

Hydrogeologic Desktop Study
Lucky Strike Gold Deposit
BML Ventures

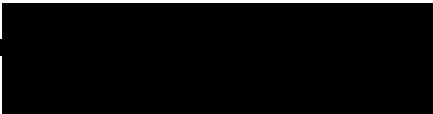
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19/12/2025

This report has been completed for
BML Ventures

Proponent

BML Ventures Pty Ltd




Service Provider

Groundwater Development Services (Pty Ltd)

PO Box 658

Rockingham WA 6968



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Contents`

1.	Introduction	6
1.1.	Scope of Work	6
1.2.	Location.....	6
1.3.	Groundwater Areas and Sub Areas.....	7
1.4.	Current Licensing	7
1.5.	Regional Bores	7
1.6.	Local Bores	8
1.7.	Proposed Groundwater Use	9
1.8.	Location of Current and Proposed Activities	9
1.9.	Location of Groundwater Dependent Ecosystems (GDEs)	10
1.10.	Historic Mining.....	11
1.11.	Previous Hydrogeology and Hydrology Studies.....	11
1.12.	Proposed Mining.....	11
1.13.	Climate	12
1.14.	Topography	12
2.	Geology	12
3.	Surface Water Information Requirements (LGIRS)	14
3.1.	Baseline Surface Water Information.....	14
4.	Hydrogeology	16
4.1.	Regional.....	16
4.2.	Local Hydrogeology.....	17
5.	Aquifer Characteristics	18
5.1.	Aquifer Type.....	18
5.2.	Aquifer Extents.....	18
5.3.	Groundwater Levels.....	18
5.4.	Groundwater Occurrence	18
5.5.	Water Quality.....	19
5.6.	Recharge Zones	20
5.7.	Aquifer Interconnectivity	21
5.8.	Water Supply Potential	21
5.9.	Groundwater Dependent Ecosystems (GDEs)	21
5.10.	Beneficial Uses	21
5.11.	Stygofauna	21

5.12.	Water Management Areas.....	22
6.	Water Demand	22
6.1.	Process Supply	22
6.2.	Potable Supply	22
6.3.	Dust Suppression	22
6.4.	Water Supply.....	22
7.	Water Management.....	22
7.1.	Pit Dewatering requirements.....	22
7.2.	Disposal Requirements	23
8.	Potential Impacts	23
8.1.	Distance-Drawdown Estimates	23
8.2.	Local Aquifer	24
8.3.	GDEs	24
8.4.	Stygofauna	24
8.5.	Other Users	24
8.6.	Borefields	24
8.7.	Potential Chemical Contaminants.....	24
9.	Post Life of Mine Pit Lake Recovery	24
10.	Conclusions	25
11.	References	25
12.	APPENDICES:	26

Figures

Figure 1: Location Map.....	7
Figure 2: Groundwater Licences	7
Figure 3: The DWER Water Information Reporting Bore Database	8
Figure 4: Test Bore Locations	9
Figure 5: Proposed Mining Areas.....	10
Figure 6: Mapped Terrestrial GDEs.....	11
Figure 7: Paleochannel Geology.....	13
Figure 8: Basement Geology	13
Figure 9: Regional Catchment	15
Figure 10: Surface Water Features	16
Figure 11: Regional Hydrogeology.....	17
Figure 12: Local Hydrogeology.....	18
Figure 13: Water Sampling Locations	20
Figure 14: Distance-Drawdown Extents	23

Tables

Table 1: Test Bore Details	8
Table 2: Weather Statistics (BOM, 2025a)	12
Table 3: 21 May 2025 Sample Holes	19
Table 4: Model-Estimated Dewatering Flow Rates (Rockwater, 2025)	22

Appendices

APPENDIX A – Water Quality Analysis

1. Introduction

Lefroy Exploration Ltd (Lefroy) propose to develop two open pits located on the north side of Lake Lefroy, 33 kilometres northeast of the town of Kambalda. BML Ventures Pty Ltd (BMLV) have been appointed mine operator, overseeing and managing all aspects of operations at the Lucky Strike Gold Deposit (Project).

Stage 1 mining has commenced with the pre-strip of waste material. It is anticipated that the first ore will be exposed by Late December 2025. (Lefroy, 2025b). A toll milling agreement is in place, so there will not be a requirement for the processing of ore. The main use of water on site will be for dust suppression. The source of dust suppression water will be from the dewatering of the pits.

BMLV plan to draw water from the Lefroy-Dundas, Combined – Fractured Rock West – Fractured Rock Aquifer for mining related purposes. The area of activity is tenement M25/366. The annual abstraction volume under current groundwater licence GWL212931 is 200,000 kilolitres per annum (kLpa).

1.1. Scope of Work

BMLV have engaged Groundwater Development Services (GDS) to complete a desktop study to provide a comprehensive summary of the project hydrogeology. In addition, the report provides baseline information to support any other regulatory approvals which may benefit from the information summarised below.

1.2. Location

The Lucky Strike Deposit is located on the northern side of an un-named lake between Lake Lefroy and Lake Randall. The project is approximately 33 km east-north-east of Kambalda. The project is in the Ularring Mining District of the North Coolgardie Goldfield. Access to the Project is via the Coolgardie to Menzies Road. The location is shown below in Figure 1.

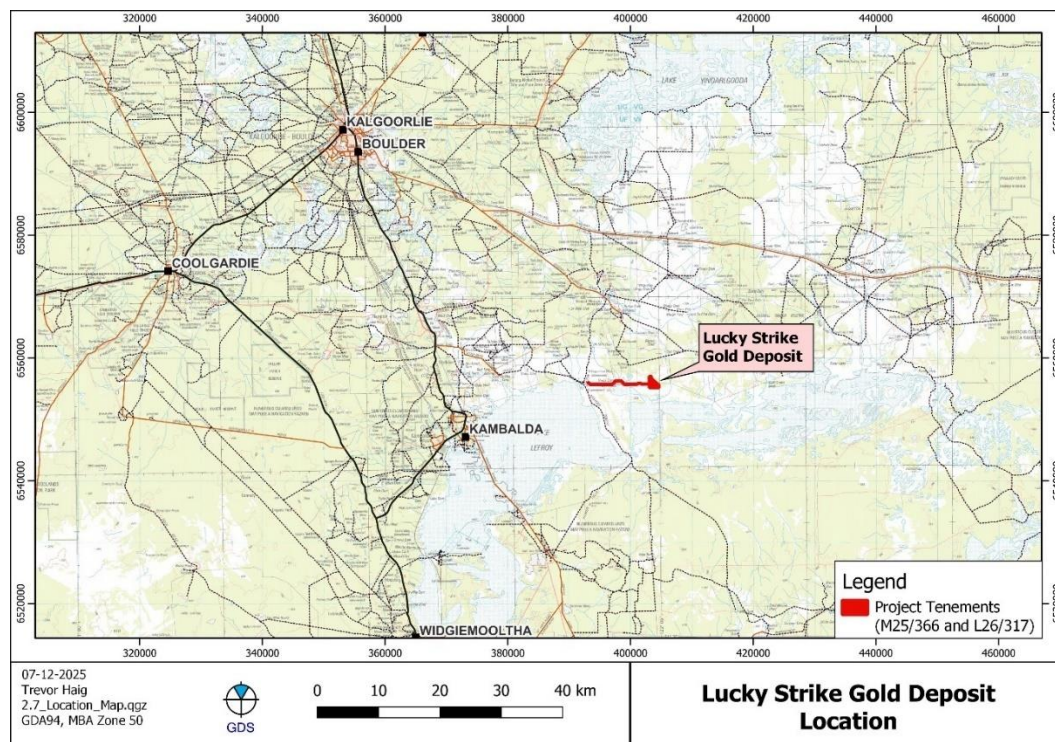


Figure 1: Location Map

1.3. Groundwater Areas and Sub Areas

The Project area lies within the Widgiemooltha (SH 51-14) 250,000 and the Lake Lefroy (3235) 1:100 000 Geological Map Sheets. The Project is also located in the Widgiemooltha (51-14) 1:250,000 scale Hydrogeologic Map Series. The Project is in the Goldfields Groundwater Area and the Lefroy-Dundas Groundwater Subarea as proclaimed in 1979 under the Rights in Water and Irrigation Act.

1.4. Current Licensing

Lefroy currently hold groundwater licence GWL212931 with an annual allocation of 200,000 kLpa from the Combined – Fractured Rock West – Fractured Rock Aquifer. The locations of other licensed groundwater users are shown in Figure 2. The closest groundwater licence is GWL171076 located 3.3 kilometres northeast of M25/366. The next closest groundwater licence is GWL180131 located 4.1 kilometres southeast of the Project (DWER, 2025b).

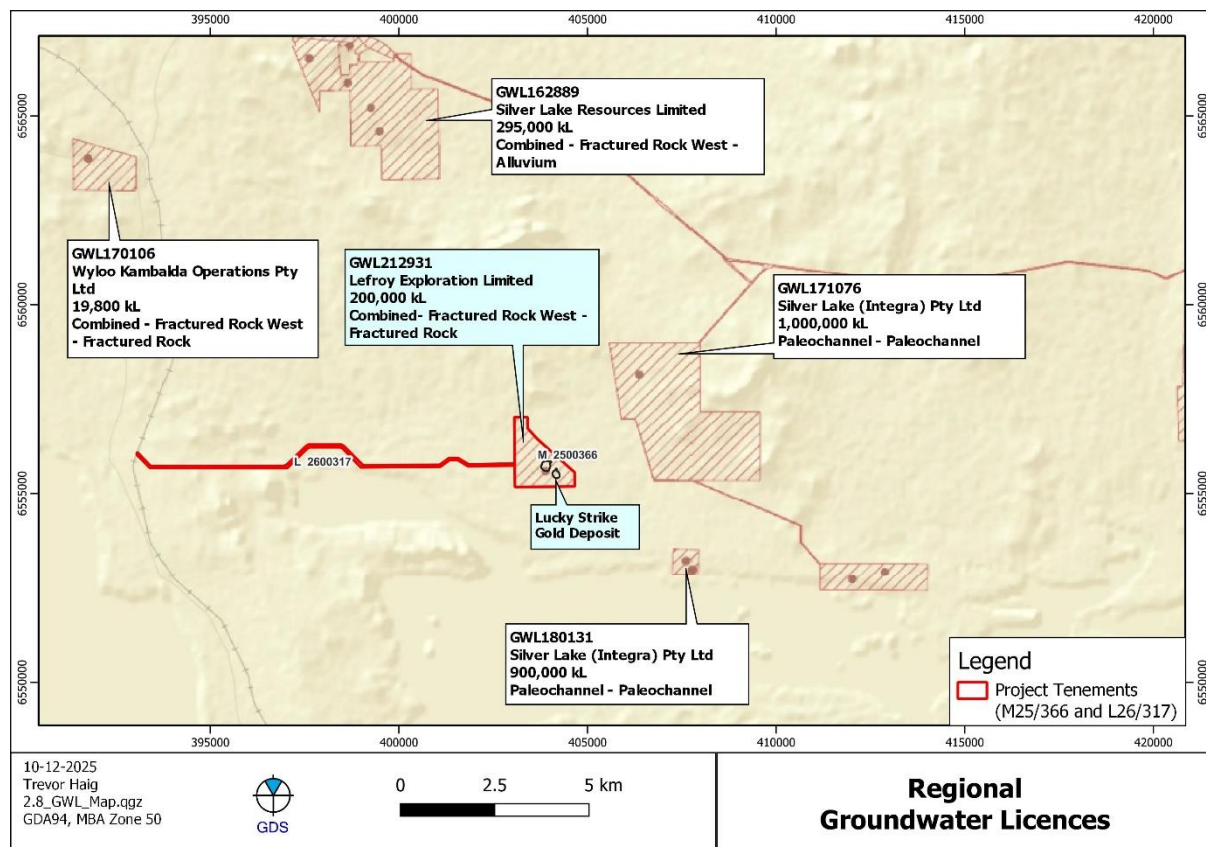


Figure 2: Groundwater Licences

1.5. Regional Bores

The Department of Water and Environmental Regulation (DWER) Water Information Reporting (WIR) database (DWER, 2025a) has no record of bores within 20 kilometres of the Project (Figure 3) The DWER water register database does show the location of draw points (bores) within 3.3 and 4.1 km of the project area.

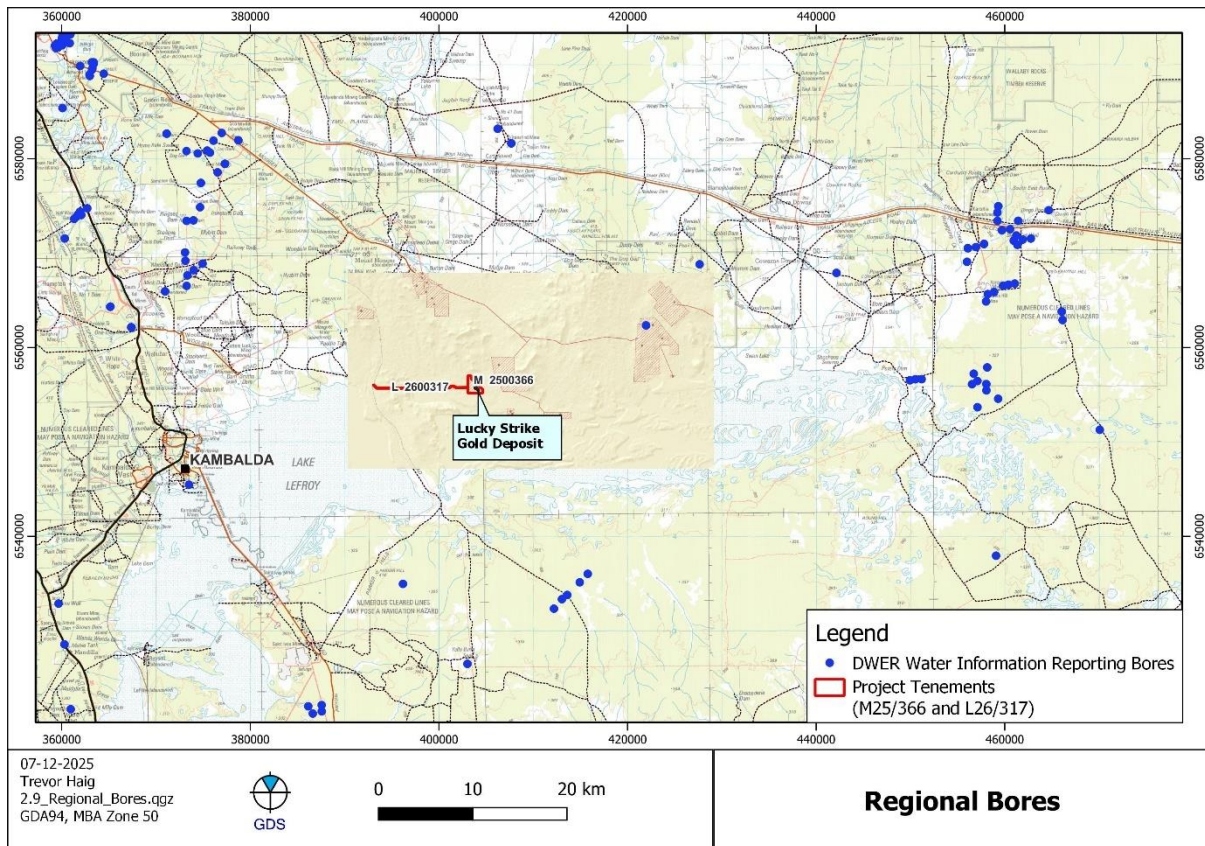


Figure 3: The DWER Water Information Reporting Bore Database

1.6. Local Bores

Three test-dewatering bores were installed at Lucky Strike pit area. The bores had airlift yields which ranged from 170 to 350 m³/day (2.0 to 4.1 L/s). The bores were drilled about 15 m outside of the proposed pit areas. The bores were installed in the mineralised zone, which is a fractured-rock aquifer (Rockwater, 2025). Bore details are provided below in Table 1.

Table 1: Test Bore Details

Hole	Easting	Northing	Collar Elevation (mAHD)	Total Depth (mbgl)	Casing Material	Diameter (mm)	Slotted Interval (mbgl)	Airlift (L/s)	Standing Water Level (mbgl)
LS_PT1	6,555,829	403,794	290.1	92	PVC CL9	155	0 to 92	4.2	5 to 6
LS_PT2	6,555,647	404,005	290.6	64	PVC CL9	155	0 to 64	3.1	5 to 6
LS_PT3	6,555,418	404,272	290.4	84	PVC CL9	155	0 to 84	2	5 to 6

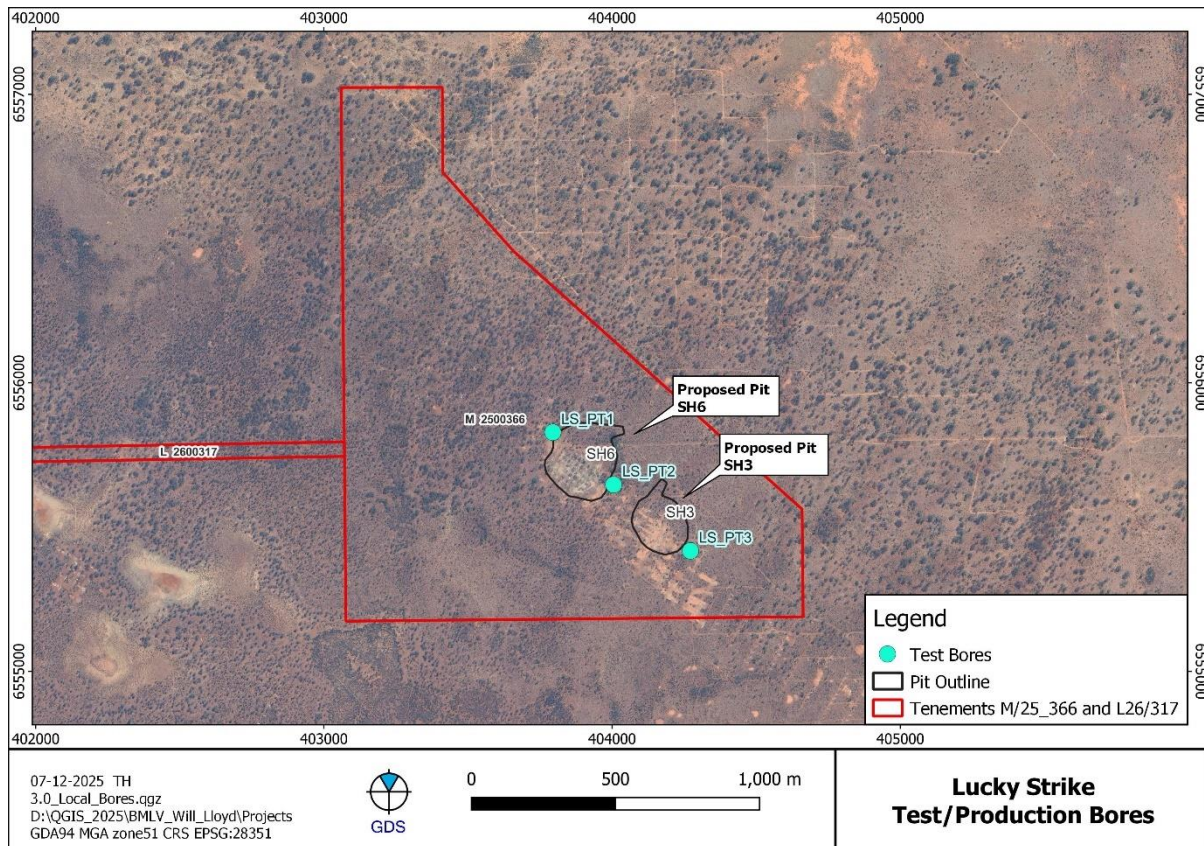


Figure 4: Test Bore Locations

1.7. Proposed Groundwater Use

The primary use of water will be for the purpose of dust suppression during mining and dust suppression along the haul road (L26/317). Dust suppression requirements are expected to range from 432 to 864 m³/day (5 to 10 L/s). The test bores will be the source of dust suppression water during the early stages of development. Groundwater seepage into the pit will be used for dust suppression when mining is progressed below the water table.

1.8. Location of Current and Proposed Activities

The proposed pit areas and test bore locations are shown below in Figure 5. The main activities on site will be the mining of the SH6 pit and the SH3 pit, general mining activities within M25/366 and maintenance of the haul road (L26/317).

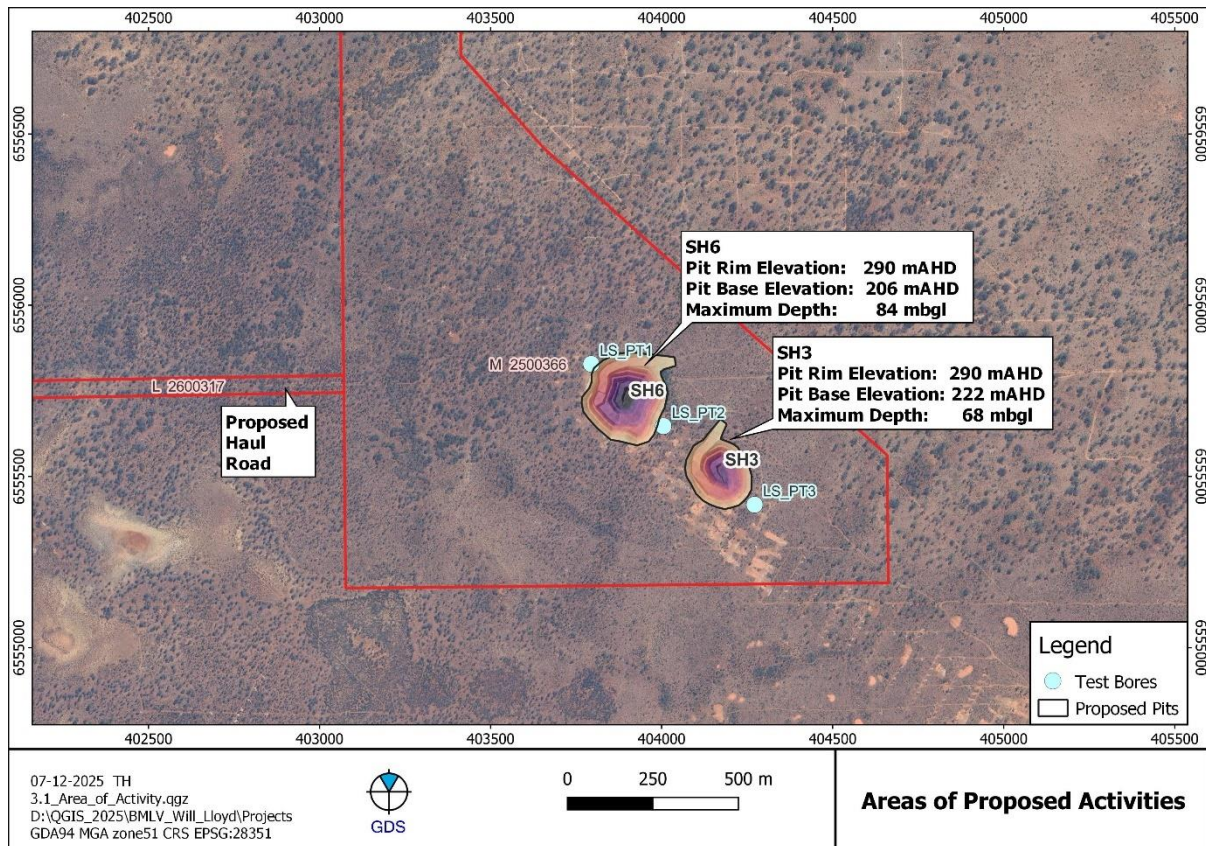


Figure 5: Proposed Mining Areas

1.9. Location of Groundwater Dependent Ecosystems (GDEs)

A database search was completed of the publicly available mapping of GDEs (BOM, 2025c) There are no aquatic or subterranean GDEs in the area. There are terrestrial GDEs located 2.3 km to the southwest of the proposed pits. The ecosystem type is vegetation. The supplied ecosystem type is succulent steppe, samphire. The location of the terrestrial GDEs is shown in Figure 6.

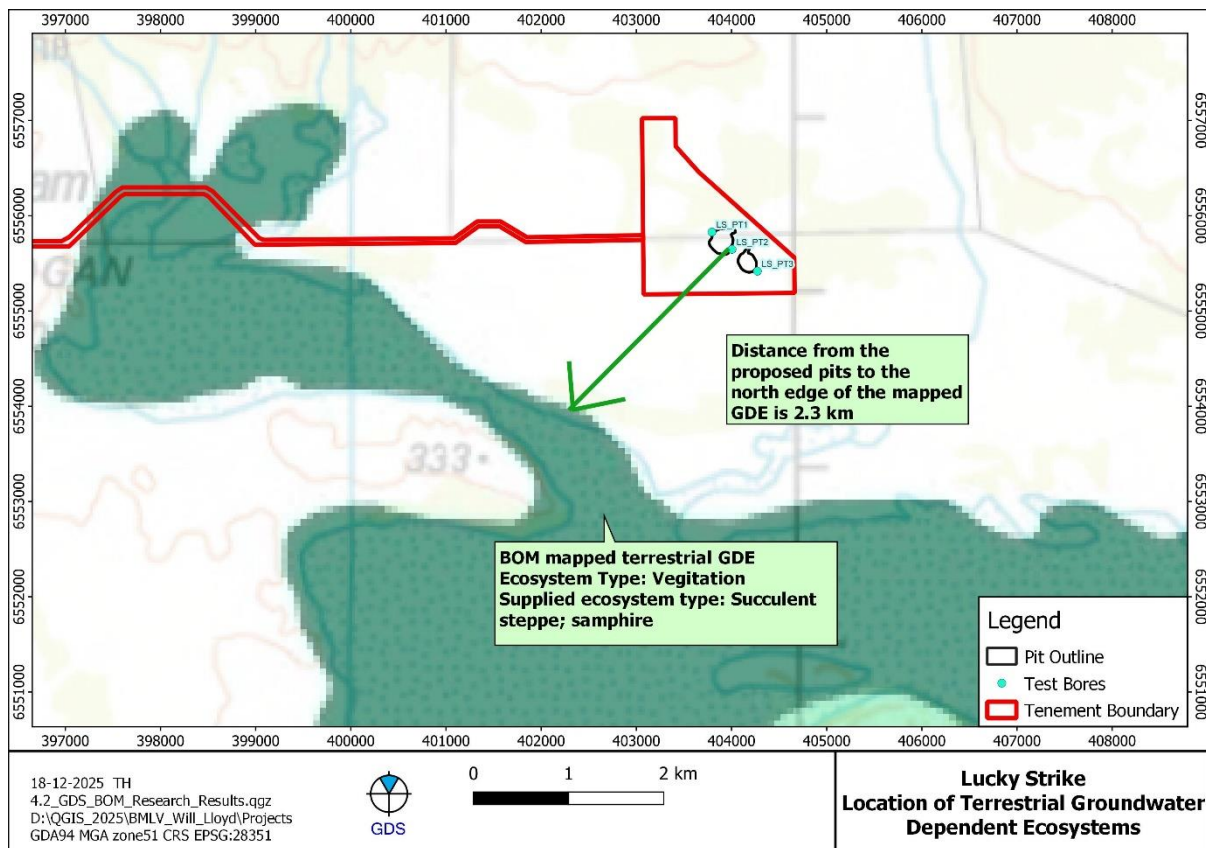


Figure 6: Mapped Terrestrial GDEs

1.10. Historic Mining

There is no record of historic mining in the local area. Most activity has been resource exploration.

1.11. Previous Hydrogeology and Hydrology Studies

The regional hydrogeology study was completed which resulted in the publishing of the Widgiemooltha 1:250,000 scale geologic map (Kern et al, 1994). More recently, a preliminary hydrogeology and hydrology study was completed by Lefroy (Rockwater, 2025). The study provided estimates of dewatering requirements and drawdown/distance parameters associated with the required dewatering. The information from that report has been reproduced in this document, as required.

1.12. Proposed Mining

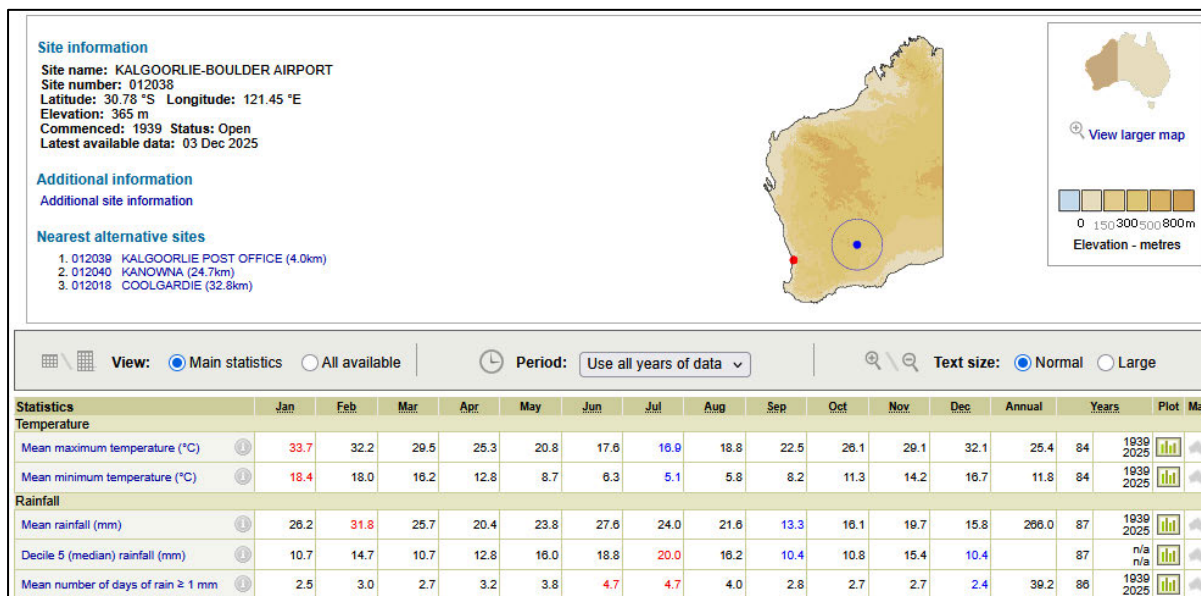
Mining activities have commenced at the Lucky Strike Gold Deposit. Pre-strip waste material has been removed during Q3 of 2025. It is expected that first ore may be exposed in late December of 2025. The first stages of the construction of the Waste Dump (WD), Run of Mine (ROM) and installation of offices and accommodation camp are in progress (Lefroy Exploration, 2025c).

Two pits are proposed, which are SH6 and SH3 (Figure 5). The pits will be mined to depths of approximately 84 and 68 mbgl, respectively. The pits will be mined by open pit, cut and blast methods. Ore will not be processed on site and will be trucked to a third party for toll treatment. The planned northern pit (SH6) is in Stage 1 development after which the development of the southern pit (SH3) will proceed as Stage 2 development (Lefroy Mining, 2025a).

1.13. Climate

Climate information is taken from the Kalgoorlie-Boulder Airport (12038). The climate in the project area is semi-arid. Temperature ranges are seasonal, with summer temperatures ranging from 18.4 to 33.7° C and winter temperatures ranging from 5.1 to 16.9° C. Mean annual rainfall is 266 mm. Mean annual evaporation rates are 2,500 mm (BOM, 2025a). Table 2 represents the Kalgoorlie weather statistics for the period from 1939 to 2025 (BOM, 2025b).

Table 2: Weather Statistics (BOM, 2025a)



1.14. Topography

The project area is gently undulating with elevations of about 290 metres Above Height Datum (mAHD). The terrain dips gently from the north to the south at a gradient of 0.005 towards Lake Lefroy and an un-named salt lake between Lake Lefroy to the west and Lake Randall to the east. The project is on a small ridge where surface water would tend to drain away to the east and west, away from the proposed pits.

2. Geology

The geology of the Lucky Strike Deposit is shown below in Figure 7 and Figure 8. There are layers of calcrete, ferricrete and puggy clays present to depths of up to 40 to 50 mbgl. These units are associated with the deposition of paleochannel sediments (Figure 7).

Below the paleochannel sediments is weathered to fresh basement rock (Figure 8). To the north, the basement rock comprises ultramafic volcanic rock; komatiitic basalt; high-Mg basalt; and tremolite-chlorite-talc schist. To the south, the basement rock comprises mafic volcanic rocks with minor mafic and ultramafic intrusive rocks and minor felsic rocks. There are stringers of northwest to southeast trending sedimentary iron formation running through the two pit areas. The iron deposits were subsequently cut and displaced with north to south trending faults.

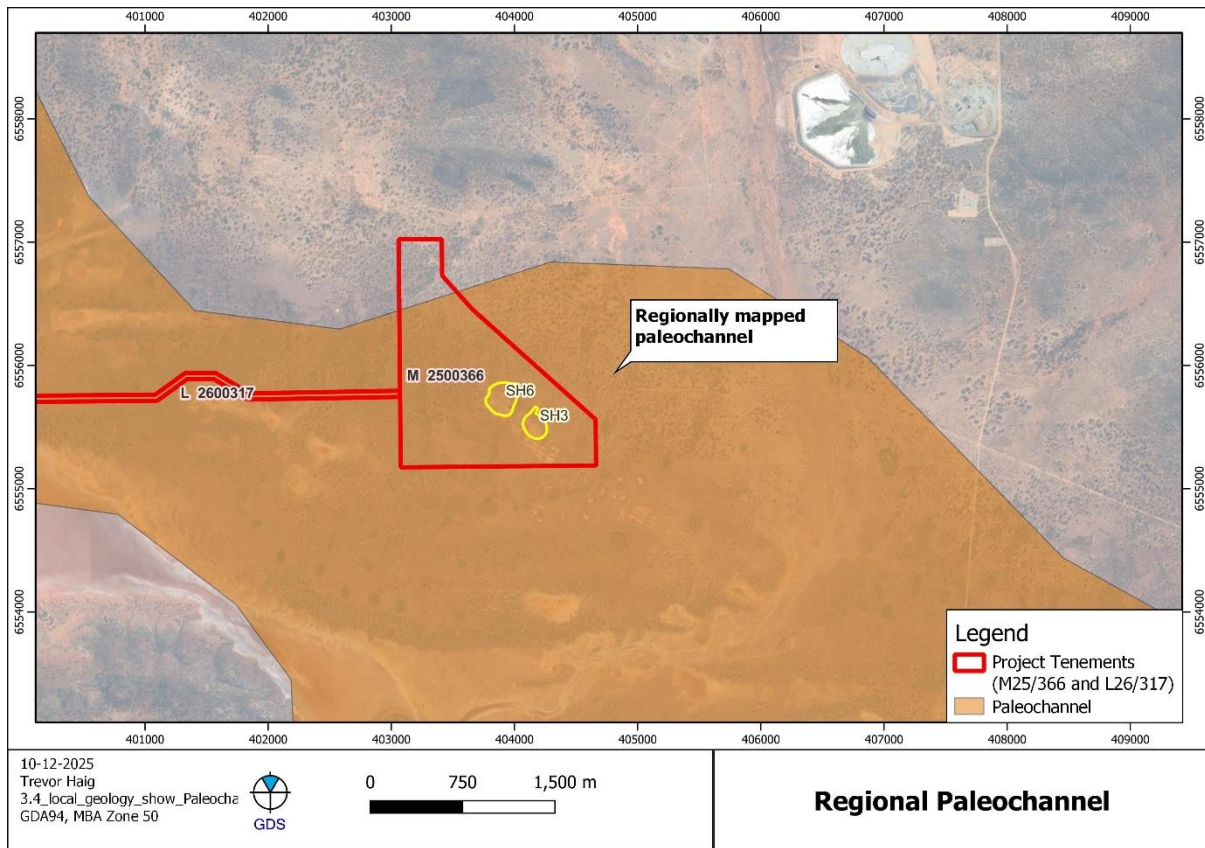


Figure 7: Paleochannel Geology

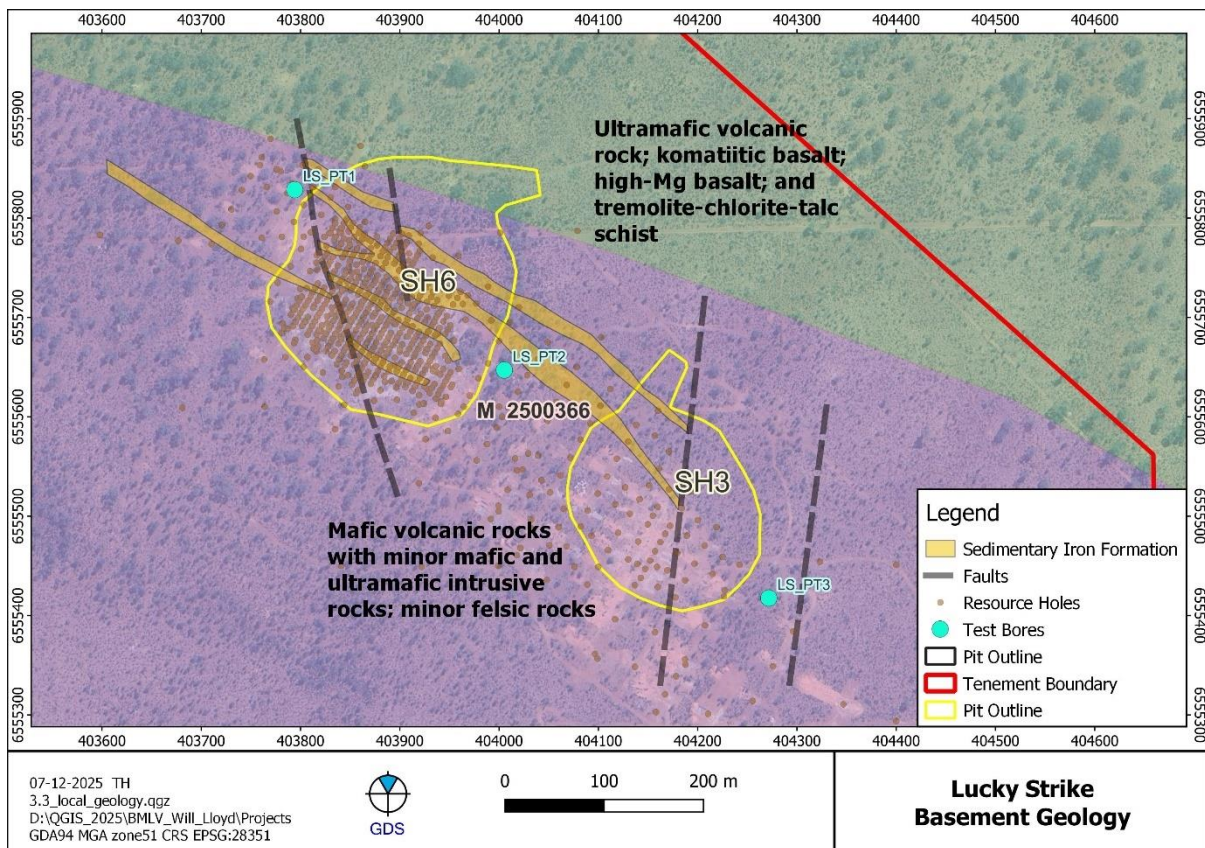


Figure 8: Basement Geology

3. Surface Water Information Requirements (LGIRS)

Department of Local Government, Industry Regulation and Safety (LGIRS) regulations provide guidance on the preparation of mining development and closure proposals (DEMIRS, 2025). Within the guidelines, there is a summary of the surface water information they require for proposal applications. The required information is summarised below:

- catchment area(s);
- a map of the catchment area and activity envelope;
- surface hydrology of the activity envelope and potentially affected downstream environment (for example, ephemeral creeks, permanent creeks/rivers, playa lakes, wetlands, water holes, groundwater connectivity);
- environmental values and beneficial uses of surface water;
- surface water management areas intersected or potentially impacted by proposed mining activities (for example, Primary Water Resource Management Areas, Threatened Ecological Communities, RAMSAR wetlands);
- surface water quality characteristics including turbidity, salinity, nutrients, pH, and any other chemical and physical parameters relevant to understanding surface water quality in relation to the proposed mining activities;
- surface water seasonal and interannual variability in flows and water quality; and flooding characteristics of the area including pre-mining, operational and post mining landscapes. Where flooding presents a risk to the environmental management of the mining operation (including post-closure) flood modelling and mapping should be provided.

3.1. Baseline Surface Water Information

While GDS is a groundwater specialist, the surface water assessment is best addressed by a suitably qualified surface water engineer. A surface water engineer could complete the required water level modelling of 1:100 ARI flooding for the operation and 1:1000 ARI (or AEP equivalents) for closure in support of landform placement (pits and WRDs).

To progress the information gathering aspect of this report, some of the relevant, baseline surface water information is presented below.

The project lies within the Lake Lefroy Catchment, which has an area of 15,730 km². The catchment and the project location are shown below in Figure 9.

Lake Lefroy is approximately 12 km southwest of the project area. An un-named salt lake is approximately two km to the south. Lake Randall is located approximately 15 km east of the project area.

The planned pits lie in a flat area that slopes gently to the southwest towards the salt lakes. The pits are at an elevation of about 293 m AHD, which is about 8 m above, and 2.3 km from the nearest arm of Lake Lefroy where the lake level is 285 mAHD (Rockwater, 2025).

There are no drainage lines in the vicinity of the pits that could concentrate flood water during high rainfall events. Instead, runoff will occur as sheet flow with shallow depths and low velocities discharging towards the lake. From Bureau of Meteorology (2016) data, a 1-in-100 year rainfall would produce 200 mm over a 72-hr period (Rockwater, 2025). It is assumed that a levee will be constructed around the pits to prevent runoff from such an event from flowing into the pits (Rockwater, 2025).

The construction of levees around the pits at cessation of mining would prevent runoff from entering the pits.

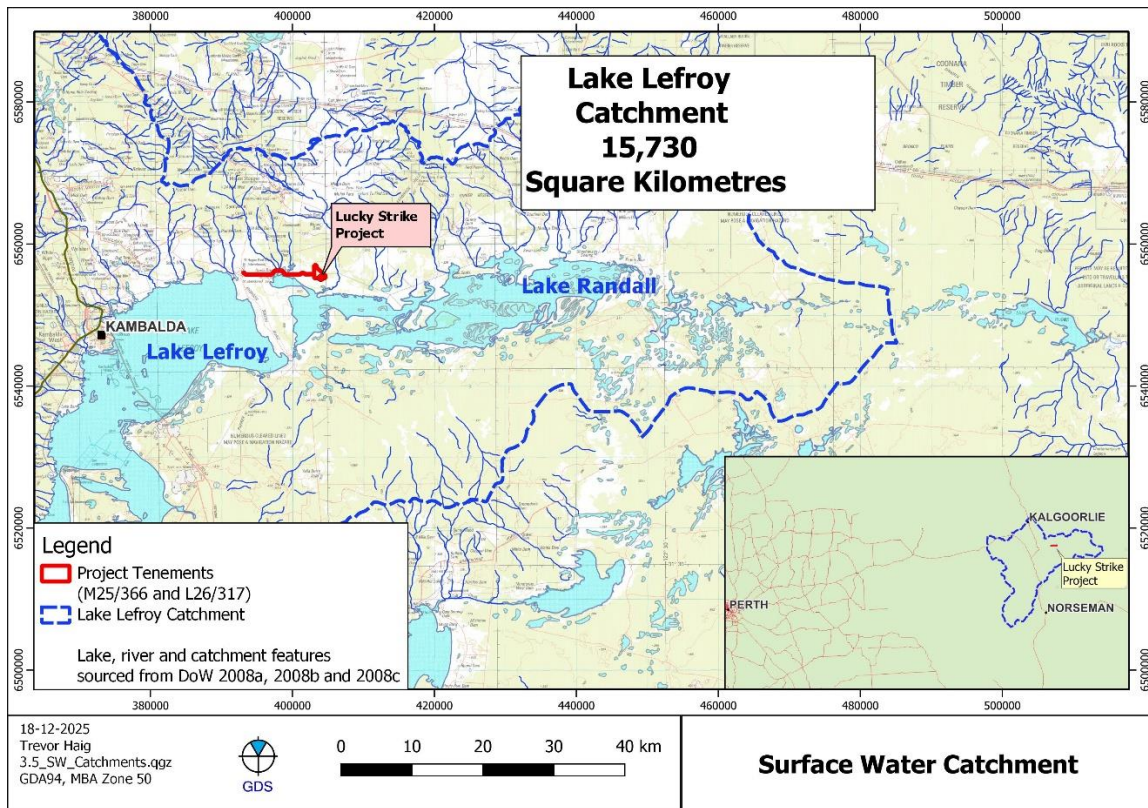


Figure 9: Regional Catchment

The area of activity is shown below in Figure 10. The topography drops away from the pit area, which is located on a northwest to south trending, shallow ridge. Any surface flow which occurs in the project area will drain away. Regional surface flow is to the south, towards the un-named lake directly south of the Project.

A surface drainage is located approximately 2.3 km east and south east of the project area. The surface drainage is assumed to be ephemeral and would only have surface flows during large rainfall runoff events.



Figure 10: Surface Water Features

4. Hydrogeology

4.1. Regional

The regional hydrogeology has been mapped for the Widgiemooltha 1:250,000 scale geologic map (Kern et al, 1994). The project is underlain by Cainozoic aged alluvium and colluvium comprising clay, sand, and gravel which stratigraphically conceals the underlying paleochannels. The paleochannels have been mapped as local shallow aquifers where the water quality is saline to hypersaline. Lying below the Cainozoic sediments and paleochannel sediments are Archean aged mafic and ultramafic rocks, which is a local aquifer where the water quality is saline to hypersaline.

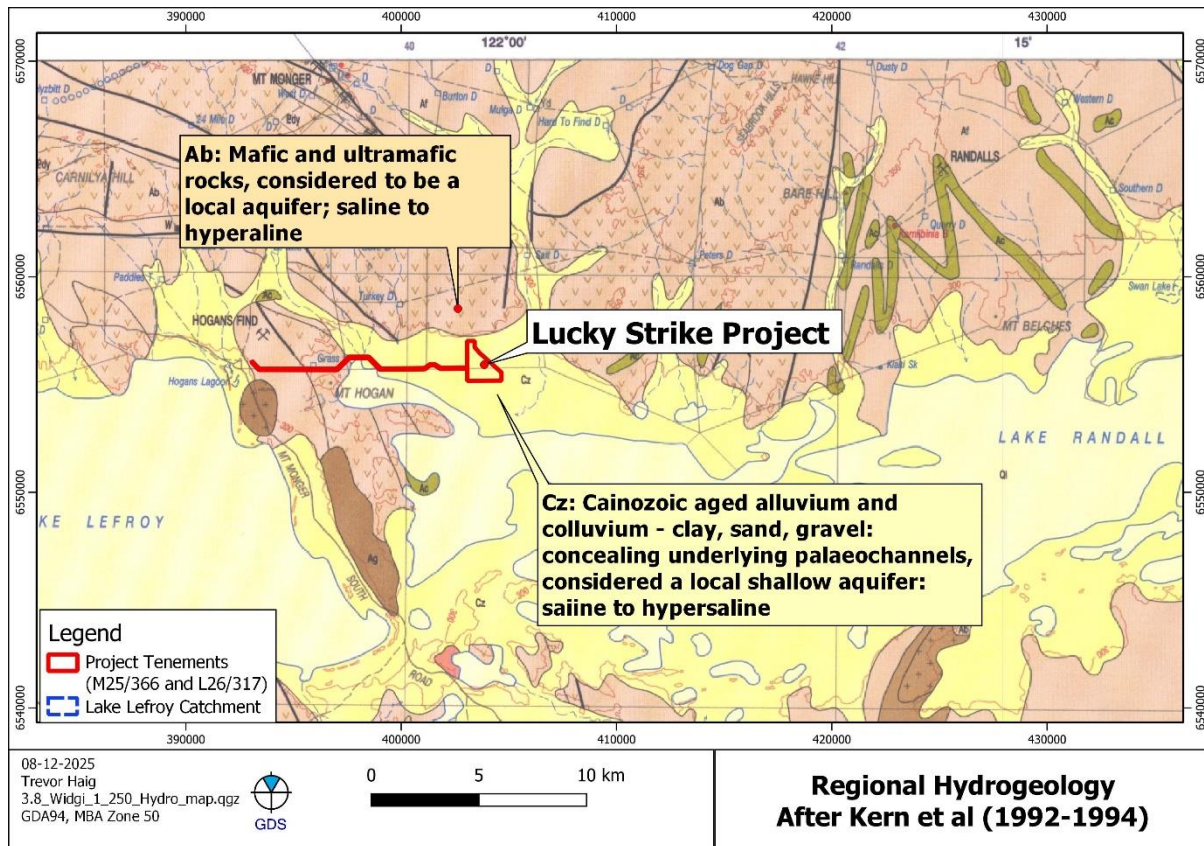


Figure 11: Regional Hydrogeology

4.2. Local Hydrogeology

The local hydrogeology is shown below in Figure 12. The hydrogeologic description is consistent with the regional hydrogeology. There is a layer of sediments which comprise clay, sand and calcrete. This is the Cainozoic aged paleochannel aquifer. The thickness ranges from 20 to 30 mbgl. Below the sediments is the fractured bedrock aquifer. As the project lies on a northwest to southeast trending ridge, the local direction of groundwater flow is away from the pit areas. The local direction of groundwater flow is generally to the southwest and the northeast. From a regional scale, the direction of groundwater flow is generally to the south, towards the saline lakes. The saline lakes are areas of groundwater discharge.

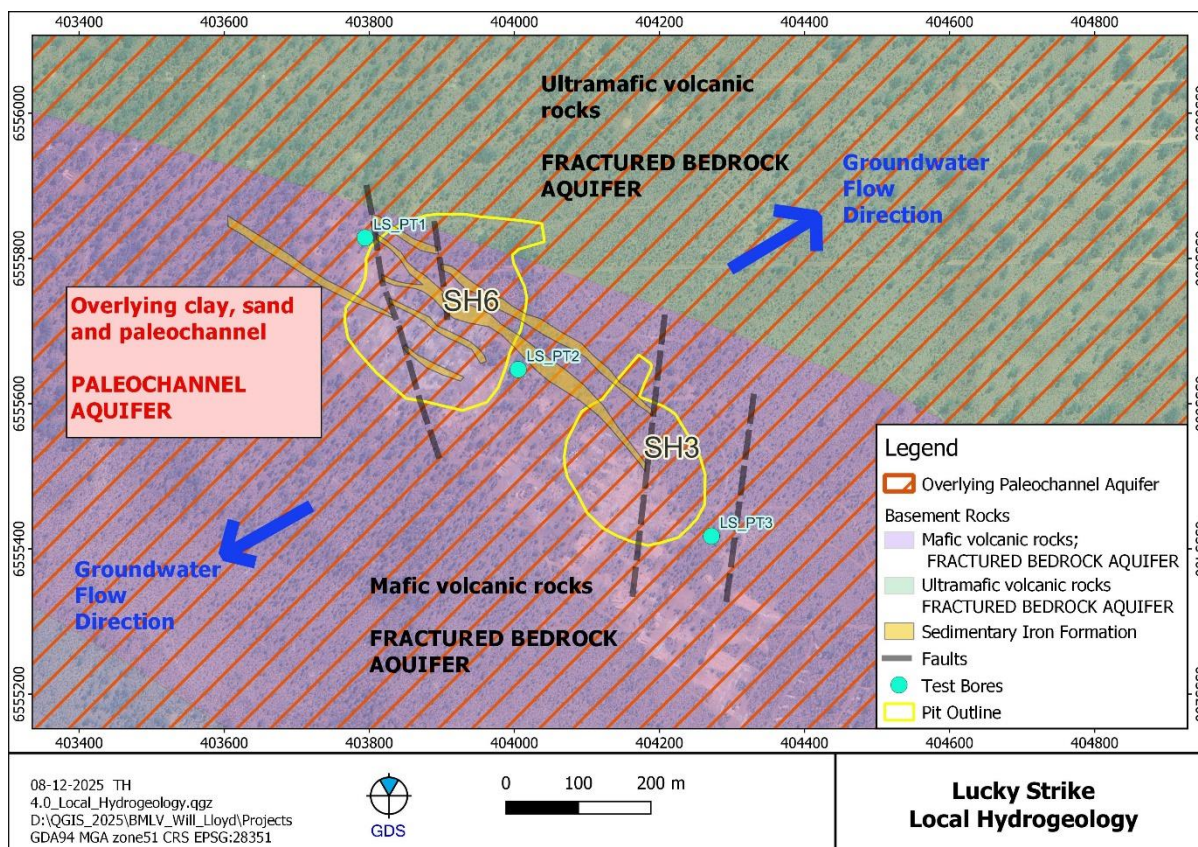


Figure 12: Local Hydrogeology

5. Aquifer Characteristics

5.1. Aquifer Type

Two aquifer types are in the project area. A shallow paleochannel aquifer and an underlying fractured bedrock aquifer.

5.2. Aquifer Extents

Both the shallow paleochannel aquifer and the underlying fractured bedrock aquifer have broad extents below the project. Although the volcanic rocks to the north and south have been mapped as different geologic units (e.g. ultramafic vs mafic volcanic rocks), they both comprise a fractured bedrock aquifer. From a hydrogeologic perspective, both basement rock types are the same aquifer.

5.3. Groundwater Levels

Groundwater levels in the three test bores are reported to be 5 m to 6 m below ground level. The depth to groundwater is about 2 to 3 metres above the surface of Lake Lefroy. As a result, Lake Lefroy is a zone of groundwater discharge (Rockwater 2025).

5.4. Groundwater Occurrence

The resource drilling database was reviewed to determine the occurrence of groundwater. About 550 exploration drill holes were completed in the north-west pit (SH6). The hole depths ranged from 12 to 211 mbgl. The average hole depth was 49 metres. About 55 exploration holes were completed in the south-east pit (SH3). The hole depths ranged from 30 to 209 mbgl. The average hole depth was 100

mbgl. The north-west pit will be developed to a maximum depth of 84 mbgl. The south-east pit will be developed to a depth of 68 mbgl.

Water strikes during drilling ranged from about 20 to 45 mbgl. Water is associated with the paleochannel sediments which are reported to depths of up to 45 mbgl. Deeper resource holes in the underlying bedrock fractured aquifer reported wet samples from depths ranging from 89 to 126 mbgl.

An assessment of the dewatering requirements has been completed (Rockwater, 2025). Some moderate to strong water flows were recorded in exploration drillholes. About 30 of the holes are within the planned north-west pit. There was only one hole in the south-east pit that intersected water. This suggests that the north-west pit might have higher dewatering flows than the south-east pit (Rockwater, 2025).

Groundwater occurrence appears to be predominantly in the shallow paleochannel aquifer and less so in the underlying fractured bedrock aquifer. Reported flows from the resource lithologic record ranged from 'much' at 0.1 L/s to 'abundant' at 1.0 L/s. There was one hole which reported 'significant' flows of about 4.0 L/s. All the significant water strikes are within the paleochannel aquifer.

5.5. Water Quality

Water samples were collected from three resource holes on 19 May 2025. It was reported that the samples were bailed (Rockwater, 2025).

The sample locations were cross referenced to the resource hole collar file locations. UTM coordinates are identical for pairs of samples. It is assumed that each of the resource holes were sampled twice. There is no explanation provided for this. The sampled holes are LEFR512, LEFR574 and LEFR590. The sample locations and resource holes details are summarised below in Table 3.

Table 3: 21 May 2025 Sample Holes

Sample				Resource hole					
Sample Numbers	Easting GDA94m	Northing GDA94m	Collar Elevation (mAHD)	Name	Easting GDA94m	Northing GDA94m	Collar Elevation (mAHD)	Maximum Hole depth (mbgl)	Dip
LS01, LS02	403,797.7	6,555,699.9	291.9	LEFR512	403797.7	6555699.9	291.9	24.0	-90.0
LS03, LS04	403,826.7	6,555,700.7	292.5	LEFR574	403826.7	6555700.8	292.4	45.0	-90.0
LS05, LS06	403,830.4	6,555,691.7	292.5	LEFR590	403830.4	6555691.7	292.5	45.0	-90.0

The holes were drilled with a reverse circulation drill rig for the purpose of resource assessment. The drill depths range from 24 to 45 mbgl. The holes would have been open and not cased. Water levels of the test dewatering holes are assumed to be like those of the test – dewatering bores (Table 1). The samples are not from a discrete water bearing zone as the hole is open and not cased.

The samples from the resource holes were submitted to ALS Laboratories for analyses. The results were all very similar and typical of salt lake brines (Rockwater, 2025). The baseline water chemistry is summarised below:

- pH neutral, 6.97 to 7.06;
- TDS 232,000 to 281,000 mg/L;
- Water of sodium chloride type with relatively high magnesium and sulphate;
- Very low metals and minor elements with most below reporting levels; exceptions were elevated values for Sr, Mn, BA, Li and Ru.

The locations of the resource holes are shown in Figure 13. The water chemistry analysis is provided in **APPENDIX A**.

A second round of sampling was done on 9 December 2025. It is understood that a pump was to be installed to facilitate sampling. Two samples were collected from water bore LS_PT2. The screened interval for this bore is 0 to 64 mbgl. The standing water level is 5-6 mbgl (Table 1).

One sample is noted as shallow (0m) and the other as deep (80 m). It is assumed that the 0m sample was collected with a bailer. The second sample (80m) is assumed to have been collected from the pump that was installed. The inlet is assumed to be at 80 mbgl. The bore details for LS-PT2 are provided in Table 1. The samples are not from a discrete water bearing zone as the bore is slotted from surface to the bottom of the hole (Table 1).

The chemical results of the samples collected on 9 December 2025 are not dissimilar to those collected on 19 May 2025. The salinities and major cations and anions are not dissimilar. The pH of the second round of samples is slightly lower. The second round of samples shows elevated levels of Mn, Sr, Zn, Al and B.

The locations of the water bores are shown in Figure 13. The water chemistry analysis is provided in **APPENDIX A**.

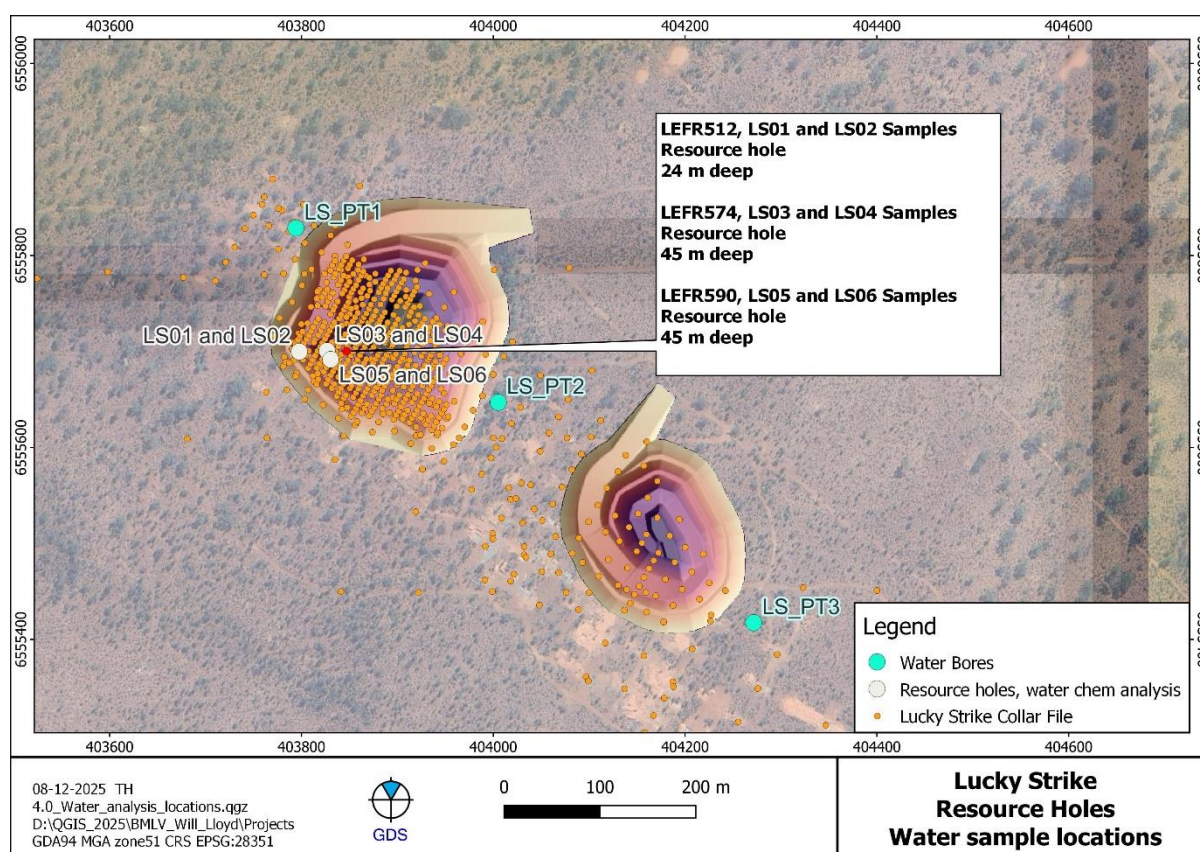


Figure 13: Water Sampling Locations

5.6. Recharge Zones

It is assumed that recharge to the local paleochannel and fractured rock aquifers is extremely low. There are no active zones of recharge associated with M25/366 other than what little surface runoff may seep downward during rain events.

5.7. Aquifer Interconnectivity

The local aquifers are about 40 metres of paleochannel aquifer, underlain by a fractured bedrock aquifer.

The shallow paleochannel aquifer will have limited connectivity to the underlying fractured bedrock aquifer. This is due to the amount of clay reported in the resource hole record. The clay layers would inhibit vertical flow downward.

The proposed pits would be in direct connectivity with the paleochannel aquifer. It is assumed that pit inflows of 5 or perhaps 10 L/s may be possible where pit wall rock is against the paleochannel aquifer. The duration and degree of wall seepage is associated with aquifer storage. Due to the clayey nature of the paleochannel and stratification of sand, clay and silt, it is assumed that storage in the paleochannel will be low. It is assumed that seepage rates from the paleochannel aquifer into the pit will reduce with time.

It is assumed that seepage rates in the underlying fractured bedrock aquifer will be much lower than those of the paleochannel. The deeper pit walls, when in contact with the fractured bedrock aquifer, may show minor inflows.

It is expected that any seepage into the pit from the paleochannel aquifer or the underlying fractured bedrock aquifer will be managed with surface sumps.

5.8. Water Supply Potential

Test bores were constructed to depths ranging from 64 to 92 mbgl. The bores were slotted from ground level to the base of the bore. The slots were in hydraulic continuity with both the paleochannel aquifer and the underlying fractured bedrock aquifer. It is difficult to determine how much of the inflows are from either aquifer. Given the reported water intercepts in the resource hole record, it is assumed that most of the water inflows are coming from the paleochannel. Airlift yields from the bores ranged from 2.0 to 4.0 L/s, which may be representative of the paleochannel aquifer. It is assumed that yields from the fractured bedrock aquifer would be much lower than those of the paleochannel.

5.9. Groundwater Dependent Ecosystems (GDEs)

Terrestrial GDEs are located 2.3 km southwest of tenement M25/366.

5.10. Beneficial Uses

The local groundwater quality is saline. The only beneficial use for groundwater encountered on tenement M25/366 would be for industrial and mining purposes only.

5.11. Stygofauna

In the paleochannel aquifer, stygofauna may be present in calcretes. Most of the lithologic descriptions of the paleochannel describe a predominance of clay. It appears that the probability of intersecting a calcrete is low.

In the fractured bedrock aquifer below the paleochannel, stygofauna may be present in water bearing fractures. The probability of intersecting a water bearing fracture in the bedrock would be very low.

The presence and abundance of stygofauna in the lithology below M25/366 is unlikely.

5.12. Water Management Areas

There are no water management areas near the project area.

6. Water Demand

6.1. Process Supply

The ore will be processed off site via a toll treatment agreement. There is no process supply requirement.

6.2. Potable Supply

The local groundwater is saline. Potable water will need to be trucked in.

6.3. Dust Suppression

Dust suppression will be associated with the active mining of the pit, dust suppression of the stockpiles, the waste dump and the haul road. It is assumed that dust suppression requirements will range from 5 and 10 L/s.

6.4. Water Supply

The dust suppression supply will be met from local test bores in the early stages of mining. After intersection of the water table, dust suppression water will be sourced from pit seepage.

7. Water Management

7.1. Pit Dewatering requirements

A simple numerical groundwater model was constructed to make a first estimate of dewatering flows and impacts during mining of the pits (Rockwater, 2025). The model grid was aligned at 45 degrees west of north to match the strike of the mineralised zone. The model was constructed with two layers. Layer 1 extended from ground level down to 40 mbgl to represent clayey sediments (paleochannels) and deeply weathered bedrock. Layer 2 was constructed below Layer 1, from 40 to 100 mbgl, to represent the slightly weathered and fresh rocks.

It was assumed that the duration of mining for each pit would be approximately nine (9) months at a constant rate of vertical advance. The total duration of dewatering was estimated to be 18 months. The model was run with stress periods for a duration of three (3) months. The estimated dewatering flow rates from modelled pit sumps and dewatering bores are reproduced below in Table 4.

Table 4: Model-Estimated Dewatering Flow Rates (Rockwater, 2025)

3 Month Stress Period	Months	Rate (m ³ /day)			Total Rate (m ³ /day)	Total Rate (L/s)
		Sumps NW Pit	Sumps SE Pit	Dewater Bores		
1	3	121	0	620	741	8.6
2	6	186	0	620	806	9.3
3	9	347	0	520	867	10.0
4	12	158	61	440	659	7.6
5	15	151	63	440	654	7.6
6	18	234	120	320	674	7.8

Over the first 12 months of dewatering, the average daily dewatering rate will be 768 m³/day or 8.9 L/s. The first-year total dewatering volume is estimated to be 280,411 m³.

7.2. Disposal Requirements

A beneficial and risk reduction exercise would be to gain approvals for a disposal option, should pit inflows be more than those estimated during previous studies (Rockwater, 2025). This is considered possible, given that the dewatering estimates are based on numerical modelling and not supported by robust test pumping analysis. The nature of the aquifers and the reports of water interceptions during resource drilling implies that low dewatering rates are not unrealistic.

Shallow paleochannel and fractured bedrock aquifers are prone to dewatering effects. Establishing sustainable supplies in these types of aquifers is challenging. It is assumed that any pit inflows which occur during mining will reduce in seepage rates as mining progresses.

8. Potential Impacts

8.1. Distance-Drawdown Estimates

The drawdown resulting from dewatering of the two pits was estimated (Rockwater 2025). The drawdown extents are greater along strike than perpendicular to strike due to the orientation of the lithology. After 18 months, the 1 m drawdown contour could extend for up to 1.5 km along strike. The 1 metre drawdown contour could extend up to 1.1 km perpendicular to strike. The distance drawdown extents around the Lucky Strike pits are shown graphically in Figure 14.

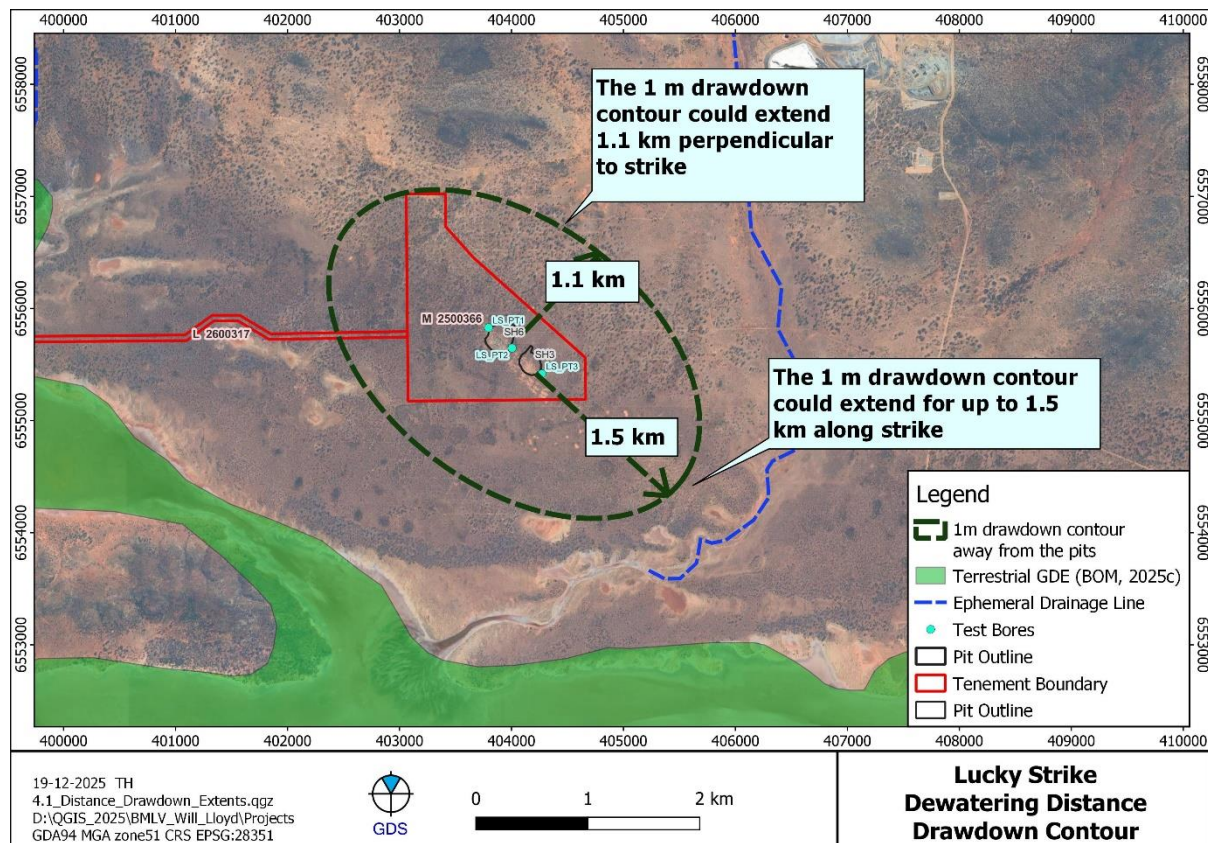


Figure 14: Distance-Drawdown Extents

8.2. Local Aquifer

Dewatering is required during mining. The local aquifer will be drawn down to the base of the pit. The water quality is saline. The beneficial use of the water is for mining and industrial purposes. The water table will recover with time after cessation of dewatering. Impacts to the local aquifer are negligible.

8.3. GDEs

Terrestrial GDEs are located 2.3 km south and down gradient of the project (Figure 14). Drawdown distance analysis of the dewatering effects was estimated to be 1 m of drawdown at 1.5 km. Impacts to GDEs because of pit dewatering will be negligible.

8.4. Stygofauna

Stygofauna may be present in calcrete layers of the paleochannel, when calcrete layers are present. The layers of calcrete are laterally discontinuous and there are abundant clay layers in the paleochannel. It is not an environment conducive to stygofauna and the lithology is restricted in thickness and lateral extent. It is unlikely that stygofauna will be present in abundance in the paleochannel.

It is unlikely that a water bearing fracture will be encountered in the fractured rock aquifer. It is unlikely that stygofauna will be present in abundance in the fractured rock aquifer.

8.5. Other Users

The nearest other groundwater user is located more than 3.3 and 4.1 km from the project area. Drawdown extents for the 1m drawdown contour are estimated to be a maximum of 1.5 km from the dewatered pits. Impacts to other groundwater users will be negligible.

8.6. Borefields

The nearest borefield is more than 3.3 km from the project. Potential impacts are negligible.

8.7. Potential Chemical Contaminants

The deposit will be mined with standard open pit mining methods and the ore treated at a third-party mill. There is no plan to construct a processing plant (mill), nor is there a requirement to construct a Tailings Storage Facility (TSF). Any potential contaminants are most likely associated with the storage of diesel, which will be managed using containment bunds. This type of potential impact would also come under the control of the environmental management plan. The potential impact from chemical contaminants is negligible.

9. Post Life of Mine Pit Lake Recovery

After completion of mining, groundwater inflows from the wall rock are expected to be low and may be of the magnitude of 5 L/s. Surface flows into the pit will be negligible due to the surface terrain and the establishment of levees. Average annual rainfall is about 266 mm. Average annual evaporation is about 2,500 mm. Any rainfall that collects in the base of the pit is minimised due to evaporation. The final pit lake will be a hydraulic sink. Water that forms in the pit is expected to be saline to hypersaline. The local groundwater quality is hypersaline. Any impacts to the aquifer due to the final state of (potential) pit lake development is expected to be negligible.

10. Conclusions

- Dust suppressions are expected to range from 5 to 10 L/s
- The deposit has two aquifers: a shallow paleochannel aquifer and a deeper fractured bedrock aquifer.
- Groundwater levels range from 5 to 6 mbgl.
- Bore airlift yields range from 2 to 4.2 L/s.
- Airlift yields during resource drilling ranged from 0.1 to 4.0 L/s.
- Numerical groundwater modelling has estimated a maximum dewatering rate of 10 L/s in month 9 of the (proposed) 18 months of mining.
- Higher pit inflows are expected from the shallow paleochannel aquifer than from the deeper fractured bedrock aquifer.
- Pit inflows are expected to reduce with time due to low storage characteristics in both the paleochannel aquifer and the fractured bedrock aquifer.
- Groundwater quality is hypersaline, with salinity that ranges from 281,000 to 232,000 mg/L Total Dissolved Solids.
- Most metals have very low concentrations, except for Al, B, Li, Mn, Ru, Sr and Zn.
- The pit area is on a rise. Surface water and groundwater will tend to flow away from the pit areas. Surface flooding through the pit areas is not expected.
- The only beneficial use of the groundwater is for industrial and mining purposes.
- Impacts to the groundwater dependent ecosystems, the aquifer, other users and stygofauna are unlikely.

11. References

- Bureau of Meteorology, 2025b, accessed 5/12/2025, Evaporation: Average Monthly & Annual Evaporation, <http://www.bom.gov.au/watl/evaporation>.
- Bureau of Meteorology, 2025a, accessed 5/12/2025, Summary statistics KALGOORLIE, Rainfall, 012038, http://www.bom.gov.au/climate/averages/tables/cw_012038.shtml.
- Bureau of Meteorology, 2025c, Groundwater Dependent Ecosystem Atlas, accessed 18/12/2025, <https://www.bom.gov.au/weave/gde.htm>.
- DoW, 2008a, geospatial data set; (Hydrography,_Lakes_(medium_scale_250K_GA).shp, accessed on 11 June 2008 16:51:04), Department of Water, Perth WA.
- DoW, 2008b, geospatial data set, (Hydrography,_linear_(medium_scale,_250k_GA).shp, accessed on 11 June 2008 16:35:16, Department of Water, Perth WA
- DoW, 2008c, geospatial data set, (Hydrographic_Catchments_-_Subcatchments.shp), accessed on 11 June 2008 16:49:48, Department of Water, Perth WA
- DEMIRS, 2025, Guideline for preparing Mining Development and Closure Proposals, Department of Energy, Mines, Industry Regulation and Safety, Guideline, May 2025.
- DWER, 2025a, Water Information Reporting App, Department of Water and Environmental Regulation, <https://www.wa.gov.au/organisation/department-of-water-and-environmental-regulation>, accessed on 15/11/2025.

DWER, 2025b, Water Register, Department of Water and Environmental Regulation, <https://www.wa.gov.au/service/natural-resources/water-resources/water-register>, accessed on 5/12/2025.

Kern et al, 1994, Widgiemooltha Sheet SH-14 Hydrogeological Map series, published by the Geological Survey of Western Australia, Perth WA.

Lefroy Exploration, 2025a, A New Gold Producer, Targeting Operations in CY 2025, 2025 AGM Presentation, 28 November 2025, ASX Statement.

Lefroy Exploration, 2025b, Mining Commences at Lucky Strike Gold Deposit, 4 December 2025, ASX Announcement.

Rockwater 2025, Lucky Strike: Initial Hydrological & Hydrogeological Assessment, Document 705-0/25/01, prepared for BML Ventures, 16 September 2025.

12. APPENDICES:

APPENDIX A – Groundwater Chemistry Analysis

APPENDIX A Groundwater Chemistry Analysis

Lucky Strike EP2508050 Analyte grouping/Analyte	Unit	Limit of reporting	LS01	LS02	LS03	LS04	LS05	LS06	0m (shallow)	80m (deep)
			EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2520695	EP2520695
EA005P: pH by PC Titrator			19/05/2025	19/05/2025	19/05/2025	19/05/2025	19/05/2025	19/05/2025	09/12/2025	09/12/2025
pH Value	pH Unit	0.01	7.06	6.99	7.00	7.00	7.03	6.97	6.16	6.30
EA010P: Conductivity by PC Titrator										
Electrical Conductivity @ 25°C	µS/cm	1	221000	222000	224000	221000	216000	218000	210000	207000
EA015: Total Dissolved Solids dried at 180 ± 5 °C										
Total Dissolved Solids @180°C	mg/L	10	281000	235000	278000	269000	234000	232000	250000	270000
ED037P: Alkalinity by PC Titrator										
Hydroxide Alkalinity as CaCO3	mg/L	1	<1	<1	<1	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	mg/L	1	<1	<1	<1	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	mg/L	1	68	63	67	60	60	64	22	21
Total Alkalinity as CaCO3	mg/L	1	68	63	67	60	60	64	22	21
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA										
Sulfate as SO4 - Turbidimetric	mg/L	1	17100	17600	16000	16200	17400	15700		
ED045G: Chloride by Discrete Analyser										
Chloride	mg/L	1	141000	143000	134000	135000	140000	129000	134000	131000
ED093F: Dissolved Major Cations										
Calcium	mg/L	1	758	706	681	714	722	669	679	638
Magnesium	mg/L	1	8660	8350	7910	8280	8300	8080	7930	7710
Sodium	mg/L	1	85000	81800	77300	80300	81400	78800	84800	82300
Potassium	mg/L	1	582	551	526	537	541	511	521	508
ED040F: Dissolved Major Anions										
Sulfur as S	mg/L	1							6810	6780
EG020F: Dissolved Metals by ICP-MS										
Aluminium	mg/L	0.01	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.83
Antimony	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Arsenic	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Beryllium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Barium	mg/L	0.001	0.236	0.179	0.217	0.185	0.212	0.197	<0.050	<0.050
Bismuth	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Cadmium	mg/L	0.0001	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cerium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Caesium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Chromium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cobalt	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Copper	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

APPENDIX A Groundwater Chemistry Analysis

Lucky Strike EP2508050 Analyte grouping/Analyte	Unit	Limit of reporting	LS01	LS02	LS03	LS04	LS05	LS06	0m (shallow)	80m (deep)
			EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2520695	EP2520695
Dysprosium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Erbium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Europium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Gadolinium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Gallium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Hafnium	mg/L	0.01	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
Holmium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Indium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Lanthanum	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Lead	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lithium	mg/L	0.001	0.098	0.118	0.103	0.117	0.121	0.119		
Lutetium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Manganese	mg/L	0.001	3.47	3.03	3.19	3.10	3.15	3.31	2.18	2.11
Molybdenum	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Neodymium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Nickel	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.063
Praseodymium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Rubidium	mg/L	0.001	0.073	0.064	0.058	0.066	0.063	0.064		
Samarium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Selenium	mg/L	0.01	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.200	<0.200
Silver	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Strontium	mg/L	0.001	12.0	11.4	10.8	11.3	11.3	10.9	10.8	10.5
Tellurium	mg/L	0.005	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.050	<0.050
Terbium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Thallium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Thorium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Thulium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Tin	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Titanium	mg/L	0.01	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
Uranium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vanadium	mg/L	0.01	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ytterbium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Yttrium	mg/L	0.001	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Zinc	mg/L	0.005	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	0.430
Zirconium	mg/L	0.005	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250		

APPENDIX A Groundwater Chemistry Analysis

Lucky Strike EP2508050 Analyte grouping/Analyte	Unit	Limit of reporting	LS01	LS02	LS03	LS04	LS05	LS06	0m (shallow)	80m (deep)
			EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2520695	EP2520695
Boron	mg/L	0.05	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50
Iron	mg/L	0.05	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	3.00
EG020T: Total Metals by ICP-MS										
Aluminium									1.85	2.77
Antimony	mg/L	0.001	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
Arsenic	mg/L	0.001	<0.052	0.076	0.061	0.079	0.095	<0.052	<0.052	<0.052
Beryllium	mg/L	0.001							<0.052	<0.052
Barium	mg/L	0.001	0.447	0.359	0.551	0.427	0.525	0.342	<0.052	<0.052
Boron	mg/L	0.05	<2.62	<2.62	<2.62	<2.62	<2.62	<2.62		
Cadmium	mg/L	0.0001	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052
Chromium	mg/L	0.001	0.221	0.224	0.371	0.316	0.451	0.132	<0.052	<0.052
Cobalt	mg/L	0.001							<0.052	<0.052
Copper	mg/L	0.001	0.135	0.140	0.182	0.187	0.258	0.070	<0.052	<0.052
Lead	mg/L	0.001	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
Manganese	mg/L	0.001	4.30	4.26	4.97	4.56	5.17	3.81	2.17	2.31
Molybdenum	mg/L	0.001	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
Nickel	mg/L	0.001	0.290	0.334	0.426	0.401	0.582	0.165	<0.052	<0.052
Selenium	mg/L	0.01	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.210	<0.210
Silver	mg/L	0.001	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
Strontium	mg/L	0.001							11.0	12.2
Thallium	mg/L	0.001							<0.052	<0.052
Tin	mg/L	0.001							<0.052	<0.052
Uranium	mg/L	0.001							<0.052	<0.052
Vanadium	mg/L	0.01							<0.52	<0.52
Zinc	mg/L	0.005							<0.262	0.500
Boron	mg/L	0.05							1.58	<0.52
Iron	mg/L	0.05							4.23	7.67
EG035F: Dissolved Mercury by FIMS										
Mercury									<0.0005	<0.0005
EG035T: Total Recoverable Mercury by FIMS										
Mercury	mg/L	0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EK026SF: Total CN by Segmented Flow Analyser										
Total Cyanide	mg/L	0.004	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040		
EK040P: Fluoride by PC Titrator										
Fluoride	mg/L	0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		

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Lucky Strike EP2508050 Analyte grouping/Analyte	Unit	Limit of reporting	LS01	LS02	LS03	LS04	LS05	LS06	0m (shallow)	80m (deep)
			EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2508050	EP2520695	EP2520695
EK055G: Ammonia as N by Discrete Analyser										
Ammonia as N	mg/L	0.01							0.23	0.27
EK057G: Nitrite as N by Discrete Analyser										
Nitrite as N	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser										
Nitrate as N	mg/L	0.01	0.10	0.14	0.09	0.16	0.21	0.15	0.11	0.15
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser										
Nitrite + Nitrate as N	mg/L	0.01	0.10	0.14	0.09	0.16	0.21	0.15	0.11	0.15
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser										
Total Kjeldahl Nitrogen as N	mg/L	0.1							<2.0	<2.0
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser										
Total Nitrogen as N	mg/L	0.1							<2.0	<2.0
EK067G: Total Phosphorus as P by Discrete Analyser										
Total Phosphorus as P	mg/L	0.01							<0.20	<0.20
EK071G: Reactive Phosphorus as P by discrete analyser										
Reactive Phosphorus as P	mg/L	0.01							<0.01	<0.01
ED038P: Acidity by Auto Titrator										
Acidity as CaCO3	mg/L	1							36	35
EN055: Ionic Balance										
Total Anions	meq/L	0.01	4330	4400	4110	4150	4310	3970		
Total Cations	meq/L	0.01	4460	4290	4060	4220	4270	4140		
Ionic Balance	%	0.01	1.45	1.23	0.66	0.92	0.45	2.12		