

26 July 2021 **ASX: TMG**
ASX ANNOUNCEMENT

Maiden Indicated Resource for Lake Throssell Sulphate of Potash Project

Indicated Resource is based on results of recent trench pump trials of the Surficial Aquifer resource and will underpin the Scoping Study due for completion in late Q3

Highlights

- Maiden Indicated Mineral Resource estimate of 1.9Mt of drainable Sulphate of Potash (**SOP**) at 4,985mg/L potassium (**K**) (or 11.1kg/m³ K2SO4), with 13% of the total Mineral Resource now in the higher-confidence Indicated status
- Total Mineral Resource of 14.3Mt of drainable SOP at 4,665mg/L potassium (or 10.4 kg/m³ K₂SO₄)
- Multiple trench pumping tests have demonstrated the geological continuity of brine grade and extraction from the surficial aquifer
- Over 95% of the mineralised blocks from the top 6 metres of the surficial aquifer resource model converted to Indicated status
- Further work programs planned to improve the resource confidence of the basal aquifer and remaining palaeovalley to a depth of 100-150 metres
- High conversion expected from Indicated Mineral Resources to Probable Ore Reserves
- Indicated Resource provides basis for the initial project payback period in the ongoing Scoping Study, due for completion late this quarter

Trigg Mining Limited (**ASX: TMG**) (**Trigg** or **the Company**) is pleased to announce another key milestone in its aim of developing a new long-life SOP production hub in the Laverton district of Western Australia, with the estimation of a maiden Indicated Mineral Resource for its high-grade Lake Throssell Potash Project near Laverton in Western Australia.

A **Drainable Indicated Mineral Resource of 1.9Mt SOP at 4,985mg/L K** (or 11.1kg/m³ K2SO4) has been estimated based on the results of the recent trench pump trials of the surficial aquifer resource announced to the ASX on 7 July 2021.

As a result of this Mineral Resource Estimate (MRE) upgrade, 13% of the previously announced total MRE of 14.3Mt of drainable SOP at 4,665mg/L potassium (or 10.4 kg/m³ K₂SO₄) is now in the higherconfidence Indicated category and available for conversion to Ore Reserves.

The Exploration Target has also been updated, indicating strong potential to expand this MRE. The new **Exploration Target**, in addition to the MRE, has been defined as a range of **2.6 - 9.4Mt at 9.1 - 10.0kg/m³ K2SO4**. The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration in these areas to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Exploration Target is based on the results of exploration activities undertaken to-date on granted tenement E38/3065, encompassing a strike length of ~36km of the interpreted palaeovalley. An additional ~34km of strike length is extrapolated into tenement applications E38/3544, E38/3483, E38/3458 and E38/3537, which are considered to host similar geology and brine characteristics.

Trigg Mining's Managing Director, Keren Paterson, said: *"This is another great result by our team, which puts Trigg Mining front and centre of the new-generation SOP industry in Western Australia.*

Having delivered our maiden Inferred Resources just over two months ago, we have moved rapidly to estimate a high-quality Indicated Resource that will provide the basis for the initial payback period to underpin the Scoping Study that is currently underway and due for completion later this quarter.

In addition to improving our confidence in the current Mineral Resource, we have also demonstrated continued upside potential with an updated Exploration Target of 2.6 - 9.4Mt of SOP, encompassing tenements to the north and south which are awaiting grant.

We expect to convert additional tonnes to Indicated status next year as we progress work on the deeper portions of the resource and further expand our overall inventory with further drilling. However, having a maiden Indicated Resource allows us to progress our economic evaluation of Lake Throssell to the next stage, and commence initial discussions with potential off-takers and financiers.

Together with our Lake Rason Project, we now have a high degree of confidence that we have a large and potential multi-decade, long life potash project in Western Australia."

Lake Throssell Project

The Lake Throssell Potash Project is 100%-owned and operated by Trigg Mining and lies approximately 170km north-east of Laverton, situated on a granted Exploration Licence (E38/3065). Trigg has a total of 1,084km² of exploration tenure granted or pending approval across Lake Throssell.

The extensive palaeovalley system has been identified through 200-line kilometres of gravity surveying. The Mineral Resource Estimate is based on 80 air-core and rotary drill holes for a total drill depth of 5,720 metres (see Figure 1).

Figure 1: Drill collar map for the Lake Throssell Potash Project

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A successful brine pumping trial was completed at Lake Throssell from two 100m long trenches over ten days and seven test pits (ASX announcement on 7 July 2021). This recent work has improved the confidence of the lake surface surficial aquifer to Indicated status.

Overview of Updated Mineral Resource Estimate

The updated Mineral Resource for the Lake Throssell Potash Project is presented in Table 1 below and has been reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, (JORC Code 2012). The updated Mineral Resource Estimate has increased the overall geological confidence of the Lake Throssell Project and enables mining studies to be undertaken. An executive summary of this Mineral Resource Estimate follows this section, and the JORC Table 1 is included in Appendix 2 to this announcement.

The total contained brine SOP mass within the palaeovalley is 75.7Mt compared to the reported drainable brine volume of 14.3Mt. The drainable brine volume represents the amount of SOP that can be abstracted from the deposit under normal pumping conditions. For economic production, the drainable brine volume is the volume that can be abstracted from the deposit.

The basis of this updated Mineral Resource estimate is the inclusion of test pumping data for the lake surface sequence of the surficial aquifer, which has allowed conversion from Inferred Mineral Resources to Indicated Mineral Resources.

The Indicated Resource represents the upper 6 metres of the surficial aquifer, which has a total depth or thickness of approximately 25 metres. The conversion to Indicated Mineral Resources is an important step as this classification can be incorporated into mine plans and financial analysis of the project for the Scoping Study.

Table 1: Lake Throssell Mineral Resources July 2021

Note: Errors may be present due to rounding. Approximately 2.90Mt of the Inferred Drainable SOP Mass is present in Exploration Licence Applications E38/3544, E38/3483, E38/3458, and E38/3537.

Geological Summary

The geology is consistent with other lakes and palaeovalley sequences in the region. Figure 2 shows a typical geological cross-section of the palaeovalley. In the shallow sediments there is an evaporite surface, dominated by gypsum, underlain by more clayey dominated sequences with occasional thin granular and calcrete zones.

These superficial lithologies lie on top of a thick sequence of stiff lacustrine clay, which acts as a regionally confining aquitard layer with very low vertical hydraulic conductivity, meaning it hydraulically separates the shallow sediments of the palaeovalley from the basal aquifer sediments.

Beneath the lacustrine (ancient lake) clay sequence is a fine to medium grained basal sand with silty and clayey bands of fluvial origin between Eocene and Pliocene age. At the base of this fluvial system is the contact with the Permian age Paterson Formation, a palaeosurface that represents up to

200 million years of weathering, erosion and deposition. The contact is present in the base of the palaeovalley, and the Paterson Formation is a fluvial glacial deposit represented in fresh bedrock as dark to light grey poorly sorted siltstone, mudstone, sandstone and quartzite, with conglomerate beds.

Figure 2: Typical geological cross section of the Lake Throssell paleochannel

Hydrogeological Domains

The salt lake acts as a point of discharge for the regional groundwater system. Groundwater flow in the shallow sediments within the lake's catchment flows towards the lake surface where evaporation is dominant and there is a net loss to the system making the groundwater hypersaline in nature.

There are three main mineralised domains within the resource. The upper surficial aquifer is typically 25 metres in depth near the lake surface and will be the main source of brine during initial production by constructing a trench network to extract brine from these trenches. The surficial aquifer lies on top of a thick sequence of stiff lacustrine clay, which acts as a confining layer that hydraulically separates the shallow sediments of the palaeovalley from the basal aquifer sediments. The basal aquifer consists of the Eocene fluvial sediments, Permian glacial fluvial sediments and weather basement or saprolite. The brine resource is confined within a Permian basement.

The aquifer potential of each of the stratigraphic layers and an indication of their potential for brine abstraction requires trench pumping trials or test bores trials of each mineralised aquifer domain to increase the Resource confidence and confirm their extraction potential. This has been completed for the upper 6-8 metres of the surficial aquifer resulting in this component of the Inferred Resource being updated to Indicated status.

Typical cross sections of the palaeovalley resource block model are shown in Figure 3, Figure 4 and Figure 5. The plan view locations of these cross sections are shown in Figure 1 (including A-A', B-B' and C-C') and highlights the palaeovalley is typically 100-150 metres in depth with the surficial aquifer normally present from less than one metre from surface.

Figure 3: Cross section of resource block model from A-A'

Figure 4: Cross section of resource block model from B-B'

Figure 5: Cross section of resource block model from C-C'

A long section of the Lake Throssell resource is provided in the MRE summary report attached to this announcement. The geological continuity of brine grade and lithology will result in a high conversion of the resource to Indicated Mineral Resources once the Company conducts further pump tests.

Exploration Target

The Exploration Target is an estimate of the exploration potential of a mineral deposit, Table 2. In a brine hosted deposit, the Exploration Target determines a lower and upper estimate by varying the geological extent, drainable porosity, and brine grade within reasonable bounds based upon the information available.

The geological extent (area and thickness) is determined from a combination of the modelled geological, the gravity model, the mapped outcropping geology and the conceptual model of regionally described palaeovalley systems.

Islands on the lake surface have been removed from the lake surface and alluvial clay sediment volume calculation. Brine grade range is based on the average brine grades from the Resource Tables, with the upper and lower estimates factored for the pending tenements where no data is presently available.

The Exploration Target encompasses the granted tenement E38/3065 and the surrounding pending tenements currently under application. There has been no work completed on the pending tenements meaning that all estimates are based upon reasonable extrapolation from the work completed on E38/3065. At the time of reporting Trigg sees no reason why these tenements will not be granted in the future.

Table 2: Lake Throssell Exploration Target

Note: Errors may be present due to rounding, approximately 2.45 Mt in the lower estimate and 8.76 Mt in the upper estimate of equivalent SOP is present in Exploration Licence Applications E38/3544, E38/3483, E38/3458 and E38/3537. SOP is calculated by multiplying potassium by 2.23.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration in these areas to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

Next Steps

The completion of the Scoping Study for Lake Throssell and installation of test production bores to improve the resource confidence level of the basal aquifer units is high priority for the Company.

The lower aquifer will be geophysically logged to confirm aquifer properties to determine its permeability and specific yield to allow further resource upgrades and support ongoing economic evaluation and development of the Lake Throssell Project after completion of the Scoping Study.

This announcement was authorised to be given to ASX by the Board of Directors of Trigg Mining Limited.

Keren Vaterson

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Competent Person Statement

The information in this announcement that relates to the Exploration Results, Mineral Resource estimate and Exploration Target is based upon information compiled by Mr Adam Lloyd, who is employed by Aquifer Resources Pty Ltd, an independent consulting company. Mr Lloyd is a Member of the Australian Institute of Geoscientists and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and the activity to which is being undertaking to qualify as a Competent Person for reporting of Exploration Results, Mineral Resources and Ore Reserves as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Lloyd consents to the inclusion in the announcement of the matters based upon the information in the form and context in which it appears.

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Executive Summary

The Lake Throssell Potash Project is 100% owned and operated by Trigg Mining and lies approximately 170km north-east of Laverton, situated on a granted Exploration Licence (E38/3065). Trigg has a total of 1,084km² of exploration tenure granted or pending approval across Lake Throssell.

Trigg Mining engaged Aquifer Resources to complete a Mineral Resource Estimate of the Lake Throssell Project. This Mineral Resource Summary Report provides details on the data and methodology used in determining the updated Mineral Resource.

The basis of the updated Mineral Resource is the inclusion of test pumping data for the lake surface surficial aquifer, which has allowed conversion from Inferred Mineral Resources to Indicated Mineral Resources.

Summary of Exploration

Exploration to date at the Lake Throssell SOP Project has comprised the following programs:

- Lake surface hand auger -16 drill holes
- Gravity Surveys 200 line-km
- Heli-supported rotary drilling 26 drill holes
- Air-core drilling (both on and off lake) 54 drill holes
- 355 brine assay samples from a total of 5,720m of drilling
- 62 Particle Size Distribution (PSD) analysis to determine drainable porosity
- 18 Lexan-tube core samples taken from the lake sediments
- 2 ten days pumping tests on 100m trial trenches, and
- 7 short term pumping tests on test pits

All drill-holes and surface excavations completed to date are presented in Figure 1 and the following sections are a summary of each of the programs.

Figure 1: Lake Throssell investigation locations

Surficial Aquifer

Hand Auger Drilling and Sampling

A preliminary lake surface auger program was completed in December 2019 (ASX announcement 16 December 2019) to give an indication of brine grade in the shallow lake sediments. A total of 16 auger holes up to 1.2m in depth were completed.

The holes encountered a typical lake surface sequence, dominated by gypsum with silt and clay, with brine at approximately 0.3m below ground level (bgl). Brine samples were obtained from each hole between 0.3m and the end-of-hole.

The collar locations are presented in Figure 1 and the brine assays and associated geological descriptions are presented in Appendix 1.

Rotary Auger Drilling and Sampling

The program was completed in July 2020 using a heli-supported rotary auger rig targeting the top sequence of lake surface sediments to a maximum depth of 10m (ASX announcement 10 August 2020). The program obtained brine samples and core samples for porosity testing over the entire playa-lake surface, consisting of 26 drill holes for a total of 86m of core and 77 brine samples. Drill-hole locations are presented in Figure 1.

The program encountered gypsum dominated sandy silt and clay in the top 5m. The gypsum layers were up to 0.2m thick and often associated with good to very good brine in-flow rates, inferring that these zones were more highly permeable.

Minor sand and gravel layers were also identified in three holes, with one hole (LTAG19) containing a clay/silt supported sand interval of at least 1.3m with rounded pebbles. A more clay-dominated sequence is present below 5m, with less gypsum and increasing density.

As part of the program, two holes were designed to test the characteristics of the surficial sequence within the islands (LTAG04 and LTAG05). Drilling and brine analysis confirming a lack of brine flow and more dilute brine, inferring lower permeability and lower grade brine is present within these areas.

Core samples were obtained throughout drilling using Lexan tubes for laboratory sampling and analysis of porosity and permeability.

Brine samples were obtained during the program by bailing the hollow stem of the auger when open to a known interval to provide a representative sample. A summary of collar locations, hole depths, encountered geology and brine analysis is presented in Appendix 1.

Lake Surface Test Pumping

The program was completed with the aim of estimating the aquifer properties, including drainable porosity (specific yield) and hydraulic conductivity (vertical and horizontal), for the upper section of the lake surface aquifer by test pumping the aquifer.

The program consisted of two trial trenches and seven test pits distributed across the lake. The trenches were 100m long and were surrounded on all sides by a number of monitoring pits. Whilst the test pits consisted of one small trench and one adjacent monitoring pit. All excavations were completed with a 15-tonne amphibious excavator that was able to excavate to depths of between 3m and 4.5m.

The trial trenches were pumped until water levels in the majority of monitoring pits had stabilized – which was between 10 and 11 days in both cases. Test pits consisted of a small pumping trench between 6 and 9m long with an adjacent monitoring pit. Test pits were de-watered and the brine

level draw-down and recovery rates were monitored. Throughout all testing brine levels, flow rate and brine quality was frequently monitored.

Trench locations and dimensions are presented in Figure 1 and Table 1. An example of the 100m long trial trench and monitoring pit network is shown in Figure 2. A test pit excavation is shown in Figure 3, with layering evident close to surface and becoming more clayey with depth.

Figure 2: Trial Trench one with surrounding monitoring pits

Figure 3: Test pumping of a test pit excavation

The lake surface to 2m below the ground level is more heavily dominated by gypsum, with clayey horizons dominant to the base of the excavation, intermixed with silty zones. The large excavation provided an opportunity to observe the layered nature of the sequence, how the walls stood up and the brine inflow horizons associated with gypsum dominated layers.

The test pumping data has been analysed using local scale numerical models in groundwater modelling software FEFLOW. The models were calibrated to the brine level draw-down and recovery by changing the hydraulic conductivity (horizontal and vertical) and specific yield of the aquifer to obtain an acceptable fit between the measured data and the simulation. Calibration was achieved by a combination of manual and automated iterations. An example of the trench pumping data and calibration simulation is provided in Figure 4, Figure 5 and Figure 6.

Figure 4: Test pumping measured response and modelling (calculated)

Figure 5: Test pumping measured response and modelling (calculated)

Figure 6: Test pumping measured response and modelling (calculated)

The final aquifer property results from the modelling are highly variable, confirming the highly heterogenous nature of the layered lake surface aquifer. Specific yield results varied between 0.01 (stiff clay) and 0.4 (the maximum possible related to gypsum evaporite sequences).

Hydraulic conductivity derived from the modelling ranged between 0.2 meters per day (m/d) (stiff clay) and 340m/d (gypsum dominated flow). Hydraulic conductivity was also estimated using distance drawdown analysis for the two trial trenches, these results indicated values of 4.8 and 7.8m/d, which compare favourably to the weighted average of the test pumping results (13.9m/d). The trench pumping results are presented in detail in Table 1.

Table 1: Trench locations and pumping results from modelling

Brine samples were obtained at the start and end of pumping of the test pits, while the trial trenches were sampled every day for field parameters of salinity, SG and pH, with samples retained for laboratory analysis on every second day.

Brine grade variations during pumping show a muted response with most test pits moderately reducing in grade by less than 3%, while the grade increased by up to 10% at LTTT01. The full brine analysis results are provided in Appendix 1.

Basal Aquifer

Gravity Geophysical Survey

An initial ground gravity survey was completed in March 2020 (ASX announcement 7 May 2020) and followed up with an in-fill survey in July 2020 (ASX announcement 10 August 2020) for a total of approximately 200 line-kilometres with the aim of identifying drilling targets within the palaeovalley system as a first step of identifying a palaeochannel basal aquifer to target with future production bores.

The surveys comprised a total of 1,040 stations at approximate 200m spacing on traverses perpendicular to the inferred alignment of the palaeovalley. The gravity data was processed by gridding the Bouguer anomaly and regional separation from the Bouguer anomaly to produce a residual gravity anomaly that is considered to represent the broad palaeovalley geometry.

When compared to the known geology, the gravity highs are well correlated with mapped outcropping Paterson Formation and gravity lows are located within areas of low-lying regolith cover within the Throssell palaeovalley system, providing confidence in the regional model and general understanding of comparative palaeovalley in the region. Two gravity low anomalies have been found to be representative of deeply weathered bedrock instead of palaeovalley sediments. These are located in the central part of the tenement on the northern and southern side of the palaeovalley.

Following completion of the air-core program the gravity model has been updated by calibrating to the end-of-hole geology. The updated map of the residual gravity anomaly is presented in Figure 7.

The gravity model was used to generate drill targets for air-core drilling and inform the geological model away from areas of drilling control.

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Figure 7: Gravity survey anomaly

Air-core Drilling

The air-core drilling program commenced in late November 2020 to test aquifer targets at the base of the palaeovalley sequence determined from the gravity survey. The deepest sections of the palaeovalley are considered to be most prospective for sand and gravel aquifer sequences deposited in a palaeochannel environment.

The drill program was completed by a track-mounted air-core drill rig. The program commenced in November 2020 but was delayed due to wet weather in December 2020 with 16 holes completed, a further 38 drill holes were completed in February 2021 for a total of 5,623m (ASX announcements 21 December 2020 and 9 March 2021). The average hole depth was approximately 104m with a maximum depth of 144m (Figure 1 and Appendix 1).

The drill program confirmed the presence of a broad palaeovalley system approximately 100m deep with a thick lacustrine clay sequence and a number of deep aquifer targets of variable thickness and brine yielding. These included the basal sand and a glacial fluvial sand and gravel.

The basal sand is between approximately 5 to 17m thick and is typically a yellow, brown to green fine to medium grained sand with silty bands, typically located between 70 and 100m depth, and below the lacustrine clay on the eastern side of the palaeovalley associated with deposition in a medium to low energy palaeo-river system of likely Eocene to Pliocene age.

The glacial fluvial sand and gravel is typically a light to dark grey fine to medium sand with rounded to sub-angular gravel and occasional silt, the gravel is broken by the drilling but can be assumed to potentially be up to cobble size. The thickness of this sequence may range from 1 to 2m up to 43m in the deepest section, estimated to be approximately 12m thick on average, and it is located mainly on the south and western sides of the palaeovalley. It is present as irregular zones either beneath the lacustrine clay or the fluvial basal sand or within zones of the Permian Saprolite zone, inferring that it is likely derived from a combination of an in-situ weathering profile of the coarse-grained Permian bedrock of fluvial glacial origin and a reworked pre-Eocene/Pliocene locally derived colluvial or alluvial deposit.

Drilling spoil samples were obtained for laboratory analysis of PSD to allow quantification of sand, silt, and clay portions from the various lithological zones across the system. Empirical equations have been applied to the PSD analysis which enables estimates of hydraulic conductivity and specific yield for the Mineral Resource Estimate. 62 samples in total were selected for laboratory analysis, which are discussed in the porosity and specific yield section below.

A total of 253 brine samples were submitted for assay, with results returning high grades of up to 5,800mg/L K (12.9kg/m³ K₂SO₄), with an average grade of 4,488mg/L K (10.0kg/m³ K₂SO₄). Of the 253 samples taken from the air-core program, 96% returned grades exceeding 5,000mg/L K confirming the extensive high-grade, low variability tenor of the brine within the Lake Throssell palaeovalley system.

Geological Summary

A summary of the encountered geology of the project is presented in Table 2.

The geology is consistent with other lakes and palaeovalley sequences in the region. In the shallow sediments there is an evaporite surface, dominated by gypsum, underlain by more clayey dominated sequences with occasional thin granular and calcrete zones.

These superficial lithologies lie on top of a thick sequence of stiff lacustrine clay, which acts as a regionally confining aquitard with very low vertical hydraulic conductivity, meaning it hydraulically separates the shallow sediments of the palaeovalley from the basal aquifer sediments.

Beneath the lacustrine clay sequence is a fine to medium grained basal sand with silty and clayey bands of fluvial origin of between Eocene and Pliocene age. At the base of this fluvial system is the contact with the Permian age Paterson Formation, a palaeosurface that represents up to 200 million years of weathering, erosion and deposition. The contact is present in the base of the palaeovalley, and the Paterson Formation is a fluvial glacial deposit represented in fresh bedrock as dark to light grey poorly sorted siltstone, mudstone, sandstone and quartzite, with conglomerate beds.

The Paterson Formation is present and outcrops at the margins of the palaeovalley. Thick saprolite zones are present up to 50m in thickness along the palaeovalley margins, often dominated by silt and fine sand. Unconsolidated glacial fluvial sediments of mixed gravel and minor silt are present within this saprolite zone which are likely to be representative of either in-situ weathering or local colluvial deposits when at the contact with the overlying Cenozoic sediments. An example of the fluvial and glacial sequence is presented in Figure 8, where 43m of combined fluvial and glacial fluvial sediments are evident.

Permian Paterson Formation is outcropping on the western edge of the lake and between 3 and 5km to the southeast of the lake. A schematic cross-section of Lake Throssell is presented in Figure 9.

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Figure 8: Chip trays showing the basal aquifer sequence (86 to 129m - gravel, fine sand, silt and minor clay)

Hydrogeological Characteristics

The hydrogeology of a brine deposit is important to characterise as it is important to understand the groundwater flow regime and aquifer properties for the subsurface sediments in order to estimate future brine abstraction potential. At this early stage of the Lake Throssell Project, there has been no aquifer testing of the deep aquifer or modelling of the deposit, therefore the understanding of the system is mostly qualitative.

The water table at the lake surface is approximately 0.2 to 0.5m beneath the surface, it is considered to be relatively flat at the surface of the lake and is hypersaline. Within the islands the water table will likely rise reflecting the increase in topographic elevation. Outside of the lake area no drilling has been completed to estimate the depth to water table, however it is broadly assumed that the depth to water table will increase away from the lake surface as topography rises.

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Table 2: Current interpreted geological stratigraphy at Lake Throssell

Figure 9: Schematic cross section of the palaeovalley sequence at Lake Throssell

The salt lake acts as a point of discharge for the regional groundwater system. Groundwater flow in the shallow sediments within the lake's catchment flows towards the lake surface where evaporation is dominant and there is a net loss to the system making the groundwater hypersaline in nature.

The aquifer potential of each of the stratigraphic layers is provided in Table 2 to provide an indication of potential for brine abstraction, test pumping of each of the aquifer zones is required to confirm their potential. The lake surface can be targeted in future by trenching, whilst production bore targets consist of the Eocene fluvial sediments, Permian glacial fluvial sediments and the saprolite.

In addition to specific yield (drainable porosity), which is discussed below in the context of the mineral resource estimate, hydraulic conductivity and specific storage are important hydrogeological aquifer properties to understand and measure for a brine deposit. Hydraulic conductivity is a measure of a material's capacity to transmit water, the higher the value the more water can pass through. Aquifer's generally have higher values of hydraulic conductivity than non-aquifers (otherwise known as aquitards and aquicludes). Values of hydraulic conductivity have been derived for the surficial aquifer from laboratory tests and test pumping analysis are presented in [Table 3.](#page-17-0) The hydraulic conductivity of the other stratigraphic layers within the palaeovalley based on particle size distributions from drill core samples is provided in Table 4.

Specific storage is a confined aquifer property and is applicable to the basal aquifer which is likely to be confined. It is an aquifer property related to the pressure that the aquifer and brine are subject to at depth. Specific storage is not considered in this report and will be addressed when test production bores are installed and test pumped in the basal aquifer.

Table 3: Estimates of hydraulic conductivity for the surficial aquifer from test pumping

Table 4: Estimates of hydraulic conductivity from particle size distribution analysis

Brine Characteristics

The average potassium concentration from all samples within the surficial sediments is approximately 5,080mg/L K $(11.3 \text{kg/m}^3 \text{ K}_2\text{SO}_4)$, the lowest concentration is approximately 2,810mg/L K $(6.3\text{kg/m}^3\text{ K}_2\text{SO}_4)$ at LGA26 (within an island) and the highest concentration is 6,660mg/LK $(14.8 \text{kg/m}^3 \text{ K}_2 \text{SO}_4)$ at LT016.

Higher concentrations of potassium appear to be located on the western side of the lake associated with accumulation of more evaporated brine. The lower concentrations of potassium are located in the northern side of the lake where it is likely more regular inflow of fresher surface water occurs. The potassium concentration distribution across the lake surface is presented in **Error! Reference source not found.**.

Figure 10: Potassium concentration at the lake surface

The average potassium concentration from samples within the deep palaeovalley is approximately 4,500mg/L K (10.0kg/m³ K₂SO₄), the lowest concentration is approximately 3,580mg/L K (8.0kg/m³) K₂SO₄) at LTAC005 and the highest concentration is 5,500mg/L K (12.9kg/m³ K₂SO₄) at LTAC040.

The potassium concentration and brine characteristics of the aquifers are very consistent across the palaeovalley. **Error! Reference source not found.** shows the that the deep aquifer brine is somewhat uniform with concentration of between 4,000 and 5,000mg/L K and 8,000 and 10,000mg/L magnesium (Mg), in comparison to the lake sediments which has a wider distribution and is subject to more

environmental conditions such as recharge and evaporation has a more variable grade distribution. The end of pumping trench samples have been added to the distribution, which now form a cluster with slightly lower Mg and higher K concentrations compared to the deep aquifer samples.

Overall, the brine chemistry exhibits favourable characteristics for solar evaporative concentration and lower waste salts, with a relativity low Sodium to K ratio (16:1) and a high SO₄ concentration. The key average characteristics of the brine from the sampling to date at Lake Throssell are presented in Table 5.

Figure 11: Potassium magnesium concentrations for the lake surface and deep brine aquifers

Note: All concentrations based on average of all samples obtained to date and not spatially weighted. SOP equivalent or K2SO4 is calculated from K x 2.23.

Porosity and Specific Yield

The total volume of brine in a brine deposit is determined by the total porosity, whilst porosity is made up of specific retention (also known as retained porosity) and specific yield (also known as effective porosity). Specific yield is the percent volume of water that can be drained by gravity from a saturated volume of sediment. While specific retention is the percent volume that is retained under gravity drainage. The specific yield is the ratio used to define the drainable volume of a brine deposit. Portions of specific retention in the lake surface are accessible in addition to the specific yield but require additional modifying factors around lake recharge effects to be determined before quantification.

Total porosity and specific yield have been measured in the laboratory from core plugs obtained from the Lexan tubes during the heli-rotary auger program and using empirical equations from the PSD results obtained during the air-core program.

Core plugs of the lake surface sediments were taken at Corelabs, Perth and analysed using the saturated centrifuge method.

Specific yield has also been determined from test pumping of the lake surface from trial trenches and test pits. These tests sample a much larger zone of the sequence and provide a bulk estimate of Sy over the saturated thickness of the excavation.

The results indicate that the sequence is highly heterogeneous throughout the profile with an average total porosity of 0.38 and the average and weighted average specific yield of 0.17. Results are presented in Table 6.

Table 6: Total porosity and specific yield estimates for the lake surface

*Removed the upper and lower outliers (LTTT02 and LTTP03) in the trench pumping to account for high heterogeneity.

During the air-core program soil samples were obtained for laboratory analysis of PSD to allow quantification of sand, silt and clay portions from the various lithological zones across the system. A field capacity regression calculation at 33kPa (Saxton Rawls 2006) has been used to determine specific yield (effective porosity).

A total of 62 samples were selected for laboratory analysis mostly targeting the potentially more productive aquifer sequences of sand sequences in the glacial fluvial sediments to provide a better understanding of the lithological composition relative to the geological logging. The samples were grab samples from drilling spoil and represent a 3m composite interval.

The analysis results demonstrate good correlation of aquifer properties to lithological description and are considered reasonable for disturbed sample analysis, the results are presented in Table 7 below. The exception being the Lacustrine Clay samples which shows some bias to more granular lithologies than a pure clay.

Table 7: Total porosity and specific yield estimates from particle size distribution analysis

Mineral Resource Estimation Methodology

The MRE is constrained by the available data, geological confidence, drilling density, sampling intervals and tenement boundaries. This MRE covers the following updates:

- The existing geology and block models have been updated with the trench geology and end of test pumping brine samples
- The resource domains have been simplified by grouping the target aquifers together into an upper Surficial Aquifer, a Confining Layer and a lower Basal Aquifer
- New Indicated Mineral Resources have been estimated for the Surficial Aquifer
- Inferred Mineral Resources have been updated for all other Resource domains, and
- No Measured Mineral Resources or Ore Reserves have been estimated.

The geology model was constructed in Leapfrog Geo v6 implicit modelling software. The model used all available drilling data, surface mapping and geophysical data to model the geology across Lake Throssell and the Palaeovalley sequence. The topography of the model was derived from 1 second Shuttle Radar Tomography Mission (SRTM) derived hydrological digital elevation model. All drill holes were levelled to this topography in the model.

All brine assays (355) for potassium, sulphate and magnesium were brought into the model as intervals where taken from drilling, rotary auger, hand-auger and test pumping.

The Edge module in Leapfrog Geo v6 was used for numerical estimation and block modelling. The variography of the deposit was modelled using the major axis and radial plot for guidance. Estimators were set up for potassium, sulphate and magnesium for the below water table domain. The domain was clipped to boundaries of the tenements and the island perimeters (lake surface only) as hard boundaries. The base of the domain was defined as 226m Australian Height Datum (AHD). Standard parent block sizes of 1,000m in the x and y direction and 10m in the z direction were used. Sub blocking was used to refine the block model in areas where geological surfaces intersect blocks. Parent blocks were split by automated sub-blocking by up to two sub-blocks in the x and y direction. Parameter concentrations were estimated across the blocks using Ordinary Kriging, ellipsoid search parameters were assigned following review of the variography of each parameter.

The search parameters for the block model are listed below:

Ellipsoid Ranges - Max. = 4500m, Int. = 2,900m, Min. = 185m

No. of Samples – Max = 20, Min = 1.

The block model grade distributions are presented in **Error! Reference source not found.** to **Error! Reference source not found.** with cross sections presented in Figure 14 to Figure 17.

An inverse distance squared (ID2) estimator was run for potassium to check the accuracy of the calculation. The average grade of each model swath (average cell value in one plane) and the plots of each model have been reviewed. These plots show that the model adopted is appropriate when plotted against the ID2 method and assayed values.

Specific yield for the lake surface was estimated from the weighted average of the core analysis and trench pumping analysis. For all other stratigraphy's PSD analysis of disturbed lithological samples using field capacity regression calculations at 33kPa (Saxton Rawls 2006) and comparisons to publicly available data from similar geological settings. The adopted specific yield and total porosity for each stratigraphy of the model is presented in Table 8 and Table 9.

SOP grade from potassium concentrations were calculated using a conversion of 2.23, accounting for the atomic weight of sulphate (sulphur and oxygen) in the K_2SO_4 formula.

Resource tonnages were calculated by multiplying the volume of the block model in each lithology by the specific yield and SOP grade to obtain the drainable SOP volume.

Figure 12: Lake Throssell shallow potassium grade distribution and sample points (370mRL depth slice)

Lake Throssell Potash Project

July 2021 Resource Estimate Reported in Accordance with JORC Code 2012

Figure 13: Lake Throssell deep potassium grade distribution and sample points (280mRL depth slice)

Figure 14: Block model cross section A-A'

Figure 16: Block model cross section C -C'

The Indicated Mineral Resource has been calculated based on the following:

- Drilling and testing has confirmed local site geology and aquifer geometry
- Aquifer hydraulic properties (hydraulic conductivity and specific yield) have been determined by two independent methods
- Test pumping has been completed to demonstrate extractability
- A number of brine samples have been collected from a selection of locations to confirm brine concentrations, and
- These conditions are only met for the top six metres of the lake surface of the surficial aquifer.

The Inferred Mineral Resource has been calculated based on the following:

- Geological evidence exists to imply but not verify the existence of brine grade and aquifer geometry for the entire deposit due to some wide drill and sample spacing
- Proven geophysical techniques have been used to infer palaeovalley extents away from the main drilling areas and extend the estimate into the pending tenements, and
- Aquifer properties can be calculated from limited laboratory tests, PSD and other publicly available data in comparative geological settings.

Total porosity and total brine SOP mass is provided to compare the total SOP tonnes with the drainable Resources. As can be seen, the total brine volume is significantly higher than reporting drainable brine volumes. The drainable brine volume represents the amount of SOP that can be abstracted from the deposit which is dependent on underlying porosity, permeability and specific yield of the deposit. For economic production, the drainable brine volume is the most important volume because only a proportion of brine present can be typically abstracted from the deposit.

Table 8: Lake Throssell Indicated Mineral Resource Estimate

Note: Errors may be present due to rounding

Table 9: Lake Throssell Inferred Mineral Resource Estimate

Note: Errors may be present due to rounding, approximately 2.90Mt of Drainable SOP Mass is present in Exploration Licence Applications E38/3544, E38/3483, E38/3458, and E38/3537.

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Exploration Target

The Exploration Target is an estimate of the exploration potential of a mineral deposit is presented in Table 10. In a brine hosted deposit, the Exploration Target determines a lower and upper estimate by varying the geological extent, drainable porosity, and brine grade within reasonable bounds based upon the information available.

The geological extent (area and thickness) is determined from a combination of the modelled geological, the gravity model, the mapped outcropping geology and the conceptual model of regionally described palaeovalley systems.

Islands on the lake surface have been removed from the lake surface and alluvial clay sediment volume calculation. Brine grade range is based on the average brine grades from the Resource Tables, with the upper and lower estimates factored for the pending tenements where no data is presently available.

The Exploration Target encompasses the granted tenement E38/3065 and the surrounding pending tenements currently under application. There has been no work completed on the pending tenements meaning that all estimates are based upon reasonable extrapolation from the work completed on E38/3065. At the time of reporting Trigg sees no reason why these tenements will not be granted in the future.

Table 10: Lake Throssell Exploration Target

Note: Errors may be present due to rounding, approximately 2.45 Mt in the lower estimate and 8.76 Mt in the upper estimate of equivalent SOP is present in Exploration Licence Applications E38/3544, E38/3483, E38/3458 and E38/3537. SOP is calculated by multiplying potassium by 2.23.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration in these areas to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

APPENDIX 1 – Drill hole and brine analysis tables

Lake Throssell heli-rotary auger location and assay results

Site ID	Easting	Northing	Sample depth (m)	K (mg/L)	SOP equiv. 1 (K ₂ SO ₄) (kg/m ³)	Mg (mg/L)	Na (mg/L)	SO ₄ (mg/L)	TDS (mg/L)
LTAG01	623221	6954229	0	5,720	12.76	8,260	93,300	21,800	284,000
			2.5	5,460	12.18	7,600	82,600	20,100	269,000
LTAG02	625430	6956409	0	4,670	10.41	8,730	84,300	19,700	270,000
			0.5	4,750	10.59	8,810	84,000	20,300	267,000
			2.5	4,630	10.32	8,380	80,400	19,800	253,000
			4	4,550	10.15	8,140	78,700	19,200	256,000
			5.5	4,560	10.17	8,280	79,700	19,300	250,000
LTAG03	619489	6948228	0	5,180	11.55	7,720	84,400	21,200	270,000
			2.5	5,450	12.15	7,800	89,800	21,600	284,000
			4	5,660	12.62	8,310	92,100	22,300	290,000
LTAG06	617249	649900	0	4,720	10.53	5,950	76,900	17,800	230,000
			1	4,720	10.53	5,780	75,300	17,700	230,000
			2.5	4,570	10.19	5,840	73,400	17,100	225,000
LTAG07	618264	6944914	0	5,050	11.26	8,310	83,100	20,200	265,000

¹ SOP equivalent (K₂SO₄) is calculated by multiplying potassium by 2.23.

Lake Throssell air-core drill hole locations

² SOP equivalent (K₂SO₄) is calculated by multiplying potassium by 2.23.

Lake Throssell PSD Analysis Results

 0.07

Saturated Hydraulic Conductivity (m/d)

APPENDIX 2 – JORC Table 1 (Lake Throssell July 2021 Resource Update)

