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**MATAKANUI GOLD LIMITED
BENDIGO-OPHIR GOLD PROJECT
SITE GEOTECHNICAL FACTUAL REPORT**

Prepared for:

23 September 2026

Matakanui Gold Limited

EXECUTIVE SUMMARY

Data and observations presented in this Geotechnical Factual Report relate to the geology and landform characteristics within the Bendigo–Ophir Gold Project (BOGP) area. The investigations were undertaken over two distinct periods, referred to in this report as the 2024/2025 and 2025/2026 campaigns.

The 2024/2025 campaign primarily focused on the Rise and Shine Creek area, while the 2025/2026 campaign concentrated on the Shepherds Creek area.

The campaigns comprised a combination of desk top review, field mapping, machine borehole drilling and test pit excavations. Both campaigns included the installation of either vibrating wire piezometers or standpipe piezometers into a selection of boreholes to monitor ground water levels. Selected materials recovered from the boreholes, test pits and batters were tested in the laboratory to assist with characterisation of site materials.

In-situ testing comprised a combination of the following methods:

- Standard penetration testing (SPT),
- Permeability tests, involving packer or falling/rising head tests,
- Downhole geophysics, methods including: televiewer, full wave sonic and downhole shear wave tests,
- Multichannel analysis of surface waves (MASW) data was captured at the Process Plant area.

The geotechnical investigation and sampling undertaken are relevant for foundation conditions and construction material of the following BOGP areas:

- Process Plant and Infrastructure Area
- Tailing Storage Facility
- Engineered Landforms, and
- Silt Ponds

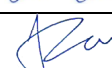
Interpretation and technical assessments of geotechnical factual information are presented in technical reports specific to each area.

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Document applicability and disclaimers

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This report shall only be read in its entirety.

Where this report is issued in draft the contents shall be for initial information and review only and are subject to change and shall not be relied upon.

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23 September 2026

**MATAKANUI GOLD LIMITED
BENDIGO-OPHIR GOLD PROJECT
SITE GEOTECHNICAL FACTUAL REPORT**

1.0 INTRODUCTION

Engineering Geology Limited (EGL) has been engaged by Matakanui Gold Limited (MGL) to provide this Site Geotechnical Factual Report for the Bendigo-Ophir Gold Project (BOGP). MGL is a subsidiary company of Santana Minerals Limited (SML). This report presents data and observations relating to the geology within the project study area and the results of a two ground investigation campaigns completed during the periods of 2024/2025 and 2025/2026.

MGL are proposing to establish the BOGP, which comprises a new gold mine, ancillary facilities, and environmental mitigation measures, on the Bendigo and Ardour Stations in the Dunstan Mountains of Central Otago. The location of the project study area is shown in Figure 1.

The BOGP involves mining the identified gold deposits at Rise and Shine ("RAS"), Come in Time ("CIT"), SRX and SRX East ("SRE"). Both open pit and underground mining methods will be utilised within the project site. Infrastructure to support the project will be constructed in the lower Shepherds Creek Valley. The Shepherds Tailings Storage Facility (TSF) is to be constructed in the upper reach of Shepherds Valley, upstream of an Engineered Landform (ELF) constructed of overburden rock.

This report presents factual data from geotechnical investigations relevant to the:

- Process Plant and Infrastructure Area.
- Tailing Storage Facility.
- Engineered Landforms, and,
- Silt Ponds.

Interpretation and technical assessments are provided in other reports.

1.1. Site Location

The proposed site is located approximately 20 km northeast of Cromwell as shown in Figure 1. It is on the edge of the Bendigo Terrace and within the Dunstan Mountains of Central Otago.

1.2. Project Description

The proposed site layout is shown on Figure 2. The proposed mine site will comprise the following surface infrastructure:

- Worker Accommodation and Administration Buildings
- Access Road into the mine site,
- Processing Plant and Infrastructure Area,
- Shepherds Service Corridor Stream Diversion,
- Access tracks,
- Clean water diversion channels,
- Haul roads,
- Topsoil stockpiles
- Engineered landforms (ELFs – storing mined overburden rock),
- Tailing Storage Facility (TSF),
- Seepage Collection Sump, and
- Silt ponds

2.0 SITE DESCRIPTION

2.1. Site topography and catchments

The site topography, named creeks, and main catchments are shown in Figure 3.0, 3.2, 3.3 & 3.5. The site extends across the gravels of the Bendigo Terrace and schist rock of the Dunstan Mountains.

The identified gold deposits are approximately located within schist rock found between the Shepherds Creek and the slopes to the southwest of Rise and Shine Creek.

Both creek catchments start from a divide at approximately RL 950 m in the southeast and flow to the northwest. The creeks flow over schist rock within the valleys and onto gravel terraces in the northwest. Shepherds Creek is approximately 150 m lower than Rise and Shine Creek. The ridge between the creeks is approximately 60 to 190 m above the floor of Rise and Shine Creek, and 200 to 350 m above the floor of Shepherds Creek. Rise and Shine Creek flows into Clearwater Creek at approximately RL 650 m which in turn flows into Bendigo Creek at about RL 570 m. Shepherds Creek and Bendigo Creeks flow off the schist rock onto gravel terraces at approximately RL 350 m.

Shepherds Creek is a tributary to the Lindis River, which flows to the Clutha River. Rise and Shine Creek flows into Clearwater Creek, and then Bendigo Creek which is a tributary of the Clutha River. Under normal flow conditions Shepherds Creek has no surface flow connection with the Lindis River with the surface water infiltrating the gravels. Both Bendigo Creek and Shepherds Creek have surface water takes, unrelated to MGL, which reduce flows across and into the gravels. Bendigo Creek also has no surface flow connection to the Clutha River for most of the year.

3.0 BACKGROUND GEOLOGY

3.1. Published Geological Units

The following geological description of the strata that is inferred to underlie the BOGP is based on a review of available site-specific investigation results and information published on the Geological and Nuclear Science (GNS) 1:250,00 scale geological map (Ref. 1) and in the memoir “Geology of the Wakatipu Area” by Turnbull et al (2000) (Ref. 2). The relevant excerpt from the GNS geological map is presented as Figure 4.

The summary of the main geological units within the Project Study Area are as follows (after Turnbull et al 2000. Ref. 2):

Dredge Tailings and sluiced gravels (Q1n): Washed and redeposited quartz -schist gravels and sand. This unit may be encountered as a veneer overlying other pre-existing surfaces down stream of historic gold workings.

Loess: These deposits are not mapped on geological maps of the area and are described in the geological memoir as “*too thin, diffuse and complex to be shown on a map*”. Locally, on the lower flatter slopes the loess may have been deposited as a thin ‘blanket deposit’ with a depth of 1 to 2 m thick while on steeper slopes it has been remobilised and forms a thin loess / colluvium slope wash unit containing material from the underlying rock.

Holocene Landslide Deposits (Q1l): Deposits ranging from shattered rock to clay and boulder breccias. These materials are typically derived from underlying adjacent rocks. It may be described in some references as colluvium and slope wash deposits.

Undifferentiated Quaternary landslide deposits (uQl): These deposits are older than the Holocene deposits but have a similar composition. In some locations they may have been overlain by more recent Holocene landslide deposits.

Alluvial Deposits and Fans (Q1a & Q1af): Undifferentiated, typically unconsolidated, variable weathered gravels with interbeds of sands, silts and clays. This unit is generally encountered across the valley floors. These materials comprise clays, silts, sands and gravels derived from parent materials upslope of the deposition location.

Till (Q12t & Q16t): These deposits comprise glacial derived till and glacial outwash sandy gravels. They form the terraces against the western side of the Dunstan Mountains to the east of the Lindis River.

Torlesse TZ3 Schist (*Rakaia Terrane, Whakatipu Group*) (Yt3): Permian to Triassic era undifferentiated pelitic and psammitic schist and greenschist sequences. This unit is reported to be well foliated and slightly segregated (Ref 1). White veins, that crosscut and offset foliation, is common.

Torlesse TZ4 Schist (*Rakaia Terrane, Whakatipu Group*) (Yt4): Permian to Triassic era undifferentiated pelitic and psammitic schist and greenschist sequences. This is reported to be strongly foliated and segregated and veined schist (Ref 1).

Thomson Gorge Fault Gouge: The northwest to southeast trending fault alignment represents a normal fault dipping to the northeast, resulting in the downthrow of the northeastern block. The fault is considered inactive, with reported dating indicating that the most recent movement occurred approximately 80 million years ago (Ref. 3).

Based on conversations with MGL geologists, the fault gouge forms a key resource ‘marker bed’ separating the TZ3 (above) with the TZ4 (below) schist within the area. The faulted material typically comprises a 2 m to 10 m wide zone of clays with some angular gravel.

3.2. Landforms

Previous GFR versions included a site wide 1:20,000 Landforms map. Whilst geomorphological features will be addressed in separate EGL reporting, 2025/2026 ground investigations has been completed within an area referred to in this report as “Feature 1”. The location of Feature 1 is displayed within Appendix A Figure A1a & A1b.

3.3. Exploration Boreholes

Appendix B references locations of three exploration boreholes MDD397, MDD400 and MDD403 that are within the Shepherds Creek gully floor. These exploration boreholes have wash drilled (ie no core recovery) through TZ3 schist of considerable thickness. For this reason, the exploration borehole logs are excluded from this report.

4.0 2024/2025 FIELD OBSERVATIONS

Between 27 May and 30 May 2024, an EGL engineering geologist and senior geotechnical engineer were on site for field mapping and test pit investigations.

The field mapping focussed on the Rise and Shine Creek Valley, where the process plant infrastructure and TSF were proposed to be built at the time.

The key features of the field observations were focussed on the location of the Thomson Gorge Fault (TGF) in the valley, and the geotechnical properties of the TZ3 and TZ4 schist. Specific features identified include relatively steeper slopes present on the true right side (TZ3) side of the valley compared to a relatively shallower over all slope angle on the true left (TZ4). Field mapping identified a tension crack approximately 20 m in length, up to 1 m wide, refer to section 5.1 for location and a field photograph.

4.1. MGL samples

MGL collected soil samples for lab testing to assess potential borrow areas, refer to section 5.1 for locations. The details of the samples taken and lab testing undertaken can be found in Section 14.1.

Note for these samples that some were taken from the area previously known as Cherry/Cherri Quarry, which is now known as Prunus Quarry.

5.0 2025/2026 FIELD OBSERVATIONS

5.1. Field mapping

Between September 2025 and February 2026, EGL undertook additional geological field mapping, carried out by engineering geologists and supported by MGL geologists. The mapping programme focused on the Shepherds Creek Valley, with

particular emphasis on the Tailings Storage Facility (TSF), Features 1 and 2, and the Process Plant areas.

For the TSF area, including Features 1 & 2, the mapping focused on identifying groundwater seepage locations and characterising the geological conditions present. Geological data collection included lithology (distinguishing between pelitic and psammitic units), weathering grades, structural defects, and foliation. This information is used to develop an understanding of the rock mass conditions along the TSF slopes and projecting these beneath the proposed TSF embankment.

For the Process Plant, the focus was on understanding the difference between the TZ3 and TZ4 slopes located on either side of the valley. The mapping also included identifying the different Holocene aged surficial deposits.

The 2025/2026 mapping included 184 stops. Within this report, the stop numbers range from 1 to 280. Stop locations include either an area of interest (ie seepage) or where rock structure could be identified. Rock outcrops that may not be insitu are referred to as “subcrops”. Details of each stop are referenced in Table 1.1 & 1.2, with locations presented in map view in Appendix A Figure A1a & A1b.

Outcomes from this mapping programme include:

- Separating the TZ3 schist into Pelitic and Psammitic lithologies (Refer to Appendix A Figure A2),
- Foliation is measured as dip from horizontal and dip direction from north (Refer to Appendix A Figure A3). MGL provided a field mapping rock structural data base (Appendix A Figure A3) that was spot checked by EGL around the TSF and confirmed to align with EGL observations.
- Samples were taken for lab testing to assess potential borrow areas for TSF embankment construction. The locations of these samples and the 2024 field mapping samples are presented in Appendix A Figure A4.
- Ground water seepage locations and flow paths are presented in Appendix A Figure A5.
- General site photos taken during the mapping programme can be found in Appendix A Figure A6.
- Appendix A Figure A7 indicates the tension crack location discussed in Section 4.0.

5.2. Lithology and Rock mass condition

Site observations of TZ3 schist are separated into Pelitic mudstone and Psammitic sandstone end members. The outcrop locations where this is recorded to date has focused around the TSF as summarised in Appendix A Figure A2.

Typical rock mass conditions for Pelitic outcrops were moderately weathered with strengths ranging from weak to strong, dark grey or brownish grey. Foliation and associated defects encountered were typically very closely to closely spaced (Appendix A.7, Photograph 7). Striking the Pelitic outcrops with the pick end of geological hammer often resulted in removal of angular gravel size clasts.

Typical rock mass condition for Psammatic outcrops range from highly to moderately weathered, orange, brown and grey in colour with strengths ranging from moderately strong to strong. Whilst foliation is predominately very closely spaced, defects were typically closely to widely spaced (Appendix A.7, Photograph 8). Striking the

Psammitic outcrops with a geological hammer resulted in tabular shaped cobble to block size clasts of schist.

Across both lithological units, major structural sets were identified that influence the rock mass at the outcrop scale and show consistency across the valley. These structures comprise joint sets and cross joints oriented approximately perpendicular to foliation. Together, these features typically control the geometry of the outcrops, often producing blocky, tabular to sub-rectangular shaped with edges aligned along the dominant structural orientations.

5.3. Surface Flow

As part of the mapping carried out by EGL, groundwater seepage and water surface flow paths were mapped. The field observations primarily focused on areas surrounding the TSF embankment and Features 1 and 2. A summary of the collected geological data for this area is presented in Appendix A Figure A5.

Additional observations were made by EGL personnel during daily access to and from the drilling platforms at MDD491 and MDD493.

Seepage within Feature 1 was observed between RL 690 m and RL 850 m. However, no seepage was identified at Feature 2 or along the true left and right TSF embankments.

5.4. Zone A1 Samples

EGL completed a field mapping exercise on 19 November 2025 to classify the type and thickness of materials exposed across existing RAS batters and farm batters (Refer to Appendix A). The batter heights ranged from 1 m to 3 m and the materials included the following:

- Loess, fine sandy silt typically encountered in localised topographic hollows or gullies.
- Colluvium, matrix support expose across the batters of various thicknesses.
- Completely to highly weathered brown schist. Typically exposed at the northern end and eastern slopes of the RAS footprint.
- Moderately weathered brown grey schist. Typically exposed at the southern end of the pit and beneath the completely to highly weathered schist if batters.
- Shear Zones, silty clays which are sparsely exposed across the batters and typically 50 mm thick and up to 400 mm thick at one exposure.

Four samples were sent for laboratory testing to assess the particle size distribution.

Refer to the laboratory results in Section 14.2.

6.0 2024/2025 GROUND INVESTIGATION

The objectives of the 2024/2025 geotechnical investigation (Refer to Appendix B) documented in this report was to:

- Characterise the ground conditions in the Lower Shepherds Valley for planning bulk earthworks and provide preliminary geotechnical design parameters for the mine infrastructure.
- Characterise the depth and rock quality within the foundations of the TSF.

- Characterise the ground strength and conditions for the Engineering Landform structures (ELFs).
- Enable the installation of groundwater monitoring standpipes and vibrating wire piezometers for groundwater level characterisation.
- Enable in-situ permeability testing.
- Enable sampling and associated geotechnical laboratory testing.

Many exploration boreholes have been drilled around the mineralised deposits. Exploration boreholes generally target the gold mineralisation zones in the Torlesse TZ4 Schist. They typically start diamond core recovery a short length above the Thompson Gorge Fault in the TZ3 and extend through mineralised material to end in 7nmineralized TZ4. Exploration boreholes designed to collect diamond core through TZ3 schist (e.g. geotechnical investigation of the rock mass around planned open pit high walls) typically have recovery in excess of 95%. The exploration borehole logs are not presented in this report. The locations of selected exploration boreholes are shown on Appendix B around the proposed Process Plant as they provide some information on the rock in this area as the TZ3 and TZ4 contact outcrops at the surface around this area.

6.1. 2024/2025 Investigations

The 2024/2025 geotechnical investigation program targeted the following areas:

- Rise and Shine Valley
- Shepherds Process Plant and Infrastructure Area
- Shepherds Tailing Storage Facility
- Shepherds Engineered Landform, and
- Shepherds Creek Silt Pond

The program used the following investigation methodologies:

- Test pits, and
- Machine drilled boreholes.

The location of the geotechnical test pits and boreholes are presented in Appendix B.

6.2. 2024/2025 Machine Boreholes

A series of seven rotary cored boreholes (RC) were drilled by Alton Drilling Limited to investigate locations of interest within the Rise and Shine and Shepherds Valleys. The geotechnical boreholes were drilled using the exploration drill rig. The boreholes were numbered using the internal MGL system.

A table summarising the geotechnical borehole drilling is in Table 2. Borehole logs and core photographs are in Appendix C.

Geotechnical boreholes MDD362 and MDD365 targeted lower Shepherds Valley where the Process Plant and Infrastructure Area are proposed to be located. Boreholes MDD362 and MDD365 are shown in Appendix B with logs presented in Appendix C.

Geotechnical boreholes MDD394, MDD396, and MDD399 targeted the Shepherds TSF embankment location.

Geotechnical boreholes MDD333 and MDD327 targeted general areas of interest in Rise and Shine Valley.

Permeability testing was carried out during the drilling campaign, with details provided in Section 11.0.

6.3. 2024/2025 Test Pits

The test pits were excavated by a 20-tonne hydraulic excavator with a nominal maximum excavation depth of approximately 7 m (if ground conditions allowed). Locations are presented in Appendix B.

The test pits were logged by EGL or MGL geologists. Typically, the test pits which were logged by EGL have the naming convention prefix “EGLTP” while the test pits that were logged by MGL have the naming convention prefix “MTP”.

56 test pits have been excavated within the Shepherds Valley and 12 have been excavated within the Rise and Shine Valley. The test pits were numbered sequentially with the naming convention prefix of EGL or MTP as appropriate.

A tabulated list of test pits is in Table 3. Test pit logs and photographs are in Appendix D.

6.4. Logging Standards

Full time supervision of the test pits was undertaken by a geologist from EGL or MGL.

Part time supervision of the machine boreholes was undertaken by an MGL geologist, with the recovered core either being logged adjacent to the drill rig or at the MGL core shed.

All test pits and machine boreholes were logged in general accordance with the relevant guidelines which are set out in the New Zealand Geotechnical Society publication “Field Description of Soil and Rock: Guidelines for the Field Description of Soil and Rock for Engineering Purposes.” (2005) (Ref. 4).

6.5. Standard Penetration Testing (SPT)

In-situ Standard Penetration Tests (SPT's) were undertaken in some holes as the hole was advanced through the surficial soils. Such testing was completed in accordance with the relevant recommendations of New Zealand Standard 4402.6.5.1:1988 Determination of the penetration resistance of a soil, Test Method 6.5.1 Standard Penetration Test (Ref. 5).

SPT testing was generally undertaken until a depth where three subsequent 'N' counts greater than 50 had been recorded. Further SPT tests were not undertaken after this point.

The Standard Penetration Test (SPT) is an in-situ test that measures the number of blows required to penetrate a split spoon (in cohesive materials) or steel solid cone (in granular materials or weak rock) 300 mm into the material being tested (following a 150 mm deep initial seating). The number of blows required to drive the SPT tip 300 mm into the subject material is quoted as the SPT 'N' value. In situations where the number of blows to penetrate 300 mm exceeds 50, the depth which the split spoon or cone has penetrated after 50 blows is recorded and is used to extrapolate a pro-rata SPT N-value.

For those situations where the SPT N-value is greater than 50 blows, the actual distance penetrated is recorded in the 'in-situ testing' column on the borehole logs.

Prior to the 300 mm test length, a 150 mm seating drive length is penetrated. In cases where the test is discontinued before the full seating drive has been penetrated (i.e. when 50 blows have been achieved prior in less than the 150mm seating drive length), extrapolated 'N' values are quoted based on the blow counts and penetration measured within the seating drive length. This is noted within the 'in-situ testing' column on the borehole logs.

No additional correction to the SPT result is recorded on the borehole logs.

7.0 2025/2026 INVESTIGATIONS

The 2025/2026 drilling investigations were focused at the following site locations:

- TSF Embankment
- TSF Feature 1
- Process Plant

All rotary-drilled boreholes were completed by Altons Drilling Limited. Boreholes located around the TSF and Feature 1 were logged on site during drilling by MGL geologists and EGL engineering geologists. To ensure consistency across the project, boreholes initially logged by MGL at the drill rig were subsequently reviewed by an EGL engineering geologist at the Bendigo site logging shed.

The Process Plant boreholes were supervised by MGL staff during the drilling. SPT samples and borehole core were reviewed by an EGL engineering geologist at the Bendigo site logging shed.

The drilling investigations included borehole drilling with supplementary SPT, following the same standard discussed in section 6.5, and permeability tests as discussed Section 11.0.

Borehole collar survey data is summarised in Table 2 and illustrated in map view Appendix B.

Boreholes logs and core photographs are presented in Appendix C.

7.1. Specific TSF Water Observations During Drilling

During drilling of the TSF boreholes, observation of the drilling circulation return water and overnight water levels were recorded as presented in the following two sections.

7.1.1. Drilling Water Observations

Observations of the drillers water circulation is an approach to provide indicative groundwater conditions as the drilling rods advance into the ground. An increase in water return volumes, provided as an eye-estimate percentage by the lead driller, are inferred to reflect inflowing water into the borehole. In contrast, a decrease in water return volumes is inferred to reflect drilling water flowing out into the surrounding country rock. Drilling water return estimates are presented on the borehole logs in Appendix C.

7.1.2. DvD Plots

Depth versus Depth (DvD) plots, generated from overnight groundwater level measurements, have been recorded as certain boreholes advanced. The data is captured in the field by recording the borehole drilling water level in the evening once the rig is turned off, and the morning level before the rig is turned back on.

The plots also include the borehole depth, and the rod “pull-back” depth, which is the distance from the base of hole to the drilling rod cutting shoe. The space between these two measurements is the section of the borehole wall that exposes insitu rock. However, it must be understood that seepage in/out of the borehole wall can occur at a shallower depth than the drilling rod shoe, with the potential for water to flow between the country rock and drilling rods.

The DvD plots are presented in Appendix E for the following boreholes: MDD491, MDD493, MDD502, MDD506, MDD507R.

7.2. Feature 1 Investigations

A geomorphic feature of interest, potentially related to slope movement, is located on the northern slopes of the TSF impoundment. This area is referred to as Feature 1 (Appendix A, Figure A1).

Two rotary boreholes were drilled between 21 November 2025 and 20 January 2026 at locations upslope of both the proposed TSF impoundment elevation and the northern diversion drain.

The investigations were conducted to determine the depth of overlying soils, characterise the weathered rock profile and lithology, assess rock mass condition and structural fabric (including defect and foliation orientations), and to install VWP for groundwater monitoring.

Due to limitations of the helicopter deployed rig, the drilling included PQ diameter drilling from 0 m to 60 m bgl which transitioned over to HQ drilling from 60 m bgl to end of hole of approximately 100 m bgl.

The boreholes are referred to as MDD491 and MDD493. Both boreholes included the capture of televiewer and full wave sonic data (Section 13.0) with four VWP installed into each borehole (Section 9.2.1).

7.3. TSF Investigations

Three rotary boreholes were drilled between 8 February and 8 March 2026 at locations in the Shepherds Creek Valley invert, within the footprint of the starter embankment for the TSF.

The boreholes are referred to as MDD502, MDD506, MDD507, and MDD507R.

The investigations were conducted to determine the thickness of the overlying soils and depth to rock, characterise the rock profile including lithology and rock structure, assess the hydrological properties of the rock by undertaking permeability testing as each hole advanced, and to install VVPs for groundwater monitoring.

Due to site earthworks restrictions that prevented the formation of drilling pads, together with the drilling contractor's requirement for near-level ground conditions, the MDD507 borehole collar was inadvertently installed approximately 6 m north of MD394. Drilling of MDD507 was terminated at 7.3 m bgl after a change in drilling rigs, as the replacement rig was unable to re-establish alignment with the original borehole inclination. Significant core loss was also encountered, and drilling was subsequently abandoned, relocated and redrilled as MDD507R.

Borehole MDD507R is located approximately 4 m north of MDD394. Drilling rods became jammed following the completion of a packer test conducted between 27 m and 33 m bgl. As a result, drilling was abandoned approximately 7 m short of the target depth. The drill rods were intentionally cut at 22.5 m bgl, leaving PQ rods insitu between 22.5 m and 27 m bgl. The borehole was subsequently backfilled with grout using the same mix ratio as MDD506 and MDD502. Due to the close proximity to MDD394, no televiwer survey was undertaken and no groundwater monitoring instrumentation was installed.

Falling or rising head tests were conducted throughout drilling of MDD502, MDD506 and MDD507R boreholes. Packer tests were conducted where packer seals could be successfully formed, i.e. in competent rock.

Downhole televiwer surveys and further geophysical tests were conducted by Speights Drilling at the end of the drilling in MDD502 and MDD506. Refer to section 13.0 for details.

VVPs were installed in MDD502 and MDD506. Refer to section 10.0 for full details.

7.4. TSF Hydrogeological Investigations

Six shallow PQ boreholes were rotary drilled between 12 March and 23 March 2026, in the valley floor along the A1 Zone of the TSF starter embankment.

The primary purpose of this drilling campaign was to install two clusters of vertical and shallow standpipes to allow in-situ permeability tests. For this reason, drilling mud or additives were excluded from the drillers water.

The boreholes are referred to as MDD514, MDD515, MDD516, MDD517, MDD518, and MDD519.

The boreholes were drilled to depths between 10 m and 21 m bgl. Standpipe piezometers were installed in all boreholes. Refer to section 10.0 for full details.

Downhole televiewer surveys were conducted by Speights Drilling in MDD515 and MDD519.

At the time of reporting, the in-situ shallow permeability tests have not been conducted.

7.4.1. Site Observations During Drilling of MDD518

20 March 2026: During drilling at borehole MDD518 the inner catching tube became stuck within the drilling barrel, necessitating removal of the entire barrel & rod string from the borehole. The external surface of the retrieved barrel was observed to be coated in clay. On re-entry, the barrel again became jammed with a borehole depth of 14.3 m below ground level (bgl).

At the time of the barrel jam, the drilling barrel was lifted to 14.0 m bgl resulting in 0.3 m of exposed material below the barrel. As a consequence of the barrel jamming, materials between approximately 13.7 m and 14.3 m bgl were not recovered and have been recorded as core loss on the borehole log.

During attempts to free the jammed barrel, water was observed flowing from bore MDD506. While the discharge was not quantified at that time, drillers reported that water being pumped into MDD518 appeared to be returning via MDD506, indicating subsurface hydraulic connectivity between the two boreholes.

Installing of VWP in MDD506 on 24 February 2026 used ~700L of grout back filled to surface. Grout ratio is 2.5 Part Water : 1 Part Cement : 0.3 Part Bentonite. During the observation of water flowing from bore MDD506 it was noted that the grout level in bore MDD506 was measured at 17.0m bgl. This borehole was topped up to surface with 325L of grout, using the above ratio, on 28 March 2026.

Observations and Freeing of MDD518 Barrel on 21 March 2026

Drillers flushed MDD518 prior to the arrival of the site geologist. The drillers observed discharging from MDD506 after approximately 10 minutes of flushing, with drillers estimating near full return at MDD506 during this process.

A preliminary groundwater flow recording was initiated that included the following observations from the client's site geologist. Over an eight-minute period, water was pumped into MDD518 at an estimated rate of approximately 40 L/min. A lag time of approximately six minutes was recorded before water began flowing from bore MDD506. The observation involved capturing discharged water from the MDD506 collar into a bucket (90% capture efficiency), with approximately 12 litres collected over 150 seconds and calculated at 4.3 L/min.

During the period when the barrel remained jammed, the driller estimated that approximately 95% of pumped water was discharged from the MDD506 collar, with ~ 5% flowing from the MDD518 collar. Once the barrel freed, this distribution reversed, with approximately 95% of flow discharging from MDD518, and only minor flow (~5%) observed from MDD506. Water levels in bore MDD517 (located between MDD518 and MDD506) were observed to increase by approximately 0.3 m relative to morning readings.

Drilling Water Pressures & Additives

During the drilling campaign, the drillers circulation water pressure typically ranged between 100 and 200 psi (approximately 690 to 1,380 kPa). At the time the barrel became jammed in MDD518, the recorded water pump pressure was approximately 100 psi (690 kPa). To assist with freeing the barrel, approximately 250 mL of CR650 was added to 1,000 litres of drilling water, which is lower than the standard dosage of approximately 1 litre per 1,000 litres. Flushing continued until fresh water was returning to the MDD518 collar and the rods were recovered from the hole.

7.5. Process Plant Investigations

Ten PQ boreholes were drilled across the process plant infrastructure area, between 28 January and 1 March 2026. These boreholes were drilled to identify and assess the lithological units across the area, particularly for potentially liquefiable materials, assess geotechnical strengths of the materials encountered with SPT testing, identify the depth to rock across the area, and to install standpipe piezometers and VWP's to monitor groundwater.

The boreholes are referred to as MDD498, MDD499, MDD500, MDD503, MDD505, MDD505R, MDD508, MDD510, MDD511, and MDD512.

Surface geophysical testing was carried out across two alignments to allow for detailed interpolation between boreholes for key sections. Refer to Section 13.3 for details.

SPT testing was carried out for all the Process Plant boreholes from surface at 0.5 m intervals to a depth of 5 m, where the SPT testing continued at 1 m intervals until three consecutive SPT N=50 values were achieved.

MDD505 recorded three SPT N50 values before the drilling rods became jammed down the hole and abandoned at 13.1 m bgl. To retrieve the majority of the drilling rods, the PQ rod was intentionally cut and remains in the hole from 10.45 m to 13.1 m bgl. The drilling rig was moved over 2 m towards the west and a second hole was redrilled and referred to as MDD505R.

MDD505R was wash drilled from 0 m to 10.1 m bgl, at this depth the drilling method converted back to PQ rotary drilling with core recovered from 10.1 m down to 31 m bgl. Downhole Shear Wave (DHVs) data was collected down MDD505R, refer to section 13.2.

Standpipe piezometers were installed in MDD498, MDD500, MDD503, MDD510, and MDD512. VWP's were installed in MDD499, MDD508, and MDD511. A plain PVC pipe was installed in MDD505R to allow for downhole shear wave survey by Southern Geophysics. Refer to section 9.2.2 for full details of installations.

8.0 RISE AND SHINE INVESTIGATIONS

Geotechnical drilling within the footprint of the Rise and Shine Pit was undertaken by MGL over two drilling campaigns. The first campaign included four boreholes (MDD286, MDD287, MDD289, MDD290) with geotechnical overview by Pells Sullivan Meynink (PSM), Ref. 6. The second included seven boreholes (MDD401, MDD405, MDD412, MDD414, MDD415, MDD420, MDD425) and conducted with geotechnical overview by Peter O'Bryan. Refer to the ground investigation site plan in Appendix B.

EGL understands both campaigns were logged on site by MGL geologists. However, only the PSM drilling campaign summary strip logs have been provided to EGL, which are presented in Appendix C.

9.0 BOREHOLE INSTALLATIONS

9.1. 2024/2025 Groundwater Monitoring Installations

A total of 21 vibrating wire piezometers (VWP's) were installed within 7 separate boreholes by staff from MGL. The boreholes and piezometer installation depths are provided in Table 4 and Piezometer installation details presented in Appendix F.

All VWP's were installed as fully grouted (cement-bentonite grout) piezometers. A 2 5mm PVC 'tremmie' tube with the vibrating wires attached on the outside of the tube was permanently installed in the borehole. This technique allows control of the vibrating wire tip depth.

9.2. 2025/2026 Groundwater Monitoring Installations

The VWP and standpipe piezometer installations are provided in Table 4 and Table 5 respectively. Refer to Appendix F for the as-built design details.

9.2.1. TSF/Feature 1

Fourteen VWPs were installed into the boreholes at the TSF and Feature 1 area, with eight in the TSF embankment boreholes, and six in the Feature 1 boreholes.

For Feature 1 VWP installations, three main areas were targeted for VWP depths. These three areas include the following:

- The contact between the moderately weathered and slightly/unweathered schist,
- Zones identified from core observations for shear/crush zones that may influence groundwater flow, and;
- The base of the boreholes for overall groundwater observation.

For the TSF VWP installations, the VWP depths were based on core observations to target large defects and fractured zones that could influence groundwater flow, and targeting the base of boreholes to understand groundwater conditions at depth.

Six standpipes were installed in the boreholes at the TSF in two clusters of three. Each cluster included the following depth ranges: top of rock interface to 10 m depth, 10 m to 15 m depth, and 15 m to 21 m depth. The depth of 21 m was chosen as a maximum depth due to the observations of the previous boreholes in the area where the rock mass condition typically improved and defect apertures decreased beyond this depth.

9.2.2. Processing Plant

Six VWPs were installed into the boreholes at the Process Plant boreholes. With depths targeting either side of the soil-rock interface, to assess groundwater conditions in the soil and underlying rock.

To assess the shallow groundwater in the soils, five standpipe piezometers were installed in the boreholes across the Process Plant area. The slotted screens targeting the soils directly above the rock interface.

10.0 GROUNDWATER MONITORING

Groundwater levels across the site have been monitored using both existing instrumentation from the 2024/2025 drilling campaign and new vibrating wire piezometers (VWPs) and standpipes installed by EGL in 2025/2026. Monitoring of the groundwater level has been undertaken by the MGL and typically downloaded at the end of each month.

The groundwater monitoring data includes readings obtained from the time each piezometer was installed, with the monitoring period extending up to 31 March 2026, which is adopted as the data cut-off date for this report. The exception being MDD506 which extends through to the end of April 2026. Standpipe groundwater levels from the TSF and Process Plant are manually measured daily by MGL.

To obtain true groundwater pressures, the raw piezometer readings have been corrected for atmospheric effects. Barometric pressure recorded during the monitoring period was subtracted from the measured pore water pressures. The resulting corrected pressure heads represent the groundwater levels at the respective vibrating wire piezometer locations.

Rainfall data for the monitoring period were obtained from a nearby weather station (supplied by MGL) and plotted in conjunction with groundwater level records to facilitate assessment of rainfall groundwater response relationships across the site.

Groundwater level monitoring data is presented in Appendix G.

11.0 2024/2025 PERMEABILITY TESTING DURING DRILLING

For revision 3 of this report, EGL has reprocessed the 2024–2025 permeability dataset in order to address and correct errors identified in the previously reported results. The updated values presented in this report supersede all earlier reported permeability data.

11.1. Falling Head Testing

Due to the limited dataset, a robust interpretation of permeability could not be achieved. Consequently, the 2024-2025 test results have been omitted from this version of the report.

11.2. Packer Permeability Testing

Packer permeability testing was undertaken in selected boreholes where an effective seal was achievable. Typically, the testing used a single packer as the boreholes were advanced. The purpose of the packer testing was to determine the permeability of the TZ3 and TZ4 Schist.

The Packer permeability test data is presented in Appendix H. A summary of the packer testing is presented in Table 6.2.

12.0 2025/2026 PERMEABILITY TESTING DURING DRILLING

Permeability testing was conducted during the drilling of the TSF investigation boreholes, MDD502, MDD506, and MDD507R (Section 7.3), to assess the permeability of the rock under the TSF starter embankment. The permeability testing consisted of falling head tests, rising head tests, and packer tests. The details of the tests undertaken and the data collected, and permeabilities calculated can be found in Table 6. Permeability calculations are located in Appendix H.

The primary purpose of these boreholes was to carry out permeability testing as drilling advanced down each borehole. On this basis, drilling muds or drilling additives were excluded from the drilling water that was circulated during drilling.

12.1. Falling and Rising Head Testing

Falling head tests were conducted at 6 m intervals starting from 3 m bgl. The testing comprised drilling to the target depth, and retracting the rods to expose a test zone, with a target exposure of 6 m, with some limitations due to the geometry of the drilling rods during drilling. Flushing procedures included pumping three times the hole volume with water. If muddy water was observed at the end of this procedure, pumping was continued until the return flow from the borehole ran clear. A level logger was then lowered into the borehole, and the hole filled with water, and monitoring of the water level fall was measured with a dip meter at regular intervals to supplement the level logger recording. The tests were taken for a maximum time of one hour, or until the water level stabilised (stopped changing).

Rising head tests were conducted where the groundwater encountered was at shallow depths. The testing comprised the same setup as specified for the falling head tests above for exposing a test zone at 6 m intervals. Flushing was not undertaken before conducting each rising head test. The borehole was then drained of water by lowering the core barrel on the wire line, engaging its seals and then pulling the tube back out, to bail the water out of the borehole. The measurement of the water level rise was undertaken using the same methods as the falling head tests, with a level logger lowered into the hole after bailing, a manual dip taken at the same time and then at regular intervals throughout the test. The rising head tests were also undertaken for a maximum time of one hour, or until the water level stabilised (stopped changing).

The level logger used to record water levels during the rising and falling head tests encountered issues when attempting to download data from the device. As of writing this issue is still unresolved, and the manual dip measurements have been used for permeability analysis, rather than the higher resolution level logger results. Details of whether the level logger data or manual reading data have been used is noted in Table 6.1.

12.2. Packer Permeability Testing

Packer tests were carried out with a target 6 m test section, although longer intervals were used where effective sealing could not be achieved. Competent rock was selected for the sealing of the single packer bladder to prevent leakage during testing. Flushing procedures included pumping three times the hole volume with water. If muddy water was observed at the end of this procedure, pumping was continued until the return flow from the borehole ran clear. The packer tests were carried out with a maximum gauge pressure of 10 to 50 PSI, depending on depth, and carried out in 5 stages of pressure, with pressures 25%, 50%, 100% of the maximum pressure with water take measured in 5-minute intervals.

13.0 2024 TO 2026 GEOPHYSICAL DATA

Three types of down hole geophysical testing were carried out for the investigations undertaken:

- Downhole televiewer, where a probe is lowered into a borehole to scan the walls of the borehole allowing for identification and orientation of defects and contacts throughout the borehole. This method is also referred to as optical televiewer and acoustic televiewer (ATV/OTV).

- Downhole shear wave (DHVs) testing, where geophones are placed at depth in the borehole and a seismic wave percussive source is applied by the operator by striking a hammer on a plate at the surface and the time for the waves to reach the geophones measured and analysed to determine shear wave velocities with depth.
- Full wave seismic (FWS) testing, where geophones are placed at depth in the borehole and a seismic percussive source is applied at the surface and waves measured and analysed to determine shear wave velocities with depth.

In addition, multi-channel analysis of surface waves (MASW) was carried out, where a line of geophones is placed on the surface and a seismic percussive source is applied so that the surface waves are recorded and the dispersions analysed to determine the shear wave velocities under the geophone line.

13.1. Downhole Televier

In-situ televier testing was undertaken by Speights Drilling Limited. Testing was undertaken in the following boreholes: MDD333, MDD394, MDD491, MDD493, MDD502, MDD506, MDD515, MDD519.

The details of the televier depths for the boreholes are shown in Table 7.

The geophysical reports provided by third party contractors are provided in Appendix I.

13.2. Down Hole Geophysics

DHVs testing and FWS surveys were carried out by Southern Geophysical Ltd and Speights Drilling Ltd.

Downhole geophysics consisted of DHVs and FWS. DHVs testing was undertaken in MDD505R. FWS testing was carried out in MDD333, MDD365, MDD394, MDD491, MDD493, MDD502, and MDD515.

The details of the downhole geophysics depths for the boreholes are shown in Table 7.

The geophysical reports provided by third party contractors are provided in Appendix I.

13.3. Multichannel Analysis of Surface Waves (MASW)

Two MASW survey lines were conducted intersecting the borehole location to determine shear wave velocities (V_s) to a depth of approximately 30 m. A further two MASW survey lines were undertaken to characterise the near-surface shear wave velocity structure to depths of approximately 12 m. These surveys were used to correlate with the downhole test results and to assist in identifying the bedrock horizon.

The full report from the MASW testing, provided by third party contractors are provided in Appendix I.

14.0 LABORATORY TESTING

Representative samples were retrieved from select boreholes and testing undertaken at the Central Testing Laboratory (CTL) facility in Alexandria, Geotechnics facility in Auckland and Christchurch, WSP in Willington and by MGL at the onsite core shed. The purpose of

this testing was to inform characterisation of the various materials that were encountered onsite.

The laboratory testing undertaken by CTL and Geotechnics, as appropriate, in accordance with the following relevant standards.

- Atterberg Limits: NZS4402,1986; tests 2.2, 2.3 and 2.4
- Triaxial Permeability: BS1377:1990 Part 6 Section 6
- Direct Shear ASTM D5607-16
- UCS Test ASTM D7012-23
- Natural Moisture Content: NZS4402, 1986; test 2.1
- Particle Size Distribution (PSD):
 - Hydrometer Grading: NZS4402:1986 Test 2.8.4
 - Wet Sieve NZS4402:1986 Test 2.8.1

A summary of the laboratory test results are presented in Tables 8.1 to 8.9.

Full details of the laboratory test results are presented in Appendix J.

14.1. 2024/2025 Laboratory Testing

One alluvial sample from a terrace batter approximately 400 m from the temporary site office was tested for Particle Size Distribution (PSD) analysis and crushing resistance.

One alluvial sample from the Prunus Quarry (previously referred to as Cherri/Cherry Quarry) was tested for standard and heavy compaction, PSD, plasticity index and crushing resistance.

One loess sample from the Rise and Shine Creek was tested for standard and heavy compaction and PSD analysis.

Two weathered brown rock samples, and one alluvial/colluvial sample, from the proposed Rise and Shine pit overburden area were tested for standard and heavy compaction, plasticity index and PSD. In addition, three topsoil samples were tested for PSD analysis.

14.2. 2025/2026 Laboratory Testing

Three Unconfined Compressive Strength (UCS) tests, thirty nine Point Load Tests (PLT), two Consolidated Undrained (CU) triaxial tests were undertaken on samples obtained from the borehole located near Feature 1.

A total of 39 fine content tests were carried out on samples obtained from Process Plant boreholes. The samples were recovered from SPT samples.

Six samples were taken from potential Zone A1 material for heavy compaction testing and PSD analysis, including sieve analysis and hydrometer testing. One sample was further tested using triaxial and permeability tests.

15.0 REFERENCES

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2. Turnbull, I. M. (2000). Geology of the Wakatipu Area. Institute of Geological & Nuclear Sciences Limited.
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4. New Zealand Geotechnical Society (2005). Guidelines description of soil and rock for engineering purposes.
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6. Bendigo-Ophir Gold Project, Pre-Feasibility Geotechnical Assessment. Issued by PSM as draft on 31 July 2024.

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APPENDIX G

Groundwater Monitoring Data

APPENDIX H

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Geophysical Data

APPENDIX J

Laboratory Test Results