



Licence number	L8485/2010/2
Licence Holder	St Ives Gold Mining Company Pty Limited
ACN	098 386 273
Registered business address	Level 4 235 St Georges Terrace PERTH WA 6000
DWER file number	DER2018/000300-1
Duration	07/10/2013 to 06/10/2032
Date of amendment	12/09/23
Premises details	St Ives Gold Mine Mining Tenements described in Schedule 2 KAMBALDA WEST WA 6442

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production / design capacity
Category 5: Processing or beneficiation of metallic or non-metallic ore	9 000 000 tonnes per annual period
Category 6: Mine dewatering	30 000 000 tonnes per annual period
Category 7: Vat or in situ leaching of metal	3 000 000 tonnes per annual period
Category 54: Sewage facility	220 cubic metres per day
Category 57: Used tyre storage (general): premises (other than premises within category 56) on which used tyres are stored	500 tyres
Category 64: Class II or III putrescible landfill site	7 000 tonnes per annual period

This amended licence is granted to the Licence Holder, subject to the attached conditions, on 12/09/2023, by:

**A/MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES**

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

Licence: [L8485/2010/2](#)

Licence history

Date	Reference number	Summary of changes
03/10/2013	L8485/2010/2	Licence re-issue
08/01/2015	L8485/2010/2	Licence amendment to new format and to extend dewatering operations to Invincible Pit
06/08/2015	L8485/2010/2	Licence amendment to expand the dewatering network
11/02/2016	L8485/2010/2	Licence amendment to reduce WWTP monitoring requirements and to authorise the discharge of tailings and return water to the newly lifted TSF4.
17/03/2016	L8485/2010/2	Licence amendment to change the dewatering configuration.
16/06/2016	L8485/2010/2	Licence amendment to relocate North Orchin In-Pit TSF decant water from Thunderer Pit to Bellorophon Pit and to improve conditions relating to mine dewater discharges to surface water and ground water within Lake Lefroy.
13/10/2016	L8485/2010/2	Licence amendment to include the Leviathan in-pit TSF following compliance with works approval W5858/2015/1.
23/01/2017	L8485/2010/2	Amendment Notice 1 to include five new dewatering discharge locations to Lake Lefroy and relocate two existing discharge points and permit dewatering from Thunderer pit to Lake Lefroy. Also an update to the premises address and boundary.
19/03/2018	L8485/2010/2	Amendment Notice 2 to authorise recommissioning and use of the Cemetery landfill for asbestos waste, disposal of inert and putrescible waste to Leviathan In-pit TSF, and installation and operation of cyanide detoxification unit to treat tailings before discharge.
14/10/2019	L8485/2010/2	Original licence amended to incorporate above mentioned Amendment Notices 1&2, and authorise amendments subject to the November 2018 application as detailed in the Amendment Report of the same date.
22/01/2021	L8485/2010/2	Amendment to authorise new waste disposal locations, relocation of dewatering discharge point W14 and associated sediment settling strategy and construction and operation of silverlake sewage ponds.
25/10/2022	L8485/2010/2	Licence amendment for two new Class II waste disposal locations, alteration to the discharge point (W8) for the discharge of dewater to Lake Lefroy, removal and replacement of monitoring bores, removal of discharge point (W12) for the discharge of dewater to Lake Lefroy, removal of the wastewater treatment plant (P5) Removal of discharge point (W14), changes to the premises boundary and alteration to the frequency of groundwater monitoring requirements.

12/09/23	L8485/2010/2	Licence amendment to include: • 3 existing paste plants (additional category 5 infrastructure) shown in Figure 19. • Changes to the maps in Schedule 1 to show the North Orchin/Heap Leach monitoring bores and the Leviathan monitoring bores; • An updated location of the W08 dewatering point on the premises maps in Schedule 1; • Changes to the format of Table 17 to allow consolidation of items for ease of use; and • Removal of constructed infrastructure from Table 6 (Argo Turkey's nest,, Dewatering discharge point W8 and associated pipeline).
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Interpretation

In this licence:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this licence:
 - (i) if dated, refers to that particular version; and
 - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The Licence Holder must ensure that the following conditions are complied with:

Infrastructure and equipment

1. The Licence Holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 1

Table 1: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Fenton Paste Plant Invincible South Paste Plant Hamlet Paste Plant	• Tailings spills outside of the paste plant footprint to be cleaned up immediately. • Tailings material to be: - wetted down; or - covered; or - of sufficient moisture content during handling and transport to minimise dust generation. • Contaminated or potentially contaminated stormwater runoff from within paste plant operating area to be captured and prevented from being released into the environment. • Water storage tanks to be regularly maintained to prevent leaks.	As shown in Figure 19

2. The Licence Holder must ensure that all pipelines containing saline dewatering effluent, tailings or return water are either:
 - (a) equipped with telemetry systems and pressure sensors along pipelines to allow for the detection of leaks and failures; or
 - (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.
3. The Licence Holder must ensure that any saline dewatering effluent shall only be managed in the following manner:
 - (a) used for dust suppression in a manner that minimises damage to surrounding vegetation;
 - (b) discharged to previously mined pits; or
 - (c) discharged to Lake Lefroy at discharge points defined in Schedule 1.
4. The Licence Holder must ensure that the materials listed in Table 2 are only discharged into containment cell, ponds/dams, waste rock landforms and enclosed tanks with the relevant infrastructure requirements and at the locations specified in Table 2 and identified in Schedule 1.

Table 2: Containment infrastructure

Containment point reference	Containment cell or dam number(s) or waste rock landform	Material	Infrastructure requirements
C1	TSF2	Tailings	Lined with low permeability materials to limit seepage to groundwater
C2	TSF3	Tailings Dried sewage sludge	
C3	TSF4	Tailings	Lined with low permeability materials to limit seepage to groundwater TSF built to a height no greater than 311.5 mRL
C4	TSF3 Decant Water Pond	Decant Water	Lined with at least 0.5m of clay with a permeability of $<10^{-7}$ m/s or equivalent
C5	TSF2 Decant Water Pond	Decant Water	
C6	TSF4 Decant Water Pond	Decant Water and recovered water from TSF4-11A, TSF-11B, TSF12A, TSF12B, TSF4-16, TSF4-20A, TSF4-21, TSF4-22A and TSF4-24	
C7	Lefroy Mill Raw Water Pond	Ore, TSF decant water, process chemicals	Lined with a geotextile liner to limit seepage to groundwater
C8	Lefroy Mill Process Water Pond	Ore, TSF decant water, process chemicals	Lined with a geotextile liner to limit seepage to groundwater
C9	Lefroy Mill Process Water Overflow Pond	Ore, process chemicals	Lined with an HDPE liner
C10	Leviathan complex in-pit TSF – Leviathan pit	Tailings Putrescible and inert waste as described in Table 3.	A two-metre freeboard to be maintained
C11	Leviathan complex in-pit TSF – Paddy's pit	Tailings	
C12	Leviathan complex in-pit TSF – Britannia pit	Tailings	
C13	Leviathan complex in-pit TSF – Sirius pit	Tailings	
C14	Leviathan complex in-pit TSF – Britannia Footwall pit	Tailings	
C15	Heap Leach Pond east	Process solution/storm water runoff	Lined with an HDPE liner
C16	Heap Leach Pond west	Process solution/storm water runoff	Lined with an HDPE liner
C17	Paddy's Pit TSF	Dried sewage sludge, Putrescible waste, Inert waste Type 1 and 2 and Contaminated solid waste (bioremediated soils) as specified in Table 3	A minimum 2m freeboard to be maintained.

Containment point reference	Containment cell or dam number(s) or waste rock landform	Material	Infrastructure requirements
C18	Silver Lakes Sewage Ponds	Sewage sludge	• Must be lined with HDPE liner or compacted to achieve base permeability of less than $1 \times 10^{-9} \text{m/s}$. • Fencing and signage must be installed to prevent unauthorised access. • Operating freeboard of minimum 300mm must be maintained.
C19, C20, C21, C22	Waste rock landforms at: locations specified in Schedule 3	Dried sewage sludge	Must be disposed of in a demarcated area within the waste rock landform for dried sewage sludge disposal.
P2-P4	WWTPs	Sewage	Closed tank system
C23	North Orchin TSF	Dried sewage sludge, Putrescible waste, Inert waste Type 1 and 2 and Contaminated solid waste (bioremediated soils) as specified in Table 3	None required.
C24	Diana Landfill	Putrescible waste, Inert waste Type 1 and 2.	• Stormwater drains installed around perimeter • Controlled access gateway installed around the perimeter

5. The Licence Holder must manage containment cells or ponds/dam in Table 2 such that:
 - (a) a minimum top of embankment freeboard of 300 mm (except for C10 – C14, C17, C18 and C19, C20, C21, C22 and C23 and C24) or a 1 in 100 year/72-hour storm event (whichever is greater) is maintained; and
 - (b) methods of operation minimise the likelihood of erosion of the embankments by wave action.
6. The Licence Holder must manage TSFs such that:
 - (a) a seepage collection and recovery system is provided and used to capture seepage from the TSF;
 - (b) seepage is returned to the TSF or re-used in process; and
 - (c) the supernatant pond on the TSF is minimised as far as practicable.
7. The Licence Holder must:
 - (a) undertake inspections as detailed in Table 3;
 - (b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
 - (c) maintain a record of all inspections undertaken.

Table 3: Inspection of infrastructure

Scope of inspection	Type of inspection	Frequency of inspection
Tailings pipelines	Visual integrity	12 hourly
Return water lines	Visual integrity	12 hourly
Embankment freeboard	Visual to confirm required freeboard capacity is available	12 hourly
Tailings deposition	Visual to confirm that tailings are deposited evenly around the TSF	Daily
Ponding on the surface of the TSF	Visual to confirm ponding is not concentrated on TSF internal embankments	Daily
External walls of TSF	Visual to confirm no visible seepage is apparent	Daily
Borefield pipelines and pump stations	Visual integrity	Every two days
Cemetery landfill	Visual to confirm no unauthorised access, adequate coverage of asbestos waste	Weekly during operations
	Visual inspection to confirm that no potentially contaminated stormwater from within the trench has been released and that the perimeter bund is intact.	Within one day of a rainfall event in excess of 25.6mm within one hour.
Diana Landfill	Visual to confirm no unauthorised access, adequate coverage of waste	Weekly during operation

8. For any annual period in which tailings have been deposited into TSF4, the Licence Holder must undertake an annual assessment of vegetation within the zone of influence of TSF 4. 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.
9. For any annual period in which tailings have been deposited into TSF4, the Licence Holder must undertake an annual water balance for TSF 4. The water balance shall as a minimum consider the following:
 - (a) site rainfall;
 - (b) evaporation;
 - (c) decant water recovery volumes;
 - (d) seepage recovery volumes; and
 - (e) volumes of tailings deposited.

10. The Licence Holder must only allow waste generated within the Premises to be disposed of on the Premises in accordance with Table 4 below.

Table 4: Management of waste

Waste	Quantity Limit	Specification ¹
WWTPs		
Sewage	Cumulative total for all WWTPs of 220 m ³ /day	Accepted through sewer inflows only
Landfill		
Clean Fill	None	None Specified
Sewage Sludge	6 tonnes/annum cumulative	- May be disposed at Leviathan In-pit TSF via sump- - May be temporarily stored within Silverlake Sewage Ponds for the purpose of drying prior to final disposal at authorised locations. - An authorised controlled waste carrier must be used for transport of sewage sludge.
Dried sewage sludge		- Dried sewage sludge may be disposed of within Paddy's pit, North Orchin TSF, and authorised waste rock landforms, as specified in Table 2, on the premises. - Dried sewage sludge must be covered with minimum 2m layer of waste rock or clean fill material no later than 24 hours after disposal.
Inert Waste Type 1	3,500 tonnes/annum cumulative	Waste containing visible asbestos or ACM shall not be accepted.
Inert Waste Type 2	2,000 tonnes/annum cumulative	Waste authorised for disposal is limited to scrap metal, tyres and plastic, bulk bags, mill reject waste, core samples and sample bags.
Putrescible waste	1500 tonnes/annum cumulative	Wooden pallets must be covered by clean fill material no later than 24 hours after disposal.
Special Waste Type 1	None – generated in-situ	Only to be disposed of into designated asbestos disposal area within South Delta Open Pit or Cemetery landfill. (Cemetery landfill location as shown in Map of Landfill Locations in Schedule 1).
Contaminated solid waste	Not exceeding or causing exceedance of the authorised design capacity for Category 64 as specified on Page 1 of this licence	Limited to disposal of bioremediated soils, treated at the bioremediation facilities on the premises, and meeting the waste acceptance criteria for Class II or Class III landfills as specified in the <i>Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)</i>. Analysis confirming compliance with the waste acceptance criteria for Class II or Class III landfills as specified in the <i>Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)</i> must be undertaken at a NATA accredited laboratory prior to disposal of bioremediated soils within Paddy's pit and North Orchin TSF.

Note 1: Additional requirements for the acceptance of controlled waste are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

- 11.** The Licence Holder must ensure that the wastes disposed onto the Premises are done so in accordance with the process requirements described in Table 5.

Table 5: Waste processing

Waste type	Process	Process requirements
Sewage	Physical, biological and chemical treatment	Treatment of sewage waste shall not exceed 200 m ³ /day cumulative volume.
Sewage sludge	Disposal	Removed by a licensed controlled waste carrier and disposed at Leviathan In-pit TSF, Paddy's Pit and North Orchin TSF.
All	Disposal of waste by landfilling	The separation distance between the base of the landfill and the highest groundwater level shall not be less than 2m.
Clean Fill	Receipt, handling and storage prior to disposal	Stockpile clean fill to allow for the covering of waste for at least two weeks and/or final disposal into Leviathan In-pit TSF as backfill.
Inert Waste Type 1		Placed into landfill trenches
Inert Waste Type 2		Tyres to be incorporated into waste rock material.
Putrescibles waste	Disposal	Covered with a minimum of 200 mm clean fill at least weekly if in a landfill trench. Wooden pallets disposed to Leviathan In-pit TSF will be covered by other waste and progressive backfill.
Hazardous waste	Receipt, handling and storage prior to disposal	Must be stored in a bunded area/container prior to disposal offsite.
Special Waste Type 1	Disposal	Asbestos or ACM is immediately covered with a layer of dense, inert and incombustible material at least 1 metre thick, and is disposed of at either the Cemetery landfill or South Delta Pit.

- 12.** The Licence Holder must manage the landfilling activities to ensure:
- the size of the tipping face is kept to a minimum and not larger than 30m by 30m;
 - waste is levelled and compacted as soon as practicable after it is discharged and at a minimum of the end of the day;
 - waste is placed and compacted to ensure all faces are stable and capable of retaining further waste placement or placement of cover or rehabilitation material; and
 - rehabilitation of a cell or phase takes place within 6 months after disposal in that cell or phase has been completed.
- 13.** The Licence Holder must take all reasonable and practical measures to ensure that no windblown waste escapes from the Premises and that windblown waste is collected on at least a weekly basis and appropriately contained.
- 14.** The Licence Holder must ensure that no waste is burnt on the Premises.

15. The Licence Holder must manage the irrigation of treated wastewater such that:
 - (a) treated wastewater is evenly distributed over the irrigation area;
 - (b) no soil erosion occurs;
 - (c) irrigation does not occur on land that is waterlogged; and
 - (d) vegetation cover is maintained over the irrigation area.
16. The Licence Holder must manage the wastewater treatment vessels such that there is no discernible seepage loss from the vessels.
17. The Licence Holder must construct and/or relocate dewatering infrastructure within the licenced premises as operational demands require in accordance with conditions of this Licence.
18. The Licence Holder must ensure that each item of infrastructure or equipment specified in column 1 of Table 6 is designed and constructed in accordance with the requirements specified in column 2 of Table 6.

Table 6: Infrastructure design requirements

Column 1	Column 2
Infrastructure	Requirements (design and construction)
Dewatering pipelines authorised by Amendment Notice 1	Pipelines to be installed in accordance with AS2033:2008
	All joins to be undertaken by a licensed polywelder
	All pipelines to be: (a) equipped with telemetry systems to allow for the detection of leaks and failures; or (b) equipped with automatic cut-outs in the event of a pipe failure; or provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.
Turkey's nests authorised by Amendment Notice 1	Turkey's nests to be geotextile fabric lined in accordance with AS3705-2012
	Sized to accommodate a 1 in 100 year, 72 hour rainfall event
	Sized to ensure a minimum 5 hour retention time and maintain a 300 mm freeboard.

19. The Licence Holder must not depart from the requirements specified in Table 6 except:
 - (a) where such departures are minor in nature and do not materially change or affect the infrastructure; or
 - (b) where such departure improves the functionality of the infrastructure and does not increase the risks to public health, public amenity, or the environment.

If condition 19(b) applies, then the Licence Holder must provide the CEO with a list of departures which are certified as complying with condition 19.
20. The Licence Holder must submit a construction compliance document to the CEO, following construction of the dewatering pipelines and prior to operation.
21. The Licence Holder must ensure the construction compliance document:

- (a) is certified by a suitably qualified professional engineer stating that each item of infrastructure specified in Table 6 has been constructed in accordance with the conditions of the Licence with no material defects; and
 - (b) be signed by a person authorised to represent the Licence Holder and contain the printed name and position of that person within the company.
- 22.** The Licence Holder must operate the dewatering pipelines in accordance with the conditions of this Licence, following submission of the construction compliance document required under condition 20.
- 23.** The Licence Holder must store used tyres on the premises in the locations as indicated on the map of tyre storage locations in Schedule 1 of this Licence, in accordance with the following:
- (a) Total tyres stored on the Premises shall not exceed 500;
 - (b) Used tyre stacks shall not exceed 100 m² in area and 3 metres in height;
 - (c) Used tyres must be stacked on their side walls or if stored on their treads, area baled with a securing device made from a non-combustible material;
 - (d) The Licence Holder ensure that firefighting equipment stored onsite is capable of controlling and extinguishing a tyre fire;
 - (e) The storage area must be hardstand and bunded to prevent runoff of fire water to surrounding land; and
 - (f) Following the extinguishing of a fire, the Licence Holder ensure that fire water is removed from the Premises by a carrier licensed under the *Environmental Protection (Controlled Waste) Regulations 2004*.

Construction

- 24.** The Licence Holder must construct and/or install the infrastructure listed in Table 7, in accordance with:
- (a) the corresponding design and construction requirement / installation requirement; and
 - (b) at the corresponding infrastructure location; and
 - (c) within the corresponding timeframe, as set out in Table 7.

Table 7: Design and construction requirements / installation requirements

Infrastructure	Design and construction requirement / installation requirement	Infrastructure location
Silverlake sewage sludge ponds	I. Must be located in the general area specified in Schedule 1. II. Must be lined with HDPE liner or compacted to achieve base permeability of less than 1x10⁻⁹m/s	As specified in Schedule 1
Dewatering discharge point to Lake Lefroy and associated pipeline extension	I. Must be relocated to the general area specified in Schedule 1. II. Energy dissipation infrastructure must be installed at the relocated discharge location. III. Pipelines to be installed in accordance with AS2033:2008. IV. All joints to be undertaken by a licensed polywelder V. All pipelines to be: (a) equipped with telemetry systems to allow for the detection of leaks and failures; or	As specified in Schedule 1

	(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.	
Diana Landfill	I. Base lined with backfilled material from Diana Waste Rock Landform; II. Stormwater drains installed around perimeter; and III. Controlled access gateway installed around the perimeter	As specified in Figure 16, Schedule 1

25. The Licence Holder must within 30 days of each item of infrastructure required by condition 24 being constructed:
- (a) undertake an audit of their compliance with the requirements of condition 24; and
 - (b) prepare and submit to the CEO an audit report on that compliance.
26. The report required by condition 25, must:
- (a) contain as constructed plans for the works constructed; and
 - (b) be signed by a person authorised to represent the Licence Holder and contains the printed name and position of that person within the company

Emissions and discharges

General

27. The Licence Holder must record and investigate the exceedance of any descriptive or numerical limit specified in any part of this Licence.

Point source emissions to air

28. The Licence Holder must ensure that where waste is emitted to air from the emission points in Table 8 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 8: Emission points to air

Emission point reference and location on Map of emission points	Emission Point	Emission point height (m)	Source, including any abatement
A1	Stack 1	2.69	Carbon regeneration stack
A2	Stack 2	13.28	Gold smelting furnace stack

Point source emissions to surface water

29. The Licence Holder is permitted, subject to conditions in the Licence, to emit wastes to water from the emissions points listed in Table 9—and identified in the Map of emission points in Schedule 1.

Table 9: Emission points to surface water

Emission point reference and location on Map of emission points	Description	Source including abatement

W1, W2, W3, W4, W6, W7, W9, W10, W11, W13, W15, W16, W17, W18, W19, W20 and W21	Mine dewater	Mine dewater to Lake Lefroy from mine voids located within Lake Lefroy¹. Mine dewater to Lake Lefroy from land-based pits; A5, Africa, Hamlet and Mine dewater to Lake Lefroy from partially lake based pits; Pistol Club North and Delta Island South. Prior to discharge mine dewater must be settled in a turkey's nest lined with a geotextile fabric designed to filter sediment. Energy dissipation infrastructure must be maintained so as not to cause erosion of the lake surface.
W5	Mine dewater	Mine dewater from Africa Pit, Thunderer Pit and the Leviathan Complex² to Lake Lefroy via pipework and/or channels. Prior to discharge mine dewater must be settled in a turkey's nest lined with a geotextile fabric designed to filter sediment.
W8	Mine dewater	Mine dewater from Athena underground mine, Apollo Pit and Argo Pit to Lake Lefroy via pipework into the Argo Turkey's nest (as depicted in Schedule 1, Figure 15). Prior to discharge mine dewater must be settled in the Argo turkey's nest. Energy dissipation infrastructure must be maintained so as not to cause erosion of the lake surface.

Note 1: Includes any mine voids, with the exception of Thunderer Pit, located on or within Lake Lefroy clay pans, salt pans and/or playas

Note 2: The Leviathan Complex consists of Leviathan Pit, Paddys Pit, Sirius Pit, Sirius/Orion Pit, Britannia Pit and Britannia Footwall Pit

30. The Licence Holder must not cause or allow point source emissions to surface water that do not meet the limits listed in Table 10.

Table 10: Point source emission limits to surface water

Emission point reference	Parameter	Limit (including units)	Averaging period
W1, W2, W3, W4, W5, W6, W7, W8, W9, W10 W11, W13, W15, W16, W17, W18, W19, W20 and W21	pH ¹	Between 6.0 and 8.0	N/A

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

Point source emissions to groundwater

31. The Licence Holder must ensure that where waste is emitted to groundwater from the emission points in Table 11 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 11: Point source emissions to groundwater

Emission point reference and location	Description	Source including abatement
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Africa Pit and mine voids located within Lake Lefroy ¹ . Includes discharges to nearby transfer dams associated with each pit.	Dewater from active mining voids to disused mining voids	Mine voids located within the Lake Lefroy ¹ .
Africa Pit	Decant water	Leviathan Pit, Leviathan underground, Britannia Pit, Britannia underground, Sirius Pit and Sirius underground
Argo Pit		Apollo Pit, Diana Pit and Athena Boxcut
Apollo Pit		Argo Pit

Note 1: Includes any mine voids, with the exception of Thunderer Pit, located on or within Lake Lefroy clay pans, saltpans and/or playas

Emissions to land

32. The Licence Holder must ensure that where waste is emitted to land from the emission points in Table 12 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 12: Emissions to land

Emission point reference and location on Map of emission points	Description	Source including abatement
P2, P3, P4	Discharge from irrigation pump station to on-site irrigation areas	Treated wastewater from Lefroy Admin, Leviathan and Argo Sewage Treatment Plants.

Fugitive emissions

33. The Licence Holder must ensure that fugitive emissions are managed in accordance with the documents, or parts of documents, specified in Table 13.

Table 13: Dust Management Plan

Management Plan Reference	Parts	Date of Document
Gold Fields- St Ives Gold Mining Company- Air Quality Management (SIG-ENV-PR029)	Section 4	04/11/2019

Monitoring

General monitoring

34. The Licence Holder must ensure that:
- all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
 - all surface water sampling is conducted in accordance with AS/NZS 5667.4, AS/NZS 5667.6 or AS/NZS 5667.9 as relevant;
 - all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
 - all sediment sampling is conducted in accordance with AS/NZS 5667.12;
 - all microbiological samples are collected and preserved in accordance with AS/NZS 2031; and

- (g) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.
35. The Licence Holder must ensure that :
- (a) monthly monitoring is undertaken at least 15 days apart;
 - (b) quarterly monitoring is undertaken at least 45 days apart;
 - (c) six monthly monitoring is undertaken at least 5 months apart; and
 - (d) annual monitoring is undertaken at least 9 months apart.
36. The Licence Holder must, 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.

Monitoring of point source emissions to surface water

37. 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 point source emissions to surface water

Emission point reference	Parameter	Units	Averaging Period	Frequency
W1, W2, W3, W4, W5, W6, W7, W8, W9, W10, W11, W13, W15, W16, W17, W18, W19, W20 and W21	Volumetric flow rate (cumulative)	L/s m ³ /day	Monthly	Continuous
	pH ¹	N/A	Spot sample	Quarterly

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

Monitoring of emissions to land

38. The Licence Holder must undertake the monitoring in Table 15 according to the specifications in that table.

Table 15: Monitoring of emissions to land

Monitoring point reference and location	Process description	Parameter	Units	Averaging period	Frequency
P2, P3 and P4	Discharge from WWTPs to irrigation fields	<i>E.coli</i>	cfu/100 mL	Spot sample	Annually
		pH ¹	N/A		
		Biochemical Oxygen Demand	mg/L		
		Total Nitrogen			
		Total Phosphorus			
		Total Suspended Solids			
		Total Dissolved Solids			
		Ammonium-nitrogen			
		Nitrate + nitrate-nitrogen			

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

Monitoring of inputs and outputs

39. The Licence Holder must undertake the monitoring in Table 16 according to the specifications in that table.

Table 16: Monitoring of inputs and outputs

Input/Output	Monitoring point reference	Parameter	Units	Averaging period	Frequency
Sewage - Inlet Flow	Inflow meter at P2, P3, P4	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous
Waste Inputs	N/A	Inert Waste Type 1, Inert Waste Type 2	m ³ (where no weighbridge is present)	Annual	Each load arriving at the Premises
Waste Outputs	N/A	Waste type as defined in the Landfill Definitions			Each load leaving or rejected from the Premises

Ambient environmental quality monitoring

40. The Licence Holder must undertake the monitoring in Tables 17 and 18 according to the specifications in those tables and record and investigate results that do not meet any limit specified.

Table 17: Monitoring of ambient groundwater quality

Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency
TSF1: CD5574 TSF2: SID580, SID01, SID02 TSF3: CD10100, CD10104, CD10110, CD10102 North Orchin TSF: NOMB02d, NOMB03 d, NOMB04 d	Standing water level	4	mbgl	Spot sample	Six Monthly
Heap leach facility bores: CD10114, CD10116, CD10118, CD9261, CD9263, CD9265, CD9267, CD9271 and CD9739 Leviathan in-pit TSF LEVMB01D, LEVMB02, LEVMB03, LEVMB04S and LEVMB05 TSF4: TSF4-5A, TSF4-6A, TSF4-7A, TSF4-8A, TSF4-9A, TSF4-11A, TSF4-11B, TSF4-12A and TSF4-12B	Standing water level	4	mbgl	Spot sample	Quarterly
TSF4: TSF4-13A, TSF4-13B, TSF4-14A	Standing water level	N/A	mbgl	Spot sample	Quarterly
Leviathan in-pit TSF	pH ¹	Between 3.0	N/A	Spot	Quarterly

Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency
LEVMB01D, LEVMB02, LEVMB03, LEVMB04S and LEVMB05 TSF4: TSF4-5A, TSF4-7A, TSF4-9A, TSF4-11A, TSF4-12A, TSF4-13B, TSF4-21, TSF4-24		and 9.0		sample	
	Weak Acid Dissociable Cyanide	0.5 in Leviathan in-pit TSF bores	mg/L		
	Electrical Conductivity	N/A	µS/cm		
	Total Dissolved Solids Aluminium Arsenic Calcium Cadmium Chlorine Chromium Chromium (III) Chromium (VI) Cobalt Copper Iron Lead Mercury Magnesium Manganese Nickel Potassium Selenium Sodium Strontium Vanadium Zinc		mg/L		
Heap leach facility bores: CD10114, CD10116, CD10118, CD9261, CD9263, CD9265, CD9267, CD9271 and CD9739 TSF1: CD6194, CD5574 TSF2: SID580, SID01, SID02 TSF3: CD10099, CD10105, CD10110, CD10102 North Orchin TSF:	pH ¹	Between 3.0 and 9.0	N/A	Spot sample	Six Monthly
	Electrical Conductivity	N/A	µS/cm		
	Weak Acid Dissociable Cyanide	0.5 in TSF1 and Heap leach facility bores.	mg/L		
	Aluminium	N/A	mg/L		

Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency
NOMB04d	Arsenic				
	Calcium				
	Cadmium				
	Chlorine				
	Chromium				
	Chromium (III)				
	Chromium (VI)				
	Cobalt				
	Copper				
	Iron				
	Lead				
	Mercury				
	Magnesium				
	Manganese				
	Nickel				
	Potassium				
	Selenium				
	Sodium				
	Strontium				
	Vanadium				
	Zinc				

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

Table 18: Monitoring of ambient sediment quality

Monitoring point reference and location	Parameter	Units	Averaging Period	Frequency
W1, W2, W3, W4, W5, W6, W7, W8, W9, W10, W11, W13, W15, W16, W17, W18, W19, W20 and W21	pH ¹	N/A	Spot sample	Annually in the same month
	Aluminium	mg/kg		
	Arsenic			
	Beryllium			
	Cadmium			
	Copper			
	Chromium			
	Cobalt			
	Iron			
	Lead			
	Mercury			
	Manganese			
	Nickel			

	Selenium		
	Vanadium		
	Zinc		

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

Records and reporting

41. The Licence Holder must record the following information in relation to complaints received by the Licence Holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:
 - (a) the name and contact details of the complainant, (if provided);
 - (b) the time and date of the complaint;
 - (c) the complete details of the complaint and any other concerns or other issues raised; and
 - (d) the complete details and dates of any action taken by the Licence Holder to investigate or respond to any complaint.
42. The Licence Holder must:
 - (a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
 - (b) prepare and submit to the CEO by no later than 90 days after the end of that annual period an Annual Audit Compliance Report in the approved form.
43. The Licence Holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:
 - (a) the calculation of fees payable in respect of this licence;
 - (b) the works conducted in accordance with condition 24 of this licence;
 - (c) any maintenance of infrastructure that is performed in the course of complying with conditions 4,18 and 24 of this licence;
 - (d) monitoring programmes undertaken in accordance with conditions 37, 38, 39 and 40 of this licence; and
 - (e) complaints received under condition 41 of this licence.
44. The books specified under condition 43 must:
 - (a) be legible;
 - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
 - (c) be retained by the Licence Holder for the duration of the licence; and
 - (d) be available to be produced to an inspector or the CEO as required.
45. The Licence Holder must 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.

Reporting

- 46.** 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 shall contain the information listed in Table 19 in the format or form specified in that table.

Table 19: Annual Environmental Report

Condition or table	Parameter	Format or form ¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
-	Annual volumes generated/ rates for each prescribed premises category on the Licence	None specified
Condition 41	Complaints summary	None specified
Table 3	Summary of non-compliant events reported through inspections: e.g. freeboard non-compliance, pipeline spills or leaks; any non-compliances for Cemetery landfill.	
Condition 8	Annual vegetation monitoring around TSF4 (if required by this condition)	
Condition 9	Annual water balance for TSF4 (if required by this condition)	
Condition 33	Measures taken to suppress dust	
Condition 37	Monitoring of point source emissions to surface waters	WR1
Condition 38	Monitoring of emissions to land	LR1
	Contaminant loading (total annual loading kg/yr and kg/ha/yr) to land of parameters monitored in Table 3.3.1 (except pH and E.coli)	None specified
Condition 39	Monitoring of inputs and outputs	None specified
Condition 40 Table 17	Monitoring of ambient groundwater quality	None specified
Condition 40 Table 18	Monitoring of ambient sediment quality	None specified

Note 1: Forms are in Schedule 4

- 47.** The Licence Holder must ensure that the Annual Environmental Report also contains:
- an assessment of the information contained within the report against previous monitoring results and Licence limits; and
 - a Dewatering Discharge Report.
- 48.** The Dewatering Discharge Report required by condition 47 must address the environmental effects of mine dewater discharge to the Lake Lefroy environment and include but not be limited to:
- cumulative discharge volumes;
 - a map depicting dewater source locations and discharge points to Lake Lefroy; and

- (c) methods/infrastructure used to prevent environmental impacts at each discharge location.

Notification

49. The Licence Holder must ensure that the parameters listed in Table 20 are notified to the CEO in accordance with the notification requirements of the table.

Table 20: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement ¹	Format or form ²
Condition 40	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
Condition 36	Calibration report	As soon as practicable.	None specified

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 4

Definitions

In this licence, the terms in Table 21 have the meanings defined.

Table 21: 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 in the same year.
asbestos	means the asbestiform variety of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals and includes actinolite, amosite, anthophyllite, chrysolite, crocidolite, tremolite and any mixture containing 2 or more of those.
asbestos fibres	has the meaning defined in the Guideline for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australian, (DOH 2009).
AS/NZS 2031	means the Australian Standard AS/NZS 2031 Selection of containers and preservation of water samples for microbiological analysis.
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 5667.4	means the Australian Standard AS/NZS 5667.4 Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made.
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.
AS/NZS 5667.12	means the Australian Standard AS/NZS 5667.12 Water Quality – Sampling – Guidance on sampling of bottom sediments.
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.

Term	Definition
CEO	means Chief Executive Officer of the Department. “submit to / notify the CEO” (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
cfu/100 mL	means colony forming units per 100 millilitres.
clean fill	has the meaning defined in Landfill Definitions.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
Hazardous waste	has the meaning defined in Landfill Definitions;
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	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.
mbgl	means metres below ground level.

Term	Definition
monthly period	means a one-month period commencing from the first day of a month until the last day of the month.
mRL	means metres Relative Level or, height above a standardised 'mean sea level' datum.
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(s) (Figure 1 to 3) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
quarterly	means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December.
six monthly	means the 2 inclusive periods from 1 January to 30 June and 1 July to 31 December in the following year.
Special Waste Type 1	has the meaning defined in Landfill Definitions.
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
Stage 1	means construction of dewatering infrastructure for Temeraire Pit.
Stage 2	means construction of dewatering infrastructure for Intrepide Pit.
Stage 3	means construction of dewatering infrastructure for A5 Pit.
Stage 4	means construction of the turkeys nest and connecting dewatering pipeline infrastructure from Foster Shaft.
tipping area	means the area of the landfill in which waste other than cover material is being deposited.
TSF	means tailings storage facility.
turkey's nest	means a settlement dam that receives dewater and is lined with a geotextile fabric that allows dewater to permeate through to Lake Lefroy.
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.
waste	has the same meaning given to that term under the EP Act.

Term	Definition
WWTP	means the wastewater treatment plants located at Lefroy Admin (P2), Leviathan (P3), Argo (P4) and Athena Paste (P5) sites as depicted in Schedule 1.
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.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the maps below.

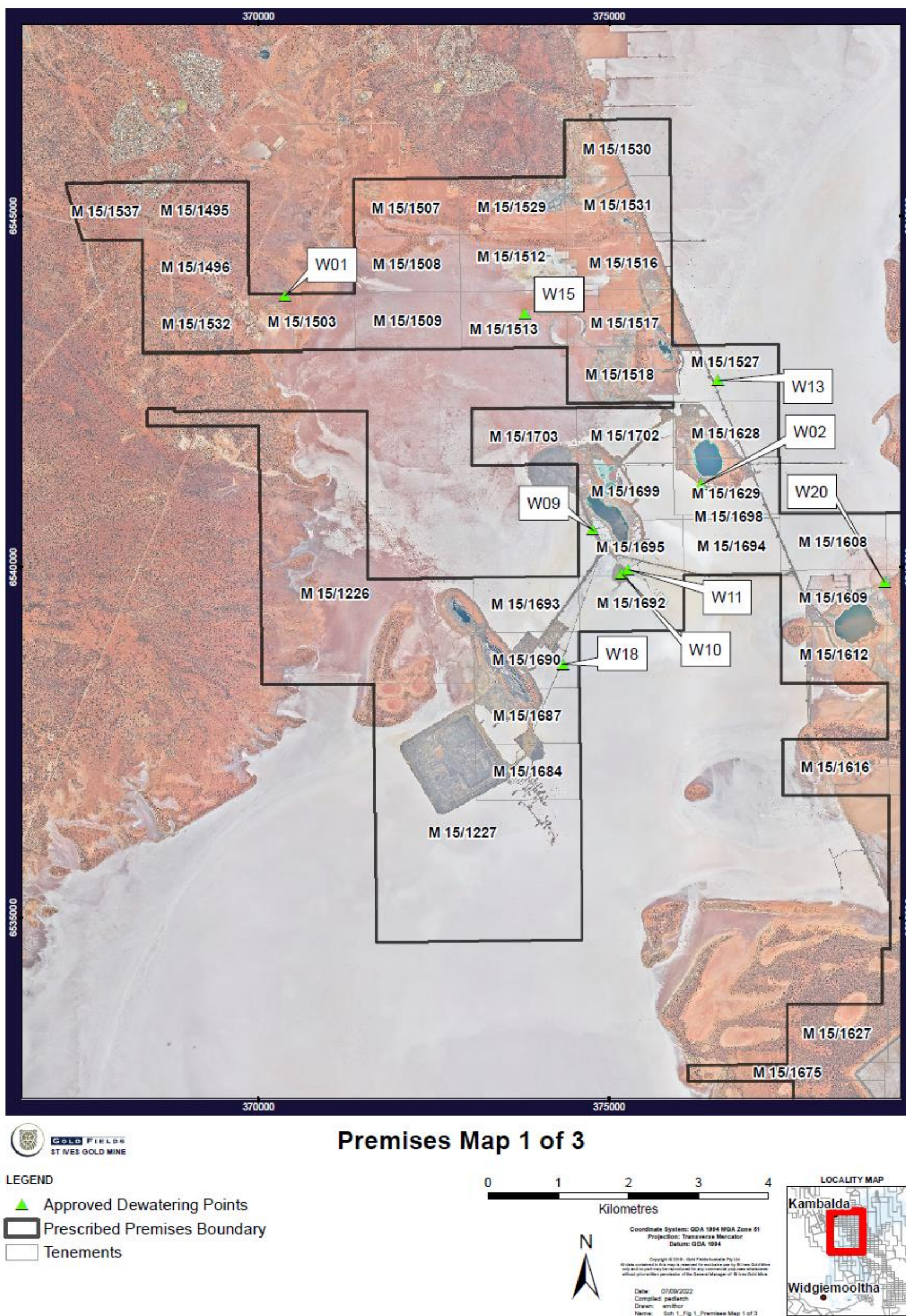


Figure 1: Map of boundary of the Prescribed Premises



Figure 2: Map of Boundary of Prescribed Premises

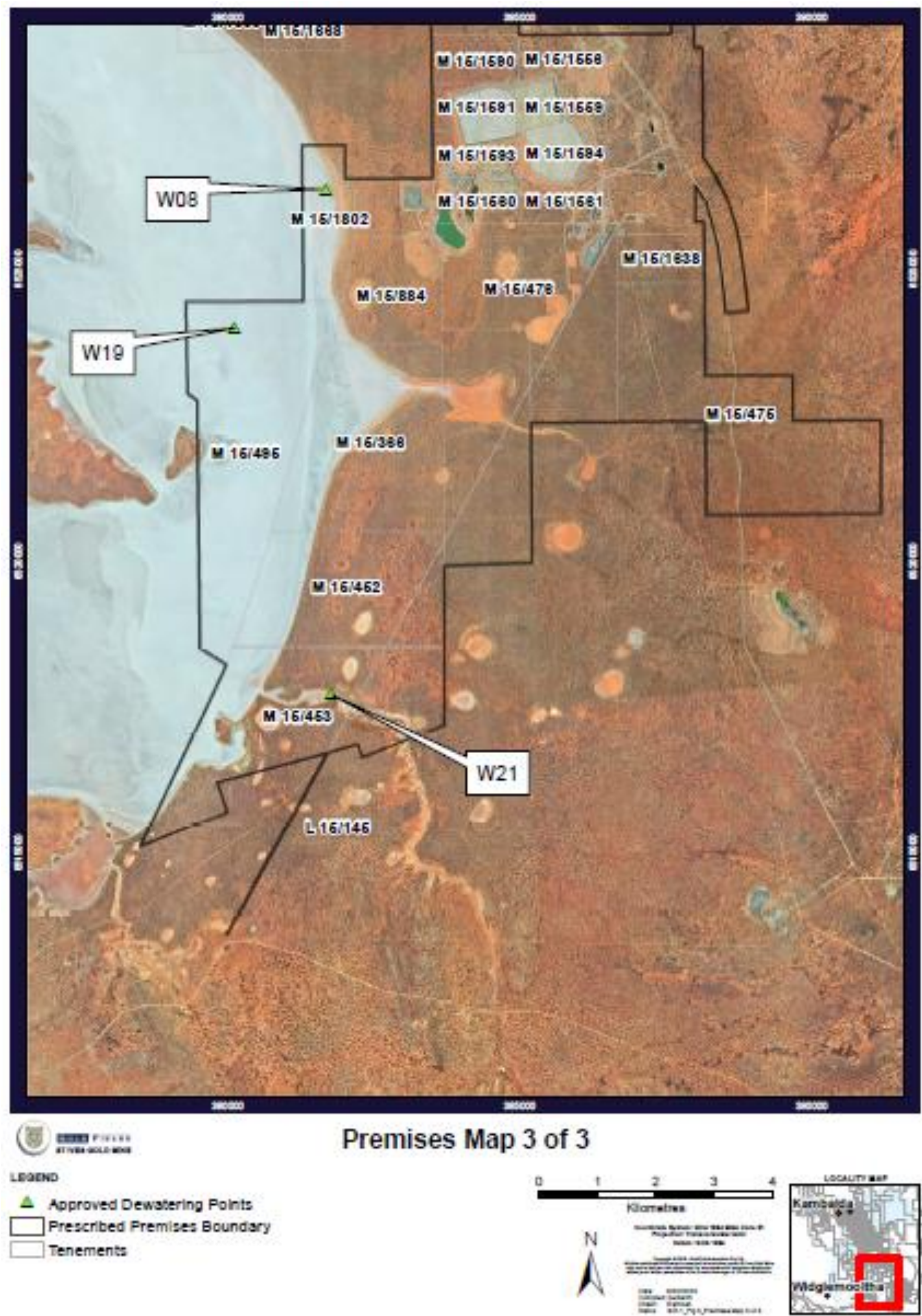


Figure 3: Map of Boundary of Prescribed Premises

Map of landfill / waste disposal locations

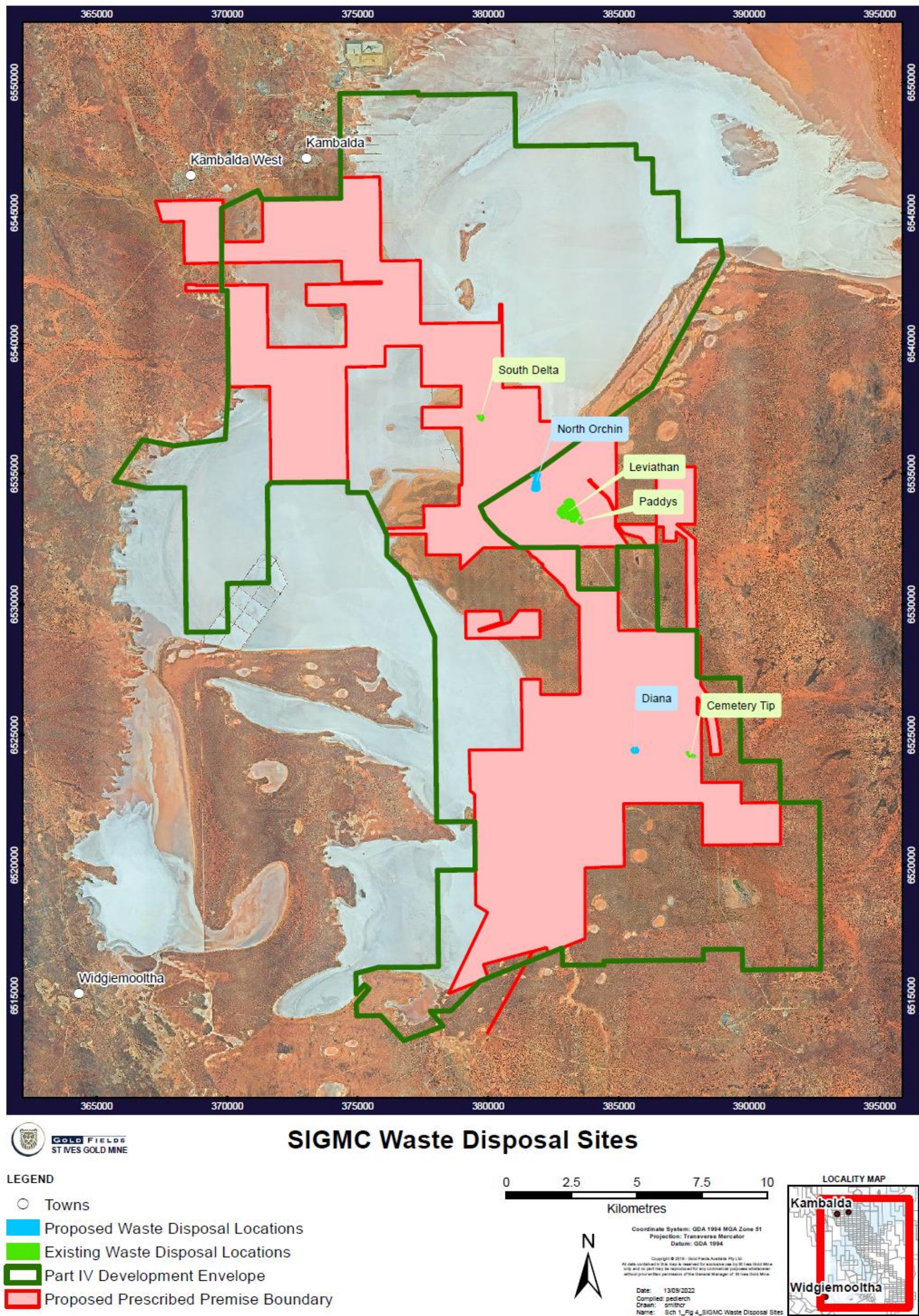


Figure 4: Map of Landfill Locations

Map of Emission points and Monitoring points: Air emissions



Figure 5: Map of emission points and monitoring points- Air emissions

Map of Emission points: Point source emissions to land (WWTP)



Figure 6: Map of emission points and monitoring points- Point source emissions to land (WWTP)

Map of Emission points: Tyre storage locations

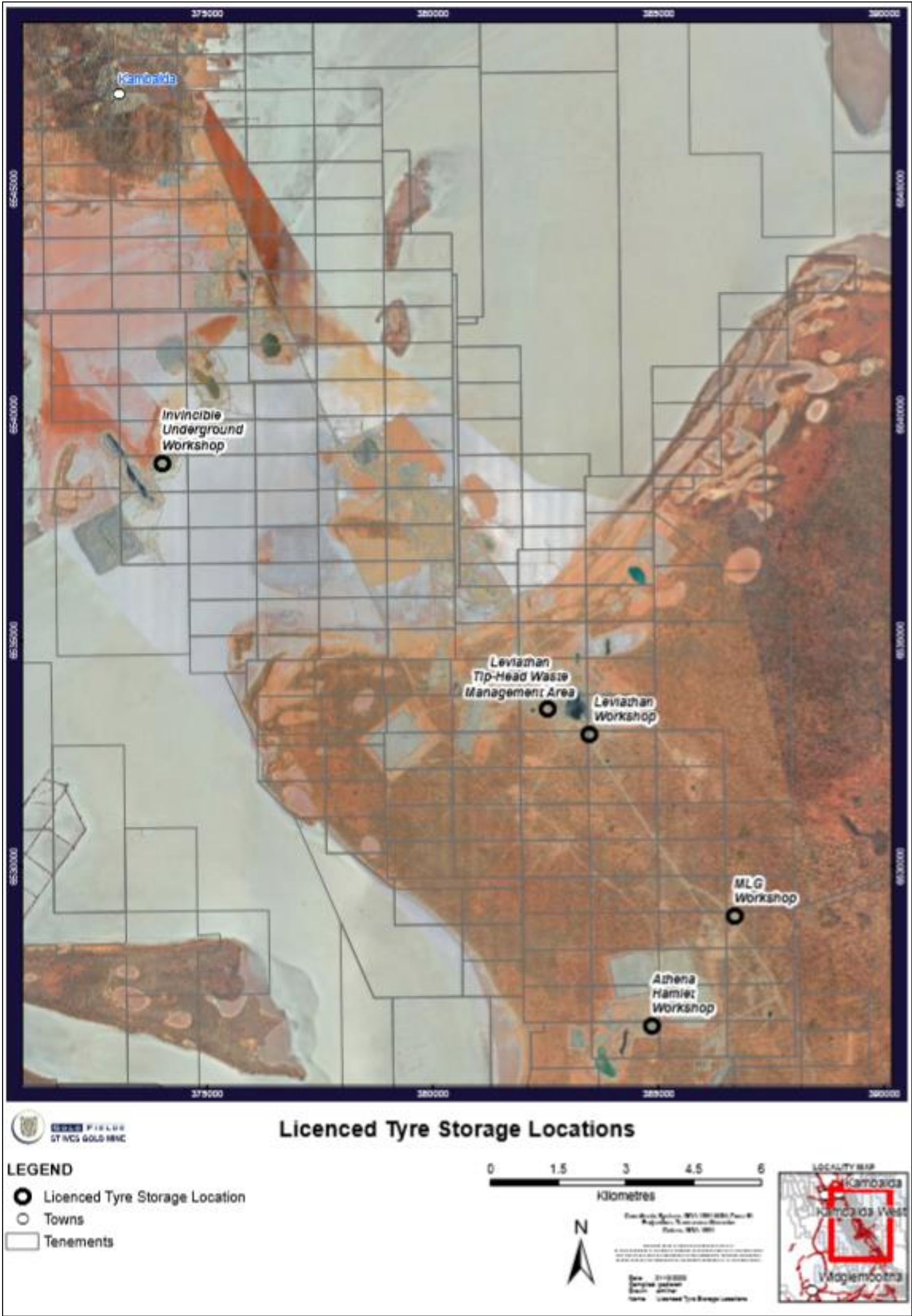


Figure 7: Map of tyre storage locations

Map of monitoring locations: TSF 4 groundwater monitoring bores

Dual monitoring and recovery bores TSF4-21 and TSF4-24 are also shown below.



Figure 8: Map of monitoring locations: TSF monitoring bores

Map of TSF4 recovery bores



Figure 9: Map of TSF4 recovery bores

Map of monitoring locations: TSF1, TSF2, TSF3



Figure 10: Map of monitoring locations: TSF1, TSF2, TSF3

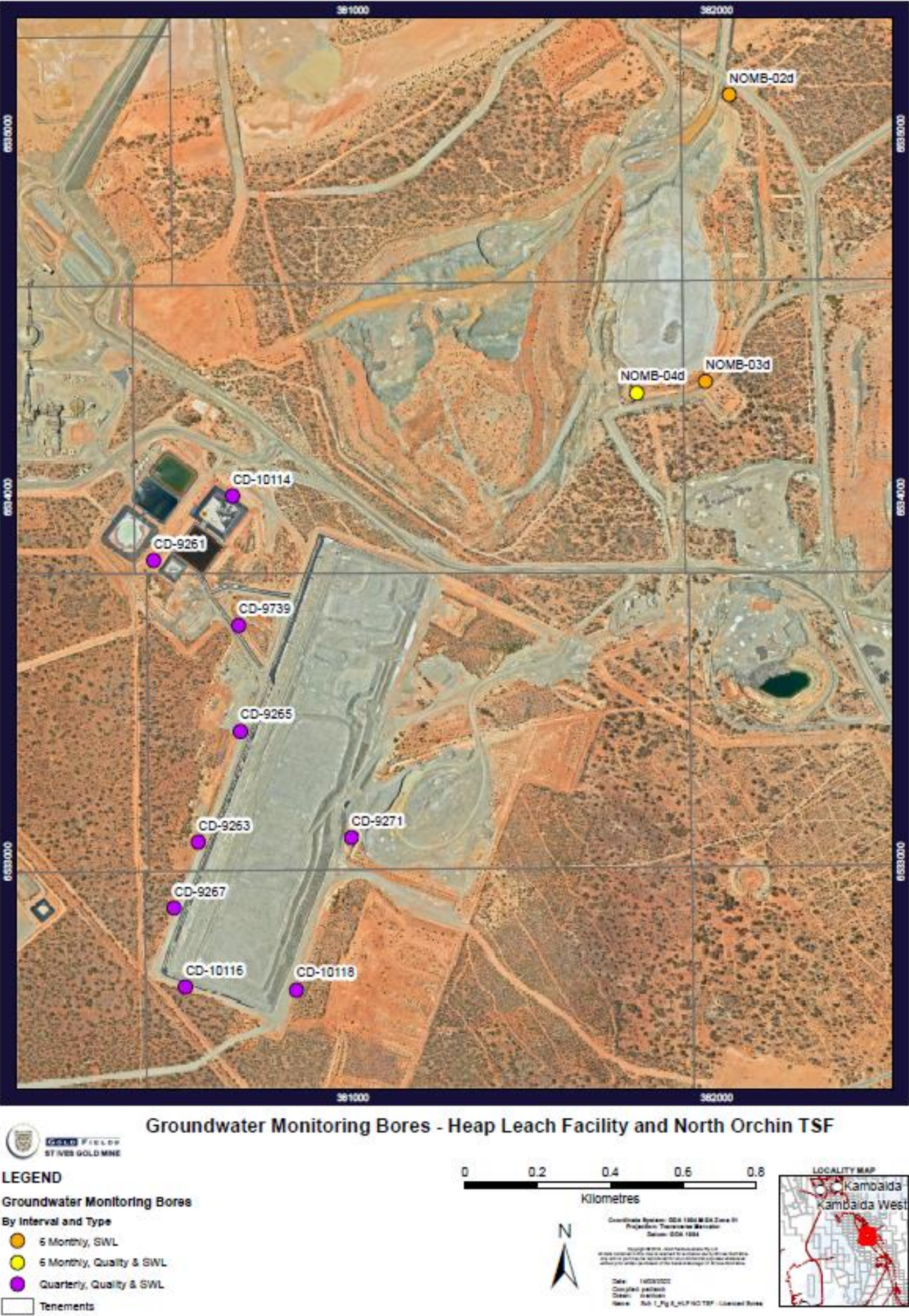


Figure 11: Map of monitoring locations: Heap Leach Facility and North Orchin TSF



Figure 12: Map of monitoring locations: Leviathan In-Pit TSF

Map of containment infrastructure locations

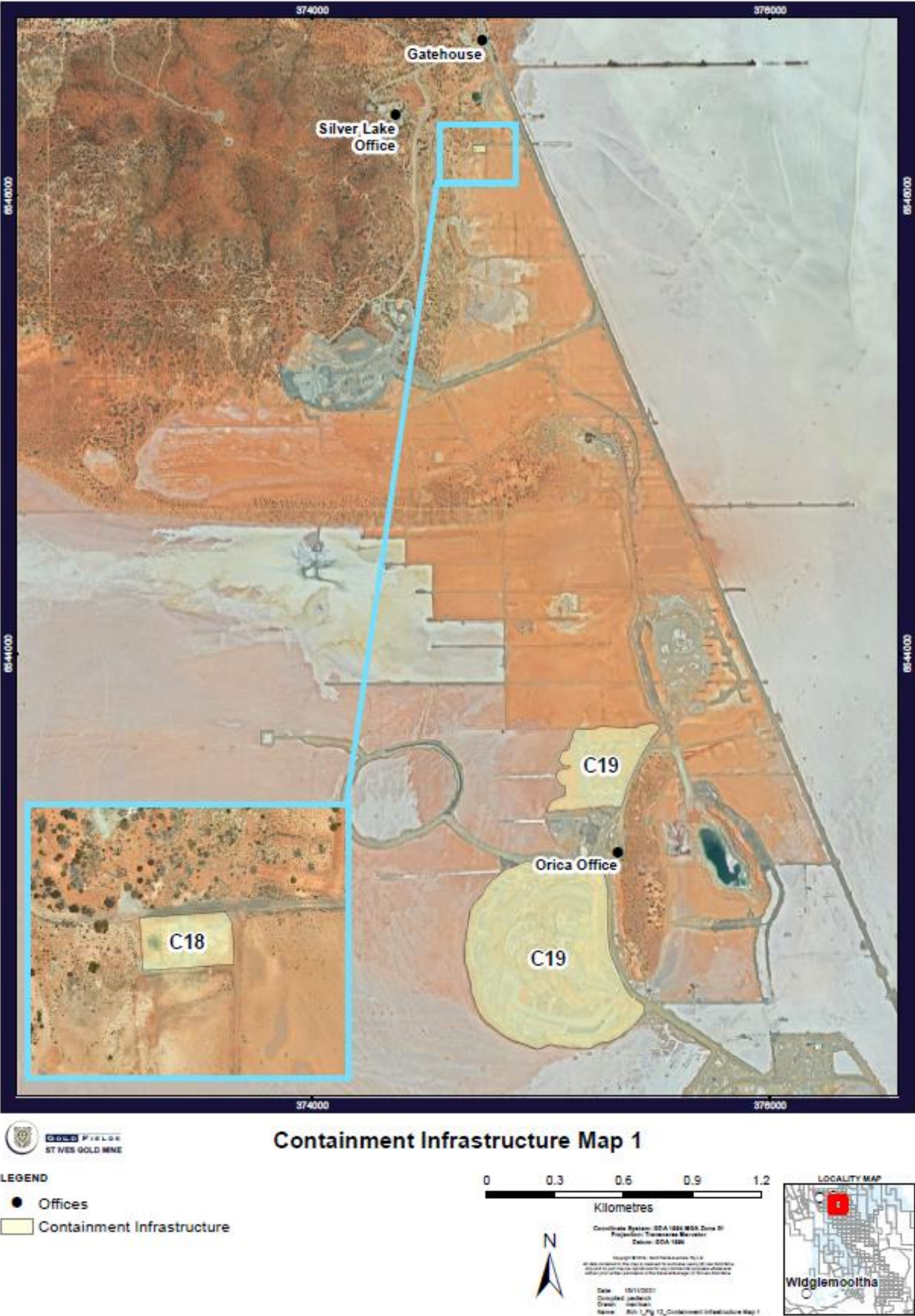


Figure 13: Map of containment infrastructure locations.



Figure 14: Map of containment infrastructure locations



Figure 15: Map of containment infrastructure locations

Map of containment infrastructure locations: Map 4 of 4



Figure 16: Map of containment infrastructure locations

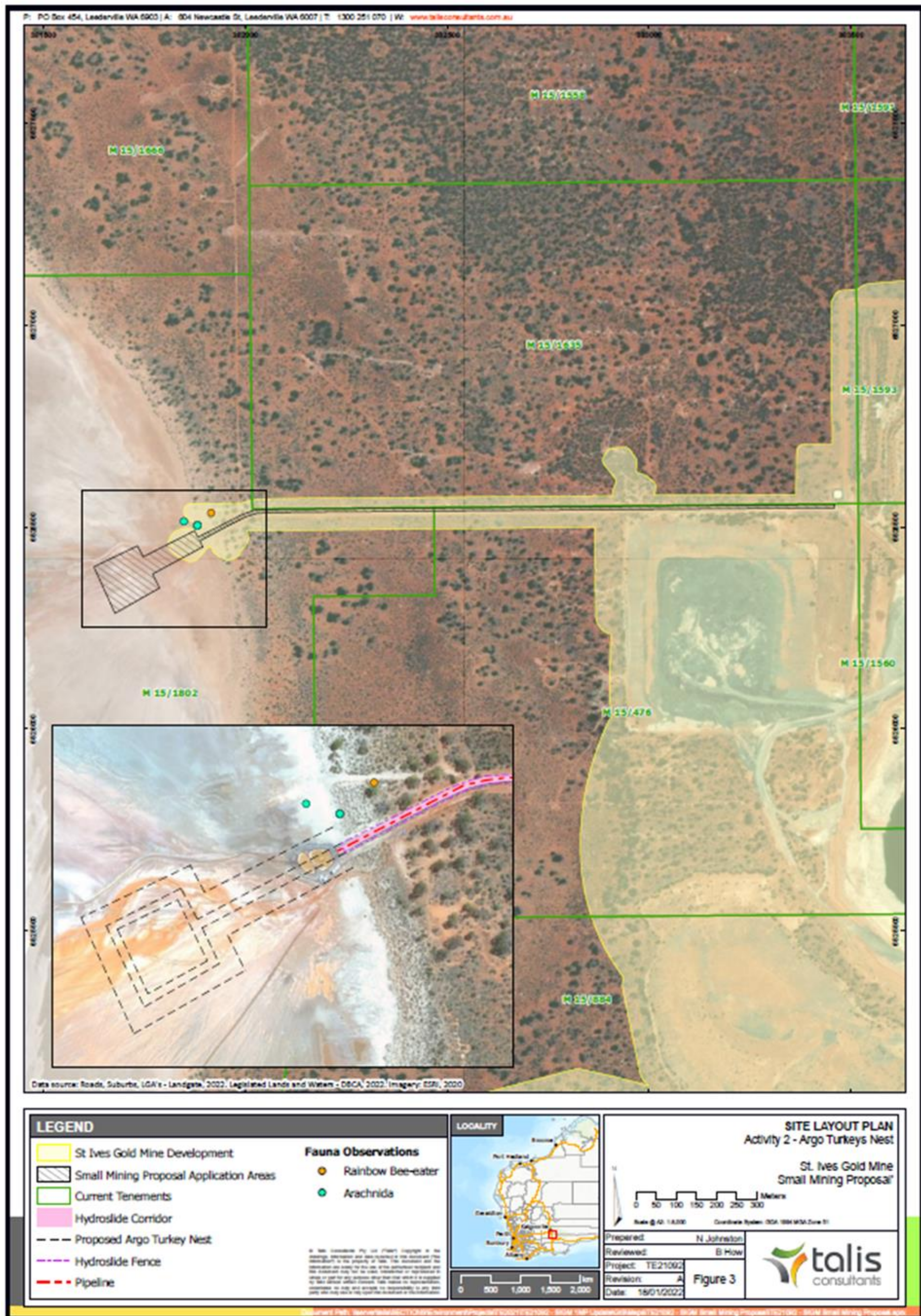


Figure 17: Location of Argo Turkey's Nest (W8)

L8485/2010/2

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

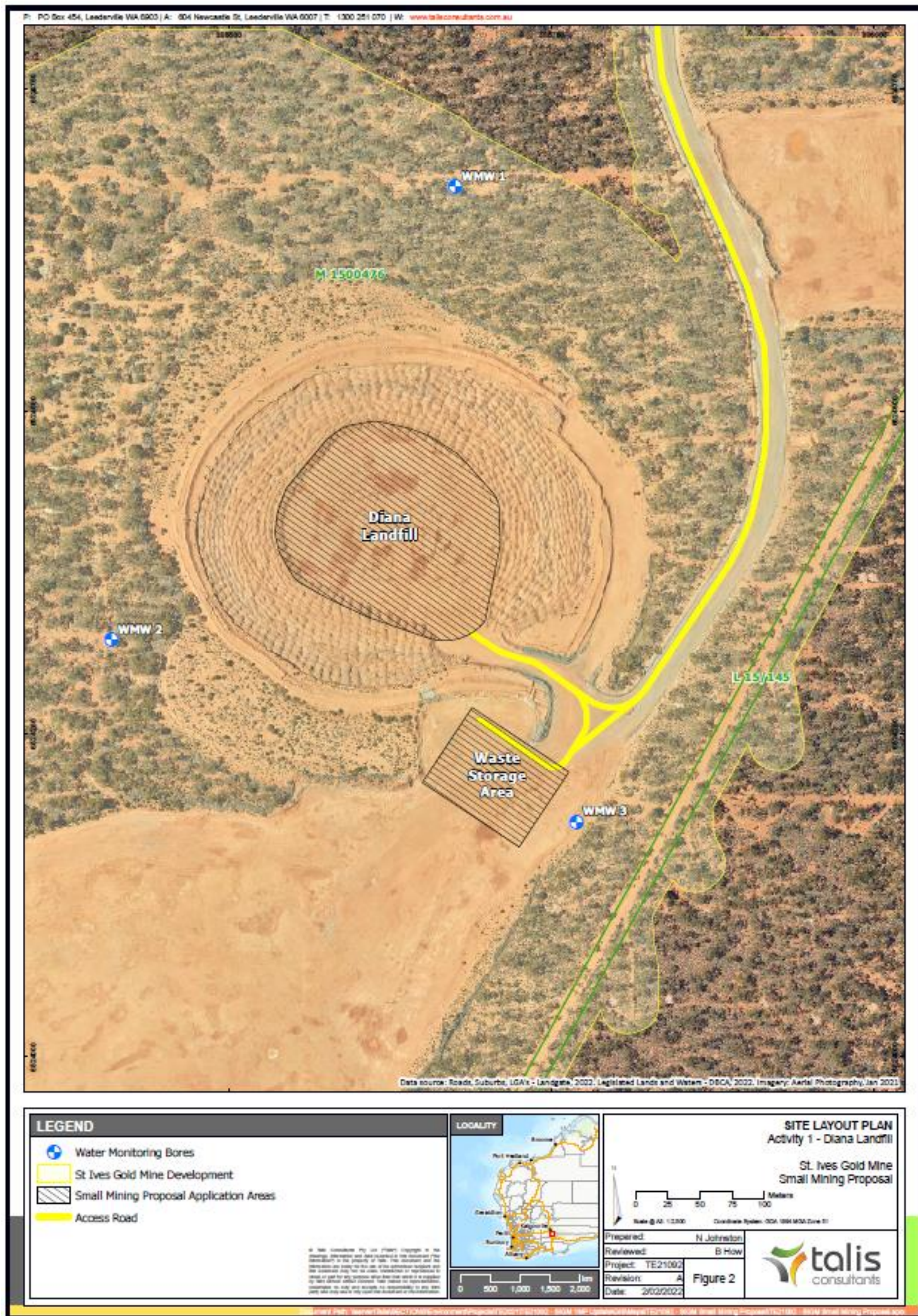


Figure 18: Diana Landfill Facility

L8485/2010/2

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

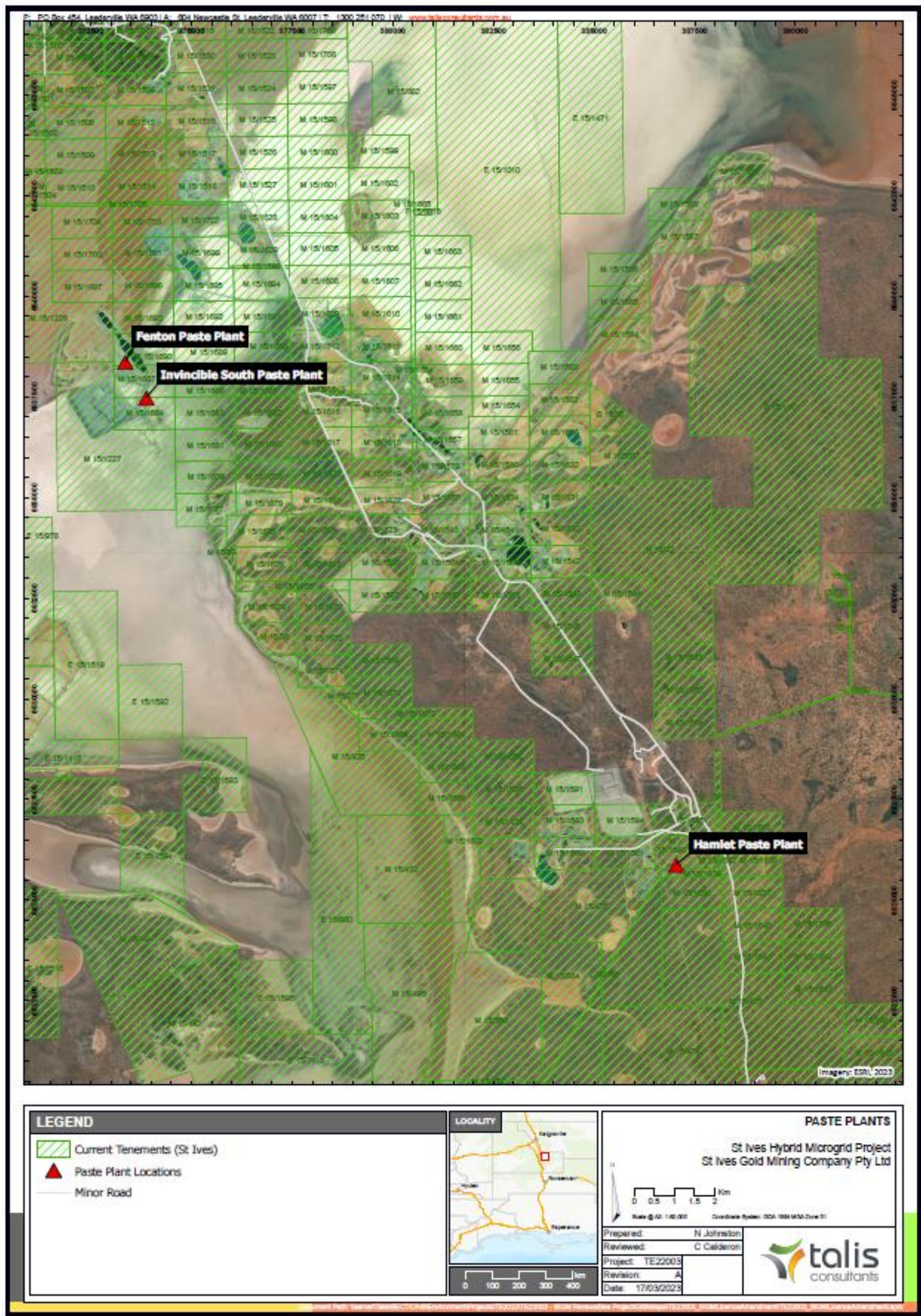


Figure 19: Location of paste fill plants

Schedule 2: Premises boundary

The premises boundary is defined by the tenements in Schedule 2.

Premises tenement list

The Premises boundary is defined by the tenements listed in the table below:

St Ives Gold Mining Pty Ltd				
L15/214	M15/1544	M15/1579	M15/1673	M15/1695
M15/476	M15/1560	M15/1580	M15/1675	M15/366
M15/1226	M15/1561	M15/1581	M15/1687	M15/452
M15/1495	M15/1562	M15/1591	M15/1690	M15/453
M15/1496	M15/1564	M15/1593	M15/1692	M15/495
M15/1503	M15/1565	M15/1594	M15/1693	M15/884
M15/1509	M15/1566	M15/1607	M15/1694	M15/1530
M15/1513	M15/1567	M15/1608	M15/1684	M15/1707
M15/1516	M15/1578	M15/1610	M15/22	
M15/1517	M15/1609	M15/1611	M15/1695	
M15/1518	M15/1638	M15/1612	M15/1698	
M15/1527	M15/1637	M15/1614	M15/1699	
M15/1531	M15/1615	M15/1629	M15/1702	
M15/1532	M15/1618	M15/1630	M15/1703	
M15/1537	M15/1619	M15/1631	M15/1802	
M15/1540	M15/1622	M15/1632	L15/145	
M15/1541	M15/1623	M15/1633	L15/214	
M15/1542	M15/1627	M15/1634	IM15/1507	
M15/1543	M15/1628	M15/1657	M15/1508	
M15/1512	M15/1616	M15/1658	M15/1529	
M15/475	M15/1552	M15/1659	M15/1579	
M15/1636	M14/1640	M15/1664	M15/1629	

Schedule 3: geographic coordinates of waste landforms authorised to receive dried sewage sludge for disposal

Waste Landform	Geographical Coordinates*			
	NW	NE	SE	SW
Interpide WRL C19	375152, 6543671	375515, 6543680	37446, 6542398	374741, 6542401
TSF 1 C20	284806, 6529109	385601, 6528275	385736, 6527505	385007, 6527359
TSF 3 C2	383835, 6527983	384777, 6528087	384970, 6527283	384077, 6527133
Apollo Waste Dump C21	383623, 6526741	384753, 6527142	384909, 6526522	383938, 6526205
Argo North West Dump C22	382966, 6526487	383377, 6526448	383389, 6526029	382986, 652024
North Orchin C24	381716, 653419	381960, 6534805	381973, 6534338	381699, 6534349

*Projected Coordinate System: GDA 1994 MGA Zone 51

Schedule 4: Reporting and notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

The Annual Audit Compliance Report template is available on the Department’s website.

Licence: **L8485/2010/2** **Licence Holder:** **St Ives Gold Mining Company Pty Ltd**
Form: **N1** **Date of breach:**

Notification of detection of the breach of a limit.

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	
Name of operator	
Location of Premises	
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	

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 St Ives Gold Mining Company Pty Ltd	
Date	