under s.35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Division 3 Part V of the *Environmental Protection Act 1986*;

'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;

'Licence' means this Licence numbered L6498/1995/11 and issued under the Act;

'Licence Holder' means the person or organisation named as Licence Holder on page 1 of the Licence;

'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;

'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'quarterly' means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September, and 1 October to 31 December in the same year;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'six monthly' means the 2 inclusive periods from 1 January to 30 June and 1 July to 31 December in the same year;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

'SWL' means Standing Water Level;

'TSF' means an engineered containment pond or dam used to store tailings;

'USEPA' means United States (of America) Environmental Protection Agency;

'USEPA Method 2' means United States (of America) Environmental Protection Agency Method 2 – *Determination of stack gas velocity and volumetric flow*;

'USEPA Method 7E' means United States (of America) Environmental Protection Agency Method 7E – *Determination of nitrogen oxides emissions from stationary sources;*

'USEPA Method 10' means United States (of America) Environmental Protection Agency Method 10 – *Determination of carbon monoxide emissions from stationary sources;*

'µS/cm' means microsiemens per centimetre; and

'zone of influence' means the area of a receiving environment with the potential to be altered or changed as a result of an emission or discharge.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.2 Premises operation

1.2.1 The Licence Holder shall ensure that all pipelines containing saline, alkaline or cyanide constituents are either:

(a) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections; and/ or

(b) equipped with automatic cut-outs in the event of a pipe failure; and/or

(c) equipped with telemetry systems and pressure sensors to allow the detection of leaks and failures.

1.2.2 The Licence Holder shall ensure that waste material is only stored and/or treated within vessels or compounds provided with infrastructure requirements and at the locations specified in Table 1.2.1.

Table 1.2.1: Containment infrastructure

Storage vessel or compound	Material	Infrastructure requirements
TSF 2, TSF1 and TSF3 Cell 1	Tailings, treated sewage water	Clay lined
Fisher In-pit TSF	Tailings	Maintain a minimum 1 m height perimeter earthen bund surrounding the Fisher In-pit TSF.
Nimary TSF	Tailings	N/A - Decommissioned
Bioremediation treatment cells	Hydrocarbon contaminated soil	Clay lined (or equivalent) with a permeability of 10^{-9} m/s or less. All leachate runoff is directed to, and contained within, an impermeable leachate collection sump with capacity to contain a 1 in 100 year, 72 hour duration rainfall event. The leachate collection sump is lined in accordance with Water Quality Protection Note 27, Liners for containing pollutants, using engineered soils, June 2010 or Water Quality Protection Note 26, Liners for containing pollutants, using synthetic membranes, February 2009.
Processing Water Dam	Tailings Decant Water	HDPE liner
R1D1 Seepage Return Water Dam	Seepage groundwater recovered near TSF1 & treated sewage wastewater	HDPE liner
R2D2 Seepage Return Water Dam	Seepage groundwater recovered near TSF2	HDPE liner
R4D4 seepage return water dam	Seepage water recovered near TSF3	HDPE liner
WWTP Tanks	Wastewater undergoing treatment	None specified
Wastewater treatment ponds (Mine site and accommodation)	Wastewater	Installation of aeration units within the second and third ponds at both the mine site and accommodation village.
WWTP Sewage Sludge Drying Beds	Sewage sludge	A bunded hardstand area capable of preventing surface run-off of leachate and sludge
Turkey nest dams	Mine dewater	HDPE liner. Locations shown in Figure 5 and Figure 4

1.2.3 The Licence Holder shall manage the effluent storage ponds in Table 1.2.1 in a manner such that:

(a) Uncontaminated stormwater runoff resulting from roof and site drainage does not cause erosion of outer pond embankments; and

(b) Vegetation (emergent or otherwise) shall be prevented from growing in the pond wastewaters or on the inner pond embankments of all ponds.

1.2.4 The Licence Holder shall maintain the following freeboards defined in Table 1.2.2:

Table 1.2.2: Freeboard requirements	
Storage vessel or compound	**Freeboard requirements**
TSF 1, TSF 2 and TSF3 Cell 1	• Minimum total vertical freeboard of 500mm or equivalent to contain a 1 in 100 year rainfall event over 72 hours (whichever is greater) from the operational pond to lowest elevation of perimeter embankment. • Minimum vertical operational freeboard of 300mm between deposited tailings and the lowest elevation of perimeter embankment.
R1D1, R2D2 and R4D4 seepage return water dams	Maintain a freeboard below the underdrainage outflow pipes flowing into that dam
Fisher In-pit TSF	Maintain a minimum top of embankment/ operational freeboard of 300mm.
Bioremediation treatment cells leachate collection sump	Capacity to contain a 1 in 100 year, 72 hour duration rainfall event
Processing Water Dam	Minimum vertical freeboard of 300mm
WWTP Tanks	None specified
Effluent Storage Ponds	Minimum vertical freeboard of 300mm
All pits containing mine dewater (unlined)	Minimum vertical freeboard of 5m between the pit lake and the surrounding ground surface
Turkey nest dams containing mine dewater	Minimum vertical freeboard of 300mm

1.2.5 The Licence Holder shall:

(a) undertake inspections as detailed in Table 1.2.3;

(b) 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

(c) maintain a record of all inspections undertaken.

Table 1.2.3: Inspection of infrastructure		
Scope of inspection	**Type of inspection**	**Frequency of inspection**
Tailings pipelines	Visual integrity	Twice every 12 hours[1]
Dewatering pipelines	Visual integrity	At least every 72 hours[1]
Return water lines	Visual integrity	Twice every 12 hours[1]
Embankment freeboard	Visual to confirm required freeboard capacity is available	Twice every 12 hours
Integrity of the TSF3 toe drain protective bunds and capacity of the toe drains.	Visual	Every 12 hours
Borefield pipelines and pump stations	Visual	At least every 72 hours
Fisher In-pit TSF operating level/capacity	Survey	Annual

Note 1: When operational. When lines are not in use (and flushed in the case of tailings lines), inspection frequency is not specified. Inspection is required prior to recommencement of operation.

1.2.6 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 1.2.4.

Table 1.2.4 Management of waste

Waste type	Management strategy	Requirements
Sewage	Biological, physical and chemical treatment	Maximum of 350 m^3/day cumulatively
Sewage sludge	Drying and storage	Dispose of sludge solids and other residuals in accordance with the *Western Australian guidelines for biosolids management*, December 2012.
Hydrocarbon contaminated waste	Bioremediation	Ensure soil is bioremediated by maintaining a suitable soil thickness, maintaining an appropriate moisture content and nutrient level within the soil which sustains biological activity; and at least monthly soil aeration when facility is in use.
Inert Waste Type 1 & 2 Putrescible Waste Clean Fill Other waste that meets the acceptance criteria for Class II landfills	Receipt, handling and disposal of waste by landfilling	<u>All waste types</u> No more than 820 tonnes per year of all waste types cumulatively shall be disposed of by landfilling. Disposal of waste by landfilling shall only take place within the landfill areas shown on the Emission Maps in Schedule 1; Waste shall be placed in a defined trench or within an area enclosed by earthen bunds; and The active tipping area shall be restricted to a maximum linear length of 30 metres. Construction, operation and decommissioning of landfill cells can occur within the defined landfill area providing there is no waste within: 100 m of any surface water body; and 3 m of the highest level of the water table aquifer. Waste shall not be burned within the trench or within the areas enclosed by earth bunds Fires within the defined trench or within the areas enclosed by earth bunds shall be extinguished as soon as practicable, upon becoming aware of the fire
Waste lubricants, hydraulic fluids	Disposal	Collect in holding tanks for recycling and disposal off-site
Waste radiator coolant/inhibitors	Disposal/reuse	Collect spent radiator coolant/inhibitors in holding tanks for subsequent disposal off-site or for use within the mine site for dust suppression.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the Environmental Protection Regulations1987.

1.2.7 The Licence Holder shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 1.2.5 and that sufficient stockpiles of cover are maintained on site at all times.

Table 1.2.5: Cover requirements

Waste Type	Material	Depth	Timescales
Putrescible waste	Inert and incombustible material	300mm	As soon as practicable, but at least weekly, after deposit
All waste		1000mm	Within three months of the final waste load in each trench

Inert Waste Type 2 (Tyres)	Inert and incombustible material	500mm	As soon as practical following the achievement of final waste levels in the area(s) where tyres are disposed of

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

1.2.8 The Licence Holder shall take all reasonable and practical measures to ensure that no windblown waste escapes from the landfill area and that windblown waste is collected on at least a monthly basis and returned to the active tipping area.

1.2.9 The licence holder must within 30 days following installation of aeration units for wastewater treatment ponds, required by condition 1.2.2, prepare and submit to the CEO a report confirming installation and compliance.

1.2.10 The licence holder must construct or install the infrastructure listed in Table 1.2.5, in accordance with;

(a) the corresponding design and construction / installation requirements; and

(b) at the corresponding infrastructure location,

as set out in Table 1.2.5.

Table 1.2.5: Design and construction / installation requirements

Infrastructure	Design and construction requirement / installation requirement	Infrastructure location
Pipeline from the existing mine water circuit to Menzies Pit	The pipeline must be either: (a) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections; and/ or (b) equipped with automatic cut-outs in the event of a pipe failure; and/or (c) equipped with telemetry systems and pressure sensors to allow the detection of leaks and failures, and secondary containment for the maximum foreseeable spill volume.	Between the existing mine water circuit and Menzies Pit (Menzies Pit shown in Figure 5)

1.2.11 The licence holder must within 30 days of each item of infrastructure required by condition 1.2.10 being constructed:

(c) undertake an audit of their compliance with the requirements of condition 1.2.10; and

(d) prepare and submit to the CEO an audit report on that compliance.

1.2.12 The Environmental Compliance Report required by condition 1.2.11, must include as a minimum the following:

(e) certification by a suitably qualified person that the items of infrastructure or component(s) thereof, as specified in condition 1.2.10, have been constructed in accordance with the relevant requirements specified in condition 1.2.10.

(f) as constructed plans or photographs for each item of infrastructure or component of infrastructure specified in condition 1.2.10; and

(g) be signed by a person authorised to represent the licence holder and contains the printed name and position of that person.

2 Emissions

2.1 General

2.1.1 The Licence Holder shall record and investigate the exceedance of any descriptive or numerical limit or target specified in any part of section 2 of this Licence.

2.2 Point source emissions to air

2.2.1 The Licence Holder is permitted, subject to conditions in the Licence, to emit waste to the atmosphere from the emissions points listed in Table 2.2.1 and identified in the maps of emission points, Figure 3 and Figure 4 in Schedule 1.

Table 2.2.1: Emission points to air

Emission point reference and location on Figures 3 and 4	Emission point	Emission point height (m)	Source including abatement
A1	Gold Room Exhaust	20	Gold Room
A2	Carbon Regeneration Kiln Stack	8	Carbon Regeneration Kiln
A3 – A7	Gas Generators	8.5	Gas fired genset
A10; A11; A12; A13; A15; A16	Diesel Generator	6	Diesel generator
A19 – A24	Gas Generators	8.5	Gas fired genset
A26 – A31	Diesel generator	0 – 2.6 (floor to ceiling vent)	Diesel Generator - temporary

2.3 Point source emissions to groundwater

2.3.1 The Licence Holder is permitted to discharge 3 000 000 tonnes of mine dewater to the surface containment dams and pits identified in Schedule 1, Map of emission points, Figure 5.

3 Monitoring

3.1 General monitoring

3.1.1 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 soil sampling is conducted in accordance with AS 4482.1 and AS 4482.2 as relevant; and
(e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured (unless indicated otherwise in the relevant table).

3.1.2 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;
(c) six monthly monitoring is undertaken at least 5 months apart; and (d) annual monitoring is undertaken at least 9 months apart.

3.1.3 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.

3.1.4 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 practical, accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of inputs and outputs

3.2.1 The Licence Holder shall undertake the monitoring in Table 3.2.1 according to the specifications in that table. Level of detection (where relevant) must be sufficient to allow comparison with the ANZECC (2000) concentration guidelines for 95% protection of freshwater ecosystems.

Table 3.2.1: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Averaging period	Frequency
Tailings deposition	Volume of tailings deposited to TSF1, TSF2, TSF3 and Fisher In-pit TSF	m^3	Monthly	Cumulative monthly total
	Volume of tailings supernatant liquor returned to process plant from TSFs			
	Volume of seepage recovered			
Mine dewater discharged to each dam/pit	Volume	m^3	Monthly	Cumulative monthly total
Cook Pit Keating Pit	pH[1]	-	Spot sample	Quarterly
	Total dissolved solids[1]	mg/L		

Menzies Pit[2] Coulthard Pit[2]	Total recoverable hydrocarbons	mg/L		
	Total phosphorus, total nitrogen	mg/L		
	Sodium, potassium, calcium, magnesium, chloride, carbonate, bicarbonate, sulfate, nitrate, fluoride, silica	mg/L		
	Aluminium, arsenic, boron, cadmium, iron, mercury, nickel, lead, selenium, zinc	mg/L		

Note 1: Non-NATA in field measurement of pH and TDS permitted.
Note 2: Starting from the commencement of mine dewater deposition to that pit

3.2.2 The Licence Holder shall produce a monthly water balance for TSF3 Cell 1 which includes (as a minimum) the following:
(a) site rainfall;
(b) evaporation rate;
(c) decant water recovery volumes;
(d) volume of tailings deposited; and
(e) estimate of seepage losses.

3.3 Ambient environmental quality monitoring

3.3.1 The Licence Holder shall undertake the monitoring in Table 3.3.1, Table 3.3.2 and 3.3.3 according to the specifications in those tables and record and investigate results that do not meet any limit specified. Level of detection (where relevant) must be sufficient to allow comparison with the ANZECC (2000) concentration guidelines for 95% protection of freshwater ecosystems.

Table 3.3.1: Monitoring of ambient groundwater quality[3]

Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency
Jundee (TSF 1 & 2) Recovery Bores					
JRB01, JRB02, JRB03, JRB05, JRB06, JRB07, JRB08, JRB09, JRB10, JRB11, JRB12, JRB13, JRB14, JRB15	SWL[1]	-	m(AHD)	Spot sample	Monthly
Jundee (TSF 1 & 2) Seepage Indication Bores					
JMB17, JMB01-D, JMB04-D, JMB07-D, JMB08-D, JMB09-D, JMB10-S, JMB10-D, JMB14-D, JMB15-D, JMB16-D	SWL[1]	-	m(AHD)	Spot sample	Quarterly
Jundee (TSF 1 & 2) Compliance Bores					
JMB05-S, JMB05-D, JMB06-S, JMB06-D, JMB23A, JMB24	SWL[1]	-	mbgl	Spot sample	Quarterly
JMB11-S, JMB11-D, JMB19, JMB20		>1			
JMB12-S, JMB12-D, JMB13-S, JMB13-D, JMB25, JMB26, JMB27, JMB28, JMB29		>1			

Table 3.3.1: Monitoring of ambient groundwater quality[3]					
Monitoring point reference and location	**Parameter**	**Limit**	**Units**	**Averaging period**	**Frequency**
JMB06-D, JMB11-D, JMB12-D, JMB13-D, JMB19, JMB20, JMB21, JMB22, JMB25, JMB26, JMB27, JMB28, JMB29	pH[2]	6.0 - 9.0	-		
	Total dissolved solids[2]	<14 000	mg/L		
	Weak Acid Dissociable Cyanide (WAD CN)	<0.5	mg/L		
	Dissolved metals – As, Cd, Cu, Hg, Ni, Pb, Zn	-	mg/L		
	Selenium	-	mg/L		
TSF3 Cell 1 Monitoring bores					
NMB16-S, NMB16-D, NMB17-S, NMB17-D, NMB18-S, NMB18-D, NMB19-S, NMB19-D, NMB20, NMB21.	SWL[1]	4	mbgl	Spot sample	Quarterly
	pH[2]	6.0 - 9.0	-		
	Total dissolved solids[2]	<14 000	mg/L		
	Weak Acid Dissociable Cyanide (WAD CN)	<0.5	mg/L		
	As, Cd, Cu, Hg, Ni, Pb, Zn, Ca, Mg, Na, K, CO3, Cl, SO4, Al, Cr, Fe, Mn, Ni and Co	-	mg/L		
	Selenium	-	mg/L		
Fisher In-Pit TSF Monitoring Bores					
FMB04, FMB05, FMB09, FMB10, FMB11	SWL[1]	-	m(AHD)	Spot sample	Quarterly
	pH[2]	-	-		
	Total dissolved solids[2]	-	mg/L		
	Weak Acid Dissociable Cyanide (WAD CN)	-	mg/L		
	Dissolved metals – As, Cd, Cu, Hg, Ni, Pb, Zn	-	mg/L		

Table 3.3.1: Monitoring of ambient groundwater quality[3]					
Monitoring point reference and location	**Parameter**	**Limit**	**Units**	**Averaging period**	**Frequency**
	Selenium	-	mg/L		
FMB12	SWL[1]	-	m(AHD)	Spot sample	Quarterly
Fisher In-Pit TSF Seepage Recovery Bores					
FRB01, FRB04, FRB05	SWL[1]	-	m(AHD)	Spot sample	Quarterly
Nimary TSF Seepage Indication Bores					
NMB01-D, NMB02-D, NMB03-D	SWL[1]	-	m(AHD)	Spot sample	Annually
Nimary TSF Compliance Bores					
NMB04-D, NMB07-D, NMB08D, NMB09-D, NMB10-D, NMB10-S	SWL[1]	-	m(AHD)	Spot sample	Annually
Bioremediation Landfarm					
JHMB01, JHMB02, JHMB03	TRH	-	mg/L	Spot sample	Annually

Note 1: SWL shall be determined prior to collection of other water samples.
Note 2: Non-NATA in field measurement of pH and TDS permitted.
Note 3: A minimum of 90% of all bores listed in Table 3.3.1 will be sampled during any quarterly period to allow for maintenance and operational constraints. A bore being blocked or unsamplable bore does not count as a successful sampling event.

Table 3.3.2: Monitoring of ambient soil quality				
Monitoring point reference and location	**Parameter**	**Units**	**Averaging period**	**Frequency**
Landfarm	TRH	mg/kg	Spot sample	Six monthly

Table 3.3.3: Monitoring of treated wastewater				
Discharge point	**Monitoring location**	**Parameter**	**Unit**	**Frequency**
Wastewater treatment ponds				
TSF1, TSF2, TSF3 Cell 1 (whichever is the active TSF)[2] R1D1	TSF1, TSF2 or TSF3 Cell 1 decant pond (whichever is active and receiving treated sewage water)[2] R1D1 (when receiving treated sewage water)	E. Coli	cfu/100mL	Quarterly
		Total coliforms		
		BOD_5	mg/L	
		Total dissolved solids		
		Total suspended solids		
		Total nitrogen		
		Total phosphorous		
		Cumulative flow volume	m^3	Monthly
		pH[1]	pH units	Quarterly
		Residual chlorine[1]	mg/L	

Note 1: In-field non-NATA accredited analysis permitted
Note 2: Discharge of treated sewage water into an inactive TSF is not permitted.

4 Information

4.1 Records

4.1.1 All information and records required by the Licence shall:
(a) be legible;
(b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
(c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
(d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
(i) off-site environmental effects; or
(ii) matters which affect the condition of the land or waters.

4.1.2 The Licence Holder shall ensure that:
(a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
(b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

4.1.3 The Licence Holder shall complete an Annual Audit Compliance Report indicating the extent to which the Licence Holder has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

4.1.4 The Licence Holder shall implement a complaints management system that as a minimum, records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

4.2 Reporting

4.2.1 The Licence Holder shall submit to the CEO an Annual Environmental Report by 31 March in each year, after the end of the annual period 1 January to 31 December. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	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
Table 3.2.1	Volumes of tailings deposited, supernatant liquor returned to process plant and seepage water recovered. Volume of mine dewater discharge and surface water parameters	None specified

3.2.2	Monthly water balance for TSF 3	None specified
Tables 3.3.1, 3.3.2, 3.3.3	Groundwater quality parameters Treated wastewater quality (as required by Table 3.3.3) Soil quality sampling	None specified
4.1.3	Compliance	Annual Audit Compliance Report (AACR)[1]
4.1.4	Complaints summary	None specified

Note 1: The AACR form is available from the DWER website

4.2.2 The Licence Holder shall ensure that the Annual Environmental Report also contains:

(a) any relevant process, production or operational data recorded under Condition 3.1.3; and

(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets

4.2.3 The Licence Holder shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form[1]
-	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

4.2.4 The Licence Holder shall undertake a geophysical assessment to assess suitable locations of groundwater monitoring bores further afield from TSF3 and submit this to the CEO by 30 September 2024.

4.3 Notification

4.3.1 The licence holder must, within 14 days of becoming aware of any non-compliance with condition 3.3.1 of this licence, notify the CEO in writing of that non-compliance and include in that notification the following information:

(h) which condition was not complied with;

(i) the time and date when the non-compliance occurred;

(j) if any environmental impact occurred as a result of the non-compliance and if so what that impact is and where the impact occurred;

(k) the details and result of any investigation undertaken into the cause of the non-compliance;

(l) what action has been taken and the date on which it was taken to prevent the non-compliance occurring again; and

(m) what action will be taken and the date by which it will be taken to prevent the non-compliance occurring again.

Schedule 1: Maps

Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.

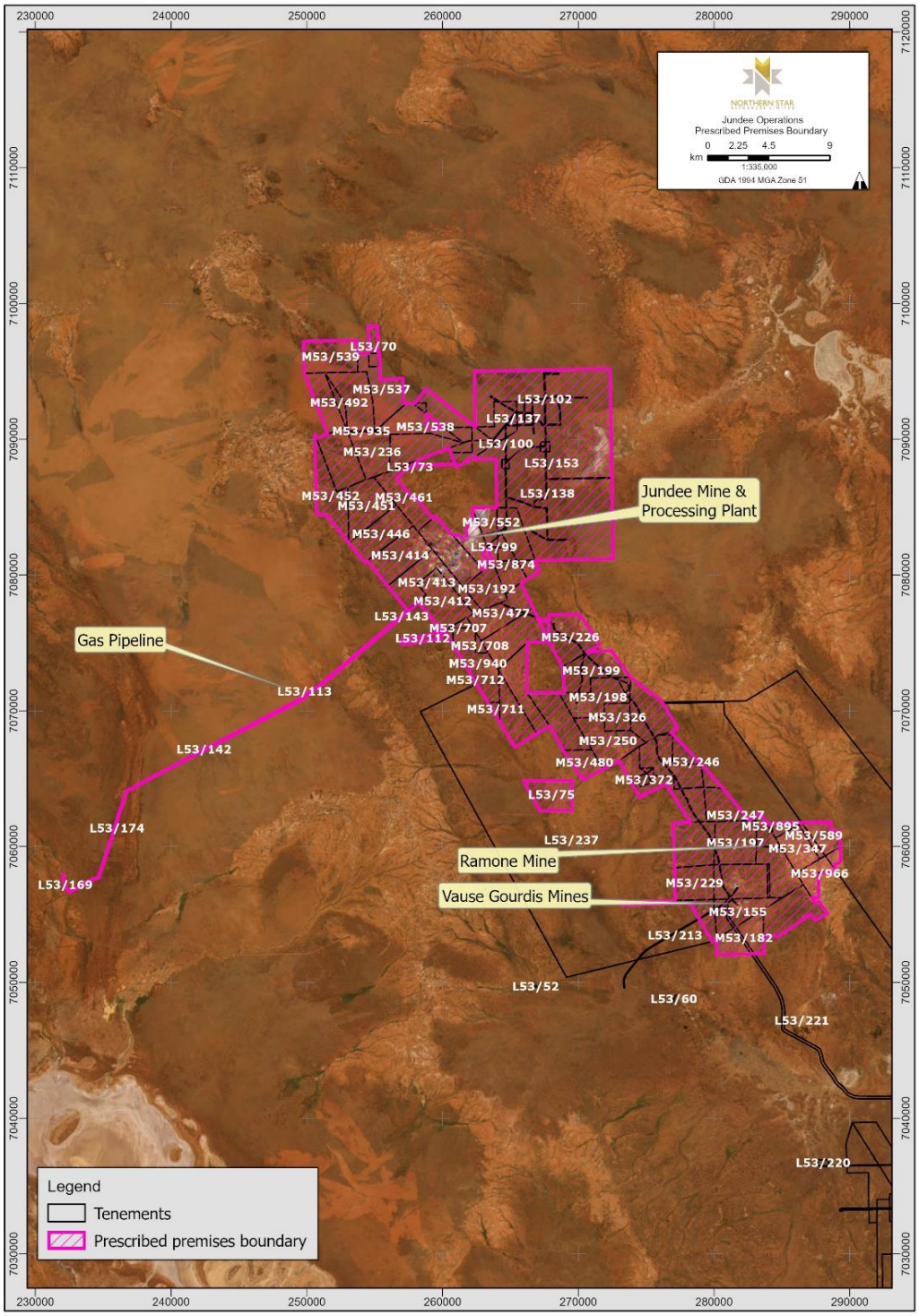

Figure 1: Prescribed Premises Boundary - Jundee Operations.

Map of storage locations

The locations of the storage areas defined in Table 1.2.1 are shown in Figure 2 below. The turkey nests are shown in Figure 5 and bioremediation cells in Figure 6.

Figure 2: Location of Jundee mining area containment infrastructure

Map of emission points

The locations of the emission points defined in Table 2.2.1 are shown in Figure 3 and Figure 4 below.

Figure 3: Map showing Jundee Emission Points to Air

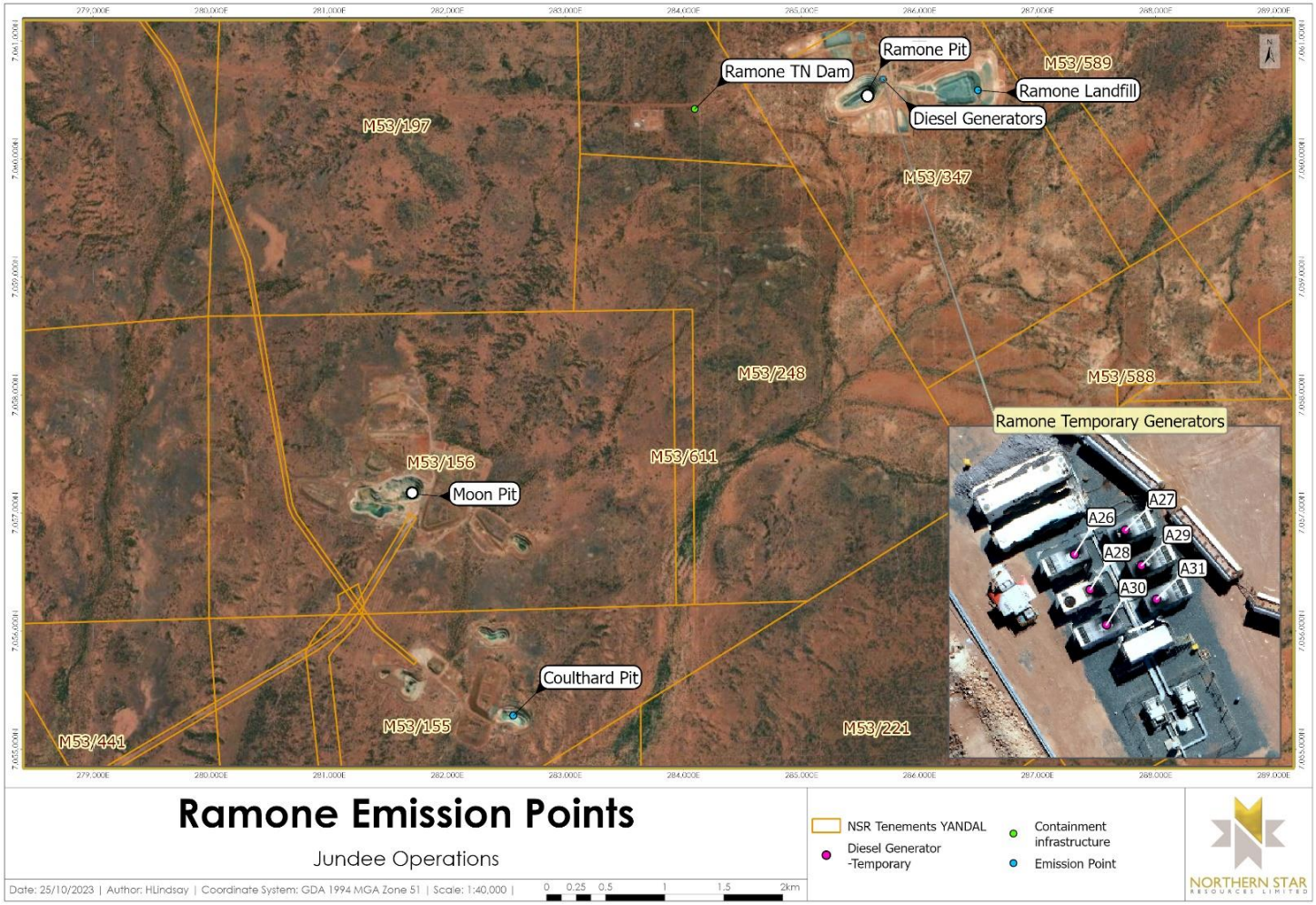

Figure 4: Ramon Emission Points: Generator stacks, Coulthard Pit and Ramon landfill

The location of the emission points in condition 2.3.1 (pits) and Turkey nest storage locations in condition 1.2.2 are shown below. Some are also monitoring points for Table 3.2.1. Storages in the underground mine are not shown.

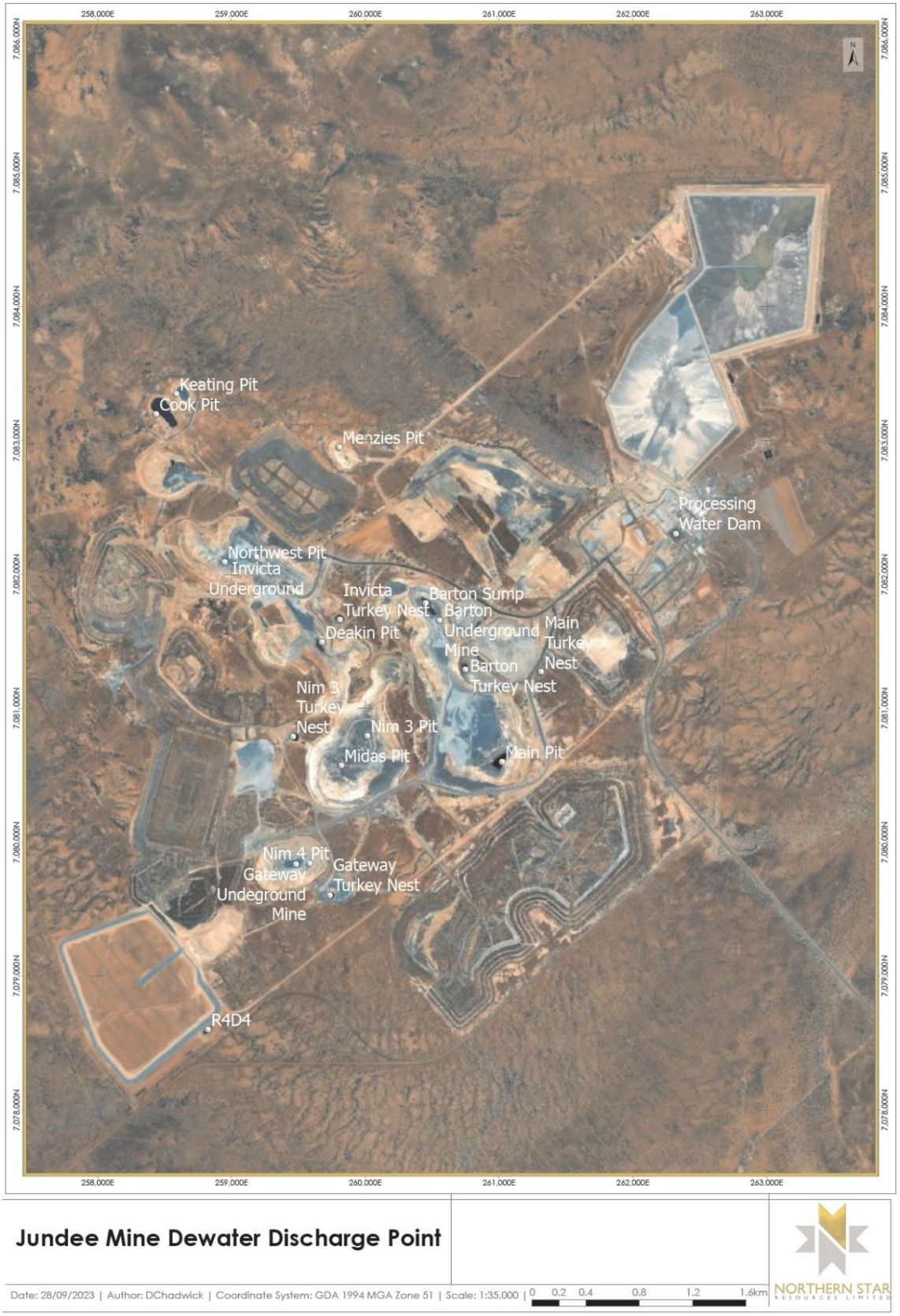

Figure 5: Mine dewater discharge points (pits) and storage points (Turkey nests)

Maps of monitoring locations

The locations of the defined in Tables 3.2.1 and 3.2.2 are shown below.

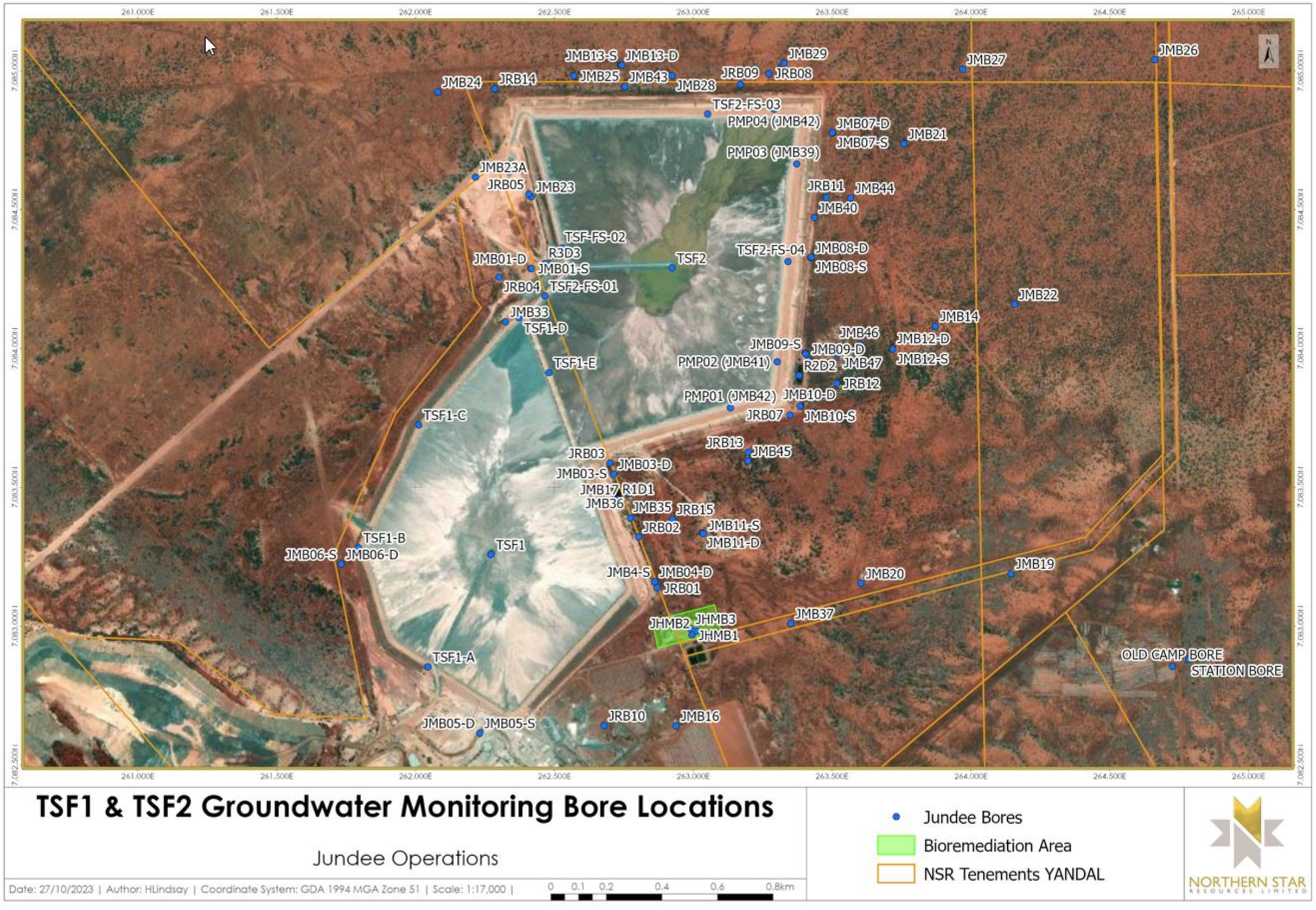

Figure 6: TSF1 and TSF 2 groundwater monitoring bore locations, also including location of the Bioremediation Landfarm

The locations of the monitoring points defined in Table 3.2.1 are shown below.

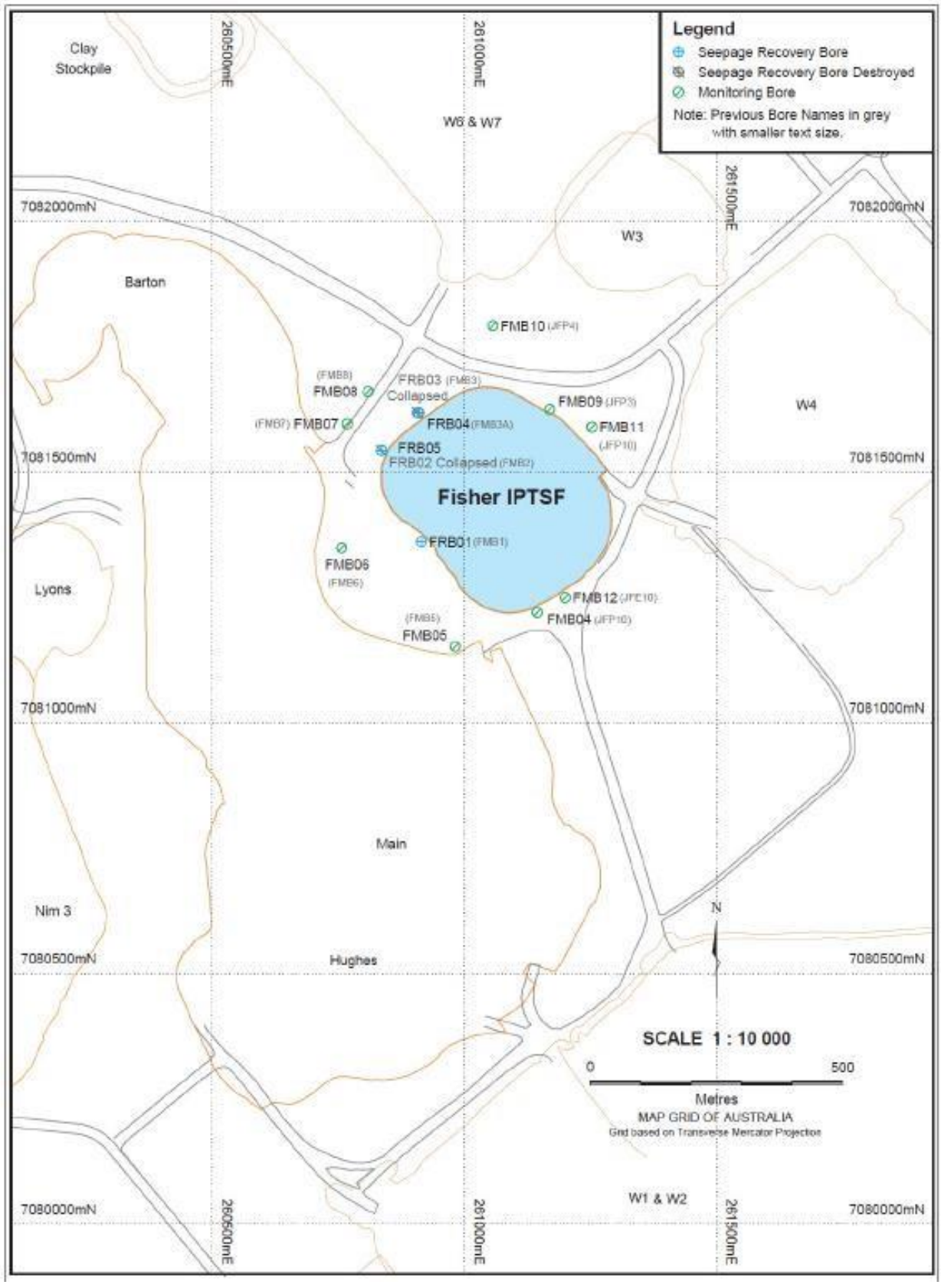

Figure 7: Fisher In-pit TSF groundwater monitoring bore locations

Figure 8: Location of Nimary TSF and TSF3 Cell 1 groundwater monitoring bores