Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L7276/1996/12
Licence holder	Murrin Murrin Operations Pty Ltd
ACN	076 717 505
Registered business address	Level 3, 30 The Esplanade PERTH WA 6000
DWER file number	INS-0001452
Duration	06/06/2021 to 05/06/2041
Issue date	04/06/2021
Amendment date	16/04/2025
Premises details	Murrin Murrin Nickel Cobalt Project Mining tenements: L39/62, L39/81, L39/83, L39/136, L39/168, M39/299, M39/300, M39/301, M39/314, M39/322, M39/421, M39/422, M39/423, M39/435, M39/436, M39/424, M39/342, M39/343, M39/446, M39/553, M39/562, M39/637, M39/651, M39/686, M39/692, M39/714, M39/715, M39/716, M39/737, M39/820 LAVERTON WA 6440 As defined in Schedule 1 of the licence

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production / design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	5 000 000 tonnes per annual period
Category 6: Mine dewatering	700 000 tonnes per year
Category 12: Screening, etc. of material	1 500 000 tonnes per annual period
Category 31: Chemical manufacturing	1 718 100 tonnes per annual period
Category 44: Metal smelting or refining	55 000 tonnes per annual period
Category 52: Electric power generation	87.5 MW in aggregate
Category 54: Sewage facility	300 m^3 per day
Category 57: Used tyre storage (general)	500 tyres stored at any one time
Category 63: Class I inert landfill site	Combined maximum limit of 7 000 tonnes per annual period
Category 64: Class II or III putrescible landfill site	

This amended licence is granted to the Licence holder, subject to the attached conditions, on 16 April 2025, by:

Timothy Moran

Digitally signed by Timothy Moran
Date: 2025.04.16 12:02:59 +08'00'

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

Licence history

Reference Number	Date	Summary of Changes
L7276/1996/8	06/06/2005	Licence renewal
W4135/1996/1	15/08/2005	Works approval construction of Heap Leach Facility
W4180/1996/1	7/11/2005	Works approval for construction of a 2 m lift to the southern cell of the TSF from 449.5 mRL to 451.5 mRL.
W4177/1996/1	15/11/2005	Works approval for construction of in-pit TSF 2/3.
W4274/1996/1	06/10/2006	Works approval for staged approach for an overall 10m high lift for the TSF.
L7276/1996/9	6/06/2007	Licence renewal
L7276/1996/10	7/07/06/2009	Licence renewal
W4554/2009/1	13/05/2010	Works approval for construction of in-pit TSFs 8/5 and 9/4.
W4817/2010/1	27/01/2011	Works approval for construction of MM9/2 heap leach residue disposal facility.
W5090/2011/1	01/03/2012	Works approval for construction of dewatering infrastructure from pits 21 and 24 to be discharged into pit 24
W5399/2013/1	23/05/2013	Works approval for construction of in-pit TSF MM19Sth.
L7276/1996/11	5/06/2013	Licence renewal
W5641/2014/1	29/05/2014	Works approval for construction of in-pit TSFs 2/2-2/4, 8/4 & 9/2.
L7276/1996/11	04/06/2015	Licence amendment to allow in-pit TSFs including REFIRE conversion and removal of sulfur dioxide limits.
L7276/1996/11	29/04/2016	Department initiated amendment in accordance with section 59(1)(k) of the Environmental Protection Act 1986 to amend the duration of the licence date month year.
L7276/1996/11	16/10/2017	Amendment notice 1: Licence application to dewater 15 pits at Murrin Murrin East pit mining area and extension of prescribed boundary.
L7276/1996/11	16/01/2018	Amendment notice 2: Addition of conditions assessed under Works Approval W5641/2014/1 and amended on 26 June 2017 for the operation of In-pit TSF's 9/5, 18/3 and 18/6.
L7276/1996/11	17/05/2018	Amendment notice 3: proposal of spent vanadium catalyst, as a one-off event, to either in-pit Tailing Storage Facility (TSF) 18/3 located at Murrin Murrin.
L7276/1996/11	23/03/2020	CEO initiated licence amendment to consolidate/amalgamate separately issued licence amendment notices in the licence.
L7276/1996/12	04/05/2021	Licence renewal (old format) with a 20-year licence term.
L7276/1996/12	02/12/2021	Licence amendment to enable changes to waste acceptance requirements.
L7276/1996/12	31/01/2023	Licence amendment to allow operation of 17 series in-pit TSF and associated infrastructure for stage one from W6526/2021/1. Addition of mining tenement M39/553 to the licence.
L7276/1996/12	29/11/2023	Licence amendment to include: ▪ the operation of stage 2 - 17 series in-pit TSF (W6526/2021/1). ▪ Addition of Pits 2407 and 2503 as mine dewater discharge locations and removal of Pits 2402, 2501, 2502 & 2704 as dewater discharge locations. ▪ Reduction in groundwater monitoring frequency for paddock TSF associated monitoring bores and ▪ Increase of SO2 emission limit from the sulfuric acid plant
L7276/1996/12	16/04/2025	Licence amendment to add operation of Stage 3 deposition points T4 and T5 to Series 17 in-pit TSF.

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

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:

'AACR' means Annual Audit Compliance Report, 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 and a copy of the AACR form is accessible from the DWER website

'Act' means the *Environmental Protection Act 1986*

'Annual Period' means the inclusive period from 1 May until 30 April in the following year;

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 Water Quality— Sampling — Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 Water Quality — Sampling — Guidance on sampling of 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;

'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 Chief Executive Officer of the Department.

"submit to / notify the CEO" or similar, means either:

Director General
Department administering the *Environmental Protection Act 1986*
Locked Bag 10
JOONDALUP DC WA 6919

or:

info@dwer.wa.gov.au

'Clean Fill' has the meaning defined in Landfill Definitions; 'Contaminated Solid Waste' has the meaning defined in Landfill Definitions;

'code of practice for the storage and handling of dangerous goods' means the document

titled "Storage and handling of dangerous goods: Code of Practice" published by the Department of Mines, as amended from time to time;

‘DMIRS’ mean Department of Mines, Industry Regulation and Safety;

‘DWER’ means Department of Water and Environmental Regulation;

‘dangerous goods' has the meaning defined in the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007*;

‘environmentally hazardous material' means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm. Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines, Industry Regulation and Safety (DMIRS);

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'fugitive emissions' means all emissions not arising from point sources identified in sections 2.2, 2.3, 2.4 and 2.5;

'Inert Waste Type 1' has the meaning defined in Landfill Definitions;

'Inert Waste Type 2' has the meaning defined in Landfill Definitions;

'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' means this Licence numbered L7276/1996/12 and issued under the Act;

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

'mgbl' means metres below ground level;

'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;

'NO_x' means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide;

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

'Putrescible Waste' has the meaning defined in Landfill Definitions;

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

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

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

'shut-down' means the period when plant or equipment is brought from normal operating conditions to inactivity;

'six monthly' means the 2 inclusive periods from 1 April to 30 September and 1 October to 31 March in the following year;

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

'stack test' means a discrete set of samples taken over a representative period at normal operating conditions;

'STP dry' means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry;

'**suitably qualified hydrogeologist'** means a person who:

(a) holds relevant qualifications in the fields of hydrogeology, geology, engineering or environmental science from a recognised educational institution;

(b) with a minimum 3 years experience from a recognised educational institution.

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

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

'usual working day' means 0800 — 1700 hours, Monday to Friday excluding public holidays in Western Australia;

'WWTP' means waste water treatment plant; 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 General conditions

1.2.1 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
(a) pollution;
(b) unreasonable emission;
(c) discharge of waste in circumstances likely to cause pollution; or
(d) being contrary to any written law.

1.2.2 The Licence Holder shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2.3 The Licence Holder, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods.

1.2.4 The Licence Holder shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

1.2.5 The Licence Holder shall:
(a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
(b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.

Note 1: The *Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

1.3 Premises operation

1.3.1 The Licence Holder shall ensure that all pipelines containing tailings, decant or hypersaline water are either:
(a) equipped with telemetry systems and pressure sensors along pipelines to allow the detection of leaks and failures;
(b) equipped with automatic cut-outs in the event of a pipe failure; or
(c) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.

1.3.2 The Licence Holder shall ensure that tailings, decant water and effluent are only discharged into containment cells, dams or ponds with the relevant infrastructure requirements and at the locations specified in Table 1.3.1 and identified in Schedule 1.

Table 1.3.1: Containment Infrastructure

Containment point reference	Material	Infrastructure requirements
North Cell TSF and South Cell TSF	Tailings and decant liquor	Constructed and operated in accordance with relevant Part V approvals. Discharge into North and South cell is only permitted in an emergency situation and is subjected to additional groundwater monitoring as stipulated in Condition 3.5.2
In-pit TSF 2/3	Tailings and decant liquor	Constructed and operated in accordance with relevant Part V approvals.
In-pit TSF 7/2	Heap leach residue	Constructed and operated in accordance with relevant Part V approvals Heap Leach residue to be disposed of at least 5m above water table. (W4554/2009/1)
In-pit TSF 8/5 — 9/4	Tailings and decant liquor	Constructed and operated in accordance with document titled Murrin Murrin North 8/5 and 9/4 In-pit Tailings Disposal. Mining Proposal and Works Approval Supporting Documentation, M39/342, M39/343, M39/421, M39/424, February 2010.
In-pit TSF 2/2-2/4	Tailings and decant liquor	Constructed and operated in accordance with document titled 2/2-2/4, 8/4 & 9/2 In-pit Tailings Storage Facility Mining Proposal
In-pit TSF 8/4		

Table 1.3.1: Containment Infrastructure		
Containment point reference	**Material**	**Infrastructure requirements**
In-pit TSF 9/2		and Works Approval Application — M39/300, M39/343, M39/431, M39/422, M39/423, M39/424, March 2014.
In-pit TSF 9/5	Tailings and decant liquor	Constructed and operated in accordance with document titled 9/5, 18/3 & 18/6 in-pit Tailings Storage Facility Mining Proposal and Licence Amendment Application, January 2017, and Works Approval W5641/2014/1. Employ methods to increase the consolidation rate of tailings material in the in-pit TSF 18/3, which contains vanadium catalyst waste (from one-off disposal in 2018) (e.g., install vertical wick drains).
In-pit TSF 18/3	Tailings and decant liquor	
In-pit TSF 18/6	Tailings and decant liquor	
17 series In-pit TSF – discharge from stage 1 and 2 discharge points only T1, T2, T3, T4 and T5 (as per Figure 24 of Schedule 1)	Tailings from the Murrin Murrin Nickel Cobalt project (the premises authorised under this licence)	Depositional cycle for tailings deposition to reduce seepage: approximately 3 – 4 months vertical deposition with approximately 1 month drying time. Supernatant water removed via decant pump and transferred to existing evaporation pond.
Scour sump (northern end of 17 series in-pit TSF as per Figure 26)	Intended for emergency use only in event of an accidental pipeline breach. DWER to be notified of any events requiring scour sump use.	Capacity of 225m^3 maintained. Cleared in the event of a pipeline breach or in-fill with surrounding material.
Heap Leach pad	Scats (low grade ore) with acidic liquor percolating through the solids.	8 cells on compacted clay base with a single 1mm HDPE liner
Heap Leach pad — PLS (pregnant liquor solution) pond	Process solution	Constructed and operated in accordance with W4135 dated 15 August 2005. PLS pond capacity is 5,000 m^3 HDPE liner over clay base
Heap Leach pad — ILS (intermediate liquor solution) pond	Process solution	Constructed and operated in accordance with W4135 dated 15 August 2005. ILS Pond capacity is 20,000 m^3 Feed Pond capacity is 20,000 m^3 Barron Liquor Pond capacity is 1,800 m^3 HDPE liner over clay base.
Heap Leach pad - CCD 1 overflow/ heap leach feed pond		
Heap Leach pad - Barren liquor pond		
Heap Leach pad - Stormwater pond	Potentially contaminated stormwater (can capture overflow from other heap leach ponds)	Constructed and operated in accordance with W4135 dated 15 August 2005 50 000 m^3 capacity Clay lined HDPE liner

Evaporation Pond — Cell 1 Evaporation Pond — Cell 2	Decant liquor and seepage recovery water.	Constructed and operated in accordance with relevant Part V approvals.

Table 1.3.1: Containment Infrastructure (continued)

Containment point reference	Material	Infrastructure requirements
Evaporation Pond — Cell 3 Evaporation Pond — Cell 4		
Raw Water Dam	Untreated groundwater and pit water	Lined with 1 mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent.
Process Water Dam	Untreated groundwater and pit water	
Counter Current Decant Containment Pond 1 and Pond 2	Process liquor	
Sludge drying ponds	Waste water treatment plant sludge	Lined with 1 mm HDPE to achieve a permeability of at least $<10^{-9}$m/s or equivalent, capable of preventing surface runoff of leachate and sludge
Nickel matte residue storage facility	Intermediate nickel byproduct	Stored on ROM pad within earthen bund.
Scrap Tyre Storage Yard and Bis Workshop	Used tyre storage of up to 500 tyres at any one time.	Tyres leaning against each other in rows of 20. Rows spaced 1 m apart. Off the road (OTR) tyres stacked horizontally on top of each other 3 tyres high in rows 3 m apart.

1.3.3 The Licence Holder shall manage North Cell TSF, South Cell TSF, In-pit 2/3, In-pit TSF 7/2, In-pit TSF 8/5 – 9/4, In-pit TSF 2/2-2/4, In-pit TSF 8/4, In-pit TSF 9/2, 17 series In-pit TSF, evaporation dams, counter current containment pond and heap leach pad process ponds in Table 1.3.1 such that a minimum top of embankment freeboard of 300 mm or a 1 in 100 year/72-hour storm event (whichever is greater) is maintained.

1.3.4 The Licence Holder shall manage the paddock TSF (TSF North and TSF South) such that:

(a) a seepage collection and recovery system is provided and used to capture seepage from the TSF;

(b) seepage is pumped to the evaporation ponds or processing plant; and

(c) the supernatant pond on the TSF is minimised as far as practicable.

1.3.5 The Licence Holder shall:

(a) undertake inspections as detailed in Table 1.3.2;

(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 1.3.2: Inspection of Infrastructure

Scope of inspection	Type of inspection	Frequency of inspection
Tailings pipelines	Visual integrity	12 hourly when operating
Return water lines	Visual integrity	12 hourly when operating
Dewatering pipelines	Visual integrity	12 hourly when operating
Embankment freeboard for infrastructure listed in condition 1.3.3 and 1.3.14	Visual inspection to confirm required freeboard capacity is available. Visual markers must be present for all in-pit TSFs.	12 hourly when operating
Counter current decant (CCD) containment pond	Instrumentation	Before each CCD discharge

1.3.6 The Licence Holder shall undertake an annual assessment of vegetation within the zone of influence of the above ground tailings storage facility. The assessment shall:

(a) photograph and record the presence and condition of key vegetation features within the zone of influence;

(b) compare the results of the assessment against previous years assessments and identify whether any deterioration in the presence and/or quality of vegetation has taken place; and

(c) be undertaken by a person suitably qualified in vegetation identification and sampling.

1.3.7 The Licence Holder shall manage all paddock TSF (TSF North and TSF South) seepage in accordance with the Murrin Murrin Operations Tailings Storage Facility Seepage Mitigation Project and provide the CEO with quarterly updates as well as an annual summary.

1.3.8 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 1.3.3.

Table 1.3.3: Management of waste

Waste type	Management strategy	Requirements [1,2]
Inert waste type 1	Receipt, handling, associated storage and disposal of waste by landfilling	<u>All waste types</u> • No more than 7 000 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 area shown on the Landfill Area Map in Schedule 1; • the separation distance between the base of the landfill and the highest groundwater level shall not be less than 2m;
Inert waste type 2		
Putrescible waste		
Clean Fill		
Special Waste Type 1		

		• Waste 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 is less than 30 metres in length. <u>Inert Waste Type 2 Tyre Disposal</u>
		• Tyres to be disposed in pit voids, excluding any TSFs, in the following pit series: • 1 series • 4 series • 7 series • 8 series • 9 series • 11 series • 17 series • 18 series • 19 series <u>Special Waste Type 1 Disposal</u> • Location is landfill area as per Figure 23 • Disposal of all Special Waste Type 1 to a designated cell within the landfill facility. • Wrapping of potentially contaminated PPE and filters with thick plastic and sealed with tape. • Recording the location of the designated Special leachate. • Type 1 cell within MMO's geographic information system (GIS).
Contaminated solid waste (spilled process materials/ sulfur residue)		Location is disposal area in TSF North and 2/3 in-pit TSF as per map in Schedule 1.
Hydrocarbon contaminated waste	Bioremediation	Ensure soil is bio-remediated by: • maintaining a suitable soil thickness; • maintaining an appropriate moisture content and nutrient level within the soil which sustains biological activity; • at least monthly soil aeration; and • disposal of hydrocarbon contaminated waste shall only take place within the bioremediation area shown in Schedule 1.
Sewage	Physical, biological, and chemical treatment	300 m^3 per day.
Sewage sludge		Dispose of sewage sludges in accordance with the Western Australian Guidelines for Direct Land Application of Biosolids and Biosolids Products, February 2002 or by a method approved by the CEO.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.
Note 2: 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*.

1.3.9 The Licence Holder shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 1.3.4 and that sufficient stockpiles of cover are always maintained on site.

Table 1.3.4: Cover requirements [1]	
Waste Type	**Cover requirements**
Putrescible wastes	To be covered fortnightly with enough Type 1 inert waste, clean fill or other appropriate cover material to prevent the spread of fire and harbouring of disease vectors.
Special Waste Type 1	Covering of waste immediately with 300mm of clean fill or Inert Waste Type 1. Covering of the waste with 1000mm of clean fill or Inert Waste Type 1 by the end of the working day.
Inert Waste Type 1	No cover required.
Inert Waste Type 2 (Tyres)	To be covered by the end of the working day in which the waste was deposited with enough Type 1 inert waste or clean fill to prevent the spread of fire and harbouring of disease vectors.

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

1.3.10 The Licence Holder shall take all reasonable and practical measures to ensure that no windblown waste escapes from the Premises and that wind-blown waste is collected on at least a fortnightly basis and returned to the tipping area.

1.3.11 The Licence Holder shall manage the irrigation of treated wastewater such that:

(a) no irrigation generated run-off, spray drift or discharge occurs beyond the boundary of the defined irrigation area(s);
(b) treated wastewater is evenly distributed over the irrigation area;
(c) no soil erosion occurs;
(d) irrigation does not occur on land that is waterlogged; and
(e) vegetation cover is maintained over the irrigation area.

1.3.12 The Licence Holder must ensure that infrastructure and equipment specified in Column 1 of Table 1.3.5 is constructed / installed in accordance with the requirements specified in Column 2 of Table 1.3.5.

Table 1.3.5: Construction Requirements	
Column 1	**Column 2**
Infrastructure/Equipment	**Requirements (design and construction)**
Dewatering pipeline infrastructure	Construction of a 500mm deep v-drain bund for the entire length of pipeline network.
	Construction of pipeline consisting of PN8 rated 160mm diameter poly pipeline rising from the pits to main truck line PN10 rated 250mm diameter pipeline from the risers to the discharge pits.
	Installation of meters at all discharge points capable of recording the cumulative quantity of water discharged to each pit.

1.3.13 The Licence Holder must ensure that the dewatering operational requirements are managed in accordance with Table 1.3.6.

Table 1.3.6: Dewatering operation requirements	
Column 1	**Column 2**
Pits	**Operational requirements**
All discharge pits (2101, 2303, 2302, 2407, 2503 & 2603)	Minimum freeboard of 4m to be maintained.
Pit 2101	Only accept dewater discharge from source pits 2104, 2103, 2106 & 2201.

1.3.14 The Licence Holder shall maintain freeboard in accordance with Table 1.3.7.

Table 1.3.7: In-pit tailings storage facilities – freeboard requirements				
Facility Pit	**Catchment area (ha)**	**Minimum pit crest height (mAHD)**	**Estimated volume required for the temporary storage of a 1 in 100 year, 72 hour storm event (m^3)**	**Maximum operating pond level (mAHD)**
2/2 – 2/4	34	454.3	61,200	452.9
2/3	40	452.1	72,000	451.4
8/4	29.5	455.2	54,000	454.0
8/5 – 9/4	39	462.3	70,200	461.6
9/2	40	458.1	72,000	457.5
3.5.10 9/5	87.3	457.5	157,100	455.5
17 series	94.3	457.6	170,000	456.9
18/3	47.0	459.5	84,600	458.6
18/6	48.0	459.5*	86,400	458.0

* A mine waste embankment bund may be required to be constructed at the lowest pit crest to achieve the minimum crest level. Table 1.3.7, minimum crest height for 18/6 includes the 2.5m mine waste embankment to achieve the required height of 459.5mAHD. Should the embankment not be constructed, the maximum operating pond level shall not exceed 455.4mAHD.

2 Emissions

2.1 General

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

2.2 Point source emissions to air

2.2.1 The Licence Holder shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Point source emissions to air			
Emission point reference	**Emission Point and source**	**Emission point height (m)**	**Source, including any abatement**
A1	Refinery plant ammonia scrubber vent	15	Refinery
A2	Nickel reduction flash tank vent	27	Nickel reduction circuit
A3	Cobalt reduction flash tank	12	Cobalt reduction autoclaves 1 and 2
A4	Cobalt sinter furnace stack	24	Cobalt sinter furnace
A5	Nickel sinter furnace stack	40	Nickel sinter furnace
A6	Sulfuric acid plant stack	80	Sulfuric acid plant
A7	Hydrogen sulfide circuit flare	80	Hydrogen sulfide plant Neutralisation circuit degassing Pre-reduction vent system Mixed sulfides precipitation circuit Sulfides leaching Nickel reduction
A8	Hydrogen plant reformer stack	36	Hydrogen plant
A9	Gas turbine stack	30	Gas turbine
A10	Gas turbine HRSG stack	40	Heat recovery steam generator
A11	Power station boiler stack	40	Power station boiler

2.2.2 The Licence Holder shall not cause or allow point source emissions to air greater than the limits listed in Table 2.2.2.

Table 2.2.2: Point source emission limits to air			
Emission point Averaging period reference	**Parameter**	**Limit (including units)[1]**	**Averaging period**
A4	Sulfur dioxide (SO_2)	NA	Stack test (60 minute average)
A5		NA	Stack test (60 minute average)
A7		25g/s	Stack test
A6	Sulfur dioxide (SO_2)[2]	3.9 kg/tonne of 100% acid or equivalent	Stack test (60 minute average)

Table 2.2.2: Point source emission limits to air			
Emission point Averaging period reference	**Parameter**	**Limit (including units)[1]**	**Averaging period**
A9	Oxides of nitrogen (NO_x)	70mg/Nm^3 expressed as nitrogen dioxide at a 15% oxygen reference level	Stack test (30 minute average)
A10		85mg/Nm^3expressed as nitrogen dioxide at a 15% oxygen reference level	
A11		350mg/Nm^3 expressed as nitrogen dioxide at a 7% oxygen reference level	

Note 1: All units are referenced to STP dry
Note 2: The SO_2 limits do not apply during cold acid plant startups or shutdowns.

2.3 Emissions to land

2.3.1 The Licence Holder shall ensure that where waste is emitted to land from the emission points in Table 2.3.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.3.1: Emissions to land		
Emission point reference and location on Map of emission points	**Description**	**Source including abatement**
L1 — L3	Discharge from irrigation pump station to on-site irrigation area	Treated wastewater pumped from wastewater treatment plant

2.4 Fugitive emissions

2.4.1 The Licence Holder shall use all reasonable and practical measures to prevent and where that is not practicable to minimise dust emissions from the Premises.

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; and
(d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

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; and
(c) biannual monitoring is undertaken at least 5 months apart.

3.1.3 The Licence Holder shall record production or throughput data and any other process parameters relevant to any non-continuous or CEMS monitoring

undertaken (this is to include data collected for Sulfuric Acid Plant catalyst screening);

3.1.4 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.

3.1.5 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.

3.2 Monitoring of point source emissions to air

3.2.1 The Licence Holder shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: monitoring of point source emissions to air

Point source reference	Parameter	Units[1]	Averaging Period	Frequency [2]	Method
A4 - A5	Sulfur dioxide (SO_2)	g/s	60 minute	Quarterly	USEPA Method 6C
A6	Sulfur dioxide (SO_2)	kg/t	60 minute	Quarterly	USEPA Method 6C
A7	Sulfur dioxide (SO_2)	g/s	60 minute	Quarterly	USEPA Method 15
A9 - A11	Oxides of nitrogen (NO_X)	mg/Nm	30 minute	Quarterly	USEPA Method 7E or 7D

Note 1: All units are referenced to STP dry
Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.

3.2.2 The Licence Holder shall ensure that monitoring required under condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1 or relevant part of the CEMS Code.

3.2.3 The Licence Holder shall ensure that all non-continuous monitoring and analysis undertaken pursuant to condition 3.2.1 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

3.3 Monitoring of emissions to land

3.3.1 The Licence Holder shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of emissions to land

Emission point reference	Parameter	Units	Averaging Period	Frequency
WWTP	Volumetric flow rate (cumulative)	m^3	Monthly	Continuous
L1, L2, and L3	pH	-	Spot sample	Quarterly
	Total suspended solids	mg/L		
	Total dissolved solids	mg/L		

Table 3.3.1: Monitoring of emissions to land				
Emission point reference	**Parameter**	**Units**	**Averaging Period**	**Frequency**
	5-day biological oxygen demand	mg/L		
	Total nitrogen	mg/L		
	Ammonium-nitrogen	mg/L		
	Nitrate + nitrite-nitrogen	mg/L		
	Total phosphorus	mg/L		
	Escherichia coli	cfu/100mL	Spot sample	Six monthly

3.4 Monitoring of inputs and outputs

3.4.1 The Licence Holder shall undertake the monitoring in Table 3.4.1 according to the specification in that table.

Table 3.4.1: Monitoring of inputs and outputs				
Process description	**Parameter**	**Units**	**Frequency**	**Method**
Tailings deposition	Volumes of tailings deposited into the TSF and In-pit TSFs	m^3	Monthly	None specified
	Volumes of water recovered from the In-pit TSFs			
	Volumes of seepage recovered			
Heap Leach Residue	Volume of residue disposed to In-pit TSF			

3.5 Ambient environmental quality monitoring

3.5.1 The Licence Holder shall undertake the monitoring in Table 3.5.1 and Table 3.5.2 according to the specifications in that table and record and investigate results that do not meet any limit specified.

Table 3.5.1: Monitoring of ambient groundwater quality						
Monitoring point reference and location	**Parameter**	**Limit**	**Target**	**Units**	**Averaging period**	**Frequency**
Plant site: PSMB 2-3, 7, 9, 11-16, 18-19, 23-25 and 27-30 Heap leach: HLMB 1-12	Standing water level		----	mbgl	Spot sample	Quarterly
	pH	>3.5	---	---		
	Total dissolved solids, aluminium, cadmium, copper, lead, mercury, silicon, zinc,	--		mg/l		

Table 3.5.1: Monitoring of ambient groundwater quality						
Monitoring point reference and location	**Parameter**	**Limit**	**Target**	**Units**	**Averaging period**	**Frequency**
	arsenic, sodium, cobalt,					
	Nickel	--	<1	mg/L		
Evaporation Ponds: TDMB4D; TDMB7D; TDMB8D; TDMB9D; TDMB10D; TDMB11D; TDMB12D; TDMB13D; TDMB15D; TDMB16D; TDMB18D; TDMB23D; TDMB24D; and TDMB27D In pit tailings facility 2/3: IP203-1, IP203-2, IP203-3 and IP203-4 In pit tailings facility 7/2: IP702-1, IP702- 2 and IP702-3 In pit tailings facility 8/5 — 9/4: IP805-1, IP805-2, IP805-3, IP904-1, and IP904-3	Standing water level	---	---	mbgl	Spot sample	Quarterly
	pH	>3.5	--	--		
	Total dissolved solids, aluminium, cadmium, copper, lead, mercury, silicon, zinc, arsenic, sodium, cobalt, nickel			mg/L		
Tailings dam (North Cell and South Cell): TDMB1D; TDMB2D; TDMB3D;	Standing water level	---	---	mbgl		Biannual while no deposition of tailings or decant liquor is occurring. Or Quarterly as per condition

Table 3.5.1: Monitoring of ambient groundwater quality						
Monitoring point reference and location	**Parameter**	**Limit**	**Target**	**Units**	**Averaging period**	**Frequency**
TDMB5D; TDMB6D; TDMB19D; TDMB20D; TDMB21D; TDMB22D; TDMB29D; TDMB30D; TDMB31D; TDMB32D; TDMB33D; TDMB34D; TDMB35D; and TDMB36D	pH	>3.5	---	---		3.5.2
	Total dissolved solids, aluminium, cadmium, copper, lead, mercury, silicon, zinc, arsenic, sodium, cobalt, nickel	-	-	mg/L		
In pit tailings facility 2/2-2/4: IP202-1, IP202-2, and IP204-1 In pit tailings facility 9/2: IP902-1, IP902-2, IP902-3, IP902-4, IP902-5 and IP902-6 In pit tailings facility 8/4: IP804-1, 1P804- 2, and IP804-3.	Standing water level	>4		mbgl	Spot sample	Quarterly
	pH	>3.5		--		
	Total dissolved solids, aluminium, cadmium, copper, lead, mercury, silicon, zinc, arsenic, sodium, cobalt, nickel	--	--	mg/L		
In pit tailings facility 9/5: IP905-1, IP905-2, IP905-3, IP905-4, IP905-5 In pit tailings facility 18/3: IP1803-1, IP1803-2, IP1803-3	Standing water level	>4 (maximum limit)	>6*	mbgl	Spot sample	Quarterly
	pH	>3.5	--	--		
	Total dissolved solids, aluminium, cadmium, copper, lead, mercury, silicon, zinc, vanadium, arsenic, sodium, cobalt, nickel, selenium,	-	-	mg/L		

Table 3.5.1: Monitoring of ambient groundwater quality						
Monitoring point reference and location	**Parameter**	**Limit**	**Target**	**Units**	**Averaging period**	**Frequency**
In pit tailings facility 18/6: IP1806-1, IP1806-2	molybdenum					
In-situ bridge pillar between pits 18/6 and 9/5: SP30** SP31**, SP32**	Standing water level	--	--	mbgl	Spot sample	Quarterly

*If exceeded (i.e. is closer to the ground surface) would require MMO to develop and implement a seepage management plan for the In-pit TSF's.
**Stability piezometers.

Table 3.5.2: Monitoring of ambient groundwater quality						
Monitoring point reference and location	**Parameter**	**Trigger level**	**Limit**	**Units**	**Averaging period**	**Frequency**
17 series in-pit TSF monitoring bores (Figure 25 of Schedule 1): IP17-01 IP17-02 IP17-03 IP17-04 IP17-05 IP17-06 IP17-07 IP17-08 IP17-09 IP17-10 IP17-11 IP17-12	Standing water level	6	4	mbgl	Spot sample	Quarterly
	pH	---	---	---		
	Total dissolved solids Aluminium Cadmium Copper Lead Mercury Silicon Zinc Arsenic Sodium Cobalt	---	---	mg/L		
	Nickel	1[1]	50	mg/L		

Note 1: Additional trigger levels for nickel concentrations are listed in Table 3.5.3, condition 3.5.5

3.5.2 If discharge of tailings or decant liquor into the North or South cell TSF occur in accordance with condition 1.3.2, the Licence Holder must undertake the monitoring in Table 3.5.1 for the Tailings dam (North Cell and South Cell) monitoring bores on a quarterly basis from the day of discharge and lasting for a minimum of two annual periods.

3.5.3 In the event that the trigger level for standing water level is exceeded in any of the bores listed in Table 3.5.2, the Licence Holder must submit a seepage management plan to the CEO within 3 months of the exceedance occurring. The management plan must include installation of fit-for-purpose[1] seepage recovery bores, including justification for the number of bores and locations (as determined by a suitably qualified hydrogeologist).

Note 1: Monitoring bores should be kept separate from seepage recovery to ensure continuity and reliability of monitoring data. Conversion of monitoring bores into seepage recovery bores will therefore not be accepted.

3.5.4 The Licence Holder must implement the seepage management plan and install recovery bores within 3 months of submission of the seepage management plan as required by condition 3.5.3.

3.5.5 In the event that the trigger level for nickel specified in Table 3.5.2 is exceeded in any of the bores listed in Table 3.5.2, the Licence Holder must undertake the response action defined for each of the trigger levels defined in Table 3.5.3.

Table 3.5.3: Trigger levels for nickel concentrations in 17 series in-pit TSF monitoring bores and corresponding response action

Trigger level	Response action
1 mg/L	1. Increase monitoring frequency of affected bore to monthly for three consecutive months 2. Review decant pond size, beaching and deposition strategy
10 mg/L	3. Increase monitoring frequency of affected bore to monthly for three consecutive months 4. Prepare and submit a Nickel Management Plan following the first instance of an exceedance of this trigger level at any affected bore (this action is not required for subsequent trigger exceedances). The Nickel Management Plan must be submitted within 90 days of the first trigger exceedance and detail additional response actions to reduce nickel concentrations in affected bores 5. Implement response actions identified in the Nickel Management Plan within 90 days of submission of the Nickel Management Plan
25 mg/L	6. Increase monitoring frequency of affected bore to monthly for three consecutive months 7. Install seepage recovery bores in the vicinity of the impacted bore/s within 90 days

3.6 Water balance monitoring

3.6.1 The Licence Holder must review and assess the water balance for the 17 series in-pit TSF each monthly period, and (as a minimum) record the following information:

(a) site rainfall;
(b) evaporation rate;
(c) decant water recovery volumes;

(d) volume of tailings deposited;
(e) percentage weight of solids in the tailings; and
(f) estimated seepage losses.

4 Records and Reporting

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 an 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 within 60 calendar days after the end of the annual period. 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
-	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
Condition 1.3.7	Annual summary of the progress of the Murrin Murrin Operations Paddock Tailings Storage Facility Seepage Mitigation Project	

Table 2.2.2 and Condition 3.2.1, Table 3.2.1	Monitoring of emissions to air.	
Condition 2.3.1 and Table 3.3.1	Monitoring of emissions to land	None specified
	Annual average loads of each contaminant in the effluent discharged from the WWTP to the environment (except pH and bacteria) using flow weighted data, reported in kilograms per day.	
Table 3.4.1	Monitoring of inputs and outputs	None specified
Table 3.5.1, Table 3.5.2 and Table 3.5.3	Ambient groundwater monitoring	None specified
Condition 4.3.1	Compliance Annual Audit Compliance Report (AACR)	A template of the compliance reporting form is accessible on Department's website.
Condition 4.1.4	Complaints summary	None specified

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;

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

(c) an assessment of the data contained within the report regarding the Sulfuric Acid Plant against the assumptions made within the *Murrin Murrin Sulphuric Acid Plant – Air Quality Assessment, by Environmental Technologies & Analytics, August 2022*.

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
--	Copies of original monitoring reports submitted to the Licence Holder by third parties	Not Applicable	Within 14 days of the CEO's request	As received by the Licence Holder from third parties
Table 3.5.1 and Table 3.5.2	Standing water levels	Quarterly	28 calendar days	None specified
Condition 1.3.7	Update on the progress of the Murrin Murrin Operations Paddock Tailings Storage Facility Seepage Mitigation Project.	Quarterly	28 calendar days	None specified

4.3 Notification

4.3.1 The Licence Holder shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement [1]	Format or form [2]
Condition 2.1.1 Condition 3.5.1 (Tables 3.5.1 and 3.5.2) Condition 3.5.5 (Tables 3.5.3)	Breach of any limit or trigger level 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	N1
N/A	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution		

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act.
Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below. The purple line depicts premises boundary.

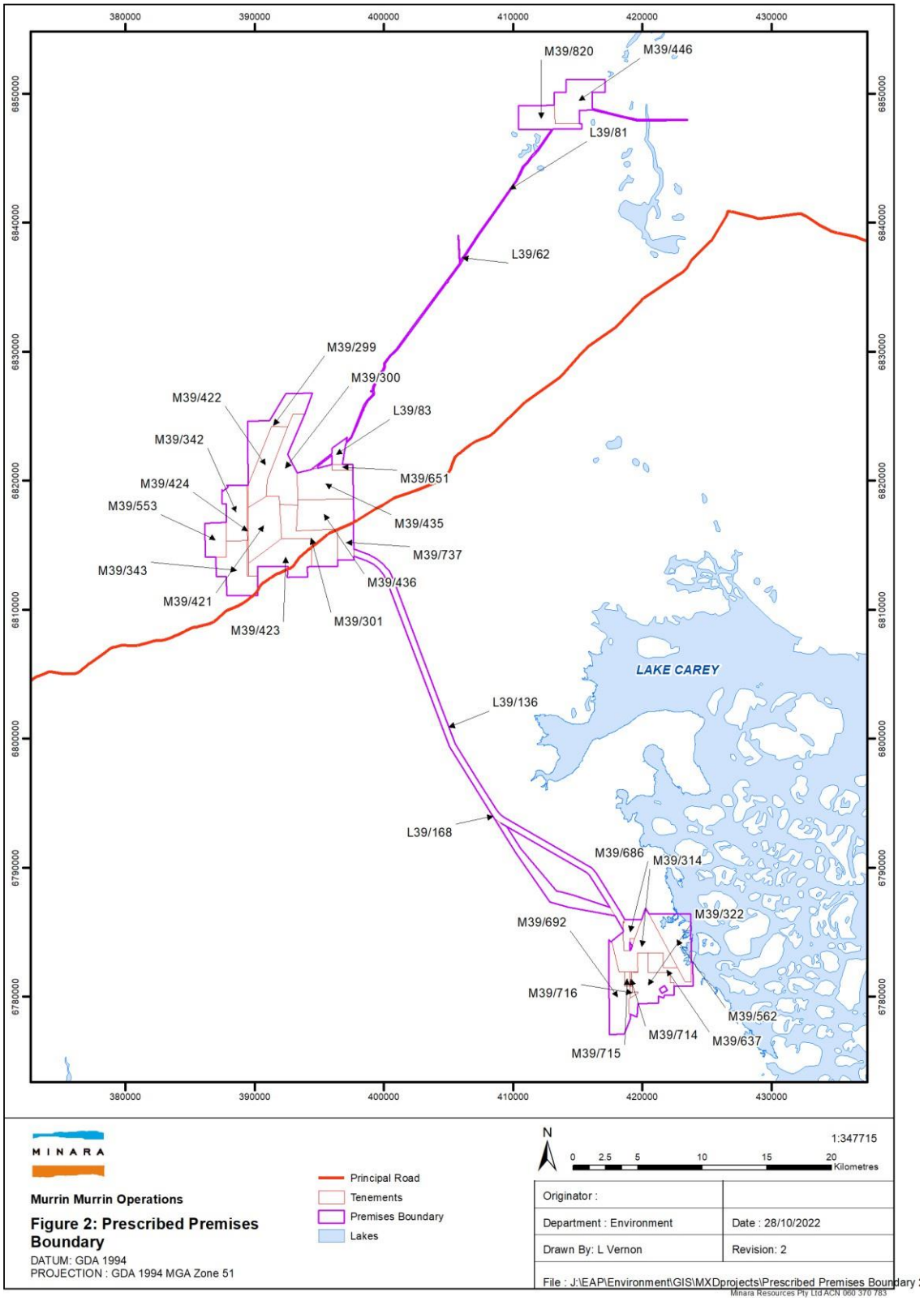

Figure 1: Prescribed premises boundary

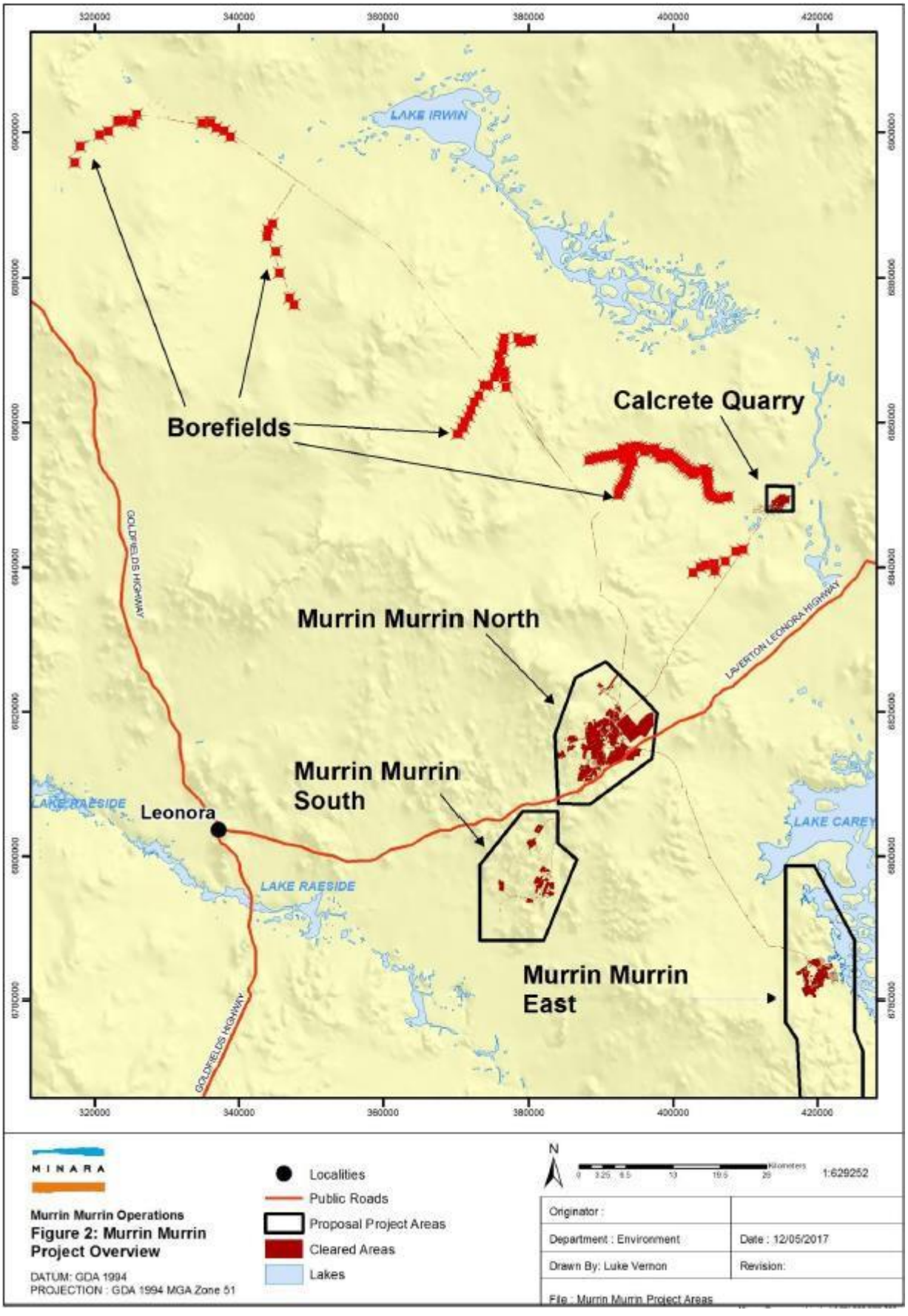

Figure 2: Murrin Murrin Project Overview

Map of emission points

The locations of the emission points defined in Table 2.2.2 are shown below.

Figure 3: Emission Points to Air at Murrin Murrin

The locations of the emission points defined in Table 3.3.1 are shown below.

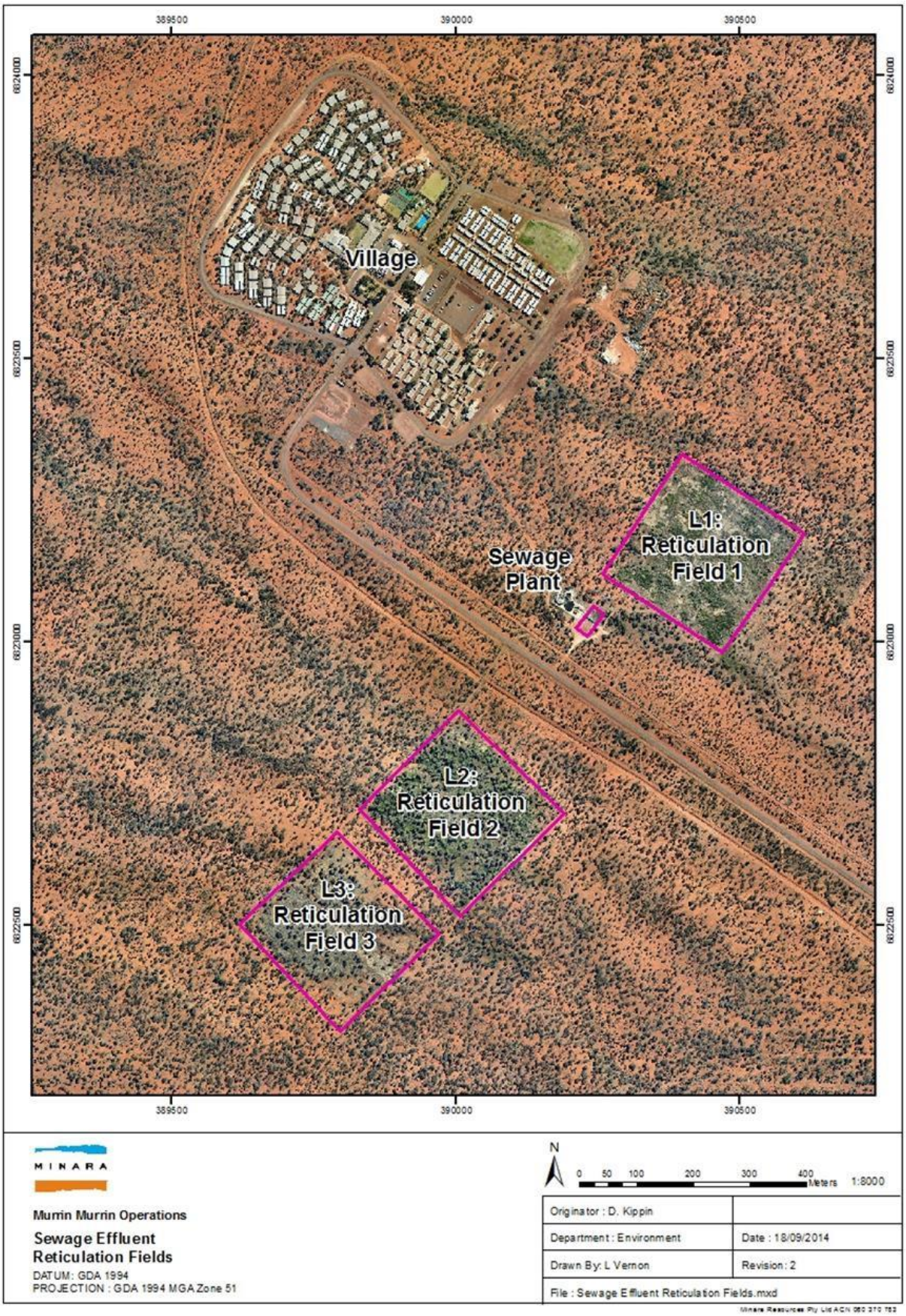

Figure 4: Sewage Effluent Reticulation Fields

Maps of monitoring locations (groundwater)

The locations of the monitoring points defined in Table 3.5.1 are shown below.

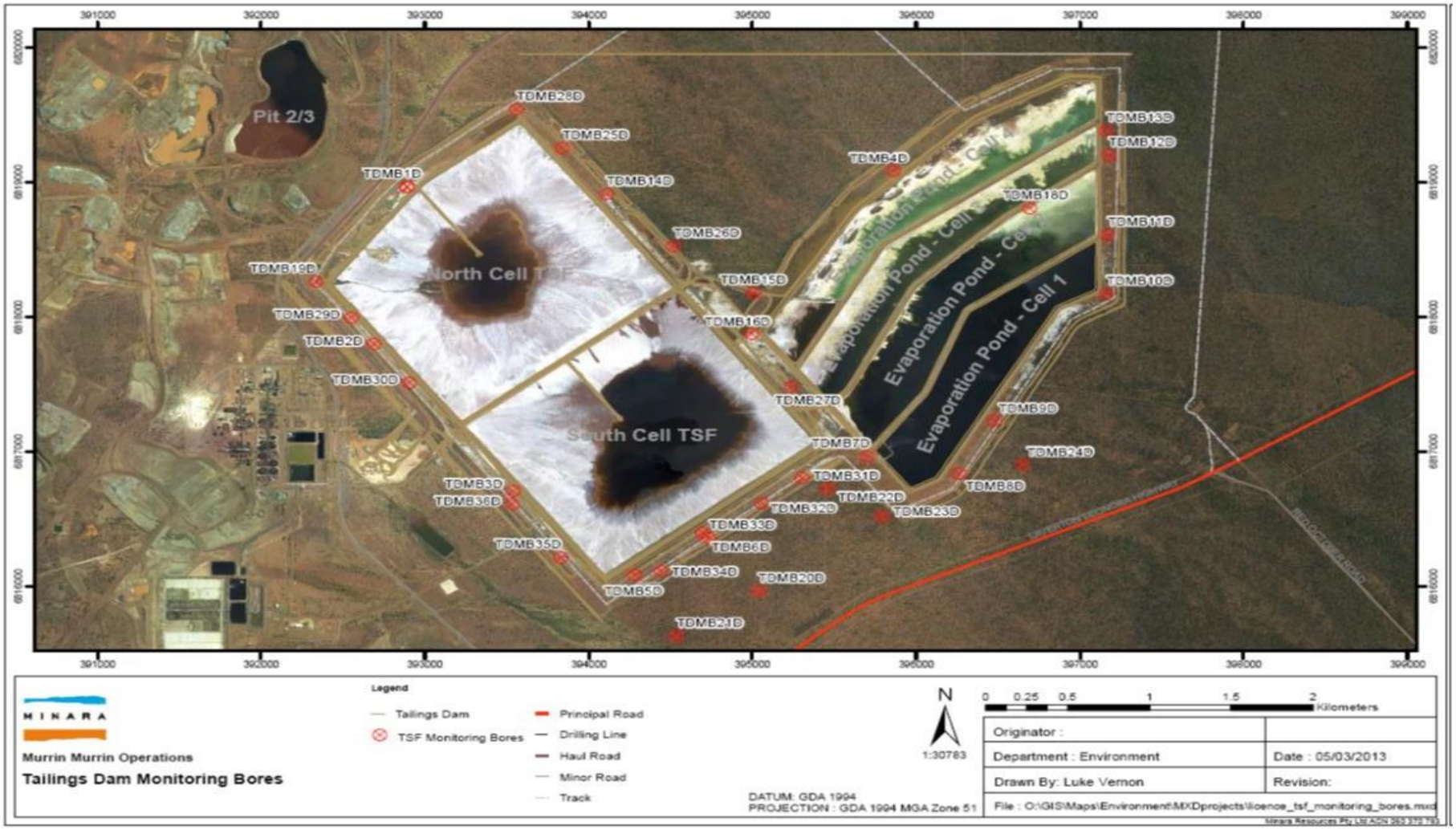

Figure 5: Tailings Dam Monitoring Bores

The locations of groundwater monitoring points defined in Table 3.5.1 are shown below.

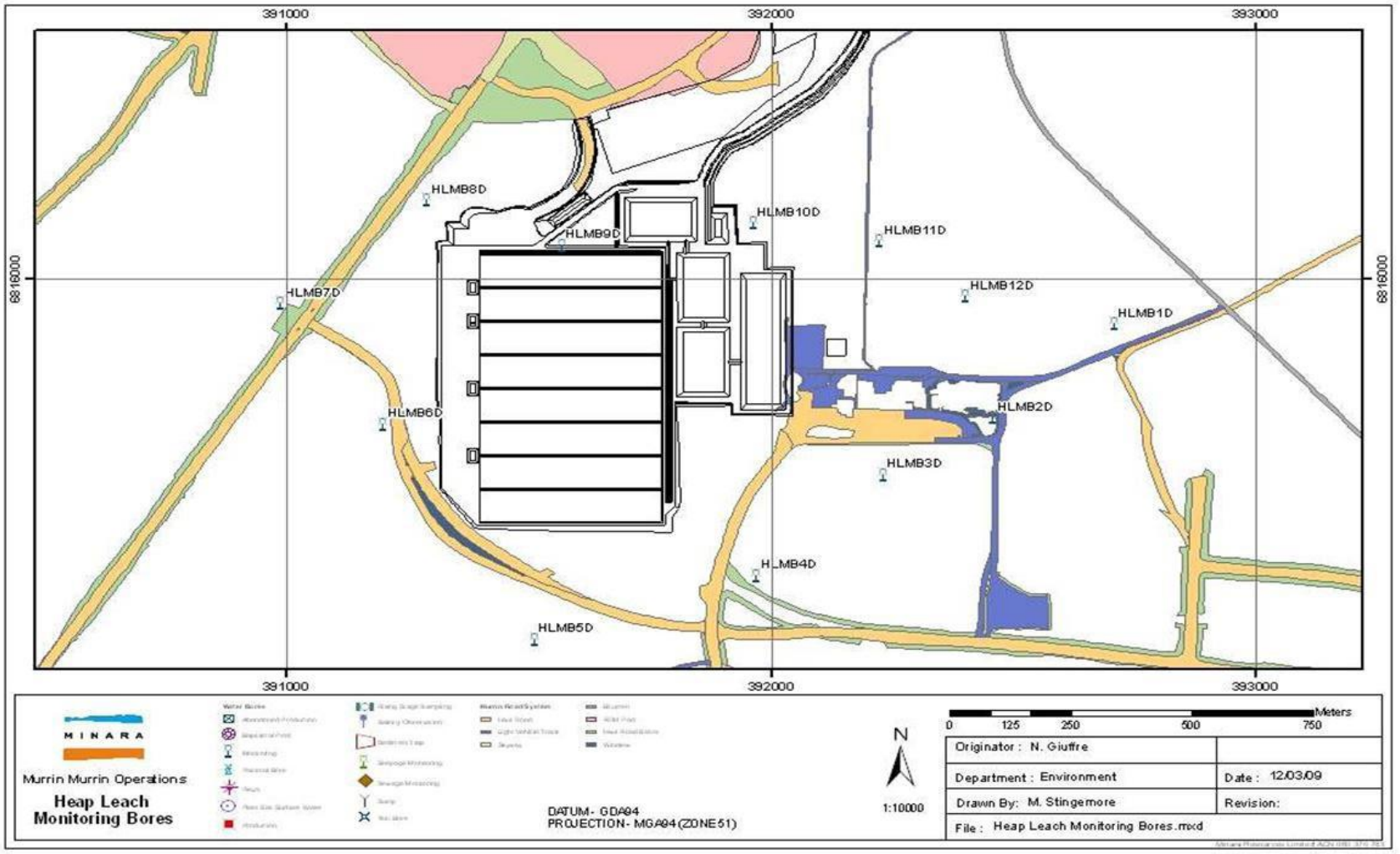

Figure 6: Heap Leach Monitoring Bores

The locations of groundwater monitoring points defined in Table 3.5.1 are shown below

Figure 7: Plant site monitoring bores

Locations of groundwater monitoring points defined in Table 3.5.1 as shown below.

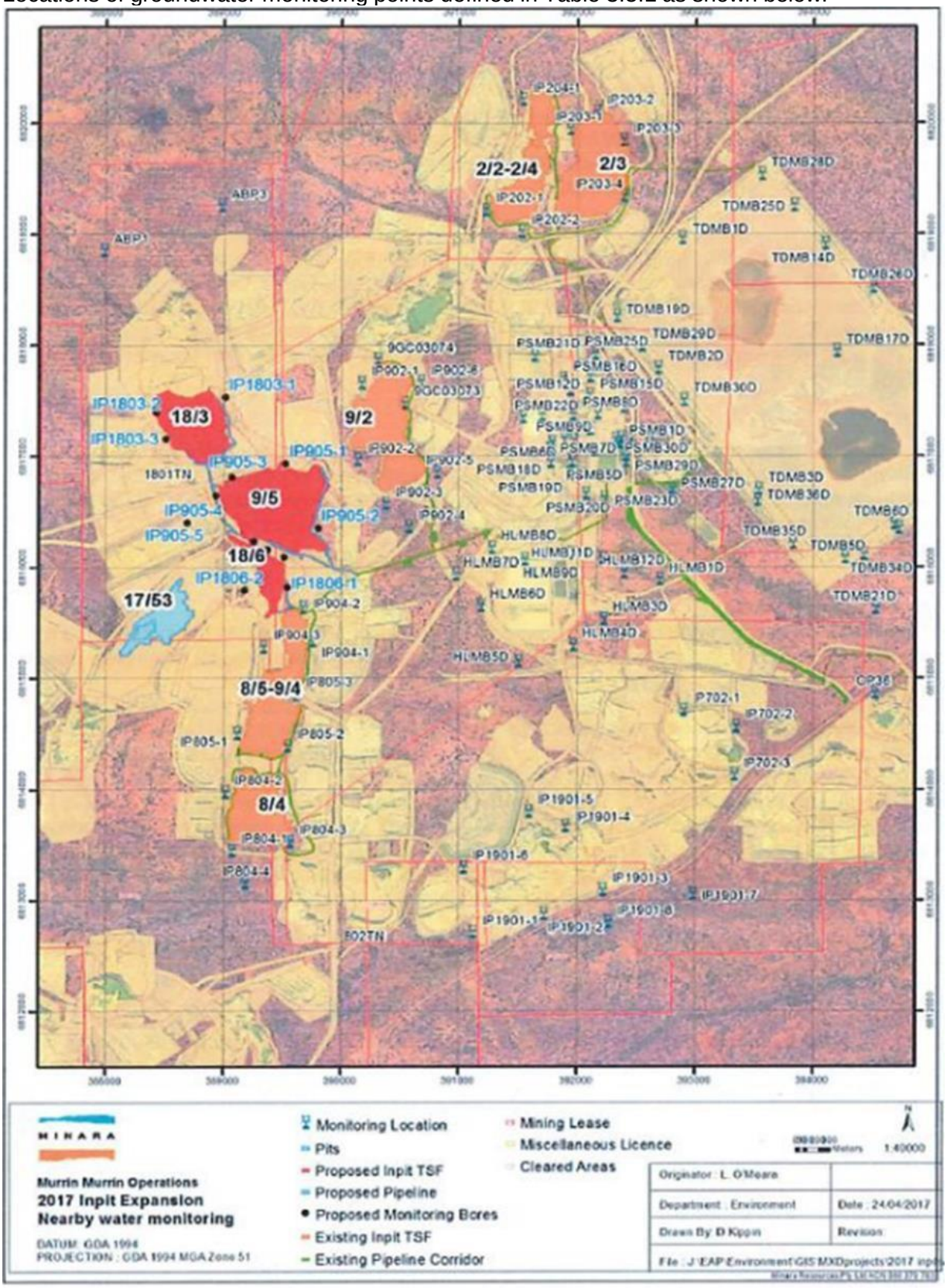

Figure 8: Locations of groundwater monitoring points defined in Table 3.5.1

Locations of groundwater monitoring points defined in Table 3.5.1 as shown below.

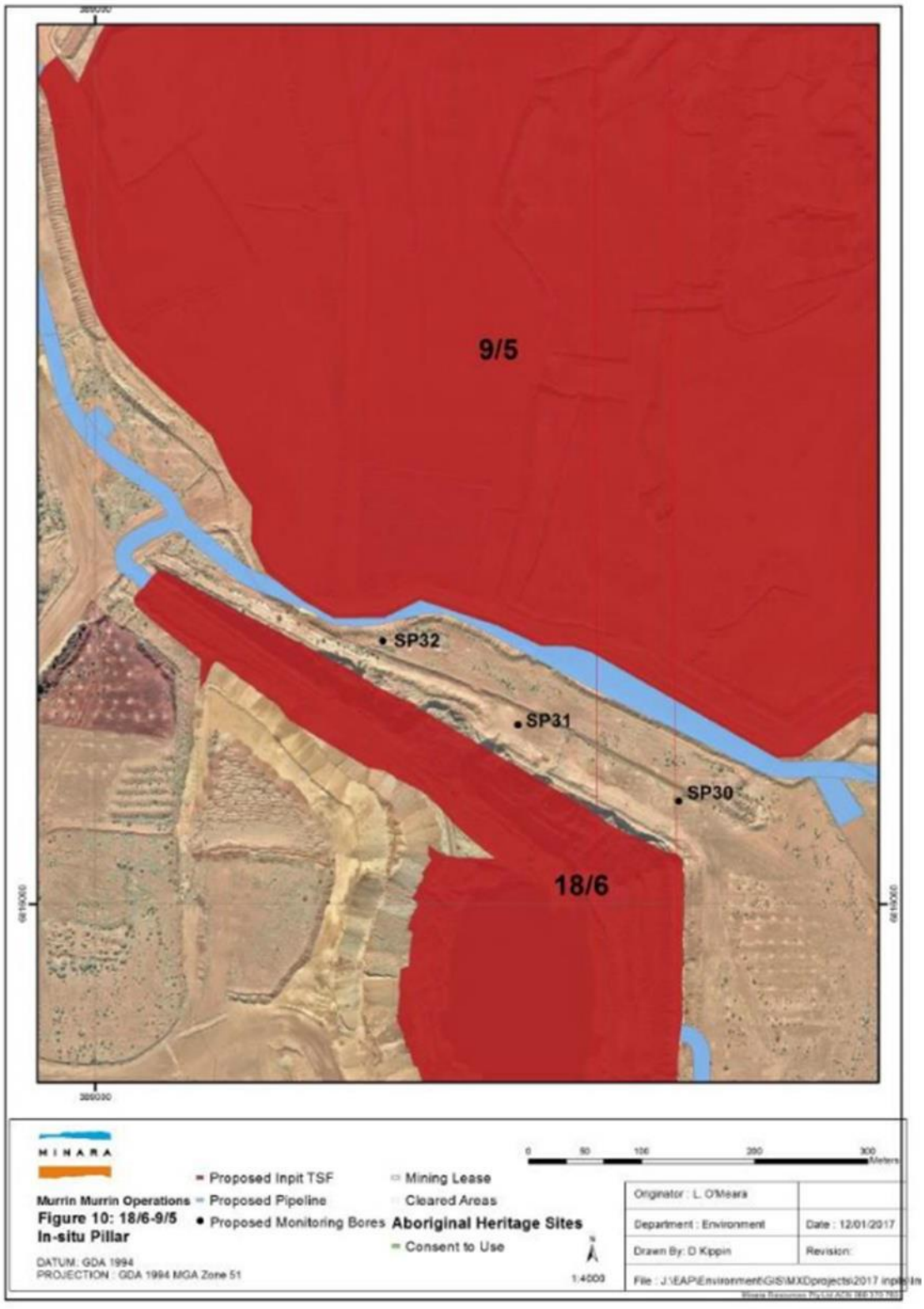

Figure 9: Locations of groundwater monitoring points defined in Table 3.5.1

Map of containment infrastructure

The location of the TSF cells and evaporation ponds defined in Table 1.3.1 are shown below.

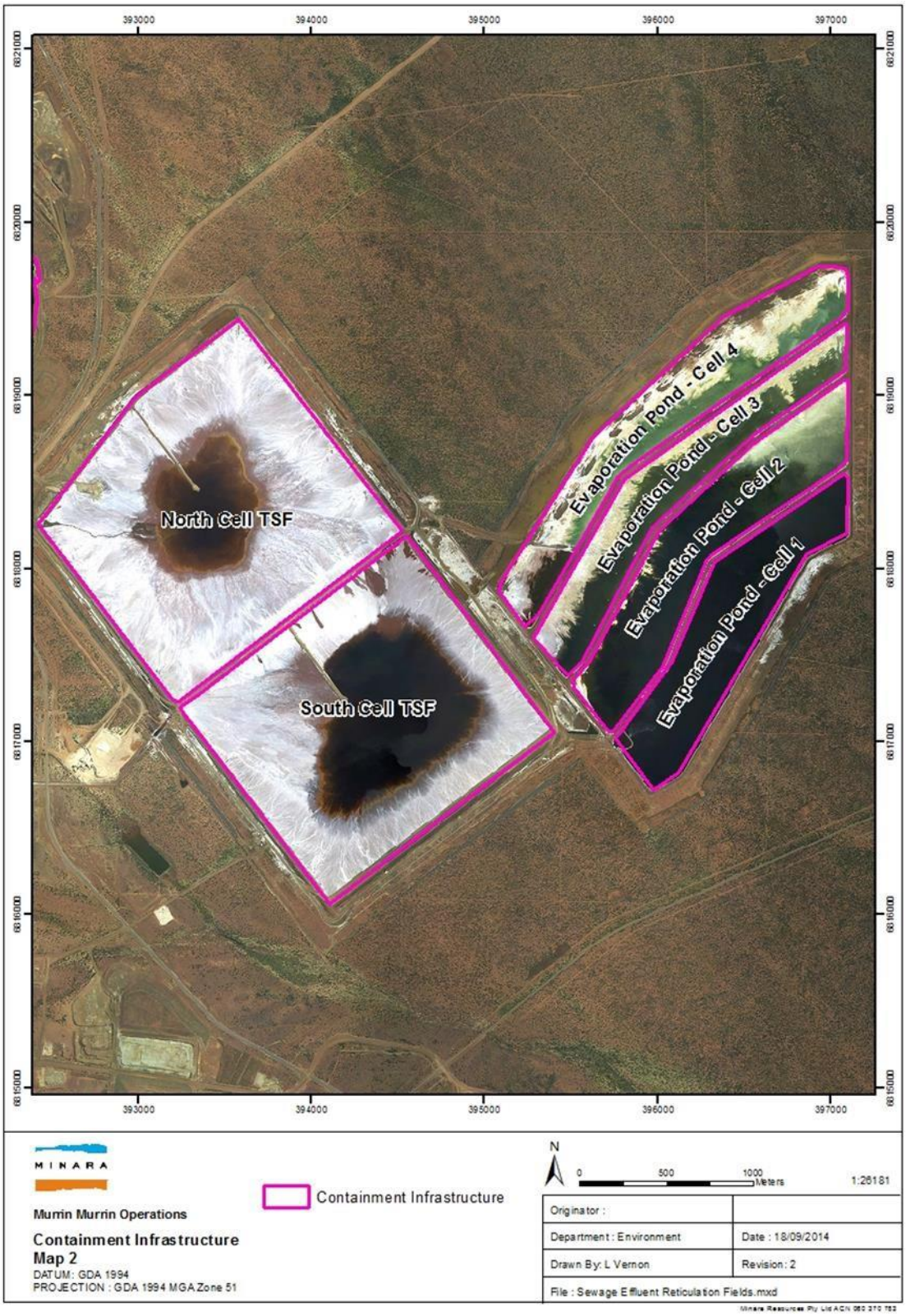

Figure 10: The location of the TSF cells and evaporation ponds defined in Table 1.3.1

The location of the contaminated solid waste disposal area as defined in Table 1.3.1 is shown below.

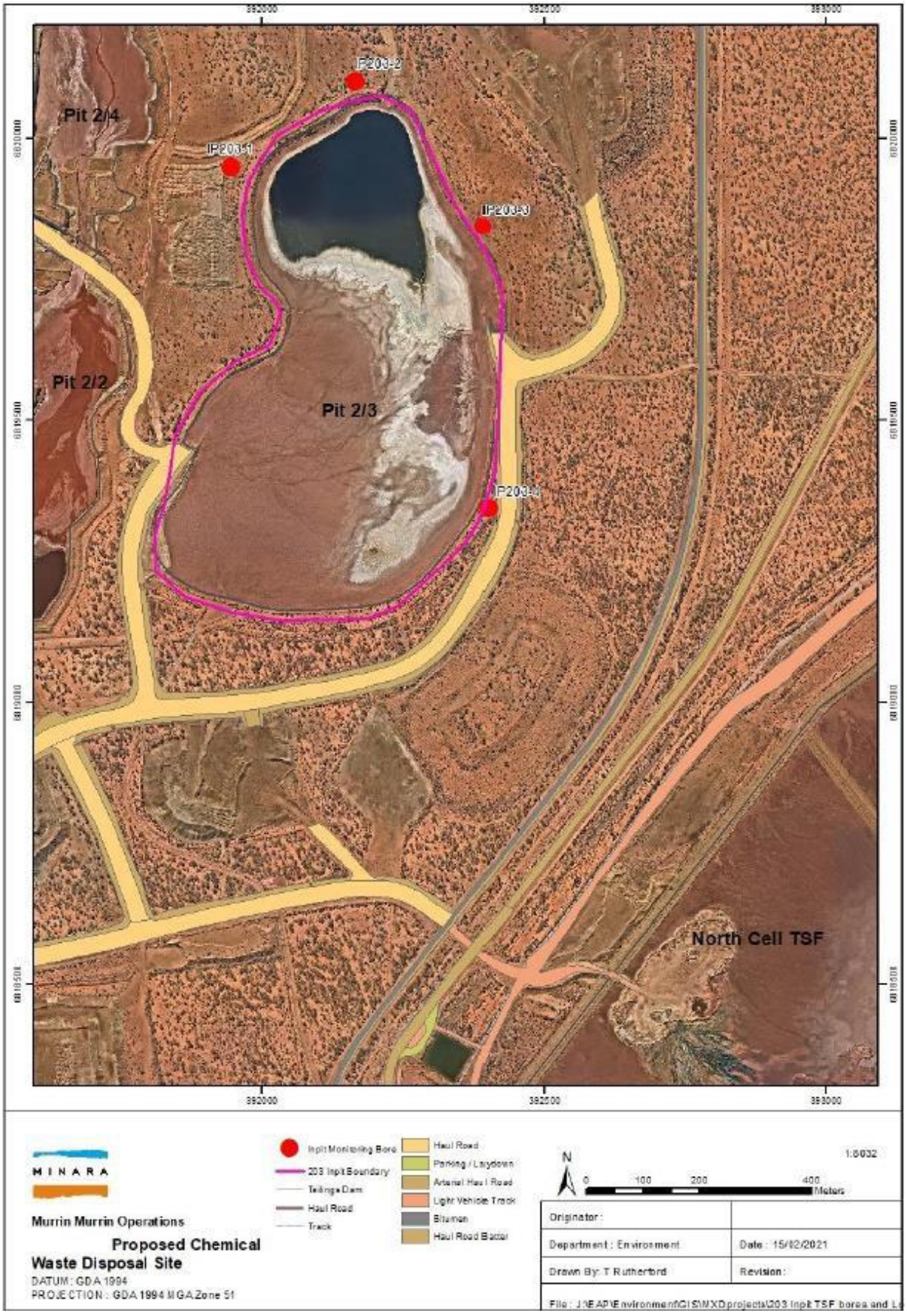

Figure 11: The location of the contaminated solid waste disposal area as defined in Table 1.3.1

The location of the bioremediation facility as defined in Table 1.3.3 is shown below.

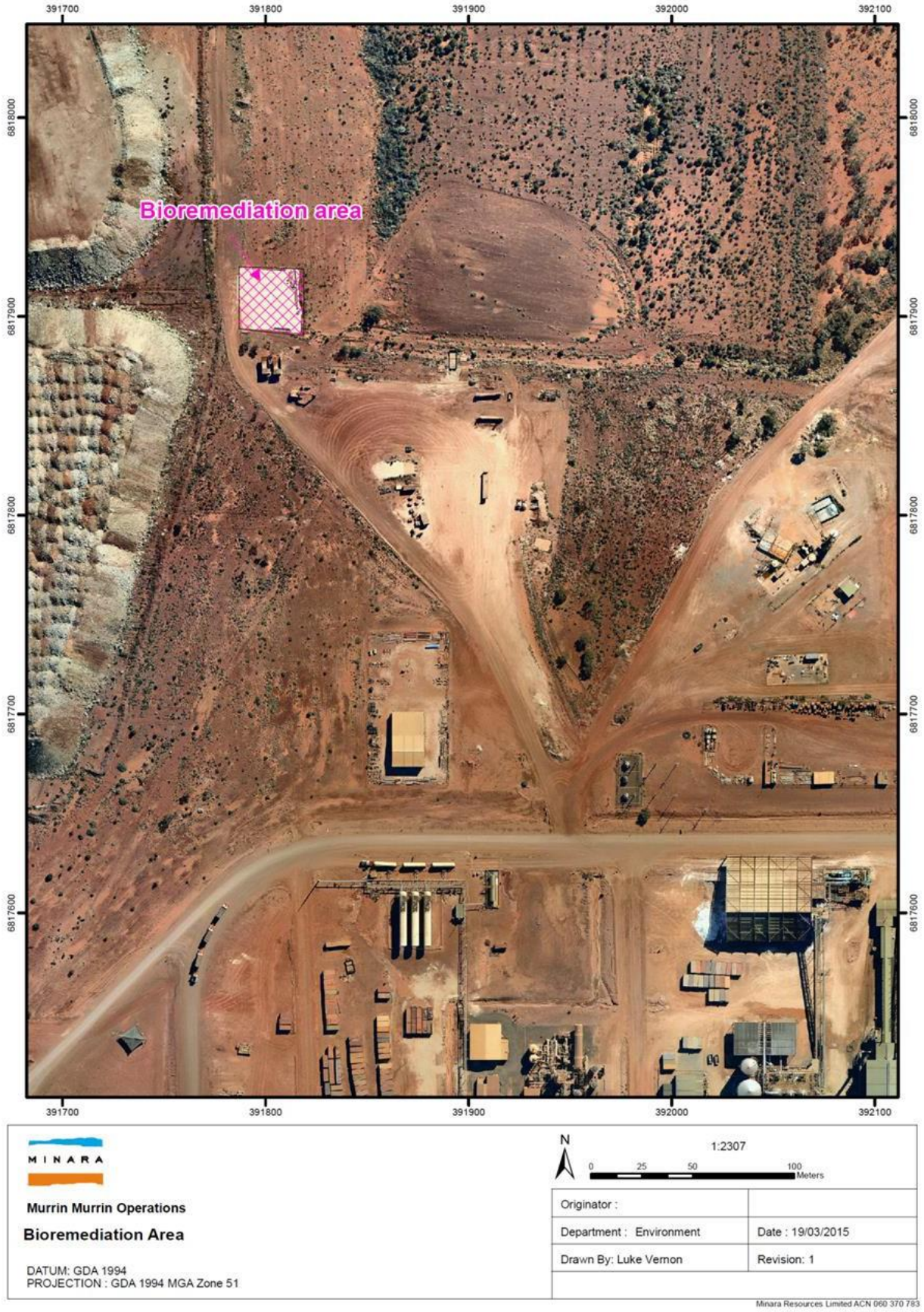

Figure 12: The location of the bioremediation facility as defined in Table 1.3.3

The location of the heap leach pad as defined in Table 1.3.1 is shown below.

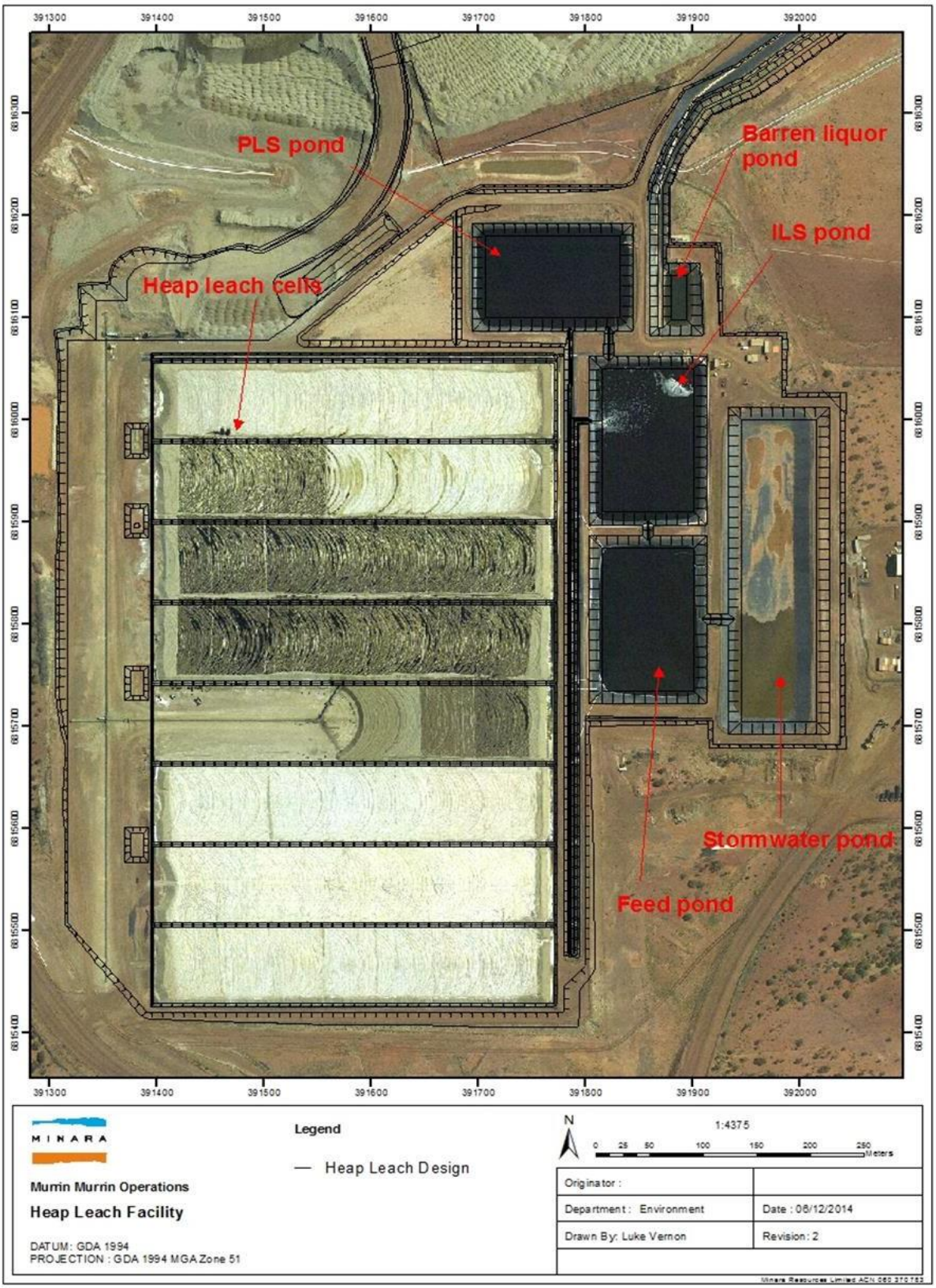

Figure 13: The location of the heap leach pad as defined in Table 1.3.1

The location of the nickel matte residue storage area as defined in Table 1.3.1 is shown below.

Figure 14: The location of the nickel matte residue storage area as defined in Table 1.3.1

The location of the containment infrastructures and monitoring locations for pits 2/3, 2/2 and 2/4 as defined in Tables 1.3.1 and Table 3.5.1 are shown below.

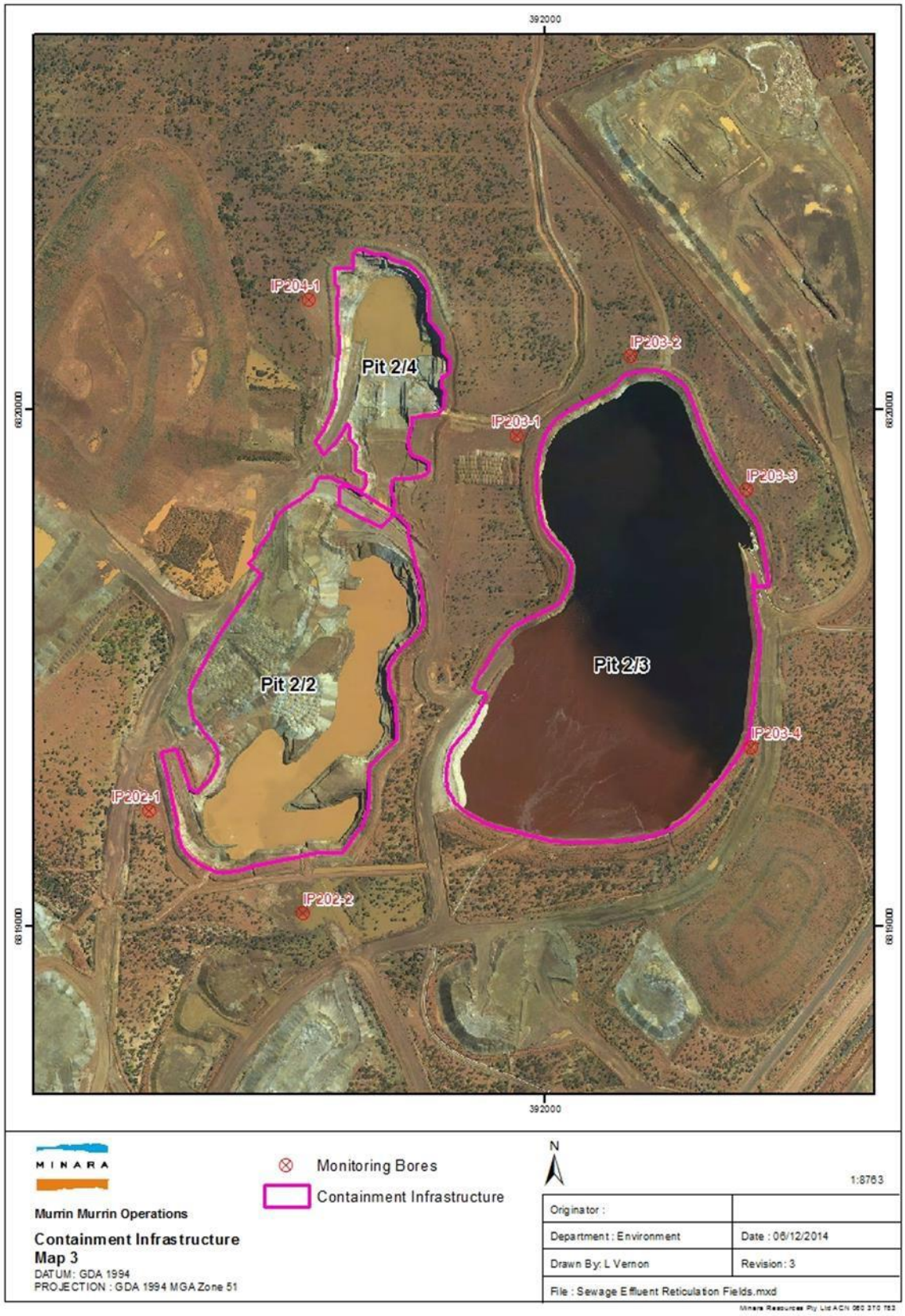

Figure 15: The location of the containment infrastructures and monitoring locations for pits 2/3, 2/2 and 2/4 as defined in Tables 1.3.1 and Table 3.5.1

The location of the containment infrastructures and monitoring locations for pit 7/2 as defined in Tables 1.3.1 and Table 3.5.1 are shown below.

Figure 16: The location of the containment infrastructures and monitoring locations for pit 7/2 as defined in Tables 1.3.1 and Table 3.5.1

The location of the containment infrastructures and monitoring locations for pit 8/4 as defined in Table 1.3.1 and Table 3.5.1 are shown below.

Figure 17: The location of the containment infrastructures and monitoring locations for pit 8/4 as defined in Table 1.3.1 and Table 3.5.1

The location of the containment infrastructures and monitoring locations for pit 8/5 – 9/4 as defined in Table 1.3.1 and Table 3.5.1 are shown below.

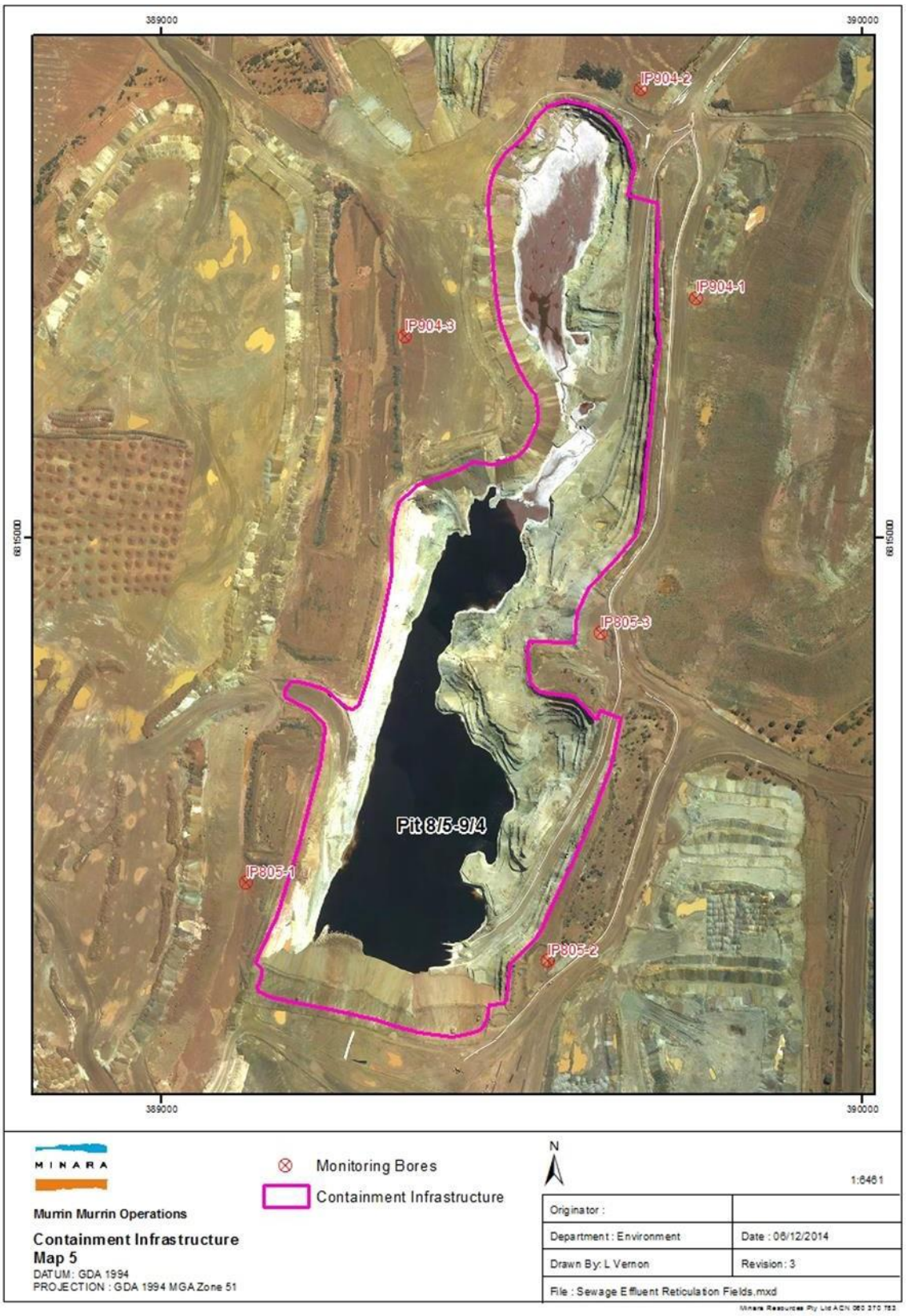

Figure 18: The location of the containment infrastructures and monitoring locations for pit 8/5 – 9/4 as defined in Table 1.3.1 and Table 3.5.1

The location of the containment infrastructures and monitoring locations for pit 9/2 as defined in Table 1.3.1 and Table 3.5.1 are shown below.

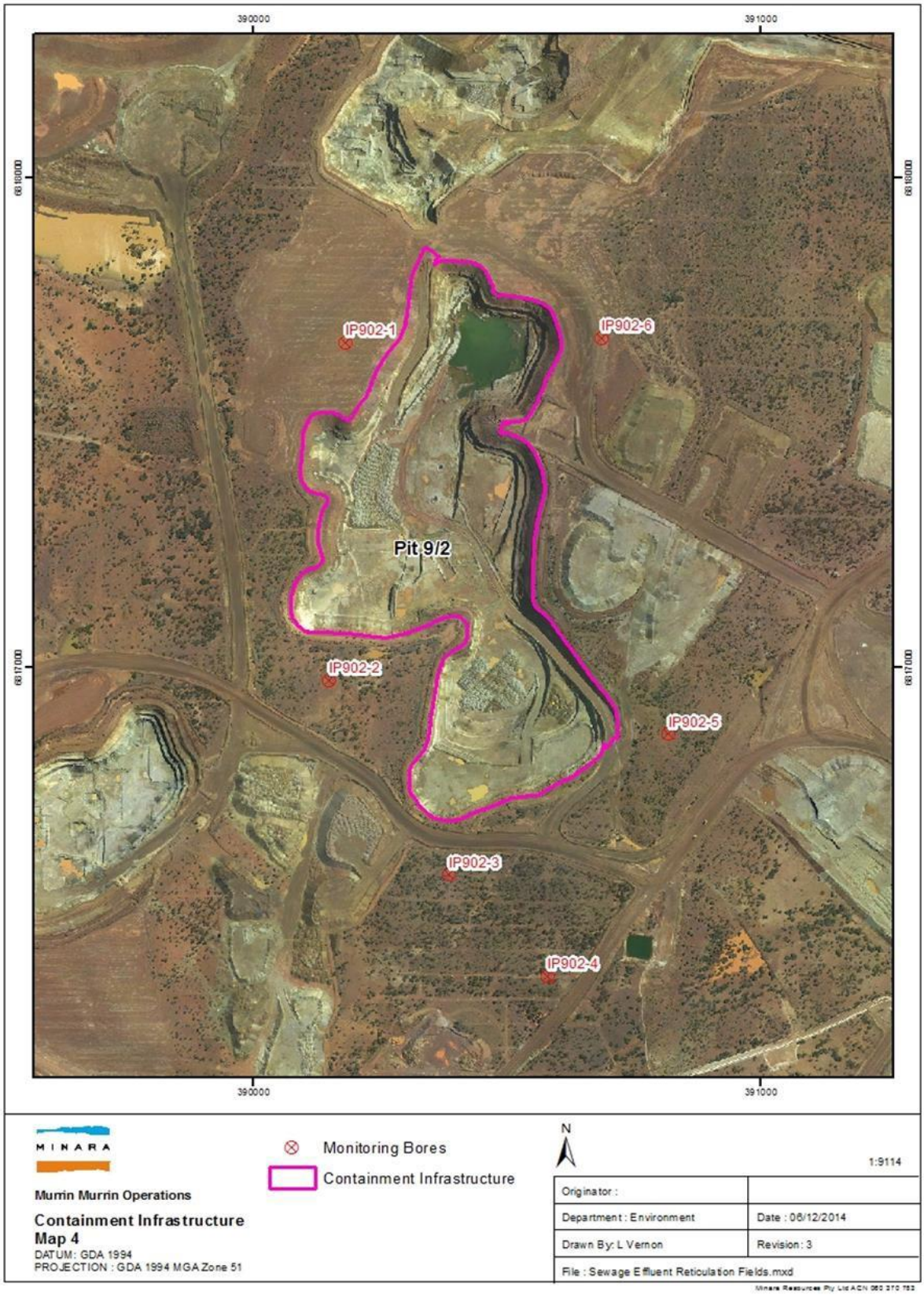

Figure 19: The location of the containment infrastructures and monitoring locations for pit 9/2 as defined in Table 1.3.1 and Table 3.5.1

The location of the CCD ponds, process water dam and raw water dam, defined in Table 1.3.1 are shown below.

Figure 20: The location of the CCD ponds, process water dam and raw water dam, defined in Table 1.3.1

The location of the reticulation field and sludge drying ponds defined in Table 1.3.3 are shown below.

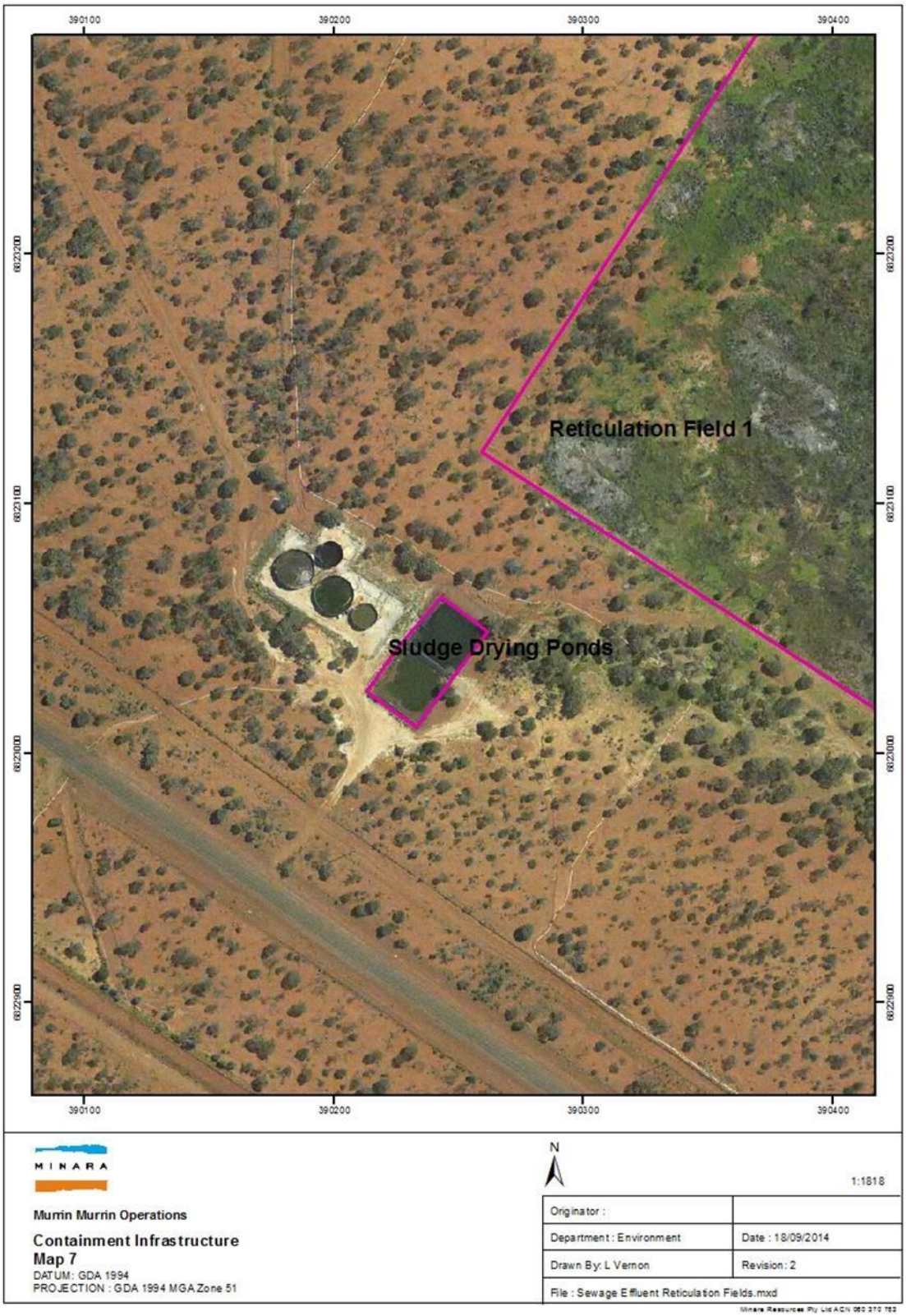

Figure 21: The location of the reticulation field and sludge drying ponds defined in Table 1.3.3

Map depicting the disposal location of the vanadium catalyst waste

Disposal of spent vanadium catalyst was approved as a one-off event in-pit 18/3 in 2018. Any additional disposal of spent vanadium will be treated on a case by cases basis and is subject to approval (as referenced in Table 1.3.3).

Figure 22: Disposal of spent vanadium catalyst

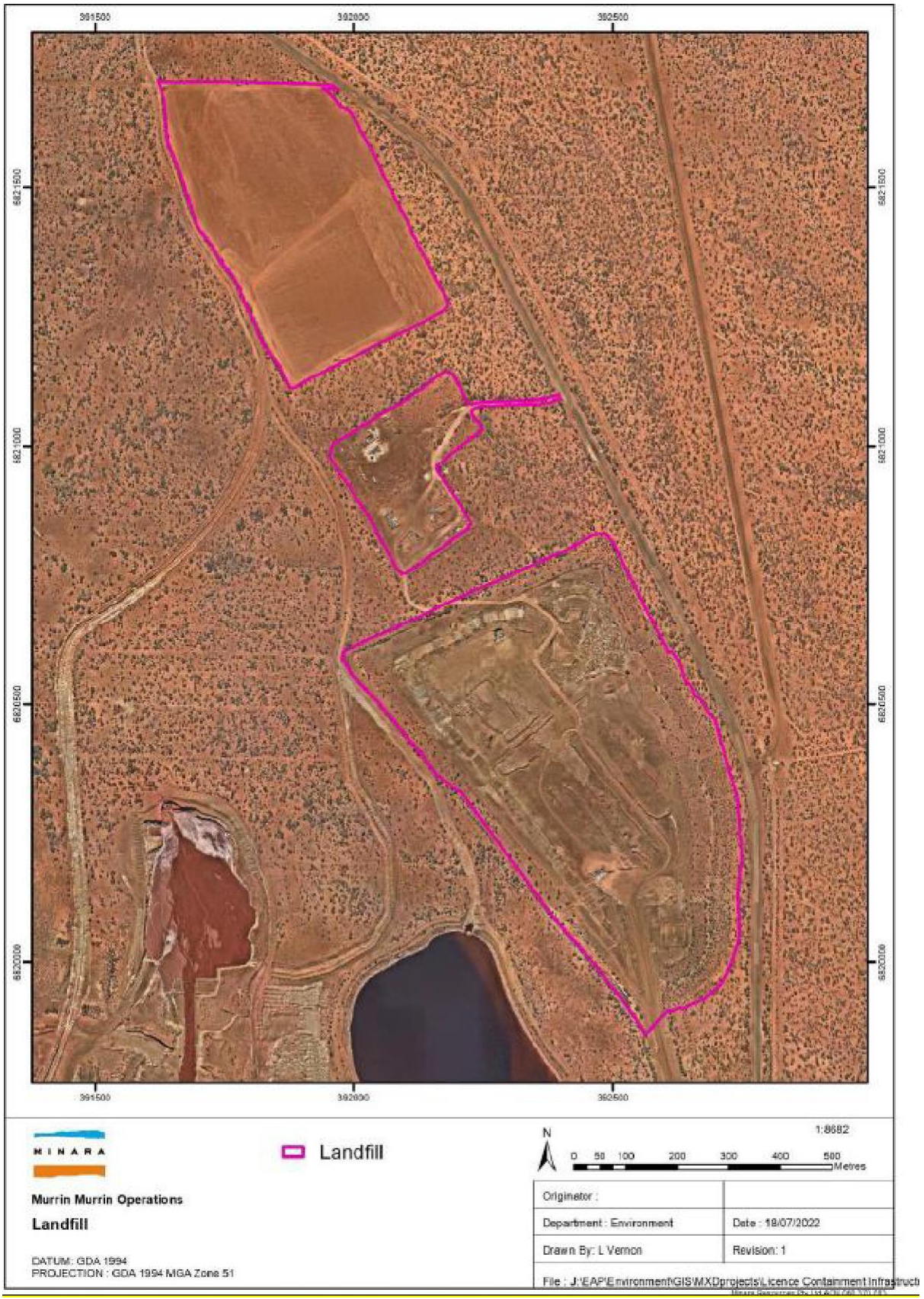

Figure 23: Location of Landfill

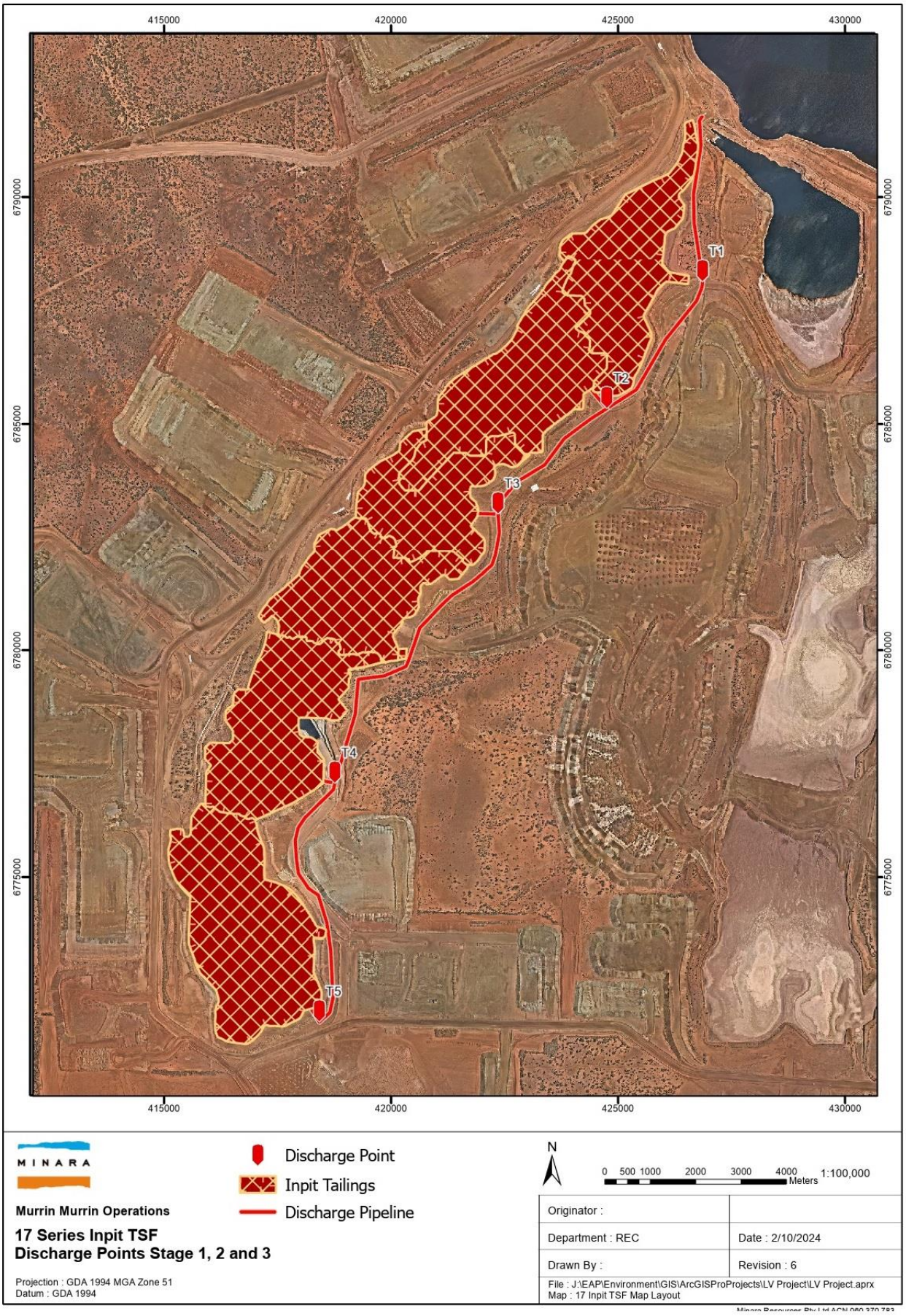

Figure 24 Stage one and two discharge points T1, T2 T3, T4 and T5 for 17-series in-pit TSF infrastructure

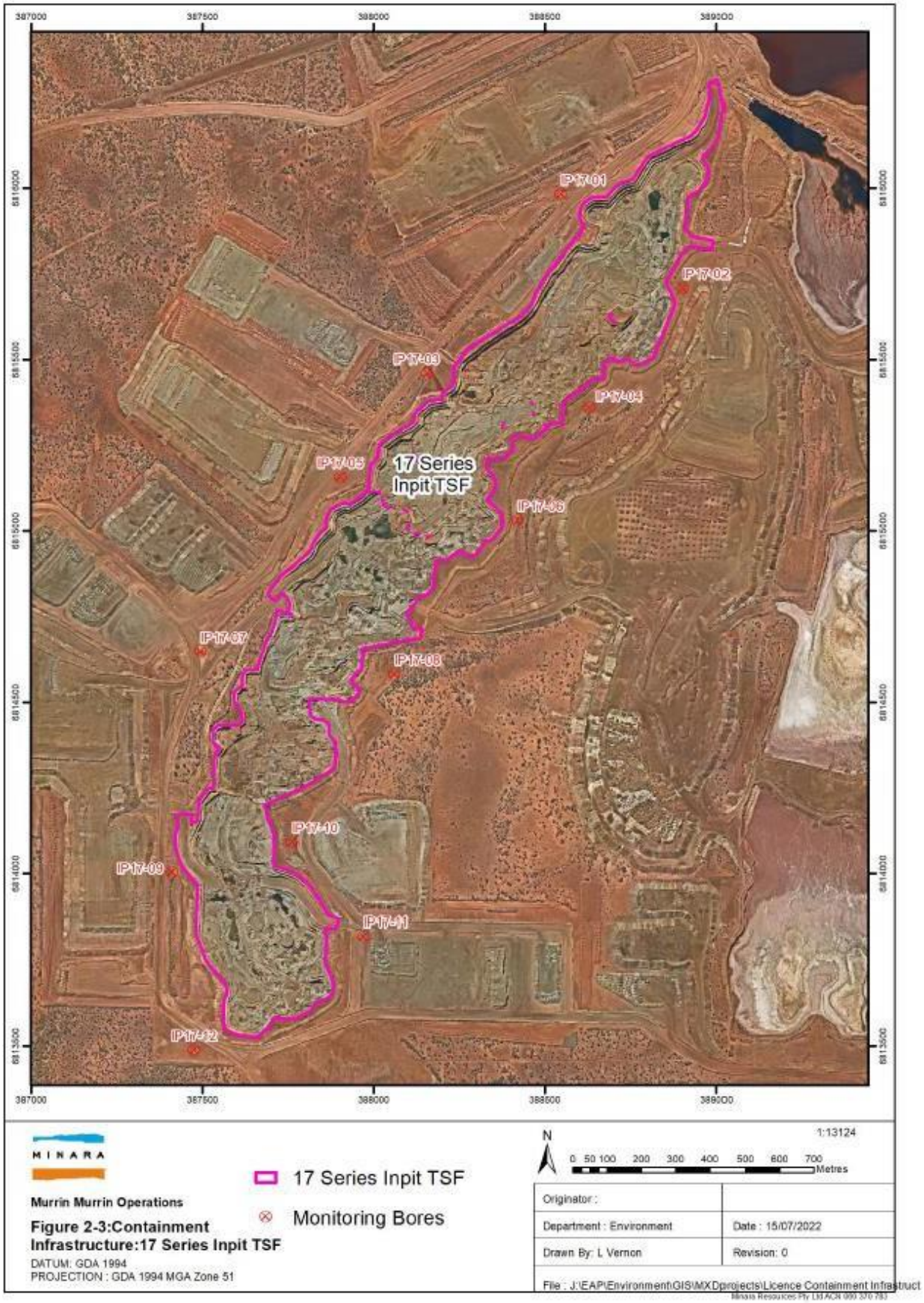

Figure 25 Monitoring bores IP17 -01 to IP17-12

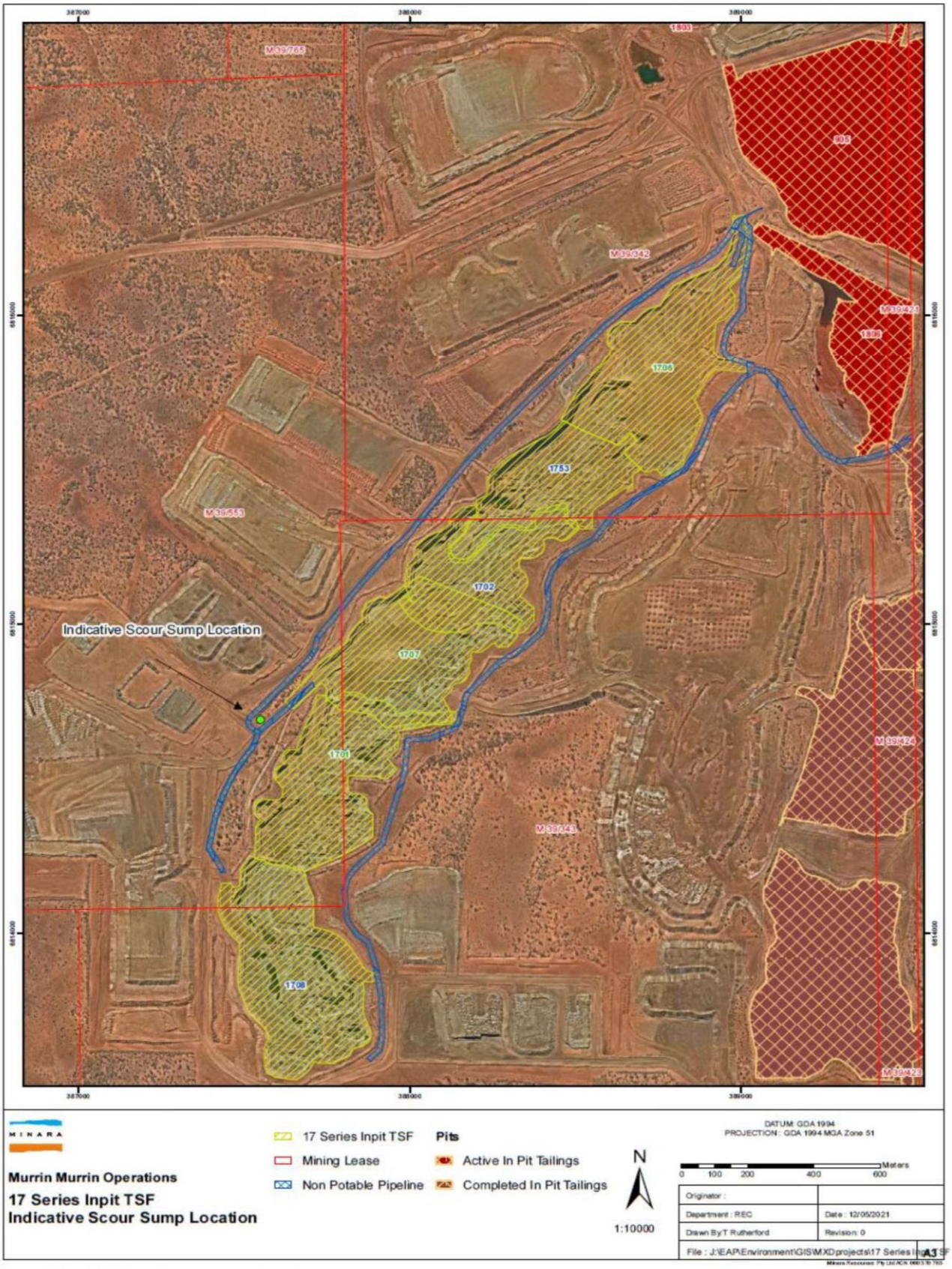

Figure 5 In-pit TSFs and scour sump location

Figure 26: Location of scour sump and tailings and dewatering pipeline of the 17 Series Inpit TSF.

Schedule 2: Notification & form

Licence: L7276/1996/12 Licence Holder: Murrin Murrin Operations Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	L7276/1996/12
Name of operator	Murrin Murrin Operations Pty Ltd
Location of Premises	Laverton WA 6440
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Notification requirements for any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	
Date and time of event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken , or intended to be taken, to stop any emission	
Description of the failure or accident	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of: Murrin Murrin Operations Pty Ltd	
Date	