Licence

Licence number	L7465/1999/9
Licence holder	Northern Star (Carosue Dam) Pty Ltd
ACN	116 649 122
Registered business address	Level 4, 500 Hay Street SUBIACO WA 6008
DWER file number	INS-0001252
Duration	01/11/2021 to 31/10/2041
Date of issue	14/10/2021
Date of amendment	15 April 2025
Premises details	Carosue Dam Operations MENZIES WA 6436 Mining tenements M28/166-168, M28/245, M28/269, M31/208-210, M31/219-220, M31/295, L28/23, L28/24, L28/25, L28/26, L28/28, L28/29, L28/30, L28/31, L28/41, L28/42, L28/54, L28/241, L31/37, and L31/40 As defined by the Premises map in Schedule 1

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 5: Processing and beneficiation of metallic or non-metallic ore	4,500,000 tonnes per annual period
Category 6: Mine dewatering	6,520,000 tonnes per annual period
Category 52: Electric power generation	33 MW
Category 54: Sewage facility	150 m^3/day
Category 63: Class I inert landfill	4,500 tonnes per annual period
Category 64: Class II putrescible landfill	6,000 tonnes per annual period
Category 73: bulk storage of chemicals, etc.	1,800 m^3

This amended licence is granted to the licence holder, subject to the attached conditions, on 15 April 2025 by:

Timothy Moran

Digitally signed by Timothy Moran
Date: 2025.04.15 15:07:59 +08'00'

MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Department of Water and Environmental Regulation

Licence history

Date	Reference number	Summary of changes
23/10/2001	L7456/1999/3	Licence re-issue
09/10/2002	L7456/1999/4	Licence re-issue
27/10/2003	L7456/1999/5	Licence re-issue
01/11/2004	L7456/1999/6	Licence re-issue
23/10/2008	L7456/1999/7	Licence re-issue
24/10/2013	L7465/1999/8	Licence re-issue
18/12/2014	L7465/1999/8	Licence amendment to REFIRE format and to include new tailings storage facility
26/11/2015	L7465/1999/8	Licence amendment to remove condition 1.3.7 and update into version 2.9
29/04/2016	L7565/1999/8	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.
2/06/2016	L7465/1999/8	Licence amendment to include tenements L28/24, L28/29, L28/30, M28/269 and M31/295 within the premises boundary and to remove the Karari pit monitoring bores KRMB03 and KRHY4.
8/12/2016	L7465/1999/8	Amendment Notice 1: The following changes were authorised: • To construct an upstream embankment raise to Cell 3 of the existing Tailings Storage Facility (TSF) from RL 371.5m to the Stage 2 design height of RL 375.5 (4 total); and • Construct a new turkey's nest within the Process Plant footprint to contain raw reverse osmosis (RO) feed water.
4/10/2017	L7465/1999/8	Amendment Notice 2: Following changes were authorised: • to construct and operate an additional evaporation pond (Cell 3) to store primary treated wastewater on site and to add six additional 1MW generating sets to its existing power station (12MW). • to increase the approved production or design capacity for category 85 Sewage Facility authorised by licence L7465 from existing 80m^3 per day to 95m^3 per day.
17/09/2018	L7465/1999/8	Amendment Notice 3: Application to install up to 750m of sewage leach drains to accommodate an increase in personnel at the accommodation camp. The second amendment authorised the discharge of excess hypersaline water from exploration drilling sumps into the Luvironza

Date	Reference number	Summary of changes
		turkey's nest, Monty's Pit and Twin Peaks Pit.
29/03/2019	L7465/1999/8	Amendment Notice 4: Authorise an increase wastewater treatment plant throughput capacity from 95m^3/day to 99m^3/day.
3/12/2019	L7465/1999/8	Amendment to authorise operation of TSF Cell 1/2 to Stage 7 height following completion of works authorised by Works Approval W6236/2019/1. Includes licence amalgamation of previously separately issued Amendment Notices (1 – 4) in the licence.
16/12/2019	L7465/1999/8	Amendment to allow the construction and operation of an upgraded powerhouse (total of 28 MW per annum) and to allow for the increase in approved throughput to the site's sewage treatment facilities up to 150 m^3/day.
18/05/2020	L7465/1999/8	Amendment to increase throughput of the Carosue Processing Plant to 4Mtpa (category 5 activities). This included upgrading the milling circuit by adding a new ball mill, 2 carbon in-leach tanks and upgrading the gravity and elution circuit. Saracen also requested that the paste plant and thickener plant be added to the descriptive overview of the licence.
26/05/2020	L7465/1999/8	Administrative amendment to correct errors in documents.
02/08/2021	L7465/1999/8	Transfer of Licence to Northern Star Resources Limited. Update to the format and appearance of the Licence.
14/10/2021	L7465/1999/9	Administrative licence renewed for twenty years – new expiry date 31/10/2041.
12/11/2021	L7465/1999/9	Authorise operation of TSF cell 3 stage 3, after construction and time limited operations under W6509/2021/1.
05/09/2022	L7465/1999/9	Amendment to authorise operation of TSF Cell 1/2 to Stage 8 height following completion of works authorised by Works Approval W6568/2021/1. Increase throughput of the Carosue Processing Plant to 4.5Mtpa (category 5 activities) and add the proposed tailings booster station to the pipeline network. Northern Star also requested that the Whirling Dervish paste infrastructure be added to the descriptive overview of the licence.
30/05/2024	L7465/1999/9	<u>Inclusion of category 5 – Tailings Storage Facility (TSF) Cell 3 Stage 4</u> • Include TSF Cell 3 Stage 4 added to the licence. • Remove monitoring bores MB10S and MB10D, as these monitoring bores were destroyed during construction of TSF Cell 3. <u>Inclusion of the changes to operations associated with the</u>

Department of Water and Environmental Regulation

Date	Reference number	Summary of changes
		<u>Qena Project</u> • Category 6: Mine dewatering – inclusion of the Qena's turkey's nests. • Category 52: Electric power generation – increase the production capacity to 33 megawatts (MW) • Category 63: Class I inert landfill – inclusion of the landfill for the disposal of Class I and Class II inert waste and to bury tyres and increase the production capacity for Class I inert landfill to 4,500 tonnes. • Category 73: Bulk storage of chemicals – inclusion of the Qena's Project fuel facility and increase the production capacity for bulk storage of chemicals to 1,800 cubic metres (m^3). <u>Changes to the licence to be more consistent with other regulatory controls</u> • Increase the production capacity for category 6 to 6.52 Mtpa • Amend the prescribed premises boundary to align Mining Proposal Reg ID 101504 under the *Mining Act 1978.*
15 April 2025	L7465/1999/9	Licence amendment to include Tailings Storage Facility (TSF) Cell 4 Starter Embankment and associated infrastructure which have been constructed under Works Approval W6626/2021/1 to the licence. Amend the registered business address to: Level 4, 500 Hay Street, Subiaco 6008, Western Australia

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

Premises operation

1. The licence holder must ensure the limits specified in Table 1 are not exceeded.

Table 1: Production or design capacity limits

Category[1]	Category description[1]	Premises production or design capacity limit
5	Processing or beneficiation of metallic or non-metallic ore	4,500,000 tonnes per annual period
6	Mine dewatering	6,520,000 tonnes per annual period
52	Electric power generation	33 MW
54	Sewage facility	150 m^3/day
63	Class I inert landfill	4,500 tonnes per annual period
64	Class II putrescible landfill	6,000 tonnes per annual period
73	Bulk storage of chemicals, etc.	1,800 m^3

Note 1: Categories under *Environmental Protection Regulations 1987,* Schedule 1.

2. The licence holder must:

(a) construct the infrastructure and/or equipment.
(b) in accordance with the corresponding construction/installation requirements; and
(c) at the corresponding infrastructure location; and

as set out in Table 2.

Table 2: Design and construction requirements

	Infrastructure	Design and construction requirements	Infrastructure location
1.	Tailings booster pumping station	• to be constructed on a concrete bunded pad • to be contained within secondary earthen bunding	Plant location indicated in Figure 2 of Schedule 1 (at thickener location)
2.	Qena Project's turkey's nest (two in total)	• to be constructed with earth / rock bund walls; • lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent; • installation of fauna egress ladders / nets; • storage capacity of 5,000 m^3 (total combined capacity of 10,000 m^3); and • designed to maintain a 300 mm freeboard.	Turkey's nests location indicated in Figure 3 of Schedule 1

	Infrastructure	Design and construction requirements	Infrastructure location
3.	Qena Project's turkey's nests pipelines	• constructed as per condition 3 requirements	Pipelines location indicated in Figure 3 of Schedule 1
4.	Qena Project's three 110 kL fuel tanks	• must be self-bunded; and • transformers with LV and HV switchgear must be on fully bunded skids designed to hold at least 110 % of contained fluid.	Fuel tanks location indicated in Figure 8 of Schedule 1
5.	Qena Project's landfill and tyre disposal area	• trench dimensions as 20 m x 2 m x 2 m. • located more than 100 m from any permanent or perennial watercourse. • signage erected which clearly defines what waste is accepted. • stormwater management structure (i.e. bunding) to divert surface water flows away from the landfill. • a sump or bunding within the landfill area to collect any surface water that has come into contact with waste. • putrescible landfill area must be fence to an appropriate height, gated, and locked to minimise unauthorized access and windblown waste; and • land fill area must have a firebreak at least 3 m in width around the boundary.	Landfill and tyre disposal area location indicated in Figure 6 of Schedule 1

3. The licence holder must ensure that all pipelines containing tailings, process water, mine dewater, tailings decant water and effluent 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.

4. The licence holder must within 30 days of each item of infrastructure required by conditions 2 and 3 being constructed:

(a) undertake an audit of their compliance with the requirements of conditions 2 and 3; and

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

5. The report required by condition 4, must include as a minimum the following:

(a) certification by the licence holder that the items of infrastructure or component(s) thereof, as specified by conditions 2 and 3, have been constructed in accordance with the relevant requirements specified in conditions 2 and 3;

(b) as constructed plans or photographic evidence for each item of infrastructure or component of infrastructure specified in conditions 2 and 3; and

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

6. The licence holder must ensure that any saline dewatering effluent must only be managed in the following manner:

(a) used for dust suppression; or

(b) discharged to previously mined pits Whirling Dervish, Karari, Monty's or Twin Peaks.

7. The licence holder must ensure that tailings, decant water and effluent are only discharged into containment cells, dams, ponds, and turkey's nests with the relevant infrastructure requirements and at the locations specified in Table 3 and identified in Schedule 1.

Table 3: Containment infrastructure

Containment point reference	Material	Infrastructure requirements
TSF Cell 1/2	Tailings	Lined with compacted oxidised waste with a design permeability of at least $<10^{-8}$ m/s
		Constructed with an upstream low permeability zone (zone A) with a hydraulic conductivity of not more than 1 x 10^{-8} m/s
		Constructed with a single combined Cell 1/2 underdrainage system and a single underdrainage tower
		Toe drain installed on the upstream side of the western wall of Cell 1/2
TSF Cell 3		Lined with compacted oxidised mine waste to achieve a permeability of at least $<10^{-8}$ m/s or equivalent
TSF Cell 4		The supernatant pond size, when present, will be minimised as far as possible during operation of the facility. Underdrainage installed across base of TSF with a return water pond for pumping back to the process circuit.
Luvironza in-pit TSF		Constructed and operated in accordance with document titled: 'Works Approval Application for Luvironza In-Pit Tailings Storage Facility, Saracen Gold Mines Pty Ltd, 30 September 2010'.
Process water pond	Process water pond	Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Evaporation pond Cell 1 and 2	Treated wastewater	Lined with compacted clay. The licence holder must manage all wastewater treatment evaporation ponds such that overtopping of the ponds does not occur.
Evaporation Pond Cell 3	Treated wastewater	Lined with 1 mm thick HDPE liner to achieve permeability of at least 10^{-9} m/s or equivalent
Evaporation Ponds: Cell 1, Cell 2, Cell 3	Treated wastewater	The licence holder must manage all wastewater treatment evaporation ponds such that: (a) overtopping of the ponds does not occur.

Containment point reference	Material	Infrastructure requirements
		(b) the integrity of the containment infrastructure is maintained; and (c) trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter.
Karari turkey's nest	Mine dewater	Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Monty's turkey's nest		Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Twin peaks turkey's nest		Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Luvironza turkey's nest		Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Access road turkey's nest	Mine dewater	Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Rebecca's turkey's nest		Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Qena Project's turkey's nest (two in total)	Mine dewater	Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
Turkey's Nest	Raw water (feed to RO plant)	30 m by 30 m lined with 0.75 mm, UV resistant, HDPE
Bioremediation pad	Hydrocarbon contaminated waste	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 quarterly soil aeration.

8. The licence holder must design, construct, and install groundwater monitoring bores in accordance with the requirements specified in Table 4.

Table 4: Infrastructure requirements – groundwater monitoring bores

Infrastructure	Design, construction, and installation requirements	Monitoring bore location(s)	Timeframe
Proposed groundwater monitoring bore(s) QMB1	<u>Bore design and construction:</u> Designed and constructed in accordance with *Minimum construction requirements for water bores in Australia 4th Ed. (National Uniform Drillers Licensing Committee (NUDLC), 2020)*. Bore screens must target the part, or parts, of the aquifer most likely to be affected by contamination[1]. Where temporary / seasonal perched features are present, wells must be nested, and the perched features individually screened.	As depicted in Figure 9 of Schedule 1.	Must be constructed, developed (purged), and determined to be operational no later than 14 calendar days prior to the development of the Qena underground mine boxcut.
	<u>Logging of borehole:</u> Soil samples must be collected and logged during		

Infrastructure	Design, construction, and installation requirements	Monitoring bore location(s)	Timeframe
	the installation of the monitoring bores. A record of the geology encountered during drilling must be described and classified in accordance with the Australian Standard Geotechnical Site Investigations AS1726. Any observations of staining / odours or other indications of contamination must be included in the bore log.		
	Bore construction log: Bore construction details must be documented within a bore construction log to demonstrate compliance with *NUDLC 2020*. The construction logs shall include elevations of the top of casing position to be used as the reference point for water-level measurements, and the elevations of the ground surface protective installations.		
	Bore development: All installed monitoring bores must be developed after drilling to remove fine sand, silt, clay, and any drilling mud residues from around the bore screen to ensure the hydraulic functioning of the bore. A detailed record should be kept of bore development activities and included in the bore construction log.		
	Installation survey: the vertical (top of casing) and horizontal position of each monitoring bore must be surveyed and subsequently mapped by a suitably qualified surveyor.		
	Bore network map: a bore location map (using aerial image overlay) must be prepared and include the location of all monitoring bores in the monitoring network and their respective identification numbers.		

Note 1: refer to Section 8 of Schedule B2 of the *Assessment of Site Contamination NEPM* for guidance on well screen depth and length.

9. The licence holder must, within 60 calendar days of the monitoring bore(s) being constructed, submit to the CEO a bore construction report evidencing compliance with the requirements of condition 8.

10. The licence holder must within 30 days of the monitoring bore(s) in Table 4 being constructed, conduct baseline sampling in accordance with Section 7.2.3 of the *Assessment of Site Contamination NEPM* for parameters outlined in Table 14.

11. The licence holder must manage containment cells, dams, ponds, and turkey's nests in Table 3 such that a minimum total freeboard (operational and beach) of 500 mm and a minimum 300 mm operational freeboard is maintained at all times.

12. The licence holder must manage TSFs such that:

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

(b) seepage is returned to the TSF or re-used in process.

13. The licence holder must:

(a) undertake inspections as detailed in Table 5;

(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 5: Inspection of infrastructure

Scope of inspection	Type of inspection	Frequency of inspection
Tailings pipelines	Visual integrity	Every 12 hours when in operation
Return water lines	Visual integrity	
Turkey's nests pipelines	Visual integrity	
TSF Embankment freeboard	Visual to confirm required freeboard capacity is available	
WWTP Evaporation ponds freeboard	Visual to confirm required freeboard capacity is available	
Leach drain pipeline	Visual integrity	Weekly
Exploration drilling water discharge pipelines	Visual integrity	Every hour when in operation

14. The licence holder must undertake a monthly water balance for each of the active cells of the TSF. The water balance must record the following:

(a) site rainfall.

(b) evaporation.

(c) decant water recovery volumes.

(d) seepage recovery volumes; and

(e) volumes of tailings deposited.

to derive an estimate of seepage losses.

15. The licence holder must, upon becoming aware that depth to groundwater levels in monitoring bores around the TSF are less than 6.0 mbgl, within six months, design and implement a Groundwater Recovery Plan.

16. The licence holder must ensure that the Groundwater Recovery Plan includes but is not limited to:

(a) Notification to the CEO of when and in how many bores the groundwater level could not be met.

(b) Any environmental impacts observed.

(c) Strategies to achieve the groundwater level, including:

(d) Any additional recovery bores or trenches required.

(e) Maximising performance of existing recovery bores.

(f) Frequency of groundwater level monitoring.

(g) Minimising the normal operating supernatant pool area on the TSF.

(h) Frequency and scope of groundwater quality monitoring.

(i) Predicted increases in groundwater recovery.

(j) Predicted timeframes to achieve the groundwater level.

(k) Strategies to ensure the level will be met in the future; and

(l) Establishing and implementing appropriate vegetation monitoring.

17. The licence holder must 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 6.

Table 6: Waste management

Waste type	Process(es)	Process limits[1, 2]
Inert Waste Type 1	Disposal of waste by landfilling	<u>All waste types</u> Disposal of waste by landfilling must only take place within the landfill area shown on Figure 6 in Schedule 1. Tyres may be buried within the waste rock dumps and run of mine as identified on Figure 6 in Schedule 1. No waste must be temporarily stored or landfilled within 35 m from the boundary of the premises. The separation distance between the base of the landfill and the highest groundwater level must not be less than 2 m.
Inert Waste Type 2		
Putrescible waste		
Clean Fill		
Sewage	Biological and physical treatment	150 m^3 per day to evaporation ponds and leach drains.

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*.

18. The licence holder must ensure that cover is applied and maintained on landfilled wastes in accordance with Table 7 and that sufficient stockpiles of cover are maintained on site at all times.

Table 7: Cover requirements[1]

Waste Type	Cover requirements
Putrescible wastes	To be covered fortnightly with sufficient quantities of Inert Waste Type 1, clean fill or other appropriate cover material to prevent the spread of fire and harbouring of disease vectors.
Inert Waste Type 1	No cover required
Inert Waste Type 2	A minimum depth of 500 mm of clean fill is maintained over the buried tyres following disposal.

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

19. The licence holder must ensure that wind-blown waste is collected on at least a weekly basis and returned to the tipping area.

20. The licence holder must operate the TSF in accordance with the conditions of this Licence and Table 8 below.

Table 8: Carosue Dam TSF Operating Heights

Stages	Operating Height
Starter embankment of Cell 4	RL 375.5m Australian Height Datum (AHD)
Stage 4 raise of Cell 3	RL 381.0 m Australian Height Datum (AHD)
Stage 8 raise of Cell 1/2	RL 381 m Australian Height Datum (AHD)

21. The licence holder must ensure that the site infrastructure and equipment listed in Table 9 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 9.

Table 9: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Thickener plant perimeter bunding and tailings booster pumping station	• minimum depth of 1 m. • minimum capacity of 3.3 ML; and • excess liquid pumped out before reaching containment capacity.	Plant locations indicated in Figure 2 of Schedule 1
Paste plant sediment trap	• minimum depth of 1 m. • minimum capacity of 200 kL; and • sediment build up is removed prior to the periods of increased rainfall.	

22. The licence holder must manage dust generation at the premises by wetting down unsealed roads and exposed areas with a water truck.

Emissions

23. The licence holder must record and investigate the exceedance of any descriptive or numerical limit specified in any part of this Licence.

24. The licence holder must ensure that where waste is emitted to air from the emission points in Table 10 (and as identified on Figure 7 of Schedule 1) it is done so in accordance with the conditions of this Licence.

Table 10: Point source emissions to air

Emission point reference and location on Map of emission points	Emission point and Source	Minimum emission point height (m)	Source, including any abatement
A1	Carbon regeneration kiln stack	16.5	LPG
A2 – 1	Power Station Generator 1	8	Generator engine exhaust stacks
A2 – 2	Power Station Generator 2		
A2 – 3	Power Station Generator 3		
A2 – 4	Power Station Generator 4		
A2 – 5	Power Station Generator 5		
A2 – 6	Power Station Generator 6		
A2 – 7	Power Station Generator 7		
A2 – 8	Power Station Generator 8		
A2 – 9	Power Station Generator 9		
A2 – 10	Power Station Generator 10		
A2 – 11	Power Station Generator 11		
A2 – 12	Power Station Generator 12		
A2 – 13	Power Station Generator 13		
A2 – 14	Power Station Generator 14		
A2 – 15	Power Station Generator 15		
A2 – 16	Power Station Generator 16		
A2 – 17	Power Station Generator 17		
A2 – 18	Power Station Generator 18		

Emission point reference and location on Map of emission points	Emission point and Source	Minimum emission point height (m)	Source, including any abatement
A2 – 19	Power Station Generator 19		
A2 – 20	Power Station Generator 20		
A2 – 21	Power Station Generator 21		
A2 – 22	Power Station Generator 22		
A2 – 23	Power Station Generator 23		
A2 – 24	Power Station Generator 24		
A2 – 25	Power Station Generator 25		
A2 – 26	Power Station Generator 26		
A2 – 27	Power Station Generator 27		
A2 – 28	Power Station Generator 28		
Qena indicated in Figure 8 of Schedule 1	Power Station Generator	5	Generator engine exhaust stacks

25. The licence holder is permitted, subject to conditions in the Licence, to emit waste to groundwater through the emissions points listed in Table 11 and identified in Figure 9 of Schedule 1.

Table 11: Point source emissions to groundwater

Emission point reference	Description	Source including abatement
Whirling Dervish pit	Receiving environment – previously mined pit	Water from dewatering of mine
Karari pit	Receiving environment – previously mined pit	Water from dewatering of mine
Monty's pit	Receiving environment – previously mined pit	Water from dewatering of mine
Twin Peaks pit	Receiving environment – previously mined pit	Water from dewatering of mine

Monitoring

26. The licence holder must 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.

27. The licence holder must ensure that:

(a) monthly monitoring is undertaken at least 15 days apart; and
(b) quarterly monitoring is undertaken at least 45 days apart.

28. The licence holder must undertake the monitoring in Table 12 according to the

specifications in that table.

Table 12: Monitoring of point source emissions to groundwater

Emission point reference	Parameter	Units	Frequency
Monty's pit monitoring bores: MDMB4S, MDMB4D, MDMB5S, MDMB5D, MDMB7S and MDMB7D Karari pit sump Twin Peaks monitoring bores: TPMB3S, TPMB3D, TPMB06S, TPMB6D and TPPB6	Standing water level	mbgl	Monthly
	pH[1]	-	Quarterly
	Total dissolved solids[1]	mg/L	

Note 1: In-field non-NATA accredited analysis permitted.

29. The licence holder must undertake the monitoring in Table 13 according to the specifications in that table.

Table 13: Process monitoring

Process description	Parameter	Units	Frequency	Method
Tailings deposition	Volumes of tailings deposited into each TSF	tonnes	Continuous	None specified
	Volume of water recovered from each TSF			
	Volume of seepage recovered			
Mine dewatering	Cumulative volumes of dewatering water discharged into approved pits	tonnes	Monthly	None specified

30. The licence holder must undertake the monitoring in Table 14 according to the specifications in that table and record and investigate results that do not meet any limit specified.

Table 14: Monitoring of ambient groundwater quality

Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency
TSF monitoring bores (mustow and deep): MB1S, MB1D, MB3S, MB3D, MB5S, MB5D, MB6S, MB6D, MB7S, MB7D, MB8S, MB8D MB9S, MB9D, MB11S, MB11D, MB12, MB13, MB14, MB15, MB16, and MB17.	Standing water level	>4.0	mbgl	Spot sample	Monthly
	pH[1]		-		Quarterly
	Electrical conductivity[1]	-	µS/cm		
	Total dissolved solids[1]	-	mg/L		
	Weak acid dissociable cyanide	<0.5			
	arsenic, cadmium, chromium, lead, nickel, zinc	-			
Luvironza in-pit TSF: LVHY3, LVHY8A,	Standing water level	>4.0	mbgl	Spot sample	Monthly
	pH[1]		-		Quarterly

Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency
LVMB01, LVMB02, LVMB03, LVMB04 Qena Project: QMB01	Electrical conductivity[1]	-	µS/cm		
	Total dissolved solids[1]	-	mg/L		
	Weak acid dissociable cyanide	<0.5			
	arsenic, cadmium, chromium, lead, nickel, zinc	-			

Note 1: In-field non-NATA accredited analysis permitted.

31. In the event that the concentration of weak acid dissociable cyanide is greater than 0.5 mg/L in monitoring bores as per condition 30, within six months the licence holder must design and implement a Groundwater Recovery Plan as per condition 16.

Records

32. All information and records required by the Licence must:

(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 condition 32(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.

33. The licence holder must 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.

34. The licence holder must implement a complaints management system that as a minimum record 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.

Reporting

35. The licence holder must submit to the CEO an Annual Environmental Report within 90 calendar days after the end of the annual period. The report must contain the information listed in Table 15 in the format or form specified in that table.

Table 15: 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
Table 12	Monitoring of point source emissions to groundwater	

Condition or table (if relevant)	Parameter	Format or form
Table 13	Process monitoring	
Table 14	Monitoring of ambient groundwater quality	
33	Compliance	Annual Audit Compliance Report (AACR)
34	Complaints summary	None specified

36. The licence holder must ensure that the Annual Environmental Report also contains:

(a) any relevant process, production, or operational data; and

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

37. The licence holder must submit the information in Table 16 to the CEO according to the specifications in that table.

Table 16: 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 10	Maintenance records for power generating equipment used on the Premises outlining conformance with manufacturer's environmental emission specifications and/or any internal management systems			None specified
Conditions 15 – 16	Groundwater Recovery Plan	Monthly	28 calendar days	None specified

38. The licence holder must, within 7 days of becoming aware of any non-compliance with the limits specified in condition 30 of this licence, notify the CEO in writing of that non-compliance and include in that notification the following information:

(a) which condition was not complied with.

(b) the time and date when the non-compliance occurred.

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

(d) the details and result of any investigation undertaken into the cause of the non-compliance.

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

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

Definitions

In this licence, the terms in Table 17 have the meanings defined.

Table 17: Definitions

Term	Definition
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12-month period commencing from 1 January until 31 December of the immediately following year.
AS1726	means the Australian Standard 1726:1993 *Geotechnical site investigations.*
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1:1998 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples.*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11:1998 *Water Quality – Sampling – Guidance on sampling of groundwaters.*
averaging period	means the time over which a limit is measured, or a monitoring result is obtained
Books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *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
controlled waste	has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*
Department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
Discharge	has the same meaning given to that term under the EP Act.
DEMIRS	means Department of Energy, Mines, Industry Regulation and Safety
Emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)

Term	Definition
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point
HDPE	means high-density polyethylene.
Inert Waste Type 1	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	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
m	means metres
m^3	means cubic metres
mbgl	means metres below ground level
Mtpa	means million tonnes per annum
m RL	means metres at reduced 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
Premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
Quarterly	means the four 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
spot sample	means a discrete sample representative at the time and place at which the sample is taken
usual working day	means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia

Term	Definition
Waste	has the same meaning given to that term under the EP Act.
WWTP	means wastewater treatment plant

END OF CONDITIONS

Schedule 1: Maps

Premises map

The Premises is shown in the map below with the prescribed premises boundary marked in blue.

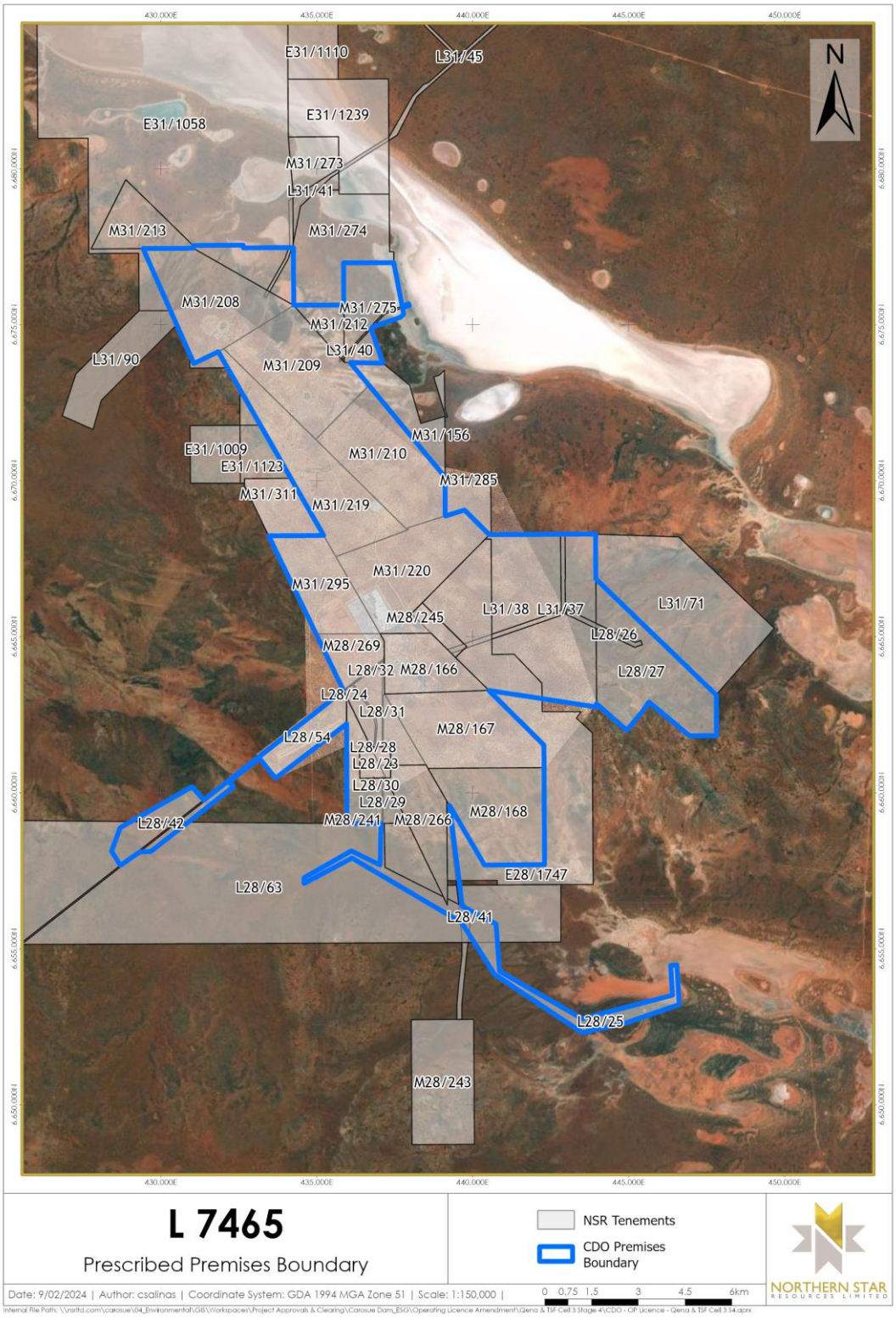

Figure 1: Premises map

Containment infrastructure

The locations of the containment infrastructure listed in Table 3 are shown below.

Figure 2: Containment infrastructure at Carosue Dam operation

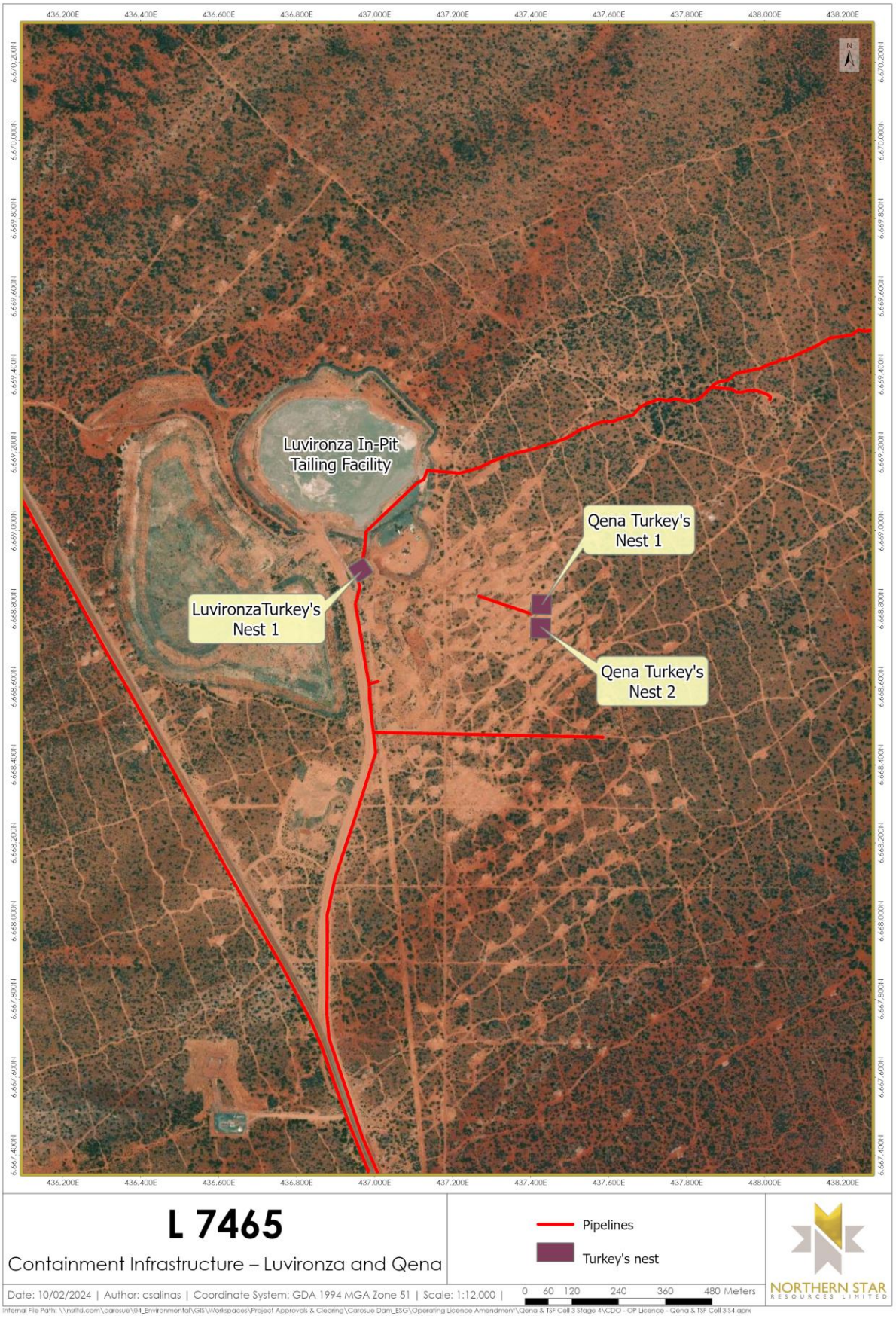

Figure 3: Containment infrastructure at Luvironza in-pit TSF and Qena Project

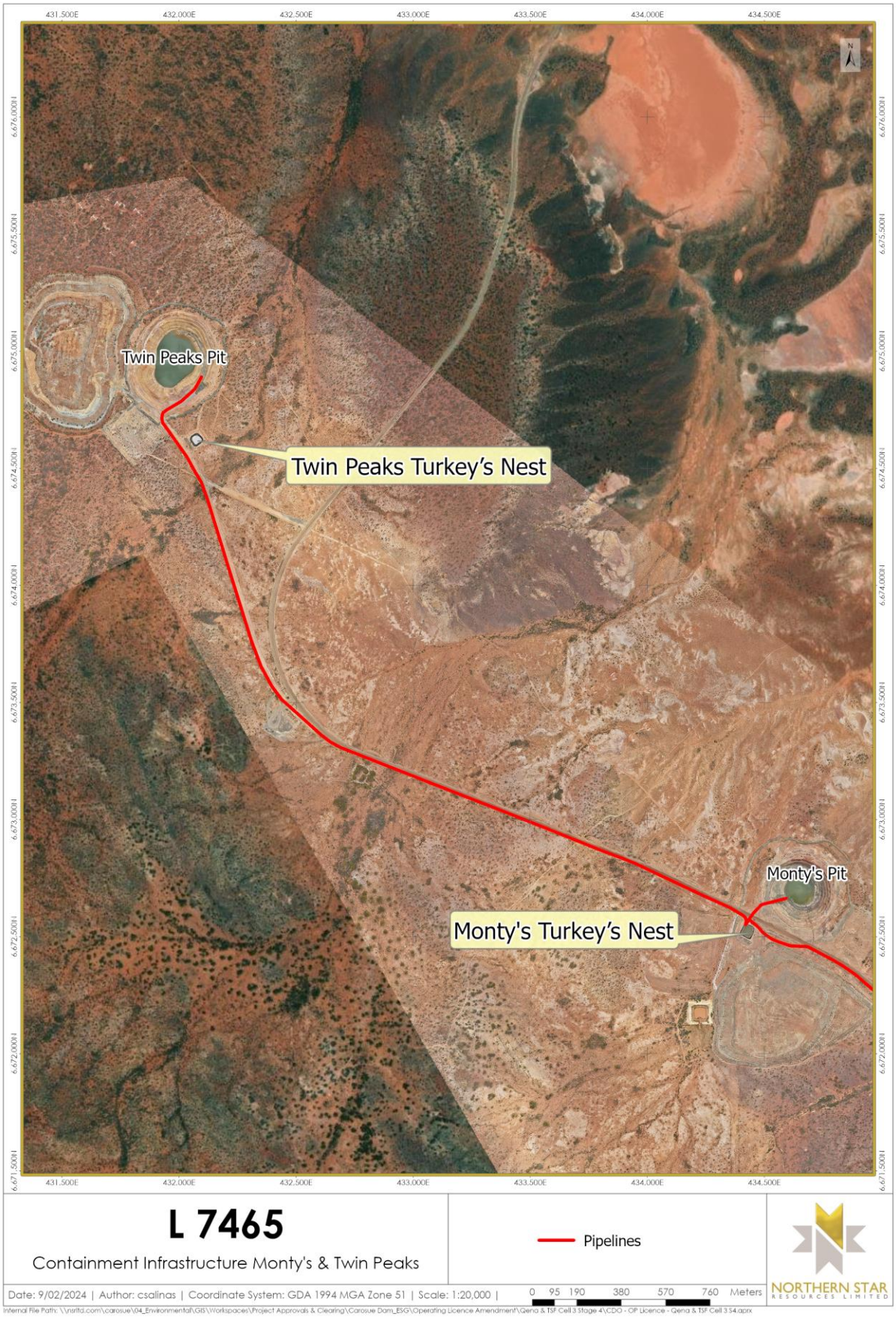

Figure 4: Containment infrastructure at Twin Peaks pit and Monty's pit

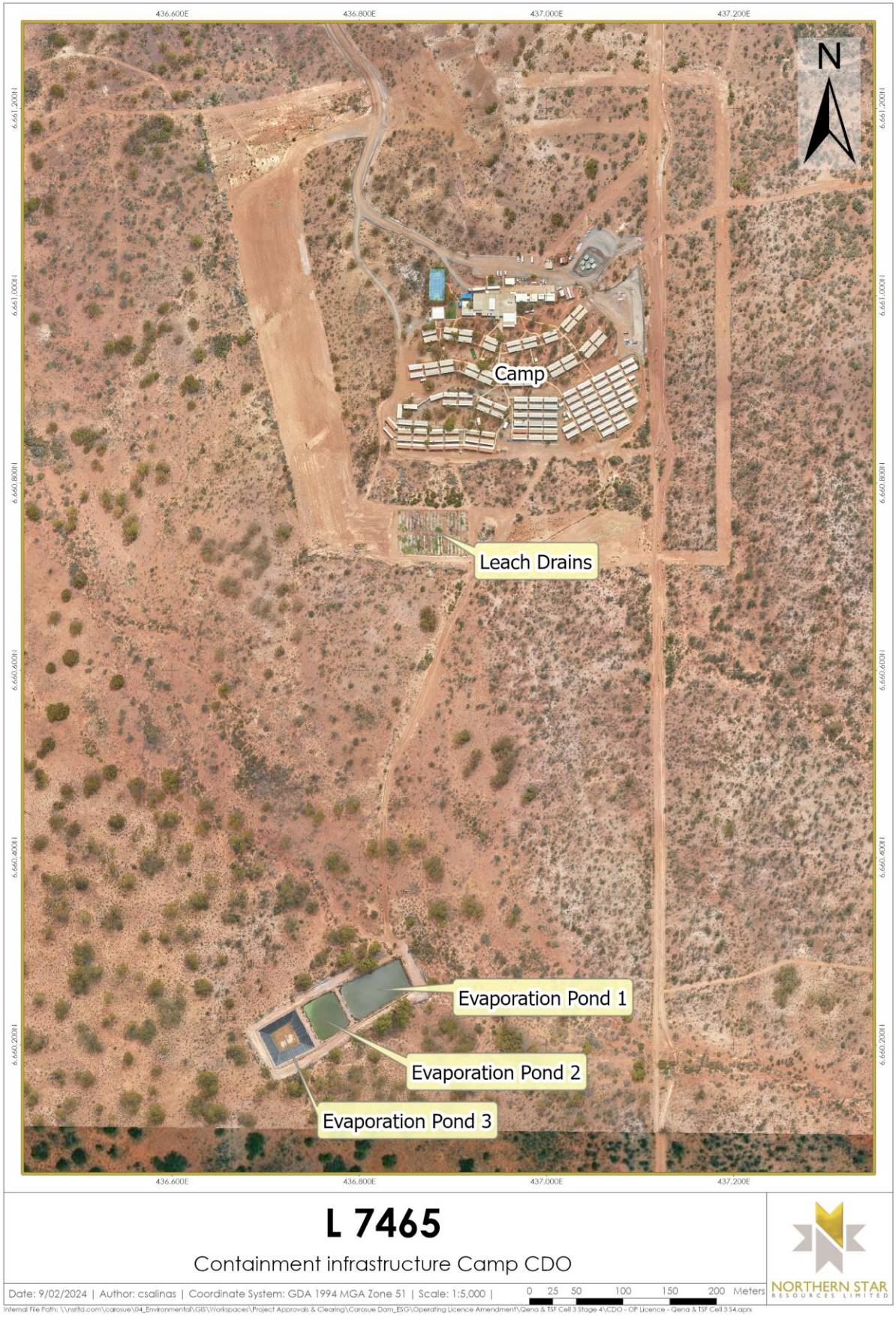

Figure 5: Containment infrastructure at Carosue Dam operation camp

Landfill and tyre burial locations

The locations of the landfills listed in Table 3 and the tyre burial areas listed in Table 6 are shown below.

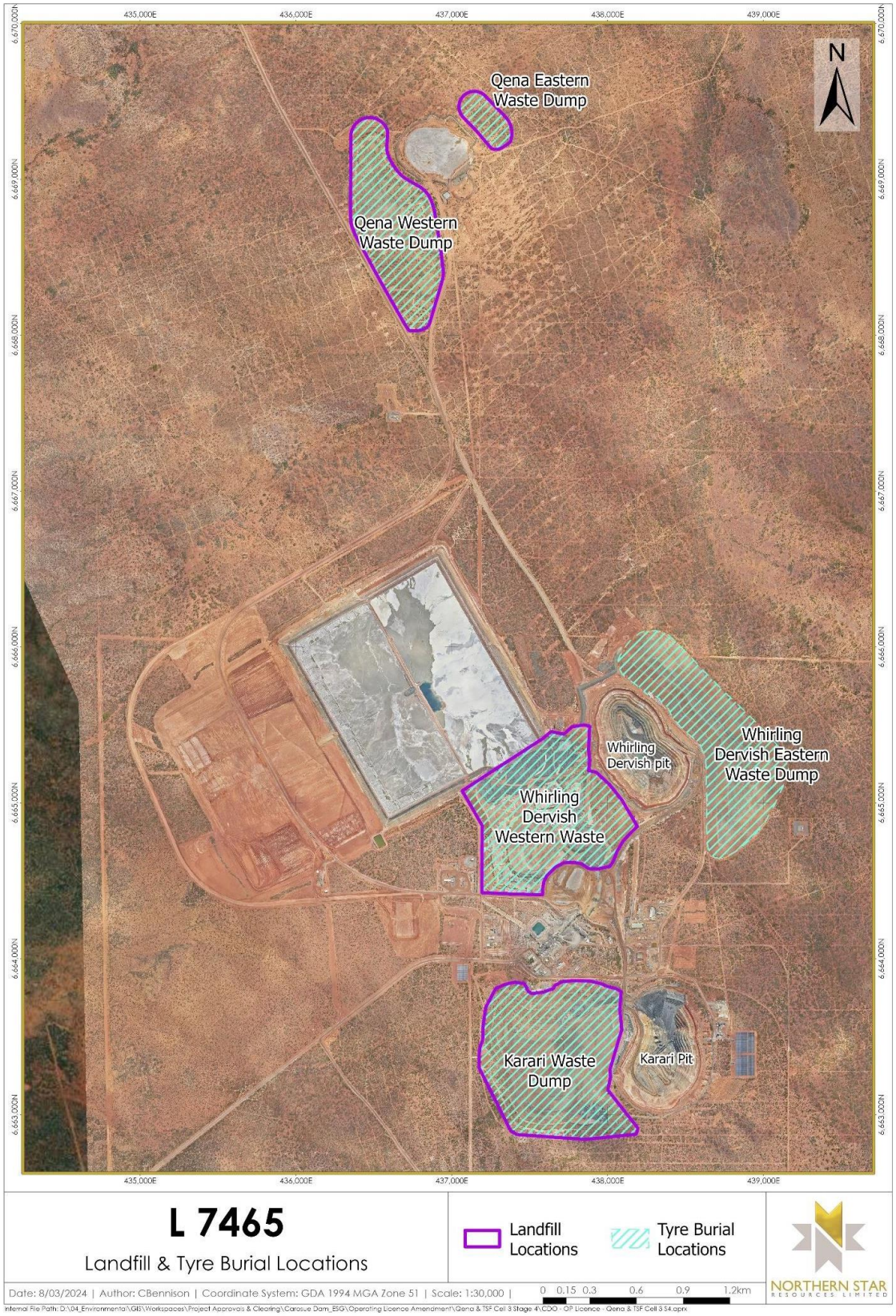

Figure 6: Landfill and tyre burial locations

Point source emissions to air

The locations of the emission points to air listed in Table 10 are shown below.

Figure 7: Point source emissions to air – CDO

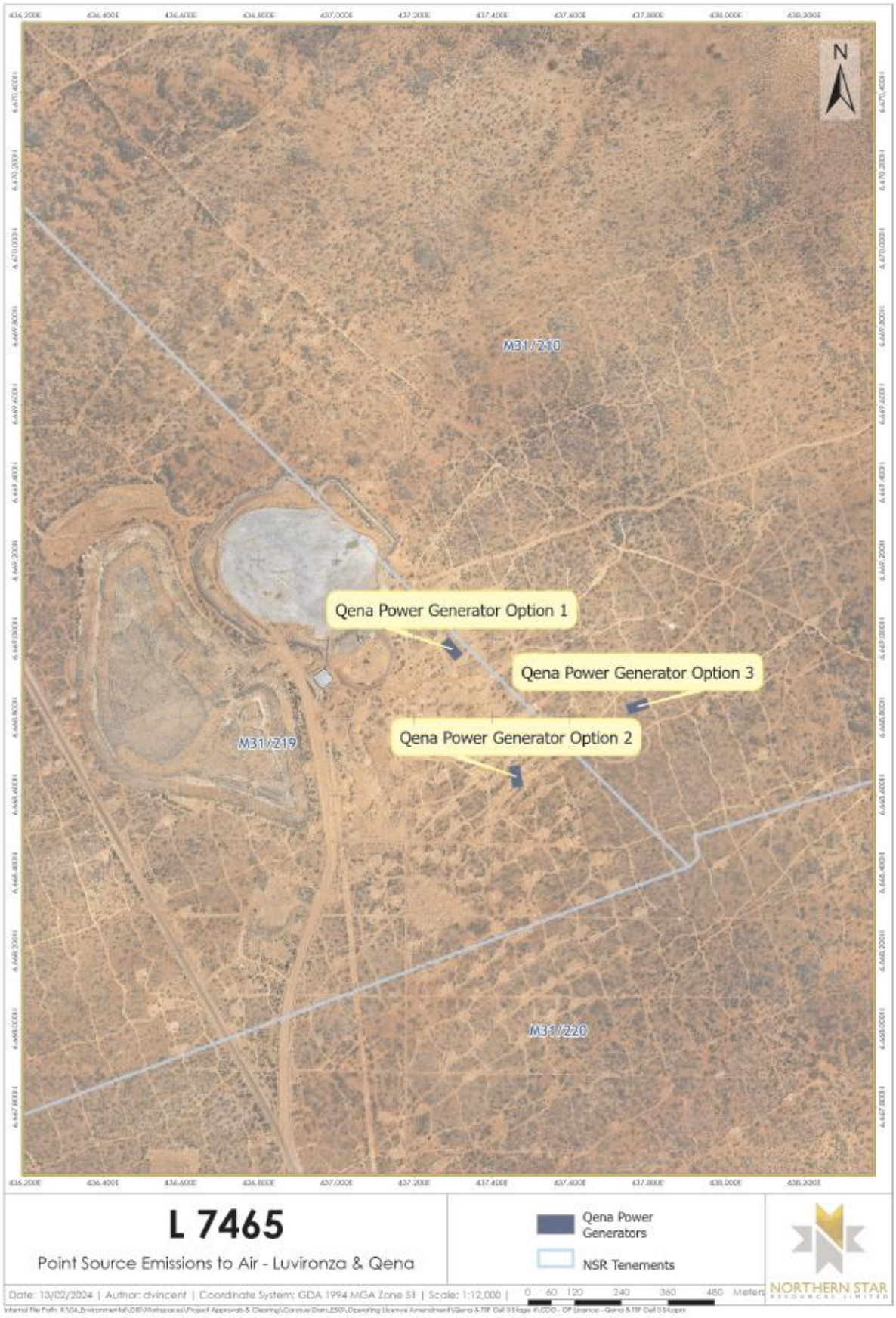

Figure 8: Point source emissions to air – Qena Project

Point source emissions to groundwater

The locations of the emission points to groundwater, listed in Table 11 are shown below.

Figure 9: Emission points to groundwater

Monitoring locations

The locations of the monitoring points within the prescribed premises boundary (listed in Table 14) are shown below.

Figure 10: TSF Cells 1, 2 and 3, and Karari pit monitoring locations

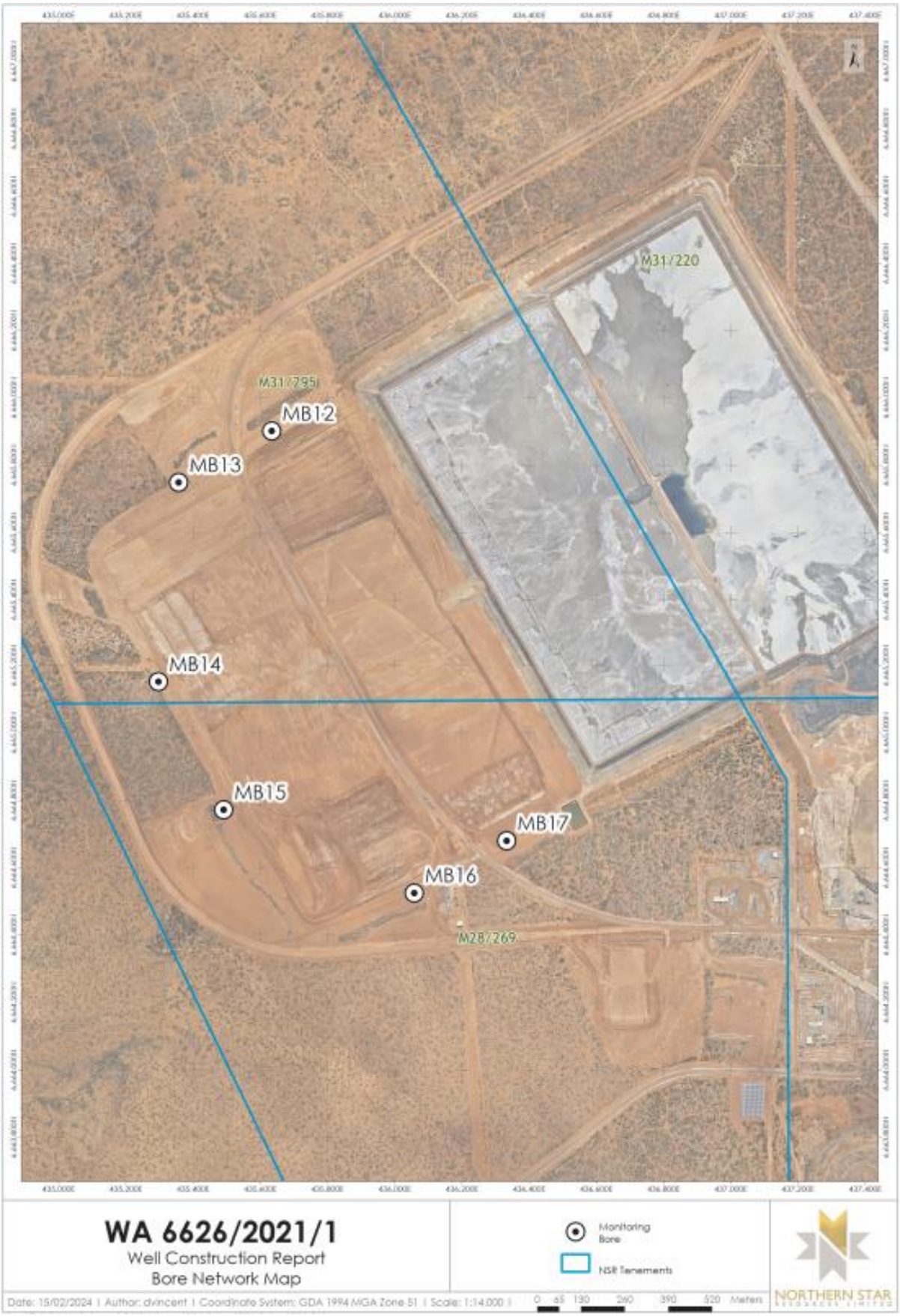

Figure 11: TSF Cell 4 monitoring bore locations

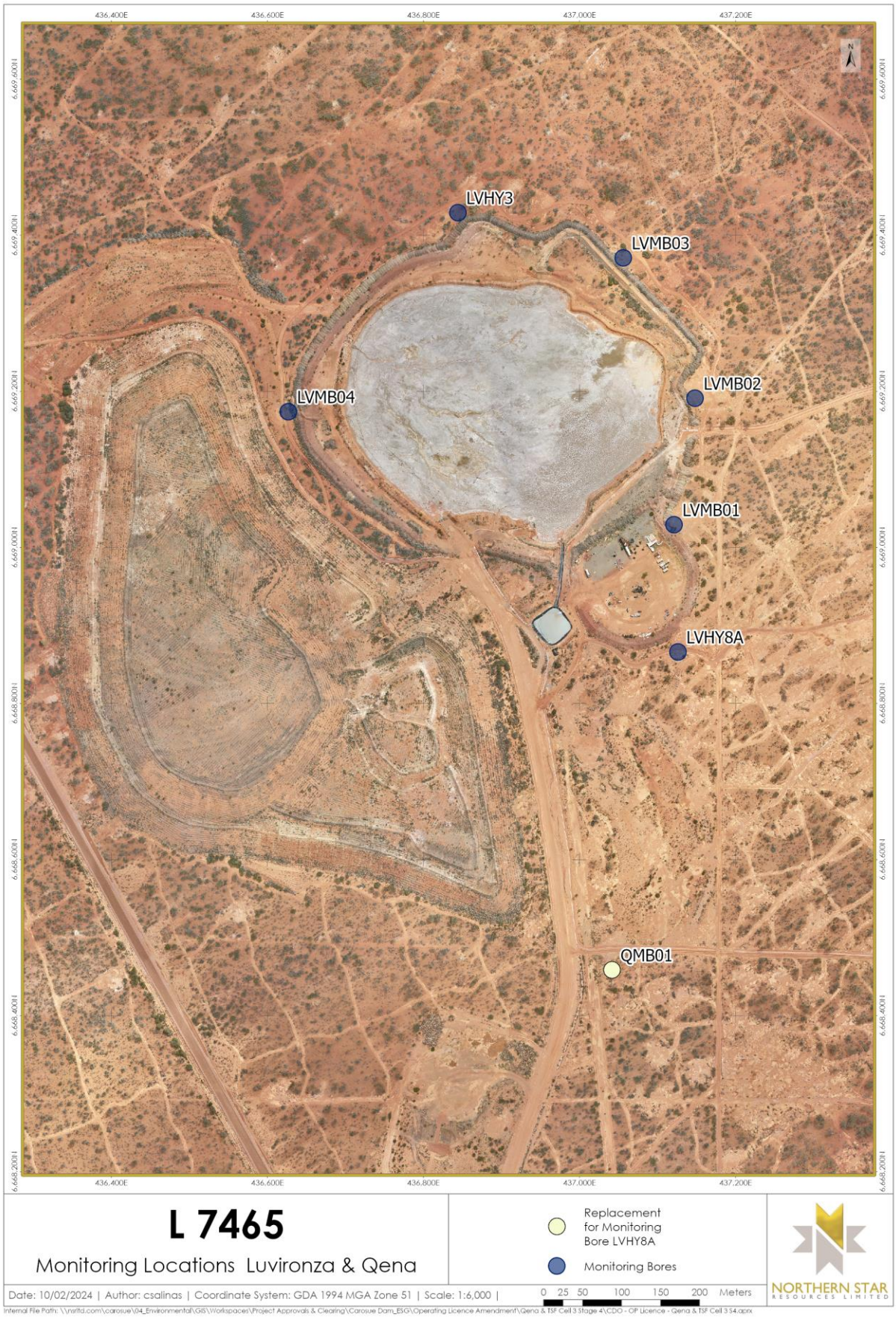

Figure 12: Luvironza in-pit TSF and Qena Project monitoring locations

Figure 13: Monty's monitoring locations

Figure 14: Twin Peaks monitoring locations