Licence

Licence number	L4496/1988/11
Licence holder	Big Bell Gold Operations Pty Ltd
ACN	090 642 809
Registered business address	Level 6, 200 St Georges Terrace PERTH WA 6000
DWER file number	DER2017/002073-1
Duration	01/10/2013 to 30/09/2033
Date of amendment	23/06/2023
Premises details	Meekatharra Gold Operations MEEKATHARRA WA 6642 Legal description - G51/9, L20/75, L51/18, L51/51, L51/78, L51/79, M20/12, M20/45, M20/68, M20/70, M20/71, M20/73, M20/77, M20/107, M20/214, M20/219, M20/249, M20/421, M51/6, M51/12, M51/31, M51/33, M51/35, M51/39, M51/53, M51/62, M51/75, M51/92, M51/96, M51/132, M51/190, M51/199, M51/200, M51/203, M51/209, M51/211, M51/233, M51/236, M51/237, M51/254,M51/320, M51/321, M51/374, M51/393, M51/437, M51/438, M51/439, M51/440, M51/459, M51/483, M51/485, M51/486, M51/491, M51/492, M51/493, M51/494, M51/495, M51/504, M51/523, M51/524, M51/539, M51/569, M51/572, M51/575, M51/581, M51/654, M51/668,M51/669, M51/670, M51/671, M51/672, M51/757, M51/784, M51/788, M51/793, M51/794, M51/795, M51/819, M51/820, M51/824 and M51/834 As defined in Schedule 1

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	Assessed production / design capacity
Category 5: Processing or beneficiation of metallic or non-metallic ore	2,500,000 tonnes per annual period
Category 6: Mine dewatering	5,953,000 tonnes per annual period
Category 52: Electric power generation	21 MW in aggregate
Category 54: Sewage facility	150 cubic metres per day

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	Assessed production / design capacity
Category 63: Class I inert landfill site	3,000 tonnes per annual period
Category 64: Class II putrescible landfill site	1,000 tonnes per annual period
Category 84: Electric power generation	15.2 MW in aggregate

This amended licence is granted to the licence holder, subject to the attached conditions, on 23 June 2023, by

Alana Kidd

Digitally signed by
Alana Kidd
Date: 2023.06.23
09:27:12 +08'00'

MANAGER, RESOURCE INDUSTRIES

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

Licence history

Reference number	Date	Summary of changes
L4496/1988/11	26/09/2013	Licence re-issue.
L4496/1988/11	7/08/2014	Licence transfer.
L4496/1988/11	21/01/2016	Licence amendment to include categories 6 and 63, updated to v2.9 format.
L4496/1988/11	12/05/2016	Licence amendment for the construction and operation of the Bluebird East Pit as an in-pit tailings storage facility (TSF).
L4456/1988/11	29/04/2016	This notice was given in accordance with section 59B(9) of the *Environmental Protection Act 1986* to the new expiry date of the licence.
L4496/1988/11	23/05/2017	Amendment Notice 1: Licence holder initiated amendment and relates to the dewatering of the pit lake and groundwater at the Aladdin Pit with the dewatering effluent being discharged to Lake Annean, and the inclusion of ten additional mining tenements to the Premises description to identify the additional prescribed activities. Also, standard REFIRE format licence condition 1.2.1 was removed from the licence.
L4496/1988/11	28/03/2018	Amendment Notice 2: Use the Surprise Pit for the disposal of tailings material generated at the Premises. Conditions 1.3.1, 1.3.3 and 3.4.1 of the Licence for the containment infrastructure, freeboard and ambient groundwater monitoring requirements respectively, have been amended to include the Surprise in-pit TSF. Condition 1.3.7 is amended to include the construction requirements for the Surprise in-pit TSF. Condition 4.3.1 is amended to include the construction notification requirements for the Surprise in-pit TSF. Construction of a new Class II landfill to replace the existing landfill and dewater the Five Mile Well pit.
L4496/1988/11	11/12/2018	Amendment Notice 3: Licence Holder initiated amendment seeking approval to add additional tyre burial locations in Schedule 1 Maps, increase category 63 approved throughput and two new inert landfills, dewater the Five Mile Well pit and the removal of the following tenements from the boundary; M51/209, M51/455 M51/781, E51/1484 and some administrative changes. Thirty three tenements were added to the licence.
L4496/1988/11	24/07/2019	Amendment 4: Licence Holder initiated amendment seeking approval for additional category 6 activities associated with the Kurara and Boomerang resources, to add an additional tyre disposal area and to add mining tenement L51/51 and M51/92 (added previously).
L4496/1988/11	28/07/2020	DWER initiated licence amendment to review and consolidate issued amendment notices 1, 2, 3 and 4 into the licence. During this amalgamation of amendment notices no additional

Reference number	Date	Summary of changes
		risk assessment of the premises was undertaken by DWER.
L4496/1988/11	15/12/2020	Licence amended to include dewatering of the Maid Marion pit with discharge of 130,000 tpa of dewatering effluent to an onsite ephemeral creek.
L4496/1988/11	16/04/2021	Licence amendment to include dewatering of Caledonian, Caledonian Splay, Golden Shamrock, Nannine Reef and the Three Sisters mine pits.
L4496/1988/11	26/08/2022	Licence amendment for the construction and operation of: - A new dewatering discharge location into Lake Annean (Baileys Island discharge point). - Two new additional wastewater treatment ponds to increase the capacity at the existing waste water treatment plant. - A new inert/putrescible landfill on the South Junction/Ascot Waste Rock Dump. - Expansion of the existing inert landfills at the Surprise WRD and Paddy's Flat.
L4496/1988/11	23/12/2022	Licence amended to: - Include category 52 (Electric power generation) to account for the existing electric power generating facilities at the Premises. - Construct and operate a Hybrid Power Generation Facility which consists of the following: • Nine (9) Caterpillar 3512 Gas Powered Generators and two (2) Cummins Dual Fuel KTA50 Continuous Dual Fuel Generators for a combined output of 15.2 MW. • 13.1 megawatt (MW) photovoltaic solar array. • 5 MW battery storage system. • Two (2) 370,000 L LNG storage vessels.
L4496/1988/11	23/06/2023	Licence amendment for: • Dewatering of South Junction Pit into Romsey Pit and Mystery Pit; • Removal of construction requirements in Table 7 for infrastructure constructed and compliance reports received; • Extension to the existing expiry date of 30/09/2023 to 30/09/2033; • Condition numbering updated; and • Administrative changes.

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:

Premises operation

1. The Licence Holder shall ensure that materials described in Table 1 are only discharged into the containment structures with the relevant infrastructure requirements and at the locations specified in Table 1.

Table 1: Containment infrastructure

Containment point reference and location	Storage vessel or compound	Material	Infrastructure requirements
Bassetts West In-Pit TSF As shown in Schedule 1, Figure 7	Bassetts West Pit TSF	Tailings	Decant pump
Bluebird East In-Pit TSF As shown in Schedule 1, Figure 7	Bluebird East Pit TSF	Tailings	Decant pump
Surprise in-pit TSF As shown in Schedule 1, Figure 19	Surprise in-pit TSF	Tailings	Decant pump
Five Mile Well evaporation pond As shown in Schedule 1, Figure 15 as 'Turkeys Nest/Evap'	Five Mile Well evaporation pond	Dewatering water from the Five Mile Well pit	Managed to ensure containment of a 1 in 100 year rainfall event over 72 hours. Lined to achieve a minimum permeability of 10^{-9} m/s.
Process Water Dam As shown in Schedule 1, Figure 7	Process water dam	Decant water from the TSF	Lined with a membrane spray. Storage of return water from the TSF
Bluebird Sewage Infrastructure As shown in Schedule 1, Figure 21	Waste water treatment ponds	Sewage waste water undergoing treatment	Managed to ensure: • containment of a 1 in 100 year rainfall event over 72 hours; and • vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces and pond embankments.

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

3. The Licence Holder shall maintain the freeboards as detailed in Table 2.

Table 2: Freeboard requirements	
Storage vessel or compound	**Freeboard requirements**
Bassets West Pit TSF and Bluebird East Pit TSF	Minimum freeboard of 500 mm or equivalent to contain a 1 in 100 year rainfall event over 72 hours (whichever is greater).
Surprise in-pit TSF	Minimum freeboard of 3.0 m measured as the distance between the maximum normal operating pond level and the surrounding natural ground level outside of the pit.
Process Water Dam	Minimum freeboard of 300 mm.
Five Mile Well pit evaporation pond	Minimum freeboard of 500 mm.
Bluebird Sewage Infrastructure ponds	Minimum freeboard of 500 mm.

4. The Licence Holder shall:
(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	Daily
Return water lines	Visual integrity	Daily
Embankment freeboard	Visual to confirm required freeboard capacity is available	Daily
Dewatering discharge pipelines	Visual integrity	Daily

5. The Licence Holder shall ensure that any dewatering effluent shall only be managed in the following manner:
(a) used for dust suppression in a manner that does not cause damage to surrounding vegetation; or
(b) discharged in accordance with condition 14, 15 and 16.

6. The Licence Holder shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal, they are managed in accordance with the requirements in Table 4.

Table 4: Management of waste[1,2]		
Waste type	**Management strategy**	**Requirements**
Inert Waste Type 1 and Type 2 (other than tyres)	Receipt, handling and disposal of waste by landfilling	Disposal of waste by landfilling shall only take place within the landfill areas shown in Schedule 1, Figures 14, 17 and 18. Waste shall be placed in a defined trench or within an area enclosed by earthen or rock bunds. Only one trench shall be open for deposition at any one time. The separation distance between the base of the landfill and the highest groundwater level shall not be less than 3 m. Maintain a minimum distance of at least 100 m between the previously filled areas of the landfill and the active tipping area and any surface water body.
Inert Waste Type 2 (Tyres)		Disposal of tyres shall only take place within the tyre disposal areas shown in Schedule 1, Figures 12, 13, 14 and 16. Ensure that firefighting equipment is stored at the premises that is capable of controlling and/or abating a used tyre fire at the premises.
Special Waste Type 1		Must be wrapped in heavy duty plastic prior to acceptance.
Putrescible waste		No more than 1,000 tonnes per annual period of putrescible waste shall be disposed of by landfilling. Disposal of waste by landfilling shall only take place within the landfill area shown in Schedule 1, Figure 17 'proposed landfill site'. The separation distance between the base of the landfill and the highest groundwater level shall not be less than 3 m. No waste shall be stored/buried within 100 m of any surface water body. No putrescible waste shall be burnt.

Note 1: Requirements for landfilling tyres are set out in Part 6 of *the Environmental Protection Regulation 1987*.
Note 2: Additional requirements for the acceptance of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

7. The Licence Holder shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 5 and that sufficient stockpiles of cover are maintained on site at all times.

Table 5: Cover requirements[1]			
Waste Type	**Material**	**Depth**	**Timescales**
Putrescible	Clean fill	200 mm	Weekly
Inert Waste Type 1 and Type 2 (Plastics)	Inert and incombustible material	150 mm	Monthly
Inert Waste Type 2 (Tyres)	Soil or other dense inert and incombustible material	1,000 mm	At regular intervals so that no more than 1,000 tyres are left exposed at any one time. As soon as practical following the achievement of final waste levels in the area(s) where tyres are disposed of.
Special Waste Type 1	Clean fill		Immediately after disposal

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

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

9. The Licence Holder shall ensure the limits specified in Table 6 are not exceeded.

Table 6: 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	2,500,000 tonnes per annual period
6	Mine dewatering	5,953,000 tonnes per annual period
52	Electric power generation (using diesel fuel)	21 MW in aggregate
54	Sewage facility	150 cubic metres per day
63	Class I inert landfill site	3,000 tonnes per annual period
64	Class II putrescible landfill site	1,000 tonnes per annual period
84	Electric power generation (using natural gas)	15.2 MW in aggregate

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

10. The Licence Holder must install and undertake the Works for the infrastructure and equipment listed in Table 7, in accordance with the requirements as set out in Table 7 below.

Table 7: Construction Requirements

Infrastructure/Equipment	Requirements (design and construction)
Bluebird Power Station and LNG Storage area (Hybrid Power Generation Facility)	To be constructed at the locations as outlined in Schedule 1, Figures 24 and 25. Installation and commission of the following: - Nine (9) Caterpillar G3512 Gas powered generators including fuel and exhaust systems. - Two (2) Cummins KTA50 Continuous Dual Fuel Generators including fuel and exhaust systems. - Wastewater tank for the storage of contaminated water directed from the generator hall and bunded areas. - Five (5) 15,000 L storage tanks located within a concrete bunded area for the storage of waste oil, diesel fuel, diesel oil and oil. - Two (2) 370,000 L gas (LNG) storage vessels located on an existing hardstand area.
Surprise in-pit TSF	Tailings discharge and return pipelines are located within earthen bunded areas; and The decant infrastructure is positioned at the truncated end of the porphyry unit within the pit.
Five Mile Well Pit evaporation pond	Pond is constructed to provide a minimum freeboard of 0.5 m to allow for a 1 in 100 year 72 hour rainfall event; The in-situ clays used for the pond wall construction are conditioned to achieve a permeability of 10^{-9} m/s or better; and Discharge pipeline is located within an earthen bunded area.
Bluebird Sewage Ponds	Two new additional wastewater treatment ponds to be constructed at the location specified in Schedule 1, Figure 21. Constructed as an extension to the existing sewage pond infrastructure to increase the total capacity to treat 150 m^3 of wastewater per day. The two new ponds are to function as facultative ponds and be constructed with the following specifications: - Depth between 1.2 to 2 m - 80 m in length - 30 m wide - 1.8 m high embankment - Combined volume (2 ponds) 5,136 m^3 Pond liner material, method of construction and integrity testing and certification shall comply with the requirements set out in 'DWER August 2013, Water quality protection note 27, *Liners for containing pollutants, using engineered soils'.*

Table 7: Construction Requirements	
Infrastructure/Equipment	**Requirements (design and construction)**
	Earthen bunded walls with a minimum height 1,200 mm installed around the perimeter of the pond. Perimeter security fencing to prevent access by unauthorised persons and fauna.
Dewatering pipelines from the Boomerang, Kurara and Kurara Central pits to Lake Annean	• Built with butt welded polyvinylchloride; • Located within previously cleared transport corridors; • Located within a V-notch to minimize movement of the pipeline; • Discharge outlet into Lake Annean includes an energy diffusion device/s to minimize scouring and erosion of the lake bed; and • The dewatering discharge outlet is located so as to direct flows to deeper parts of the lake basin to prevent backflow of saline water into creeks and tributaries.
Dewatering pipelines from Caledonian, Caledonian Splay, Golden Shamrock, Nannine Reef and the Three Sisters mine pits to the Aladdin discharge pipeline	• Built with butt welded polyvinylchloride; • Located within previously cleared transport corridors; • Located within a V-notch to minimize movement of the pipeline; • Connected to the Aladdin discharge pipeline.
Dewatering pipelines from the Baileys North, Baileys East and Baileys South pits to the Baileys discharge point	• Built with butt welded polyvinylchloride; • Located within previously cleared transport corridors; • Located within a V-notch to minimize movement of the pipeline.
Bailey's discharge point	• Discharge outlet into Lake Annean includes an energy diffusion device/s to minimize scouring and erosion of the lake bed; and • The dewatering discharge outlet is positioned to direct flows to deeper parts of the lake basin in order to avoid riparian vegetation, and to prevent backflow of saline water into creeks and tributaries.
Dewatering pipeline from South Junction pit to Romsey pit and Mystery pit	• To be constructed at the locations as shown in Schedule 1, Figure 26; • HDPE pipeline; • Flow meter installed; • Located within previously cleared transport corridors; and • Located within a V-notch to minimise movement of the pipeline.

11. If any departures from the specifications in Table 7 occur, then the Licence Holder must provide the CEO with a list of departures which are certified as complying with Condition 10 at the same time as the certifications under Condition 12.

12. The Licence Holder must submit a construction compliance document to the CEO, within one month, following the construction of the Works and prior to operating the new works at the premises.

13. The Licence Holder must ensure the construction compliance document:
(a) is certified by a suitably qualified professional engineer or builder that each item of infrastructure specified in Condition 10, Table 7 (where not previously submitted) 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.

Emissions and discharges

Emission to land

14. The Licence Holder shall ensure that where waste is emitted to land from the emission points in Table 8 it is done so in accordance with the conditions of this Licence.

Table 8: Emissions to land

Emission points reference and locations	Description	Source including abatement
North of Reedy Drainage Discharge North Reedy Discharge As shown in Schedule 1, Figures 2 and 3	Dewatering discharge	Dewatering effluent from the Rand, South Emu/Triton and Jack Ryan pits. Discharged via slotted pipe. Rip rap installed in the channel near the end of the discharge pipeline. Discharged in a manner which does not cause erosion and scouring impacts, and reduces the likelihood of surface ponding.
South of Reedy Drainage South Reedy Discharge As shown in Schedule 1, Figures 4 and 5		
Maid Marion Dewatering Discharge point As shown in Schedule 1, Figure 22		Dewatering effluent from the Maid Marion Mine Void extraction point. Discharge via slotted pipe designed to minimise scouring and/or erosion of the land/ephemeral creek bed. The outflow point and the final lengths of the discharge pipeline to be positioned on a clean fresh rock layer (or similar material) to diffuse flow, such that it minimises scouring and/or erosion of the land/ ephemeral creek bed. A series of rock bunds (or similar infrastructure) along the discharge area (ephemeral creek), such that they: • slow the rate of water flow; and • trap suspended solids from runoff from the discharge area.

Emissions to surface water

15. The Licence Holder shall ensure that where waste is emitted to surface water from the emission points in Table 9 it is done so in accordance with the conditions of this Licence.

Table 9: Emissions to surface water		
Emission point reference and location	**Description**	**Requirements**
Aladdin pit discharge point As shown in Schedule 1, Figures 6 and 23	Dewatering effluent from the Aladdin, Caledonian, Caledonian Splay, Golden Shamrock, Nannine Reef or Three Sisters pits and discharged to Lake Annean.	Discharged in a manner which does not cause erosion and scouring impacts and avoids lake edges.
Boomerang pit discharge point As shown in Schedule 1, Figure 6	Dewatering effluent from the Boomerang, Kurara and Kurara Central pits.	
Baileys Island pits discharge point As shown in Schedule 1, Figure 6	Dewatering effluent from the Baileys North, Baileys East, and Baileys South pits.	

16. The Licence Holder shall not cause or allow point source emissions to surface water greater than the limits listed in Table 10.

Table 10: Point source emission limits to surface water				
Emission point reference	**Parameter**	**Limit (including units)**	**Averaging period**	**Frequency**
Aladdin pit discharge point	Total Recoverable Hydrocarbons	15 mg/L	Spot sample	Quarterly
Boomerang pit discharge point				
Baileys Island pits discharge point				

Monitoring

General monitoring

17. The Licence Holder shall ensure that:

(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;

(b) all waste water 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 unless indicated otherwise in the relevant table.

18. The Licence Holder shall ensure that:
(a) weekly monitoring is undertaken at least 4 days apart;
(b) monthly monitoring is undertaken at least 15 days apart; and
(c) quarterly monitoring is undertaken at least 45 days apart.

19. The Licence Holder shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

20. The Licence Holder shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

Monitoring of inputs and outputs

21. The Licence Holder shall undertake the monitoring in Table 11 according to the specifications in that table.

Table 11: Monitoring of inputs and outputs

Input/ Output	Parameter	Units	Averaging period	Frequency
Mine dewater discharged to North of Reedy Drainage Channel	Volume	m^3	Monthly	Cumulative monthly total
Mine dewater discharged to South of Reedy Drainage Channel				
Mine dewater discharged to Lake Annean (Aladdin pit discharge point)				
Mine dewater discharged to Lake Annean (Boomerang pit discharge point)				
Mine dewater discharged to Lake Annean (Baileys Island pits discharge point)				
Maid Marion Dewatering Discharge point				
Mine dewatering from South Junction Pit to Romsey Pit and Mystery Pit				

Monitoring of emissions to land

22. The Licence Holder shall undertake the monitoring in Table 12 according to the specifications in that table.

Table 12: Monitoring of emissions to land				
Monitoring point reference	**Parameter**	**Units**	**Averaging period**	**Frequency**
- Maid Marion Dewatering Discharge point	pH[1]	pH units	Spot sample	Monthly
	Aluminium (Al)	mg/L		
	Antimony			
	Arsenic (As)			
	Barium			
	Beryllium			
	Boron			
	Cadmium (Cd)			
	Chromium (Cr III)			
	Chromium (Cr IV)			
	Cobalt			
	Copper (Cu)			
	Iron			
	Lead (Pb)			
	Manganese (Mn)			
	Mercury (Hg)			
	Molybdenum			
	Nickel (Ni)			
	Nitrate (as NO_3)			
	Selenium (Se)			
	Silicon			
	Thallium			
	Uranium			
	Vanadium			
	Zinc (Zn)			

Table 12: Monitoring of emissions to land				
Monitoring point reference	**Parameter**	**Units**	**Averaging period**	**Frequency**
	Total recoverable hydrocarbons (TRH)			
	Total dissolved solids (TDS)			
	Total suspended solids (TSS)			
- North of Reedy Drainage Channel outflow pipe - South of Reedy Drainage Channel outflow pipe	pH[1]	pH units	Spot sample	Monthly
	Aluminium (Al)	mg/L		
	Arsenic (As)			
	Cadmium (Cd)			
	Chromium (Cr)			
	Copper (Cu)			
	Lead (Pb)			
	Manganese (Mn)			
	Mercury (Hg)			
	Nickel (Ni)			
	Selenium (Se)			
	Zinc (Zn)			
	Total recoverable hydrocarbons (TRH)			
	Total dissolved solids (TDS)			
	Total suspended solids (TSS)			

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

Ambient environmental quality monitoring

23. The Licence Holder shall undertake the monitoring in Table 13 according to the specifications in that table and record and investigate results that do not meet any limit specified.

Table 13: Monitoring of ambient groundwater quality					
Monitoring point reference and location	**Parameter**	**Limit**	**Units**	**Averaging period**	**Frequency**
BWMB1, BWMB2, BWMB3, BWMB4, BWMB5 and BWMB 6 (Bassetts West Pit TSF) PWD01, PWD02, PWD03 (Process Water Dam) BEMB1, BEMB2, BEMB3 and BEMB4 (Bluebird East Pit TSF)[2] As shown in Schedule 1, Figure 8 SB01, SB02 and SB03[3] (Surprise in-pit TSF) As shown in Schedule 1, Figure 20	Standing water level[1]	-	m(AHD)	Spot sample	Quarterly
	pH	≥6.0 to ≤9.0	-		
	Total dissolved solids (TDS)	-	mg/L		
	Arsenic (As)	0.5			
	Cadmium (Cd)	-			
	Chromium (Cr)	-			
	Copper (Cu)	0.5			
	Lead (Pb)	-			
	Mercury (Hg)	-			
	Nickel (Ni)	1.0			
	Selenium (Se)	-			
	Zinc (Zn)	20			
	Weak acid dissociable cyanide (WAD)	0.5			

Note 1: Standing water level shall be determined prior to collection of water samples.
Note 2: Water samples shall be collected from monitoring points BEMB1 to BEMB4, and be analysed for each listed parameter, prior to the deposition of tailings into the Bluebird East Pit TSF. The results shall be presented in the Annual Environmental Report as required by Condition 30.
Note 3: Monitoring of the "Surprise in-pit TSF" is only required once deposition within the TSF commences. After deposition has commenced, on-going monitoring is required, even after deposition has ceased.

24. The Licence Holder shall 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: Additional monitoring at the ephemeral creek discharge locations			
Monitoring location	**Type of monitoring**	**Scope of monitoring**	**Frequency of monitoring**
Discharge point and along the ephemeral watercourse	Photograph the area around discharge location and immediately downstream of discharge (wetting front), so can be compared to subsequent and/or previous photographs.	Identify introduction of weeds	Weekly (when dewatering in operation)
		Identify presence of algae/algal bloom	
Discharge point and along the ephemeral watercourse wetting front	Vegetation monitoring using the Normalised Difference Vegetation Index (NDVI) method	Monitor changes in vegetation condition and health	Monthly[1] (when dewatering in operation)
Wetting front	Aerial (drone) monitoring of wetting front downstream of discharge	Record extent of discharge flows, particularly with respect to the Meekatharra Water Reserve	Weekly drone monitoring event to be undertaken each time mine dewater reaches the Great Northern Highway culvert. Monitoring to cease when mine dewater has not been observed entering the Great Northern Highway culvert for a period of seven consecutive days.
	Physical inspection/monitoring (with GPS) of the wetting front downstream of discharge	Record extent of discharge flows, particularly with respect to the Meekatharra Water Reserve	Daily physical inspection/monitoring event to be undertaken each time mine dewater reaches the Great Northern Highway culvert. Monitoring to cease when mine dewater has not been observed entering the Great Northern Highway culvert for a period of seven consecutive days.

Monitoring of point source emissions to surface water

25. The Licence Holder shall undertake the monitoring in Table 15 according to the specifications in that table.

Table 15: Monitoring of point source emissions to surface water				
Emission point reference	**Parameter**	**Units**	**Averaging period**	**Frequency**
Aladdin drainage point Boomerang discharge point Baileys Discharge Point	pH	pH units	Spot sample	Quarterly
	Aluminium (Al)	mg/L		
	Antimony (Sb)			
	Arsenic (As)			
	Cadmium (Cd)			
	Chromium (Cr)			
	Copper (Cu)			
	Lead (Pb)			
	Manganese (Mn)			
	Mercury (Hg)			
	Nickel (Ni)			
	Nitrate (as NO_3)			
	Selenium (Se)			
	Sulfate (SO_4)			
	Total Recoverable Hydrocarbons (TRH)			
	Total suspended solids (TSS)			
	Total dissolved solids (TDS)			
	Zinc (Zn)			

Note 1: Monitoring of the “Boomerang discharge point and “Baileys Discharge Point” is only required once discharge commences. After discharge has commenced, on-going monitoring is required, even after discharge has ceased.

Ambient soil quality monitoring

26. The Licence Holder shall undertake the monitoring in Table 16 according to the specifications in that table.

Table 16: Monitoring of ambient soil quality at Lake Annean				
Monitoring point reference and location	**Parameter**	**Units**	**Averaging period**	**Frequency**
Lake Annean sediment monitoring locations LA11 to LA39 As shown in Schedule 1, Figure 9 and LASED_03, LASED_05, LASED_07, LASED_08, LASED_09, LASED_10, LASED_11, LASED_13, LASED_14, LASED_15, and LASED_16 As shown in Schedule 1, Figure 10	pH	None specified	Spot sample	Quarterly
	Aluminium (Al)	mg/kg		
	Arsenic (As)			
	Cadmium (Cd)			
	Chromium (Cr)			
	Copper (Cu)			
	Cobalt (Co)			
	Lead (Pb)			
	Manganese (Mn)			
	Mercury (Hg)			
	Nickel (Ni)			
	Selenium (Se)			
	Sulfate (SO_4)			
	Zinc (Zn)			
	Total Phosphorus (PO_4)			
	Total Nitrogen (N)			

Note 1: Monitoring of discharge to Lake Annean is only required once discharge commences. After discharge has commenced, on-going monitoring is required, even after discharge has ceased.

Ambient riparian vegetation monitoring

27. The Licence Holder shall undertake the monitoring in Table 17 according to the specifications in that table.

Table 17: Monitoring of ambient riparian vegetation quality				
Monitoring point reference and location	**Parameter**	**Requirements**	**Method**	**Frequency**
LAVEG_05, LAVEG_06, LAVEG_07, LAVEG_09, LAVEG_10, LAVEG_11 and LAVEG_12 As shown in Schedule 1, Figure 11	Vegetation health (i.e. decline in vegetation or change in composition)	The Licence Holder shall: (i) take photographic images; (ii) provide a general environmental description of the site; and (iii) record any changes to vegetation health or composition.	Visual inspection and photographs	Biannually during dewatering operations and once at cessation of dewatering operations

Records and reporting

28. 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.

29. 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.

30. The Licence Holder shall 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 18 in the format or form specified in that table.

Table 18: Annual Environmental Report		
Condition or table (if relevant)	**Parameter**	**Format or form[1]**
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken.	None specified
Table 6	Summary of authorised activities including comparison of the approved production and design capacities and actual production/throughput for the Annual period.	None specified
21	Monitoring of dewater outputs.	None specified
22	Monitoring of point source emissions to land and comparison against the ANZECC Livestock Drinking Water Guidelines.	LR1
23	Monitoring of ambient groundwater quality and comparison against the ANZECC Livestock Drinking Water Guidelines.	GR1
24	Additional monitoring at ephemeral creek discharge location to monitor potential impacts.	None specified
25	Monitoring of emissions to surface water.	WR1
26	Monitoring of ambient soil quality at Lake Annean.	None specified
27	Monitoring of ambient riparian vegetation quality at Lake Annean.	None specified
-	An assessment of the information contained within the report against previous monitoring results and any Licence limits.	None specified
29	Compliance.	Annual Audit Compliance Report (AACR)[2]
28	Complaints summary.	None specified

Note 1: Forms are in Schedule 2
Note 2: The AACR form is available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/publications

31. 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 10 of this licence;

(c) any maintenance of infrastructure that is performed in the course of complying with conditions of this licence;

(d) monitoring programmes undertaken in accordance with conditions 21 to 27 of this licence; and

(e) complaints received under condition 28 of this licence.

32. The books specified under condition 31 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.

33. The Licence Holder shall submit the information in Table 19 to the CEO according to the specifications in that table.

Table 19: 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 CEOs request	As received by the Licence Holder from third parties

34. The Licence Holder shall 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]
9, 16 and 23	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

Note 1: Forms are in Schedule 2

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).
AER	Annual Environmental Report.
annual period	a 12 month period commencing from 1 September until 31 August of the immediately following year.
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples.
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 Water Quality –Sampling – Guidance on sampling of waste waters.
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 Water Quality – Sampling – Guidance on sampling of groundwaters.
averaging period	means the time over which a limit 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
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.
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
Facultative pond	means ponds in which a combination of anaerobic, aerobic and facultative

Term	Definition
	(able to grow in either the presence or absence of oxygen) bacteria stabilise effluents.
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
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.
Landfill definitions	means the document titled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer of the Department of Water and Environmental Regulation as amended from time to time.
m	means metres.
m^3	means cubic metres.
mbgl	means metres below ground level.
NATA	means the National Association of Testing Authorities, Australia.
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
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.
Putrescible waste	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 (as amended time to time) under EP Act 1986.
quarterly	means the 4 inclusive periods from 1 September to 30 November, 1 December to 28 February in the following year, 1 March to 31 May and 1 June to 31 August.
Six monthly	means the 2 inclusive periods from 1 September to 28 February in the following year and 1 March to 31 August.
Special Waste Type 1	has the meaning defined in Landfill Waste Classification and Waste Definitions 1996 (as amended time to time) under EP Act 1986.
Spot sample	means a discrete sample representative at the time and place at which the sample is taken.
tpa	means tonnes per annum.
TDS	means Total Dissolved Solids.
TRH	means Total Recoverable Hydrocarbons.

Term	Definition
TSF	means tailing storage facility.
TSS	means Total Suspended Solids.
WADCN	means Weak Acid Dissociable Cyanide.
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

The boundary of the prescribed premises is shown in the map below (Figure 1).

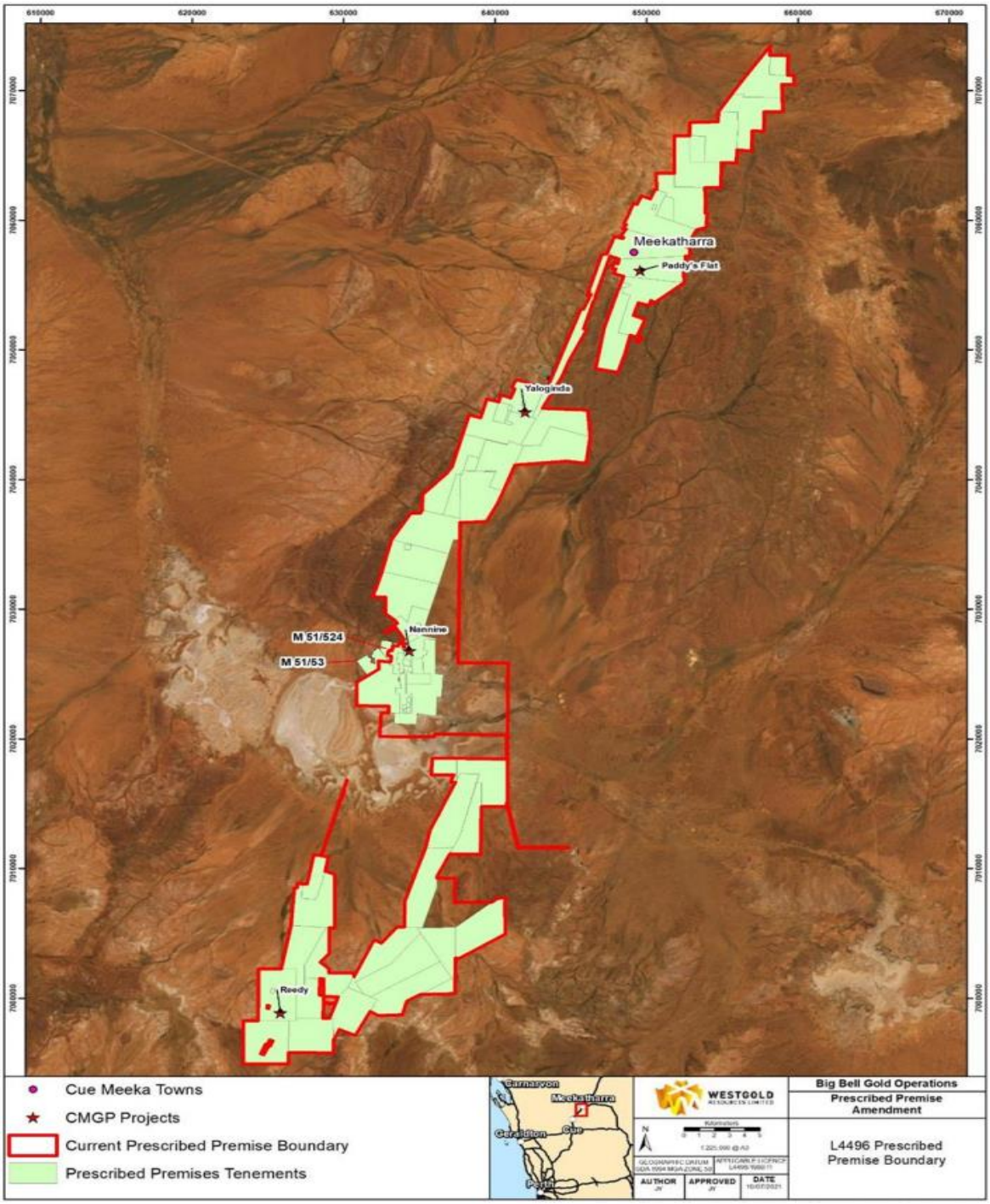

Figure 1 – Map of the boundary of the prescribed premises

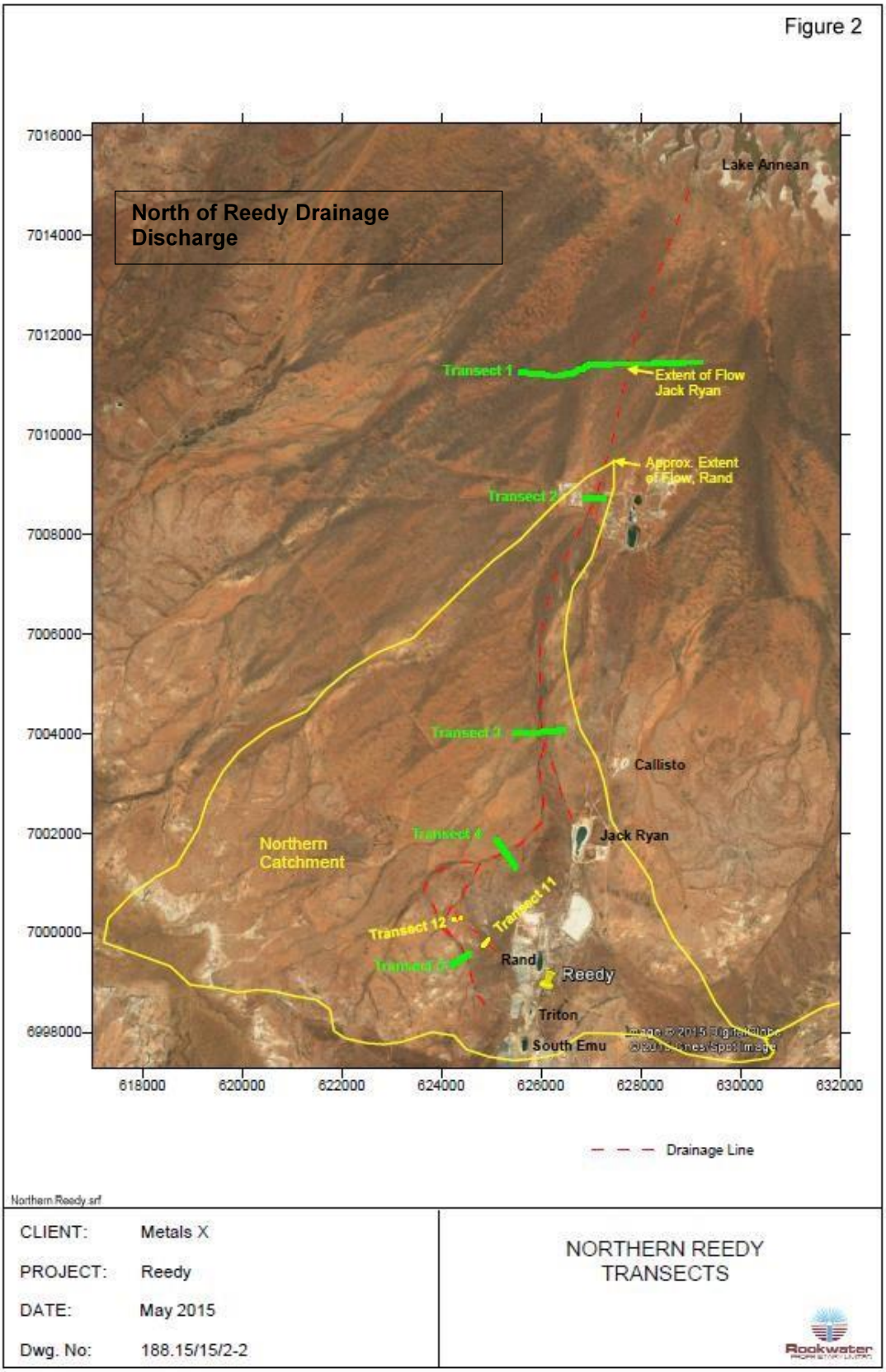

Figure 2 – North of Reedy Drainage Discharge

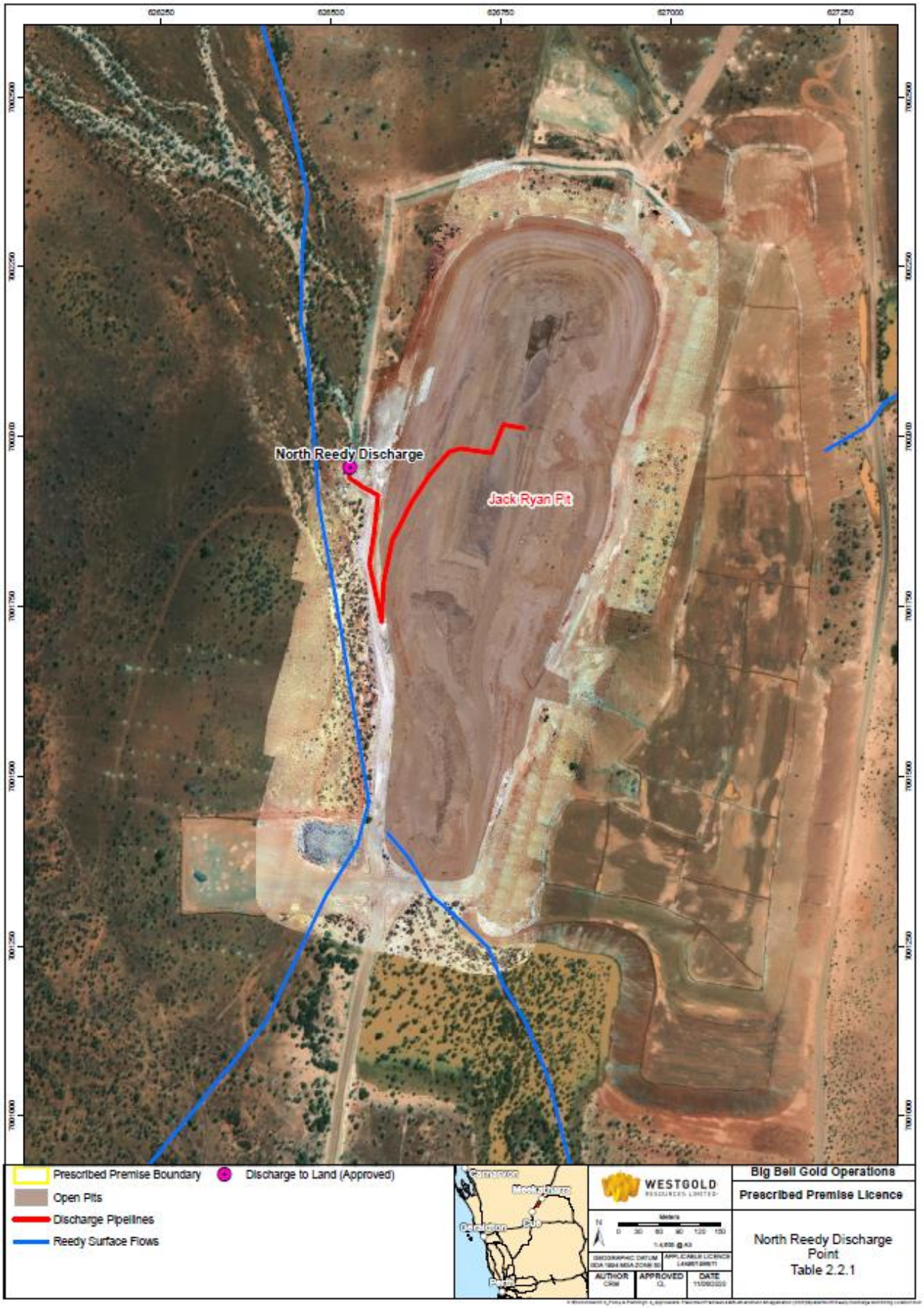

Figure 3 – North Reedy Discharge

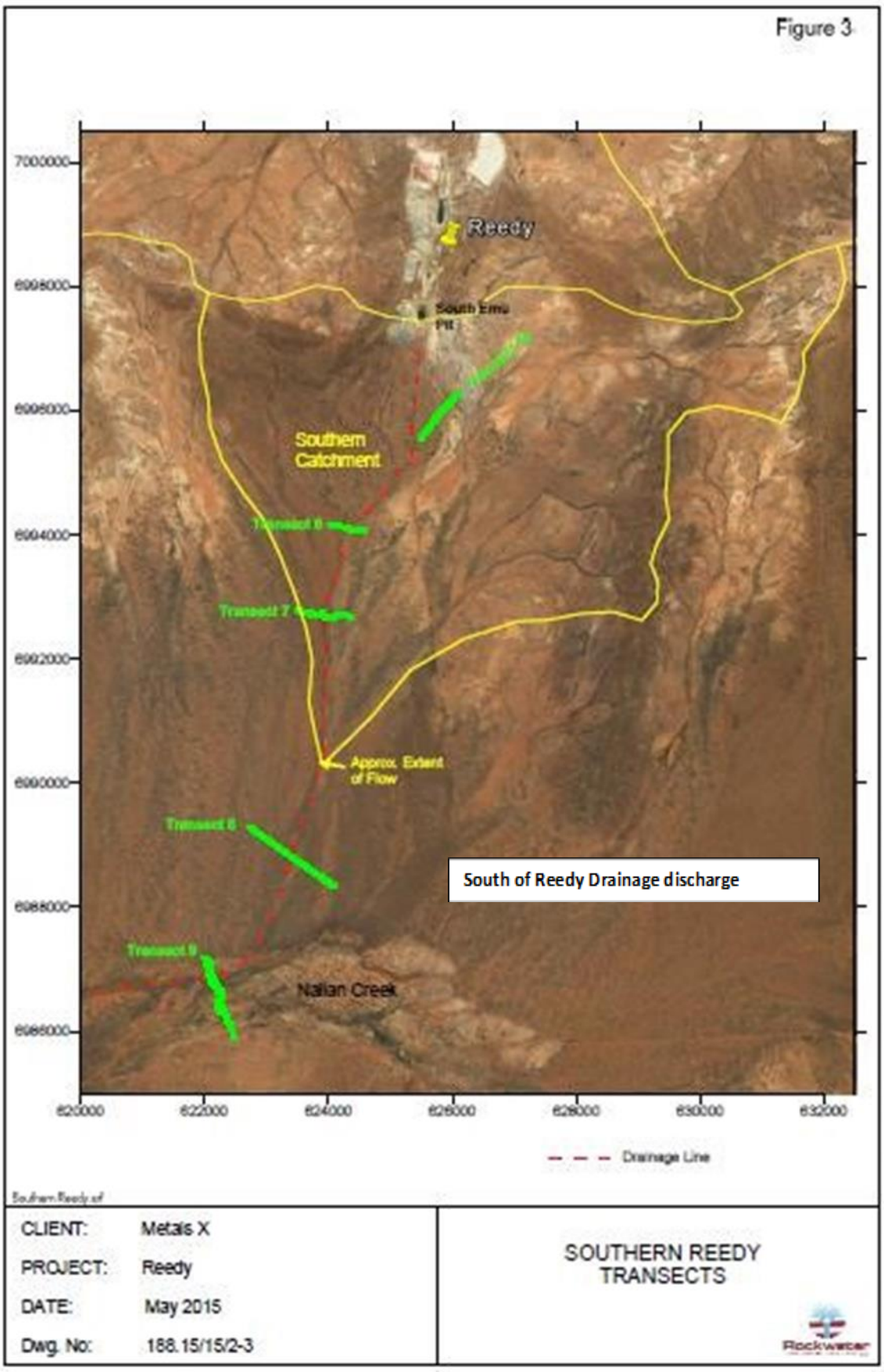

Figure 4 – South of Reedy Drainage Discharge

Figure 5 – South Reedy Discharge

Figure 6 – Lake Annean discharge points

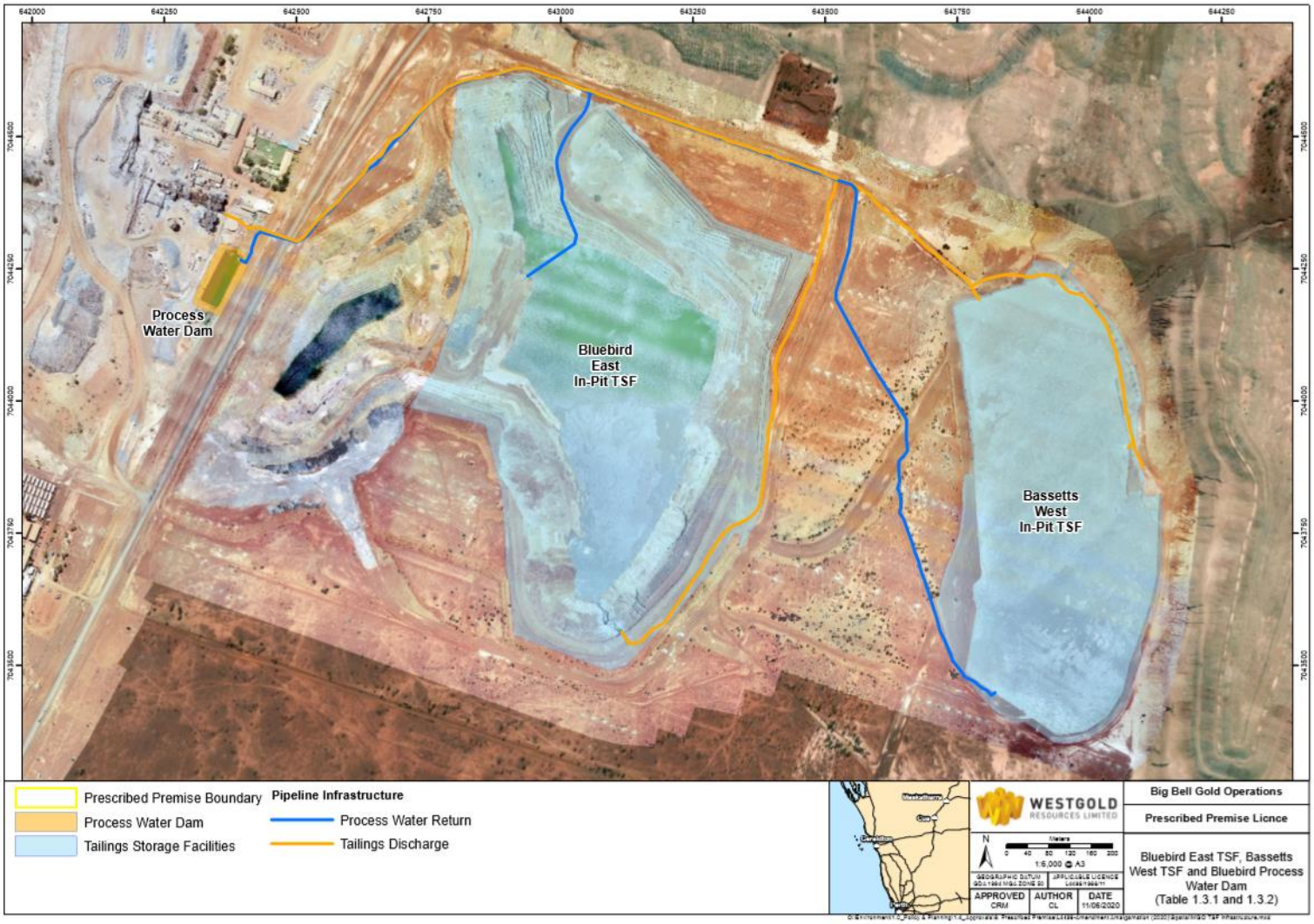

Figure 7 – Process Water Dam, Bluebird East In-Pit TSF, Bassetts West In-Pit TSF

The locations of the monitoring points defined in Table 13 are shown in the map below.

Figure 8 – Process Water Dam, Bluebird East In-Pit TSF, Bassetts West In-Pit TSF monitoring bores

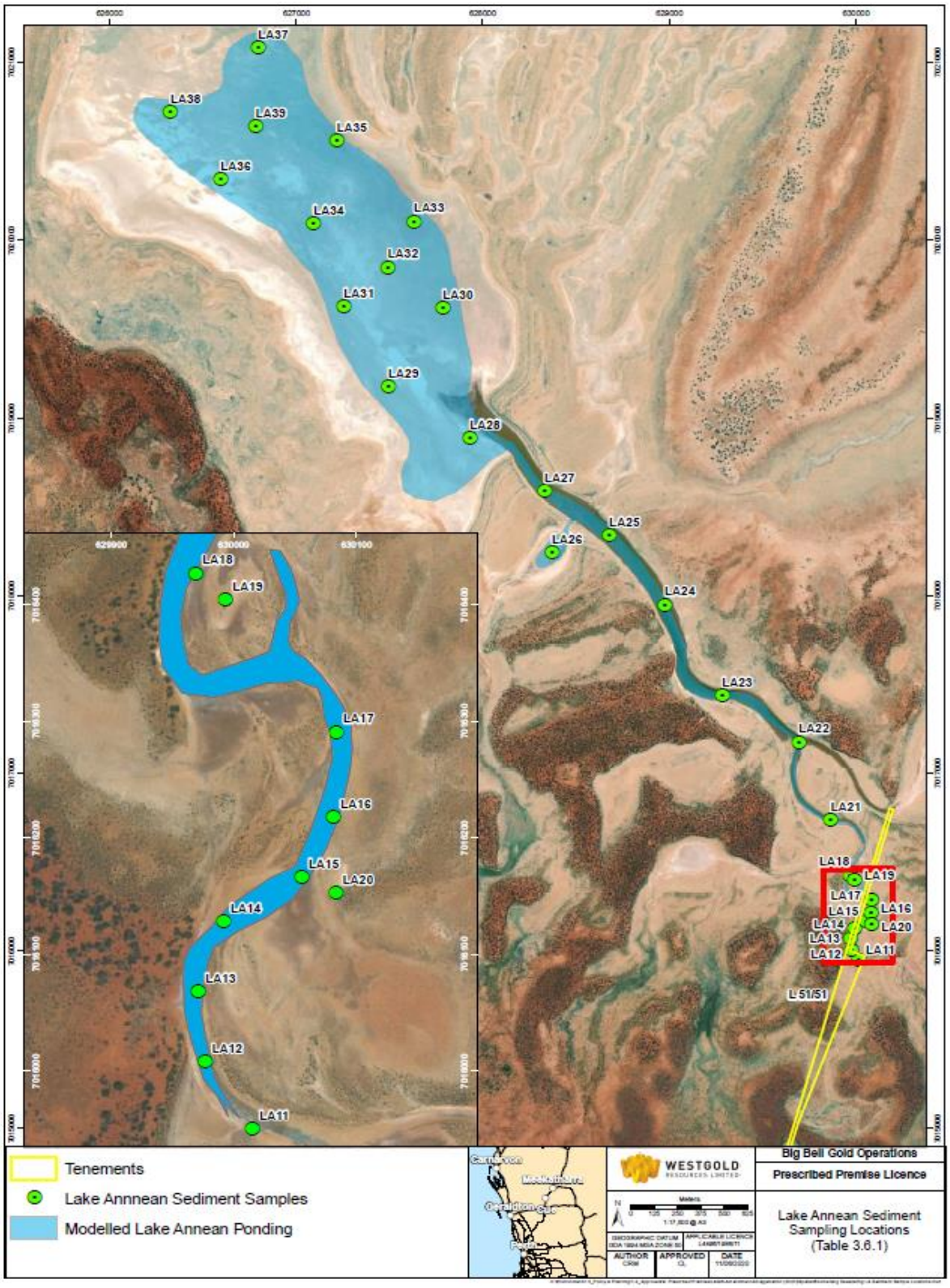

Figure 9 – Lake Annean Sediment Sampling Locations

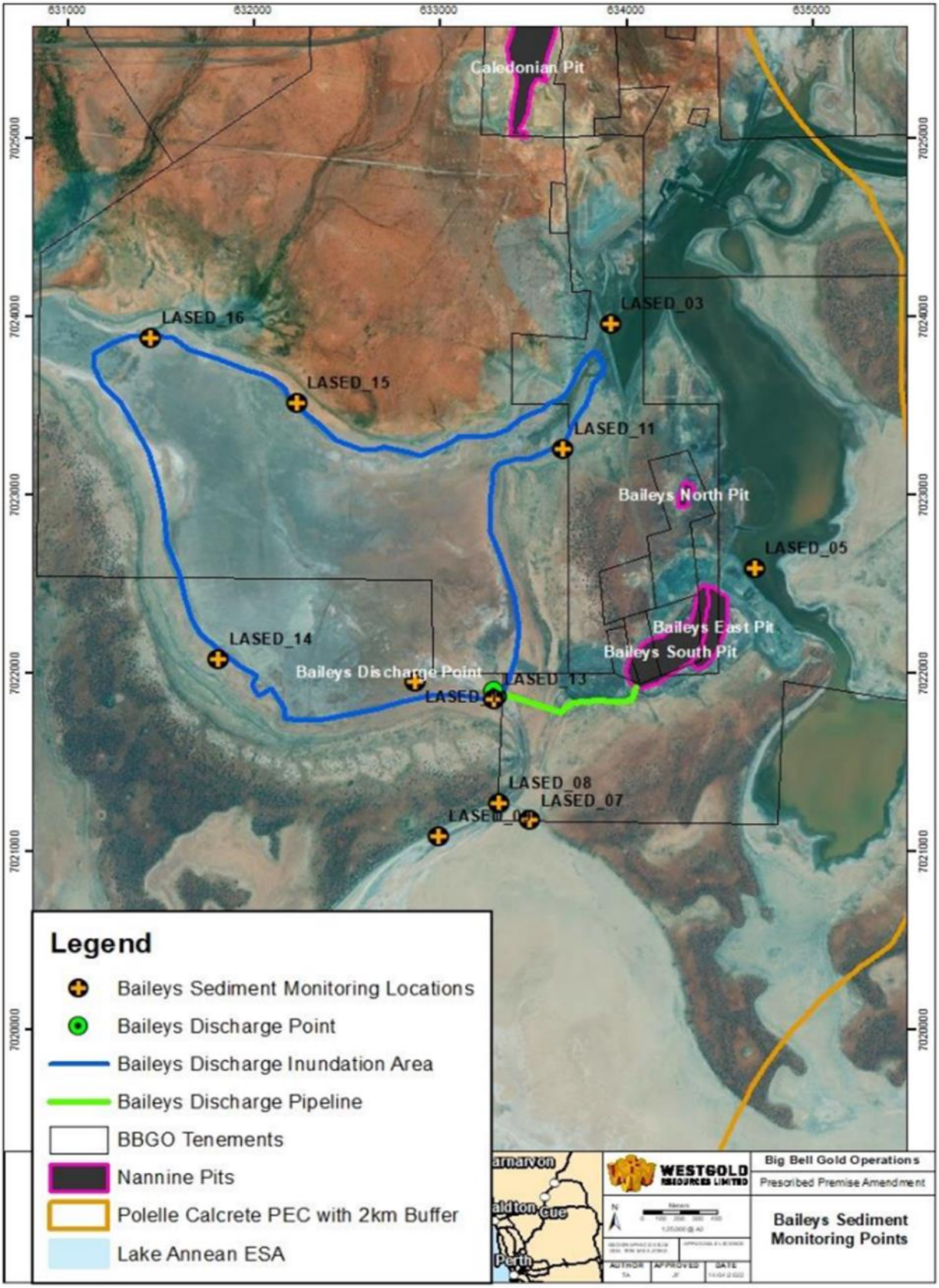

Figure 10 - Baileys sediment monitoring locations

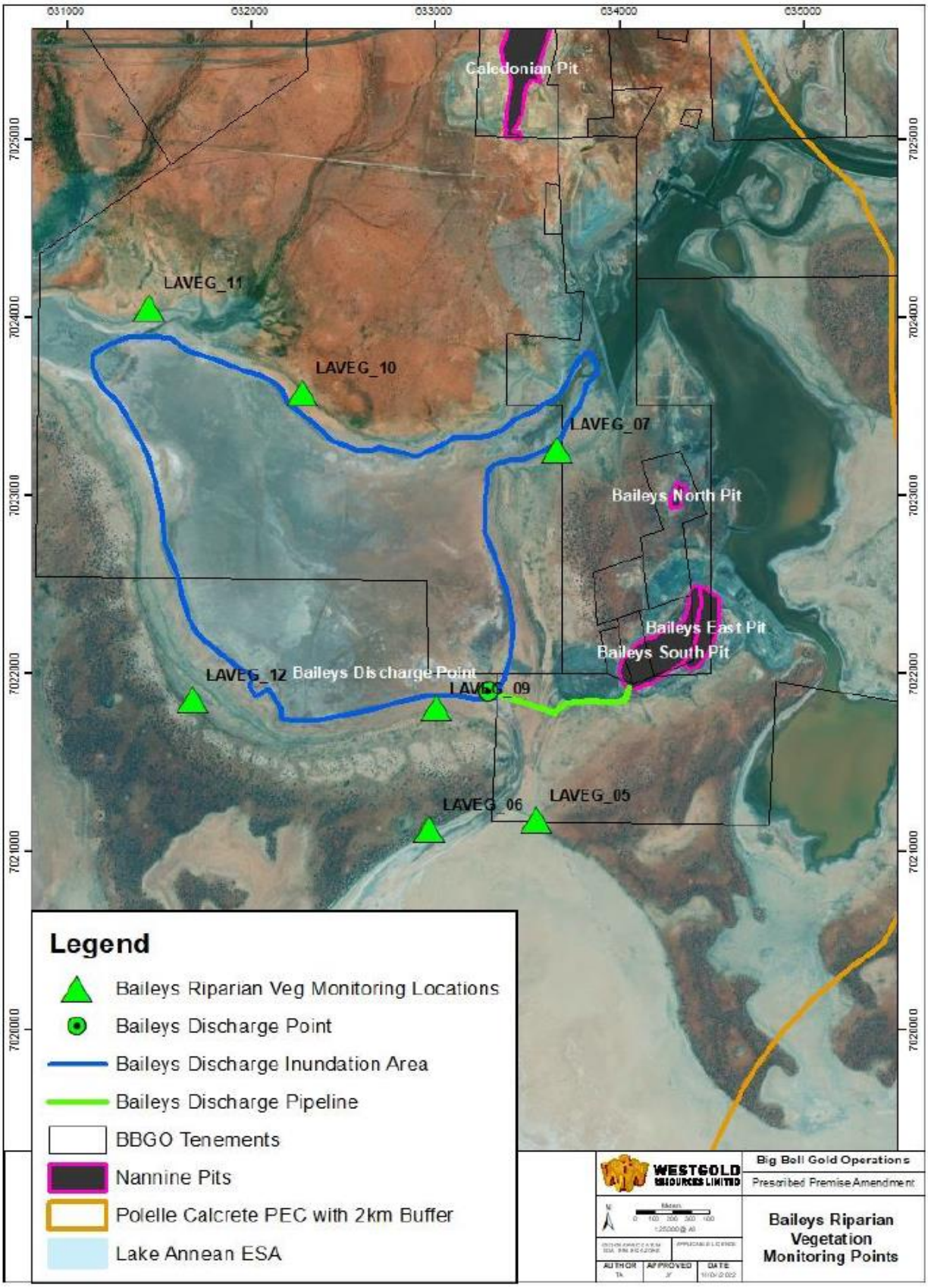

Figure 11 - Baileys riparian vegetation monitoring locations

The locations for tyre disposal as identified in Table 4 is shown below.

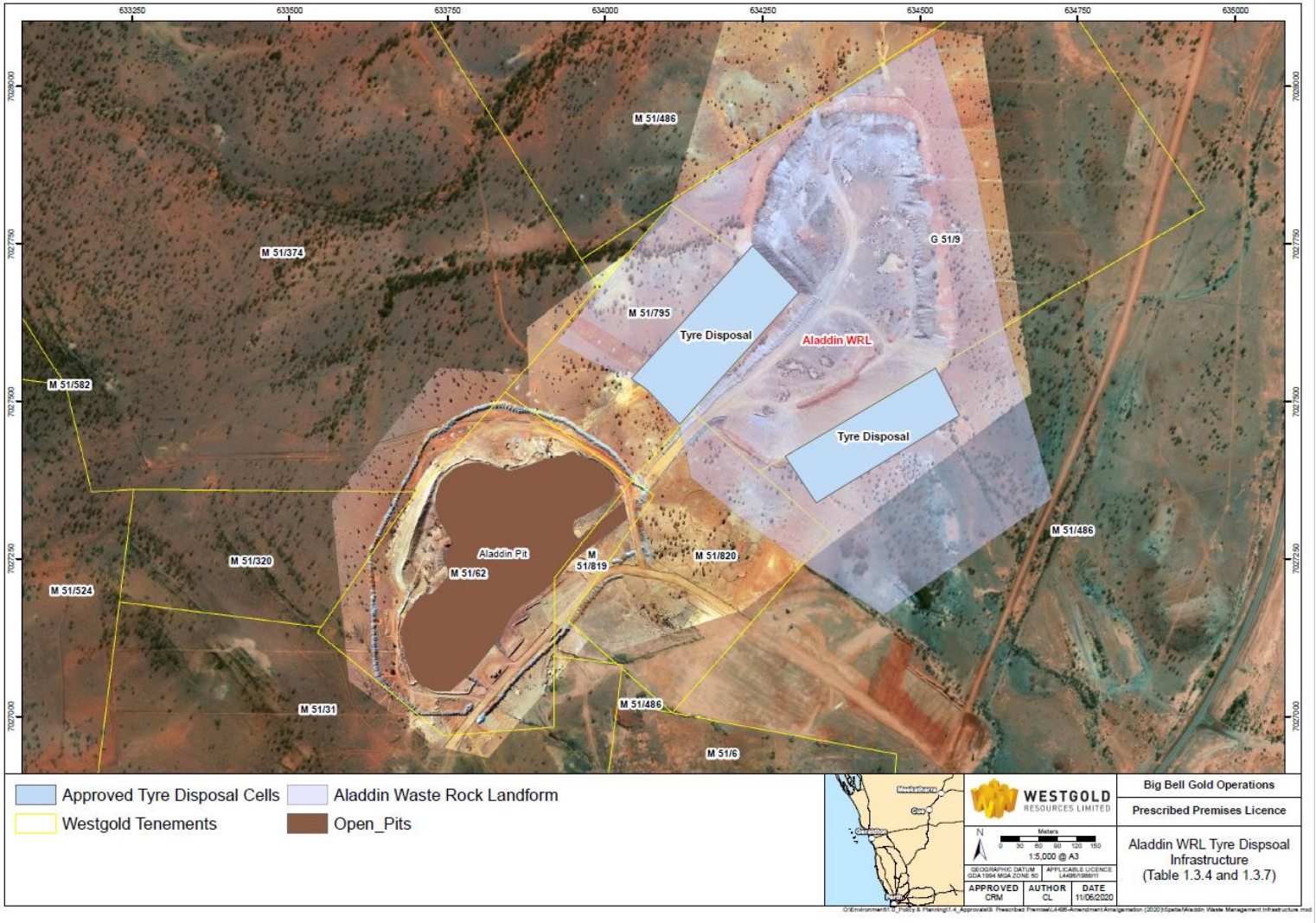

Figure 12– Aladdin WRL and Tyre Disposal Infrastructure

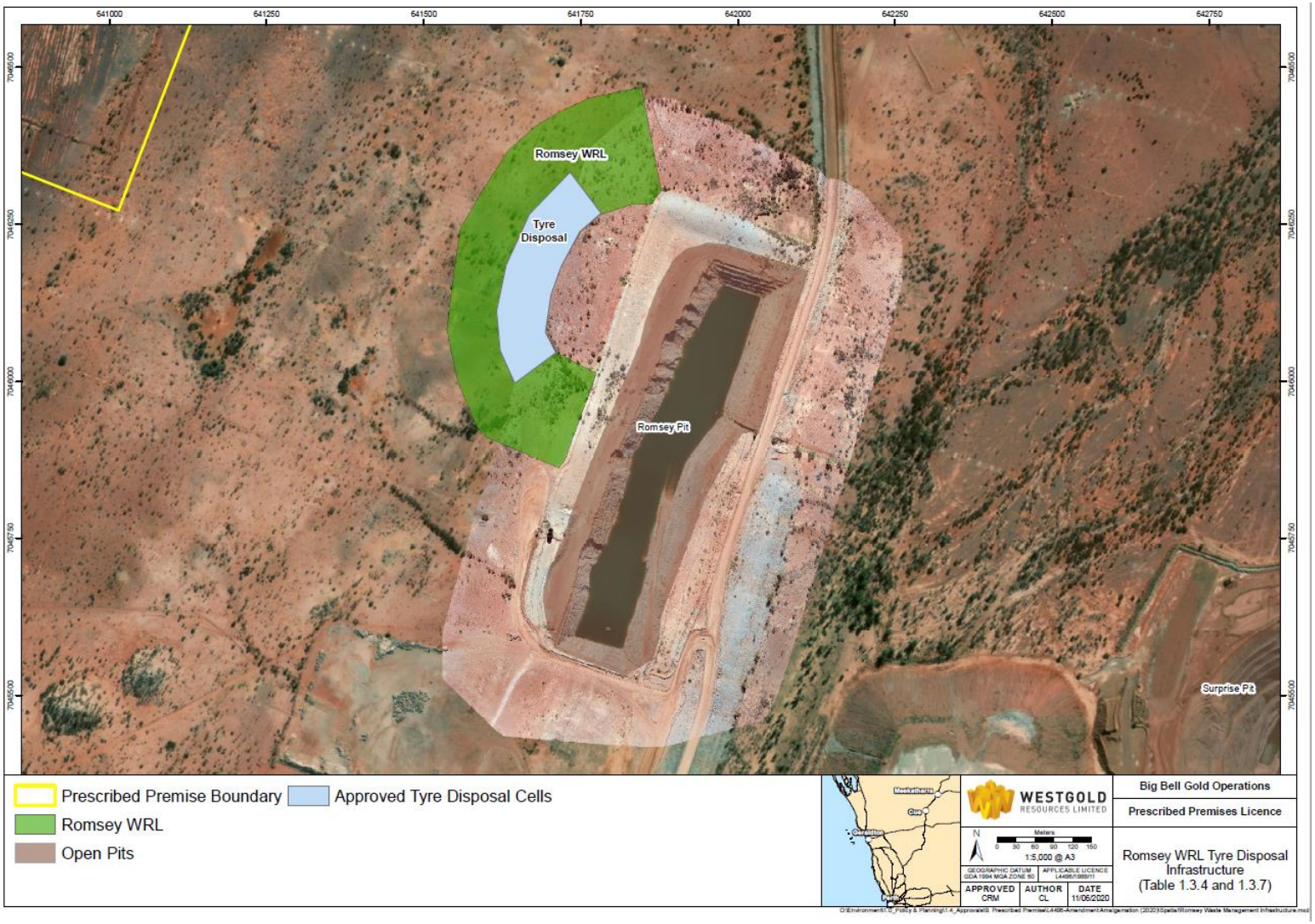

Figure 13 – Romsey Waste Management Infrastructure

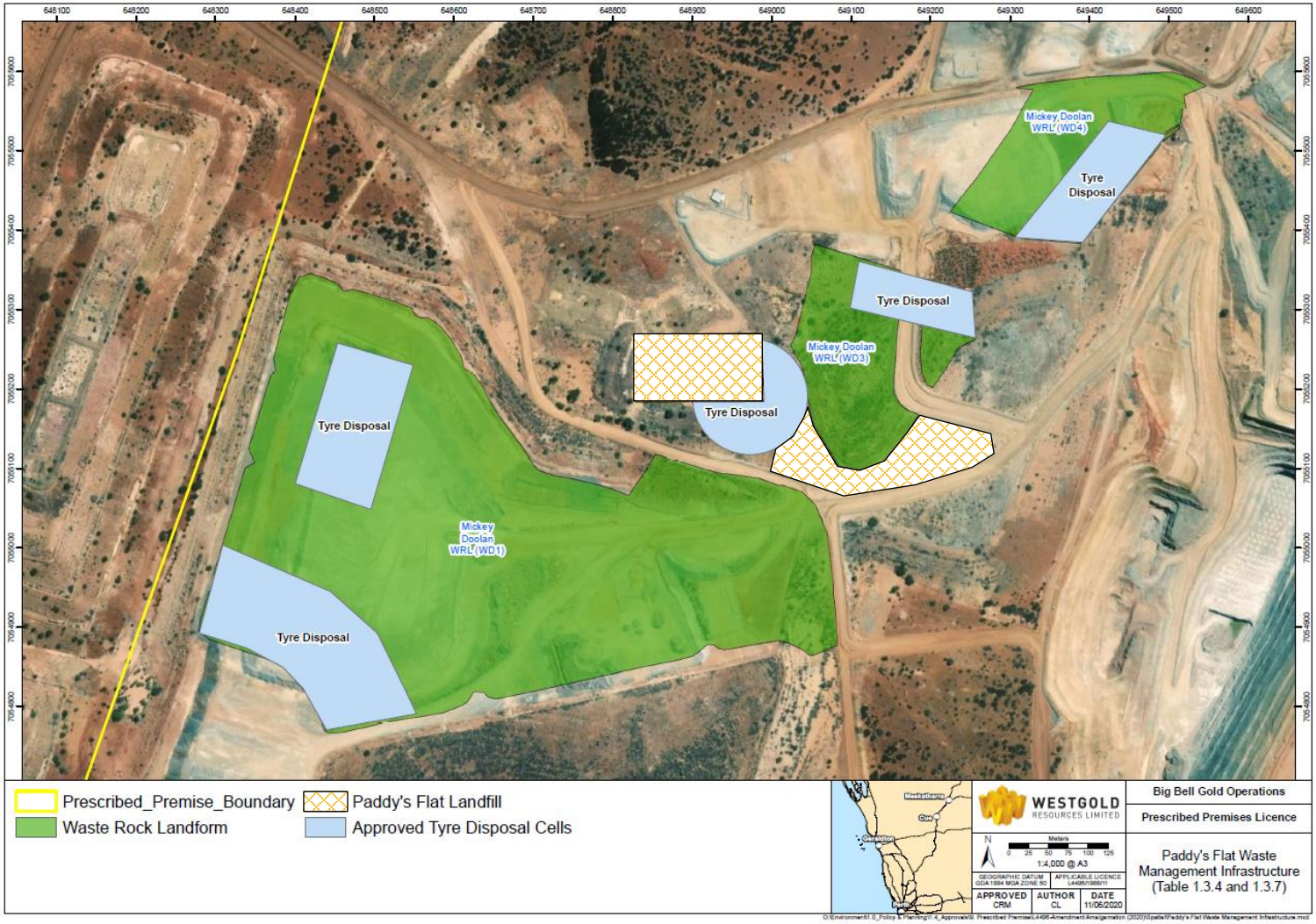

Figure 14 – Paddy's Flat Waste Management Infrastructure

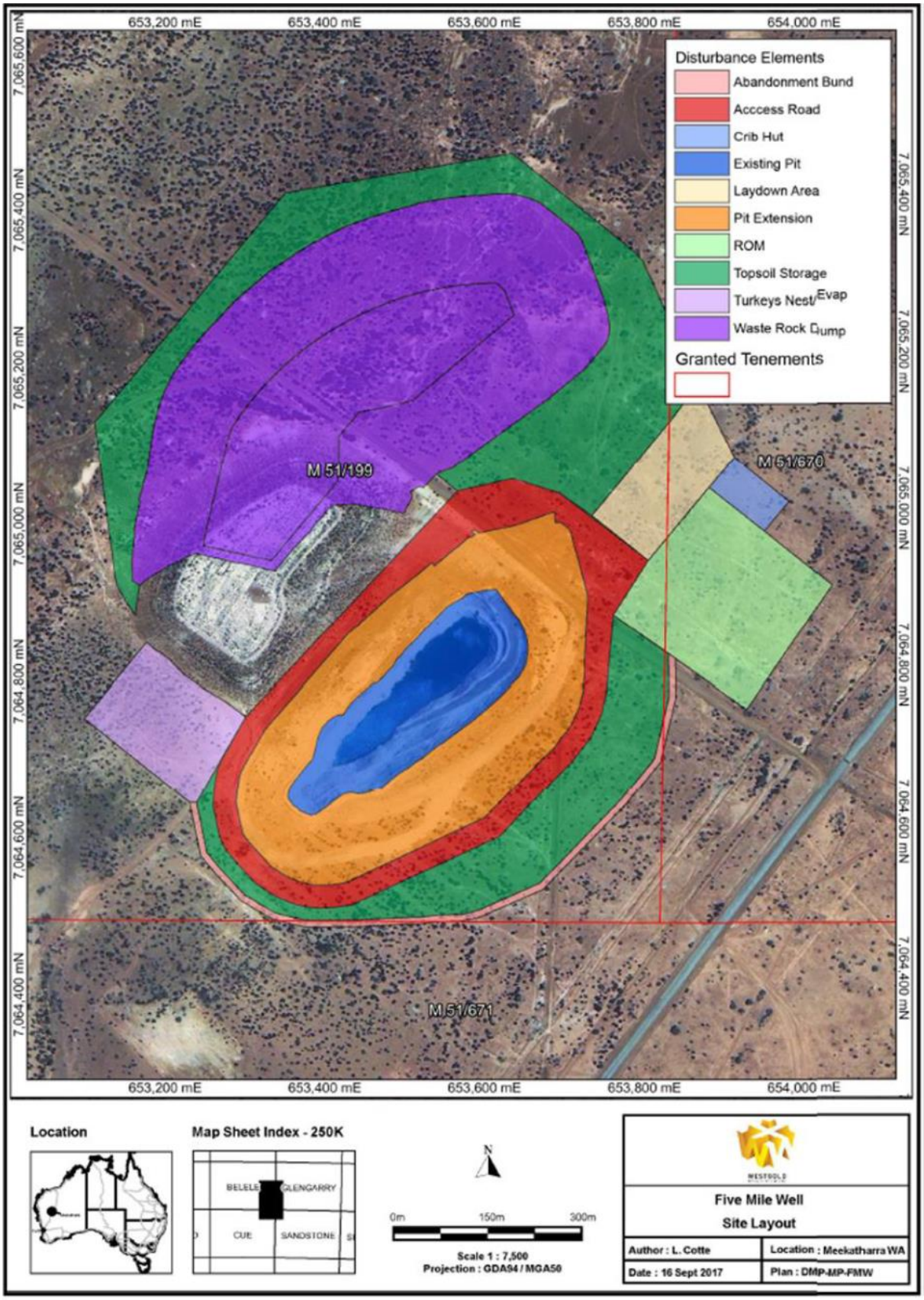

Figure 15 – Five Mile Well Pit

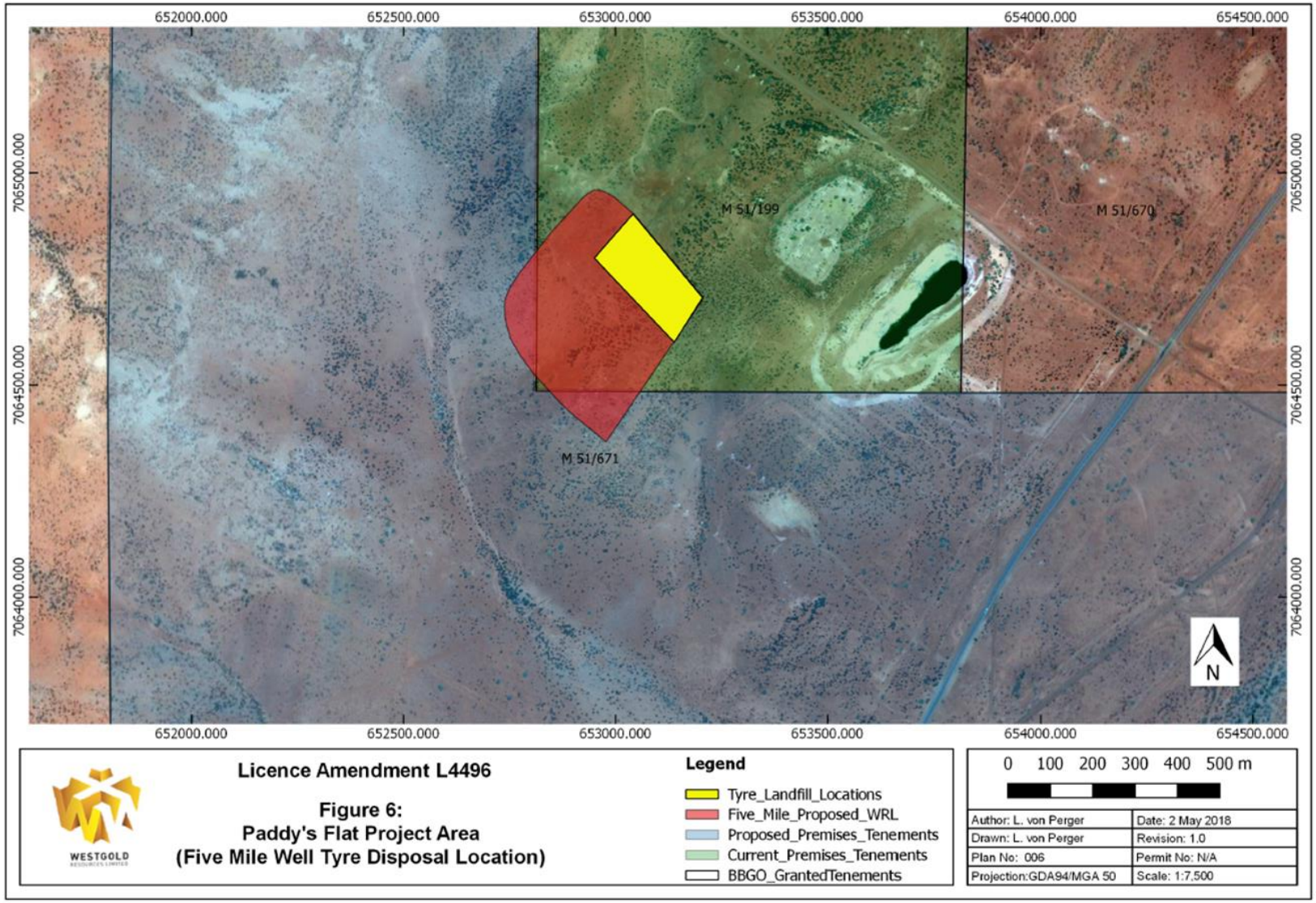

Figure 16 – Five Mile Well Tyre Disposal Location

Figure 17 – Yaloginda landfill

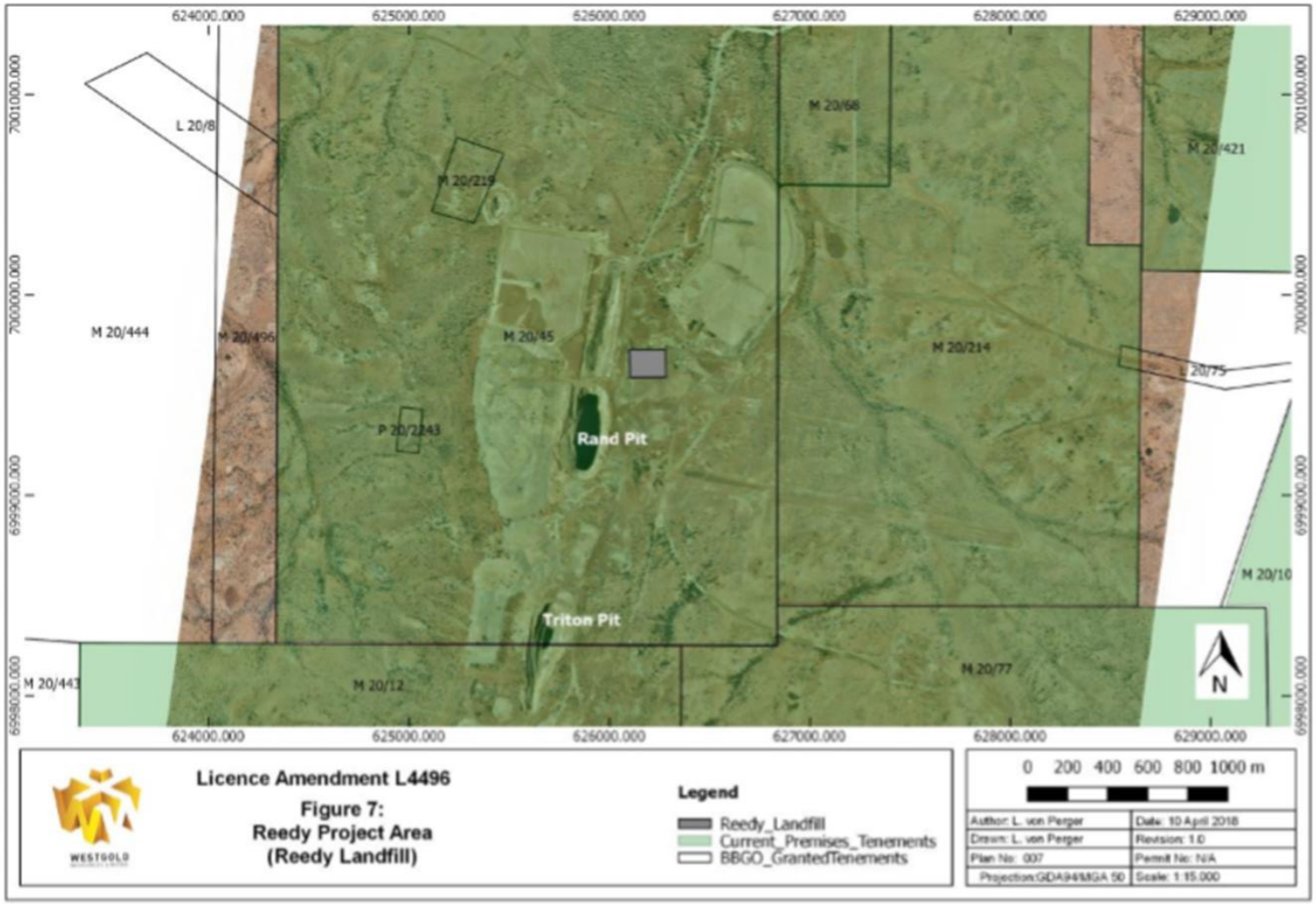

Figure 18 - Reedy's Project Area landfill

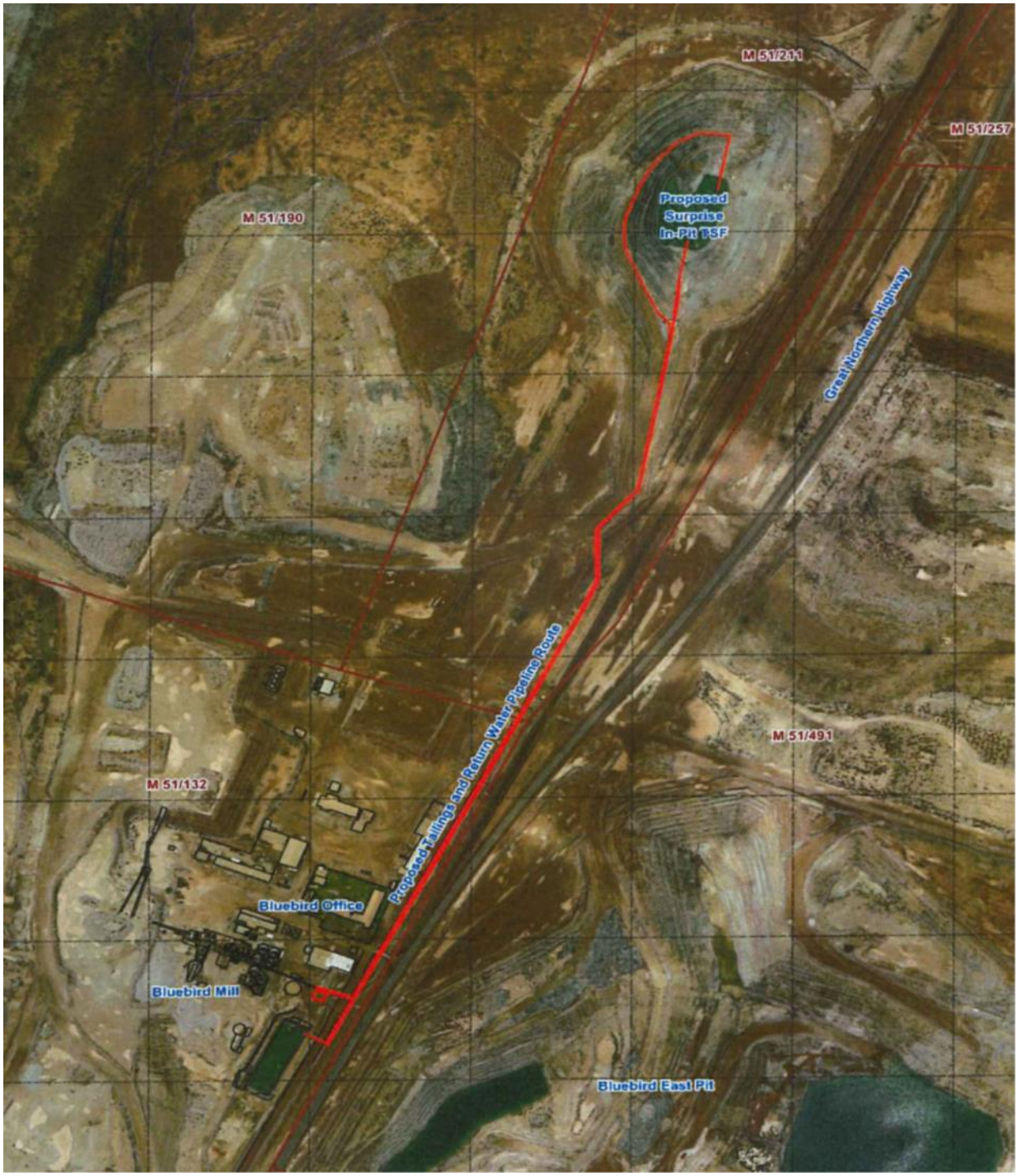

Figure 19 – Surprise in-pit TSF

Figure 20 – Surprise in-pit TSF groundwater monitoring bores

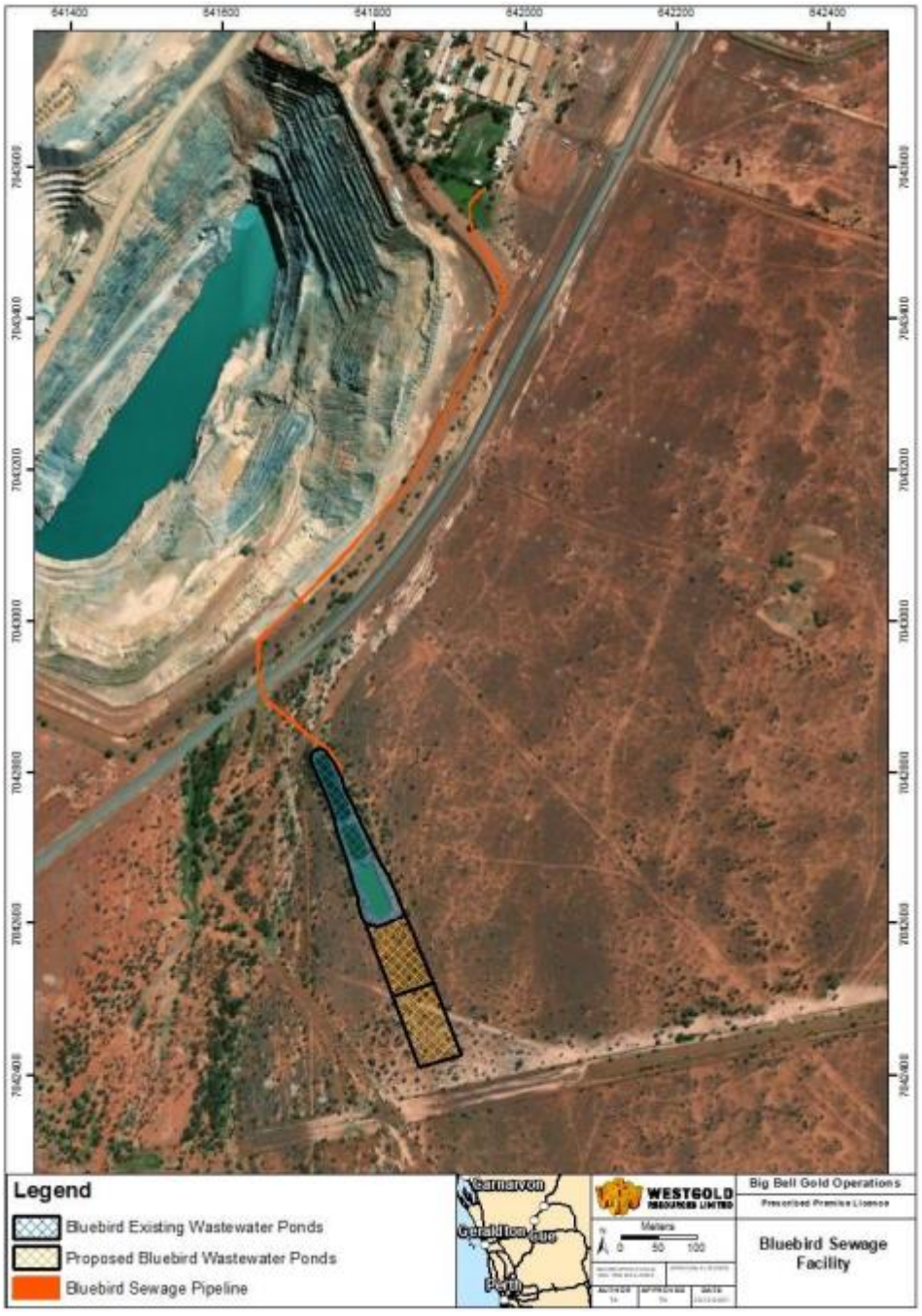

Figure 21 – Bluebird Sewerage Infrastructure

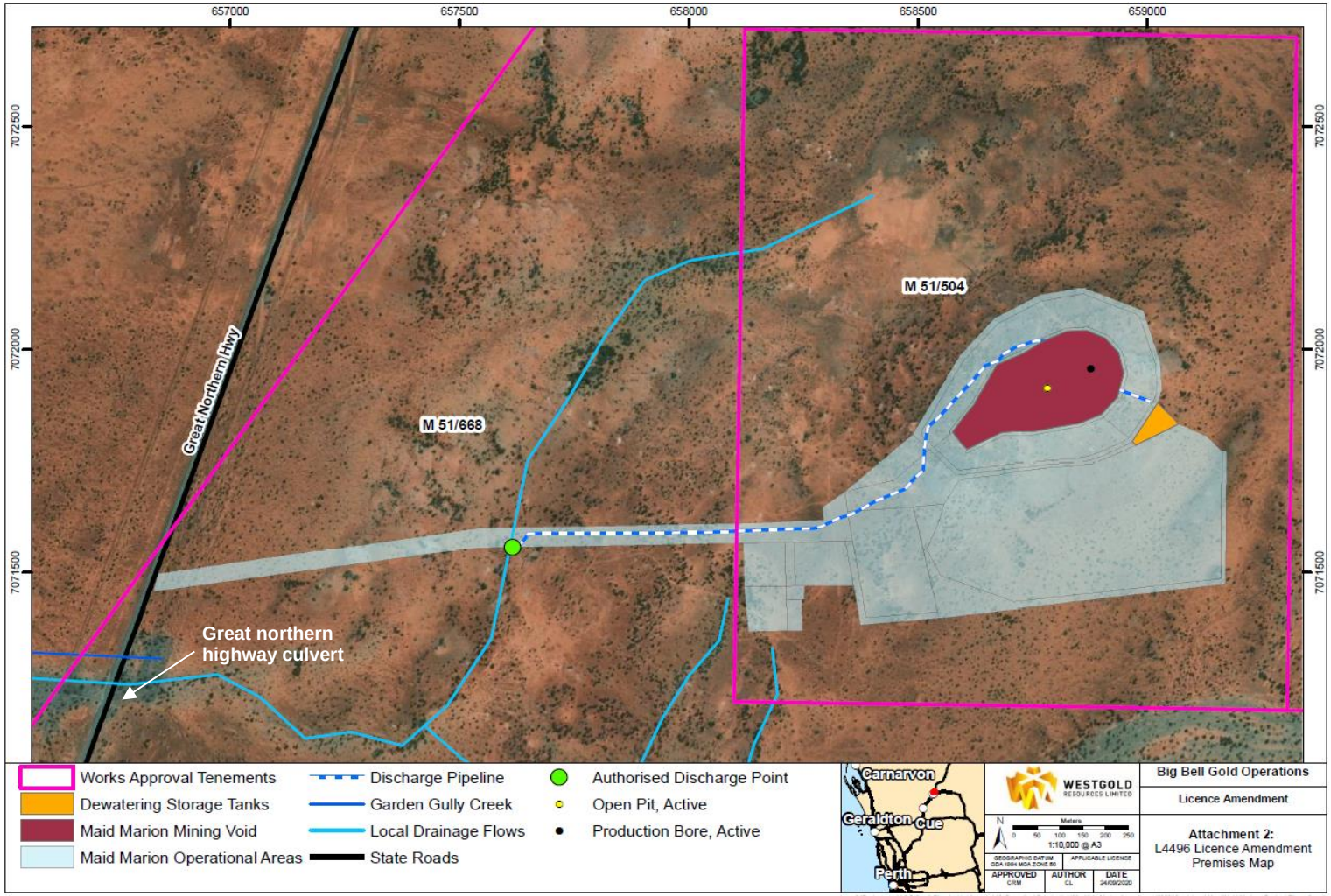

Figure 22 – Maid Marion dewatering infrastructure and discharge point

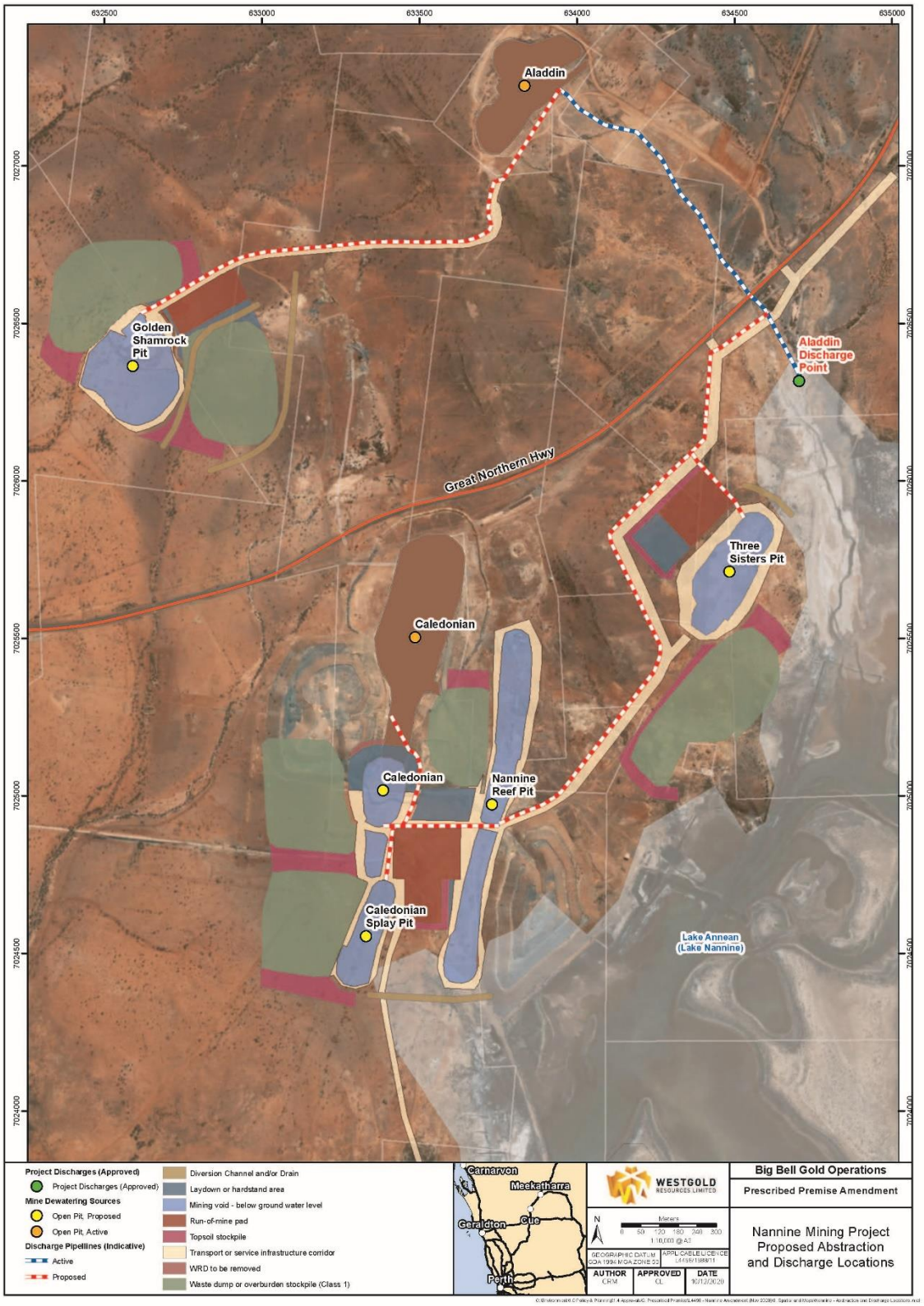

Figure 23 – Nannine Mining Project proposed abstraction and discharge locations

Figure 24 – Hybrid Power Generation Facility (Bluebird Power Station) and LNG Storage area

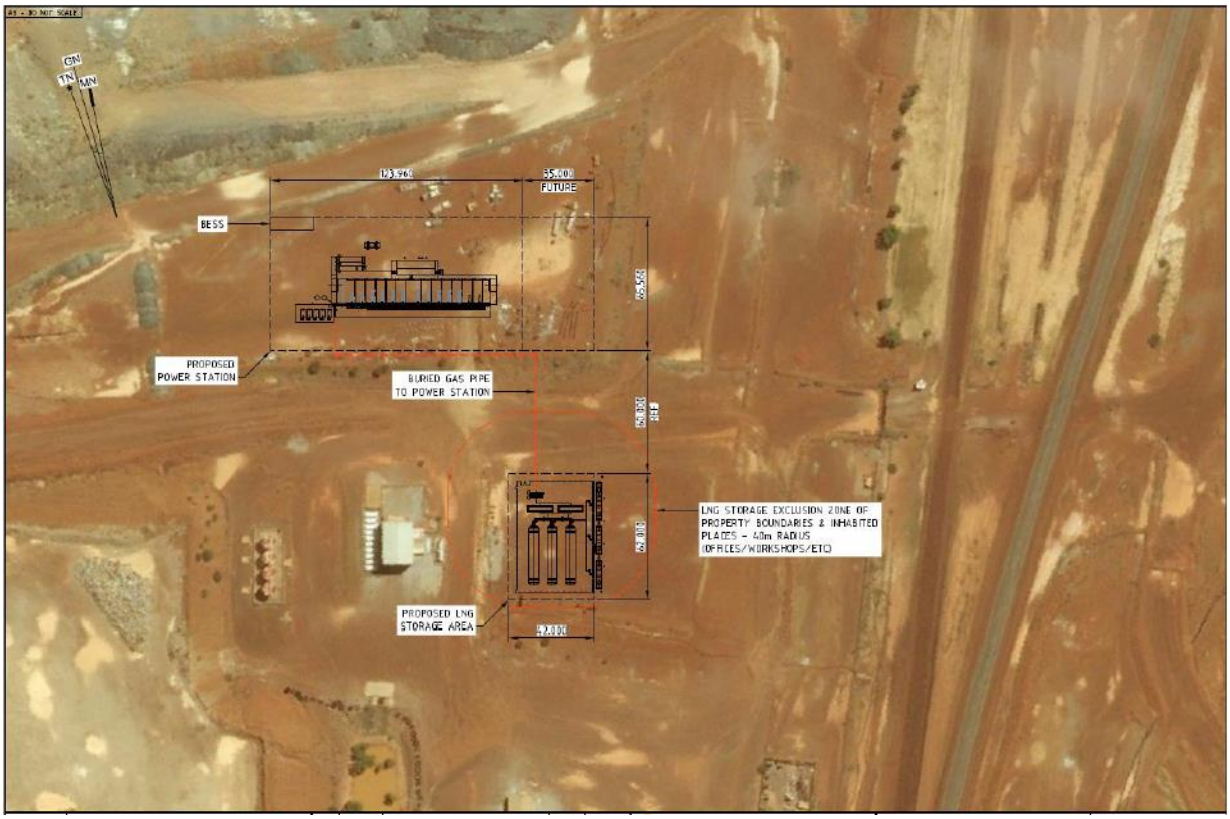

Figure 25 – Hybrid Power Generation Facility (Bluebird Power Station) and LNG Storage area layout

Figure 26 - Dewatering pipeline route from South Junction pit to Romsey and Mystery pits

Schedule 2: Forms WR1, GR1 and LR1

Licence: L4496/1988/11
Form: WR1
Name: Monitoring of emissions to surface water

Licence Holder: Big Bell Gold Operations Pty Ltd
Period:

Form WR1: Monitoring of emissions to surface water					
Emission point	**Parameter**	**Result**	**Averaging period**	**Method**	**Sample date & times**
	pH[1]				
	Aluminium				
	Arsenic				
	Cadmium				
	Chromium				
	Copper				
	Lead				
	Manganese				
	Mercury				
	Nickel				
	Nitrate (as NO_3)				
	Selenium				
	Sulphate				
	Total Recoverable Hydrocarbons				
	Total suspended solids				
	Total dissolved solids				
	Zinc				

Signed on behalf of Big Bell Gold Operations Pty Ltd: Signature:……..

Date: …….

Form LR1

Licence: L4496/1988/11
Form: LR1
Name: Monitoring of emissions to land

Licence Holder: Big Bell Gold Operations Pty Ltd
Period:

Form LR1: Monitoring of emissions to land						
Emission point	**Parameter**	**Result**	**ANZECC Guidelines**	**Averaging period**	**Method**	**Sample date & times**

Signed on behalf of Big Bell Gold Operations Pty Ltd: Signature:…….. Date: …….

Form GR1

Licence: L4496/1988/11
Form: GR1
Name: Monitoring of emissions to land

Licence Holder: Big Bell Gold Operations Pty Ltd
Period:

Form GWR1: Monitoring of ambient groundwater quality						
Emission point	**Parameter**	**Limit**	**Result**	**Averaging period**	**Method**	**Sample date & times**

Signed on behalf of Big Bell Gold Operations Pty Ltd: Signature:…….. Date: …….

Government of **Western Australia**
Department of **Water and Environmental Regulation**

Licence:	Licence holder:
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 licence holder	
Date	