ASX Release

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Bankable Feasibility Study Completed with Exceptional Financial Outcomes

Kalium Lakes Limited (Kalium Lakes) (ASX:KLL) is pleased to announce the completion of the Bankable (or Definitive) Feasibility Study (BFS) including an updated Ore Reserve for the 100% owned Beyondie Sulphate Of Potash Project (Beyondie SOP Project or BSOPP) in Western Australia. A summary of the highlights of the BFS are detailed below. For further information refer to the attached, *JORC (2012) and NI 43-101 Technical Report – Bankable Feasibility Study,* compiled by German Potash Experts and Competent Persons, K-UTEC AG Salt Technologies (K-UTEC).

Highlights

- **Robust, Bankable Project:** BFS confirms that Kalium Lakes' 100% Owned, Beyondie Sulphate Of Potash Project (BSOPP), is technically and financially robust, with production anticipated in 2020.

- **90% Increase in Ore Reserves:** Based solely within the Stage 1 Approval Footprint (Figure 8), which represents less than a quarter of total lake surface area within the tenement package [1]:
  - Proved Reserve of 1.65 Mt @ 13,830 mg/l SOP at a cut-off grade of 2,500mg/l K
    Probable Reserve of 3.49 Mt @ 11,820 mg/l SOP at a cut-off grade of 2,500mg/l K
  - Measured Resource of 1.72 Mt @ 11,488 mg/l SOP
    Indicated Resource of 9.17 Mt @ 12,459 mg/l SOP
    Inferred Resource of 8.75 Mt @ 12,593 mg/l SOP

- **Increased Production Rates:** The base case outcome of the BFS for the Beyondie SOP Project is a 164ktpa SOP operation. This is an increase of 10% on the Pre-Feasibility Study (PFS) based on (amongst other matters) an update to the Company's increased Ore Reserve, detailed brine extraction modelling, pilot scale pond and processing outcomes. After taking into consideration operational, SOP market and financing risk management perspectives, the Company has confirmed a phased ramp-up development scenario, starting with a commercial demonstration scale 82ktpa SOP operation, before ramping up to a 164ktpa full scale SOP production facility.

- **Extended Mine Life In Excess of 30 years [2]:** Based on production of 164ktpa SOP, the extended mine life represents an increase of 7 years on the PFS estimated mine life. The Economic Evaluation excludes any production post 30 years from the Base Case Mine Plan.

- **Improved Financial Outcomes for the Base Case:** Refer to Table 1 for details [3].
  - Pre-tax NPV_8 A$575M, IRR of 20%
  - Average EBITDA of A$116Mpa, EBITDA margin of 61%
  - A payback period of 7 years and Life of Mine (LOM) 30 years
  - Free cash flows of more than +A$2B
  - Based on CRU forecast US$606/t nominal average LOM SOP @ $A/$US exchange rate of 0.73.

[1] Refer to Table 3, plus JORC Table 1 in the technical report titled "JORC (2012) and NI 43-101 Technical Report – Bankable Feasibility Study" for further details.
[2] Refer to Cautionary Statement - The base mine plan comprises Ore Reserves (83%) and Indicated Mineral Resources (11%), it is partly based on Inferred Mineral Resources (6%) see Figure 5.
[3] Refer to Table 4 and the technical report titled "JORC (2012) and NI 43-101 Technical Report" Technical Report – Bankable Feasibility Study" for further details.

- **Strong Market Fundamentals:**
  - CRU estimates that average CFR Australian prices in the first year of full production (FY2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.
  - Kalium Lakes to produce a premium Standard, Granular and Soluble suite of products at >51%K2O and <0.5% Chloride. Each product will attract a different price and premium.
  - Offtake Terms Sheet executed with German fertiliser producer and distributor K+S for 100% of Phase 1 production. The Offtake arrangement is subject to the execution of a formal binding offtake agreement and satisfaction of certain conditions precedent, including completion of due diligence by K+S.

- **Bankable Staged Development Cost Base [4]**
  - Estimated LOM Operating Cash Cost of A$231/t SOP FOB Fremantle Port [5]. This will place the Beyondie SOP Project amongst the lowest cost global SOP production (Figure 6).
  - Pre-production Capital Cost of A$159 million for the initial 82ktpa phase. A deferred capital cost of A$125 million is required to ramp up production to 164ktpa SOP.
  - Pricing has been received from contractors and suppliers for more than 80% of Capex Costs.
  - Option to install a gas pipeline at a capital cost of A$29 million which would result in an operating costs reduction of A$31-34 per tonne.

- **Confirmed Approvals Pathway:**
  - Early works approvals are in place from the Environmental Protection Authority of Western Australia (EPA) and Department of Mines, Industry Regulation and Safety (DMIRS), with formal approval for the full-scale project anticipated to be in place during Q4 2018.
  - Two Native Title Land Access Agreements have been executed allowing for the consent to the grant of mining leases, ancillary tenure and approvals required for the BSOPP.
  - Two Mining Leases and 10 Miscellaneous Licences have been granted for the Beyondie SOP Project.

- **Low Cost Financing Identified:**
  - The Company is proposing to fund the project capital expenditure by a combination of up to 60% debt and the residual equity.
  - The Company has progressed the process for debt financing with initial due diligence completed and Expression of Interest (EOI) term sheets received.
  - The Company estimates that approximately A$42 million of the project capital expenditure is expected to qualify under the German Export Credit Agency (ECA) scheme which has received a positive preliminary assessment decision by the German Government Inter-Ministerial Committee (IMC) and Euler Hermes Aktiengesellschaft (Hermes), the appointed export credit agency that administers the German ECA scheme for the German Government.
  - Australian Government's Northern Australia Infrastructure Facility (NAIF) has provided written confirmation that the NAIF Board has considered a Strategic Assessment Paper for the BSOPP and has consented to the NAIF Executive continuing its investigation.

- **Kalium Lakes' Board has now endorsed the commencement of early works and Front-End Engineering and Design (FEED) prior to a Final Investment Decision (FID).**

[4] Refer to the technical report titled "JORC (2012) and NI 43-101 Technical Report" Technical Report – Bankable Feasibility Study" for further details.
[5] Operating Cash Costs FOB includes all mining, processing, site administration, product haulage to port and ports costs, but excludes head office corporate costs, sustaining costs, royalties and taxes.

Cautionary Statement

The Company advises that while the BFS Base Case is predominantly based on Ore Reserves (83%) and Indicated Mineral Resources (11%), it is also partly based on Inferred Mineral Resources (6%) over the 30 year Mine Life. Further the Company advises that the Bank Finance Case is based on 86% Ore Reserve and 14% Indicated Mineral Resources over the 50 year Mine Life. No Exploration Target material has been included in the economic valuation or production target of the Beyondie SOP Project. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the Inferred Mineral Resources will add to the economics of the Beyondie SOP Project. However, in preparation of the production target and associated NPV, each of the modifying factors was considered and has therefore passed the economics test.

Managing Director, Brett Hazelden, commented: "The Bankable Feasibility Study and Ore Reserve present a set of compelling technical and economic outcomes, to both investors and financial institutions. The Project has been designed to be a low cost, long life and high margin producer.

"Kalium Lakes is proud to be the first Sulphate Of Potash developer to complete a Bankable Feasibility Study, for an Australian deposit which allows for an initial mine life of between 30 to 50 years," he said.

"The Technical Report attached to this ASX announcement is only a summary of the full BFS Report which contains more than 800 pages in 19 sections, as well as an appendices volume with in excess of 1,500 separate supporting documents.

"In terms of the Australian SOP sector, this BFS sets the benchmark for the level of detail required in order to finance this type of project. Founded in October 2014, Kalium Lakes has now invested more than A$30 million in the exploration and development of the Beyondie SOP Project.

"As a result of the extensive detail delivered in the BFS Report, the exceptional financial outcome, and the positive engagement with financial institutions, the Board has now endorsed the commencement of early works and final engineering. This will allow us to complete the critical path activities associated with the timely construction of the project including, most importantly, the road upgrades and accommodation facility.

"On behalf of Kalium Lakes, I wish to thank our key consultants and employees for the quality work undertaken. We look forward to announcing a Final Investment Decision following the receipt of credit and other necessary approvals," Mr Hazelden said.

Next Steps

• Commence Early Works Construction Activities	Q3 2018
• Commence Front End Engineering and Design (FEED)	Q4 2018
• Finalise Binding Offtake Agreements	Q4 2018
• Award EPC/M and Lump Sum Contracts	Q4 2018
• Primary Project Approvals Anticipated	Q4 2018
• Finance Due Diligence Complete	Q4 2018
• Project Financing Complete	Q1 2019
• Final Investment Decision (FID)	Q1 2019
• Full Construction Activities	~15 Months from FID
• Commissioning and Ramp Up to Name Plate Throughput	During 2020

BFS Background

The BFS has been prepared by KLL in conjunction with leading industry specialists including K-UTEC, DRA Global, Advisian, Shawmac, Wyntak and Preston Consulting as the principal technical consultants, as well as RSM, DLA Piper Australia, HopgoodGanim Lawyers and BurnVoir Corporate Finance as accounting, legal, commercial and financial advisors.

Kalium Lakes adheres to the JORC 2012 Code and the Canadian Institute of Mining, Metallurgy and Petroleum Best Practice Guidelines for Resource and Reserve Estimation for Brines (CIM Guideline).

In addition, the Company is part of the Association of Mining and Exploration Companies (AMEC) Potash Working Group which has developed guidelines to define a brine Mineral Resource and Ore Reserve, in order to increase the certainty, clarity and transparency in reporting of these resources.

Kalium Lakes undertakes a gated project investment evaluation process that is accepted as industry best practice as illustrated in Figure 1. The BFS concluded a base case of 82ktpa ramping up to 164ktpa of SOP and aims to present information at the necessary level of definition and accuracy in accordance with the JORC Code and the AACE International® guidelines for developing a Class 3 (Bankable / Definitive Feasibility Study) estimate.

Kalium Lakes considers that the implementation of the Project in two phases provides an ideal strategy that minimises initial upfront capital costs, manages risk, reduces shareholder dilution and enters the market in a sustainable, non-disruptive manner.

The Beyondie SOP Project location and tenements are shown in Figure 2 and Figure 8 as well as existing transport infrastructure, access road, the Goldfields Gas Pipeline (GGP) and the Kumarina Roadhouse located on the Great Northern Highway.

Figure 1 – Kalium Lakes Gated Investment Evaluation Process

Figure 2 – Beyondie Sulphate Of Potash Project Location – Western Australia

Beyondie Sulphate Of Potash Project Production Process

Sulphate of Potash (SOP) is a widely-used agricultural fertiliser with annual global consumption of 6.6Mtpa. Australia currently imports 100% of its potash requirements from overseas producers.

SOP can be produced by extracting brine (hypersaline water) from underground, then evaporating the water to precipitate mixed potassium salts which are, in turn, purified to produce the SOP fertiliser, as illustrated in Figure 3:

(a) **Brine Pumping:** brine is extracted from basal sands (or the lower aquifer) using submersible bores, as well as pumping of trenches from the upper aquifer;

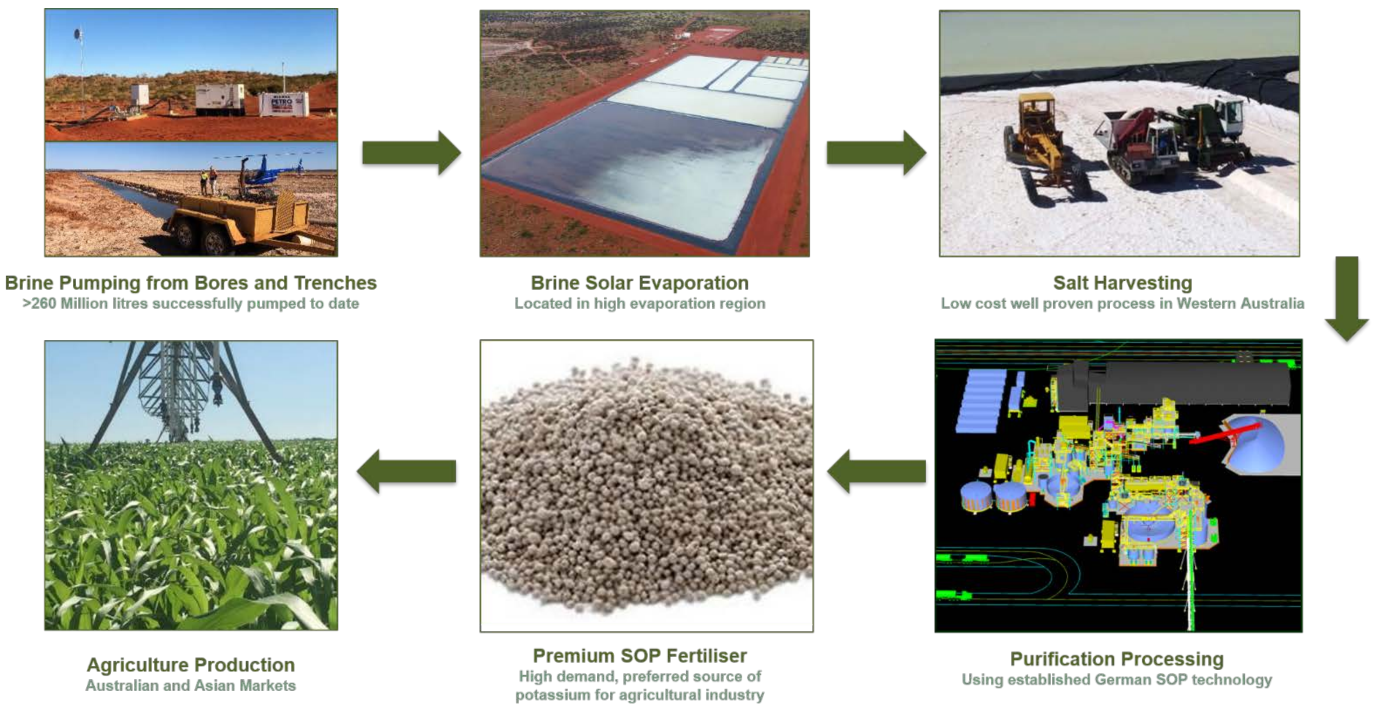
(b) **Brine Solar Evaporation:** brine is pumped to solar evaporation ponds where it sequentially precipitates calcium, sodium, potassium and magnesium mixed salts in separate ponds;

(c) **Salt Harvesting:** the mixed potassium salts that have crystallized from the solar evaporation ponds are mechanically harvested and stockpiled;

(d) **Purification Processing:** the mixed potassium salts are fed into a purification plant facility where the potassium are salts converted into schoenite through a conversion and recycling process and are then separated from halite via flotation. The resultant schoenite slurry undergoes thermal decomposition into SOP; and

(e) **SOP Fertiliser:** after drying and compaction in a purification plant, the SOP is ready to be used and sold as a final product.

Figure 3 - SOP Production Process



Key BFS Parameters, Assumptions and Statistics

The Base Case of the BFS for the Beyondie SOP Project is a phased ramp-up development scenario, starting with a commercial demonstration scale 82ktpa SOP operation, before ramping up to a 164ktpa full scale SOP production facility with a mine life in excess of 30 years.

The Company has considered each of the JORC Code modifying factors in arriving at the preferred base case including an assessment of project economics, weighed against the ability to finance the project, as well as the technical risks and resulting market supply and demand impact.

A summary of the key parameters, assumptions and statistics is presented in Table 1.

Table 1 - Key Parameters, Assumptions and Statistics

Facility	Key Area / Characteristic	Details/Comments		
Location	Mine	Beyondie Paleo Valley, 78 km East of Kumarina Road House (refer Figure 2 & 7)		
	Leases and Licences	**Exploration Leases**: E69/3306, E69/3309, E69/3339, E69/3340, E69/3341, E69/3342, E6/3343, E69/3344, E69/3345, E69/3346, E69/3347, E69/3348, E69/3349, E69/3351, E69/3352. **Miscellaneous Licences**: L52/162, L52/186, L52/187, L52/190, L52/193, L69/28, L69/29, L69/30, L69/3, L69/32, L69/34, L69/35 (Application), L69/36 (Application). **Mining Leases**: M69/145, M69/146		
	Tenement Area	>2,400 km^2 granted tenements		
Marketing	Product Sales SOP - K_2SO_4	Targeting Australian Potash market initially		
		No Australian production of Potash		
		Mix of standard, granular and soluble SOP product – 22.5:60:17.5 split		
		Base product (K_2O>51%) premium ranges of granular 5-8% and soluble 20-25%		
		Premium products (K_2O>52%) to achieve an additional 3-10% premium		
		Initial Export and Expansion into Asian Markets		
Resource & Reserve	Low Na:K Ratio	8.8 : 1		
	Deposit Type	Subsurface Brine, Lake surface, Paleo valley and Bedrock aquifers		
	Aquifer Extent	30,000 ha lake surfaces & Paleo Valley 100-250 km in length		
	Aquifer Depth	Variable Up to 100m		
	K_2SO_4 Mineral Resource (JORC/CIM)	Measured	1.72 Mt SOP @ 11,488 mg/L K_2SO_4	
		Indicated	9.17 Mt SOP @ 12,459 mg/L K_2SO_4	
		Inferred	8.75 Mt SOP @ 12,593 mg/L K_2SO_4	
		Total	**19.64 Mt SOP @ 12,434 mg/L** K_2SO_4	
		Exploration Target	3.7 to 20.7 Mt K_2SO_4 @ 4,000 -7,350 mg/L K_2SO_4	
	Non-CIM Mineral Resource (For Comparative Purposes Only)	Total Stored Brine Estimate	159.7 Mt SOP (For Comparative Purposes Only)	
	Reserve Cut Off Grade	2,500mg/l K (Potassium)		
	K_2SO_4 Ore Reserve (JORC/CIM)	Proved	1.65 Mt SOP, 13,830 mg/L K_2SO_4	
		Probable	3.49 Mt SOP, 11,820 mg/L K_2SO_4	
		Total	**5.14 Mt SOP, 12,400 mg/L K_2SO_4**	
Brine Extraction			**82 ktpa**	**164 ktpa**
	Equipment & Communications	Diesel / Solar Powered Brine Extraction Pumps and Piping with Telemetry		
	Stage 1 Extraction Bores	Number of bores inclusive of pump stations	36	41
	Stage 1 Extraction Trenches	Trenches inclusive of pump stations	~58 km	~58 km
	Brine Volume	Annual Volume Flow (Gl/a)	7.9 – 9.4	10.9 – 17.8
		Average Flow Rate (l/s)	256 - 300	352 - 566
	Stage 1 Approval Footprint	Assumes Beyondie, 10 Mile and Sunshine Only (refer 1)		
Brine Evaporation	Evaporation Ponds		**82 ktpa**	**164 ktpa**
		Total Area (ha)	445	890
	Operating Hours	8,766 hours per year		
	Potassium Recovery	94%		
	Pond Seal	1mm HDPE Liner		

Facility	Key Area / Characteristic	Details/Comments	
	Equipment	Trucks, harvesting equipment, pipes and pumps	
	Excess Salt Disposal	Stockpiled on lake and / or sold as a product	
Purification Plant	Operating Hours	7,500 hours per year, 85% asset utilisation	
	SOP Plant Summary	Front end loader (**FEL**) reclaim from raw salt stockpile, crushing, conversion, flotation, crystallisation, compaction, product stockpiling and packaging	
	Production Level	82 ktpa SOP start up, expanding to 164 ktpa SOP	
	Potassium Recovery	77%	
	Product Packaging	25 kg bags, 1.2 tonne Bulk Bags, Loose Bulk Product	
Infrastructure	General	Buildings & facilities for construction, processing, haul road	
	Support Infrastructure	Cooling towers, Chillers, Demineralised Water and Steam production	
	Communications	Satellite & microwave data plus mobile data communications	
	Business Systems	Ellipse, Cube / INX, Citect Ampla, MS Office 365 and other industry typical systems	
	Laboratory	Contractor operated Laboratory	
	Water Supply & Treatment	Solar & diesel-powered water bores delivering 1 – 2 Gl/a connecting 3 supply areas connected via pipelines & water treatment plants	
	Waste Water Treatment	WWTP located at Village. Septic tanks / leach drains at all other locations	
	Operations Accommodation	**82 ktpa:** 60 Permanent ensuite rooms incl. of shut down & visitor allowance	
		164 ktpa: 85 Permanent ensuite rooms incl. of shut down & visitor allowance	
	Gas Supply	**82 - 164 ktpa:** Gas Bullets on Site, gas supplied by truck (or Gas pipeline)	
		164 ktpa and above: 78 km, small diameter pipeline, connected to Goldfields Gas Pipeline	
	Diesel Storage	2 off 110kl self-bunded tanks	
	Power Generation	**82 ktpa:** Installed capacity of 7.5 MW	
		164 ktpa: Installed capacity of 11.9 MW	
Access Road & Product Haulage	Access Road	78km unsealed road from the sealed Great Northern Hwy. Turn off located near Kumarina Roadhouse (refer Figure 2 and 7)	
	Distance to Distribution Locations (refer Figure 6)	Perth / Fremantle / Kwinana	1,088 km
		Geraldton	862 km
	Fleet Details	Standard highway fleet operated by Toll Mining Services	
		90-110 t payload triple or quad trailer road trains	
Port	Port Location	Fremantle and/or Kwinana and/or Geraldton (refer Figure 2)	
	Product Delivery	Container (i.e. packaged 25kg bags, 1.2 tonne Bulk Bags) / Container Bulk / Bulk	
	Storage	Shed in Perth operated by Toll Mining Services	
	Shipping	Container cargo or normal shipping container protocols at Fremantle Port, or bulk materials handling facility Kwinana or Geraldton Port	
Operating Personnel	Roster	2 weeks on and 2 weeks off (Family Friendly)	
	Airport	Newman commercial domestic flights	
	Work Force	**82 ktpa**	**164 ktpa**
		Total Personnel: 58	85
Climate	Rainfall	Average annual mean rainfall of 238 mm	
	Temperature	Average annual mean minimum temperature is 15˚C	
		Average annual mean maximum temperature is 31˚C	
	Evaporation	Average annual evaporation is estimated to be 4,100 mm	
	Relative humidity	15% to 40%	
	Winds	Predominantly Easterlies	
BFS Accuracy	Capex Accuracy	+/- 15% Class 3 (AACE)	
	Opex Accuracy	+/- 15%	

Mineral Resources Estimation Methodology

- A 3D geological model was constructed in Leapfrog Geo v4.2 implicit modelling software from Aranz Geo Limited. The model used all available drilling data, surface mapping and geophysical data to model the geology across the Beyondie, Ten Mile Lake and Lake Sunshine areas. The topography of the model was derived from high precision ortho imagery of the main lake areas and bore sites. The ortho imagery has a horizontal accuracy of 0.2 m and vertical accuracy of 0.08 m, all drill holes were levelled to the topography in the model.
- All drill hole assays for potassium, sulphate and magnesium were brought into the model as 1m intervals when taken from drilling or as composites where assays are representative of screened intervals from bores (i.e. test pumping and bore development).
- The Edge module in Leapfrog Geo v4.2 was used for block modelling and numerical estimation. Two block models were constructed, one for Beyondie and Ten Mile Lake, and one for Lake Sunshine. Beyondie and Ten Mile Lake utilised standard block sizes of 250m in the x and y direction and 5m in the z direction. While Lake Sunshine used the same x and y block size but 2.5m blocks in the z direction. Sub blocking was used to refine the block model in areas where geological surfaces intersect blocks. Parent blocks were split by up to four blocks in the x and y direction and two blocks in the z direction.
- Estimators were set up for potassium, sulphate and magnesium for the below water table domain. The domain was clipped to boundaries of the defined resource categories and tenements, as hard boundaries.. The base of the domain was defined as 460m AHD. Parameter concentrations were estimated across the cells using Ordinary Kriging, ellipsoid search parameters were assigned following review of the variography of each parameter.
  The search parameters for each block model are listed below:
  Ten Mile Lake and Beyondie
    - Ellipsoid Ranges - Max. = 3000m, Int. = 1800m, Min. = 61m
    - No. of Samples – Max = 20, Min = 5.

  Lake Sunshine
    - Ellipsoid Ranges - Max. = 3000m, Int. = 2000m, Min. = 100m
    - No. of Samples – Max = 20, Min = 3.
- Variogram models for each parameter are presented. Nearest neighbour (NN) and inverse distance squared (ID2) estimators were also run for potassium as check accuracy calculations. The average grade of each model swath (average cell value in one plane) and the plots of each model are presented in x, y and z directions for potassium. These plots show that the model adopted (k:3x3x2) is appropriate when plotted against the ID2 and NN methods.
- Specific yield was calculated for the surficial lake sediments using the average of the trench test-pumping analysis results. For all other lithologies the average values from calibrated BMR logging were used.
- SOP grade from potassium concentrations were calculated using a conversion of 2.228475, 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 Resource Zone in each lithology by the specific yield and SOP grade to obtain the drainable SOP volume.
- Drill hole spacing in the various project areas includes; Beyondie and Ten Mile Surficial Sediments is between 1600 and 150m (average is approximately 250m); Beyondie and Ten Mile Palaeochannel and Bedrock is between 1600 and 150m (average is approximately 270 m); Sunshine Surficial Sediments is between 3000 and 150m (average is approximately 250m); Sunshine Palaeochannel and Bedrock is between 3000 and 150m (average is approximately 450m)

Significant detail and additional information relating to mineral resources methodology was provided in the Company's ASX announcement "Significant Resource Upgrade - Beyondie SOP Project" released on 4 September 2018 and is also provided in the attached *JORC (2012) and NI 43-101 Technical Report – Bankable Feasibility Study.*

Updated Ore Reserve Basis

The process of turning Mineral Resources in to Ore Reserves in a Brine deposit involves the application of mining modifying factors with the use of a groundwater numerical model. The model simulates the flow of brine to abstraction points with an associated concentration of potassium and sulphate to produce tonnes of SOP as part of a mine plan. The abstraction rates and life of the mine are limited by the aquifer properties and storage potential of the host aquifers. These properties are calibrated within the numerical model to collected pumping data and water level observation to most accurately represent the hydraulic system.

The Ore Reserve estimate has been developed using detailed integrated groundwater flow and solute transport finite element modelling in FEFLOW, an industry standard numerical groundwater modelling platform. The models have been used to simulate the Ore Reserve estimate and develop mine plans for the BSOPP. The detailed modelling reports describe the construction, calibration and operation of the model to reporting guidelines. The groundwater models were developed to evaluate the recoverable resource from the shallow unconfined aquifer and deep confined aquifer in the vicinity of Ten Mile Lake and Lake Sunshine.

The aquifer properties of the model have been zoned according to the Resource model and calibrated to steady state and transient conditions utilising all pumping and recovery data, including test pumping, trial pond pumping and the measurements observed in monitoring bores across the project in each aquifer and aquitard. Brine concentrations were imported to the groundwater model from the resource block model.

A number of abstraction Scenarios (mine plans) were developed to test the proposed throughput variations of the mine at rates of between 82 ktpa to 164 ktpta with and without recharge over the life of mine of +30 years to understand the various factors affecting the mine plan. A total process (evaporation ponds and purification plant) recovery factor of 72% was used to derive the SOP production rates from the annual abstracted brine. Seasonal evaporation pond demands were simulated on a quarterly basis for the first ten years of operations. Annual production rates have been simulated from year 11 to year 30. Abstraction rates and concentrations have been modelled iteratively to manage grade and determine the variation in pumping regime necessary to meet the pond requirements. The Ore Reserve estimate is based on the 82 ktpa to 164 ktpa ramp up mine plan for 30 years with no recharge.

Abstraction capture zone analysis was used to determine the origin of brine from each abstraction point (Production bore or trench) throughout the life of mine. Capture zones emanating outside of the resource evaluation zones were omitted from the estimate. Proved and Probable Reserve volumes were derived from the capture zones originating from the Measured and Indicated Resource zones respectively. Measured and Indicated Resources have been determined from confidence in geological and brine extent through drill spacing, areas which have extended pumping and drawdown data recorded so that hydraulic calibration can be undertaken and have at least two different methods of measuring aquifer properties.

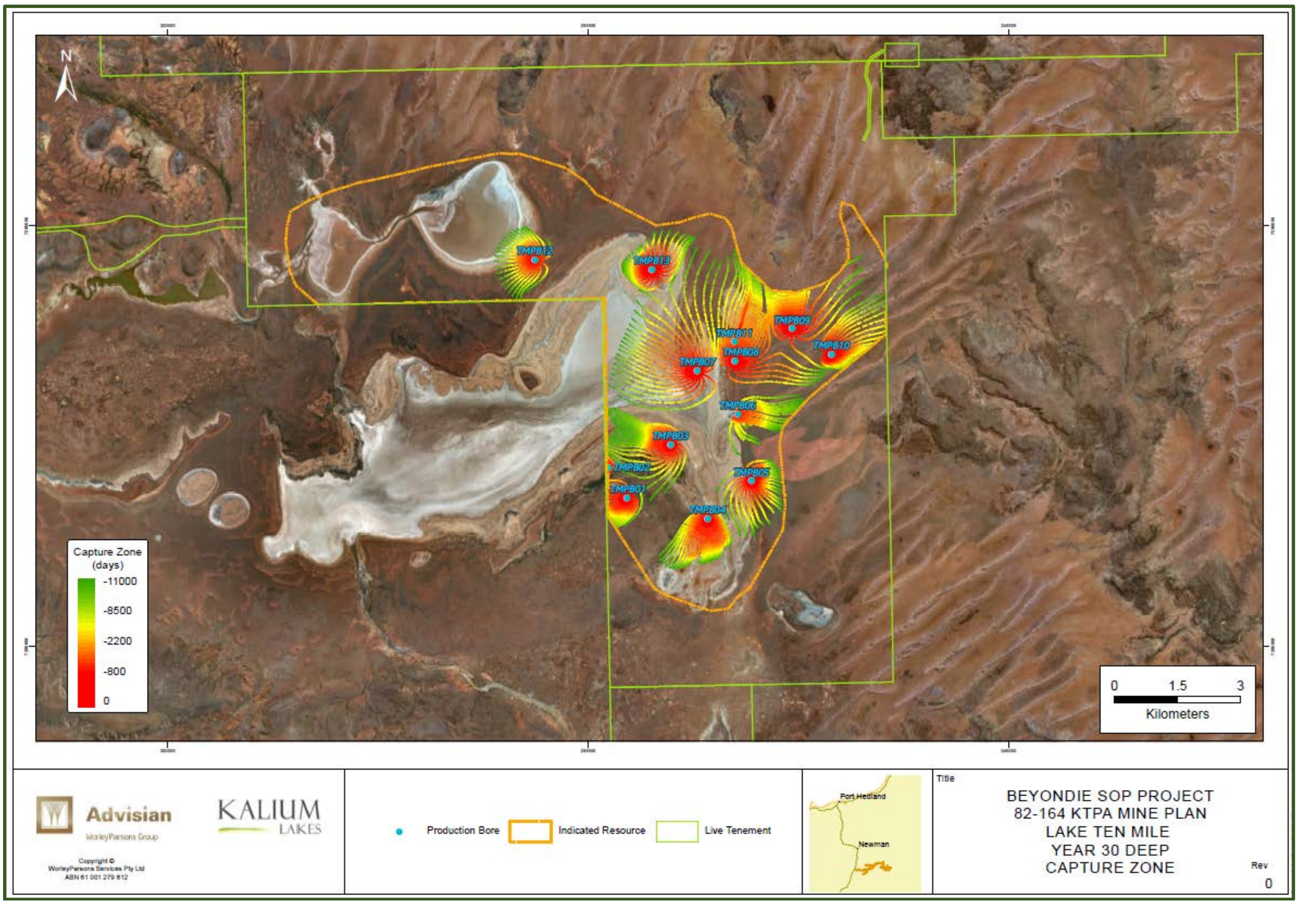
Though the lake surface has Measured Resources for the top 5 m the effects of variable recharge on this zone means that these Measured Resources convert to the Probable Reserve category only.
The effects of recharge can influence the grade of the lake surface sediments. The leaching potential of these sediments has been measured and modelled within the solute model. Recharge has a net replenishment of the resource but will dilute the resource in late mine life which has been accounted for in the mine plans. The impacts of lake surface recharge have been determined by comparing the differences of the mine plan with and without recharge. **The Ore Reserve estimate does not include any recharge.**

A cut-off grade of 2,500 mg/L potassium has been applied to the Ore Reserve to reduce excess brine volumes supplied to the ponds which would decrease production rates of SOP due to a more dilute brine requiring additional evaporation area and time. This has been managed in the mine plan by turning off production bores when the potassium grade goes below this concentration. In addition to potassium and sulphate, the pumped brine contains quantities of magnesium, sodium and chloride that have been quantified. The specific gravity from each abstraction point has also been modelled by a ratio to potassium. Density is not considered to be material to the Ore Reserve estimate given the low density gradients that have been mapped across the deposits.

Production bore well losses have an impact on the abstraction recovery and have been measured during testing, these losses have been accounted for in the abstraction yields simulated at each production bore.

The capture zones for the deep aquifer at 10 Mile is presented Figure 4, these show the origin of brine abstraction at year 30 of the mine life. The origins of these capture zones determine the category of either Proven or Probable Reserves. Capture zones emanating from the Measured Resources of the Deep Aquifer are categorised as Proven Reserves and other abstraction is allocated to Probable Reserves.

Figure 4 - 10 Mile Lake Production Bore Capture Zones



The Ore Reserves only take into account the Measured and Indicated Resources of Ten Mile and Lake Sunshine, they do not include 0.7 Mt of Indicated Mineral Resources from the regional lake sediments that form Stage 2 of the Project.

A summary of the abstraction for the Ore Reserves is provided in the Table 2 below.

The Ore Reserve estimate is considered to be a conservative representation of the aquifer systems with general reasonable confidence in modelled outputs during the early to mid-life of mine, with confidence reducing during later mine life. This confidence is spatially represented with the highest levels of confidence around the areas with good geological and test pumping control and the lowest areas of confidence with limited data available. It is important to note that hydrogeological numerical models have significant areas of uncertainty and that the mine plan developed over a 30 year period is not definitive. Model sensitivity, predictive uncertainty analysis and professional judgement have been incorporated into the numerical model development to determine the most sensitive parameters. A conservative approach to these parameters has been adopted to ensure the model is representative of the level of understanding of the hydrogeology.

Table 2 – Produced Brine and Mass

Abstraction Point	Brine Volume (m^3)	Pumping (days)	Average Pumping Rate (m^3/d)	K Production Concentration (mg/L)			K Mass Produced (kt)	SO_4 Mass Produced (kt)	K_2SO_4 Mass Produced (kt)
				Min	Max	Ave			
Ten Mile Production Bores	103,859,143	10,942	1,124	5,084	10,686	8,078	785	2,252	1,749
Ten Mile Trench Pumps	28,251,441	9,887	850	3,371	9,385	7,037	205	598	457
Sunshine Production Bores	226,355,423	10,396	831.94	2,500	7,414	5,225	961	2,778	2,141
Sunshine Trench Pumps	55,491,554	9,356	1,636	2,500	7,513	6,305	351	964	782
						Sum of Mass (Mt)	**2.30**	**6.60**	**5.13**

Based on the methodology outlined above, the Proved and Probable Reserve estimates are detailed in Table 3 respectively.

Table 3 – Ore Reserves

Aquifer Type	Brine Volume (10^6 m^3)	K (mg/L)	K Mass (Mt)	SO_4 (mg/L)	SO_4 Mass (Mt)	K_2SO_4 Mass (Mt)
Production Bores	119	6,207	0.74	17,945	2.14	1.65
Total Proved Reserve	119	6,207	0.74	17,945	2.14	1.65
Lake Surface Sediments	212	4,755	1.01	13,669	2.90	2.25
Production Bores	83	6,713	0.56	18,867	1.57	1.24
Total Probable Reserve	295	5,306	1.57	15,129	4.46	3.49
Total Ore Reserve	**414**	**5,565**	**2.30**	**15,940**	**6.60**	**5.13**

Financial Outcomes, Assumptions and Evaluation

Kalium Lakes has considered two financial cases below and in Table 4.

1. **Base Case:** A phased ramp-up development scenario, starting with a commercial demonstration scale 82ktpa SOP operation, before ramping up to a 164ktpa full scale SOP production facility with a mine life of 30 years based on Ore Reserves (83%), Indicated Mineral Resources (11%) and Inferred Mineral Resources (6%) (Figure 5).

2. **Bank Finance Case:** As financial institutions will only consider initial product development parameters this case reflects a constant 82ktpa SOP production facility with a mine life of 50 years based on 86% Reserves and 14% Indicated Mineral Resources (Figure 6).

A discounted cash flow analysis (DCF) was used to calculate key project valuation indicators for the project, in particular, the Net Present Value (NPV), Internal Rate of Return (IRR) and Earnings Before Interest, Taxation, Depreciation, and Amortisation (EBITDA). NPV, IRR and payback periods are measures of the return that are generated based on the applied assumptions. An 8% discount rate (post–tax, nominal) was used for NPV calculations based on a Weighted Average Cost of Capital (WACC) that reflects likely debt margins. A 2% inflation factor is used. The DCF was modelled on a quarterly basis in nominal terms, referenced to CAPEX and OPEX developed in Australian dollars (A$). The project was analysed on an unleveraged (100% equity) basis.

A detailed SOP market study was commissioned by KLL and provided by CRU in September 2018, this has been used as the basis for the commodity price, forecasted US$606/t nominal average LOM SOP sales at $A/$US exchange rate of 0.73 under the Base Case. CRU estimates that CFR Australian prices in the first year of full production (FY2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.

Utilising these Cases, the Kalium Lakes position on the existing producer cost curve is shown in Figure 7.

Figure 5 – Base Case 30 Year Mine Plan – 164ktpa SOP

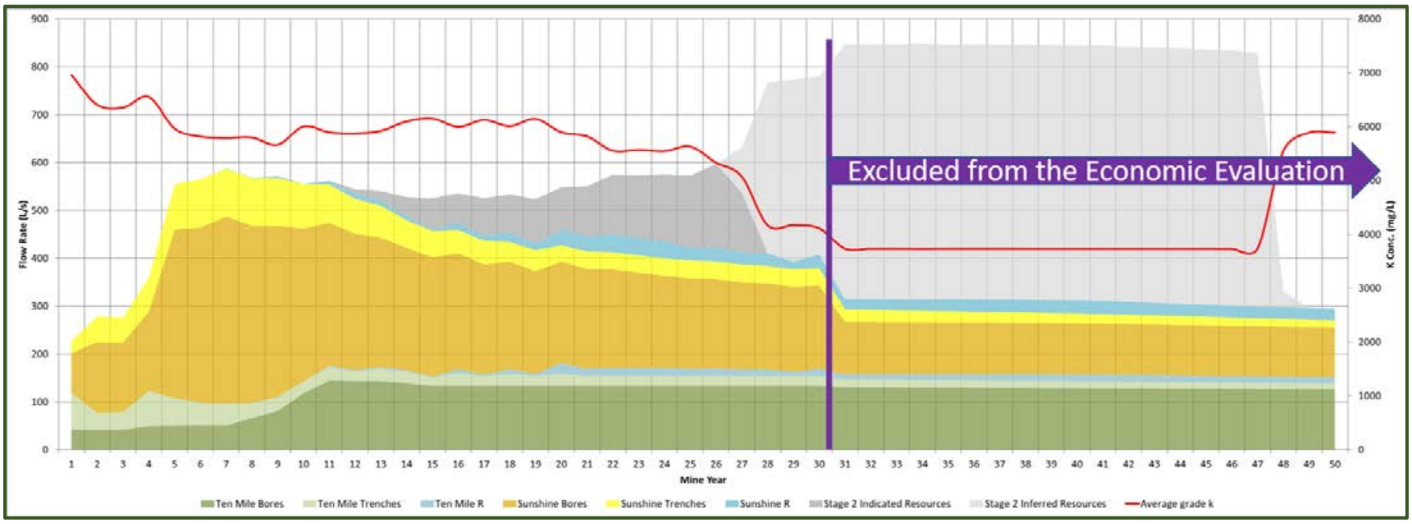


Figure 6 – Bank Finance Case 50 Year Mine Plan – 82ktpa SOP

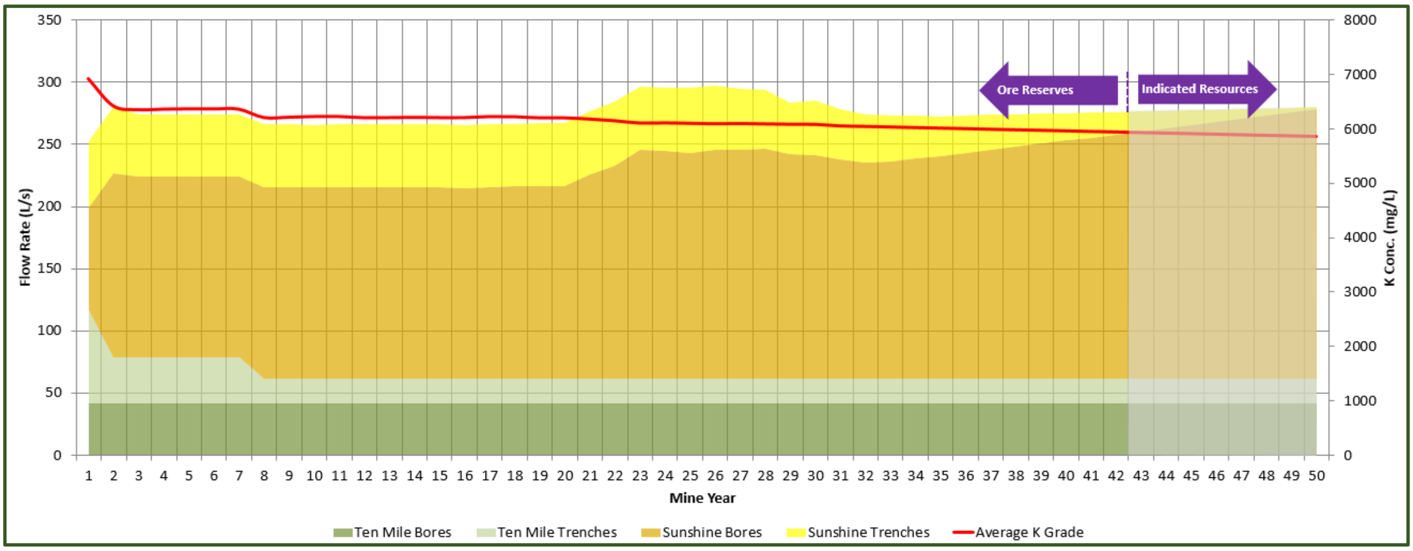


Table 4 – Financial Evaluation Outcomes, Assumptions and Evaluation

Description	Production Scenario Unit	Base Case 164 ktpa SOP	Bank Finance Case 82 ktpa SOP
Average LOM Realised Sales Price [6]	US$/t SOP	**606**	643
Exchange Rate	A$:US$	**0.73**	0.73
Assumed Life of Mine	years	**30 [7]**	50 [8]
LOM SOP Produced	Tonnes	**4,664**	4,270
Project NPV$_8$ (Pre-tax, nom) [9]	A$M	**575**	361
Project NPV$_8$ (Post-tax, nom) [9]	A$M	**347**	217
IRR (Pre-tax)	%	**20.4%**	18.5%
IRR (Post-tax)	%	**16.5%**	14.9%
LOM Revenue	A$M	**5,689**	6,876
LOM OPEX Cash Cost FOB [10]	A$/t SOP	**231 [11]**	284 [12]
LOM OPEX	A$M	**1,532**	2,141
Initial CAPEX	A$M	**160**	160
LOM CAPEX (incl. Sustaining)	A$M	**491**	308
LOM Royalties [13]	A$M	**130**	155
LOM Corporate Tax	A$M	**956**	1,092
LOM Free Cash Flow (pre-tax)	A$M	**3,045**	3,555
Free Cash Flow (pre-tax)	A$M p.a.	**108**	75
LOM Free Cash Flow (post tax)	A$M	**2,069**	2,463
Free Cash Flow (post tax)	A$M p.a.	**76**	53
LOM EBITDA	A$M	**3,487**	3,838
EBITDA (average)	A$M p.a.	**116**	77
EBITDA Margin	%	**61.3%**	55.8%
CAPEX / EBITDA (average p.a.)	x	**0.14**	0.08
Initial Payback Period (pre-tax) [14]	Years	**7.0**	6.3
Initial Payback Period (post-tax) [14]	Years	**8.3**	7.8

[6] Based on CRU forecast US$606/t average LOM SOP under the Base Case (US$643/t under the Bank Finance Case). CRU estimates that CFR Australian prices in the first year of full production (FY2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.
[7] Refer to Cautionary Statement - The Base Case mine plan comprises Ore Reserves (83%) and Indicated Mineral Resources (11%), it is partly based on Inferred Mineral Resources (6%). No Exploration Target brine has been included in the assumed life of mine or economic evaluation of the project. Refer to the cautionary statement in page 3 of this announcement. See Figure 5.
[8] Refer to Cautionary Statement - The Bank Finance Case mine plan comprises 86% Ore Reserves and 14% Indicated Mineral Resources. See Figure 6.
[9] NPV as at construction start, Q3 CY2018; a 2% inflation factor used; WACC calculation = 8% Discount Rate.
[10] Life of Mine OPEX Cash Cost FOB includes all mining, processing, site administration, product haulage to port and ports costs, but excludes head office corporate costs, sustaining costs, royalties and taxes.
[11] Bank Finance Case Assume BOO Power Station for first five years.
[12] Base Case Assumes BOO Power Station for first five years and gas pipeline installed from Year 6 onwards.
[13] A WA Royalty Rate = A$0.73/t SOP; Native Title Royalty Rate = 0.75% of Mine Gate; Founders' Royalty = 1.9% gross revenue.
[14] Calculated from first production date. For the phased expansion, the payback periods shown are inclusive of ramp up to full production.

Figure 7 - CRU 2021 SOP project cost curve including Kalium Lakes ($/t)

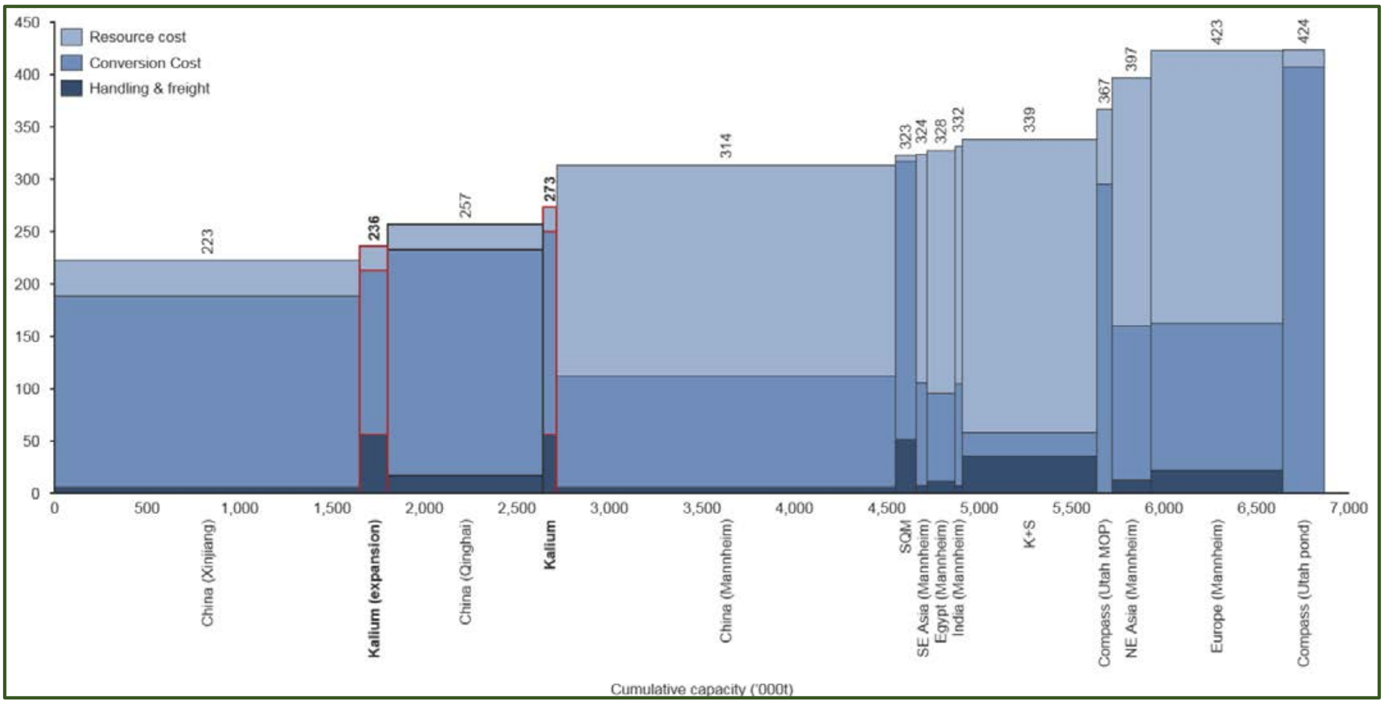
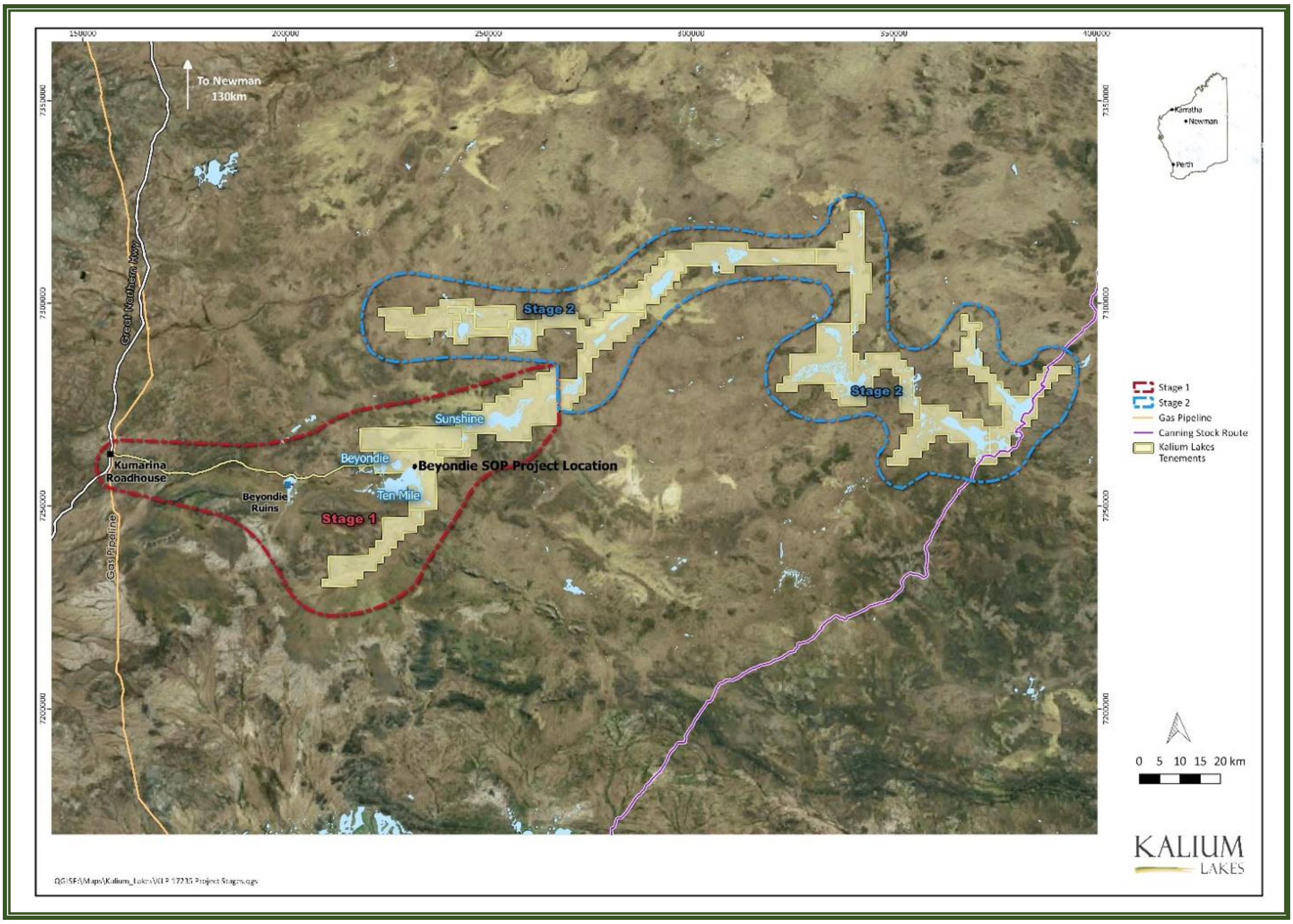


Figure 8 - Stage 1 and Stage 2 Footprints - Beyondie Sulphate Of Potash Project



Compliance Statement

The information in this document that relates to Exploration Targets, Exploration Results, Mineral Resources, Ore Reserves and Production Targets have been extracted from the report(s) listed below.

- 13 September 2018: Progressing NAIF Financial Support Decisions.
- 5 September 2018: Clarification Announcement.
- 4 September 2018: Significant Resources Upgrade - Beyondie SOP Project.
- 31 August 2018: Mining Proposal and Mining Tenure Granted.
- 23 July 2018: German Government Progresses Credit Guarantee Scheme.
- 21 July 2018: Offtake Terms Sheet signed with K+S.
- 7 June 2018: Beyondie SOP Project Mining Leases Granted.
- 28 May 2018: EPA Minor Preliminary Works Consent.
- 3 May 2018: BFS Exploration Drill Program Complete.
- 10 April 2018: CFO Transition and Financing Update.
- 22 March 2018: Pilot Pond Update and Harvest Trials.
- 27 February 2018: Purification Plant Recovery Optimisation.
- 8 February 2018: Environmental Approvals Update.
- 18 January 2018: Second Native Title Agreement Signed.
- 3 October 2017: Pre-Feasibility Study with Maiden Ore Reserve Confirms Low Cost, Long Life and High Margin Beyondie SOP Project (Including the attachment, JORC (2012) and NI 43-101 Technical Report, compiled by German Potash Experts and Competent Persons, K-UTEC AG Salt Technologies (K-UTEC)).
- 27 July 2018: Scoping Study Completed with Maiden Resource and Exploration Target for the Carnegie Potash Project.

The report(s) are available to be viewed on the website at: www.kaliumlakes.com.au

Kalium Lakes confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, Ore Reserve Estimates, Exploration Targets or Production Targets, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Competent Persons Statement

The information in this ASX announcement and the accompanying Report that relates to Exploration Targets, Exploration Results, Mineral Resources and Ore Reserves is based on information compiled by Thomas Schicht, a Competent Person who is a Member of a 'Recognised Professional Organisation' (RPO), the European Federation of Geologists, and a registered "European Geologist" (Registration Number 1077) and Anke Penndorf, a Competent Person who is a Member of a RPO, the European Federation of Geologists, and a registered "European Geologist" (Registration Number 1152).

Thomas Schicht and Anke Penndorf are full-term employees of K-UTEC AG Salt Technologies (K-UTEC).

K-UTEC, Thomas Schicht and Anke Penndorf are not associates or affiliates of Kalium Lakes or any of its affiliates. K-UTEC will receive a fee for the preparation of the Report in accordance with normal professional consulting practices. This fee is not contingent on the conclusions of the Report and K-UTEC, Thomas Schicht and Anke Penndorf will receive no other benefit for the preparation of the Report. Thomas Schicht and Anke Penndorf do not have any pecuniary or other interests that could reasonably be regarded as capable of affecting their ability to provide an unbiased opinion in relation to the Beyondie Potash Project.

K-UTEC does not have, at the date of the Report, and has not had within the previous years, any shareholding in or other relationship with Kalium Lakes or the Beyondie Potash Project and consequently considers itself to be independent of Kalium Lakes.

Thomas Schicht and Anke Penndorf have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Thomas Schicht and Anke Penndorf consent to the inclusion in the Report of the matters based on their information in the form and context in which it appears.

Cautionary Statement Regarding Forward-Looking Information

Statements regarding plans with respect to the Company's mineral properties may contain forward looking statements. Statements in relation to future matters can only be made where the Company has a reasonable basis for making those statements. This announcement has been prepared in compliance with the current JORC Code 2012 Edition and the current ASX Listing Rules. The Company believes it has a reasonable basis for making the forward-looking statements, including any production targets, based on the information contained in the announcement and in particular the JORC 2012 and NI 43-101 Technical Report - Bankable Feasibility Study.

All statements, trend analysis and other information contained in this document relative to markets for Kalium Lakes, trends in resources, recoveries, production and anticipated expense levels, as well as other statements about anticipated future events or results constitute forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Forward-looking statements are subject to business and economic risks and uncertainties and other factors that could cause actual results of operations to differ materially from those contained in the forward-looking statements. Forward-looking statements are based on estimates and opinions of management at the date the statements are made. Kalium Lakes does not undertake any obligation to update forward-looking statements even if circumstances or management's estimates or opinions should change. Investors should not place undue reliance on forward-looking statements.

Kalium Lakes Limited

ABN: 98 613 656 643
ASX: KLL
Ordinary Shares on Issue: 169,793,465

Board of Directors:

Mal Randall	Non-Executive Chairman
Brett Hazelden	Managing Director
Rudolph van Niekerk	Executive Director
Brendan O'Hara	Non-Executive Director

Chief Financial Officer and Joint Company Secretary: Christopher Achurch

Joint Company Secretary: Gareth Widger

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JORC Code, 2012 Edition – Table 1

Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Brine samples were obtained during drilling from prolonged airlift yields and collected at the cyclone. These samples are interpreted to come from the zone above the drilling depth, although the possibility of downhole flow outside of the drill rods from shallower zones cannot be excluded. These mixed samples were only used for estimation of the inferred resource calculation. • Brine samples during test production bore pumping were obtained from the end of the discharge line and represent an average composition of groundwater pumped from the screened section of the production bore. • Brine samples from trench pumping were obtained from the end of the discharge line and are an average representation of the aquifer zone the trench intercepts. • The sampling program involved the collection of brine samples and samples of the aquifer material during drilling to define the brine and geological variation. • Lithological samples at 1 m intervals were obtained by a combination of methods including reverse circulation, aircore and auger. • Brine was obtained during drilling from the cyclone of the drill rig during airlift yields. These samples are interpreted to come from the zone above the drilling depth, although the possibility of downhole flow outside of the drill rods from shallower zones cannot be excluded. • Sonic drill core was retrieved to obtain representative samples of the sediments that host brine to evaluate the porosity and hydraulic conductivity of the sediments and calibrate the geophysical tools being used. Core was extruded from the sonic core barrel and sealed within plastic core bags and placed in metal core boxes for storage. • All sonic holes were geophysically logged with the methods listed in this report.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Reverse circulation (140 mm diameter), aircore (90 mm and 85 mm diameter) and sonic (150 mm) drilling has been utilised for all exploration and monitoring bore holes drilled during this report. • HQ diamond tails were used on a number of deep reverse circulation holes to penetrate bedrock stratigraphy. • All shallow lake surface sediment holes were drilled with auger techniques. • All production bores were drilled using conventional mud rotary, casing advancer or sonic techniques. • All holes were drilled vertically.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Geological sample recovery was high, in all lithologies, except fractured bedrock which had lost circulation of drill cuttings in the fracture zone and only returned minor chip samples back to the surface. • Brine recoveries were high for reverse circulation drilling in the productive aquifer zones (Surficial sediments, palaeochannel sand and bedrock). The low transmissivity clay yielded very low volumes, with more sporadic sampling resulting, generally occurring near the base of the formation. • Brine recoveries during aircore drilling were minimal due to the nature of the drilling technique. • Airlifts were generally of prolonged duration to obtain representative samples, however water flowing down from the surficial aquifer during deeper airlift yields cannot be ruled out. • Sonic core was recovered in variable lengths between 1.5 m and 6 m core runs depending on the ground conditions. The length of the run was marked on each of the core boxes. • Sonic core recovery was generally high with some expansion of the stiff lacustrine clays observed during the drilling process resulting in excess core.
Geologic Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• All drill holes were geologically logged by a qualified geologist. • All geological samples collected during all forms of drilling are qualitatively logged at 1 m intervals, to gain an understanding of the variability in aquifer materials hosting the brine. • Geological logging and other hydrogeological parameter data is recorded within a database and summarised into stratigraphic intervals. • Solid samples are collected, washed and stored in chip trays for future reference. • Core was logged and core plugs selected for laboratory testing by a senior geologist. • Downhole geophysical methods (Resistivity, spectral gamma and BMR) were used to assist with lithological logging. • Geological logging and other hydrogeological parameter data is recorded within a database.
Subsampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/ second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• During drilling all brine was sampled directly from the cyclone during prolonged airlift yields. This provides the most representative sample recovered from the inside return, i.e. from the bit face. • Aircore drilling with low pressure air aims to collect a brine sample that is representative of the interval immediately above the bit face. However, this method does not exclude the potential for downhole mixing of brine. The fact that the low transmissivity clays were slow to yield brine, while underlying permeable intervals did yield brine with ease provides confidence that representative samples with depth have been obtained. • Samples from the pumping tests were taken in intervals of between one per day or every two days. • All samples collected are kept cool until delivery to the laboratory in Perth. • Brine samples were collected in 500 ml bottles with little to no air. • Field brine duplicates have been taken at approximately 1 in 11 intervals.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• Elemental analysis of brine samples are performed by Perth laboratory, the Bureau-Veritas (BV) (formerly Amdel/Ultrace) mineral processing laboratories. BV is certified to the Quality Management Systems standard ISO 9001. Additionally, they have internal standards and procedures for the regular calibration of equipment and quality control methods. • Laboratory equipment are calibrated with standard solutions. • Analysis methods for the brine samples used are inductively coupled plasma optical emission spectrometry, Ion Selective Electrode, Inductive coupled plasma mass spectroscopy , volumetrically and colourimetrically. • The assay method and results are suitable for the calculation of a resource estimate. • Repeat assays and reference standards have been undertaken and indicate an average error of less than 5%. • BMR tool calibration was completed by Qtec the developers of the BMR tool utilised (BMR-60). The diameter of investigations was 280 mm, the signal to noise ratio at this depth of investigation was deemed acceptable. • BMR T2 calibration and cut-offs have been discussed in the report.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Multiple samples have also been taken from nearby locations during sampling to verify assay results and sampling methods. • Assays have been completed on samples taken up to two years apart indicating consistent grade. • Assays have been completed on samples obtained from pumping of the aquifer units on a daily basis of up to 29 days at a single location to determine variability of grade during pumping. • Field parameters of SG and total salinity have been taken. • Data concerning sample location was obtained in the field, data entry then performed back in the Perth office to an electronic database and verified by Advisian. • Assay data remains unadjusted. • Sonic cores are twin holes of exploration air core holes.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Hole location coordinates obtained by a qualified mines surveyor using a Trimble RTK GPS with an accuracy of +/- 25mm in X,Y and +/- 50mm in Z. • Regional auger holes have been surveyed using a hand held GPS. • The grid system used was MGA94, Zone 51.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Drill spacing is discussed in the report. • The drill holes are not on an exact grid due to the irregular spatial nature of the deep targets and access issues when traversing the lakes.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Not applicable, considering the deposit type. • All drill holes are vertical given the estimated flat lying structure of a salt lake.

Criteria	JORC Code explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• Samples are labelled and transported by KLL personnel to Perth. They are then hand delivered to BV laboratories by KLL personnel.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• Advisian has conducted a review of works undertaken previously by AQ2 and K-UTEC. • A data review is summarised in the Mineralisation and Resource estimate section of this report. • No audits were undertaken.

Section 2 – Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The BSOPP is 100% owned by Kalium Lakes Limited (KLL or Kalium Lakes) with project tenure held under granted exploration licences: E69/3306, E69/3309, E69/3339, E69/3340, E69/3341, E69/3342, E69/3343, E69/3344, E69/3345, E69/3346, E69/3347, E69/3348, E69/3349, E69/3351, E69/3352. • KLL also has granted Mining Licences: M69/145 and M69/146. • KLL also has granted Miscellaneous Licences: L52/162, L52/186; L52/187, L52/187, L52/193, L69/28, L69/29, L69/30, L69/31, L69/32, L69/34, L69/35, L69/36. • KLL has a land access and mineral exploration agreement, and a Mining Land Access Agreement with the Mungarlu Ngurrarankatja Rirraunkaja (MNR) Aboriginal Corporation over tenures E69/3339, E69/3340, E69/3342, E69/3343, E69/3344, E69/3345, E69/3348, E69/3349 and E69/3351. • KLL has an exploration and prospecting deed of agreement, and a Mining Land Access Agreement with the Gingirana Native Title Claim Group over tenures E69/3306, E69/3309, E69/3341, E69/3346, E69/3347, E69/3348, E69/3351 and E69/3352. • MNR and Gingirana have provided letters of Consent to the grant of Mining Leases and Miscellaneous Licences.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• There has been no previous exploration for SOP at the BSOPP by third parties.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The deposit is a brine containing potassium and sulphate ions that can form a potassium sulphate salt. The brine is contained within saturated sediments below the lake surface and in sediments adjacent to the lake. The lakes sit within a broader palaeovalley system that extends over hundreds of kilometres, this system has been eroded into the North-West Officer Basin sediments.
Drillhole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* • *easting and northing of the drillhole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* • *dip and azimuth of the hole* • *downhole length and interception depth* • *hole length.*	• Information has been included in drill collar tables and bore logs appended to this report or previously reported. • All holes are vertical.

Criteria	JORC Code explanation	Commentary
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No grade cut-offs have been used. • Data aggregation comprised calculation of volume weighted average potassium, sulphate and magnesium concentration of all Specific Yield and Total Porosity within a Resource area for a given geological unit (i.e. All palaeochannel sand and silcrete zones per area were aggregated and summarised as a volume weighted average).
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').*	• Not applicable.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Refer to figures/tables in this announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All pertinent results have been reported.

Criteria	JORC Code explanation	Commentary
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Approximately 1,105 km of gravity and passive seismic geophysical surveys have been completed. The tests were performed to define the deepest parts of the palaeochannel, with traverses undertaken across the channel, extending from 10 Mile Lake to T-Junction Lake. • Additionally, NanoTEM geophysical surveys have been completed in 2017 to distinguish between highly conductive and less conductive areas to support the passive seismic and gravity interpretations. • XRF and XRD analysis of the lake sediments has provided a breakdown of the minerals and their percent components of the lake sediments. • Metallurgical and mineral processing test work has included bench scale solar evaporation tests, milling, flotation and conversion. The results of the test work have enabled preliminary process plant design for the Beyondie brine. • Other companies have regionally performed exploration for similar brine deposits.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• More extensive drilling may confirm the occurrence of basal sands and sandstones throughout the whole palaeodrainage system to the East of the Stage 1 area.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• Cross-check of laboratory assay reports and database. • Review of sample histograms used in Resource models. • QA/QC analysis and protocols as described in Section 10.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Multiple site visits have been undertaken throughout the field program that has verified the data obtained. • All other site visits are discussed in Section 8.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.*	• The resource is contained within Cenozoic Palaeovalley stratigraphy and the underlying fractured and weathered bedrock. • The geological model for the indicated and measured resources is well constrained. Drill hole coverage is relatively consistent for the scale of the project, and the deposit is not structurally complex; it is alluvial fill in a palaeovalley depo-centre, within a shallow dipping large sedimentary basin.

Criteria	JORC Code explanation	Commentary
	• *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The geological model for the fractured bedrock is less certain, the continuity and structural controls on rock fracturing are not well understood, but can be mapped in geophysical responses and is considered to be associated with the unconformity between formations and structural orientation. • The geological interpretation informs the volume of the resource. • The nature of aquifer properties in different geologies does affect grade, where transmissivity appears to be a minor diluting factor in the highest areas of the brine grade. In addition the bedrock appears to be elevated in potassium which likely to be a source of the resource. • The paleo-topography is key to the determining the aquifers with the highest transmissivity and predicting their extent within the vicinity of the surficial lakes where brine grade, specific yield and transmissivity are highest.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The length of the mineral resource is defined by the company's tenement boundaries which have been fit to the margins of the salt lake/palaeodrainage system. Where the tenement boundary is wider than the palaeochannel system, the palaeochannel boundaries have been defined by geophysical surveys (gravity, passive seismic and TEM). • The thickness of the hosting aquifer holding the brine mineral resources has been based on the groundwater elevation (measured as depth below surface) and a sediment thickness above the impermeable bedrock. • The mineral resource extends laterally outside of KLL tenement boundaries in some cases, notably at 10 Mile Lake. • The volume of brine that can be abstracted has been based on a combination of aquifer test pumping and core calibrated geophysical techniques using Borehole Magnetic Resonance (BMR).
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.*	• Modelling procedures and parameters are discussed in Section **Error! Reference source not found.**. Additional details are presented below were relevant. • Potassium, sulphate and magnesium concentration point data were separated by project area (10 Mile Lake and Lake Sunshine) and imported into the leapfrog modelling domain. • Sand and silcrete zones have been defined by the presence of either one of these facies in the lithological log, these maybe of weathered bedrock origin or transported origins. • Resource zones were derived in GIS software using drill hole spacing and areas of measured drawdown from extended duration aquifer testing. • The block model cell sizes took into account the density of the sample spacing within the Measured Resource zones so that on average of at least one sample was attributed to each block in the x and y directions. The block spacing of the z direction considered the vertical variability of the brine within lithologies, an increase in grade with depth is observed in each lithology therefore high resolution z component (2.5 to 5 m) was selected to allow for pinching geology, so this trend in grade variability can be accurately represented. Automatic sub-blocking was used where complex geological contacts are present or greater resolution of sampling was available. • Volumetric weighted average of SOP grade per Resource Zone was calculated where multiple zones are determined (i.e. upper sand and basal sand zones have been merged into a sand and silcrete group by volumetric weighted average to determine SOP grade). • Selective mining units have not been considered.

Criteria	JORC Code explanation	Commentary
	• *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• There are no assumptions about correlation between variables. • No cut-off grade has been used.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages of potassium have been estimated on a dry, weight volume basis (%w/v). For example, 10 kg potassium per cubic metre of brine.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• No cut-off grade has been used in this Resource update so that a longer life of mine can be sustained during the in-progress Reserve update.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• The mining method will be recovery of brine from the underground salt lake by submersible bore pumps targeting the deeper aquifer and shallow trenches targeting the surficial aquifer. • Though specific yield and total porosity provide a measure of the volume of brine present in an aquifer system, hydraulic conductivity and transmissivity controls are the main factor in defining Mining factors and are discussed in the Reserve. • It is not possible to extract all the contained brine with these methods, due to the natural physical dynamics of abstraction from an aquifer. • The Reserve is required to quantify the economically extractable resources.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Chemical assays of brine waters suggest a similar chemical composition to other exploration SOP projects in Western Australia. Feasibility studies abroad have demonstrated that SOP recovery is possible with conventional mineral processing techniques. • Metallurgical test work on brine water has been carried out in both small scale lab benchtop trials and larger scale evaporation pilot ponds with confirmed results to the efficacy of standard metallurgical recovery methods.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of*	• The project is expected to have a limited, localized environmental impact, with minor impacts on surface disturbance associated with excavation, adjacent "fresher" aquifer systems, stockpiling of salt by-products, stygofauna and potentially groundwater dependent vegetation. • The project is located in a very remote area and does not expect to contain significant quantities of waste tailings. • Acid mine drainage is not expected to be an issue.

Criteria	JORC Code explanation	Commentary
	these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Tonnages of potassium have been estimated on a dry, weight volume basis(%w/v). For example, 10 kg potassium per cubic metre of brine. • As the resource is a brine, bulk density is not applicable. • The resource has been calculated from Sy (drainable porosity) determined using a combination of aquifer testing and laboratory calibrated geophysical methods.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• At this stage of the project an exploration target, inferred, indicated and measured resource are defined. The CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines and JORC code were used to determine these confidence categories.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• None
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*	• The mineral resource contains aqueous potassium, sulphate and other ions, existing as a brine in a sub-surface salt lake. The current JORC code (2012) deals predominantly with solid minerals, and does not deal with liquid solutions as a resource. The relative accuracy of the stated resource considers the geological uncertainties of dealing with a brine. See also: CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines, Prepared by the Sub-Committee on Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines. • Kalium Lakes is part of the Association of Mining and Exploration Companies (AMEC) Potash Working Group which has developed guidelines to define a brine Mineral Resource and Ore Reserve, in order to increase the certainty, clarity and transparency in reporting of these resources. • Specific Yield (Sy) estimates to determine drainable brine volume in this Resource estimate have used industry first techniques. However, these techniques are industry best practice in the petroleum industry for estimating Reservoir volumes of all components of a petroleum reservoir therefore are considered to be "industry leading". Traditional core derived analysis is point based, whilst a continuous log provides a far better means to deriving average properties for individual lithologies.

Criteria	JORC Code explanation	Commentary
	• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• BMR technology has only recently been made financially economical in the brine resource industry by the use slim-line tools with low sign to noise ratios and appropriate depths of investigation.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in section 2 and 3, also apply to this section.)

Criteria	Explanation	Comments
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• See Resources table above (JORC Table 1, Section 3 – Estimation and Reporting of Mineral Reserve), the modelling process and Mineral Reserve estimate are also detailed above. • Indicated and Measured Resources are reported inclusive of Ore Reserves. • No inferred resources are included in the Reserve estimate.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Three site visits by the Competent Persons, the first during August 2015, the second during June 2017 and the third during January/February 2018 . Details of site visit outcomes are described in the relevant site visit reports [7], [11], [19].
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• The Ore Reserve Estmate has been completed in conjunction with a Bankable Feasibility Study with a +/-15% level of accuracy. • A mine plan has been developed utilising all reserves and resources for the mine production scenarios to support the BFS.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• A cut off grade of 2,500 mg/L has been applied to the Reserve. • The solute transport model has been used to predict the grade over the life of mine from each abstraction point, where grades at the abstraction point diminishes below the cut-off grade the production is omitted from the Reserve.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters*	• The volume of convertible resources has been determined by detailed numerical groundwater flow and solute transport modelling. Modelling has been completed to the Australian Groundwater Modelling Guidelines [14] using the FeFlow modelling package [15]. • The construction of the numerical groundwater model is based on the geological model derived from drill data. Drill spacing is such to have high confidence in geology and brine distribution in the resource areas.

Criteria	Explanation	Comments
	including associated design issues such as pre-strip, access, etc. • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• Calibration of the groundwater model to steady state and transient conditions (test pumping data from trenches and bores and trial pond pumping) using an iterative process of manual and automated calibration to reduce statistical residual error between observed data and simulated data. • Sensitivity analysis to “compare model outputs with different sets of reasonable parameter estimates, both during the period of calibration (the past) and during predictions (in the future)” [14]. • Predictive modelling of the resource recovery by adding production bores within the deep aquifer and extending trenches over the lake surface and simulating pumping rates over the life of mine (30 years). • Concentration of potassium has been directly input to the numerical model from the block model and simulated using conservative transport parameters. • Abstraction is mapped using capture zone analysis, any abstraction originating from outside of the Resource zone is factored out of the Reserve calculation. • Trial lake surface trenches and deep production bores have been tested in the field and proved successful in abstraction of brine. The construction methodology, design and cost determined from the field studies has been adopted for the feasibility study. • Well efficiencies have been taken into account when simulating abstraction rates. An average well efficiency of 60% is derived for the abstraction assessment. • Grade control in brine resources relates to the target grade of brine delivered to the concentor ponds. Flexibility in the infrastructure design is considered the grade control management measures. • Inferred Resources are not included in the Reserve estimate. Inferred Resources make up the later part of the mine plan. • Hydraulic models have been developed to ensure brine pumping can be undertaken with the selected pipes and pumps in the study. • New abstraction bores, headworks, power supply, pumping, telemetry and monitoring have been incorporated in the design.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• The metallurgical process is covered broadly through the following stages; Evaporation pond crystallization and harvest of KTMS; Pre-treatment of harvested KTMS; conversion of KTMS to Schoenite; Flotation; Cooling crystallization; conversion of Schoenite to SOP; Dewatering; Drying and Compaction. The process is considered appropriate given the high potassium brine based nature of the mineralisation. • For 82 ktpa SOP, the project will require: 36 extraction bores, 58 km of trenches, 7.9 – 9.4 GL/a brine flow, 445 hectares of evaporation ponds. For 164 ktpa SOP, the project will require: 41 extraction bores, 58 km of trenches, 10.9 – 17.8 GL/a brine flow, 1,118 hectares of evaporation ponds. Both throughputs include: 8,766 evaporation pond operating hours per year, 94% evaporation pond recovery, 1 mm sealed HDPE lined ponds, 7,500 purification plant operating hours and 77% purification plant recovery. • The metallurgical process proposed is similar to that used by major existing SOP producers in Utah(Compass Minerals), Luobupo (SDIC), Salar de Atacama(SQM). • Ten discrete metallurgical test phases were undertaken, utilising a five different industry recognised consultants. Test phases varied from small bench scale evaporation tests, to 10 hectare site pilot pond works and pilot plant testing by K-UTEC. • There are no elements in the BSOPP brine that are likely to be deleterious.

Criteria	Explanation	Comments
		• Metallurgical test work has successfully produced SOP of sufficient product purity. Metallurgical test work included the complete process from treatment of feed brine to final production of SOP. • Initially, a total volume of 2m^3 of partially evaporated brine at a density of 1.28 g/cm^3 was sent to K-UTEC's facilities in Sondershausen, Germany for preliminary process test work, see **Error! Reference source not found. Error! Reference source not found.**. This was followed up with several tonnes of crystallized KTMS produced at the BSOPP's pilot pond for K-UTEC's pilot plant and BFS optimisation works, see **Error! Reference source not found.**. More than 10,000 tonnes of salts have been produced so far, including 3,160 tonnes of mixed potassium salts that can be processed to generate approximately 520 tonnes of SOP, see **Error! Reference source not found.**. The brine used to produce these bulk samples is from the 10 Mile Lake area, and is a mixture of the surficial and palaeochannel aquifers. • Hypersaline potash brine is not defined by any specifications.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• KLL has engaged with key stakeholders such as the Office of the Environmental Protection Authority (OEPA) Terrestrial Branch, DPaW regional experts and Traditional Owners. The issues raised that may represent project constraints and the management actions have been identified and potential management actions are being implemented. • A biological study programme occurred during 2015-2018 and enabled project planning and impact assessment to commence. The study programme entailed a Level 2 survey for flora and vegetation, fauna and lake fringing vegetation. At this stage, subterranean fauna is not a significant impact on the basis of a maximum allowable drawdown of 50% of the freshwater aquifer plus and adaptive management plan to rotate the use of bores of the 4 fresh water areas. • Early works approvals are in place from the Environmental Protection Authority of Western Australia (EPA) and Department of Mines, Industry Regulation and Safety (DMIRS), with formal approval for the full-scale project anticipated to be in place during Q4 2018. The bitterns comprising $MgCl^2$ / $MgSO_4$ are proposed to be recovered as Magnesium salts and may be sold if viable. If excess to market requirements they will be placed with the excess halite on 10 Mile Lake or used for dust suppression around the site.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• Infrastructure at the mine area, including workshops, warehousing and power generation, will be located within finite footprints and granted exploration tenements, adjacent to the processing plant, to enable control of access and easy operability and maintainability. Ancillary infrastructure is situated within the tenements at locations to provide suitable access and drainage, whilst preventing inundation during or following a storm event. • The central site administration area is located where the access road enters the site from the west. This area comprises the main administration building, emergency services, laboratory, communications hub, general workshops, stores and fuel farm. • Fuel for power generation will be supplied in LNG gas bullets for the initial development, or eventually via a 78 km gas spur to be built from the Goldfields Gas Pipeline (GGP) for production levels exceeding 82 ktpa. Access to the Goldfield Gas Pipeline located approximately 78 km to the west of the proposed mine site is achievable and KLL have commenced discussions with APA to confirm tie in and pipeline extension requirements and costs. • The accommodation village site is located between the proposed process plant and the northern bank of 10 Mile lake, isolated from plant noise and lake surface water by a small elevated hill. The village includes accommodation, recreational facilities such as a sports court and gym, waste water

Criteria	Explanation	Comments
		treatment, potable water supply and a dedicated power generator. The village will be constructed as part of an Early Works package to provide accommodation for the construction workforce. The accommodation village will be designed to provide housing and messing for ~60 people at the project area. • Raw water will be pumped from water supply bores located within an area extending West and South of the process plant site. Approximately 1.5-2 GL/a of raw water will be required for the process plant and potable water for 164 ktpa SOP production. Each bore pump will be powered by its own diesel generator through a local control panel, with a wireless telemetry link to the central control system at the plant. Each system will be installed in a fenced compound with a self-bunded diesel storage tank sized to allow for sufficient buffer capacity. Above ground HDPE pipelines will transfer water to a central raw water tank located at the process plant. The raw water tank is sized to hold the required water reserve for fire-fighting purposes, available as a priority supply from a separate flange appropriately positioned on the tank and distributed via fire water pumps. A separate flange and raw water pump set will supply raw water to the workshops, process plant area, administration offices, and Emergency Services Area. A separate water storage tank / fire tank will be situated at the village. Fire and general-purpose water will be reticulated in a common system. • Raw (bore) water will be treated to potable water standards at the village and workshop area, by packaged plants consisting of fine filtration followed by reverse osmosis, a chlorine dosing and UV treatment. The filtration will remove fine particles from the raw water, while the cal-hypo chlorine dosing system will disinfect the water to meet the requirements of the Australian Drinking Water Guidelines. • Communications infrastructure will allow a single-channel CB radio envelope along the site access road, with mobile or portable radios operating over a dual-channel, digital mobile radio (DMR) system servicing the main plant and accommodation area and remote borefields. The DMR integrates with the site telemetry system for monitoring of bores. The radio system will also provide a high-speed IP data link to the Telstra 4G network service at Kumarina Roadhouse. A site-LAN will be installed, with access provided via the Wi-Fi network installed as part of the radio system. • A contractor-operated laboratory building will be installed onsite along with the construction of administration buildings, maintenance workshops and warehouses.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*	• The Capital cost estimate was based on the following fundamentals: o Work Breakdown Structure. o Material Take-Offs from designs for construction and fabrication. o Mechanical equipment list, specifications & data sheets. o Electrical equipment load list. o Vehicle list. o Proposals (materials & equipment supply, installation, design & construct, etc.). o Proposals for construction road freight. o Freight estimates based on supply weight / volume requirements per 23t payload trailer (2.4m x 14m). o Direct labour hours and rates build up by first principles. o Benchmarked allowances and factors (minimal).

Criteria	Explanation	Comments
	• *The allowances made for royalties payable, both Government and private.*	o Preferred contracting strategies. o Use of existing knowledge from previous experience information where no other source was available. o Contingency based on capex input confidence and discreet risk modelling. • The capital cost estimate was completed to an accuracy meeting the criteria of The Association for the Advancement of Cost Engineering (AACE) Class 3 estimate accuracy of ±15%. • The BFS has developed an operating cost estimate (OPEX) for the BSOPP with an accuracy better than ±15%. The OPEX includes the operating expenditure required to crystallise, process and transport product to Fremantle and Geraldton Port, and various off-take locations, including shipping to the eastern states of Australia, China, Singapore, the USA and New Zealand. All costs are in 2018 Australian dollars. • The operating cost has been developed around cost elements with the primary activities and items included. The following assumptions have been made associated with operating costs and the base case operating philosophy: o Overall management will be undertaken by KLL. o Owner operated operations for ex-works production. o A Haulage contractor will be engaged to provide all transport of SOP product form the site to the distribution centres in Perth and Geraldton. o Contractor proposals have been received and form the basis of transportation charges, port and shipping charges. o Accommodation villages will be Contractor operated. o FIFO flights for all personnel will be arranged and managed by KLL. o Flights have been based on commercial services between Perth and Newman. o Diesel fuel will be purchased in bulk and distrsibuted by KLL. o Gas will be supplied as Liquid Natural Gas (LNG) by a new lateral tie-in to the Goldfields Gas Pipeline (GGP) near Kumarina roadhouse on the Great Northern Highway (GNH), or as Liquefied Natural Gas (LNG). o Power will be provided via a 5 year Build Own Operate (BOO) contractor. o Carbon tax has been excluded. o Allowances for maintenance down time have been considered by operating unit. o The estimate base date is Q3, 2018. o Escalation of the estimate past the base date has been excluded. o All costs are in Australian dollars (AUD). o An exchange rate of AU$1.00 = US$0.75 has been used during operations where necessary based on Bloomberg Rates. o GST has been excluded. o Contingency has been applied to the Ex-Works and FOB estimates.

Criteria	Explanation	Comments
		o All tonnages are on a dry basis unless otherwise indicated. o WA Royalty Rate – non-beneficiated - A$0.73/t SOP o Native Title Royalty – unable to provide o Founders' Royalty - 1.9% gross revenue
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• Product specifications identified and replicated with metallurgical test work. • Market reports from CRU, Profercy, Greenmarkets, Fertecon and Integer have been utilised to derive the assumption for the SOP price. • A detailed SOP market study was commissioned by KLL and provided by CRU in September 2018, this has been used as the basis for the commodity price, forecasted US$606/t average LOM SOP sales @ $A/$US exchange rate of 0.73. • CRU estimates that CFR Australian prices in KLL's first year of full production (2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• Demand, supply and stock situation determined for SOP by studying recent market reports from CRU, Fertecon, Green Markets, Profercy and Integer. Reports covered consumptions trends and discussions with factors that can likely affect supply and demand into the future. The reports also covered price and volume forecasts based on market trends. • The proposed SOP product meets or exceeds current market accepted specifications. • Offtake Terms Sheet executed with German fertiliser producer and distributor K+S for 100% of Stage 1 production. The Offtake arrangement is subject to the execution of a formal binding offtake agreement and satisfaction of certain conditions precedent, including completion of due diligence by K+S. • Kalium Lakes has signed non binding Letters of Intent with other offtake partners. • A detailed customer and competitor analysis has been included in the CRU marketing study.

Criteria	Explanation	Comments
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• Discounted cash flow analysis (DCF) was used to calculate key project valuation indicators for the project, in particular, the Net Present Value (NPV) and Internal Rate of Return ("IRR"). NPV, IRR and payback periods are measures of the return that are generated based on the applied assumptions. An 8% discount rate (post–tax, nominal) was used for NPV calculations. A 2% inflation factor is used. The DCF were modelled on a quarterly basis in nominal terms, referenced to CAPEX and OPEX developed in Australian dollars (A$). The project was analysed on an unleveraged (100% equity) basis. • The macro assumptions in the financial model are as follows: o Discount Rate (post-tax nominal) – 8% o Corporate Tax Rate - Rate based on ATO guidance – 30% o Depreciation – Straight line o WA Royalty Rate – non-beneficiated - A$0.73/t SOP o Native Title Royalty – unable to provide o Founders' Royalty - 1.9% gross revenue o Mine Life - Variable, subject to production rate o LOM Exchange Rate A$:US$ - $0.73 o A detailed SOP market study was commissioned by KLL and provided by CRU in September 2018, this has been used as the basis for the commodity price, forecasted US$606/t average LOM SOP sales @ $A/$US exchange rate of 0.73. o CRU estimates that CFR Australian prices in KLL's first year of full production (2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP. o NPV ranges and sensitivities determined for key assumptions and inputs including, SOP price, production rate, capital cost, operating cost, foreign exchange, discount rate, recovery rates and construction delays.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• Two Native Title Land Access Agreements have been executed allowing for the consent to the grant of mining leases, ancillary tenure and approvals required for the BSOPP. • The BSOPP tenements were originally applied for by Rachlan Holdings Pty Ltd (Rachlan) with an agreement in place to transfer tenure to KLL as soon as practicable after grant, which has occurred for all granted tenements to date. • All relevant regulatory departments and authorities have been consulted extensively. • Access agreements are in place with all pastoralists and neighbours that will allow construction and development of the project.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory*	• Kalium Lakes has reviewed the legislative requirements and has compiled a register of the environmental, heritage and planning approvals and permits necessary to scope, develop, construct and operate the BSOPP for each development phase. Each phase will require; new specific approvals, or utilise approvals granted in the prior phase, or seek to modify existing approvals. Approvals for the Pilot Scale Development Ponds and Pump Testing are currently in place, inclusive of a 5C dewatering licence for 1.5Gl/pa. See **Error! Reference source not found.** for a detailed list of required approvals and current status.

Criteria	Explanation	Comments
	approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	• Early works approvals are in place from the Environmental Protection Authority of Western Australia (EPA) and Department of Mines, Industry Regulation and Safety (DMIRS), with formal approval for the full-scale project anticipated to be in place during Q4 2018. • Two Mining Leases and 10 Miscellaneous Licences have been granted for the Beyondie SOP Project. • The level of assessment being targeted is known as an Environmental Review, where an Environmental Review Document is prepared and submitted to the WA Environmental Protection Authority (EPA) for assessment under Part IV of the Environmental Protection Act 1986. • Kalium Lakes has undertaken extensive consultation with leading agencies to confirm the approvals that will be required. Based on this consultation Kalium Lakes believes that there are reasonable grounds for Government approvals to be received within the timeframes anticipated in the Bankable Feasibility Study. • Offtake Terms Sheet executed with German fertiliser producer and distributor K+S for 100% of Stage 1 production. The Offtake arrangement is subject to the execution of a formal binding offtake agreement and satisfaction of certain conditions precedent, including completion of due diligence by K+S. • The Company is proposing to fund the project capital expenditure by a combination of up to 60% debt and the residual in equity. • Debt financing is well advanced with initial due diligence completed and Expression of Interest (EOI) Term Sheets received. • The Company estimates that approximately A$42 million of the project capital expenditure is expected to qualify under the German Export Credit Agency (ECA) scheme which has received a positive preliminary assessment decision by the German Government Inter-Ministerial Committee (IMC) and Euler Hermes Aktiengesellschaft (Hermes), the appointed export credit agency that administers the German ECA scheme for the German Government. • Australian Government's Northern Australia Infrastructure Facility (NAIF) has provided written confirmation that the NAIF Board has considered a Strategic Assessment Paper for the BSOPP and has consented to the NAIF Executive continuing its investigation.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• Proved and Probable Reserves have been estimated. • Proved Reserves come from the production bores in the measured zones at Ten Mile and Sunshine deep aquifer. All trench pumps and all other production bores have been allocated to Probable Reserves. Though the lake surface has Measured Mineral Resources for the top 5 m the effects of variable recharge on this zone means that these Resources remain in the Probable category. • 36% of the Probable Ore Reserves have been derived from the Lake Sediments, 64% from production bores. • 24% of the Total Reserves have been derived from the Lake Sediments, 76% from production bores.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The Ore Reserve Estimates was reviewed and audited by the Competent Persons. • The Ore Reserves and the Competent Persons' report was reviewed by Advisian.

Criteria	Explanation	Comments
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• Model sensitivity and predictive uncertainty analysis has been completed on the numerical models to determine the most sensitive parameters of the model and the reliability of the data used to gain an understanding of the relative accuracy of the model predictions. • Highly sensitive uncertainties in the modelling include aquifer recharge and vertical leakage from the lacustrine clay. Modelling has taken a conservative approach to these parameters to ensure the model is representative of the level of understanding of the hydrogeology. • NPV ranges and sensitivities determined for key assumptions and inputs including, SOP price, production rate, capital cost, operating cost, foreign exchange, discount rate and construction delays. • See Section 24 for a list of potential risks.

K-UTEC SALT TECHNOLOGIES

TÜV PROFI CERT ISO 9001 73 100 1022

Technical Report for the
Beyondie Sulphate of Potash Project, Australia
JORC (2012) and NI 43-101
Bankable Feasibility Study

Client: Kalium Lakes Limited
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Sondershausen, 17. September 2018

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EurGeol Anke Penndorf, Qualified Geologist

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Abbreviations

Abbreviation	Full description	Abbreviation	Full description
%	Percent	**km^2**	Square kilometre
°C	Degree Celsius	**KTMS**	Kainite Type Mixed Salt
AEP	Annual Exceedance Probability	**ktpa**	Kilotonnes per annum
Ag	Silver	**K-UTEC**	K-UTEC AG Salt Technologies
Al	Aluminium	**La**	Lanthanum
APHA	American Public Health Association	**Li**	Lithium
ARI	Average Recurrence Interval	**LNG**	Liquified Natural Gas
As	Arsenic	**LOM**	Life of Mine
asl	Above Sea Level	**Lu**	Lutetium
ASX	Australian Stock Exchange	**m**	Metre
Au	Gold	**m^2**	Square metre
AUD	Australian Dollar, Unit of Australian currency	**m^3**	Cubic metre
B	Boron	**Ma**	Million years
Ba	Barium	**mAHD**	Metres, Australian Height Datum
Be	Beryllium	**Mg**	Magnesium
BFS	Bankable Feasibility Study	**mg/l**	Milligrams per litre
Bi	Bismuth	**MGA94**	Map Grid of Australia (1994)
BMR	Nuclear Borehole Magnetic Resonance	**$MgCl_2$**	Magnesium Chloride

Abbreviation	Full description	Abbreviation	Full description
BOM	Bureau of Meteorology	**Mn**	Manganese
Br	Bromine	**MNR**	Mungarlu Ngurrarankatja Rirraunkaja
BSOPP	Beyondie Sulphate of Potash Project	**Mo**	Molybdenum
BV	Bureau Veritas Minerals Laboratory (Canning Vale, Perth)	**MOP**	Muriate of Potash
Ca	Calcium	**Na**	Sodium
CAPEX	Capital Expenditure	**NaCl**	Sodium Chloride
$CaSO_4$	Gypsum, Calcium Sulfate	**Nb**	Niobium
Cd	Cadmium	**Ni**	Nickel
Ce	Cerium	**NI**	National Instrument
CIM	Canadian Institute of Mining, Metallurgy and Petroleum	**NN**	Nearest Neighbour
Cl	Chloride	**NPV**	Net Present Value
Co	Cobalt	**P**	Phosphorus
Cr	Chromium	**Pb**	Lead
Cs	Caesium	**Pd**	Palladium
Cu	Copper	**ppb**	Parts per billion
DMIRS	Department of Mines, Industry, Regulation and Safety	**ppm**	Parts per million
DWER	Department of Water and Environment Regulation	**Pr**	Praseodymium
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation	**Pt**	Platinum
EPA	Environmental Protection Authority	**Rd**	Rubidium
EPBC	Environment Protection and Biodiversity Conservation	**Re**	Rhenium
Er	Erbium	**RORB**	Runoff Routing Software
Eu	Europium	**RPO**	Recognised Professional Organisation
EurGeol	European Geologist	**S**	Sulphur
Fe	Iron	**Sb**	Antimony
FEED	Front End Engineering Design	**Si**	Silicon
FEFLOW	Finite Element Subsurface FLOW System	**Sm**	Samarium
FOB	Free On Board	**Sn**	Tin
Ga	Gallium	**SO_4**	Sulphate
Gd	Gadolinium	**SOP**	Sulphate of Potash
Ge	Germanium	**Sr**	Strontium
GGP	Goldfields Gas Pipeline	**SRC**	Saskatchewan Research Council
GNH	Great Northern Highway	**Sy**	Specific Yield
HDPE	High Density Polyethylene	**t**	tonnes
Hf	Hafnium	**Ta**	Tantalum
Hg	Mercury	**Tb**	Terbium

Abbreviation	Full description	Abbreviation	Full description
Ho	Holmium	**Te**	Tellurium
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometry	**Th**	Thorium
ID2	Inverse Distance Squared	**Ti**	Titanium
IFD	Intensity-Frequency-Duration	**Tl**	Tallium
In	Indium	**Tm**	Thulium
IRR	Internal Rate of Return	**U**	Uranium
JORC	Joint Ore Reserves Committee	**V**	Vanadium
K	Potassium	**W**	Tungsten
K_2SO_4	Potassium Sulphate (or SOP)	**XRD**	X-ray Diffraction
KCl	Potassium Chloride (or MOP)	**XRF**	X-ray Fluorescence
kg	Kilogram	**Y**	Yttrium
KLL	Kalium Lakes Limited	**Yb**	Ytterbium
KLP	Kalium Lakes Potash Pty Ltd	**Zn**	Zinc
km	Kilometre	**Zr**	Zirconium

Short Glossary

Term	Full description
Assessment work	The amount of work specified under mining law that must be performed each year in order to retain legal control of mining and exploration claims.
Bankable Feasibility Study (JORC / CIM)	Terms such as “Bankable Feasibility Study” and “Definitive Feasibility Study” are noted as being equivalent to a Feasibility Study as defined in this Clause. A Feasibility Study is of a higher level of confidence than a Pre-Feasibility Study and would normally contain mining, infrastructure and process designs completed with sufficient rigour to serve as the basis for an investment decision or to support project financing. Social, environmental and governmental approvals, permits and agreements will be in place, or will be approaching finalisation within the expected development timeframe. The Feasibility Study will contain the application and description of all Modifying factors in a more detailed form than in the Pre-Feasibility Study, and may address implementation issues such as detailed mining schedules, construction ramp up, and project execution plans. [JORC Code, 2012 Edition]
Competent Person	A ‘Competent Person’ is a minerals industry professional who is a Member or Fellow of The Australasian Institute of Mining and Metallurgy, or of the Australian Institute of Geoscientists, or of a ‘Recognised Professional Organisation’ (RPO), as included in a list available on the JORC and ASX websites. These organisations have enforceable disciplinary processes including the powers to suspend or expel a member. A Competent Person must have a minimum of five years relevant experience in the style of mineralisation or type of deposit under consideration and in the activity which that person is undertaking.
Conceptual Study	A Conceptual or Concept Study stands at the very early stage of a greenfield project to identify all possibilities and conditions to develop this project.
CIM	CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines - A professional code of practice established by the Canadian Institute of Mining, Metallurgy and Petroleum, which is a guideline for Public Reporting of minerals Exploration Results, Mineral Resources and Ore Reserves especially for brines,
Deposit	Body of rock or Brine containing a concentration of minerals.

Term	Full description
Exploration Target (JORC)	An "Exploration Target" is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade (or Quality), relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource.
Feasibility Study (JORC / CIM)	A Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate, at the time of reporting, that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project.
High grade	Rich concentration of the mineral in the deposit.
Indicated Resource (CIM)	An Indicated Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit.
Indicated Resource (JORC)	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.
Inferred Resource (CIM)	An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
Inferred Resource (JORC)	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
JORC Code (2012)	A professional code of practice established by the Australasian Joint Ore Reserves Committee. That sets minimum standards for Public Reporting of minerals Exploration Results, Mineral Resources and Ore Reserves.
Measured Resource (CIM)	That part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit.

Term	Full description
Measured Resource (JORC)	A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances, to a Probable Ore Reserve.
Mineral Reserve (CIM)	A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.
Mineral Resource (JORC)	A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
Modifying Factors	'Modifying Factors' are considerations used to convert Mineral Resources to Ore Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.
National Instrument 43-101	Canadian rule that governs how issuers disclose scientific and technical information about mineral projects to the public.
Ore Reserve (JORC)	An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.
Potash	Potassium bearing mineral salt deposits; here as a brine.
Pre-Feasibility Study (JORC / CIM)	A Pre-Feasibility Study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting.
Probable Reserve (JORC)	A 'Probable Ore Reserve' is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying

Term	Full description
	Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve.
Proved Reserve (JORC)	A ‘Proved Ore Reserve’ is the economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors.
Proven Reserve (CIM)	The economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

Compliance Statement

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Thomas Schicht, a Competent Person who is a Member of a 'Recognised Professional Organisation' (**RPO**), the European Federation of Geologists and a registered "European Geologist" (Registration Number 1077) and Anke Penndorf, a Competent Person who is a Member of a RPO, the European Federation of Geologists, and a registered "European Geologist" (Registration Number 1152).

Thomas Schicht and Anke Penndorf are full-term employees of K-UTEC AG Salt Technologies (**K-UTEC**).

K-UTEC, Thomas Schicht and Anke Penndorf are not associates or affiliates of KLL or any of its affiliates. K-UTEC received a fee for the preparation of the Report in accordance with normal professional consulting practices. This fee is not contingent on the conclusions of the Report and K-UTEC, Thomas Schicht and Anke Penndorf will receive no other benefit for the preparation of the Report. Thomas Schicht and Anke Penndorf do not have any pecuniary or other interests that could reasonably be regarded as capable of affecting their ability to provide an unbiased opinion in relation to the Beyondie Sulphate of Potash Project (**BSOPP**).

K-UTEC does not have, at the date of the Report, and has not had within the previous years, any shareholding in or other relationship with KLL or the BSOPP and consequently considers itself to be independent of KLL.

Thomas Schicht and Anke Penndorf have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Thomas Schicht and Anke Penndorf consent to the inclusion in the Report of the matters based on their information in the form and context in which it appears.

Sondershausen, 17.09.2018

Thomas Schicht
European Geologist (EurGeol)

Anke Penndorf
European Geologist (EurGeol)

0 Summary

Kalium Lakes Limited (**Kalium Lakes or KLL**) is a public company listed on the Australian Stock Exchange (**ASX**) with ~ 2,400 km^2 of granted tenements at the eastern margin of the East Pilbara region of Western Australia. KLL is looking to develop a sub-surface brine deposit initially producing 82 ktpa Sulphate of Potash (**K_2SO_4 or SOP**) prior to expanding to produce 164 ktpa of SOP product via evaporation and processing of brine extracted from aquifers within the Beyondie, 10 Mile and Sunshine tenement holdings, which form part of the Beyondie Sulphate of Potash Project (BSOPP).

KLL entered into an agreement with K-UTEC AG Salt Technologies to prepare a Technical Report according to the guidelines of the JORC Code 2012 [1] with reference to the CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines [2].

The description of the regional geology, local geology and hydrogeology was determined in KLL's Bankable Feasibility Study and specified by study reports of Advisian [12], [17].

The BSOPP deposit is a brine, containing the target potassium and sulphate ions required to form a potassium sulphate salt. The brine is contained within saturated sediments in at least two separate horizons below the lake surface and in sediments adjacent to the lake. The lakes are located within the broader Ilgarari palaeochannel system that extends over hundreds of kilometres.

The lake surface and alluvial sediments in the upper aquifer host the first brine horizon. The second brine horizon forms the lower aquifer within the sediments at the base of the palaeochannel and weathered bedrock. This aquifer is generally continguous however discrete clay lenses and bedrock highs can separate this aquifer into several sections.

Drilling test pumping and augering programs including sampling of brine and soil material, geophysical fieldwork, laboratory analysis, pumping tests, borehole nuclear magnetic resonance (**BMR**), bore trials and ponds leach testing have occurred at the project area.

Based on data from the fieldwork and laboratory analyses, an assessment of the Mineral Resource and Ore Reserve has been undertaken. The Mineral Resources and Ore Reserves for SOP are stated below (see Table 1 and Table 2).

Table 1: Mineral Resources Summary (JORC (2012)/CIM)

Level	Drainable Brine Volume (M m^3)	K Grade (mg/l)	K (Mt)	SO_4 (Mt)	Drainable Brine Volume SOP (Mt)	Total Brine Volume SOP (Mt)
Measured Mineral Resource	149	5,155	0.77	2.33	**1.72**	5.67
Indicated Mineral Resource	735	5,591	4.11	11.91	**9.17**	32.42
Inferred Mineral Resource	695	5,647	3.92	11.86	**8.75**	121.61
Total Mineral Resource	**1,579**	**5,585**	**8.80**	**26.10**	**19.64**	159.70
Mineral Exploration Target*	920 - 2,810	1,800 - 3,300	1.6 - 9.3	5.0 - 25.6	3.7 – 20.7	40 - 250

*The Kalium Lakes Beyondie SOP Project "Exploration Target" is based on a number of assumptions and limitations and is conceptual in nature. It is not an indication of a Mineral Resource Estimate in accordance with the JORC Code (2012) and it is uncertain if future exploration will result in the determination of a Mineral Resource or that the Exploration Target will add to the economics of the BSOPP.

Table 2: Ore Reserves Summary (JORC (2012)/CIM)

Level	Drainable Brine Volume (10^6 m^3)	K Grade (mg/l)	K (10^6 tonnes)	SO_4 (10^6 tonnes)	SOP (10^6 tonnes)
Proved Ore Reserve	119	6,207	0.74	2.14	1.65
Probable Ore Reserve	295	5,306	1.57	4.46	3.49
Total Ore Reserve	**414**	**5,565**	**2.30**	**6.60**	**5.13**

At the publication date of this Technical Report, a number of exploration programs have been carried out. The exploration results reveal variations in chemical composition of the brine at different well depths as well as lateral variations. The results of the chemical analysis of the brine, the long lasting constant rate pumping tests, grain size analysis, borehole tests, and geophysical investigations, have lead to values for Measured, Indicated and Inferred Resource classification and values for Probable Reserve and Proved Reserve Classification. Furthermore, values for an additional exploration target have been extrapolated from the existing data and knowledge of the lake system within the underlying palaeochannel. As exploration work continues, the database as well as the classification of the resources and size of the resource may be increased.

The two selected mining methods, bores and trenching, will allow abstraction of the sub-surface brine. K-UTEC has developed a recovery method unique to the BSOPP brine, which allows a production route for SOP. Based on the composition of the deposit brine, the present process flow sheet considers recovery of SOP as the primary product, with the potential to produce magnesium by-products such as hydrated magnesium carbonate and magnesium chloride, which have already been produced at a pilot scale.

1 Introduction

Kalium Lakes Limited is a public company, listed on the Australian Stock Exchange (**ASX**), with ~ 2,400 km^2 of granted mining tenure at the eastern margin of the East Pilbara region of Western Australia. KLL is looking to develop a sub-surface brine deposit initially producing 82 ktpa Sulphate of Potash before expanding to produce 164 ktpa of SOP via evaporation and processing within the Beyondie, 10 Mile and Lake Sunshine tenement holdings, comprising the Stage 1 set of tenements for the BSOPP. Further expansion into the eastern tenement area, Stage 2, could see a future expansion to >250 ktpa SOP.

KLL entered into an agreement with K-UTEC AG Salt Technologies to prepare a Technical Report according to the accepted JORC Code 2012 [1] with reference to the CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines [2].

The purpose of the report is to provide KLL with a Mineral Resource and Ore Reserve Estimate that complies with the guidelines of NI 43-101 and JORC Code (2012). The scope of the report covers the activities undertaken at the BSOPP area, the results and review of the results by the Qualified Persons/Competent Persons.

The sources of information and data in this report are varied and can be found in Section 27.

The K-UTEC Competent Persons, Thomas Schicht and Anke Penndorf visited the exploration area in August 2015, June 2017 and January/February 2018 [7], [11], [19] and could inspect: The deposit (overview from helicopter and several stops at some of the lakes), current drilling sites, geophysical fieldwork, core storage, trial solar evaporation ponds, several boreholes – drilled with varying methods (diamond core, aircore, sonic) – and the recovered material, sampling of soil and water, production wells, trenches, the drilling contractors, a helicopter drill rig and the auger drilling team. The K-UTEC competent persons were also able to meet and engage with KLL's Perth-based consulting hydrogeologists Advisian, part of the Worley Parsons Group.

2 Reliance on other Experts

In preparing this report, the authors have had to rely on reports not prepared under their supervision. These reports will be hereinafter identified as being third-party reports. This report includes the contents of the:

- KLL Concept Study (April 2015 [3])
- KLL Pre-Feasibility Study (September 2017 [9])
- KLL Bankable Feasibility Study (BFS) (September 2018 [20])

- Various reports by Advisian [12] [17]. Advisian is part of the Worley Parsons Group and has extensive experience with water supply, dewatering and surface water projects in hypersaline palaeochannels in Western Australia and as such meets the Competent Person Requirements for the assessment of a brine resource and hydrogeology.
- DRA Global [16] report on the BSOPP supporting infrastructure. DRA Global is a leader in delivering process plant design, infrastructure and engineering projects.

K-UTEC have been independently engaged to provide specialist knowledge on the development of potash brine deposits around the world, specifically the Competent Person role related to brine processing.

During the concept, pre-feasibility and definitive feasibility phases of the project, K-UTEC provided guidance on the fieldwork and data acquisition related to the geology, hydrogeology, geophysics, chemical analysis and processing. The K-UTEC experts have sufficient experience in the exploration of potash and resource estimation for potash deposits as required by the CIM Standards [2] and the JORC Code 2012 [1].

The Bankable Feasibility Study was managed by KLL in conjunction with leading industry specialists including K-UTEC, Advisian (Worley Parsons), DSB International, DRA, Shawmac, Wyntak, Nixon Consulting and Preston Consulting as the principal technical consultants, as well as RSM, DLA Piper Australia, HopgoodGanim and BurnVoir Corporate Finance as key accounting, commercial and legal advisors. The main contributors and consultants engaged for the BFS and their broad areas of contribution are shown in Table 3.

Table 3: Study Team

Contributor	Background	Description of Contribution
KLL	The Directors have a track record in proving up and commercialising resource assets	Study management/coordination, marketing strategy, environmental inputs, stakeholder information, financial modelling
K-UTEC	Germany's former potash research institute with more than 60 years' experience with salt	The evaporation, crystallisation and purification to a final SOP product components of the study, including test work and a site visit
DRA Global	Leader in delivering process plant design, infrastructure and engineering projects	General plant and infrastructure design

Contributor	Background	Description of Contribution
BurnVoir Corporate Finance	Expertise in the area of international banking, corporate finance and market risk analysis	Financial Modelling, WACC[1], FX[2] and Funding Advice
Advisian (Worley Parsons)	Specialists in water management for mining projects	Exploration, Resource and Reserve, water supply, overall site drainage and the road construction water
DSB International	Extensive experience in salt field engineering, design and operation	Pre-Feasibility Study evaporation and crystallisation pond design, plus Pilot Scale pond reviews
Soil Water Group	Specialists in water management for mining projects	Pond clay liner test work and porosity assessment
Braemar Seascope	One of the largest chartering, sale and purchase ship-broking companies in the world	Shipping Strategies and shipping rates estimations
Preston Consulting	Project Managers with experience in a wide range of approvals in WA	Environmental & Approvals Strategy and Implementation
Shawmac	Consulting Civil and Traffic Engineers, Risk Managers, ex-Main Roads Western Australia	Access Road and GNH intersection design
Hetherington's	Tenure Management Consultants	Tenure applications
HopgoodGanim	Expert legal advice specialising in resources	Legal advice
RSM Australia	A full service national accounting firm delivering expert corporate financial and advisory accounting services to clients across diverse industry sectors	Accounting, commercial and funding advice
Wyntak Pty Ltd	Logistics specialists	Mine to port heavy haulage vehicle selection and options, estimates for capital and operating costs
Nixon Consulting	Product Marketing, Procurement and Supply Chain specialist	Market representation, procurement, international trade advice, market research, supply chain management, freight and distribution advice
PGM Geotechnical	Geotechnical Expert	Pond trials and road geotechnical investigations

1 Weighted Average Cost of Capital

2 Foreign Exchange

Contributor	Background	Description of Contribution
DLA Piper Australia	Expert legal advice specialising in Native Title and Tenure	Heritage, Native Title & Tenure Legal advice
Specialist Consultants	Consultants selected on their specific skills, experience and expertise	Phoenix, BV-Amdel, Dalesford, Ennovate, Platinum Matrix, Edge Corporate, Inceptioneer, Green Markets, Integer, CRU, Fertecon, NeoMet Engineering

3 Location and Property Description

The BSOPP is located in Western Australia, east of the Great Northern Highway and extending into the Little Sandy Desert, and covers approximately 2,400 km^2 of granted mining tenure. Proposed brine extraction and processing areas are located within the Little Sandy Desert catchment, which flows in an easterly direction towards inland lakes. There is no flow path to the ocean and as such it is a contained system.

3.1 Coordinate System

The grid system used is the MGA94, Zone 51 coordinate system. All coordinates for tenement areas, boreholes, auger holes and geophysical traverses were given in this system. All overview maps and thematic maps, which have been generated by KLL, KLL's consultants or K-UTEC, used this coordinate system. For reference, the Eastern Beyondie Lake is located at 227,000 E, 7,260,000 N.

3.2 Property Description

Kalium Lakes has been granted several exploration licenses, as well as the following two mining leases: M69/145 and M69/146 for the 10 Mile Lake and Lake Sunshine areas respectively. KLL has also been granted miscellaneous licences for various activities including the Beyondie site access road from the Great Northern Highway, as well as access for gas pipeline, telecommunications and water supply infrastructure.

Below in Table 4 is a schedule of tenement interests for the BSOPP as at 17 September 2018.

Table 4: Beyondie Sulphate of Potash Project Tenement Schedule

Tenement	Name	Holder	State	Status	Grant Date	Interest
Exploration Licences						
E69/3306	Yanneri-Terminal	KLP	WA	Granted	17-3-2015	100%
E69/3309	Beyondie - 10-Mile	KLP	WA	Granted	17-4-2015	100%
E69/3339	West Central	KLP	WA	Granted	22-6-2015	100%
E69/3340	White	KLP	WA	Granted	22-6-2015	100%
E69/3341	West Yanneri	KLP	WA	Granted	11-8-2015	100%
E69/3342	Aerodrome	KLP	WA	Granted	22-6-2015	100%
E69/3343	T Junction	KLP	WA	Granted	22-5-2015	100%
E69/3344	Northern	KLP	WA	Granted	22-5-2015	100%
E69/3345	Wilderness	KLP	WA	Granted	22-5-2015	100%
E69/3346	NE Beyondie	KLP	WA	Granted	11-8-2015	100%
E69/3347	South 10 Mile	KLP	WA	Granted	11-8-2015	100%
E69/3348	North Yanneri-Terminal	KLP	WA	Granted	11-8-2015	100%
E69/3349	East Central	KLP	WA	Granted	22-6-2015	100%
E69/3351	Sunshine	KLP	WA	Granted	31-8-2015	100%
E69/3352	Beyondie Infrastructure	KLP	WA	Granted	31-8-2015	100%
Miscellaneous Licences						
L52/162	Access Road	KLP	WA	Granted	30-3-2016	100%
L52/186	G N Hwy Access Road	KLP	WA	Granted	30-5-2018	100%
L52/187	Comms Tower 2	KLP	WA	Granted	30-5-2018	100%
L52/190	Kumarina FW 1	KLP	WA	Withdrawn		100%
L52/193	Kumarina FW 2	KLP	WA	Granted	13-8-2018	100%
L69/28	Access Road Diversion	KLP	WA	Granted	7-8-2018	100%
L69/29	Access Road Village	KLP	WA	Granted	7-8-2018	100%
L69/30	Comms Tower 1	KLP	WA	Granted	30-5-2018	100%
L69/31	Sunshine Access Road	KLP	WA	Granted	7-8-2018	100%
L69/32	10MS FW A	KLP	WA	Granted	14-8-2018	100%
L69/34	10MS FW B	KLP	WA	Granted	14-8-2018	100%
L69/35	10MS FW C	KLP	WA	Application	-	100%
L69/36	10MS FW D	KLP	WA	Application	-	100%
Mining Leases						
M69/145	10 Mile	KLP	WA	Granted	6-6-2018	100%
M69/146	Sunshine	KLP	WA	Granted	6-6-2018	100%

Note: Kalium Lakes Potash Pty Ltd (KLP) is a wholly owned subsidiary of Kalium Lakes Limited (KLL)

Figure 1 shows the general location of the KLL exploration tenements and the tenement boundaries of the BSOPP. Figure 2 shows the Stage 1 Tenement Area associated with the initial Mining Leases.

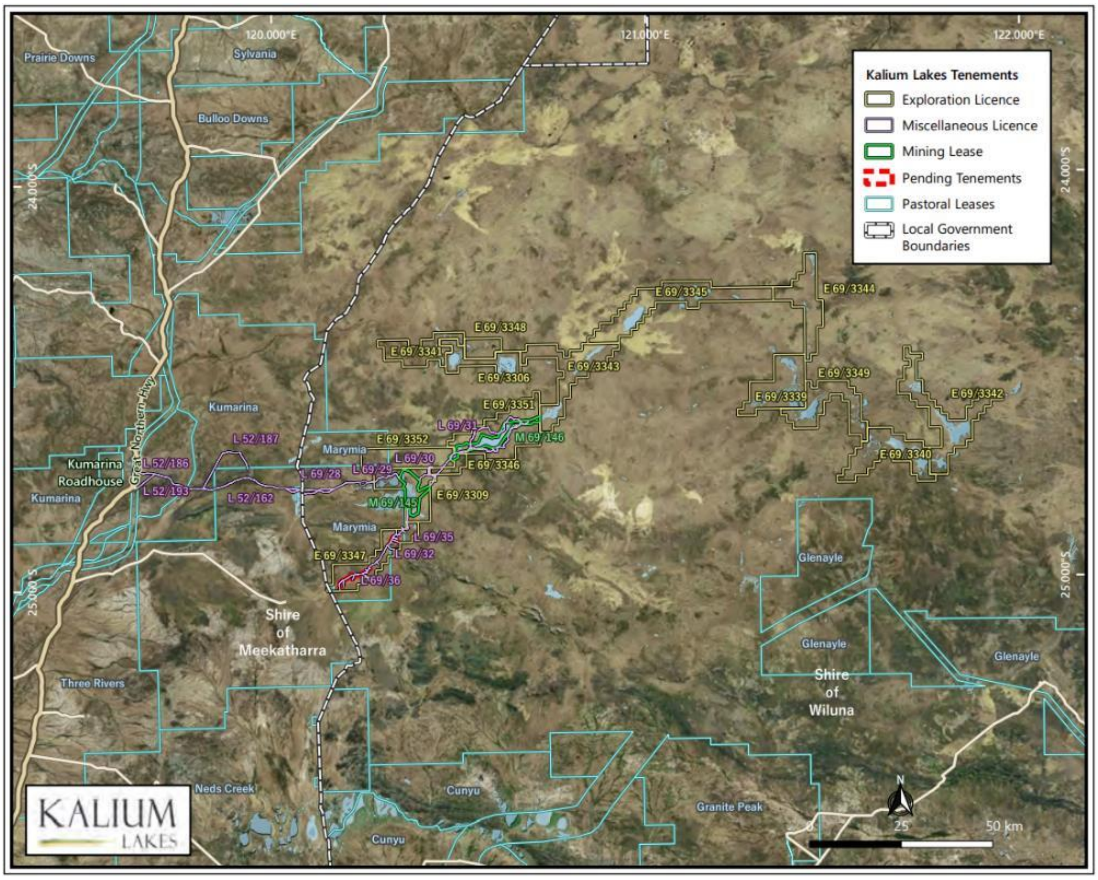


Figure 1: BSOPP Tenement Outline and Project Footprint [31]

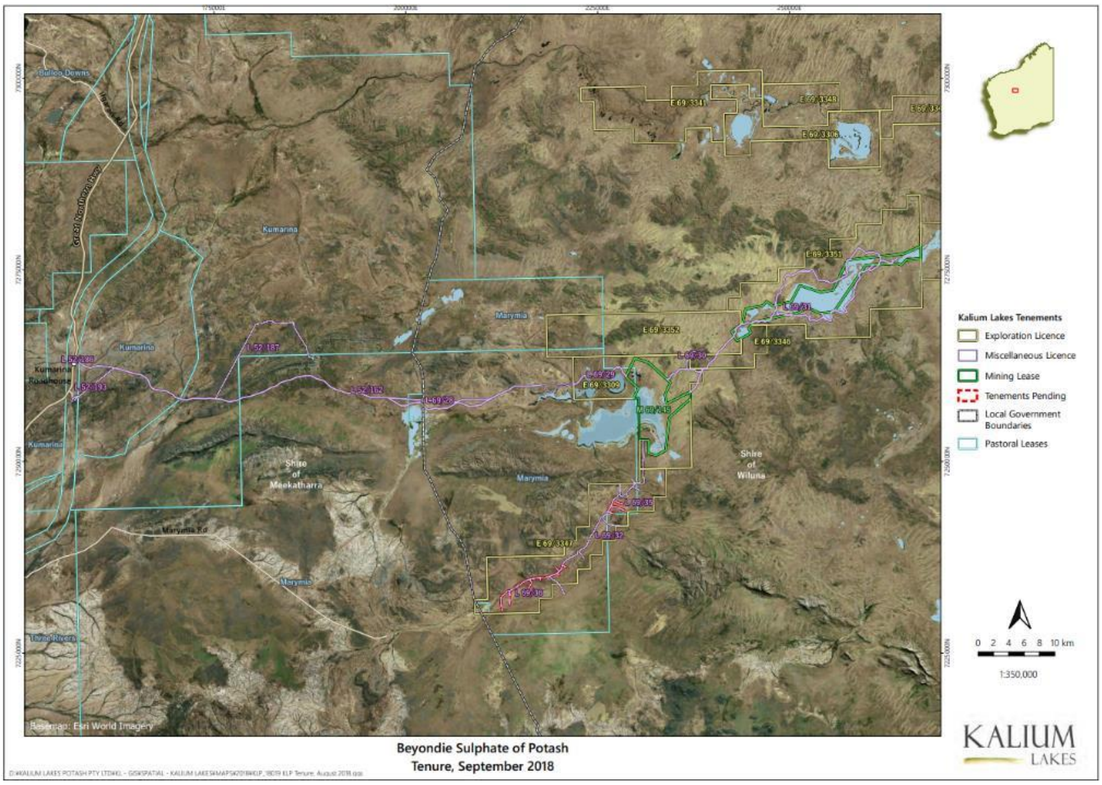


Figure 2: Stage 1 Tenement Area Map [20]

3.3 Permits to Conduct Work

KLL has obtained the following permits and approvals:

- Several granted Programmes of Work from the Department of Mines, Industry Regulation and Safety (**DMIRS**) permitting KLL to undertake exploration activities on the granted tenements;
- Several 26D well construction licences from the Department of Water & Environmental Regulation (**DWER**) that permit KLL to construct the current production bores on tenements E69/3309, E69/3347, E69/3351 and E69/3346. 26D licences expire yearly, KLL obtains them prior to drilling campaigns;
- A 5C Licence from the DWER to take up to 1.5GL of water on tenements E69/3309 and E69/3347 from 25 August 2016 until 22 August 2026;
- A DWER Works Approval to construct and operate a large-scale pilot pond facility for solar salt production of up to 25 ktpa;
- Early works approvals are in place from the Environmental Protection Authority of Western Australia (EPA) and Department of Mines, Industry Regulation and Safety (DMIRS), with formal approval for the full-scale project anticipated to be in place during Q4 2018.

Additional permits have been requested from government departments including the EPA, DWER, DMIRS, Department of Environment and Energy for activities including ponds expansion, landfill, waste water treatment plant and gas pipeline.

4 Accessibility, Climate, Physiography, Local Resources & Infrastructure

4.1 Accessibility

The BSOPP site is located 160 km south, southeast of the iron ore producing town of Newman and 200 km north of the base metals and gold mining areas of Wiluna. The Great Northern Highway (**GNH**) provides the main logistical supply link between major supply and distribution centres of Geraldton Port (862 km) and Perth (1,088 km) (Figure 3).

Figure 3: Project Location [31]

Existing nearby infrastructure for site access, transit of personnel and product delivery includes the GNH, Goldfields Gas Pipeline (**GGP**) and the Newman Airport.

The BSOPP is approximately 78 km east of the GNH and requires an upgrade of the existing access road that will connect the site with the GNH near the Kumarina Roadhouse. The road upgrade falls under the granted miscellaneous licences L52/162, L52/186, L69/28 and L69/29.

The BSOPP site access road follows a western alignment from the mine site over mostly flat country which contains good road base material, until it intersects with the GNH. Only minor non-perennial water courses need to be crossed by the access road.

4.2 Climate

The BSOPP area falls within the arid desert climate zone. The regional climate is characterised by hot summers and warm to cold winters with low annual rainfall. Most of the strongly seasonal rainfall occurs in the period between December and April. A large percentage of the annual total precipitation occurs over short periods, associated with thunderstorm activity and cyclonic lows.

The closest weather station with a high level of climate data to the project area is at Three Rivers, approximately 127 km east-southeast of the site. Table 5 outlines the meteorological conditions for Three Rivers as reported by the Bureau of Meteorology (**BOM**, [4]).

The maximum daily temperature (average) at the mine site rises to 39°C in January, the minimum average temperature is measured at 5°C with extremes to -5°C during June. Mean annual rainfall is 238 mm.

Table 5: Summary Meteorological Conditions for Three Rivers Station
(Latitude: 25.13°S • Longitude: 119.15°E • Elevation 520 m) reported by BOM [4]

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max temp (°C)	39.3	36.8	35.4	30.3	25.3	21.1	21.0	23.4	27.8	31.9	35.2	38.0	30.5
Mean min temp (°C)	24.1	22.9	20.6	15.7	10.1	6.6	4.8	6.6	9.7	14.0	18.1	22.0	14.6

Table 6: Rainfall and evaporation statistics - Site Data standardised with area long term average data [20]

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean rainfall (mm)	45	47	41	24	18	17	11	7	3	7	12	25	258
Mean monthly evaporation (mm)	442	353	361	290	203	144	161	207	272	378	422	468	3700

Detailed regional meteorological data is currently being collected at the project site with a weather station, established in February 2015.

Figure 4 and Figure 5 show the Australian Continental Evaporation and Humidity maps with the approximate location of the BSOPP indicated. These figures illustrate the BSOPP is located in an area expected to experience some of the lowest humidity and highest evaporation rates in the country. The wind data from Three Rivers Station shows a predominately easterly direction (see Figure 6 [4], [20]).

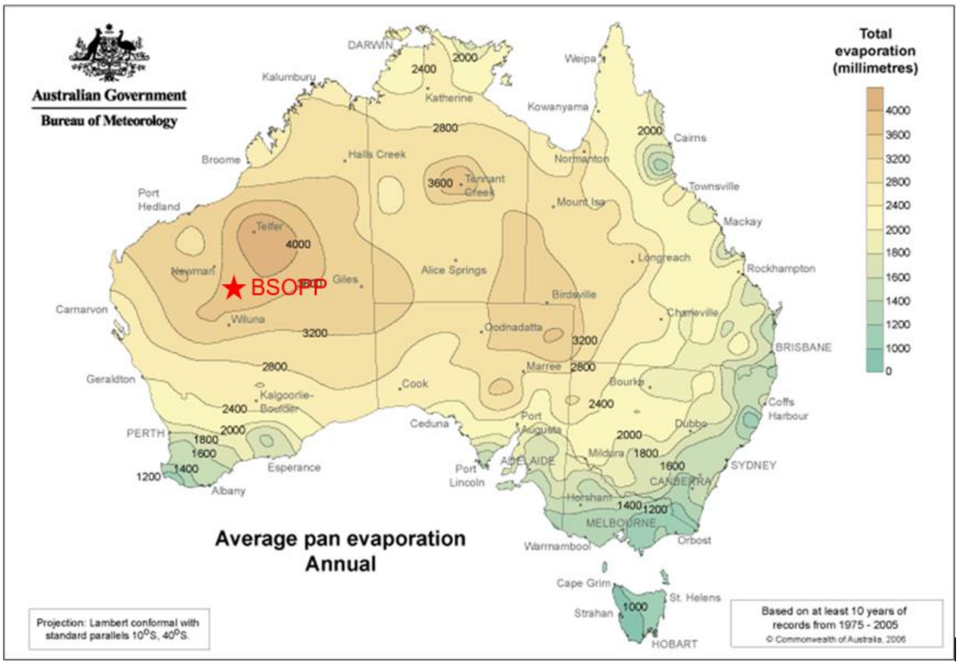


Figure 4: Australian Continental Evaporation [4]

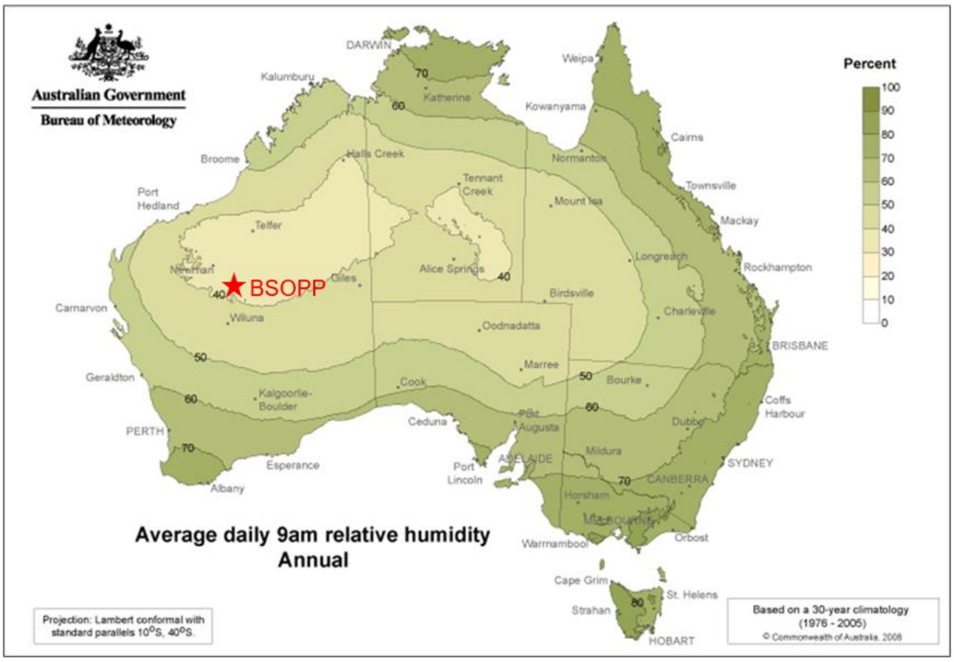
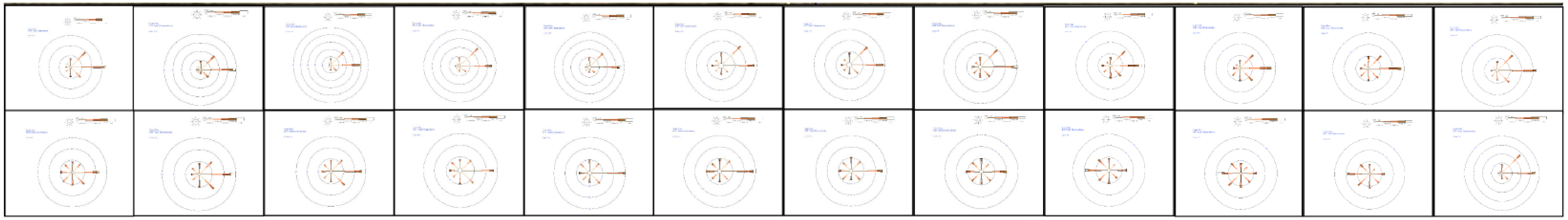


Figure 5: Australian Continental Humidity [4]

Bureau of Meteorology Rose of Wind Direction vs Wind Speed (km/h) 9.00am

Bureau of Meteorology Rose of Wind Direction vs Wind Speed (km/h) 3.00pm



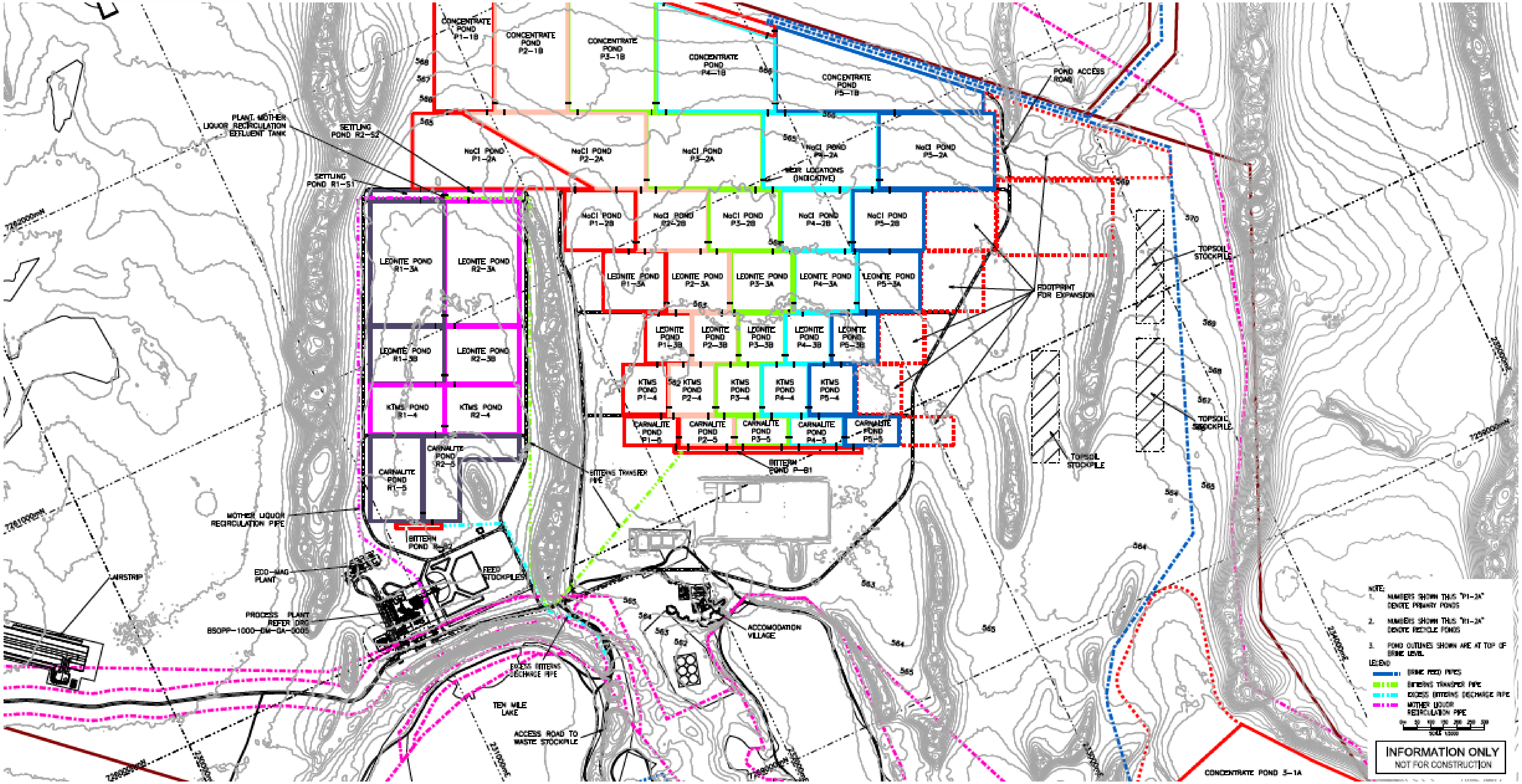


Figure 6: Wind Roses from Three Rivers Station (BOM) at 3:00 pm and 9:00 am [4][20]

Average daily sunshine hours are around 9 – 10, as shown in Figure 7. The annual solar exposure for the period of 1 September 2016 to 31 August 2017 was between 20 and 22 MJ/m^2 as shown in Figure 8. Due to the climate, the operations will be continuous with solar evaporation occurring all year and the process plant operating full time excluding a downtime allowance for preventative and breakdown maintenance.

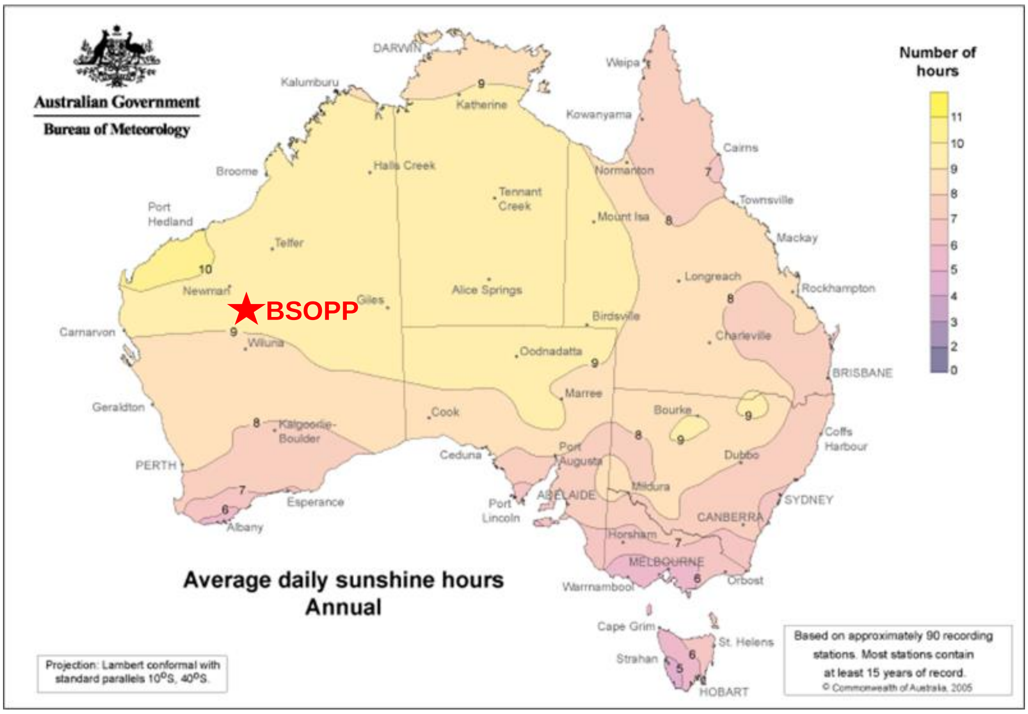


Figure 7: Average Daily Sunshine Hours [4]

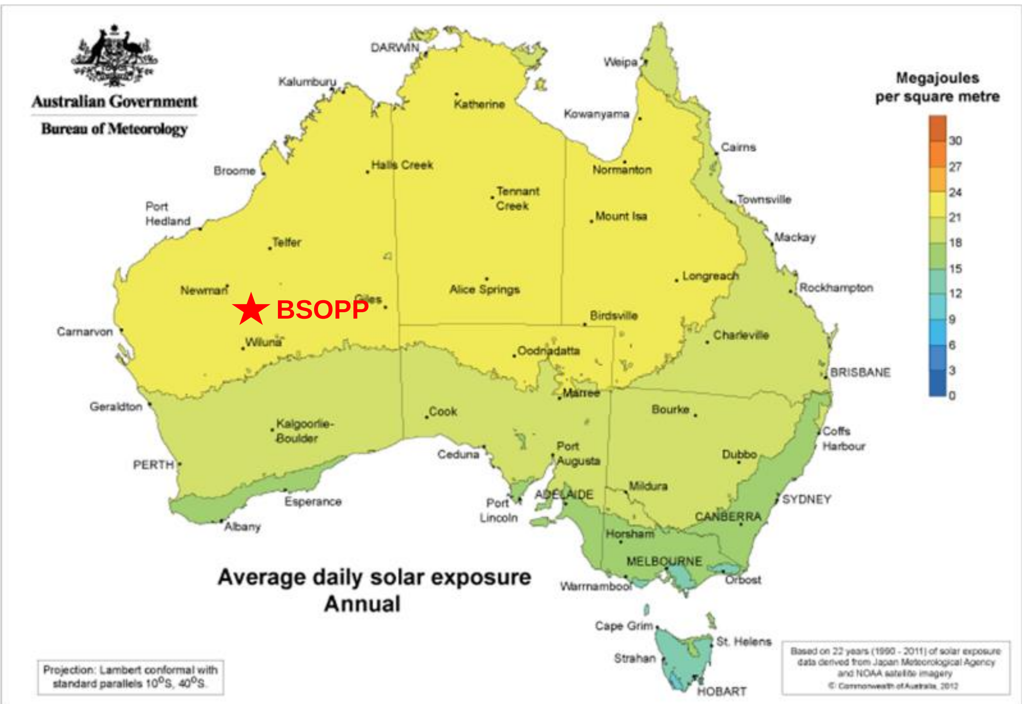


Figure 8: Solar Exposure [4]

Being located in the northern half of Western Australia, the region is prone to very infrequent tropical cyclones and tropical lows. A rainfall intensity frequency duration curve for the site has been used to estimate the rainfall depth that would occur during rainfall events of defined duration and recurrence interval. The equivalent rainfall depth from a 72-hour rainfall event at the site is 262 mm.

4.3 Physiography and Vegetation

The landscape around the BSOPP is dominated by extensive sand dunes and flat plains. Several salt lakes lie within a palaeochannel system which is bordered by hills (bedrock). The altitude above sea level ranges between approximately 475 m in the east (Lake Aerodrome) and 560 m in the west (bedrock area north of Beyondie East Lake). The vegetation in the working area is characterised by scant plant cover and small bushes. The lakes are mostly free of vegetation, except at borders or on islands.

4.4 Local Resources and Infrastructure

The BSOPP is not inhabited. It is located 78 km to the east of the Great Northern Highway and is currently accessible via an existing access track (see Figure 9 [20]), with the turnoff located near the Kumarina Roadhouse.

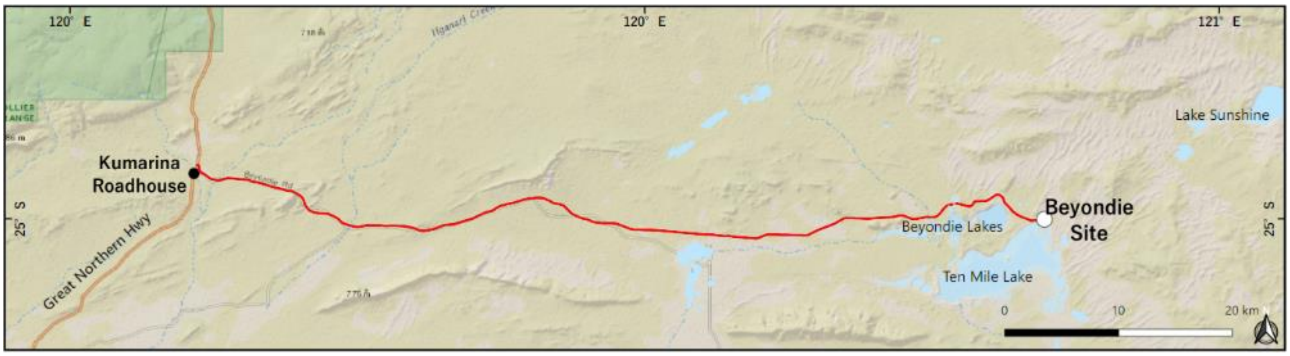


Figure 9: Access Track to the Beyondie Site (L52/162, L52/186, L52/187, L69/28, L69/29, L69/30, M69/145) [20]

The BSOPP will concentrate supporting infrastructure mainly at the evaporation and processing area (project area) and will include offices, ancillary buildings, maintenance facilities, accommodation, diesel fuel, water, power, communications and Information Technology systems. Infrastructure will be progressively built and expanded throughout the phased development of the BSOPP.

Fuel for power generation will be sourced as Liquified Natural Gas (**LNG**) supplied by road train. Future expansion will include gas supplied from within 78 km via a gas spur from the GGP located next to the GNH or LNG supplied by road train.

Accommodation facilities will be required to house people inclusive of shutdown rooms at the project area. When in operation the site will be operated by a Fly-In Fly-Out workforce with most employees likely to be based in Perth, Geraldton and Newman. This is common with mining projects in Western Australia.

It is planned to construct onsite administration buildings, a maintenance workshop and a product warehouse. In addition to this, a certified contractor will operate an onsite laboratory.

Communications will be supplied for pilot scale works via satellite and then through a microwave connection originating near the Kumarina Roadhouse and extending 78 km to the project area along the alignment of the access road. Communications towers have been installed as required for the initial development and expanded as necessary.

5 History

There has been no previous exploration on the tenements comprising the BSOPP. Prior ownerships of the property and ownership changes are unknown.

6 Site Setting and Mineralisation

6.1 Hydrology

10 Mile Lake and Lake Sunshine have individual catchments that sit within the upper reaches of a much larger system. In the geological past, it is considered that the catchments used to be linked by a large palaeo-drainage system. The current landscape is now a function of the low rainfall and high evaporation rates within the region.

The catchment areas associated with 10 Mile Lake and Lake Sunshine are shown in Figure 10. The ephemeral creeks associated with these catchments flow into the lake systems. Analysis of aerial imagery and topographic survey data suggests there is significant storage within the catchment areas, which limits the volume of runoff reaching the lakes. The storages are in the form of parallel dune systems and salt pans, as shown in Figure 11. Surface water is observed to be present on the lakes for periods of time following heavy rainfall events.

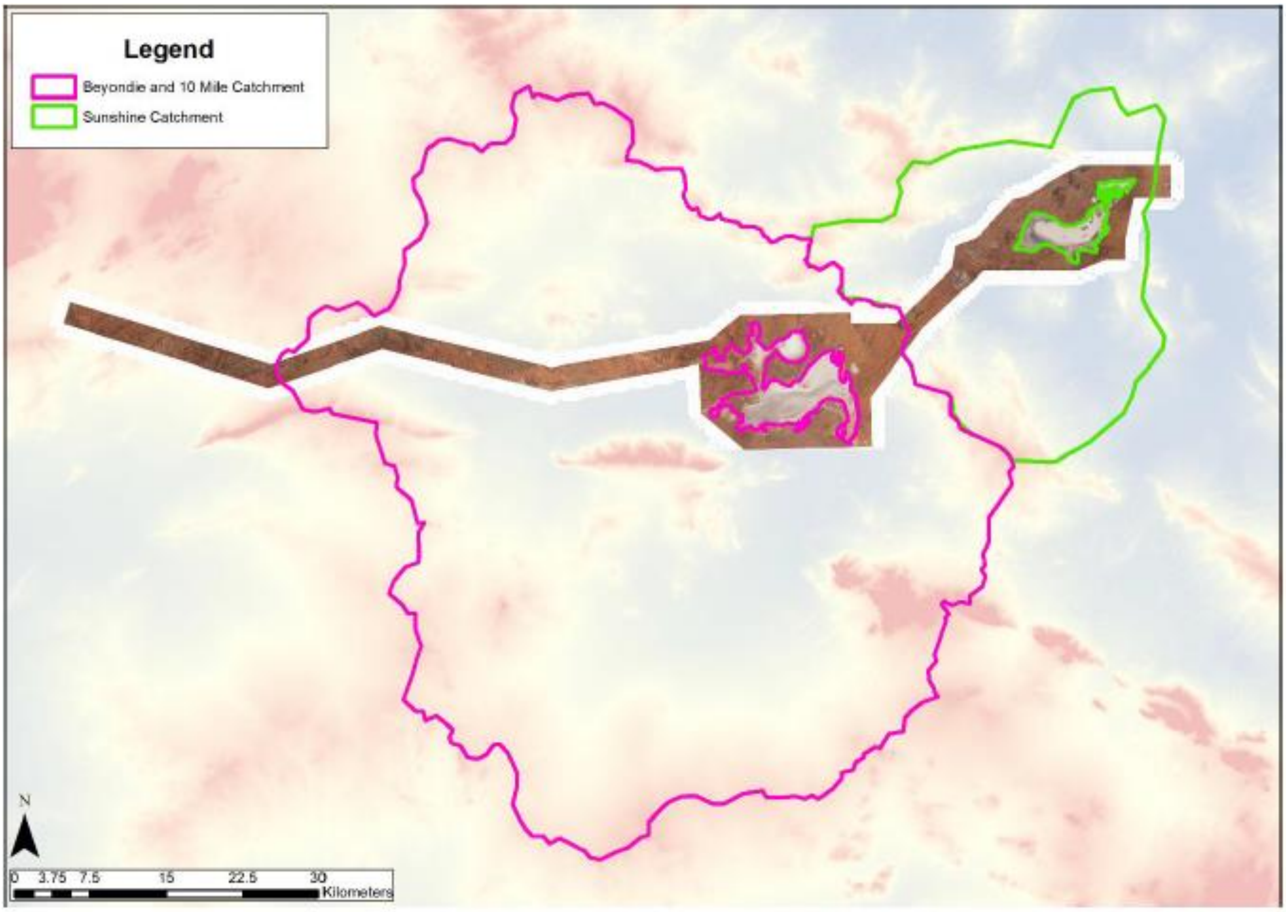


Figure 10: Catchment areas [21]

Figure 11: Examples of parallel dunes and salt pans within the catchment [21]

A summary of the basic catchment parameters of Beyondie, 10 Mile Lake and Lake Sunshine is presented in Table 7 below.

Table 7: Basic catchment parameters

Catchment ID	Catchment Area (km^2)	Catchment Centroid		Mainstream	
		Latitude (ºS)	Longitude (ºE)	Length (km)	Equal Area Slope (m/km)
10 Mile and Beyondie Lakes	3,160	24.8	120.2	61	0.80
Lake Sunshine	744.8	24.6	120.5	27	2.56

The following methodology was used to model flows into the 10 Mile Lake and Sunshine Lake systems, estimate associated flood levels and map flood extents [21]:

- Estimate the likely volumes of flooding on the lakes for the 63%, 50%, 20%, 10%, 5%, 2%, 1% Annual Exceedance Probability (**AEP**) events using:
    - available streamflow (if available);
    - regional peak flow estimation methods (if available); and/or
    - comparison of rainfall records and anecdotal evidence of flooding observed on site.
- Develop a simplified rainfall-runoff model and calibrate by varying the loss model (initial loss, runoff coefficient) to produce volumes that are similar to the target volumes;
- Develop a rainfall-runoff model (RORB) and use the runoff coefficients to produce flow hydrographs into the lakes for the 63%, 50%, 20%, 10%, 5%, 2%, 1% AEP events;
- Develop 2D models (TUFLOW) for each lake and use inflow hydrographs and direct rainfall to simulate flooding for the 63%, 50%, 20%, 10%, 5%, 2%, 1% AEP events; and
- Map the extent of flooding in each of the lakes for the range of flood events.

The catchments only produce flows in large events, therefore a combination of anecdotal evidence, data available from the Bureau of Meteorology (**BOM**) and analysis of the aerial imagery was used to estimate the volume of water entering the lakes for the 63%, 50%, 20%, 10%, 5%, 2%, 1% AEP events.

Anecdotal evidence was used to provide guidance on the resultant volumes of runoff reaching the lakes during different AEP rainfall events. For the more regular events, it was noted that there is generally no flow in creeks and the surface water on lakes was primarily due to direct rainfall.

Approximately 60 mm of rainfall fell over a 48-hour period during a rainfall event in late January 2018. Based on the Intensity Frequency Duration ((**IFD**) data in Table 8 this is equivalent to between a 50% and 20% AEP event (equivalent to 2yr and 5yr Average Recurrance Interval (**ARI**)). No creek flow was seen entering the lakes and surface water depth on Lake Sunshine was estimated to be less than approximately 0.1 m. Topographic survey data was used to estimate the surface water levels and extents associated with the 50% and 20% AEP event on Lake Sunshine. The peak water level was estimated to be approximately 531.7 mAHD.

Anecdotal evidence was then used to provide guidance on the resultant volumes of runoff reaching the lakes during different AEP rainfall events. For the more regular events, it was noted that there is generally no flow in creeks and the surface water on lakes was primarily due to direct rainfall.

Table 8: IFD Data for 10 Mile Lake and Lake Sunshine

	Annual Exceedance Probability / Average Recurrence Interval						
	63.20%	**50%**	**20%**	**10%**	**5%**	**2%**	**1%**
Duration	**1yr**	**1.44yr**	**4.88yr**	**10yr**	**20yr**	**50yr**	**100yr**
1 min	1.23	1.47	2.28	2.88	3.49	4.34	5.04
2 min	2.07	2.49	3.88	4.9	5.98	7.57	8.9
3 min	2.88	3.46	5.39	6.81	8.29	10.5	12.3
4 min	3.62	4.34	6.75	8.52	10.4	13	15.2
5 min	4.29	5.14	7.99	10.1	12.2	15.3	17.8
10 min	6.81	8.17	12.7	15.9	19.3	24	27.7
15 min	8.53	10.2	15.9	20	24.1	30	34.6
30 min	11.7	14	21.8	27.4	33.2	41.3	47.9
1 hour	15	18	28	35.3	42.9	53.7	62.6
2 hour	18.6	22.3	34.6	43.8	53.5	67.5	79.2
3 hour	20.9	25	39	49.5	60.5	76.5	89.9
6 hour	25.5	30.5	47.7	60.7	74.5	94.2	111
12 hour	31	37.2	58.5	74.6	91.7	115	135
24 hour	37.1	44.7	70.9	90.7	112	139	161
48 hour	42.9	52.1	83.5	107	132	163	188
72 hour	45.8	55.8	89.9	116	143	176	201
96 hour	47.4	57.9	93.6	120	149	183	209
120 hour	48.5	59.3	95.9	123	153	187	214
144 hour	49.3	60.2	97.4	125	155	190	217
168 hour	49.9	60.9	98.4	127	156	192	219

Analysis of aerial imagery, topographic survey data, IFD and anecdotal evidence made it possible to estimate volumes entering the lakes. This was achieved for the 63%, 50%, 20%, 10%, 5%, 2%, 1% AEP events as follows:

- Use aerial imagery and observed water staining to estimate the bankfull depths which are generally representative of the 50% AEP (2 year ARI) flood extents;
- Interpolate and extrapolate water depths using the 50% AEP depths and the depths associated with the observed 50% to 20% AEP event; and
- Use topographic survey data and estimated water depths to map flood levels and extents.

Table 9 and Table 10 present the resulting estimated flood levels at 10 Mile Lake and Lake Sunshine respectively, with the corresponding flood extents mapped in Figure 12 and Figure 13.

6.1.1 Flood Volumes

The flood volumes for rainfall-runoff model calibration were estimated using the topographic survey data and presented in Table 9 and Table 10 for 10 Mile Lake and Lake Sunshine respectively.

Table 9: Estimated Flood levels and volumes at 10 Mile Lake under existing conditions

AEP	Estimated Level (mAHD)	Volume (m³)
63%	558.9	954,442
50%	559	2,577,750
20%	559.2	6,868,116
10%	559.4	12,122,441
5%	559.6	18,192,215
2%	559.8	25,029,770
1%	560	32,438,991

Table 10: Estimated Flood levels and volumes at Lake Sunshine under existing conditions

AEP	Estimated Level (mAHD)	Volume (m³)
63%	531.6	398,965
50%	531.7	1,101,984
20%	531.8	2,621,714
10%	532	6,609,357
5%	532.2	11,221,074
2%	532.4	16,433,500
1%	532.6	21,897,904

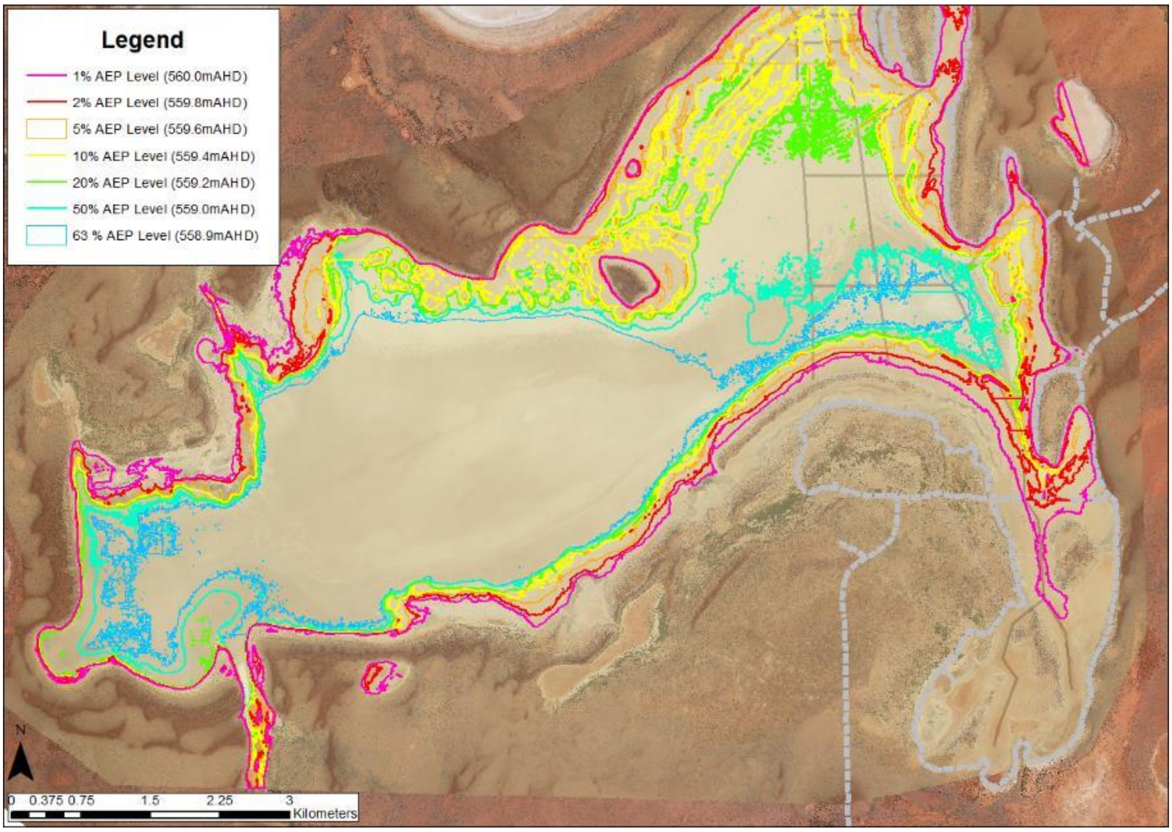


Figure 12: Existing conditions - Flood level estimate for different storm events at 10 Mile Lake [21]

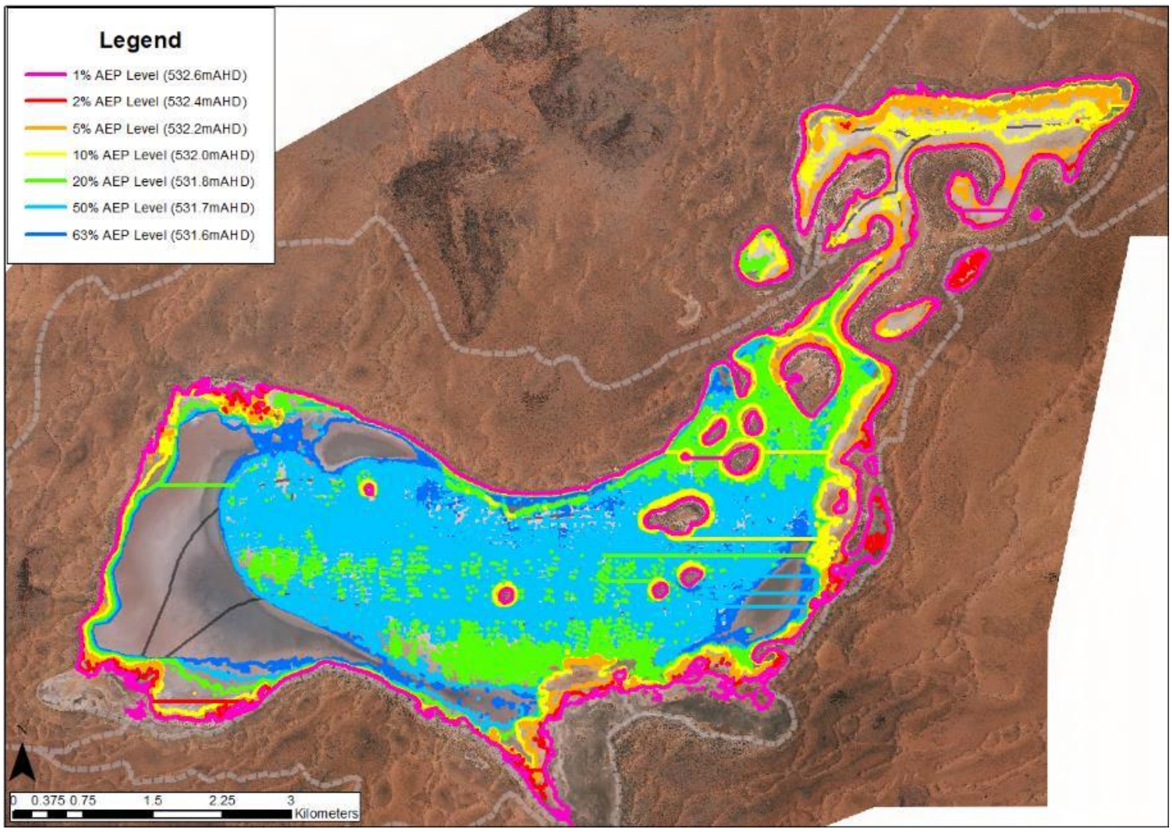


Figure 13: Existing conditions - Flood level estimate for different storm events at Lake Sunshine [21]

6.2 Geological Setting

The Project area is located within the Collier, Salvation, Scorpion, and North-West Officer Basins. The Marymia Dome (aged >2660 Ma) is located on the northeast fringe of the Yilgarn Craton (south-east magin of the Basins) and comprises Archaean greenstone belts intruded by granites, and notably monzogranitic rocks, which outcrops to the south of the Project.

Monzogranites are characterised as potassium rich and composed mostly of quartz and potassium feldspar (alkali-feldspar); their proximity to the BSOPP area, along with other granitic inliers, makes them a suspected source of the potassium enrichment in the region's sub-surface brine deposits.

Intra-cratonic basin sediments including the Scorpion, Collier, and Salvation Basins comprise the Bangemall Sub-group and Tooloo Group rocks, Figure 14. The youngest basement units within the BSOPP, are the units of the North-West Officer Basin, the Sunbeam Group (c. 1000 – 720 Ma).

Mafic intrusions, belonging to the Warakurna Large Igneous Province, c.1078 – 1070 Ma, [13], outcrop sporadically across the BSOPP area, Figure 14, and can be mapped with the publicly available regional aeromagnetic data sets. Identified as dolerites and amygdaloidal basalts, they are interpreted as being members of the Kulkatharra Dolerite suite in the western Salvation Basin area, while in the east, they are identified as the Prenti Dolerite. These intrusive rocks are also considered a source for the potassium enrichment.

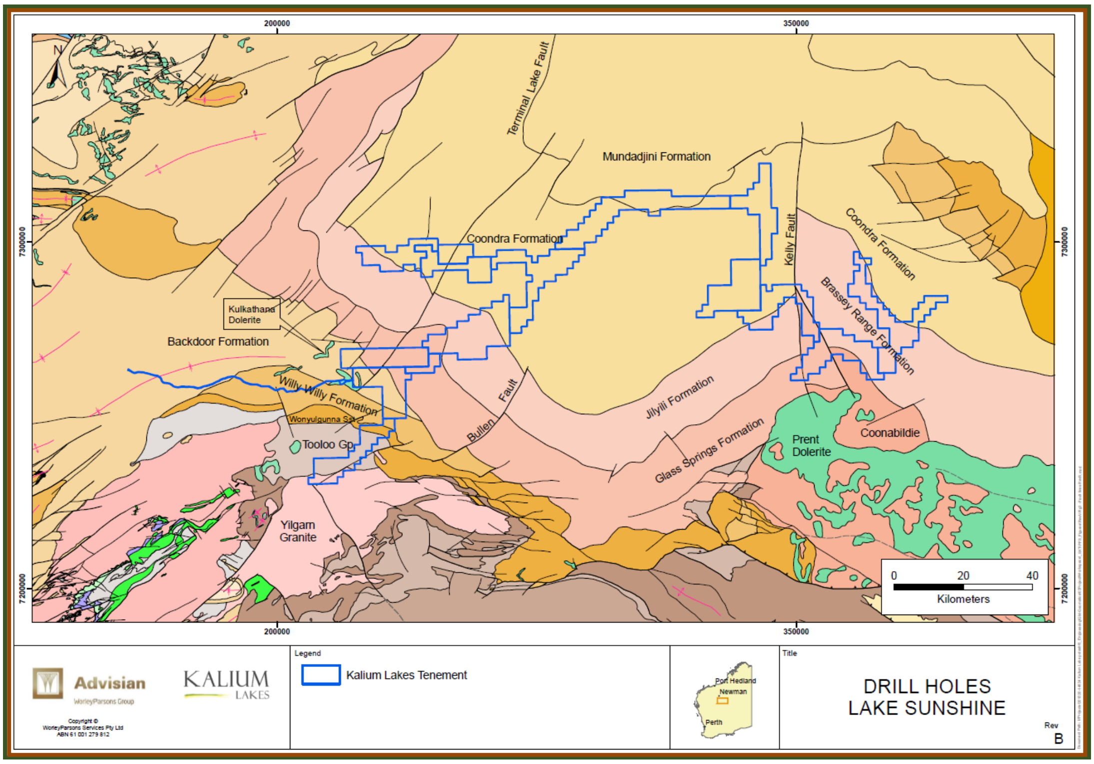


Figure 14: Interpreted Bedrock Geology [5] [12]

One of the key events to impact upon the palaeo-landscape was the Late Carboniferous – Early Permian glaciation. The period stripped the ancient topography through glacial advance, depositing glacial sediments hundreds of kilometres north and west of the Project region. The residual “scoured” landscape following glacial retreat produced during those Palaeozoic times is considered to be the palaeo-drainage network. This network has been subject to sedimentation comprising palaeovalley fill of Cenozoic sediments which is a primary host for aquifers containing hypersaline brines. Three phases of Cenozoic sedimentation make up the palaeo-drainage sequence, known as the palaeovalley sediments, are recognised as:

- Palaeochannel sand – mid to upper Eocene aged
- Lacustrine clay – late Oligocene to mid Miocene aged
- Mixed alluvial and colluvium – Pliocene aged

Derived from palynological aged dating methods, the palaeovalley sedimentary sequence described above is remarkably uniform across the Australian continent [6]. The basal palaeochannel unit is dominated by high energy fluvial sands which is considered to have been formed in braided river depositional environment under wet climatic conditions, these facies are typically located in the deepest parts of the palaeovalley. Unconformably overlying the basal palaeochannel sand horizon, are the low energy lacustrine clay horizons interpreted as forming within valley lakes and wetlands. More discrete fluvial fine sand sequences are present within the lower clay deposits, associated with lower energy palaeo-stream and channel depositional environments during the drying climate. Finally, the upper alluvial and colluvial sequence is derived from tectonic adjustments and deflation. It is varied in nature, and texturally further modified by ferricrete and silcrete weathering and regolith processes.

All three sediment sequences have been intersected in drilling across the BSOPP, and as described by Magee [6], occur with remarkable regularity. The extent of Cenozoic sediments within the project area is presented in Figure 15.

The contact between the Cenozoic sediments and the basement rocks is considered the palaeo-topography. Deep weathering profiles on this topography have been observed from geophysics and drilling. The saprolitic profiles represent the long duration this surface has been exposed to weathering and erosional process which has formed significant unconsolidated and friable sediments on the margins of the palaeovalley where more weakly cemented sandstones are present.

Figure 15: Extent of Cenozoic Geology [8]

6.3 Hydrogeology

Two regional aquifer units have been identified within the Cenozoic sediments, the palaeochannel sand aquifer of Eocene age that is located at the base of the palaeo-drainage system, and the shallow surficial aquifer comprising Pliocene and Quaternary evaporites, calcrete and silt of the lake surface and alluvium. These aquifers are considered to be hydrogeologically separated from one another by a thick sequence of stiff lacustrine clays that form an aquitard.

The regional bedrock is considered to be on the whole of low aquifer potential; however deep weathering profiles in sandstones of the Jilyili Formation and vesicular basaltic sills in the vicinity of the palaeovalley have proven to be highly prospective aquifer targets from the 2018 drilling program. In addition, regional structural features described above and specifically the unconformity between the Willy Willy Formation and the Backdoor Formation enhance aquifer transmissivity as linear features.

Groundwater within the surficial aquifer is generally between 0.2 m and 11 m below ground level, with depth to the ground water table determined by location within the catchment and local topographic changes. Groundwater flow within the surficial aquifer is generally driven by rainfall and episodic creek flow recharge to the aquifer system. The groundwater flow direction generally follows the surface topography, with recharge and groundwater mounding dominant in the ephemeral creek systems and discharge via evaporation occurring in the playa lakes through evaporation.

Groundwater within the palaeochannel sand aquifer is confined in nature and has a piezometric head that is independent to groundwater flow at the groundwater table. Piezometric head is a pressure response of regional scale that has at a very low gradient (0.00008) from southwest to northeast across the 10 Mile Lake and Lake Sunshine areas. The piezometric head is generally between 0.1 m and 0.5 m below the elevation of the water table near the centre of the palaeochannel. This head difference becomes up to 1 m lower at the margins of the palaeovalley. These differences indicate a degree of vertical downward drainage through the profile and potential mode of recharge from the surficial aquifer to the palaeochannel sand aquifer, this maybe directly through the clay zones or, more likely, at the margins of the palaeovalley through weathered and fractured bedrock. More regional, distal recharge occurs up-hydraulic gradient of the palaeo-drainage systems where the clays thin and meteoric water can enter the system, at the head-waters of the catchment.

Where bedrock aquifers are encountered below lacustrine clays the groundwater system is confined in nature. However, where weathered bedrock is exposed outside of the palaeovalley groundwater is unconfined and moves according to local groundwater table flow patterns.

6.3.1 Aquifer Conditions

The surficial aquifer conditions have been demonstrated on lake by construction and test pumping of trenches dug in the surface of the playa lakes, and off lake via drilling and test pumping. The construction of the trenches on lake has indicated a highly layered sequence of silts and evaporites (gypsum) displaying high transmissivity associated with secondary porosity within evaporite zones and lower transmissivity in more silty porous flow dominated zones. Vertical hydraulic conductivity can be two orders of magnitude less than horizontal hydraulic conductivity.

When trenches were pumped, steady state flow conditions were achieved in monitoring pits located at varying distances away from the pumping trench after between 5 days and 20 days of pumping. A typical unconfined aquifer response with no boundary conditions was evident during test pumping of all trenches indicating a laterally extensive aquifer.

Off lake the surficial aquifer generally comprises of low transmissivity silt and soft clay unless calcrete is encountered. Calcrete is characterised by secondary porosity with very high transmissivity, but moderate to low storage.

The palaeochannel sand aquifer is a confined porous system, laterally bounded by the edges of the palaeovalley system and the poddy nature of the sand sequences. The aquifer can be characterised as behaving as a strip aquifer system where multiple reduced hydraulic conductivity boundaries are evident in pumping data. Leaky aquifer test pumping responses have been observed in test pumping at Lake Sunshine Palaeochannel sand aquifer bores. Drilling during the 2018 aircore program has confirmed thick weathered sequences of sandstones and basalt present on the margins of the palaeovalley which have been identified as production bore targets, but also provide leakage to the deeper palaeochannel sand, which is considered to be in hydraulic connection.

Across the project, silcrete is encountered within the sand sequences in the weathered bedrock and palaeochannel sand. Silcrete can have a secondary porosity which locally increases transmissivity and can enhance bore yields.

The confined nature of the deep aquifer means that pumped water abstracted during practical long-term aquifer testing will originate from confined storage, a pressure response to pumping. Specific yield will not be obtained from test pumping of confined aquifer bores, therefore estimates of specific yield have been determined from other methods, during the 2018 field program calibrated Borehole Nuclear Magnetic Resonance (**BMR**) logs have been run to obtain in-situ measurements of specific yield.

Magee (2009) presents pumping records of the Roe Palaeochannel located near Kalgoorlie. These records indicate that longer term pumping yields are typically between 3 L/s and 11 L/s from the palaeochannel sand aquifer, but decrease as drawdown hits aquifer boundaries and unconfined conditions became prominent. The 10 years of pumping data presented in Magee (2009) has shown that pumping water levels can stabilise once the piezometric head has reached the base of the lacustrine clay and leakage becomes dominant in the aquifer system. The Roe Palaeochannel and other Goldfields palaeochannel systems are considered to be of a similar age and depositional environment as the Beyondie Palaeochannel and the results of the various hydrogeological investigations have shown similar aquifer responses.

Medium term pumping rates during the depletion of confined storage stage of production will be calibrated to the test pumping data. However, longer term production rates require six to twelve months' worth of pumping data at rates to significantly stress the aquifer to determine the rate of leakage that influence longer term pumping rates, where leakage has not been measured in the field, this is only practical during borefield operations, where interference effects between a number of production bores can occur. Numerical modelling using sensitivity analysis has been utilised to determine the rate of leakage and longer term sustainable pumping rates of production bores based on known aquifer geometry and clay hydraulic properties.

The conceptual understanding of the system and the aquifers targeted for brine production is presented in Figure 16 below.

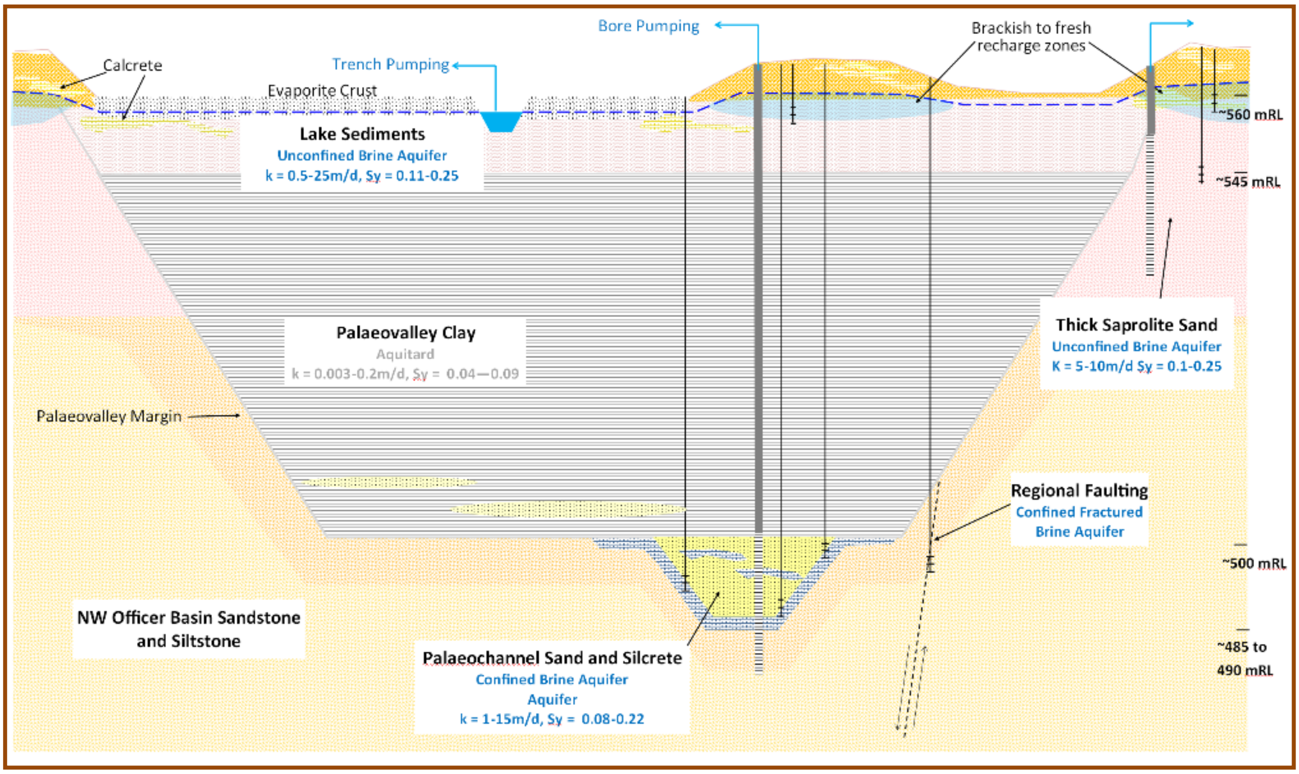


Figure 16: Hydrogeological Conceptual Model [17]

7 Deposit Type and Mineralisation

The BSOPP deposit is a brine, containing the target potassium and sulphate ions required to form a potassium sulphate salt. The brine is contained within saturated sediments in at least four separate horizons below the lake surface.

The lake bed alluvial sediments form the upper surficial aquifer and host the first brine horizon. The second brine horizon is hydraulically connected to the upper aquifer and comprises the lacustrine clay. The basal sand of the palaeochannel and the fractured bedrock form the third and fourth brine horizons and are considered to be hydraulically disconnected from the shallow aquifer.

Exploration for potassium and sulphate rich brines has concentrated on the more permeable horizons of the upper surficial aquifer, the basal sand of the palaeochannel and thick weathered horizons of the sandstone bedrock. The lacustrine clays are considered to be of low permeability and will not yield brine at economic flow rates, however they may contribute to leakage under long term pumping conditions.

8 Exploration

In August 2015, the Competent Persons of K-UTEC, Thomas Schicht and Anke Penndorf, visited the Beyondie Lakes area. During this visit, K-UTEC staff could observe mud rotary drilling at bore WB11_TB and could inspect the geophysical traversing being undertaken. The site visit report by K-UTEC staff for the 2015 exploration is included at reference [7].

In June 2017, the Competent Persons of K-UTEC visited the Beyondie Lakes area again. During this visit K-UTEC staff could inspect the current drilling sites, trenches and production bores as well as the trial evaporation ponds near the camp site. Meetings with KLL's consultants Advisian and Western Geophysics were held to discuss the progress of the recent exploration and the interpretation of current data. The 2017 site visit report by K-UTEC staff is included at reference [11].

The Competent Persons of K-UTEC visited the Beyondie Lakes area a third time in February 2018 (see report reference [19]). During this site visit K-UTEC staff could inspect the drilling sites of the most current aircore and sonic drilling campaign. The new test ponds near the camp could be inspected as well as the operational production bores for these ponds. Additionally, geological sampling as well as sampling of surficial water and brine could be observed. Meetings with KLL's consultants Advisian and Western Geophysics were held again to discuss the progress of the recent exploration and the interpretation of current data.

Advisian's Principal Hydrogeologist has visited site many times between February 2017 and August 2018 typically coinciding with key activities such as commencement of drilling and test pumping programs to ensure logging, data collection and sampling QA/QC procedures are being adequately followed.

The Exploration of the BSOPP has involved a complex data collection programme, covering augering, geophysics, drilling, water and soil sampling, aquifer testing and laboratory tests. Exploration to date has comprised the following [8], [11], [19], [20]:

- 232 aircore, diamond and sonic drill holes to collect geological and brine samples;
- 400 auger holes across all the lakes up to depths of between 1.5 and 2 m, to collect information on the lake surface geology and groundwater samples;
- 12 large 200 to 250 mm diameter cased test bores;
- 1,130km of geophysical traverses between 10 Mile Lake and White Lake;
- Installation of 61 monitoring boreholes;
- Excavation of ten trial trenches for 1,640 m of trench;

- Grain size analysis of 61 sand samples from 12 boreholes, 2 clay samples from 2 boreholes and 49 lake bed alluvium samples from 18 different lakes;
- 43 laboratory analyses of cores for porosity;
- 12 Borehole Nuclear Magnetic Resonance (**BMR**) logs;
- 13 mini aquifer tests (1 hr pumping / 1 hr recovery);
- 12 constant rate / recovery aquifer pumping tests;
- Laboratory analysis of water samples collected from augering (427), drilling (589) and during the aquifer testing and bore development (161);
- 20 leach tests of the surface sediments;
- 16 weeks of bore test pumping;
- 11 weeks of trial trench test pumping;
- 45 weeks of trial pond pumping; and
- >260 million litres of brine pumped from aquifers.

8.1 Drilling

A summary of all drilling that has been undertaken at the project is presented below.

The 2015 drilling program comprised of a number of different methods including conventional air percussion (to install surface casing), mud rotary drilling (with tricone and/or blade bit), as well as blade/tricone bit drilling with brine as drilling fluid; all with 165 mm diameter bits. In September 2015, HQ diamond core drilling and a casing advancer for further exploration drilling and retrieval of core for laboratory testing was utilised. Where basal sands were encountered, the diamond holes were reamed out to 300 mm and 200 mm PVC casing and gravel pack was installed. This technique was employed on bores WB09, WB10, WB11, and WB12.

During the 2017 field program a further 22 aircore drill holes were completed at 10 Mile Lake and 25 at Lake Sunshine to explore the palaeovalley aquifer targets from the extensive geophysical program to obtain lithological and brine samples and install monitoring bores. 28 monitoring bores were installed within exploration holes at 10 Mile Lake and 22 monitoring bores were installed within exploration holes at Lake Sunshine. A number of the exploration holes had dual monitoring bores installed to monitor shallow and deep aquifer units.

The 2018 drilling field program involved installation of monitoring bores and a production bore using sonic drilling methods and an extensive aircore exploration program. This program focused on the

10 Mile Lake and Lake Sunshine Stage 1 production areas. The program involved drilling of 142 aircore exploration holes on transects totalling 7,794 m of drilling. This drilling has confirmed the geological extent of the target geology and brine mineralisation. A sonic drilling rig followed up the aircore drilling to twin ten key aircore holes, in order to obtain core for laboratory testing, and install monitoring bores for a total of 710 m of drilling. An additional production bore (SSSN03PB) has been installed within the weathered sandstone aquifer at Lake Sunshine.

All geological samples collected during all forms of drilling have been qualitatively logged at 1 m intervals to gain an understanding of the variability in the aquifer materials hosting the brine. During conventional and aircore drilling samples were collected washed and stored in chip trays for future reference. A geological core description with detailed documentation (drilling log, soil profile) has been prepared for each borehole and is stored within the geological database. Sonic core trays have been logged and stored onsite.

There are no drilling, sampling or recovery factors noted to date that could materially impact the accuracy and reliability of the results. Drill data are included in Appendix 2.

All drillhole locations are presented in Figure 17 and Figure 18.

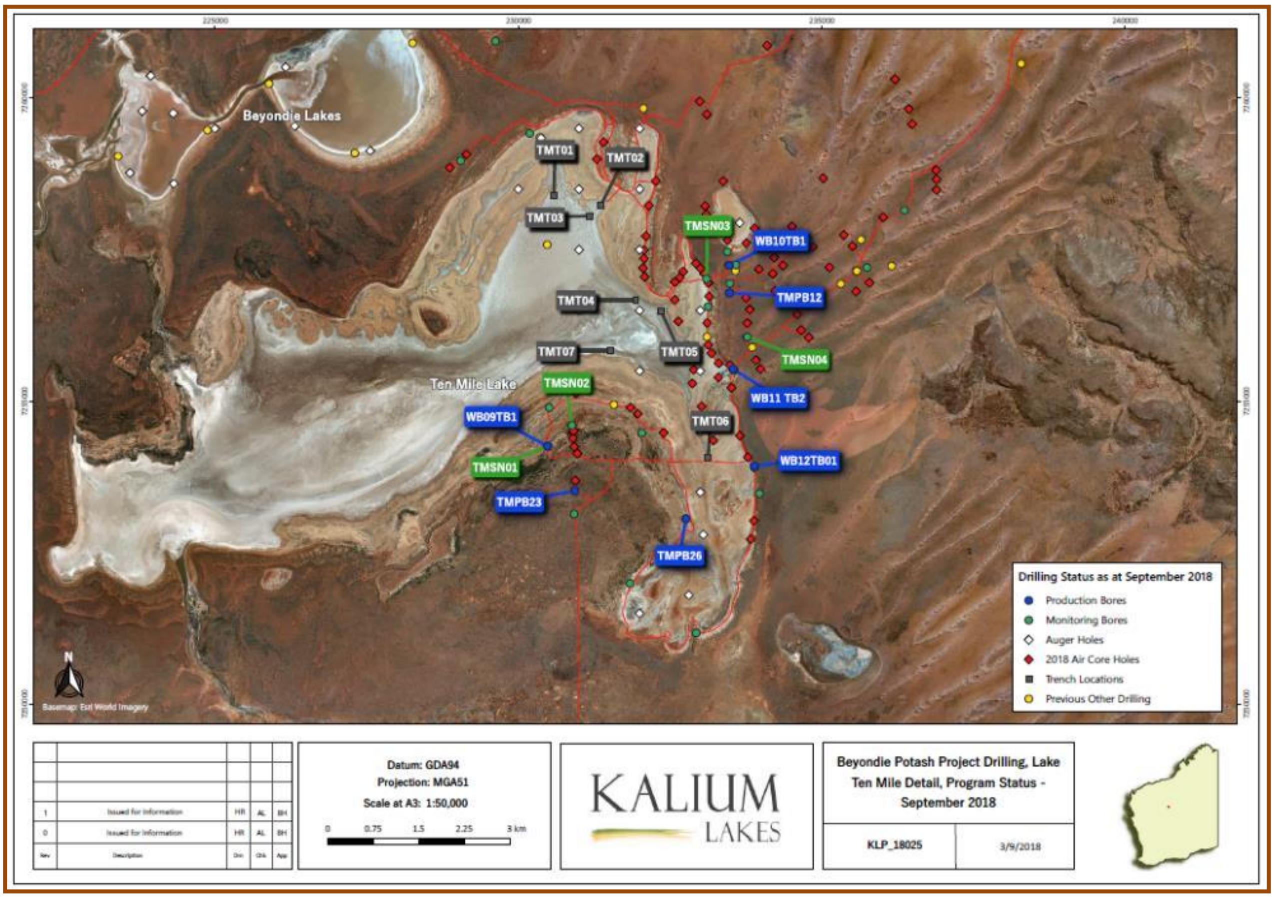


Figure 17: Drillhole Locations at 10 Mile Lake and Beyondie [20]

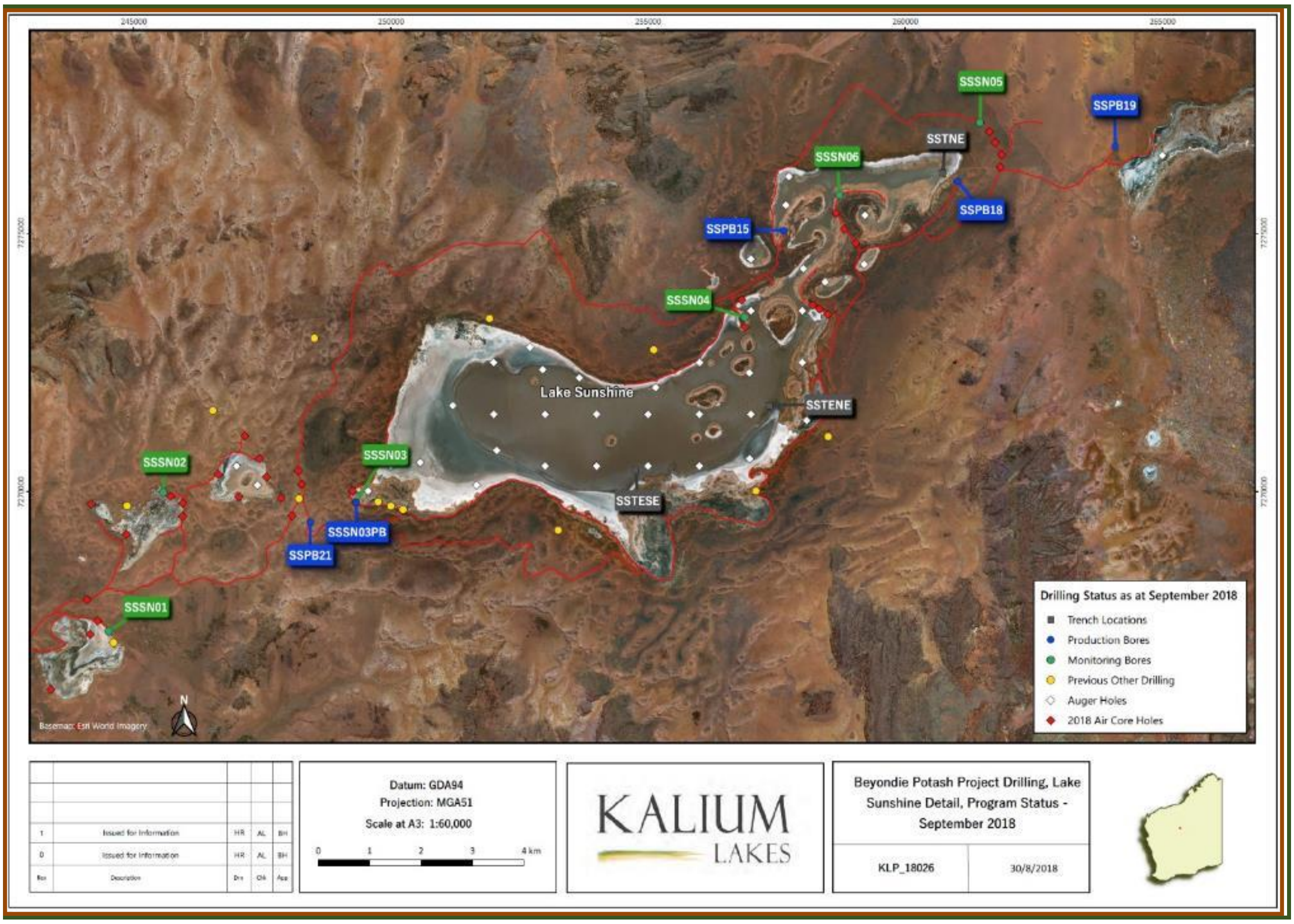


Figure 18: Drillhole Locations at Lake Sunshine [20]

8.2 Augering

An auger hole drilling program was completed in 2015 and a follow up program was completed in 2017. Auger hole depths in the 2015 program were approximately 1.5 m depth on an approximate 1 km sample grid on all lake surfaces. The 2017 program resampled approximately 10% of the 2015 sample locations to obtain brine samples and lithological samples for laboratory testing; this program was drilled to 2 m depth. The auger holes were installed using a motorized, hand held auger. After the hole was allowed to fill with brine (generally within 5 minutes) samples were collected. When the sediment had settled in the bottle, a clean sample was decanted to a 500 ml bottle, which was then kept cool until delivery to the laboratory for analysis.

Figure 19: Hand Held Auger Drilling [9]

The potassium concentrations for all auger-hole samples obtained to date are shown in Appendix 3, and the locations are presented in Figure 20 and Figure 21.

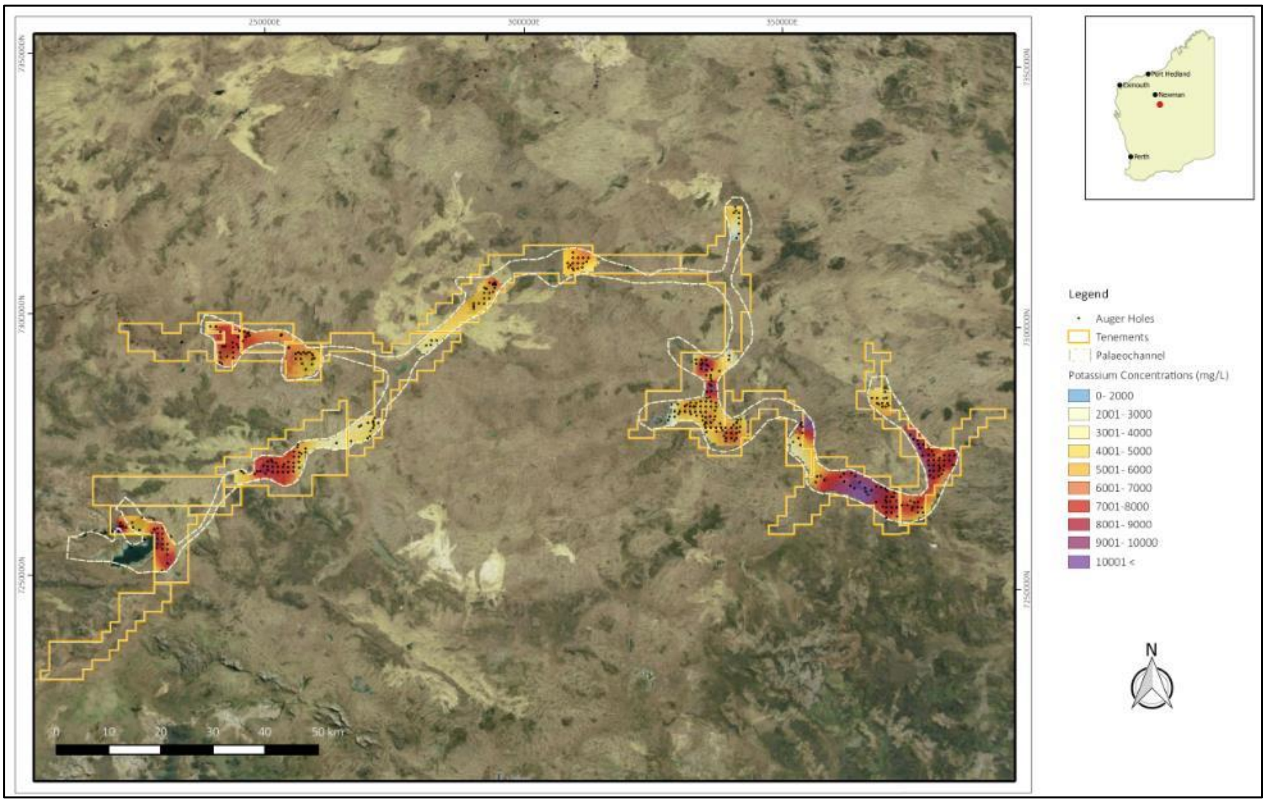


Figure 20: 2015 Auger Holes [9]

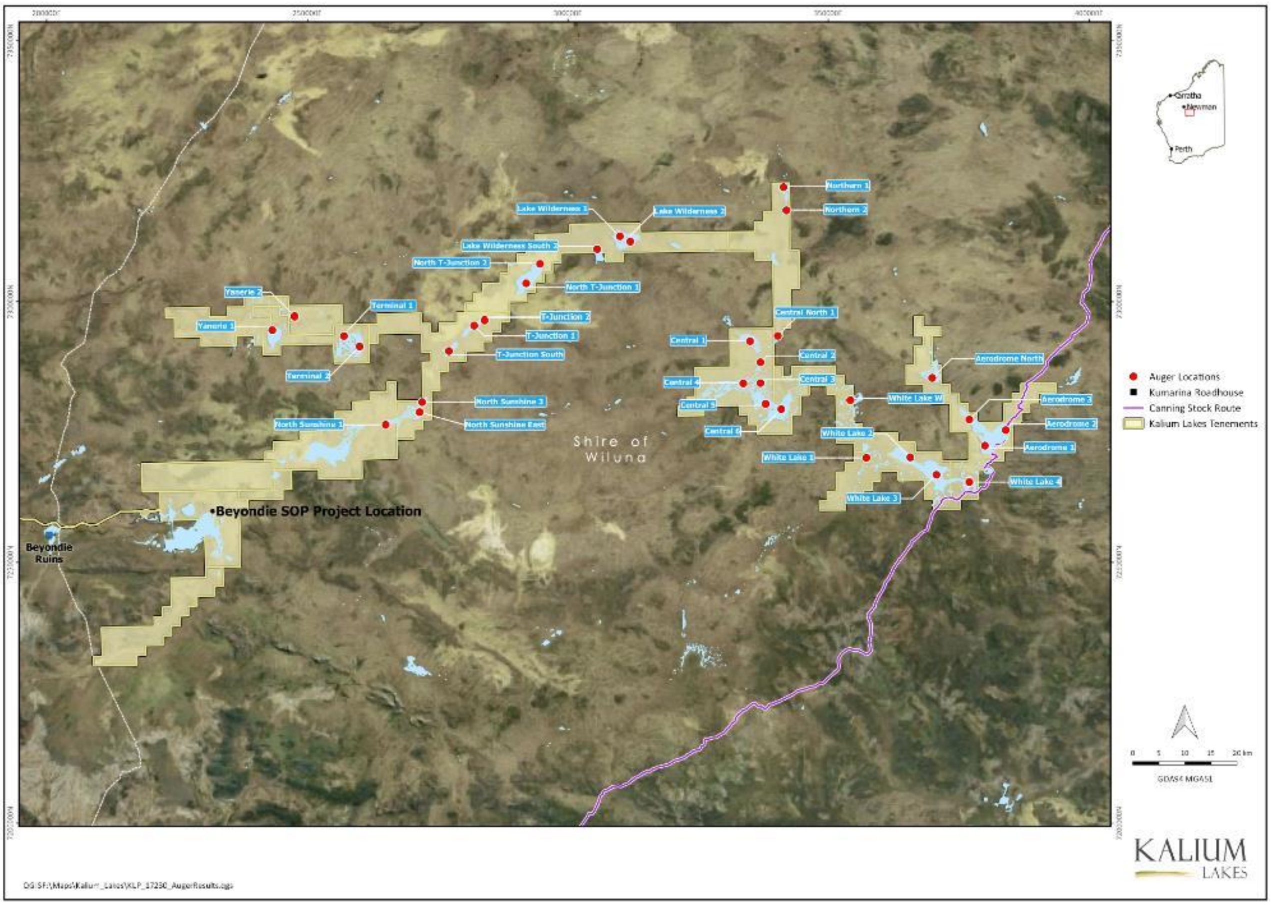


Figure 21: 2017 Auger Holes [20]

8.3 Trenching

Trial trenches have been used to investigate the lithology of the top 5 m of lake sediments and test the ability of these sediments to supply brine. Ten trial trenches were completed: seven at 10 Mile Lake and three at Lake Sunshine. The details of these trenches are provided in Table 11. Figure 22 shows the trenches being excavated.

Table 11: Trench Details

Trench ID	Easting	Northing	Width (m)	Depth (m)	Length (m)
TMT01	230,586	7,258,398	1.5	2	500
TMT02	231,362	7,258,232	1.5	2	300
TMT03	231,182	7,258,059	3	5	500
TMT04	231,937	7,256,672	3	5	50
TMT05	232,351	7,256,493	3	5	90

Trench ID	Easting	Northing	Width (m)	Depth (m)	Length (m)
TMT06	233,130	7,254,077	1.5	2	80
TMT07	231,521	7,255,833	1.5	2	20
SSTENE	257,359	7,271,673	4	5	44
SSTESE	254,765	7,270,417	4	5	42
SSTNE	260,451	7,276,110	4	5	12

Shallow 2 m deep trenches were initially constructed at 10 Mile Lake using a small traditionally tracked excavator, later, 5 m deep trenches were constructed at Lake Sunshine and 10 Mile Lake with the use of a 12 tonne amphibious excavator. The deeper trenches had slopes at approximate 1 in 2 angles to maintain wall stability. Water level monitoring pits were dug with the excavators at a number of locations between 5 m and 50 m from the trench to facilitate monitoring of the test pumping.

Figure 22: Trench SST02 in construction [12]

Trenching provided an opportunity to log the bulk geology of the top 5 m of the lake sediments in profile instead of relying on point samples from drill holes. The layered nature of the sediments was evident with lithological zone evident related to different flooding events and subsequent evaporite deposits. Notable brine inflows were evident in the trench walls where coarse gypsum crystals were present as shown in Figure 23.

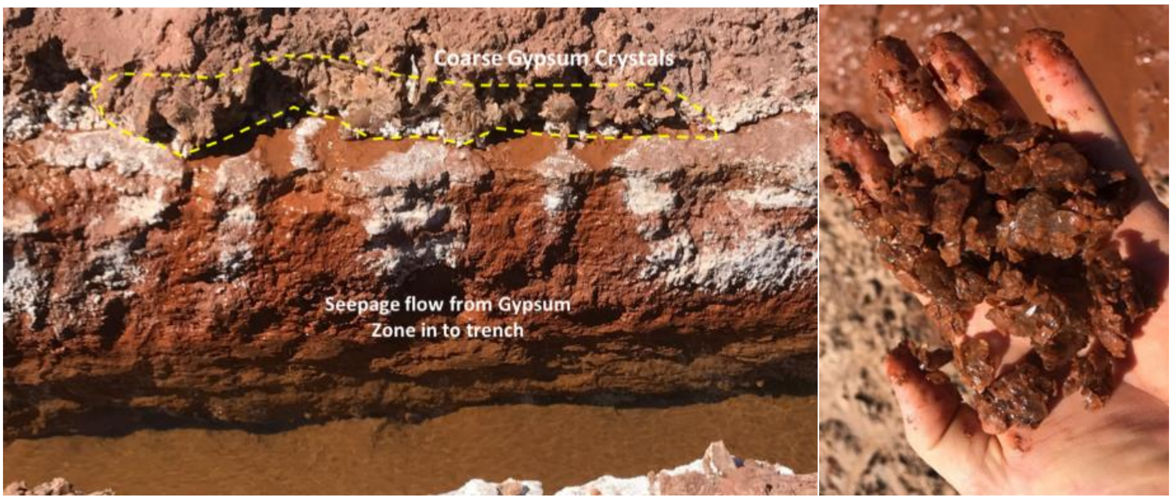


Figure 23: Gypsum crystals in a 2 m long section of trench at SST01 (left) and 2 to 4 cm sized gypsum crystals (left) [12]

8.4 Geophysical Surface Exploration

Geophysical gravity and passive H/V seismic surveys were undertaken between 2015 and 2017; 1,130 line km of traverse was completed from bedrock outcrop on one side of the palaeovalley to bedrock outcrop on the other side where possible. The location of the gravity and passive seismic traverses are presented in Figure 24 and Figure 25. These measurements provide information about the location and extension of the palaeovalley and the location of the deepest sections where the palaeochannel is expected to be located.

Gravity and passive H/V seismic methods give an indication to the palaeovalley geometry. The results were used to plan the exploration drill hole locations to encounter brine within the basal sands of the palaeochannel and deeply weathered zones of the bedrock.

Following drilling, the gravity and passive H/V seismic data has been integrated and calibrated to the drilling results which have been used to map the basement surface topography away from the main exploration areas and used to constrain the geological model in these locations.

Resistivity/conductivity surveys have also been completed using the NanoTEM system to resolve some ambiguity in the gravity data at a number of key locations. The calibrated integrated geophysical methods used have enabled a more robust geophysical model to be constructed which has used two independent methods to locate and map the palaeovalley sediments.

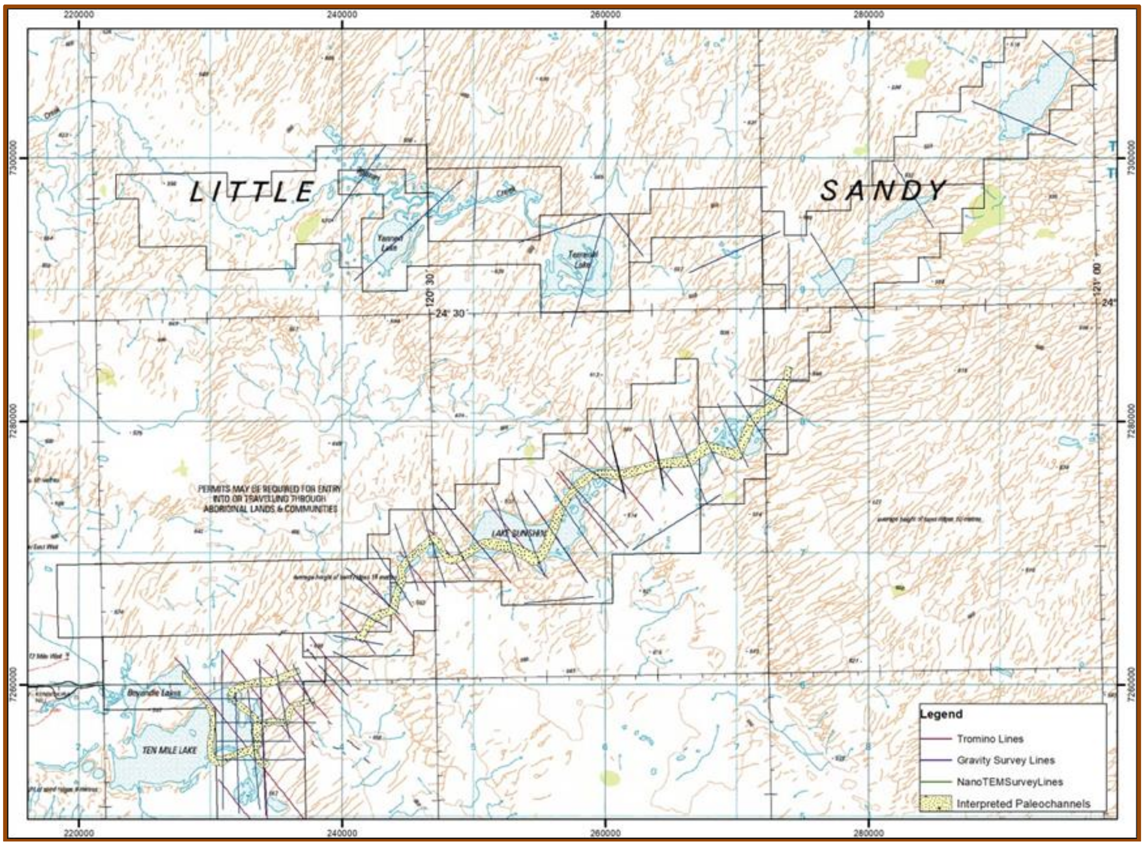


Figure 24: Gravity and Passive Seismic traverses, Western Area [12]

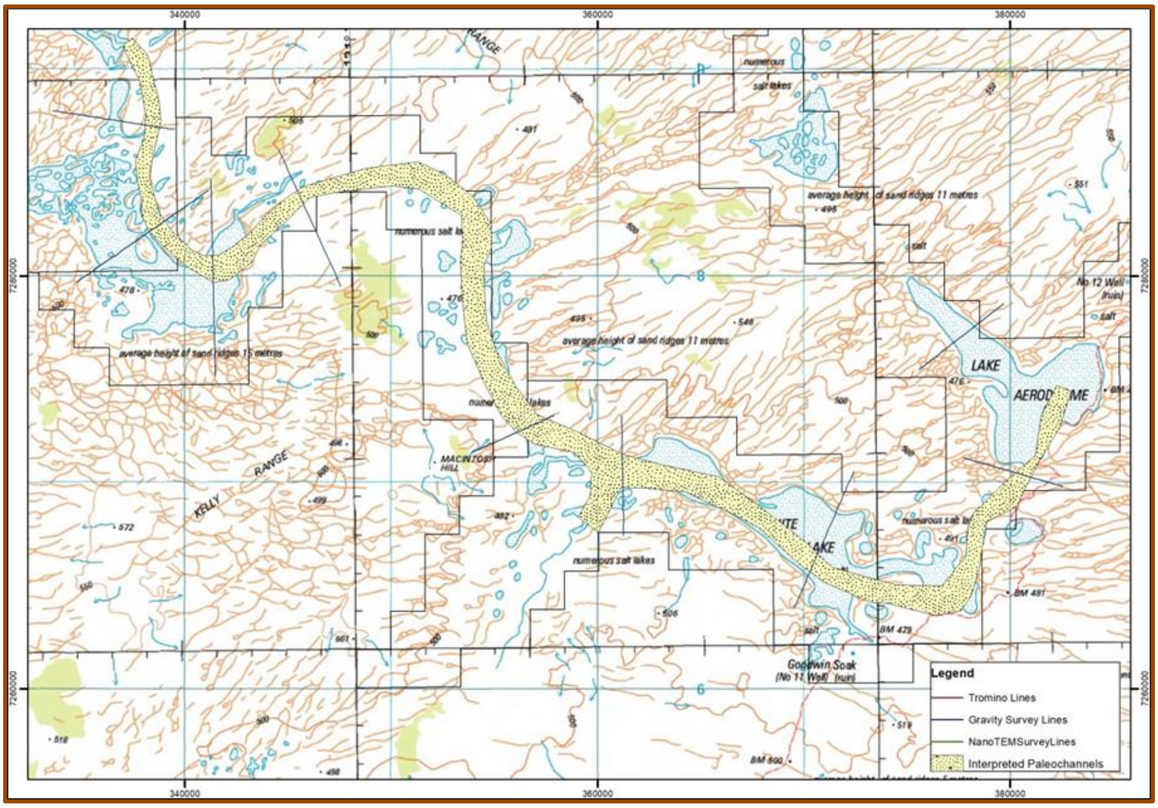


Figure 25: Gravity traverses, Eastern Area [12]

8.5 Wireline Logging

Downhole geophysics (spectral gamma, conductivity and Borehole Nuclear Magnetic Resonance (**BMR**)) has been completed on all monitoring bores completed in 2018 to measure lithological changes and in-situ aquifer properties. The BMR logging has been calibrated to laboratory testing of core plugs to assist with Resource estimation, a similar methodology to what is used in the Petroleum industry to assist with estimating oil field resources and reservoir modelling. BMR technology measures the behaviour of hydrogen nuclei when subjected to a magnetic field which can be related to the volume of water present as bound water (specific retention) and movable water (specific yield, (**Sy**)) quantities (Schlumberger 2007, NMRSA 2018).

The BMR logs were calibrated to laboratory controlled magnetic resonance analysis on 11 core plugs taken from the sonic cores to ensure the cut-off times for specific yield calculation were representative of the various lithologies. An average calibration was used to reduce the T2 cut-off from the traditional sandstone derived 33 milli-seconds to 12.6 milli-seconds, this reduced cut-off results in an increased specific yield portion of the total porosity. The change in cut-off is representative of the volume of iron present in the sequence, the greater the iron content the lower the cut-off time.

Notably, the BMR logs have been able to provide insight in to aquifer properties on a resolution across the palaeovalley sequence and bedrock lithologies not previously observed from test pumping, drilling or laboratory testing. The results indicate that in-situ specific yields of the basal sand and silcrete aquifer zones maybe between 10% and 30%, however these zones are significantly thicker than previously considered, the sandy lenses of the lower clay sequences have higher specific yields which were previously categorised as lacustrine clays, which is now incorporated into to the sand and silcrete aquifer resource. An example of a BMR log TMSN03 is provided in Figure 26, this drill hole is located on the lake edge at 10 Mile Lake and shows the profile from the lake surface to the base of the palaeochannel with significant sand and Silcrete present in the bottom 30 m of the drill hole. All calibrated wireline logs are provided in Appendix 7.

When processing the logs for lithological properties for Resource estimating noise peaks and cavities have been corrected. These features of the logs can be caused by washouts in the drill hole wall, highly unconsolidated beds or grout seals in the bore annulus. Where these peaks occur in the alluvium and lake sediments specific yield has been adjusted to 10% and where these occur in the sandy zones of the palaeochannel and weathered sandstone Sy has been adjusted to 30%, assuming that the washouts are likely to occur at the most permeable and high storage zones. Total porosity has been adjusted to 0.45% in these zones.

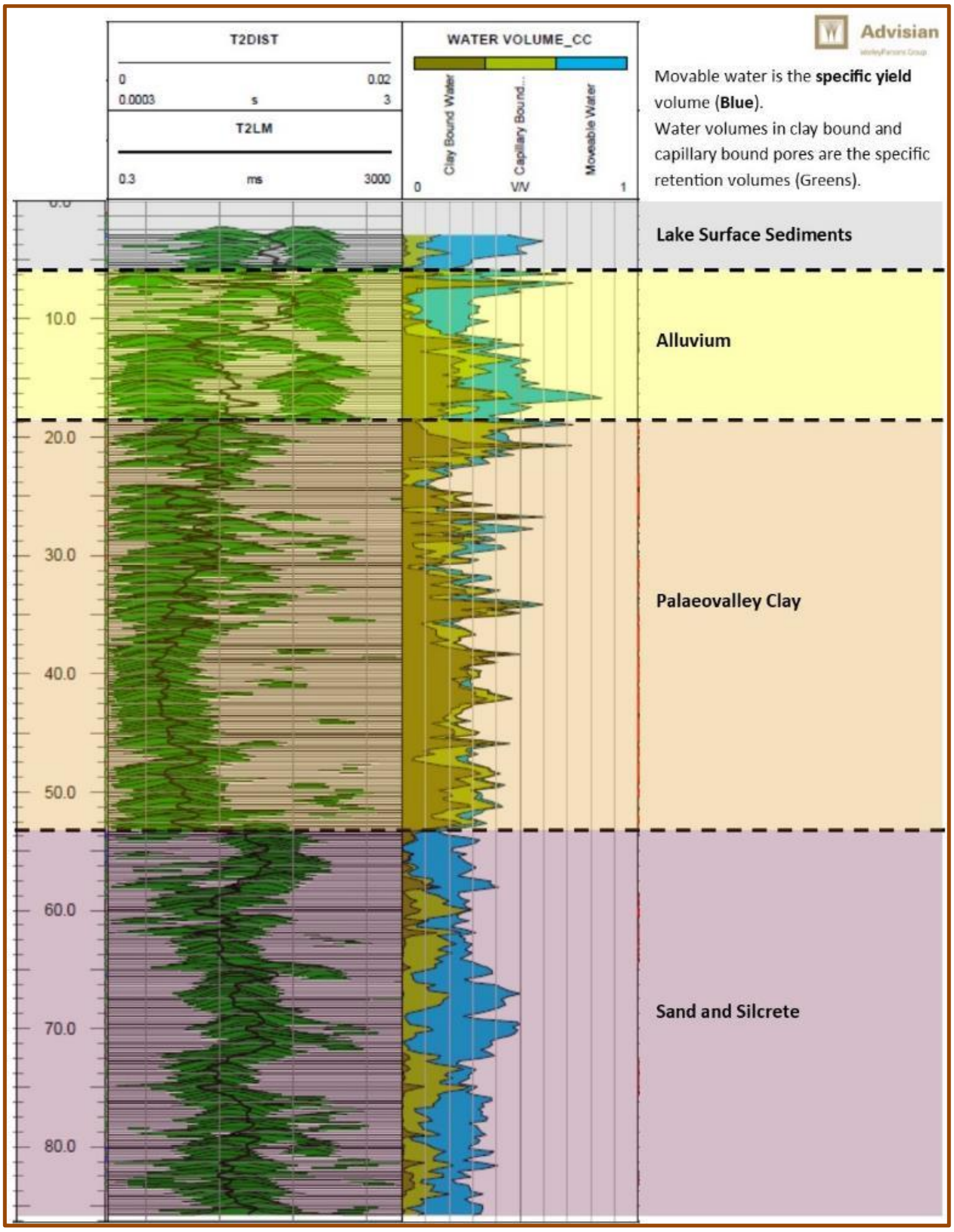


Figure 26: BMR Log from TMSN03 [17]

8.6 Aquifer Tests

In December 2015, several pumping tests were conducted in test production bores to obtain information on aquifer parameters such as permeability, specific yield and confined storage. In 2017 longer duration constant rate tests were carried out at seven test production bores and six trial trenches. During 2018 one further aquifer test was completed on a new production bore at Lake Sunshine installed within the weathered sandstone aquifer and one additional trial trench was pumped at 10 Mile Lake. The durations of these longer tests ranged from three to twenty-one days.

Other small-scale aquifer tests that have been undertaken include mini constant rate tests (1 hr pumping / 1 hr recovery) and slug testing at a number of monitoring bore locations.

The palaeochannel test pumping results have concluded the basal sand is extensive and performs as a confined strip aquifer with leakage. Leakage was observed in bore SSPB19 as a flattening of the drawdown curve during late time drawdown data. Aquifer properties from the palaeochannel bores have been remarkably consistent, with permeability ranging from 2.1 m/d to 3.4 m/d and confined storage from 0.0002 to 0.0008. A leakage parameter of 0.1 was measured at SSPB19.

Test pumping of the weathered sandstone at Lake Sunshine was completed in 2018 with a total of five weeks of pumping at bore SSSN03PB, the 40 m deep bore sustained 17 L/s for the duration of the test. The test displayed a leaky aquifer response, which was supported by drawdown being measured in all shallow and deep monitoring bores on the western side of Lake Sunshine. Aquifer responses were observed in bedrock, palaeochannel and shallow lake aquifer bores indicating widespread connectivity. The test resulted in a permeability of between 2 m/d and 5 m/d and a leakage parameter of between 0.03 and 0.04.

Surficial aquifer trial trench pumping produced reasonably consistent results. The aquifer performed as unconfined and unbounded under the pumping durations completed, with steady state conditions achieved in monitoring pits surrounding the trenches. Aquifer properties were surprisingly high, with permeability ranging from 2.5 m/d to 24 m/d and specific yield ranging from 11% to 25%. These test results indicated the flow into the trenches is dominated by highly transmissive gypsum zones, but these zones are generally found throughout the lake sediments. The trenches have performed better than expected and will contribute a significant proportion of the extractable resources. Aquifer testing results are presented in Appendix 4 & 5.

Water samples during test pumping were collected, where possible, at intervals of one per day, to assess changes in brine chemistry under pumping conditions. The test pumping brine chemistry for all longer-term test pumping is plotted in Appendix 5. The sampling during test pumping has produced some fluctuating results in bores TMPB23 and SSPB15, and in trenches TMT02 and SSTENE. However, a general rising average trend was generally observed in most tests.

8.7 Trial Pond Pumping

The trial evaporation ponds have been in operation since September 2017 and have required regular filling to maintain water levels in the ponds. Brine has been pumped from WB10 and TMPB12 on the eastern side of 10 Mile Lake.

During the filling of the ponds flow rates ranged from 10 L/s to 20 L/s, associated with approximately 17 m of aquifer drawdown in the deep confined aquifer between August and October 2017. Between October 2017 and April 2018 abstraction has continued intermittently in response to water levels in the ponds, pumping rates ranged from 6 L/s to 12 L/s with deep confined aquifer drawdown steady at approximately 6 m during March and April 2018 in relation to constant pumping at approximately 6.5 L/s. Since April 2018 the ponds have required less supply in response to lower evaporation rates and harvesting activities, water levels have slowly recovered, the average intermittent pumping rate has been approximately 5 L/s during this time. Higher rates of pumping have occurred in June and July to refill the ponds following harvesting of salts.

There is approximately 58 m of available drawdown within the deep confined aquifer in the vicinity of WB10 and TMPB12 which can be utilised for additional production. The water table in the upper aquifer has been stable during the trial ponds pumping period. The pumping has been observed as centimetre scale drawdown in monitoring bores up to 2.3 km to the east at TMAC15, these responses will be used to further calibrate the numerical model for the Reserve estimate and re-estimate sustainable yields. The water level responses in monitoring bores adjacent to TMPB12 are presented in Figure 27 and the cone of drawdown is indicated on the cross section in Figure 28.

Potassium and sulphate concentrations have been measured during the trial pond pumping which showed that the concentration have generally been steady with fluctuations (up and down) observed of less than 5% when pumped from the confined aquifer.

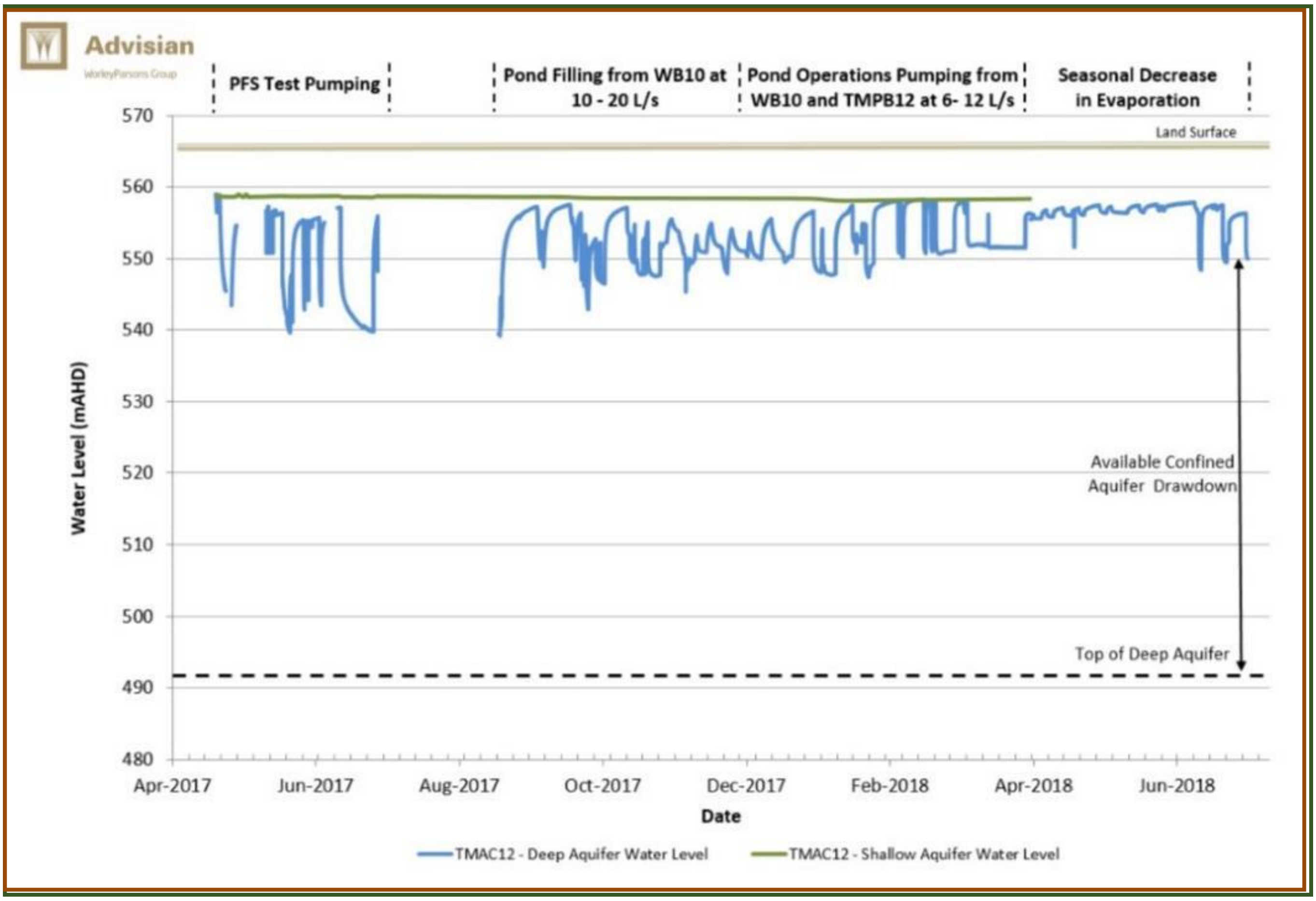


Figure 27: Aquifer Water Level Response from Trial Pond Operations [17]

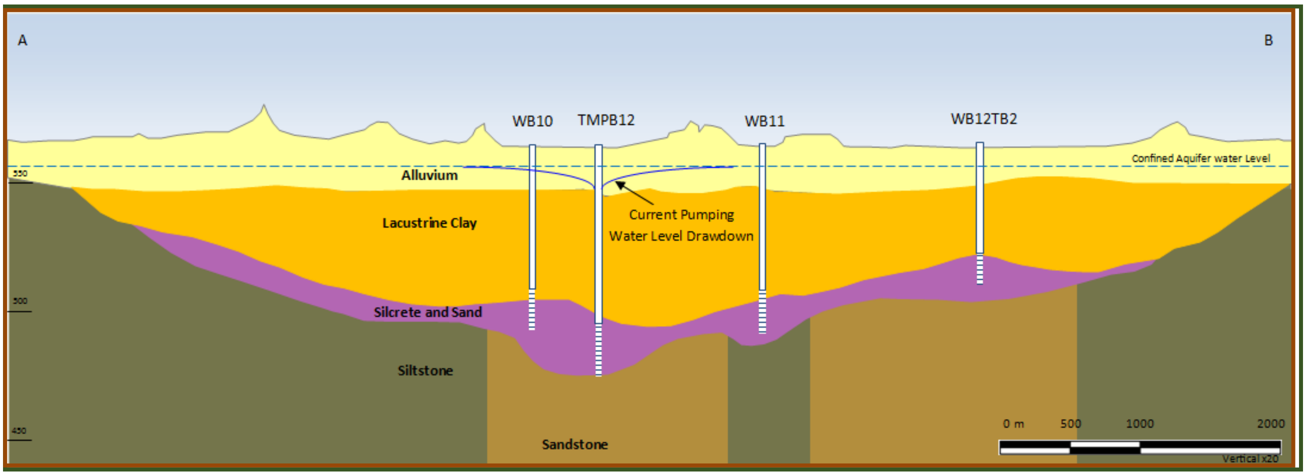


Figure 28: Section of 10 Mile Lake Showing Geology, Installed Production Bores and Trial Pond Pumping Drawdown [17]

8.8 Leaching Potential of the Lake Surface

The potential for the lake sediments to leach potassium (**K**) and sulphate (**SO_4**) is important to understand for the various controls on the nature of lake recharge and its impact to the surficial resource over the life of mine. During operations lake recharge has potential to effect brine grade via infiltration of lake surface waters through the unsaturated zone.

After periods of heavy rainfall, surface water can accumulate at the lowest parts of the lakes. This was observed on Lake Sunshine in January 2018 after approximately 60 mm of rainfall fell over 72 hours which resulted in less than 1 cm depth of surface water within the lowest areas of the lake. The surface water quality was sampled during the period the lake had surface water on it, the results showed that total dissolved solids quickly rose from rainwater levels to approximatly 60,000 mg/L (K = 2,590 mg/L, SO_4 = 9,150 mg/L), at the time of the rainfall event, to approximately 250,000 mg/L (K = 7,780 mg/L, SO_4 = 26,100 mg/L) within a week. During the same period there was no surface water present at 10 Mile Lake so no samples were able to be taken.

Preliminary leach testing of two core samples from 10 Mile Lake surface suggested that significant volumes of potassium may leach when fresh water is flushed through the sediments, supporting the findings from the lake surface samping. Therefore, a more extensive sampling and testing program was completed across 10 Mile Lake and Lake Sunshine to determine the variability of leaching and infiltration potential for the surface of the lakes.

8.8.1 Field Sampling

Sample points were determined with the aim of characterising the relatively low, medium, and high points of the lake surfaces. This would cover the area’s most regularly inundated by surface water and those very rarely inundated, and those areas in between. The sample locations are presented in Figure 29 and Figure 30.

At each sample point a 150 mm diammeter core sampler was driven into the lake surface to obtain a relatively undisturbed sample from the lake surface and record the lithology with relevant percent of gypsum, silt and clay.

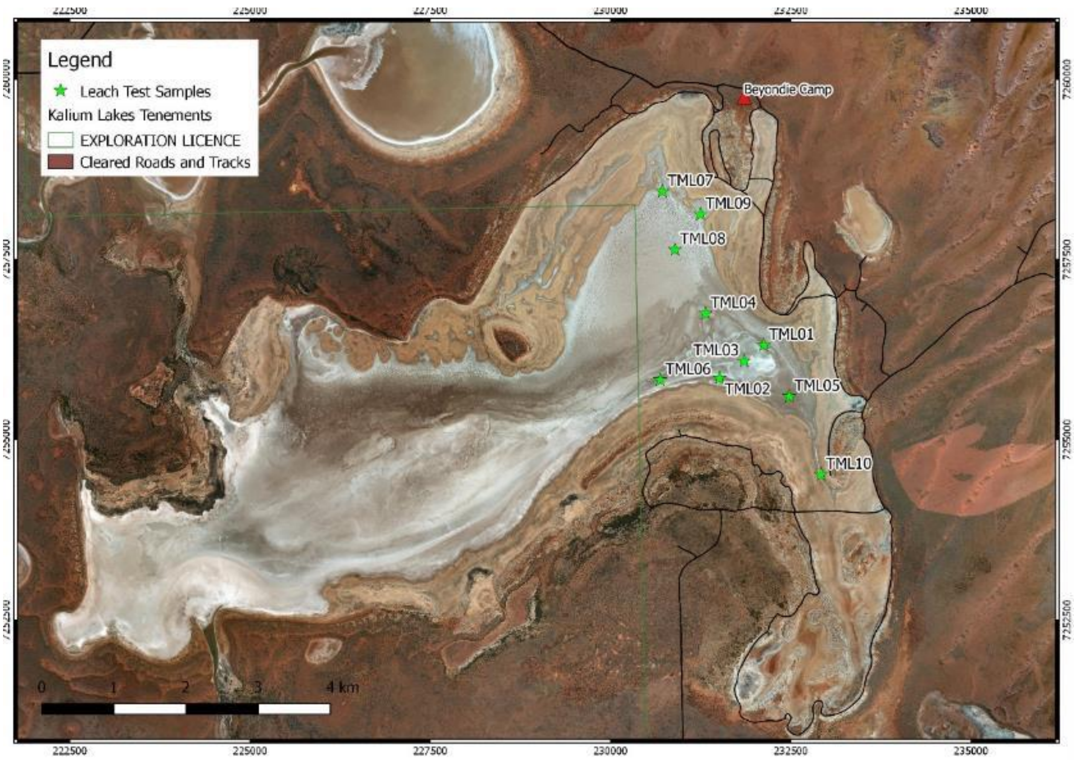


Figure 29: 10 Mile Lake Leach Sampling Locations [17]

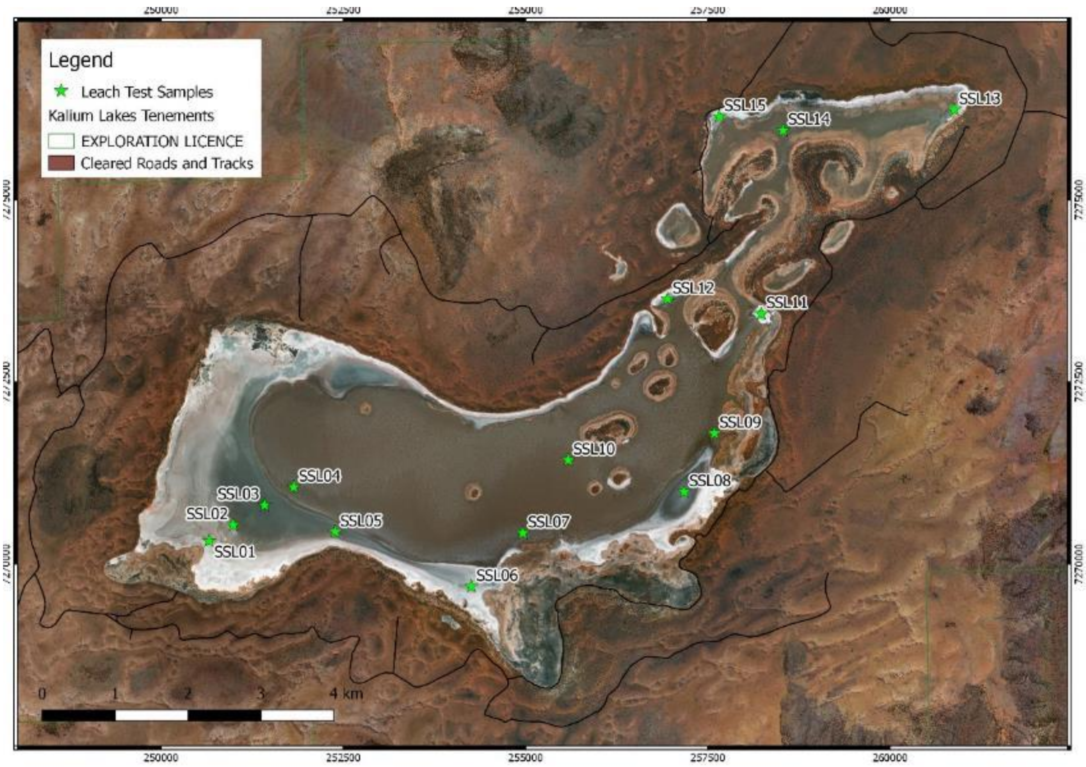


Figure 30: Lake Sunshine Leach Sampling Locations [17]

8.8.2 Lab Testing

Testing was completed in the onsite laboratory at the Beyondie camp. Each test involved infiltrating a known quantity of fresh water through each core and timing how long it took to infiltrate and yield up to 125 mm of leached water. This was completed up to three times on each core, the leached water was sampled and sent for assay and analysed for major species. The core samples were returned to Perth for X-ray fluorescence (**XRF**) testwork of all samples and X-ray diffraction (**XRD**) testwork of select samples. Leach test sample results are presented in Appendix 9.

For each lake the leached potassium concentration to in situ potassium concentration ratio was plotted against the total volume recovered to produce a leaching curve as presented in Figure 31 and Figure 32. The trends of these curves show that generally the more water that is flushed through a core the less potassium is released. Therefore these ratios can be used to determined the volume of potassium leached from infiltration of known volumes of surface water during operations when an unsaturated zone has developed. These properties of recharge need to be accounted for when simulating the effects of recharge to the Resource in the lake sediments.

It is considered that the processes that have been observed above include dissolution of soluble salts and diffusion between high concentration gradients from brine entrained in the bound and capillary portions of total moisture content. Due to the inability to accurately measure whether the potassium has come from the bound porosity or soluable salts this portion of potassium that is added to the drainable portion of the resources via recharge is not accounted for in the Project‘s Resources or Reserves but is accounted for here for the purposes of addressing potential dilution due to recharge.

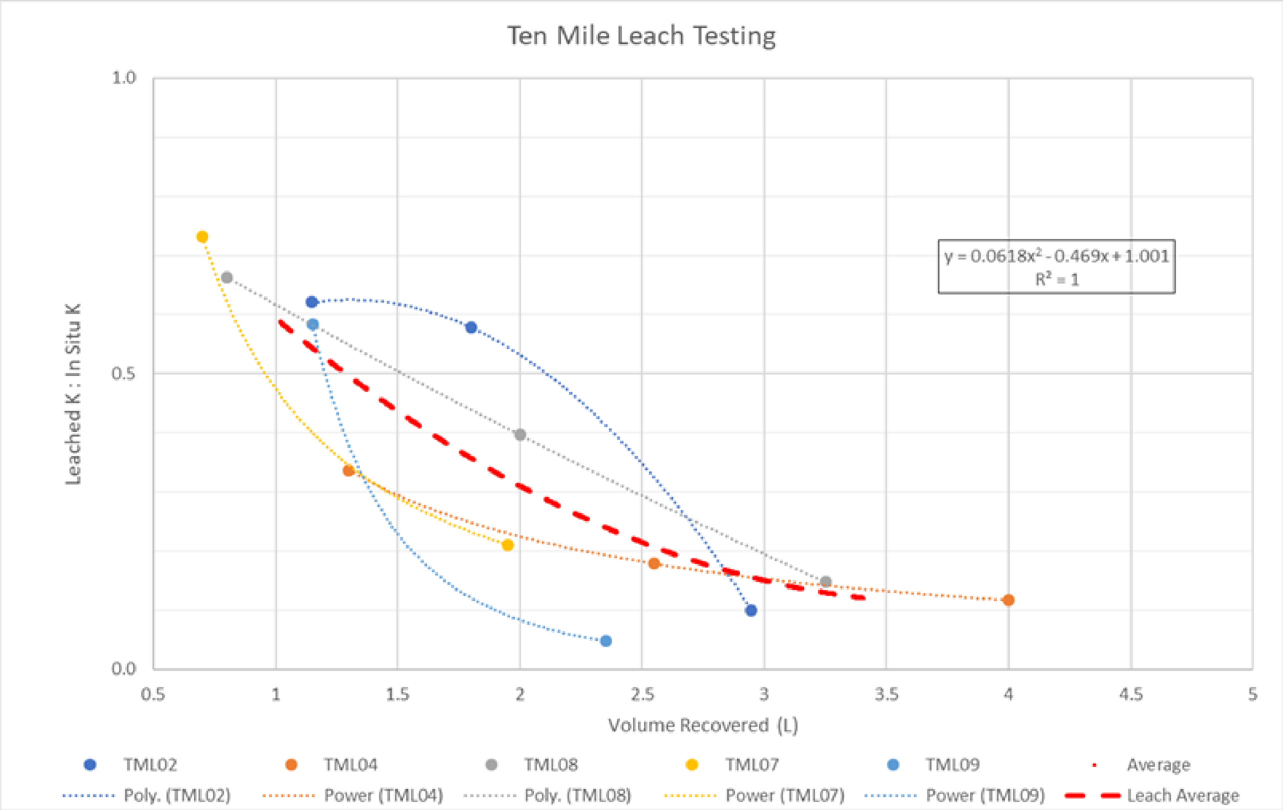


Figure 31: 10 Mile Lake Leach Testing Results [17]

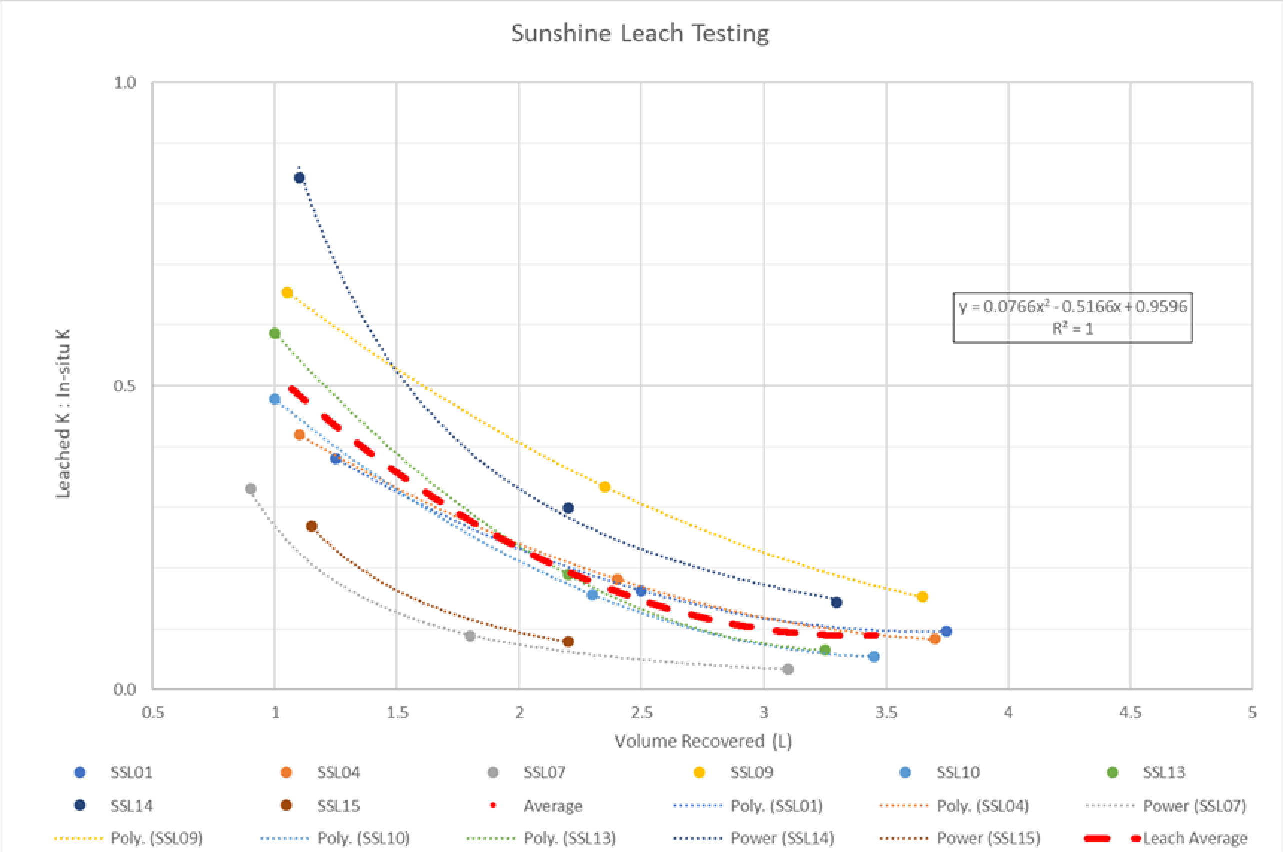


Figure 32: Lake Sunshine Leach Testing Results [17]

8.8.3 XRD and XRF Analysis

XRF and XRD analysis has been completed to characterise the mineralogy and percent make up of elements at the lake sufaces. The samples analysed were collected from the leach testing sites and sent to BV for analysis.

XRF analysis shows that approximately 20% of the lake surfaces is comprised of silica (Si). Key components of potassium (K) and sulphate (SO_4) comprise 0.5% to 0.8% and 6.3% to 6.8% respectively. A summary of the XRF analysis is presented in Table 12 below.

There is a general correlation between the insitu brine grade and the percent of potassium within the XRF analysis. The higher potassium percentage measured in lake sediments at 10 Mile Lake is representative of the higher potassium grades of the brine. Indicating potassium within the sediments does have a control on brine grade.

Table 12: XRF Summary

	Si (%)	Al (%)	Fe (%)	Ca (%)	Mg (%)	S (%)	K (%)	Na (%)	Cl (%)	SO_4 (%)
10 Mile Lake	17.5	2.6	1.8	8.4	3.7	6.9	0.8	2.9	4.7	6.8
Lake Sunshine	21.0	2.0	1.5	7.8	2.8	6.4	0.5	2.5	4.3	6.3

XRD analysis has provided a measurement of the relative mineral components of the lake surface sediments. Gypsum is confirmed as the dominant mineral making up between 56% and 71% of the bulk sample. Quartz and bassanite are the next common minerals, with minor amounts of halite and amphibole group minerals. A summary of the XRD analysis is presented in Table 13 below.

Table 13: XRD Analysis

Mineral	Composition	Ten Mile Lake		Lake Sunshine	
		TML07	TML09	SS07	SS10
Gypsum	$Ca(SO_4)(H_2O)_2$	56	61	67	71
Quartz	SiO_2	22	13	17	11
Bassanite	$2CaSO_4(H_2O)$	14	19	11	12
Halite	NaCl	5	5	3	4
Amphibole Group*	$A_{0\text{-}1}B_2Y_5Z_8O_{22}(OH,F,Cl)_2$	3	2	3	2

*A=Ca, Na, K, Pb; B=Ca, Fe^{2+}, Li, Mg, Mn^{2+}, Na; Y=Al, Cr^{3+}, Fe^{2+}, Fe^{3+}, Mg, Mn^{2+}, Ti, Z=Al, Be, Si, Ti.

8.9 Geological Model Construction

The geological model has been built within Leapfrog Geo v4.2 implicit modelling software from Aranz Geo Limited. The model used all available drilling data, surface mapping and geophysical data to model the geology across the Beyondie, 10 Mile Lake and Lake Sunshine areas. The topography of the model was derived from high precision orthoimagery of the main lake areas and bore sites. The orthoimagery has a horizontal accuracy of 0.2 m and vertical accuracy of 0.08 m, all bore collars were levelled to the topography in the model.

The geology has been constrained in areas of the model where drilling has left the aquifers open and the geophysics is less certain by using polylines to reduce the modelling interpretation.

Sections from the geological model are presented in Appendix 8 and an example from 10 Mile Lake is presented in Figure 33 below. All cross sections show potassium assays on drill holes within 400 m of each section, composite samples are shown as extended colour block on drill holes.

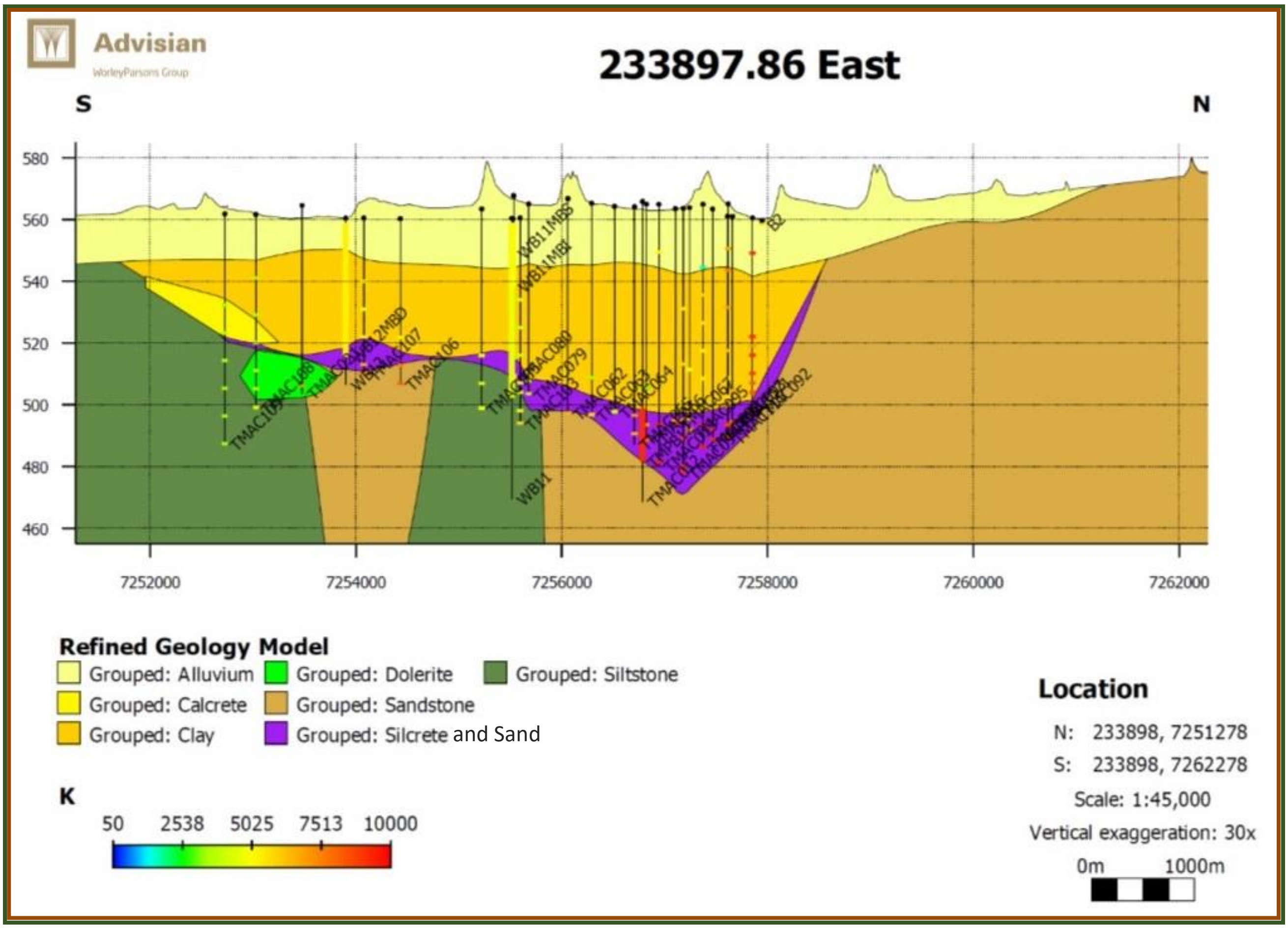


Figure 33: Geological Model Section at 10 Mile [17]

8.10 Porosity and Specific Yield (Drainable Porosity)

Total porosity is the volume of brine filled pores that is present in a unit volume of material. The specific yield (or drainable porosity) is the portion of the total porosity that is freely drainable under gravity. The remaining portion of the total porosity is called specific retention.

Brine resources are determined from the specific yield volume of the aquifer, whilst total porosity is reported for comparative purposes only. The economic extractable volume is determined by estimation of a Reserve which takes into account the Mining Factors of a brine including hydraulic conductivity, the dynamics of the aquifers targeted and brine grade changes.

Total porosity and specific yield have been derived from a number of sources, these include:

- Aquifer testing;
- Laboratory analysis of core and drill samples; and
- Borehole nuclear magnetic resonance (**BMR**) logging.

The specific yield for the lake sediments is reliant on the aquifer testing results of the trenches, these results are considered the most representative of the aquifer. Core analysis has been used for calibration of the BMR logs which have been used as the primary source of specific yield for all other lithologies, this has provided a very high vertical resolution of specific yield in the lithological profile. The adopted specific yield and total porosity ranges are presented in Table 14 and Table 15.

Table 14: 10 Mile Lake and Beyondie Porosity and Specific Yield Ranges

Lithology	Total Porosity		Specific Yield	
	Range	Weighted Mean	Range	Weighted Mean
Lake Sediments	0.43 - 0.48	0.45	0.11 - 0.25	0.16
Alluvium	0.32 - 0.42	0.39	0.7 - 0.18	0.13
Palaeovalley Clay	0.32 - 0.42	0.36	0.04 - 0.09	0.06
Sand and Silcrete	0.22 - 0.35	0.34	0.17 - 0.22	0.21
Fractured / Weathered Sandstone	0.25	0.25	0.08	0.08
Fractured / Weathered Siltstone	0.22	0.22	0.03	0.03

Table 15: Lake Sunshine Porosity and Specific Yield Ranges

Lithology	Total Porosity		Specific Yield	
	Range	Weighted Mean	Range	Weighted Mean
Lake Sediments	0.42 - 0.48	0.45	0.12 - 0.19	0.17
Alluvium	0.29 - 0.38	0.33	0.07 - 0.16	0.14

Lithology	Total Porosity		Specific Yield	
	Range	Weighted Mean	Range	Weighted Mean
Palaeovalley Clay	0.30 - 0.37	0.33	0.07 - 0.08	0.08
Sand and Silcrete	0.17 - 0.32	0.29	0.1 - 0.25	0.21
Fractured / Weathered Sandstone	0.24	0.24	0.08	0.08
Fractured / Weathered Siltstone	0.22	0.22	0.03	0.03
Fractured / Weathered Basalt	0.24	0.24	0.16	0.16

9 Sampling

All drill holes were sampled for lithology and where possible brine quality during drilling. Lithological samples of aquifer zones in the surficial aquifer (Lake Sediments and Alluvium) and palaeochannel sand aquifer (Sand and Silcrete) were obtained from drill samples and selected for laboratory testing. Brine samples were obtained during aircore drilling from the cyclone during extended airlift testing at varied intervals. These samples are interpreted to be indicative of the depth at which the airlift is taking place, though some contamination from the surficial aquifer cannot be ruled out. Samples obtained from test pumping are considered to be the most representative of the target aquifers, where the aquifer zone is cased and sealed with bentonite to prevent any inter-bore flow, these samples are considered to be composite samples for resource estimation. Samples obtained from trench pumping are considered representative of the length and depth of the excavation.

Auger samples are considered representative of the upper surficial aquifer at each of the lake surfaces, and all samples were taken up to a maximum depth of 1.5 m for the 2015 holes and up to 2 m depth in the 2017 sampling. Wherever possible, auger samples were typically taken at a 1 km grid spacing.

Sonic core of 100 mm diameter was obtained from ten locations across 10 Mile Lake and Lake Sunshine. Core was extruded from the core barrel into clear plastic core bags. Core bags were sealed and placed into core trays, which were labelled at the drill site and stored on site. Following geophysical logging individual core trays were selected for laboratory testing and transported back to Perth. The core will be tested for permeability, total porosity, specific yield and laboratory based magnetic resonance.

Drill hole spacing in the various project areas is described below:

- Beyondie and 10 Mile Lake Surficial Sediments are between 1,600 m and 150 m (the average is approximately 250 m);
- Beyondie and 10 Mile Lake Palaeochannel and Bedrock are between 1,600 m and 150 m (the average is approximately 270 m);
- Sunshine Surficial Sediments are between 3,000 m and 150 m (the average is approximately 250 m); and
- Sunshine Palaeochannel and Bedrock are between 3,000 m and 150 m (the average is approximately 450 m);

10 Sample Preparation, Analyses and Security

Brine samples collected from drilling or from augering were hand delivered by KLL or Advisian personnel back to Perth, then handed over to Bureau-Veritas Minerals (**BV**) for analysis of various parameters. All brine samples collected were kept cool (<20 ºC), until delivery to the laboratory in Perth.

Elemental analyses of brine samples have been performed by a reputable laboratory, BV in Canning Vale. The relationship between KLL and BV is strictly concerned with chemical analysis of samples and cost estimates for an on-site laboratory. Bureau-Veritas is certified to the Quality Management Systems standard ISO 9001. Additionally, it has internal standards and procedures for the regular calibration of equipment and quality control methods. The laboratory equipment is calibrated with standard solutions.

Duplicate samples (~10 %) were assayed at ALS' Laboratory in Malaga during the 2015 investigations. ALS are certified to ISO 17025, the standard for testing and calibration in laboratories. The relationship between KLL and ALS is strictly for the analysis of duplicate samples for the BSOPP. Following the 2015 laboratory analysis it was determined that BV provided the most conservative results and were used for the 2017 and 2018 laboratory testing.

Analyses of the brine samples were undertaken using Inductively Coupled Plasma Optical Emission Spectrometry (**ICP-OES**), Ion Selective Electrode, and Inductive Coupled Plasma Mass Spectroscopy. All samples were analysed for Ca, K, Mg, Na, SO_4, and Cl. Selected samples were analysed for a suite of 62 elements: Au, Ag ,As ,Ba, Be, Bi, Br, Cd, Ce, Co, Cs, Cu, Dy, Er, Eu, Ga, Gd, Ge, Hf, Hg, Ho, In, La, Li, Lu, Mo, Nb, Ni, Pb, Pd, Pr, Pt, Rd, Re, Sb, Sc, Se, Sm, Sn, Sr, Ta, Tb, Te, Th, Tl, Tm, U, W, Y, Yb, Zn, Zr, Al, B, Ca, Cr, Fe, K, Mg, Mn, Na, P, S, Si, Ti, V.

The sample preparation and security (no mixed samples, origin of each sample is transparent) as well as analytical procedures are aligned with international standards to ensure reliable results.

Sonic core samples were sent to Corelabs Perth for analysis. Sub-samples of core were selected by the senior geologist covering the differing lithological types of the project. Individual core plugs were obtained by dry icing the sections of core prior to drilling of a core plug. A number of core plugs failed due to the unconsolidated nature of the sediments.

Lithological Samples were sent to Soil Water Group Laboratories for grain size analysis, porosity and drainable porosity laboratory testing.

11 Data Verification

As outlined above, duplicate samples (~10%) from the augering program were assayed at ALS' Laboratory in Malaga in order to verify the assay results performed by BV. ALS is certified to ISO 17025, the standard for testing and calibration in laboratories.

The results showed a good correlation amongst major ions (less than 10%) at both laboratories except for Sulphur (BV's values on average about 21% lower). Upon review of this discrepancy, BV conducted an internal check and found no reason to suggest the Sulphur assay was incorrect. BV analysed Sulphur by ICP-OES, then converted to SO_4 by molecular weight calculation (this method assumes all S exists as SO_4, which may be incorrect). ALS used the method APHA 4500 to analyse the SO_4. For resource assessment, the lower sulphate results were considered as the worst-case scenario.

The data is judged to be adequate for all calculations made for resource estimates. For a Measured and Indicated Resource variabilities of less than 10% should be achieved, or a third independent laboratory should be consulted. BV has been used as the preferred laboratory for all further brine analysis following the check laboratory results.

Laboratory analytical quality was monitored through the use of randomly selected quality control repeat samples, in addition to laboratory standards. There were 64 repeat analyses of the 717 samples, representing approximately 1 in every 11 samples. Verification of assay data included ion balances and comparison of laboratory repeats and duplicates.

12 Metallurgical Testing

To date, ten discrete phases of metallurgical test work have been undertaken.

12.1 CQG Trials

During the Concept Study, KLL engaged Australian consultants CQG to assist with conducting bench-scale evaporation testing.

12.2 Small Scale Pilot Evaporation Trial

A small pilot scale evaporation trial was conducted during 2015 with 26,000 litres of brine to determine seasonal effects on evaporation rates, provide a concentrated brine sample for raw salt preparation and purification test work in Germany, as well as confirm the brine's ability to evaporate to dryness (Figure 34).

Figure 34: Small Scale Pilot Evaporation Ponds [3]

12.3 K-UTEC – Pre-Feasibility Works

KLL engaged K-UTEC to carry out test work and engineering studies to verify the evaporation pond and purification process design requirements to produce potential saleable products including Sulphate of Potash (SOP), Epsomite, Bischofite and Magnesium Hydroxide. A two cubic metre sample of partially evaporated brine at a density of 1.28 g/cm^3 was sent to K-UTEC's facilities in Sondershausen, Germany, in order to perform a higher level of pilot evaporation and processing including:

- Solar Evaporation of Beyondie Brine in a custom built evaporation chamber;
- Pre-treatment of raw Kainite Type Mixed Salt (**KTMS**) in order to separate NaCl and $MgCl_2$;
- Decomposition of raw KTMS to primary Schoenite;
- Cooling crystallization of secondary Schoenite from the SOP mother liquor;
- Conversion of Schoenite to SOP;
- Cooling crystallization of Epsomite from the bittern; and
- Crystallization of Bischofite by further evaporation of the bittern.

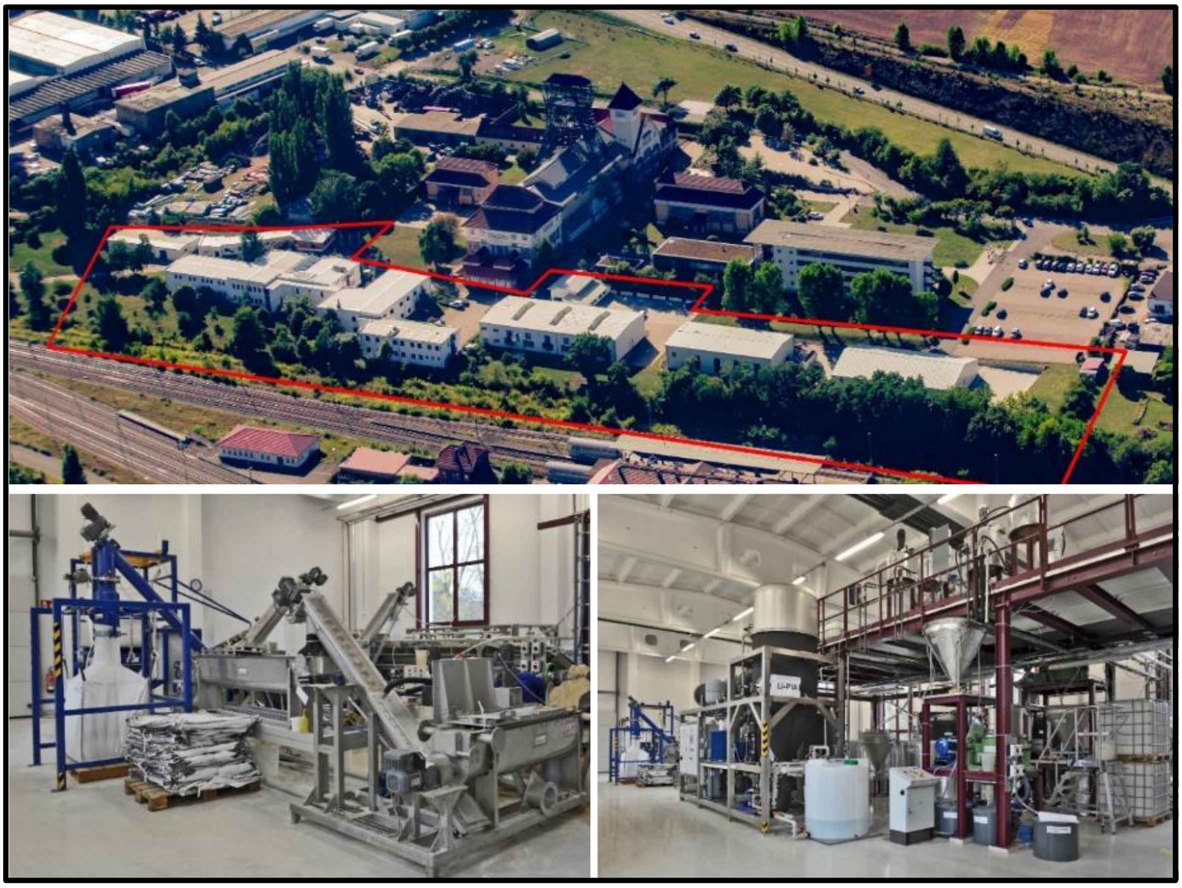


Figure 35: K-UTEC Facilities in Sondershausen, Germany [22]

The K-UTEC solar evaporation test works were performed over a period of 6 months. Mineralogical investigation took place concurrently with chemical analysis of brines and harvested salts. Test results essentially confirm K-UTEC's assumptions, in particular for the solar evaporation and processing of the Beyondie brine:

- Evaporation was completed at a specific gravity of approx. 1.350 g/cm³;
- Confirmation of the expected evaporation path and sequence of the crystallized salts;
- Confirmation of the evaporation rates; and
- Confirmation of pre-treatment, decomposition, crystalisation and conversion to SOP.

12.4 Solar Pond Concentration Pathway Trials

KLL also carried out in-house evaporation tests of the brine to understand its evaporation behaviour and determine critical points at which potassium and waste products are formed. These tests were performed in accordance with a procedure supplied by Solar Pond Consultant DSB International (**DSB**). DSB is a world renowned expert in the field of solar evaporation pond systems. During the tests, a sample of brine was placed inside a small container in the laboratory and exposed to alternating day and night temperature variations as expected on site. Brine was periodically sampled and analysed for the major ions, (Mg, Na, K, SO_4 and Cl). Once the container was half-full, brine was transferred into another, smaller container. This was repeated until all the brine evaporated. The concentration path of ions as a function of magnesium was then determined from the tests and is shown in Figure 36 below.

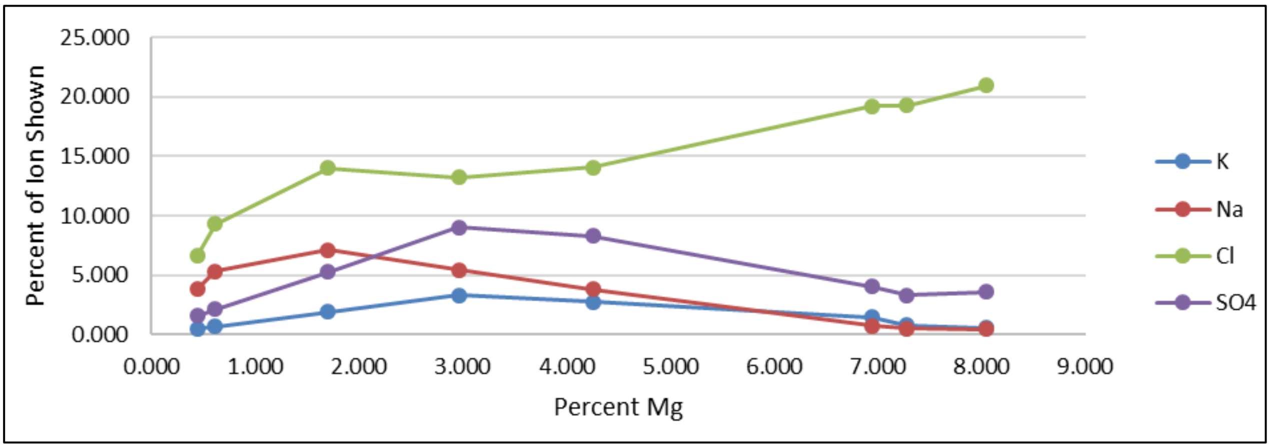


Figure 36: Brine Concentration Path as a Function of % Mg [9]

DSB's considerable (50+ years) experience was again tapped, and after analyzing all the results, provided their interpretation of the concentration path the brine is most likely to follow; this is depicted in Figure 37. The curve was fit to an equation and is used in KLL's solar pond modeling. DSB also provided a generic solar pond sizing model, which was further refined and updated by Kalium Lakes with support from DRA to achieve the PFS outcomes.

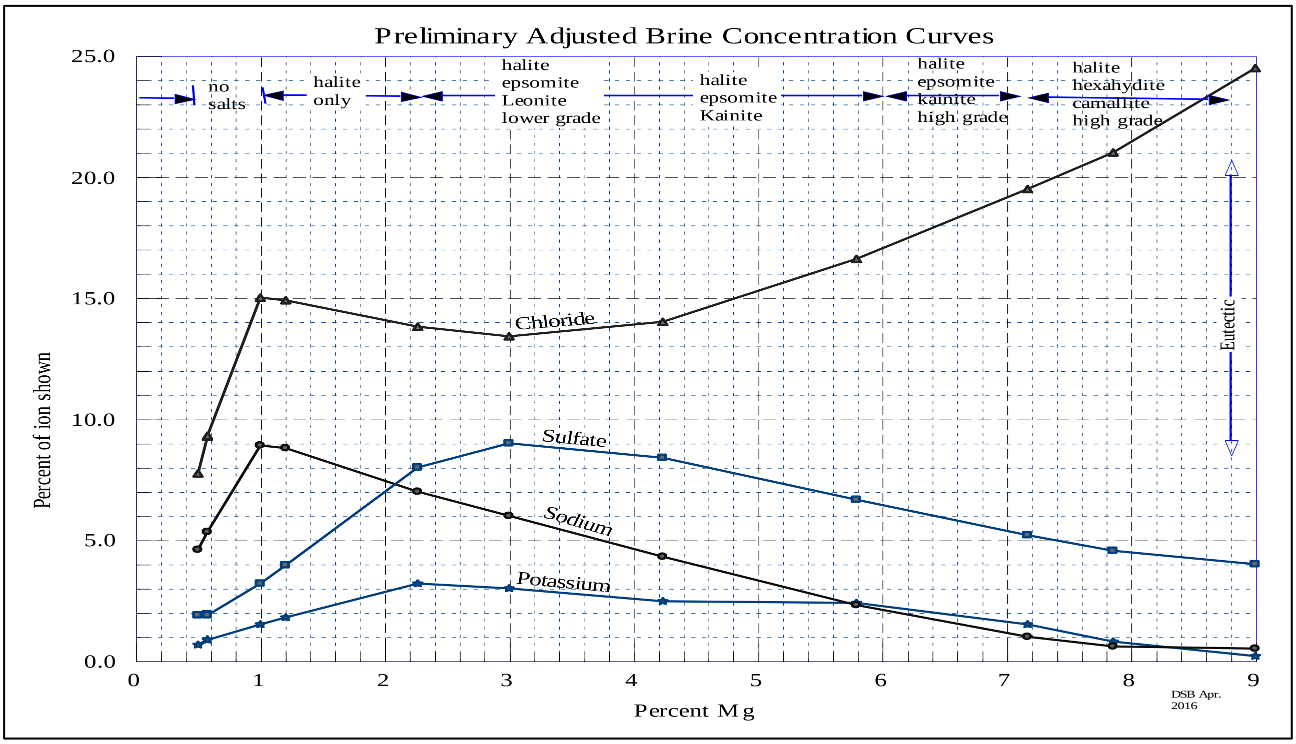


Figure 37: DSB Brine Concentration Path [23]

12.5 Site Pilot Pond works

The Large Scale Pilot Evaporation Pond program reflects KLL's development strategy, where a staged development approach is preceded by a pilot program to verify current assumptions and operational parameters along with production of bulk samples for marketing purposes. This trial program is based at the Beyondie, 10 Mile Lake and Lake Sunshine areas of the BSOPP.

The pilot ponds have been operated on a continuous basis (not batch) as recommended by KLL's key consultants K-UTEC, DRA and DSB International. The process involves pumping brine from a bore and/or trench into a concentration pond which evaporates water prior to reaching the salting point.

At this point brine is gravity fed (not pumped) to the next series of ponds where the sodium salts crystallise out of solution. The brine is again gravity fed to the series of ponds where potassium salts commence crystallising out of solution. Finally, a residual magnesium bittern remains, representing only 1-2% of the original brine volume pumped into the concentrator pond.

Importantly all the ponds are tiered so that the brine can flow via gravity, without the need for pumping between ponds, Figure 38.

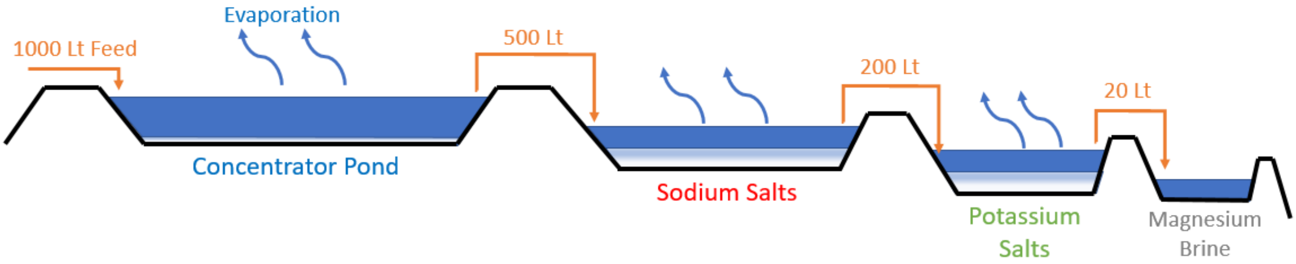


Figure 38: Evaporation Pond Series [24]

The Large Scale Pilot Evaporation Pond program has provided a detailed understanding of the following parameters:

- Layout and number of ponds;
- Dimensions of ponds to optimise flow path;
- Optimum brine depth within ponds;
- Differential evaporation rates as the brine density increases;
- Brine concentration profile and phase chemistry over seasonal and diurnal ranges;
- Brine entrainment in salt floors;
- Pond floor and liner requirements;
- Harvest equipment and plans;
- Pond start-up procedure;
- Time required to achieve steady state operations; and
- Operations and maintenance requirements.

The large scale evaporation trials have been run over twelve months and follow two previous smaller scale pilot trials, all of which were utilised to inform the BFS design parameters. A summary of high level observations and commentary is provided below:

- 260 million litres of brine have been pumped since pump testing began, of which 130 million litres of brine have been pumped into the trial ponds;
- More than 10,000 tonnes of salts have been produced so far, including 3,160 tonnes of mixed potassium salts that can be processed to generate approximately 520 tonnes of SOP;

- Salt growth in each of the ponds varies in thickness from 95 mm to 305 mm during the seven month trial period, which is an average of 0.52 mm to 2.28 mm per day salt growth. It should be noted that ponds were progressively brought online during a number of months as seen in the time series photos (below);
- Importantly the harvested potassium salts contain ~7.5% K_2O, accordingly, to achieve 1 tonne of SOP product requires ~7 tonnes of harvested mixed potassium salts which are then treated in the purification plant to remove residual sodium, magnesium and chloride salts;
- Salt harvesting can commence on the engineered, 1 mm High Density Polyethylene (**HDPE**)-lined off lake ponds after deposition of a 100-150 mm protective salt layer. It will take 3-6 months to develop this layer, after which all other salts above this level will be harvestable. This is a significant time saving when compared to other salt and potash brine operations around the world which are located on salt lakes or clay pans and require around 400 mm of salt to form a trafficable surface on top of which your harvestable salts will be located. As a bench marking exercise, Dampier Salt (Karratha) crystallises 250-300 mm of salt growth per annum which would appear to be similar to the KLL pilot scale trials on an annualised basis, when taking into account seasonal factors. Therefore to crystallise 400 mm of salts would require ~18 months, with a further period to generate sufficient harvestable salt depths;
- Entrainment of potassium bearing brine is between 10-30% of the salt bed itself and as such needs to be treated as recovery loss or alternative recovered by drainage through harvesting of the sodium chloride salts. KLL's basis of design is to harvest sodium chloride salts to release entrained brine and also avoid costly pond wall lifts which would need to occur if the sodium chloride salt was left in the ponds. Due to Kalium Lakes low Na:K ratio, less sodium chloride salt is produced reducing harvesting requirements;
- All ponds require a free board design ~ 250 mm for a significant 1:100 rainfall event;
- The brine concentration curves developed; theoretically, in the laboratory and during the initial pilot scale trials have been replicated in the large scale pilot evaporation pond trials. See Figure 39 below;

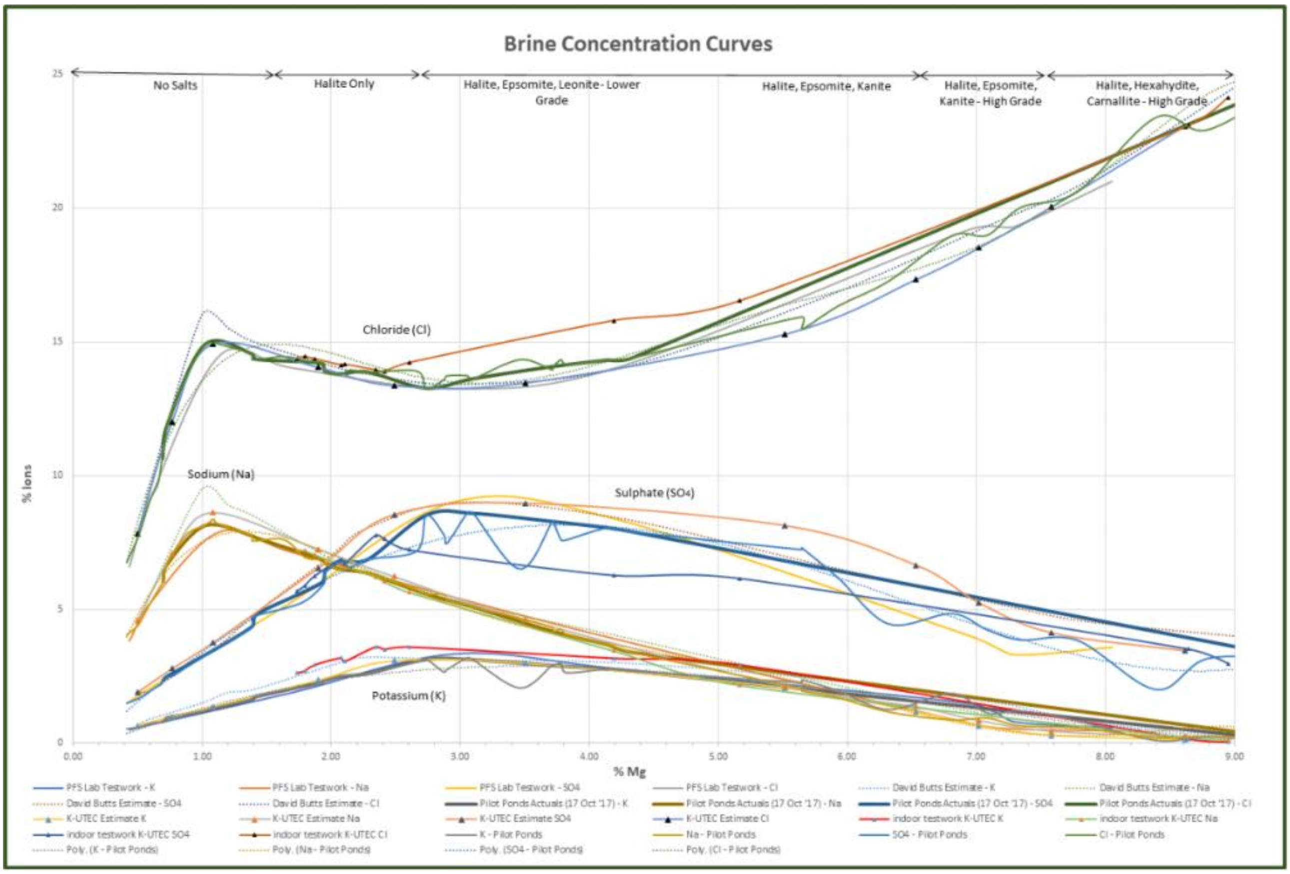


Figure 39: Actual large scale pond brine concentration curves versus previous assumptions and testwork [20]

- Differential evaporation rates occur as the brine concentration increases. This means fresh brine evaporates at a significantly faster rate compared to the last potassium mixed salt pond. This requires the evaporation pond design basis to allow for an increasing ratio of pond area to brine to achieve the targeted production rate;
- Harvesting trials were conducted with harvest equipment selection, pond harvest intervals and an overall full scale harvesting plan prepared on the back of these results; and
- Time required to achieve steady state operations is approximately six months, depending on seasonal effects (temperature and humidity).

Images of the site pond pilot works including land clearing, earthworks, lining, salt crystallization and harvesting can be viewed in Figure 40.

Figure 40: Site Pilot Pond Works [24]

12.6 SRC – Phase 1

The Saskatchewan Research Council (**SRC**) were engaged by Kalium Lakes Limited under the direction of DRA Global to confirm and verify the potassium sulphate (**SOP**) recovery process for the Beyondie Sulphate of Potash Project in late 2017. Test work undertaken by SRC included: sample preparation; feed sample analysis and characterization; schoenite conversion; preliminary flotation tests; preliminary SOP conversion tests and conceptual SOP recovery verification.

Kainite-type mixed salts produced in the large scale site pilot ponds were used as the feed material for the SRC test work. Preliminary schoenite conversion test results showed liberation of the minerals. Preliminary flotation test work results showed recoveries between 90% and 98%. The SOP conversion test work produced product grades between 49% K_2O and 51% K_2O. Total K recovery was estimated at 89.7% making a product grade of 50% K_2O and without considering plant handling losses.

12.7 SRC – Phase 2

Following successful completion of the Phase 1 works, SRC was engaged to perform further test work with the aim of enhancing product recovery. SRC performed the following test work: SOP conversion & Schoenite Conversion – temperature liquid/solid ratio and time optimization; Flotation – collector optimization, dosage, direct vs reverse flotation, temperature confirmation; and locked cycle tests.

Results of the test work included: high grade SOP (>52% K_2O being produced); reduced SOP conversion temperature; ideal schoenite conversion ratio; locked cycle test work verifying the optimized tests and mass balance; and an overall K recovery of 93.6% without considering plant handling losses.

12.8 K-UTEC – Bankable Feasibility Study Optimisation Works

With an initial process route established during the pre-feasibility study, optimization test work was completed by K-UTEC on pre-treatment, KTMS decomposition, flotation, conversion and purification. Additionally, having identified the flotation test work as the biggest hurdle to product potassium grade, a cost benefit analysis was performed comparing hot leach vs cold leach vs flotation for product purification.

Pre-treatment of the harvested mixed potassium salts involved comparing the quantities and therefore ratios of potassium salts produced from the large scale evaporation pond trials. The salt types produced are based on grade (which changes depending on the brine input pumping station) and temperature (which changes via seasons). The salts are then classified, crushed, milled and mixed in the correct ratio to be used as feed material for the conversion of Kainite to Schoenite.

The first major chemical process for the production of SOP is conversion of **Kainite to Schoenite through decomposition.** This involves mixing the mixed salt with water at ~20°C. Variables tested during the conversion / decomposition test work included; temperature of the reactor, solution and clarifier; solid to liquid ratio.

The **flotation process** is a mineral processing technique which selectively separates minerals based on their hydrophobicity (water repellence). Flotation can be either direct or reverse, direct flotation involves floating the valuable mineral, whilst reverse flotation involves floating the waste mineral. Variables tested for the flotation process included: Crush size, reverse/direct flotation, collector, collector dosage, pH, retention time, agitator speed, solid to liquid ratio.

The **hot leach / cooling crystallization process** is based on the differing solubilities of the dissolved salts in order to separate the waste (sodium chloride) from the concentrate (potassium salts). The experiment involves pre-crushing, removal of waste and impurities via hot leaching at ~75°C, and cooling crystallization of Schoenite at ~10°C. Variables tested for hot leach / cooling crystallization included: Salt to leach liquor ratio; temperature; leach liquor composition and stirring time.

The second decomposition step required in the process is **converting Schoenite to raw SOP**. Based on equilibrium data (theory) the optimal temperature for conversion is ~48°C. The same variables as that of the first decomposition step were tested. The clarified solution contains a large quantity of dissolved potassium, this is cooled to ~15°C to precipitate Schoenite. This Schoenite is recycled back to the flotation step to increase yield. Hot decomposition versus cold decomposition was tested by K-UTEC to test whether a cold decomposition with a lower recovery, would outperform the increased energy required for a warmer decomposition.

12.9 K-UTEC – Pilot Plant works

KLL engaged K-UTEC to produce approximately 250 kg of SOP, using original materials harvested from the solar ponds from the large scale evaporation program. The requirement was to produce SOP at the standard fertilizer grade of >50% K_2O. The SOP produced would be used for granulation test work to determine process parameters for the full scale compaction plant. The pilot works followed the prescribed process route, all steps where done in bench scale facilities of about 100 litres, this quantity is enough to guarantee the required retention time to complete all reactions.

The outcome of these works has formed the basis of the BFS design and confirmed product quality and underlying process plant recovery assumptions. Images of K-UTEC's pilot plant works to produce 250 kg of SOP from KLL's Beyondie brine are shown in Figure 41.

Figure 41: K-UTEC Pilot Plant Facilities [25]

12.10 Compaction Testwork

Test work **for drying & compaction/agglomeration** has not been performed by K-UTEC as compaction and agglomeration are very specialized unit operations, KLL has contracted experts in the field, Sahut-Conreur (France) & Köppern (Germany) to perform the test work. The compaction test confirmed the design requirements and formed part of the BFS design basis.

13 Mineral Resource Estimates

The Resource estimate covers updated Indicated and Inferred Resources and new Measured Resources at 10 Mile Lake, Lake Sunshine and surrounding geology. Existing Indicated Resources, Inferred Resources and an Exploration Target for the Western and Eastern regional lakes are not affected by this Resource update. An assessment of the Ore Reserves will be completed as part of the BFS study which is in progress.

Resource categories are linked to the types of data obtained, drill hole density and confidence; these are listed below by category below.

Measured Resources have been calculated for areas where:

- Drilling and testing has confirmed local site geology and aquifer geometry to a high level of confidence;
- Aquifer hydraulic properties (hydraulic conductivity and specific yield) have been determined by multiple methods to a high level of confidence;
- Test pumping has measured groundwater flow interactions between the various geological units to confirm extractability; and
- Brine samples have been collected at regular intervals on a dense drill pattern with a high level of QA/QC to confirm brine concentrations.

Indicated Resources have been calculated for areas where:

- Drilling and testing has confirmed local site geology and aquifer geometry;
- Aquifer hydraulic properties (hydraulic conductivity and specific yield) have been determined by more limited sampling and testing than Measured Resources;
- Test pumping has been completed to demonstrate extractability; and

- A number of brine samples have been collected from a selection of locations to confirm brine concentrations.

Inferred Resources have been calculated, based on a lesser amount of data and confidence, where:

- Geological evidence exists to imply but not verify the existence of brine grade and aquifer geometry;
- Proven geophysical techniques have been used to infer palaeovalley aquifers away from the main drilling investigation areas;
- Surface sampling and testing has determined brine grade at shallow depths which has been inferred to reasonably persist to deeper aquifers as per the existing resource models;
- Aquifer properties can be inferred from tests undertaken in other contiguous areas of the same palaeovalley system; and
- Non-conventional brine resources due to leaching processes of the lake sediments. Inferred resources have been calculated where these processes are proven to exist but further testing is required to increase confidence in the processes creating the mass transfer of elements.

Exploration Targets have been calculated where:

- No brine-chemistry data exists of any kind to confirm the brine quality, but some aquifer continuity with known brine resources may be expected based on geophysics (for example along the palaeochannel reaches between lakes);
- Shallow- augering has provided evidence of high potassium concentrations which may be expected to occur throughout the sequence (based on potassium distribution with depth observed elsewhere), but there is no drilling or geophysical data available to provide any geological context to the brine occurrence, or infer what the sequence at depth may be.

Due to the considerable distances involved between defined brine deposit zones at the BSOPP, Resources have been split into three separate areas: 10 Mile Lake and Beyondie; Lake Sunshine; and the Regional Lakes. The Resource update concentrates on upgrading the Resources in the 10 Mile Lake and Lake Sunshine areas of the Project. The aerial extents of these different Resource categories are presented in Figure 42 and Figure 43.

Resources have been determined for the five dominant lithological types within the project area:

- Lake surface sediments;
- Alluvial sediments;
- Palaeovalley clay;
- Palaeochannel sand and silcrete; and
- Weathered and fractured bedrock.

13.1 Resource Estimation Methodology

- A 3D geological model was constructed in Leapfrog Geo v4.2 implicit modelling software from Aranz Geo Limited. The model used all available drilling data, surface mapping and geophysical data to model the geology across the Beyondie, 10 Mile Lake and Lake Sunshine areas. The topography of the model was derived from high precision ortho imagery of the main lake areas and bore sites. The ortho imagery has a horizontal accuracy of 0.2 m and vertical accuracy of 0.08 m, all drill holes were levelled to the topography in the model.
- All drill hole assays for potassium, sulphate and magnesium were brought into the model as 1 m intervals when taken from drilling or as composites where assays are representative of screened intervals from bores (i.e. test pumping and bore development). All database values used in the models are provided as histograms in Appendix 10.
- The Edge module in Leapfrog Geo v4.2 was used for block modelling and numerical estimation. Two block models were constructed, one for Beyondie and 10 Mile Lake, and one for Lake Sunshine. Beyondie and 10 Mile Lake utilised standard block sizes of 250 m in the x and y direction and 5 m in the z direction. Whilst Lake Sunshine used the same x and y block size but 2.5 m blocks in the z direction. Sub blocking was used to refine the block model in areas where geological surfaces intersect blocks. Parent blocks were split by up to four blocks in the x and y direction and two blocks in the z direction. The block model grade distributions are presented in Appendix 11.
- Estimators were set up for potassium, sulphate and magnesium for the below water table domain. The domain was clipped to boundaries of the defined resource categories and tenements, as hard boundaries, as presented in Figure 42 and Figure 43. The base of the domain was defined as 460 m AHD. Parameter concentrations were estimated across the cells using Ordinary Kriging, ellipsoid search parameters were assigned following review of

the variography of each parameter.
The search parameters for each block model are listed below:

10 Mile Lake and Beyondie

- Ellipsoid Ranges - Max. = 3000m, Int. = 1800m, Min. = 61m
- No. of Samples – Max = 20, Min = 5.

Lake Sunshine

- Ellipsoid Ranges - Max. = 3000m, Int. = 2000m, Min. = 100m
- No. of Samples – Max = 20, Min = 3.

- Variogram models for each parameter are presented in Appendix 12. Nearest neighbour (**NN**) and inverse distance squared (**ID2**) estimators were also run for potassium as check accuracy calculations. The average grade of each model swath (average cell value in one plane) and the plots of each model are presented in x, y and z directions for potassium in Appendix 13. These plots show that the model adopted (k:3x3x2) is appropriate when plotted against the ID2 and NN methods.
- Specific yield was calculated for the surficial lake sediments using the average of the trench test-pumping analysis results. For all other lithologies the average values from calibrated BMR logging were used.
- SOP grade from potassium concentrations were calculated using a conversion of 2.228475, 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 Resource Zone in each lithology by the specific yield and SOP grade to obtain the drainable SOP volume.
- The non-conventional brine Resources in the Inferred ategory have been estimated from the average leaching curves derives for each lake and the average recharge rates derived from 2D surface water modelling.

The brine volumes listed below cover each of the individual categories, so the total volume would be the summation of volumes calculated for each level of resource category listed below. The areas determined for resource assessment are presented in Figure 42 to Figure 47.

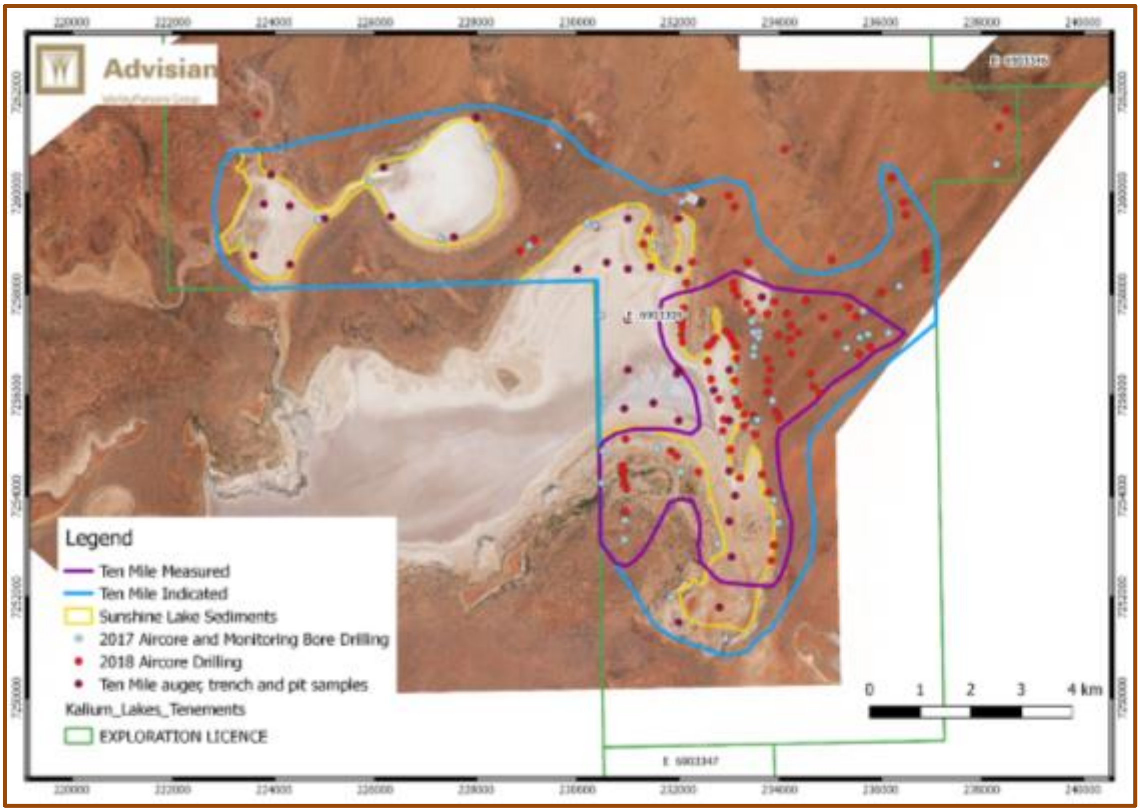


Figure 42: Location of Areas Delineated for Resource Assessment - 10 Mile Lake [17]

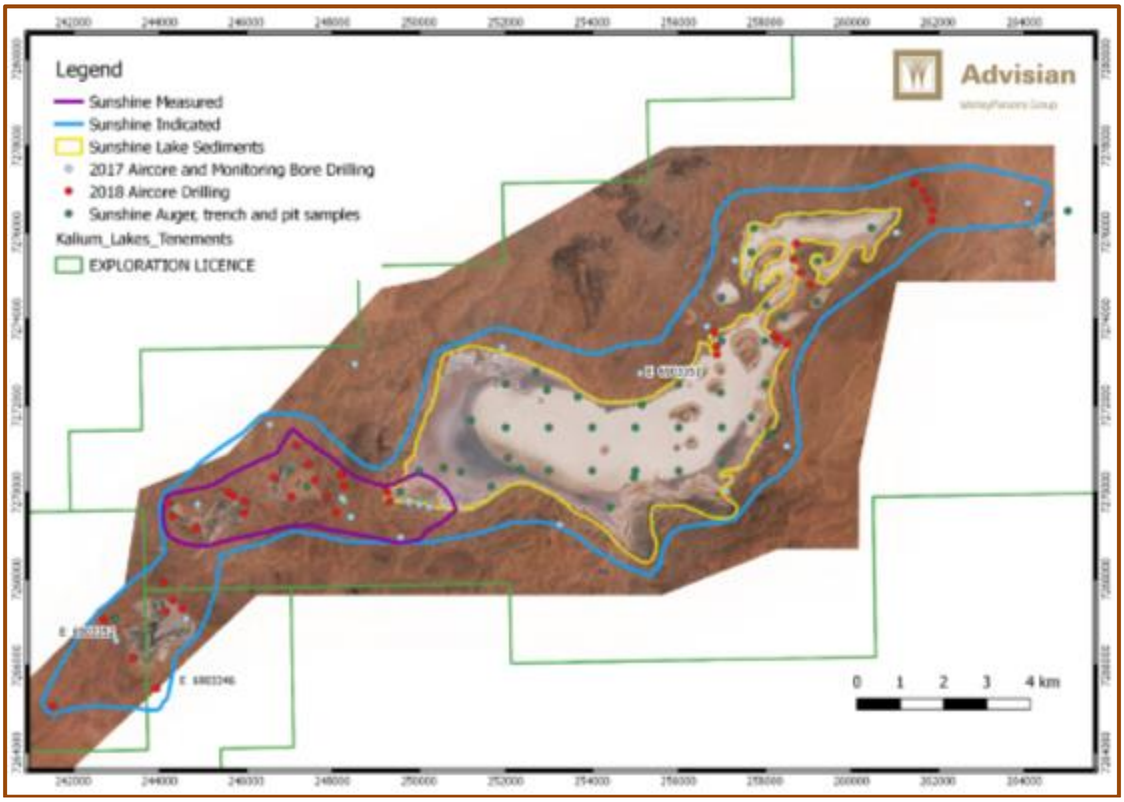


Figure 43: Location of Areas Delineated for Resource Assessment - Lake Sunshine [17]

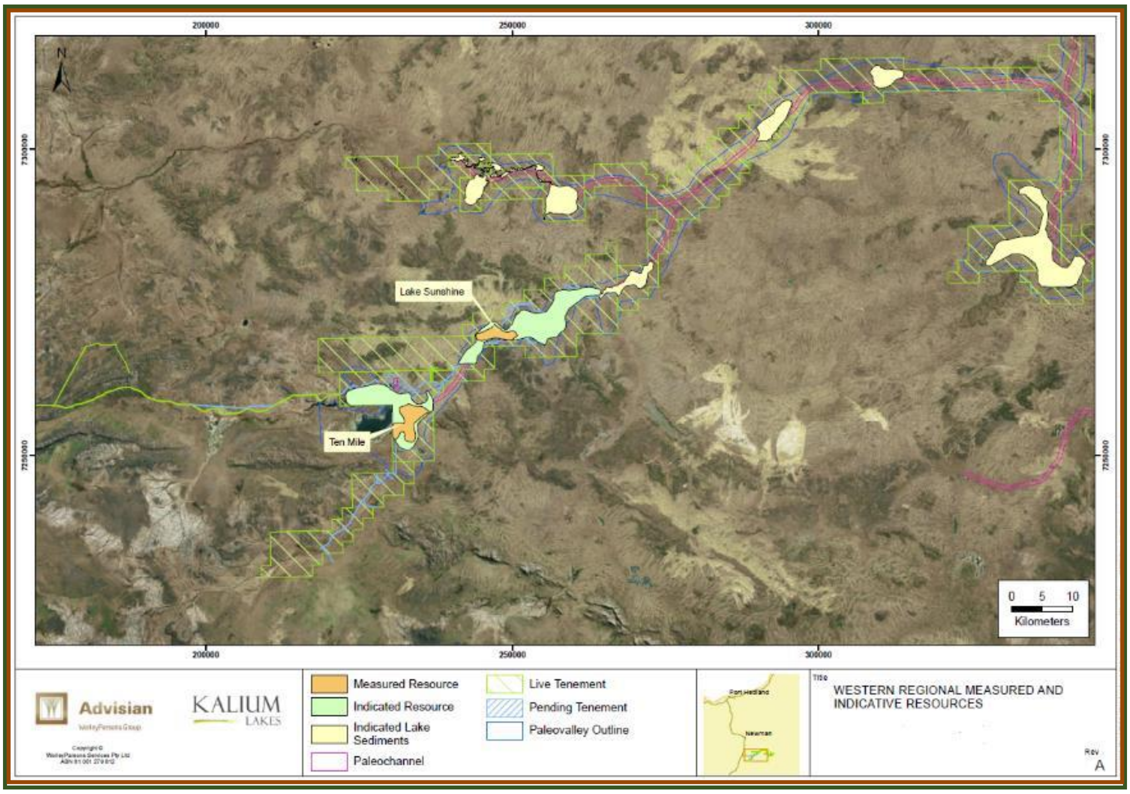


Figure 44: Location of Areas Delineated for Resource Assessment - Western Area Measured and Indicated [17]

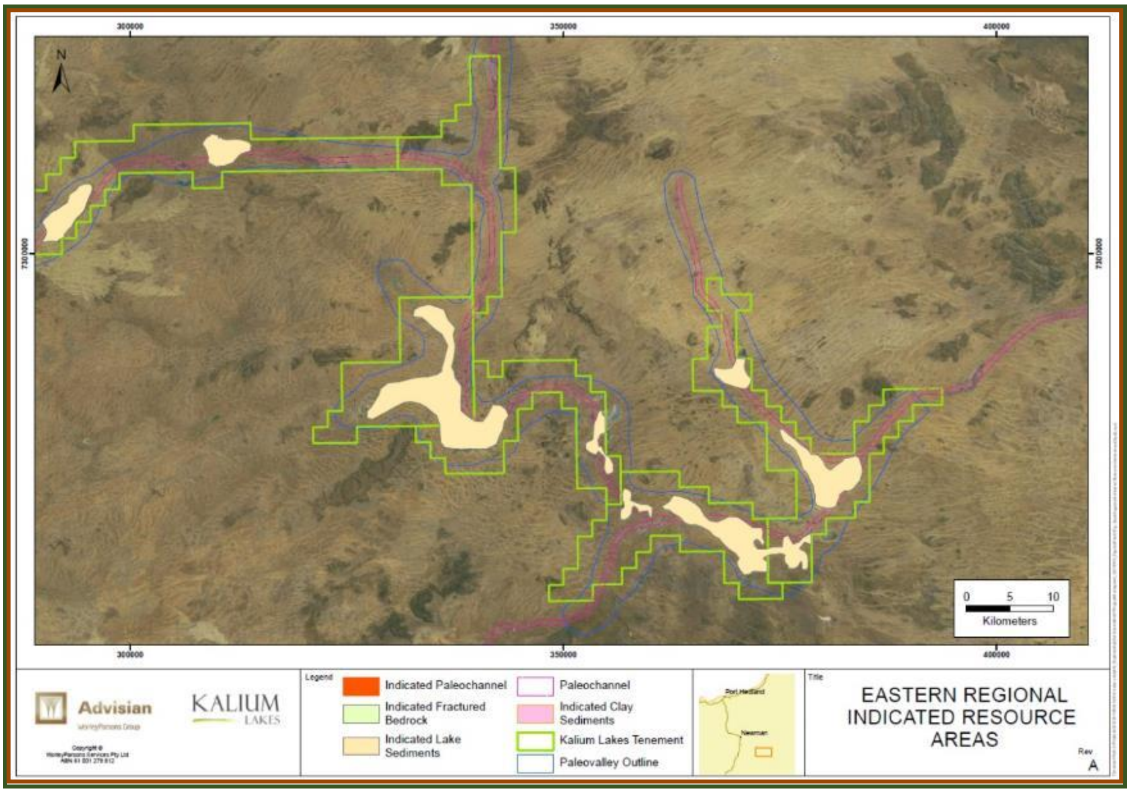


Figure 45: Location of Areas Delineated for Resource Assessment - Eastern Area Indicated Resources [17]

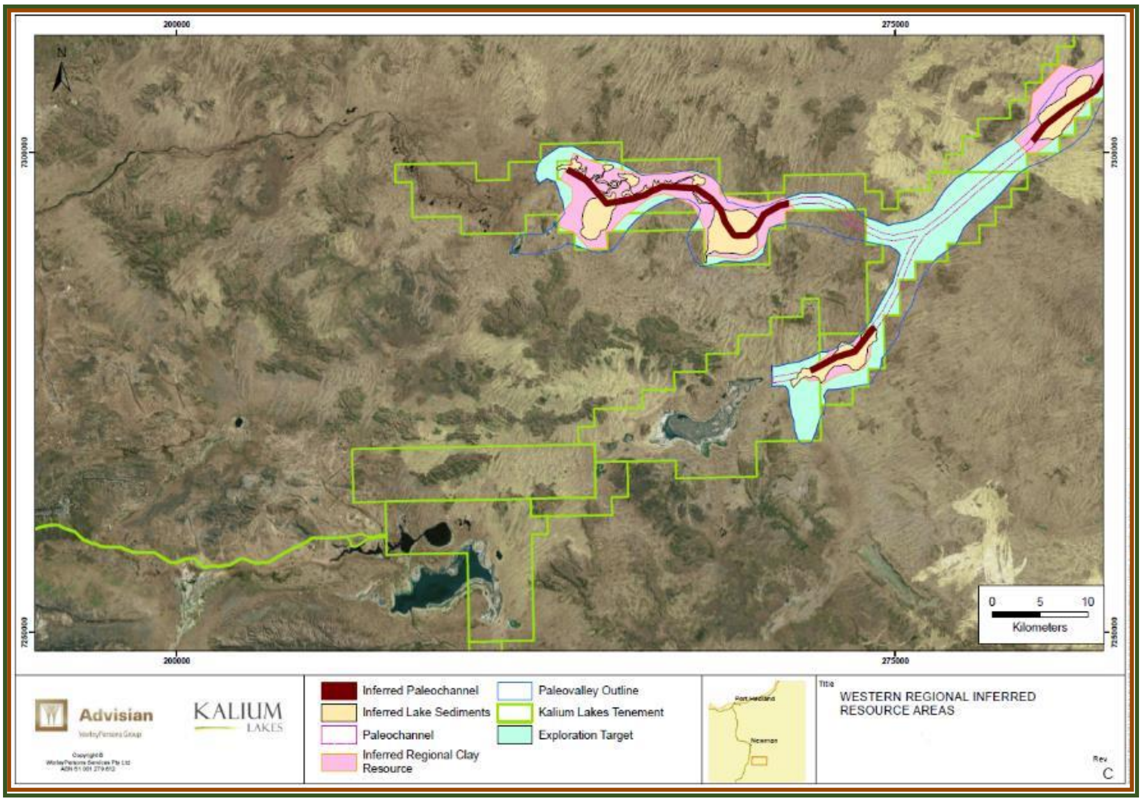


Figure 46: Location of Areas Delineated for Resource Assessment - Western Area Inferred and Exploration Target [17]

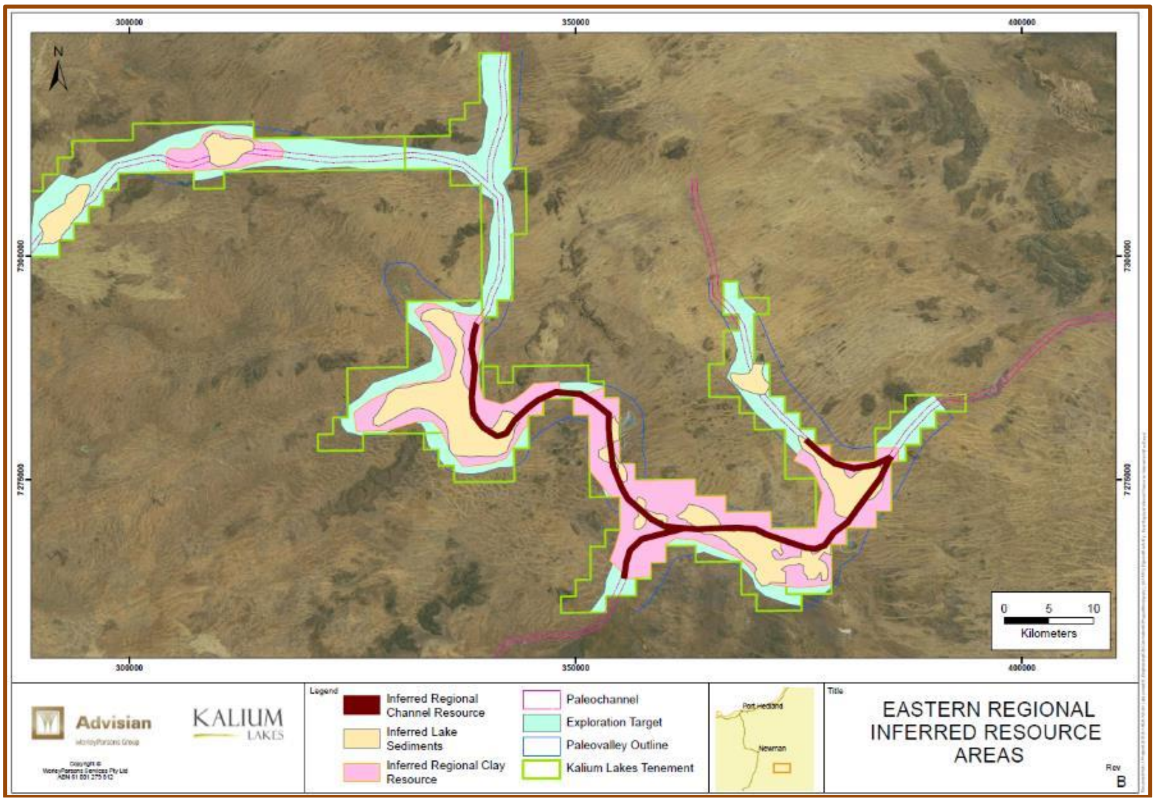


Figure 47: Location of Areas Delineated for Resource Assessment - Eastern Area Inferred and Exploration Target [17]

13.2 Measured Mineral Resource

Based on the criteria listed above, the brine Measured Resource is provided in the following Table 16.

13.3 Indicated Mineral Resource

Based on the criteria listed above, the brine Indicated Resource is provided in the following Table 17.

13.4 Inferred Mineral Resource

Based on the criteria listed above, the brine Inferred Resource is provided in the following Table 18. No Indicated Resource is part of the Inferred Resource.

13.5 Exploration Target

Based on the criteria listed above the Exploration Target is provided as a range, below in Table 19.

The BSOPP Exploration Target is based on a number of assumptions and limitations and is conceptual in nature. It is not an indication of a Mineral Resource Estimate in accordance with the JORC Code (2012) and it is uncertain if future exploration will result in the determination of a Mineral Resource.

The Company wishes to advise that further drilling, trenching and test pumping to further test the exploration target have not been planned and are not expected to occur until the Stage 1 phase of the BSOPP is operating.

Table 16: Measured Mineral Resources

Aquifer Type	Volume (10^6 m^3)	Total Porosity (-)	Brine Volume (10^6 m^3)	Specific Yield (-)	Drainable Brine Volume (10^6 m^3)	K Grade (mg/L)	K Mass (Mt)	SO_4 Grade (mg/L)	SO_4 Mass (Mt)	Mg Grade (mg/L)	Mg Mass (mg/L)	SOP Grade (kg/m^3)	K_2SO_4 Mass (Mt)
Lake Surface Sediments	118	0.47	56	0.17	20	7,116	0.14	19,292	0.38	6,488	0.13	15.87	0.31
Alluvium	96	0.33	32	0.12	11	2,940	0.03	7,959	0.09	3,195	0.04	6.56	0.07
Palaeovalley Clay	799	0.35	282	0.06	47	4,609	0.22	14,475	0.68	4,088	0.19	10.28	0.49
Sand and Silcrete	228	0.33	75	0.21	48	5,643	0.27	17,282	0.83	5,062	0.24	12.58	0.60
Fractured / Weathered Bedrock	304	0.24	72	0.08	23	4,648	0.11	14,995	0.34	4,668	0.11	10.37	0.24
Total Resources	**1,546**		**516**		**149**	**5,155**	**0.77**	**15,606**	**2.33**	**4,742**	**0.71**	**11.50**	**1.72**

Table 17: Indicated Mineral Resources

Aquifer Type	Volume (10^6 m^3)	Total Porosity (-)	Brine Volume (10^6 m^3)	Specific Yield (-)	Drainable Brine Volume (10^6 m^3)	K Grade (mg/L)	K Mass (Mt)	SO_4 Grade (mg/L)	SO_4 Mass (Mt)	Mg Grade (mg/L)	Mg Mass (mg/L)	SOP Grade (kg/m^3)	K_2SO_4 Mass (Mt)
Lake Surface Sediments	477	0.45	215	0.11	53	5,993	0.32	18,526	0.99	6,705	0.36	13.36	0.71
Alluvium	1,380	0.36	494	0.13	186	5,090	0.95	14,151	2.63	4,197	0.78	11.35	2.11
Palaeovalley Clay	1,478	0.33	494	0.07	101	6,000	0.61	16,876	1.71	5,451	0.55	13.38	1.36
Sand and Silcrete	332	0.31	104	0.21	69	4,833	0.34	13,841	0.96	4,311	0.30	10.78	0.75
Fractured / Weathered Bedrock	5,505	0.23	1,243	0.06	325	5,846	1.90	17,277	5.61	5,318	1.73	13.04	4.24
Total Resources	**9,173**		**2,550**		**735**	**5,591**	**4.11**	**16,197**	**11.91**	**5,058**	**3.72**	**12.47**	**9.17**

Table 18: Inferred Mineral Resources

Aquifer Type	Volume (10^6 m^3)	Total Porosity (-)	Brine Volume (10^6 m^3)	Specific Yield (-)	Drainable Brine Volume (10^6 m^3)	K Grade (mg/L)	K Mass (Mt)	SO_4 Grade (mg/L)	SO_4 Mass (Mt)	Mg Grade (mg/L)	Mg Mass (mg/L)	SOP Grade (kg/m^3)	K_2SO_4 Mass (Mt)
Lake Surface Leaching	N/A	N/A	N/A	N/A	80	5,373	0.43	16,986	1.36	3,632	0.29	11.98	0.96
Alluvium	2,064	0.45	929	0.11	98	6,239	0.61	18,663	1.82	6,872	0.67	13.91	1.36
Palaeovalley Clay	22,929	0.35	8,025	0.05	401	5,724	2.30	17,185	6.90	6,230	2.50	12.76	5.12
Sand and Silcrete	1,785	0.31	553	0.21	116	5,073	0.59	15,384	1.79	5,391	0.63	11.31	1.31
Total Resources	**26,777**		**9,507**		**695**	**5,647**	**3.92**	**17,068**	**11.86**	**5,881**	**4.09**	**12.59**	**8.75**

Table 19: Exploration Target

Geological Layer	Maximum Thickness (m)	Coverage (km^2)	Sediment Volume (10^6 m^3)	Porosity (-)	Total Stored Brine (10^6 m^3)	Specific Yield (-)	Drainable Brine (10^6 m^3)	K Grade (mg/L)	K Mass (Mt)	SO_4 Grade (mg/L)	SO_4 Mass (Mt)	Mg Grade (mg/L)	Mg Mass (Mt)	K_2SO_4 Mass (Mt)
Alluvium	6	157	942	0.4	377	0.10	94	2,000	0.2	6,100	0.5	2,300	0.2	0.4
Clays	20	1,148	22,960	0.45	10,332	0.03	689	1,800	1.2	5,500	3.8	2,100	1.4	2.8
Basal Sands	7	108	756	0.35	265	0.18	136	1,600	0.2	5,000	0.7	1,900	0.3	0.5
Total					**11,000**		**920**	**1,800**	**1.6**		**5.0**		**1.9**	**3.7**
Alluvium	12	157	1,884	0.5	942	0.18	170	3,500	0.6	9,600	1.6	3,900	0.7	1.3
Clays	50	1148	57,400	0.55	31,570	0.08	2,500	3,300	8.3	9,100	22.8	3,700	9.3	18.4
Basal Sands	10	108	1,080	0.45	486	0.28	140	3,200	0.4	8,700	1.2	3,500	0.5	1.0
Total					**33,000**		**2,810**	**3,300**	**9.3**		**25.6**		**10.4**	**20.7**

Note (Table 16 to 19): Errors are due to rounding.

13.6 Total Brine Volume

For comparative purposes, the following Table 20 has been provided to compare the above Indicated and Inferred Resources, as well as the Exploration Target which have all been based on Drainable Brine Volumes, against other Australian Listed Companies' Mineral Resources which have been quoting Resources based on Total Brine Volume. As can be seen the Total Brine Volume is significantly higher than reporting against the CIM Guidelines of Drainable Brine. For production, the drainable brine component is the most important volume because not all the total brine can be extracted.

Table 20: Resources Summary

Level	Total Brine Volume (10^6 m^3)	K* (10^6 tonne)	SO_4* (10^6 tonne)	Mg* (10^6 tonne)	SOP* (10^6 tonne)
Total In-Situ volume associated with the Measured Mineral Resource	516	2.54	7.77	2.33	5.67
Total In-Situ volume associated with the Indicated Mineral Resource	2,550	14.54	42.23	13.27	32.42
Total In-Situ volume associated with the Inferred Mineral Resource	9,507	54.53	163.75	59.36	121.61
Total In-Situ Volume associated with the Exploration Target^	11,000 – 33,000	20 – 110	60 – 300	23– 120	40 – 250

* Tonnage for K, SO_4, Mg and SOP were calculated from the average grades of K, SO_4 and SOP and the Total Brine Volume for each resource.

Note: Errors are due to rounding.

^The Kalium Lakes Beyondie SOP Project "Exploration Target" is based on a number of assumptions and limitations and is conceptual in nature. It is not an indication of a Mineral Resource Estimate in accordance with the JORC Code (2012) and it is uncertain if future exploration will result in the determination of a Mineral Resource or that the Exploration Target will add to the economics of the BSOPP.

14 Ore Reserve Estimation

The Ore Reserve estimate has been developed by Advisian who have used detailed integrated numerical groundwater flow and solute transport modelling for the individual lakes and catchments. Modelling has been completed to the Australian Groundwater Modelling Guidelines [14] using FEFLOW [15], an industry standard finite element modelling package.

The modelling has been used to simulate the Reserve estimate and develop mine plans for the BSOPP. The detailed modelling report [17] describes the construction, calibration and operation of the model to reporting guidelines. The following sections provides an outline of the model development and outputs that contribute to the Reserve estimate.

The Competent Persons and the relevant technical consultants have examined information provided by KLL that constitutes a Bankable Feasibility Study as defined by Clause 39 of the JORC Code and satisfies the requirements of Clauses 29 and 30 of the JORC Code. The Competent Persons are satisfied that the Modifying Factors have been adequately addressed in this Study.

14.1 Numerical Modelling

Four separate models have been developed:

- 10 Mile Lake and Beyondie Shallow Aquifer;
- 10 Mile Lake and Beyondie Deep Aquifer;
- Lake Sunshine Shallow Aquifer; and
- Lake Sunshine Deep Aquifer.

14.1.1 Model Development

The groundwater models were developed to evaluate the recoverable resource from the shallow unconfined aquifer and deep confined aquifer in the vicinity of 10 Mile Lake and Lake Sunshine. The models used in the PFS were upgraded to account for the following amendments:

- Refinement of each model with the updated geological models;
- Input of additional water level calibration data from the trial ponds pumping at 10 Mile Lake and long term test pumping at SSSN03PB and associated drawdown recorded in monitoring bores;
- Update of initial parameter specific yield distribution based on the BMR results (Table 14);
- Modified recharge to the lake surface taking into account the 2D surface water models and leaching analysis;
- Development of solute transport simulations to account for leaching and mixing of lake surface recharge;
- Import of the updated block model grade distributions as concentrations of K and SO_4; and
- Run additional predictive scenarios based on the 82 ktpa, 82 ktpa ramp up to 164 ktpa, and with and without recharge.

14.1.1.1 Model Domains

The model domains are of a regional scale based on the surface water catchment extents of 10 Mile Lake, Beyondie Lakes and Lake Sunshine, it extends to include the exposed bedrock highs.

The initial mesh created for the regional steady-state model used the Advancing Front Method in FEFLOW [15]. The mesh was then refined using the elements selections in the vicinity of the lakes towards the domain boundary. A refined mesh in the vicinity of bores is used for pump testing calibration of the confined aquifer. The ethos of refining the mesh was to create elements of dimensions similar to the well diameter at the locations of the pumping wells, and to ensure at least three elements between any pumping bores and associated observation bores.

The vertical discretisation in the palaeochannel areas used the following layers as a basis:

- Surficial layer, including upper lake sediments (aquifer, 1 layer);
- Lacustrine clays associated with palaeo-drainage systems (aquitard, 3 layers);
- Palaeochannel, contains palaeochannel sands but may be clay where sands are absent and may also contain weathered bedrock, conductive/non-conductive fracture systems and dolerite dykes (potential aquifer dependent on location, 1 layers); and
- Bedrock (1 layer).

Areas away from the palaeo-drainage use the following layering:

- Weathered rock (aquifer, 1-2 layers); and
- Bedrock (remaining layers).

The topography of the model used the ortho-imagery that covers the lake and the immediate surrounds merged with the 1-second Shuttle Radar Topography Mission data for Australia matched to the centre points of the elements in the mesh. All layers used geological boundaries imported from the geological model (Section 8.9).

Lateral boundaries of the models were simulated as no-flow boundaries. Evaporation is constant at 4,100 mm at the surface of each model, while the extinction zones vary between 0.5 m and 4 m depth. Recharge is discussed in Section 14.1.3 below.

Aquifer property zones have been derived from the geological model based on lithology distribution. Initial aquifer properties are assigned to these zones based upon the test pumping interpretations.

14.1.1.2 Model Calibration

The models have been calibrated using a combination of manual iterative calibration and automated calibration using PEST [18]. Steady state conditions were calibrated to the initial water levels measured across the project. Transient calibration utilised all pumping and recovery data, including test pumping and trial pond pumping and the associated measurements observed in monitoring bores across the project in each aquifer and aquitard.

14.1.1.3 Hydraulic and Transport Properties

The distribution of calibrated hydraulic conductivity, specific yield and specific storage (confined storage) is presented in Figure 49 to Figure 53.

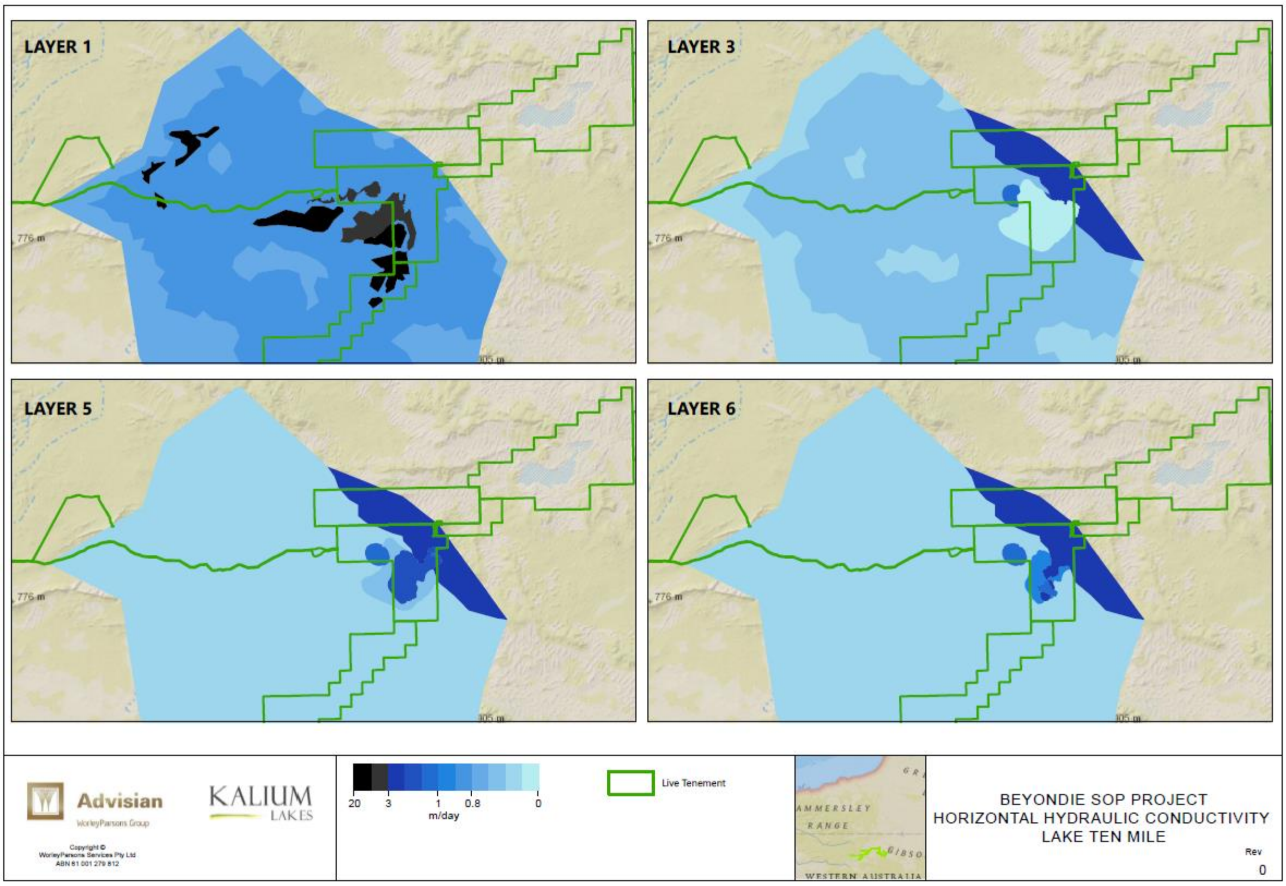


Figure 48: 10 Mile Lake Hydraulic Conductivity Distribution [17]

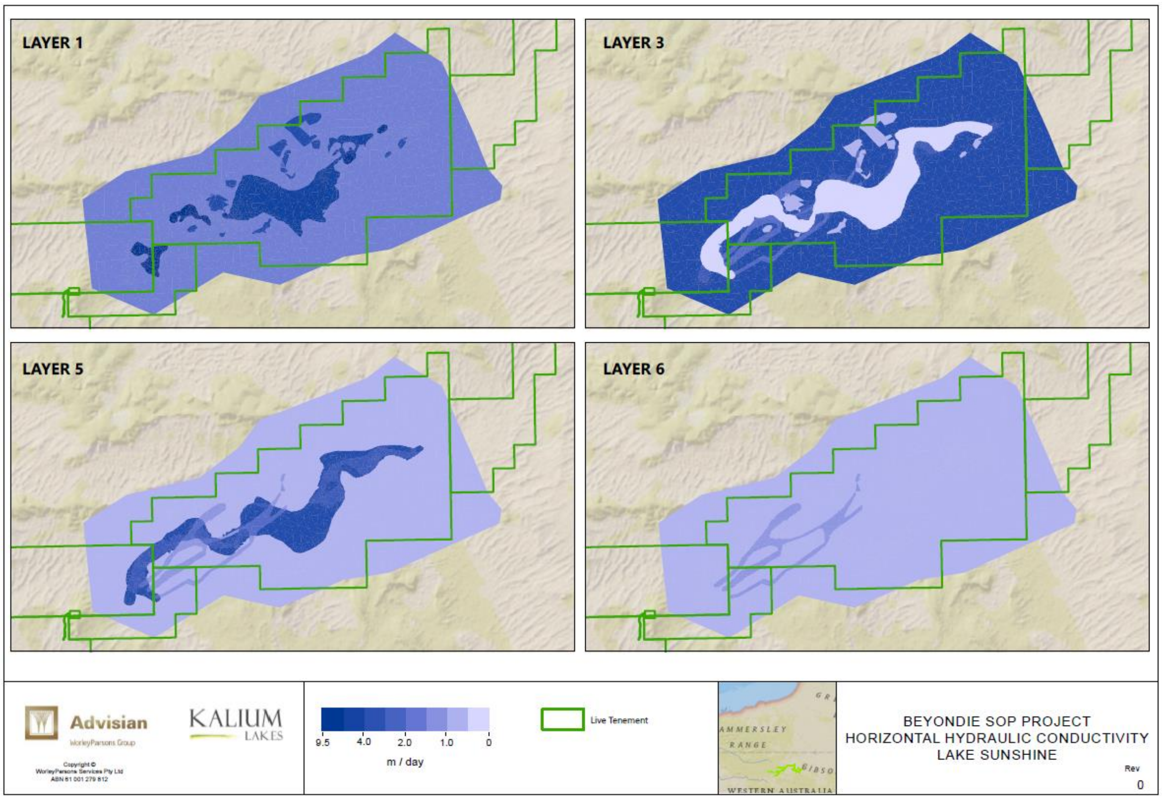


Figure 49: Lake Sunshine Hydraulic Conductivity Distribution [17]

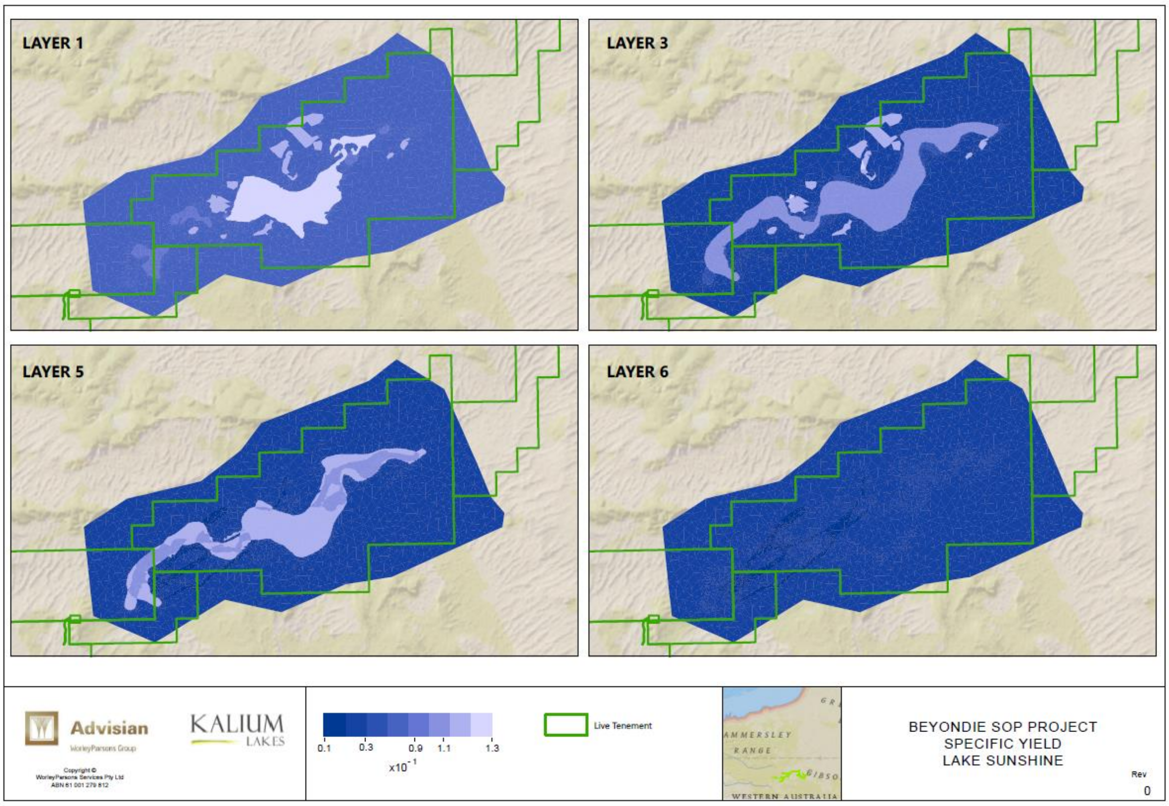


Figure 50: Lake Sunshine Specific Yield Distribution [17]

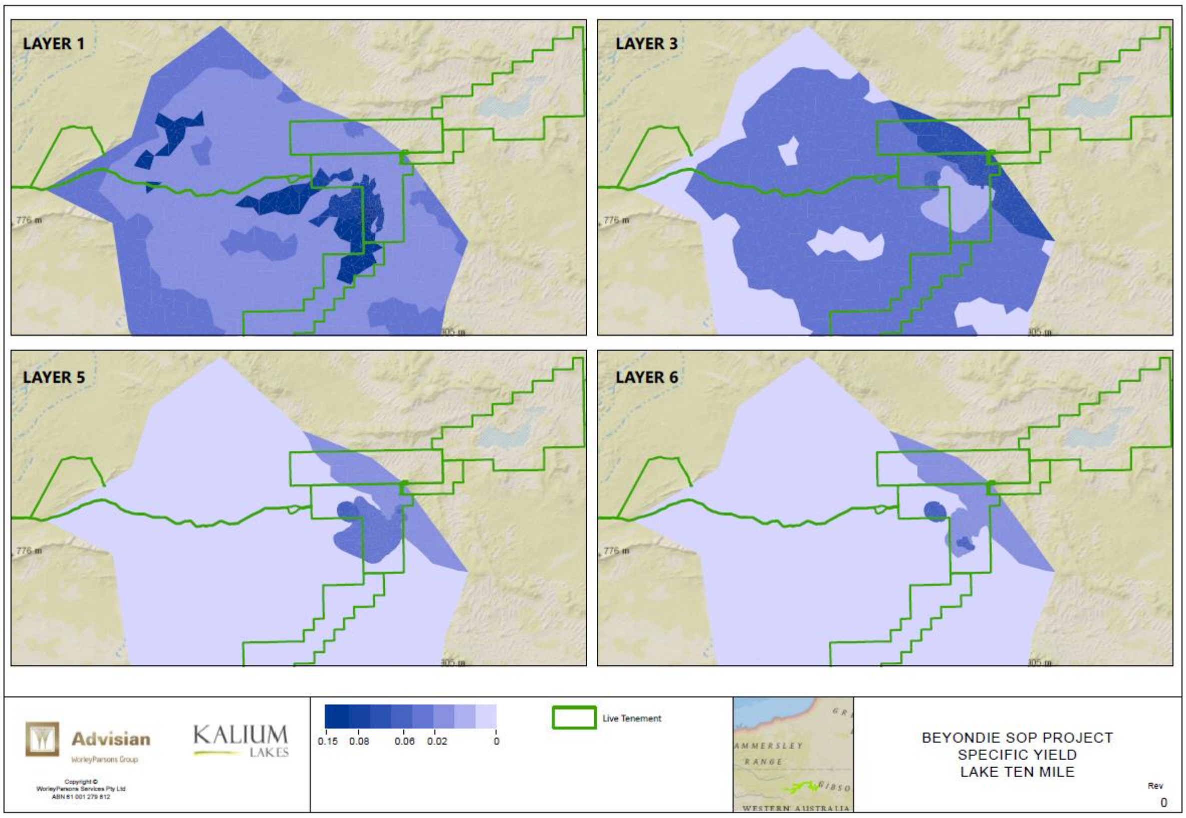


Figure 51: 10 Mile Lake Specific Yield Distribution [17]

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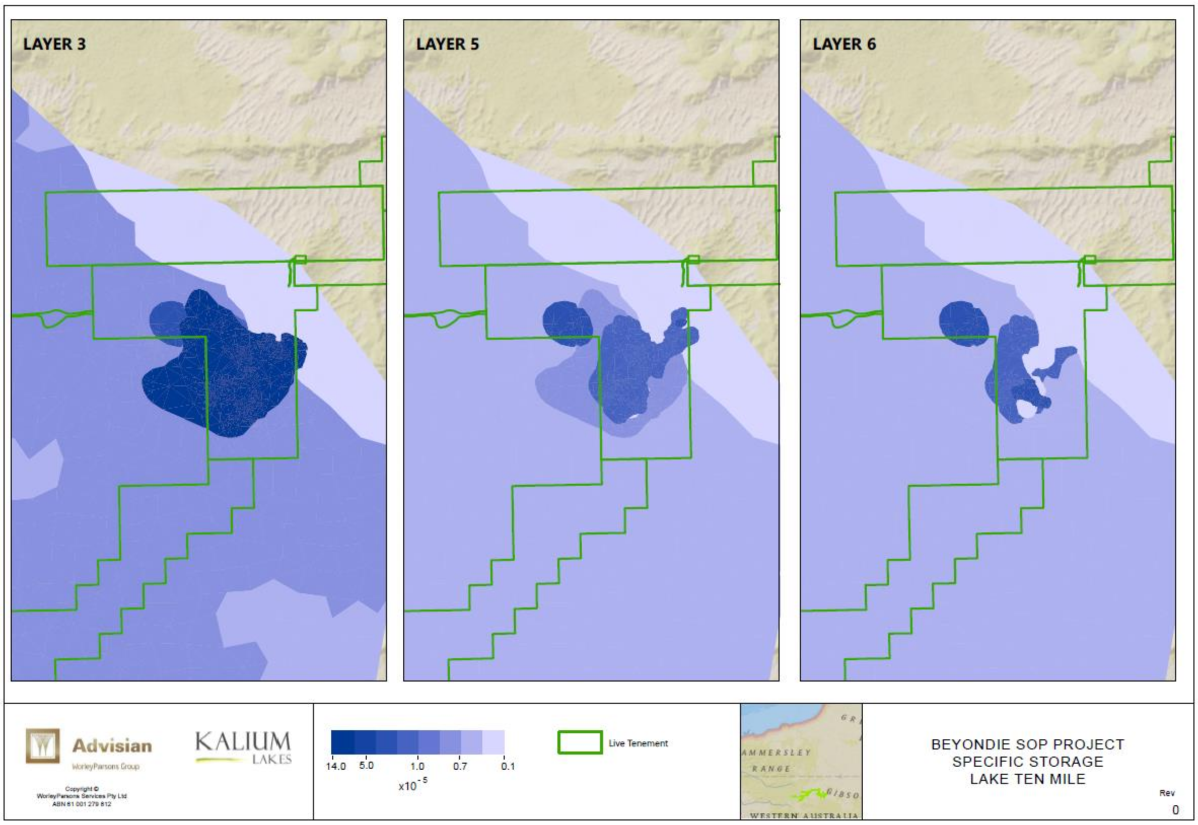

Figure 52: 10 Mile Lake Specific Storage Distribution [17]

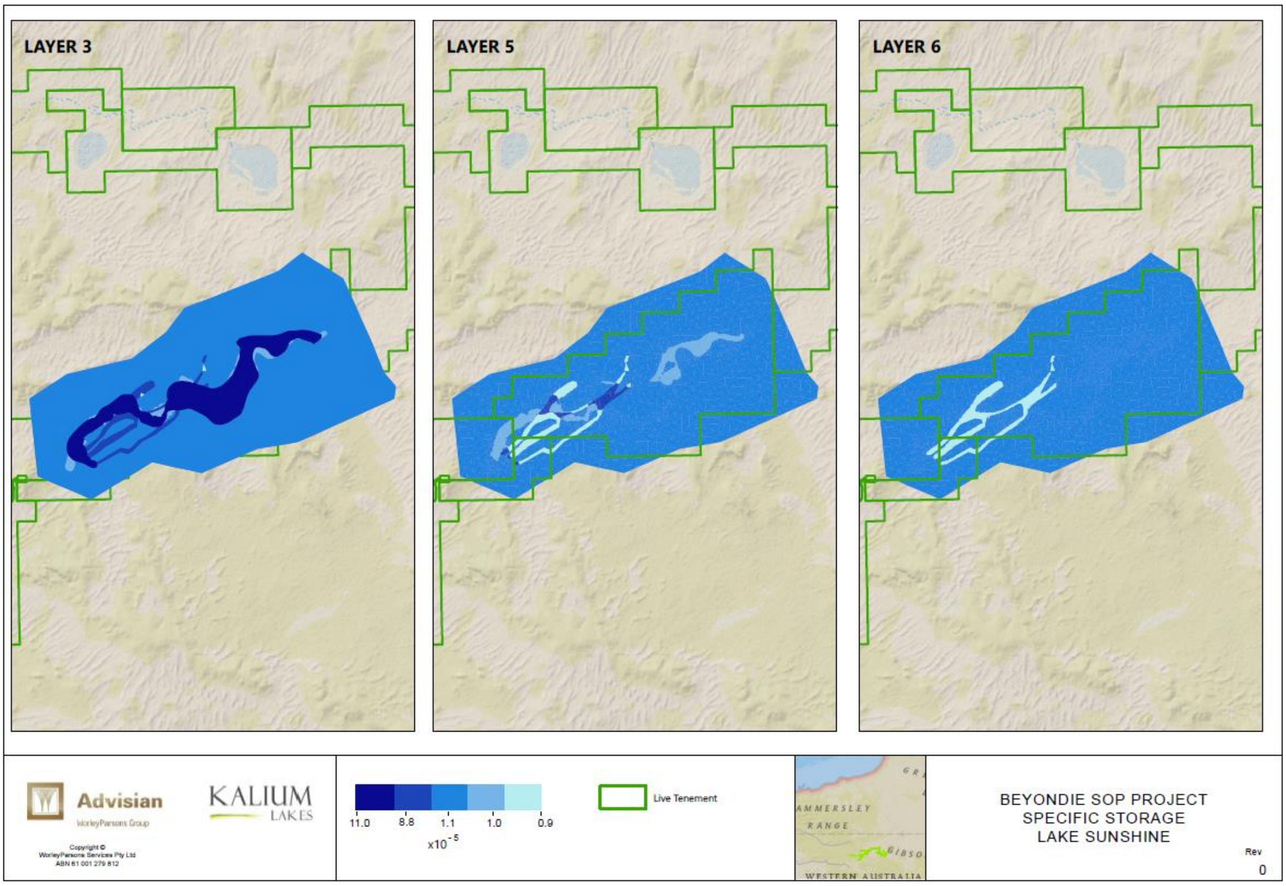

Figure 53: Lake Sunshine Specific Storage Distribution [17]

The effective porosity used for transport calculations was set to be identical to the specific yield values. Longitudinal and transverse dispersivity were set at 5 m and 0.5 m respectively. A range of dispersivities were tested and the difference in the results was found to be insignificant in terms of rate of mass produced. Diffusion was allocated across the model as a constant 10E-09 m^2/s

14.1.2 Predictive Scenarios

Scenarios were developed to meet the proposed throughput of the mine at rates of 82 ktpa with and without recharge and 82 to 164 ktpa with no recharge over the life of mine of 30 years.

Scenario 1 – 82 ktpa SOP Production Rate, no recharge;

Scenario 2 – 82 to 164 ktpa SOP Production, no recharge; and

Scenario 3 – 82 to 164 ktpa SOP Production, with recharge.

For all scenarios a total process (evaporation ponds and process plan) recovery factor of 72% was used to derive the SOP production rates from the annual abstracted brine. Seasonal evaporation pond demands have been simulated on a quarterly basis for the first ten years of operations. Annual production rates have been simulated from year 11 to year 30. Abstraction rates have been modelled iteratively to manage grade and determine the variation in pumping regime necessary to meet the pond requirements.

14.1.3 Recharge

Zero recharge is simulated in the calibrated models. Event based recharge is simulated in Scenario 2 and 4 of the predicted scenarios to evaluate its potential impacts to the Resource and mine plan. The methodology for recharge is discussed below.

Surface water modelling (Section 6.1) has predicted the volumes of water that accumulate on each lake relative to the AEP. Infiltration testing (Section 8.8) has shown that infiltration rates are far slower than evaporation rates in the low areas of each lake where surface water often pools. Therefore it is considered that small (<20% AEP (<5 year ARI)) events, which only inundate these areas will mostly evaporate rather than infiltrate to the water table during operations and only events larger than the 20% AEP event will infiltrate and volumes of water recharge the lake sediments. The volume of water that recharges is derived from the total volume of water in the flood event minus the volume of water that occupies the low areas of the lake where infiltration rates are lower than evaporation.

A concentraton of potassium has been assigned to each recharge event based on the average unsaturated zone thickness at the time of the event for the lake surface and the average leaching curve (Figure 31 and Figure 32) relative to the volume of water infiltrating at each lake. Recharge is then input to the model in the lake as a daily flux at the water table for that event and mixing occurs via advection and dispersion factors within the model. The nature of the leaching curves suggests that very large volumes of recharge are required to substantially dilute the insitu brine grade and that any regular influxes of recharge that are not evaporated will serve as a replenishment to the Resource. The modelled recharge scenarios are considered average conditions largely determined from the AEP event volumes.

The parameters for recharge are presented in Table 21 and Table 22.

Table 21: 10 Mile Lake Recharge Parameters

Mine Year		5	10	15	20	25	30
ARI		4.88 yr	10 yr	4.88 yr	20 yr	4.88 yr	10 yr
AEP		20%	10%	20%	5%	20%	10%
Event Recharge Volume	m^3	6,066,616	11,091,941	6,066,616	16,932,715	6,066,616	11,091,941
Event Recharge Flux	L/m^2	152.06	278.01	152.06	424.41	152.06	278.01
Recharge Conc. K	mg/L	7,055	6,695	6,280	5,219	4,873	4,286
Recharge Conc. SO_4	mg/L	22,403	21,260	19,944	16,573	15,473	13,612
Recharge Conc. Mg	mg/L	4,182	3,969	3,723	3,094	2,889	2,541

Table 22: Lake Sunshine Recharge Parameters

Mine Year		5	10	15	20	25	30
ARI		4.88 yr	10 yr	4.88 yr	20 yr	4.88 yr	10 yr
AEP		20%	10%	20%	5%	20%	10%
Event Recharge Volume	m^3	1,493,243	4,728,572	1,493,243	8,587,975	1,590,605	4,890,842
Event Recharge Flux	L/m^2	59.65	188.88	59.65	343.04	62.72	206.88
Recharge Conc. K	mg/L	6,354	5,456	5,491	4,480	4,731	4,145
Recharge Conc. SO_4	mg/L	19,822	17,020	17,130	13,975	14,759	12,929
Recharge Conc. Mg	mg/L	5,837	5,012	5,045	4,115	4,346	3,808

14.1.4 Production Results

Scenario 1 – No Recharge at 82 ktpa SOP

Presents the low production rate scenario with no recharge. Actual annual production rates vary between 84 and 92 ktpa, with an average production rate of 86 ktpa SOP over the life of mine. The abstracted volume of brine increases by 13% over the life of mine in relation to a 12% reduction in potassium grade.

Scenario 2 – No Recharge at 82 to 164 ktpa SOP

This scenario has been used to develop the Reserve Estimate. Actual modelled annual production rates range between 82 and 174 ktpa, with an average production rate of 97 ktpa SOP for the first 4 years, ramping up between Year 4 and Year 5 to 164 ktpa. The average production rate between year 1 and year 30 was 137 ktpa, Indicated Resources from Stage 2 have been used to supplement the annual production to meet the 164 ktpa production rate from year 12. The water table drawdown for 10 Mile Lake and the confined aquifer drawdown for Lake Sunshine and 10 Mile Lake is presented in Figure 54 to Figure 57 at the end of year 30. A summary of the production from this scenario is presented in Table 23, the change in concentration of potassium is presented in Figure 58.

Scenario 3 – With Recharge at 82 to 164 ktpa SOP

This scenario has been used to test the impacts of recharge on the mine plan. Actual annual production rates varied between 82 and 174 ktpa, with an average production rate of 97 ktpa SOP for the first 4 years, ramping up between Year 4 and Year 5 to 164 ktpa. The average production rate between year 1 and year 30 was 156 ktpa. The abstracted volume of brine increases by approximately 15% with the addition of recharge to the simulation. Drawdown optimisation has not been assessed to date, with optimisation it is anticipated that greater volumes can be abstracted.

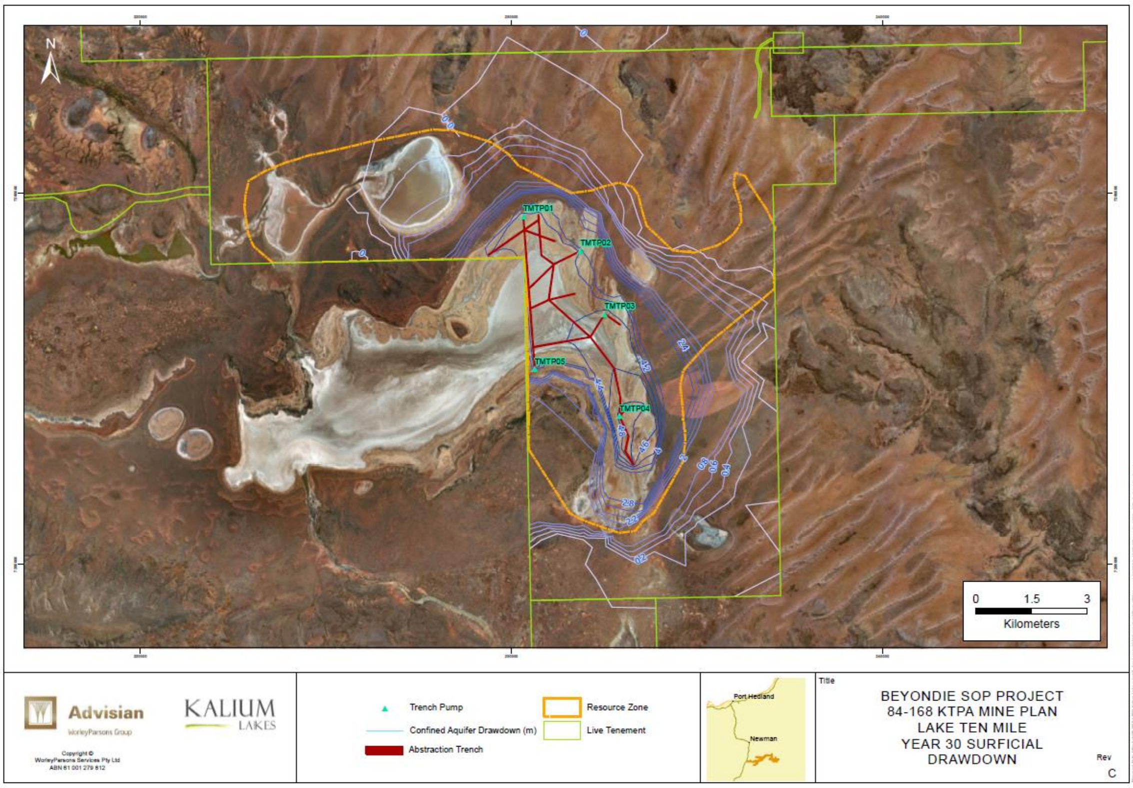

Figure 54: Trench Layout and Associated Unconfined Aquifer Drawdown at Year 30, Scenario 2 - 10 Mile Lake [17]

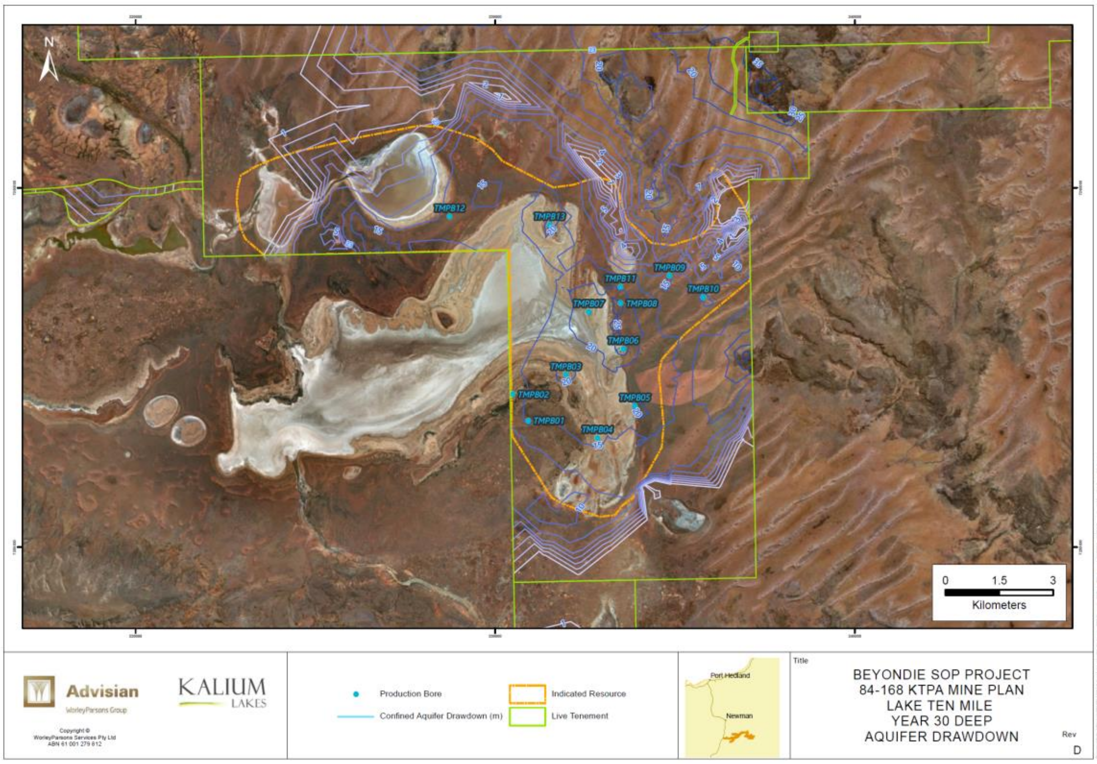

Figure 55: 10 Mile Lake Production Bore Layout and Associated Confined Aquifer Drawdown for Scenario 2 at Year 30 [17]

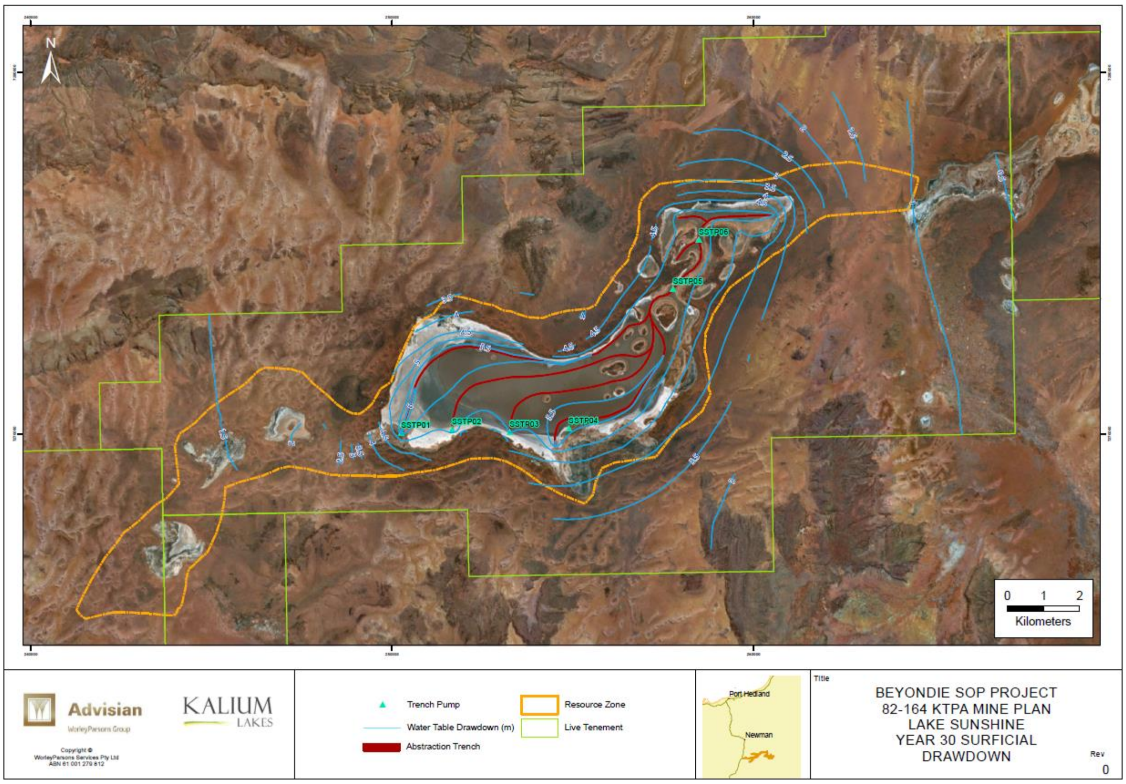

Figure 56: Trench Layout and Associated Unconfined Aquifer Drawdown at Year 30 Scenario 2 – Sunshine [17]

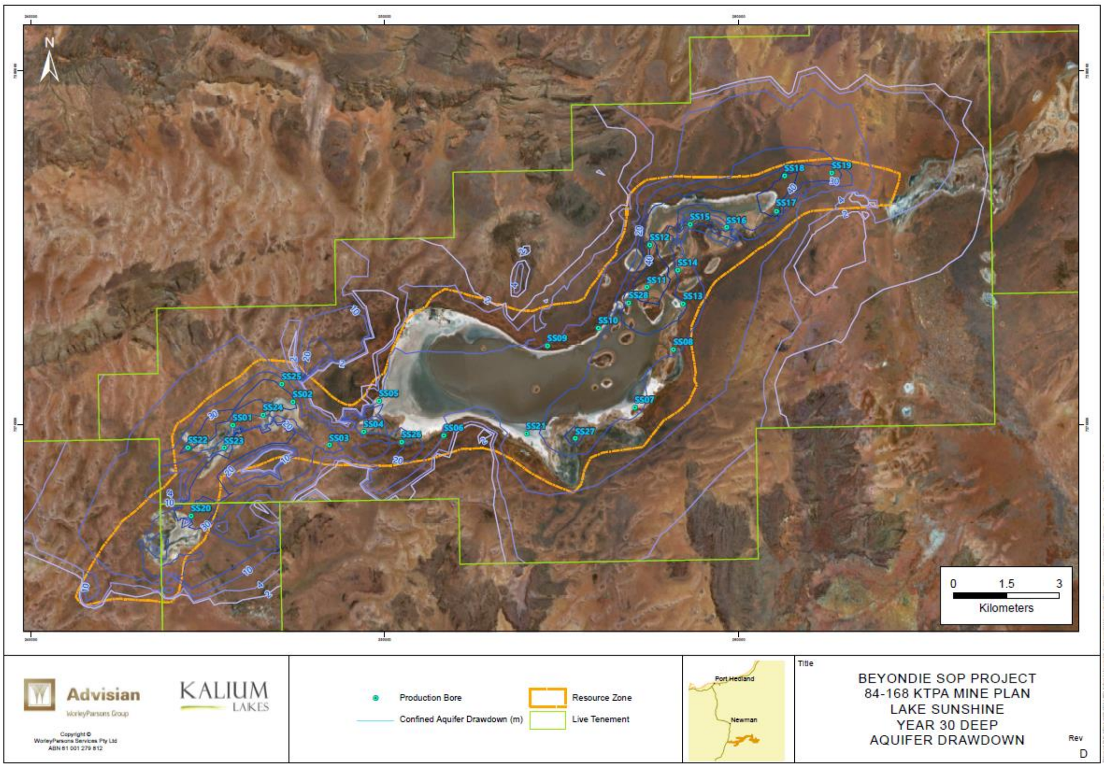

Figure 57: Lake Sunshine Production Bore Layout and Associated Confined Aquifer Drawdown for Scenario 2 at Year 30 [17]

Table 23: Summary of Reserve Production Scenario 2 – 82 to 164 ktpa SOP Production

Abstraction Point	Brine Volume (m^3)	Pumping (days)	Average Pumping Rate (m^3/d)	K Production Concentration (mg/L)			K Mass Produced (kt)	SO_4 Mass Produced (kt)	K_2SO_4 Mass Produced (kt)
				Minimum	Maximum	Average			
10 Mile Production Bores									
TMPB01	3,971,061	10,950	362.65	10,203	10,566	10,418	30.6	84.9	68.2
TMPB04	3,971,446	10,950	362.69	5,084	5,446	5,264	21.0	64.8	46.8
TMPB05	6,879,640	10,950	628.28	5,649	6,077	5,825	39.6	120.1	88.2
TMPB08	11,581,477	10,950	1,057.67	8,718	9,548	8,969	102.8	291.1	229.1
TMPB11	79,056	365	216.59	9,397	9,397	9,397	0.7	2.1	1.7
TMPB02	1,687,378	10,950	154.10	10,206	10,686	10,449	1.5	4.1	3.3
TMPB03	4,696,321	10,950	428.89	6,548	7,934	7,355	35.3	102.3	78.6
TMPB06	9,665,920	10,950	882.73	7,693	8,417	7,991	76.6	220.4	170.8
TMPB07	11,682,792	10,950	1,066.92	8,119	9,700	8,705	99.2	282.7	221.2
TMPB09	20,708,184	10,950	1,891.16	6,177	8,148	7,187	141.9	417.5	316.3
TMPB10	3,044,087	10,950	278.00	6,360	7,469	7,190	24.7	60.5	55.0
TMPB12	17,197,837	10,950	1,570.58	8,105	8,285	8,189	140.6	402.5	313.2
TMPB13	8,774,101	10,950	801.29	7,586	8,487	7,909	70.3	198.7	156.7
10 Mile Trench Pumps									
TMTP01	5,098,540	10,950	465.62	7,400	8,820	7,897	42.5	121.4	94.7
TMTP02	1,690,078	2,920	578.79	6,848	9,385	8,630	15.5	43.7	34.6
TMTP03	6,174,855	10,950	563.91	7,819	9,217	8,195	51.9	148.1	115.7
TMTP04	13,140,506	10,950	1,200.05	5,567	6,782	6,036	79.5	239.0	177.2
TMTP05	2,147,462	3,285	653.72	3,371	7,899	6,546	15.7	45.7	35.0
Lake Sunshine Production Bores									
SSPB01	3,726,091	3,650	1,020.85	2,500	3,320	2,834	10.2	53.1	22.7
SSPB02	5,290,317	10,950	483.13	3,497	3,811	3,723	19.6	57.6	43.7
SSPB03	1,572,292	3,650	430.77	4,476	4,897	4,717	7.3	20.8	16.2
SSPB04	7,974,985	10,950	728.31	6,490	6,883	6,631	52.7	146.0	117.5
SSPB05	3,553,115	10,950	324.49	7,057	7,274	7,194	25.3	69.7	56.5
SSPB06	4,553,716	10,950	415.86	6,554	6,713	6,636	30.0	83.2	67.0
SSPB07	8,438,975	10,950	770.68	5,982	6,044	6,033	50.9	142.1	113.5
SSPB08	6,808,991	10,950	621.83	4,988	5,197	5,119	34.6	98.2	77.2
SSPB09	8,706,116	10,950	795.08	7,218	7,290	7,258	63.1	173.5	140.7
SSPB10	11,402,901	10,950	1,041.36	6,341	6,428	6,363	72.5	201.4	161.6
SSPB11	1,975,466	10,950	180.41	6,333	6,549	6,372	12.6	35.0	28.1
SSPB12	1,022,603	10,950	93.39	6,183	6,216	6,199	6.3	17.6	14.1
SSPB13	7,025,522	10,950	641.60	5,001	5,317	5,106	17.5	49.7	39.1
SSPB14	2,009,127	10,950	183.48	5,492	5,608	5,587	11.2	31.4	24.9
SSPB15	5,664,471	10,950	517.30	6,496	6,625	6,567	37.0	102.5	82.4
SSPB16	10,736,844	10,950	980.53	5,567	6,175	5,692	61.0	171.0	135.9
SSPB17	11,115,128	10,950	1,015.08	4,233	4,686	4,357	40.7	117.4	90.7
SSPB18	16,847,340	10,950	1,538.57	2,622	3,023	2,938	21.5	65.5	47.9
SSPB19	12,769,038	10,950	1,166.12	3,217	3,714	3,335	21.1	62.9	46.9

Abstraction Point	Brine Volume (m^3)	Pumping (days)	Average Pumping Rate (m^3/d)	K Production Concentration (mg/L)			K Mass Produced (kt)	SO_4 Mass Produced (kt)	K_2SO_4 Mass Produced (kt)
				Minimum	Maximum	Average			
SSPB20	12,942,834	10,950	1,181.99	4,434	5,399	4,682	59.9	171.6	133.6
SSPB21	7,923,986	10,950	723.65	7,357	7,414	7,399	58.6	160.8	130.6
SSPB23	6,232,865	10,950	569.21	2,700	4,105	3,611	21.1	62.8	47.0
SSPB24	10,271,663	10,950	938.05	3,465	4,179	3,643	37.3	110.1	83.2
SSPB25	13,006,445	10,950	1,187.80	2,739	3,017	2,852	24.9	76.3	55.6
SSPB26	8,302,175	10,950	758.19	6,002	6,095	6,047	50.2	139.9	111.8
SSPB27	12,602,767	10,950	1,150.94	7,016	7,041	7,022	86.5	238.3	192.8
SSPB28	4,095,145	10,950	373.99	6,510	6,730	6,542	26.8	74.4	59.8
Lake Sunshine Trench Pumps									
SSTP01	19,743,654	10,950	1,803.07	6,577	7,513	6,870	135.8	366.2	302.6
SSTP02	6,199,979	4,015	1,544.20	2,500	7,439	5,735	36.9	103.1	82.3
SSTP03	9,657,891	7,300	1,323.00	2,500	7,301	5,557	58.9	164.2	131.3
SSTP04	18,958,850	10,950	1,731.40	5,983	6,938	6,286	119.1	331.0	265.4

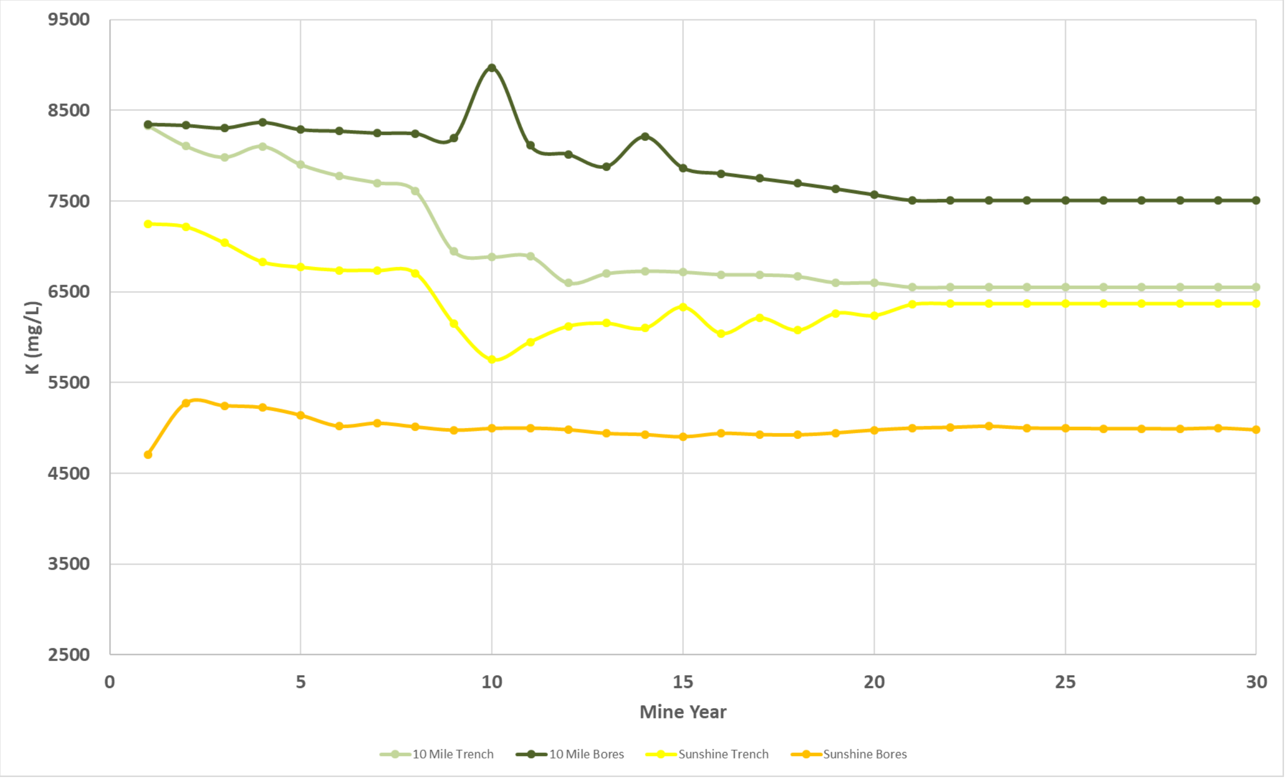

Figure 58: Average Annual Concentration of Extracted Brine Scenario 2 – 82 to 164 ktpa SOP Production [17]

14.1.4.1 Abstraction Capture Zones

Abstraction capture zone analysis was used to determine the origin of brine from each abstraction point (Production bore or trench). The Backward Pathline tool within FEFLOW was used to map the particle traces of brine entering each abstraction point throughout the life of mine in Scenario 2. Capture zones emanating outside of the resource evaluation zones were omitted from the estimate. Proven and Probable Reserve volumes were derived from the capture zones originating from the Measured and Indicated Resource zones respectively.

Surficial capture zones were drawn in FEFLOW representing the brine captured in year 30. The polygon was exported and presented graphically in Figure 59, Figure 60, Figure 61 and Figure 62. The full particle tracks could not be exported due to the density of the data.

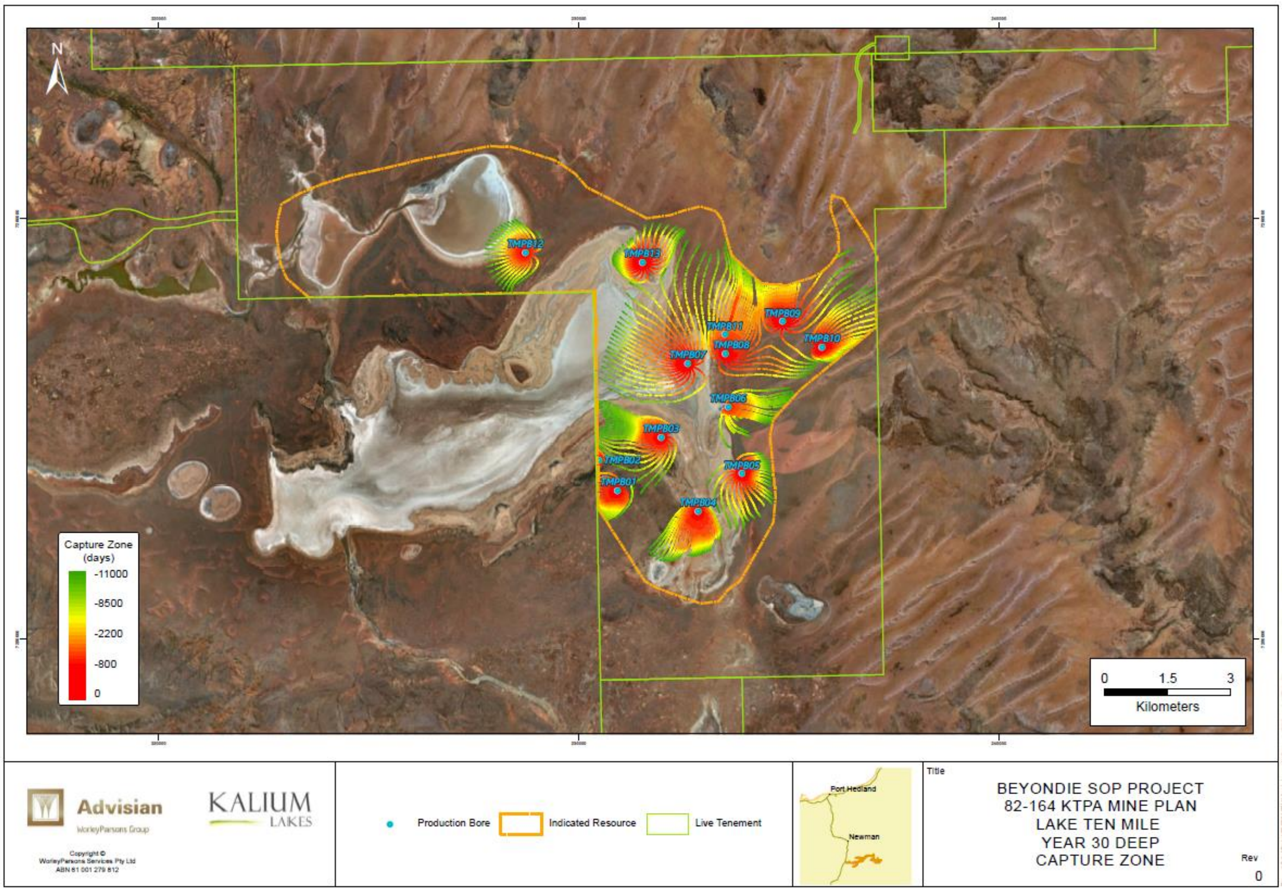

Figure 59: 10 Mile Lake Production Bore Capture Zones [17]

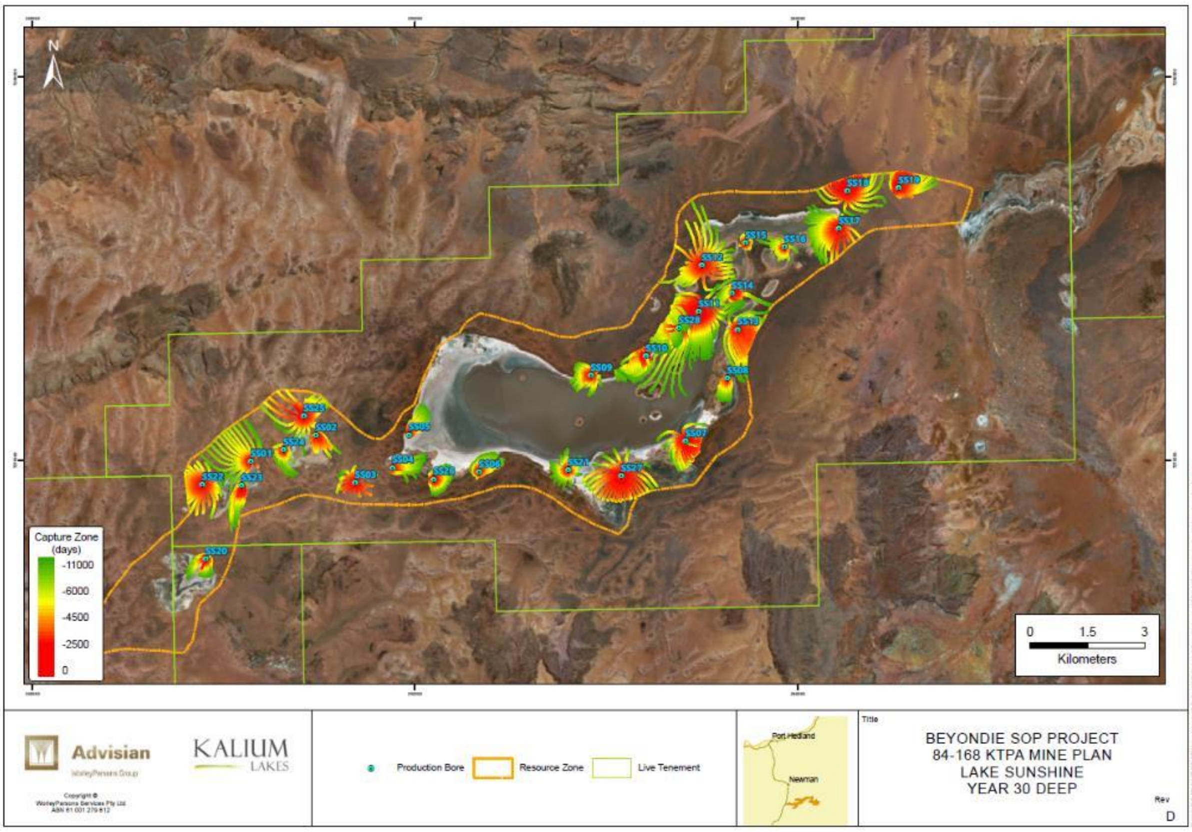

Figure 60: Lake Sunshine Production Bore Capture Zones [17]

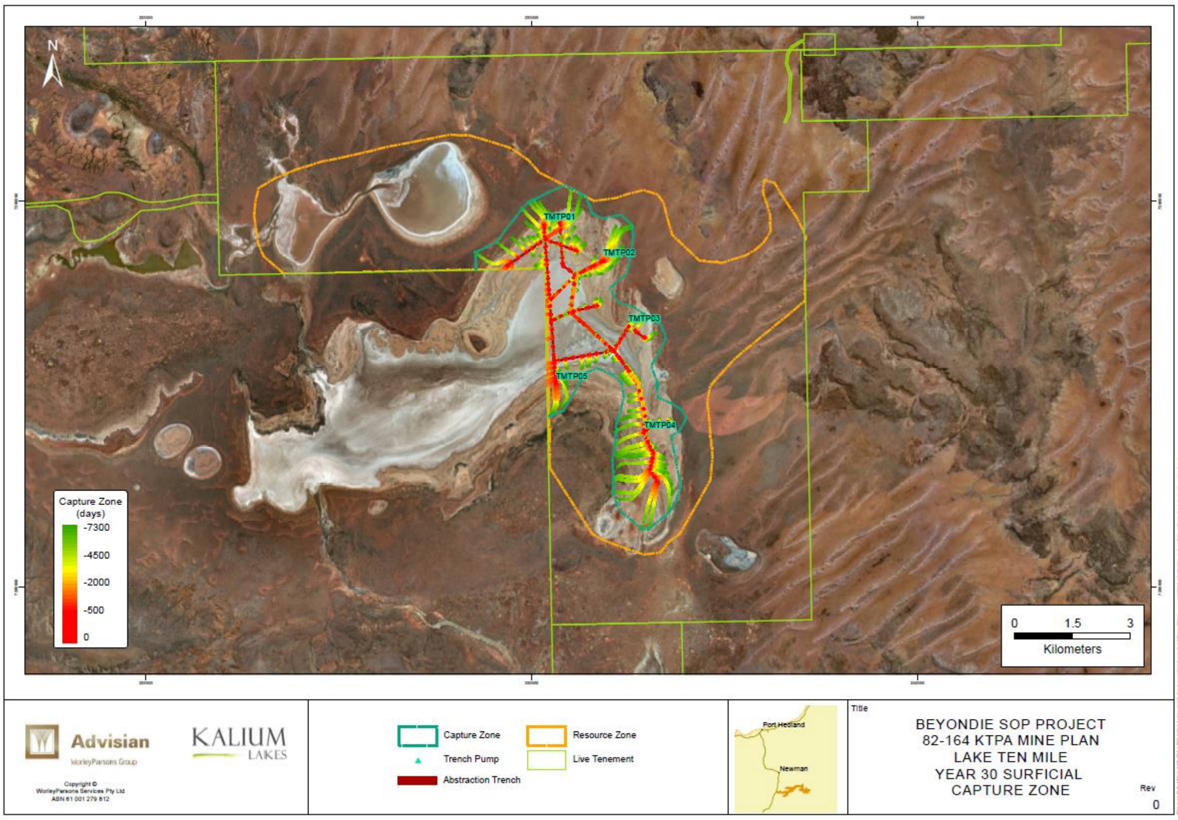

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Figure 61: 10 Mile Trench Capture Zones [17]

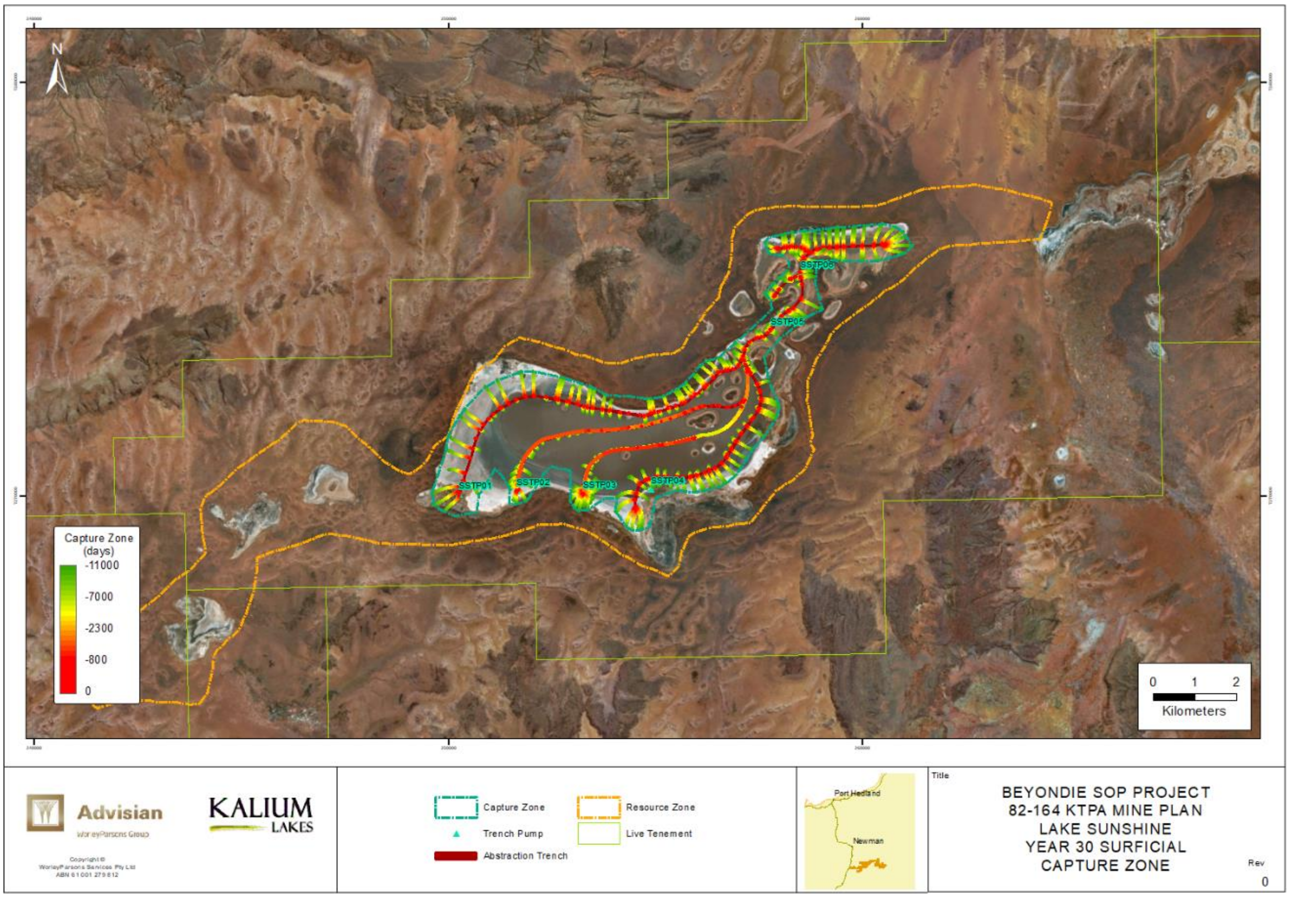


Figure 62: Sunshine Trench Capture Zones [17]

14.1.4.2 Effects of Recharge

The comparison of the results of the recharge verses the no recharge predictive sceanrios show the effects of leaching of the lake surface Resource during average rainfall conditions over the life of mine. The results show that the Resource is replenished with a minimum of a 20% AEP (5 year ARI) event. Over the 30 year mine life and taking into account average flooding conditions there is approximately 15% increase in total potassium production, observed from year 11 onwards. Concentration of potassium in abstracted brine is stabilised as the more dilute brine at the edges of the lake are buffered by the leached recharge brine. The recharge effects are presented in Figure 63.

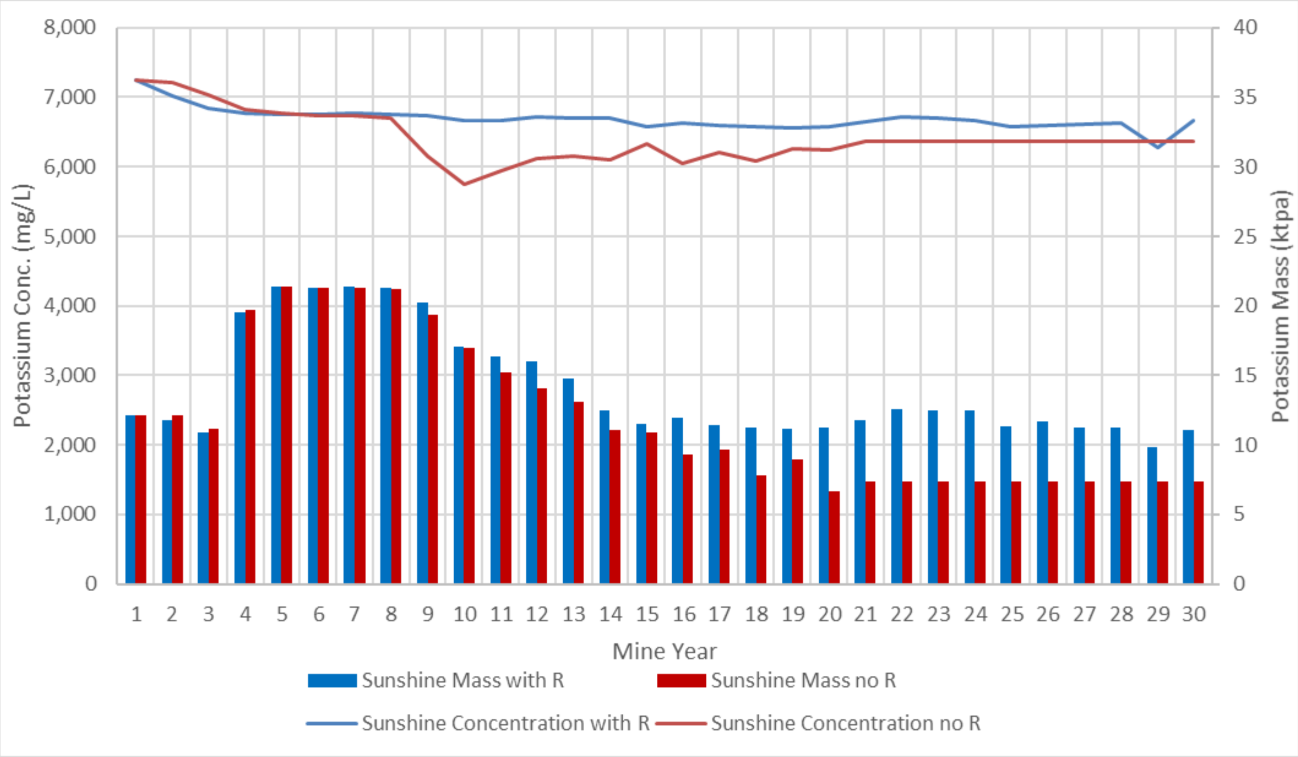


Figure 63: Recharge effects to Potassium Mass at Lake Sunshine [17]

14.2 Ore Reserve Methodology

The results of Scenario 2 have been used to determine the Ore Reserve. The accumulated tonnes of potassium produced from each production point (bores and trench pumps) over the life of mine have been output from the solute model. SOP tonnes are calculated by multiplying potassium volume produced by 2.228475 which is based on the molar mass of K to convert to K_2SO_4.

Where abstraction points have capture zones originating from outside the Resource Zones the trace was given a zero concentration and factored into the Reserve calculation. Only brine originating from inside the Resource Zones are estimated in the Ore Reserve.

Proved Reserves come from the production bores that have capture zones in the Measured Resources regions of the 10 Mile Lake and Lake Sunshine deep aquifer. All trench pumps and all other production bores have been allocated to Probable Reserves based on Indicated and Measured Recources. Though the lake surface has Measured Resources for the top 5 m, the effects of variable recharge on this zone means that these Resources only convert to the Probable Reserve category.

A cut-off grade of 2,500 mg/L potassium has been applied to the Ore Reserve to reduce excess bine volumes supplied to the ponds which would decrease production rates of SOP due to a more dilute brine requiring additional evaporation area and time. This has been managed in the mine plan, by turning off production bores when the potassium grade goes below this concentration.

The Ore Reserves only take into account the Measured and Indicated Resources of 10 Mile Lake and Lake Sunshine, they do not include 0.7 Mt of Indicated Mineral Resources from the regional lake sediments that form Stage 2 of the Project.

14.3 Proved and Probable Ore Reserve

Based on the methodology outlined above, the Proved and Probable Reserve estimates are detailed in Table 24 and Table 25 respectively.

Table 24: Proved Ore Reserves

Aquifer Type	Brine Volume (10^6 m^3)	K (mg/L)	K Mass (Mt)	SO_4 (mg/L)	SO_4 Mass (Mt)	SOP Grade (kg/m^3)	K_2SO_4 Mass (Mt)
Production Bores	119	6,207	0.74	17,945	2.14	13.83	1.65
Total Proved Reserve	119	6,207	0.74	17,945	2.14	13.83	1.65

Note: errors are due to rounding

Table 25: Probable Ore Reserves

Aquifer Type	Brine Volume (10^6 m^3)	K (mg/L)	K Mass (Mt)	SO_4 (mg/L)	SO_4 Mass (Mt)	SOP Grade (kg/m^3)	K_2SO_4 Mass (Mt)
Lake Surface Sediments	212	4,755	1.01	13,669	2.90	10.60	2.25
Production Bores	83	6,713	0.56	18,867	1.56	14.96	1.24
Total Probable Reserve	295	5,306	1.57	15,129	4.46	11.82	3.49

Note: errors are due to rounding

14.4 Relative Accuracy and Confidence in Reserve Calculation

The Ore Reserve estimate is considered to be a conservative representation of the aquifer systems with general reasonable confidence in modelled outputs during the early to mid life of mine, with confidence reducing during later mine life. This confidence is spatially represented with the highest levels of confidence around the areas with good geological and test pumping control and the lowest areas of confidence with limited data available.

It is important to note that hydrogeological numerical models have significant areas of uncertainty and that the mine plan developed over a 30 year period is not definitive. Model sensitivity, predictive uncertainty analysis and professional judgement have been incorporated into the numerical model development to determine the most sensitive parameters of the model and the reliability of the data used to gain an understanding of the relative accuracy of the model predictions. The sensitivity and predictive uncertainty modelling results suggest that the model is a Class 2 level of confidence according to the Australian Groundwater Modelling Guidelines [14]. A higher class could only be achieved following a number of years of operational data collection and model verification.

Sensitive uncertainties in the modelling include aquifer recharge, which controls the rate of drawdown and impacts the brine grade in the lake sediments, and vertical leakage from the lacustrine clay which controls late mine life abstraction rates in the palaeochannel production bores. Modelling for the Reserve Estimate has taken a conservative approach to these parameters to ensure the model is representative of the level of understanding of the hydrogeology.

The management of recharge within the modelling and Reserve Estimate has provided a conservative assessment of the lake surface Reserves. There is potential once operational data becomes available or through further testing to more accurately measure the leaching component of the lake sediments and bring this component into the Mineral Resources and Ore Reserves.

14.5 Other Major Brine Components

In addition to potassium and sulphate, the pumped brine contains quantities of sodium and chloride that need to be quantified. These elements have not been modelled in the solute transport model and therefore have been calculated based upon their average ratio to potassium, these are presented graphically in Figure 64 for both 10 Mile Lake and Lake Sunshine Resources. The minimum, maximum and average ratios of produced other elements over the life of mine are provided in Table 26 below.

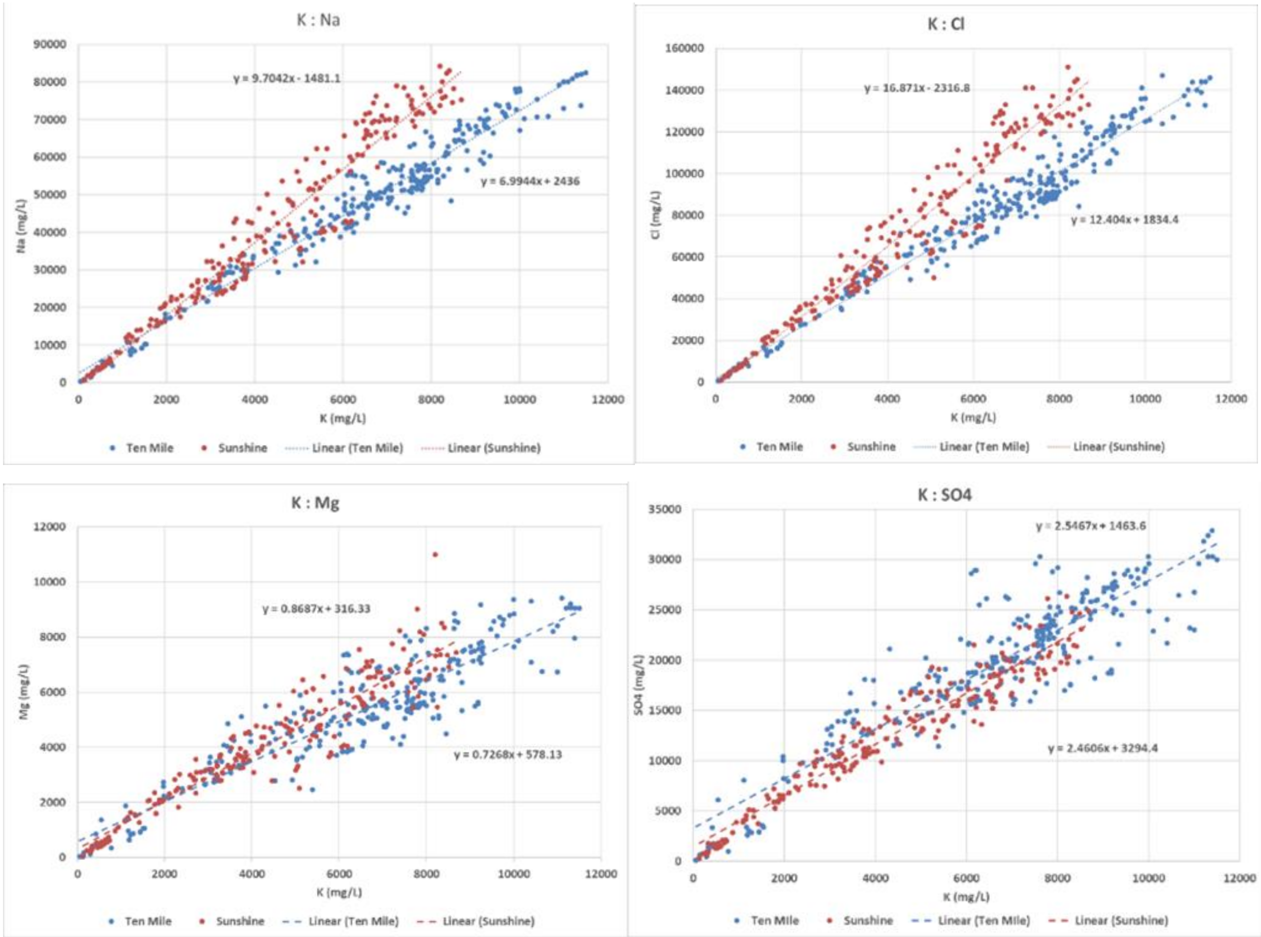


Figure 64: Ratio of other Brine Elements to Potassium [17]

Table 26: Ratios of key Brine Elements

Element	10 Mile Lake			Lake Sunshine			Stage 1 Life of Mine		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
S.G.	1.14	1.16	1.15	1.09	1.11	1.10	1.12	1.13	1.12
Na:K	7.3	7.3	7.3	9.4	9.4	9.4	8.3	8.9	8.5
SO_4:K	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.9	2.9
Mg:K	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9
Cl:K	12.6	12.7	12.7	16.4	16.5	16.4	14.4	15.4	14.8

15 Mining Methods

There are two principal methods applicable to extract the brine:

- Pumping from production bores in the basal sands (lower aquifer) plus leakage from brine bearing segments within the palaeovalley clay and fractured/weathered bedrock, Figure 65; and

Figure 65: Existing production bore set-up [26]

- Pumping from trenches inside the alluvial sediments (upper aquifer) in trenches up to 10 m depth, Figure 66.

Figure 66: Existing trench pumping set-up [26]

Both methods will be used because of the properties of the different aquifers. The design of the bore field and trenches will be based on the brine demand and aquifer conditions.

Mine plan's have been developed to plan the sequence of bore and trench operations that will be utilised over the mine life. This includes the Proved and Probable Reserves, Measured and Indicated Resources outside of the Reserve and Inferred Resources. The mine plan brings in the Stage 2 resources to assess the mine life scenarios. The deposit life at each lake area has been based on the modelled outputs from 10 Mile Lake and Lake Sunshine and the percent of reserves and resources determined on an annual basis, along with annual production rate and grade.

The mine plan is developed based upon the design criteria for the ponds on a quarterly basis. Grade and volume control was completed iteratively in the mine plan to meet target concentrations and flow rates for the individual concentrator ponds at 10 Mile Lake and Lake Sunshine. Grade and volume control were managed by modifying the seasonal abstraction of bores and trenches within the model.

Two scenarios have been developed:

- 82 ktpa SOP (mine life of ~50 years at the production rate – based on Proved Reserves, Probable Reserves and Indicated Resources only within the Stage 1 + 2 area (Figure 69) with significant life extension available from the Stage 2 area), Figure 67; and
- 82 – 164 ktpa SOP mine life 30 years to 48 years based on Proved and Probable Reserves plus Measured, Indicated and Inferred Resources in Stage 1 & 2. It is noted that years 31 onwards have been excluded from the financial evaluation, Figure 68. No optimisation has been completed on the mine plan for recharge or drawdown. Therefore it is considered likely that further resources from the indicated and inferred portions of the Stage 1 Resources could be extracted from the mine plan.

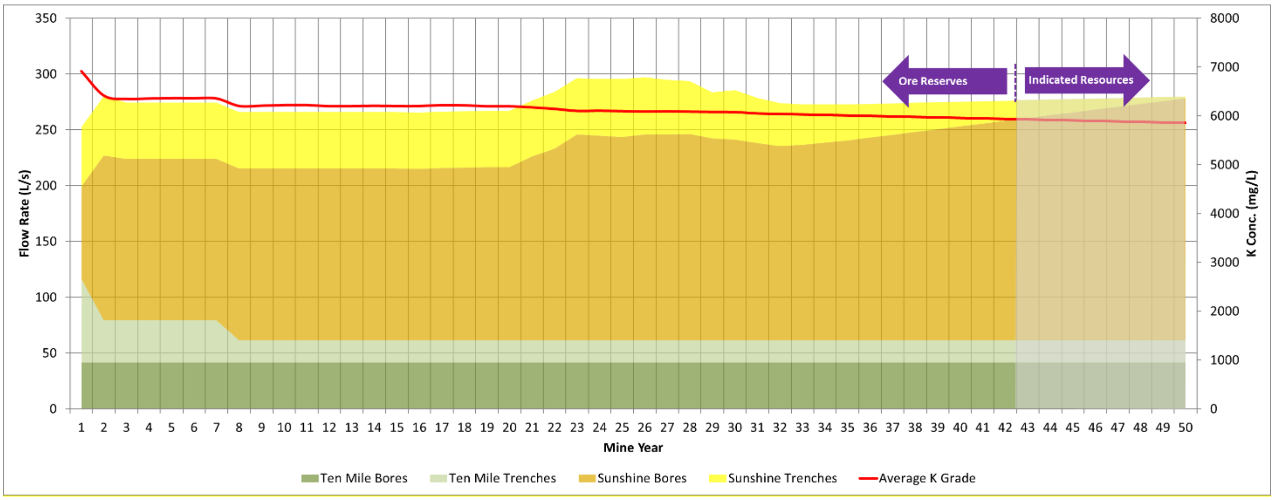


Figure 67: 82 ktpa SOP Mine Plan (Bank Finance Case) [17]

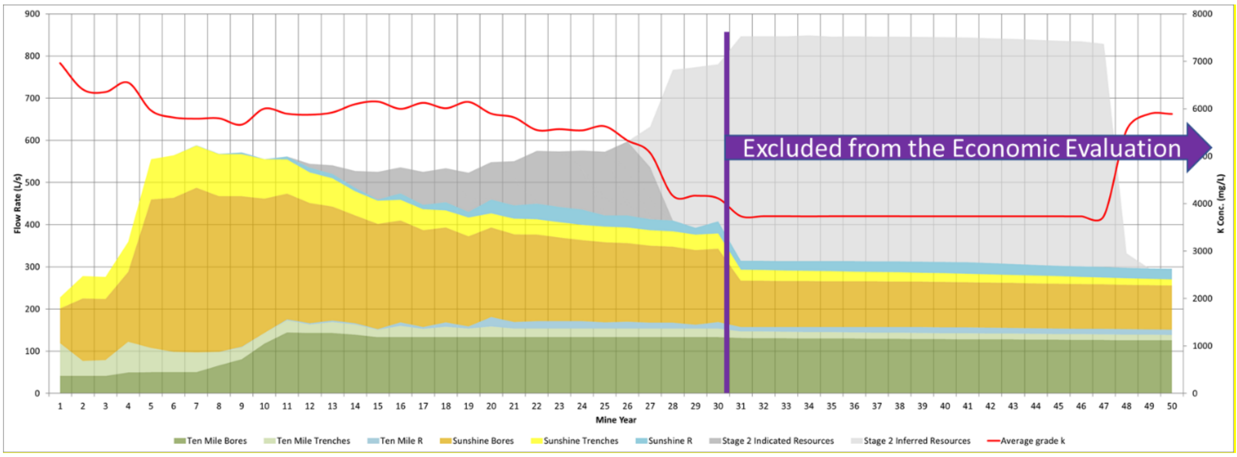


Figure 68: 82 ktpa to 164 ktpa SOP Mine Plan (Base Case) [17]

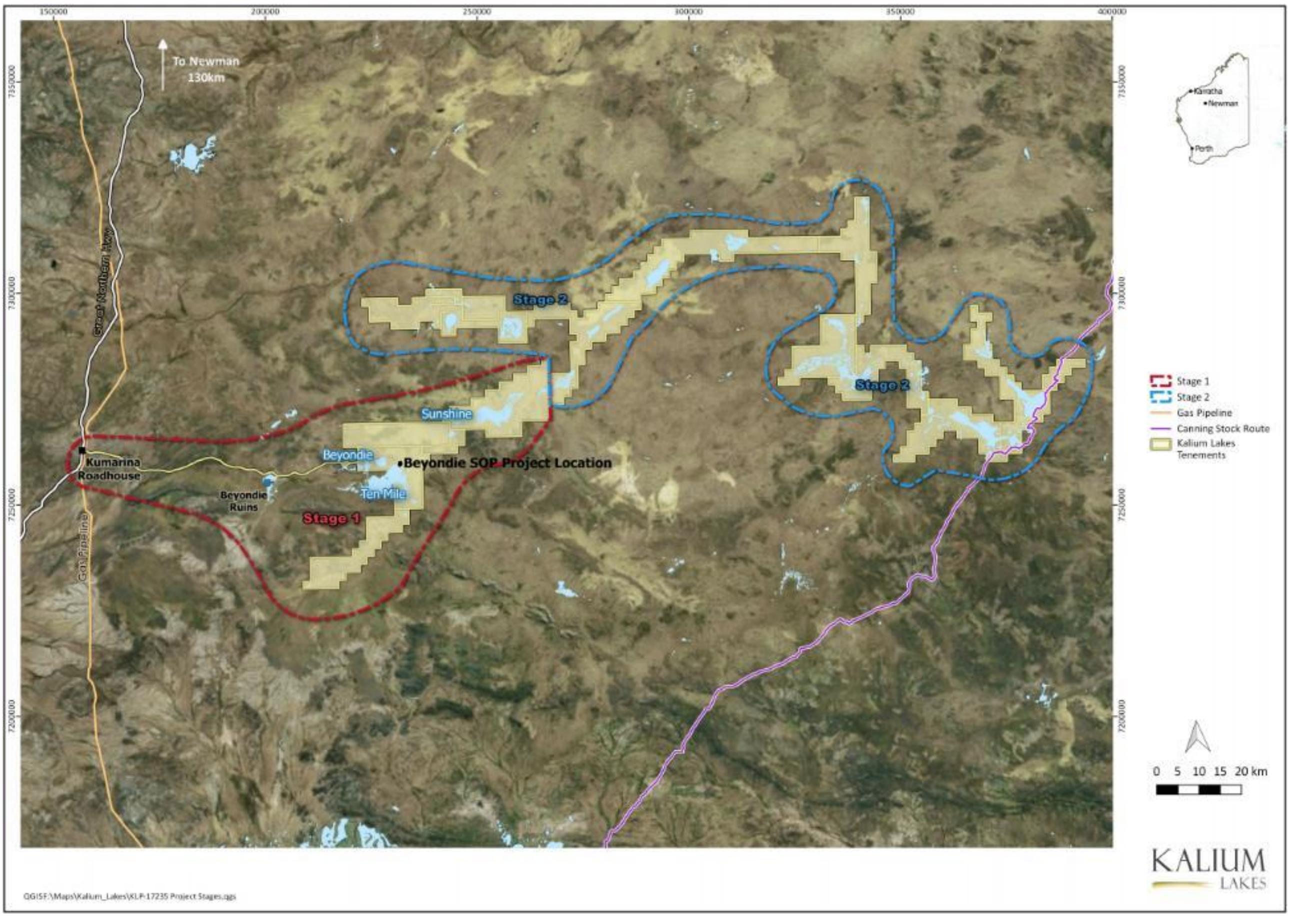


Figure 69: Stage 1 and Stage 2 Production Areas [12]

16 Recovery Methods

The general mineral processing concept is comprised of the following areas, which are explained in further detail below:

- Brine concentration and crystallization of solid raw materials for the processing plant, as shown in Figure 70 and Figure 71;
- Purification plant; as shown in Figure 72.

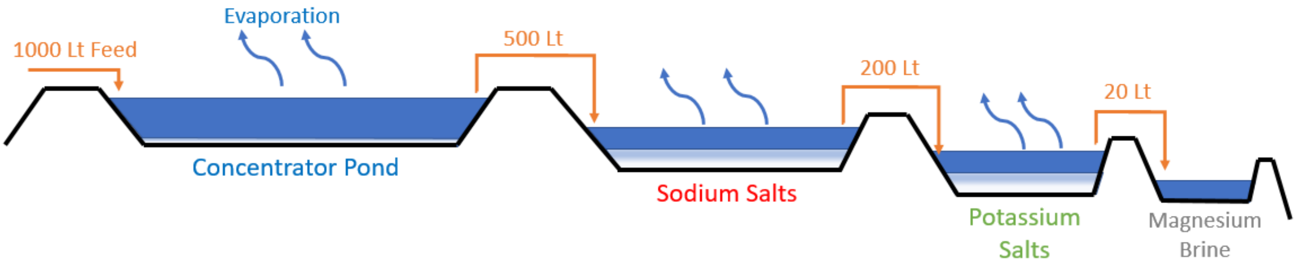


Figure 70: Evaporation Pond Series [24]

The **brine concentration and crystallization process** begins with brine entering the evaporation ponds whereby water is removed by solar evaporation. This causes gypsum, halite and astrakainite to crystallise sequentially in the first two sets of ponds. Unless determined economical to process, the calcium and sodium salts are left within the ponds to be harvested once full. The remaining brine crystallises producing KTMS comprising leonitic, schoenitic and carnallitic mixed salts in the next set of ponds. These salts are harvested and stored separately prior to mixing, pre-crushing and transferral to the SOP plant. The resultant bittern from the solar evaporation process may be transferred to a magnesium treatment plant.

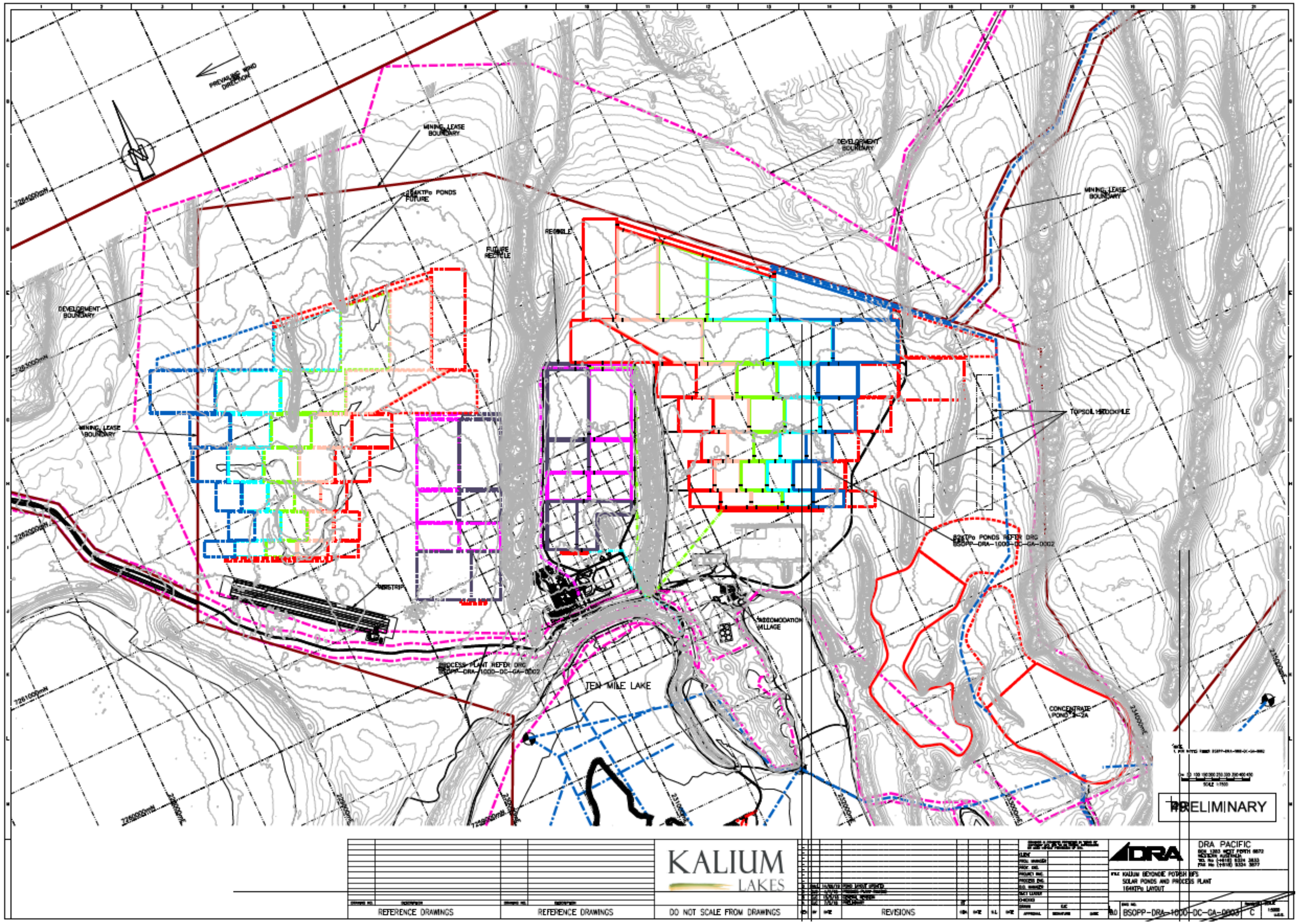


Figure 71: 164 ktpa SOP Pond and Plant Layout [16]

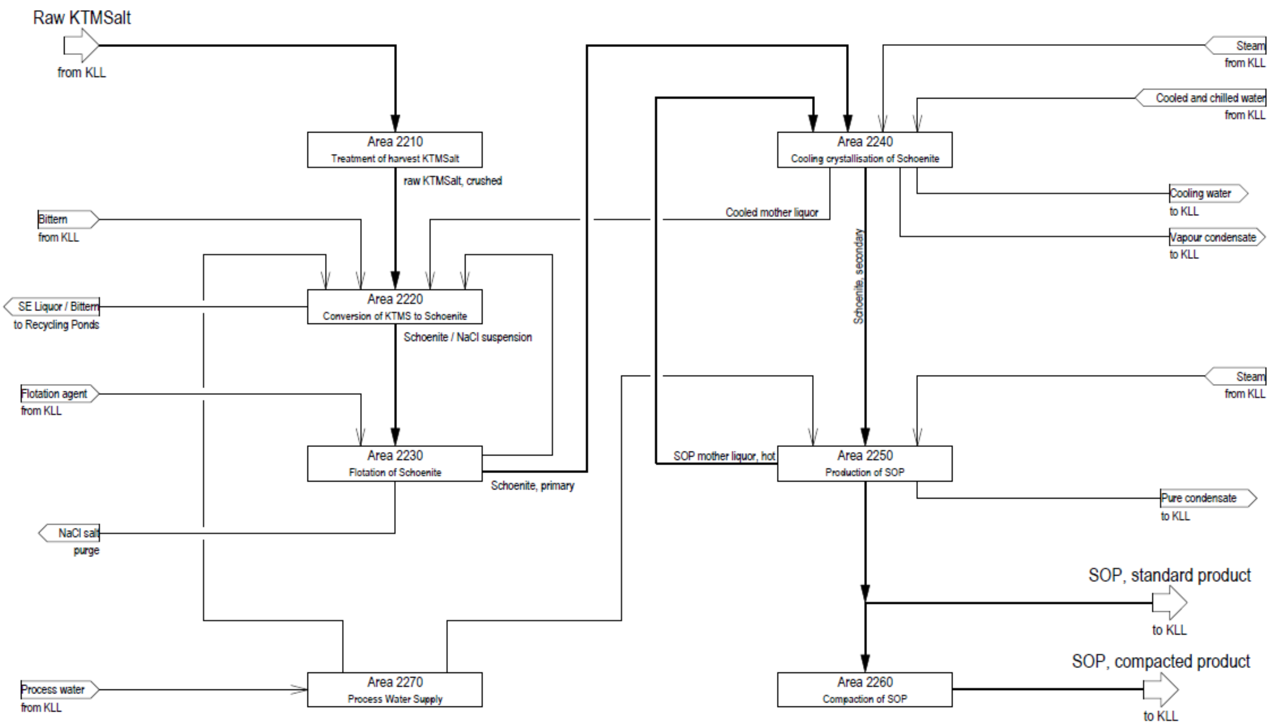


Figure 72: SOP Purification Plant Block Flow Diagram [10]

The **purification plant facility** can be split into seven major areas:

1. **Storage and crushing of potash salts –** Harvested raw salts from different evaporation ponds are stored in separate stockpiles. They are run through a ferrous and non-magnetic particle seperator before being mixed in a controlled ratio and crushed down to a 1 mm particle size. Crushing is performed by a combination of hammer crusher and wet hammer mill.

2. **Conversion of potash salts to raw schoenite –** The crushed, mixed salts are mixed with cooled SOP mother liquor causing conversion of the mixed salts to schoenite. After conversion, the schoenite will crystallize separately from halite allowing the separation of the salts from each other.

3. **Flotation of schoenite –** The schoenite slurry undergoes conditioning before direct flotation in flotation cells. Halite tailings are discarded during this process step and primary schoenite is recovered. By floating the schoenite, the concentration of halite in potassium bearing salts will be reduced to approximately 10% of its original concentration. Seperation of flotation liquor and primary schoenite is performed by centrifuges.

4. **Cooling crystallization of secondary schoenite –** Hot SOP mother liquor is cooled in a five-stage vacuum cooling crystallization unit, the temperature decrease results in crystallization of

secondary schoenite. This process step is based on the varying solubility of schoenite according to its temperature. This is centrifuged and mixed with the primary schoenite from the previous step.

5. **Decomposition of schoenite to SOP** – The schoenite is decomposed into SOP by mixing with warm aqueous SOP solution in a loop reactor at about 48ºC. The SOP is first centrifuged before being purified further by washing with aqueous SOP liquor. The liquid is recycled to the schoenite decomposition step.

6. **Drying** – The wet, purified SOP is dried through the use of a fluidized bed drier.

7. **Compaction and packing of SOP** – Depending on product quality requirements (Standard, soluble grade etc.), and packaging requirements, the product is compacted in a hammer mill and/or packaged into bags/stored as a bulk product.

The simplified flowsheet is shown in Figure 73. K-UTEC AG Salt Technologies have also provided typical layouts, block flow diagrams and process flow diagrams along with the detailed crystalliser and processing report [10].

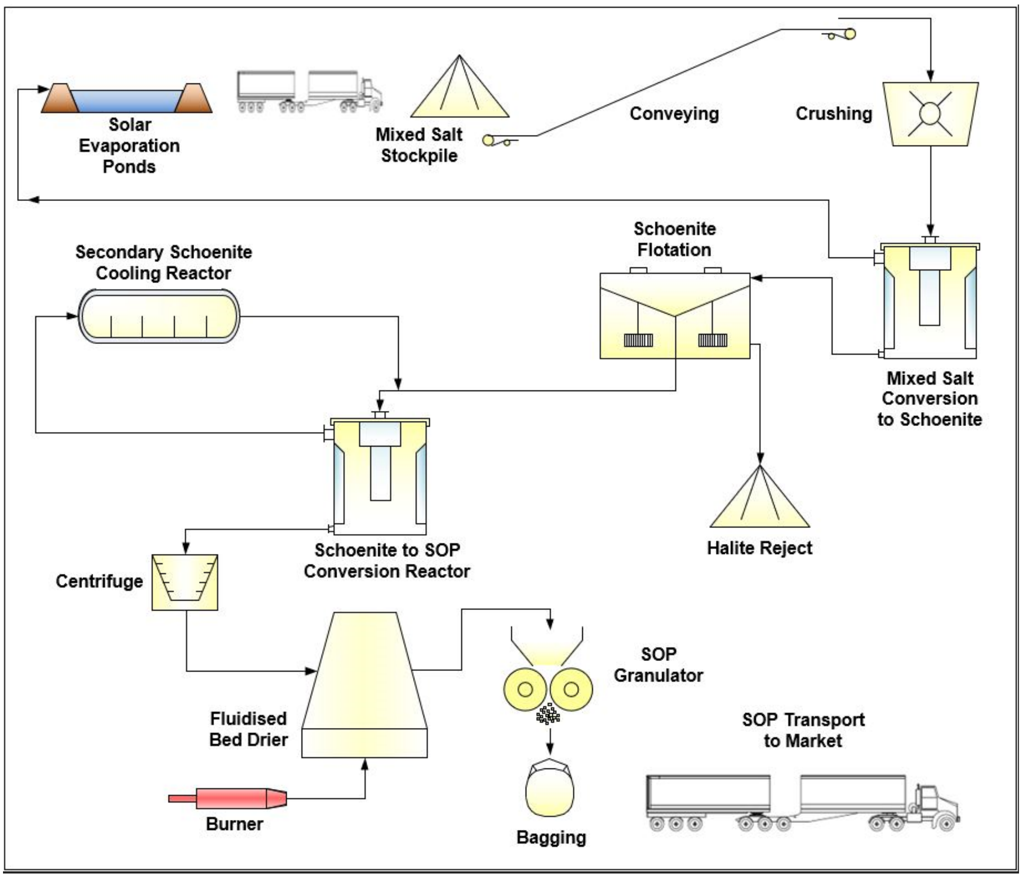


Figure 73: Simplified Process Scheme for Comprehensive Utilisation of Beyondie Brine [10][16]

The major equipment used in the processing facility is summarised in Table 27.

Table 27: Major Equipment List

Area	Process Description	Main Equipment
120	Solar Evaporation	Solar ponds, feed brine storage pond, bitterns storage ponds, harvesters
130	Salt Storage and Pre-Crushing	Feeder breaker, separators, impact mill, screen, raw salt loader
210	Schoenite Conversion	Schoenite reactors, thickener, hydrocyclone
220	Halite Separation	Wet screen, hammer mill, floatation cells, belt filters
230	SOP Mother Liquor Cooling and Schoenite Crystallization	Cooling crystallizers, steam ejectors, stirred tanks, agitators, slurry pumps, solution pumps, hydrocyclones, pusher centrifuges, mixing condensers, vacuum pumps
240	Crystallization of Raw SOP	SOP reactor, slurry pumps, solution pumps, heat exchanger, belt conveyors, condensate and overflow vessel, hydrocyclones, centrifuges
250	Refining and Compaction of SOP	Hot Leaching reactor, slurry pumps, heat exchangers, belt filter, belt conveyors, condensate, overflow and filtrate vessels, complete six-stage flash cooling plant, thickener, hydrocyclones, centrifuges, drier, air fans, dust filter, screw conveyor
260	Storage and Packing of SOP	Bucket elevators, belt conveyors, screw conveyors, shovel loader, crusher, silos, star feeder, telescope tubes, product shed, truck balance, packing unit with silo, scale, filling device, big bag feeding and removing equipment

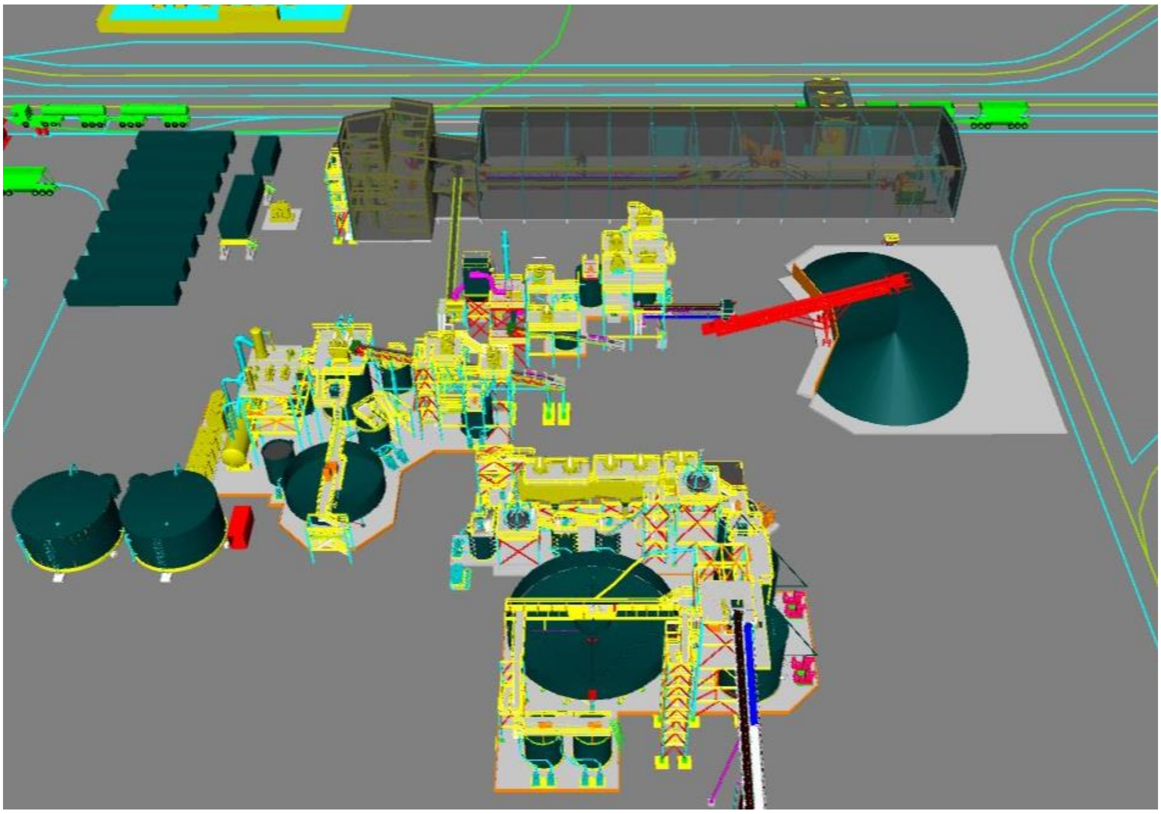


Figure 74: 3D Model of process plant [10][16]

17 Project Infrastructure

17.1 Supporting Infrastructure

Supporting infrastructure will typically include offices, ancillary buildings, maintenance facilities, accommodation, diesel fuel, water, power, communications and information technology systems. Accommodation facilities will be required to house the workforce. It is the intention of the Company that fuel for power generation will be sourced initially from LNG supplied by road train, then gas supplied from a 78 km gas spur from the GGP. Miscellaneous Licences have been granted over the 78 km site access road, along which a gas pipeline, communications and other infrastructure may be established or installed. Newman airport will be used as the air transport hub as the existing services provide a more cost effective alternative to owner operated or contracted fleet services. Figure 75 shows the workshop and administration building.

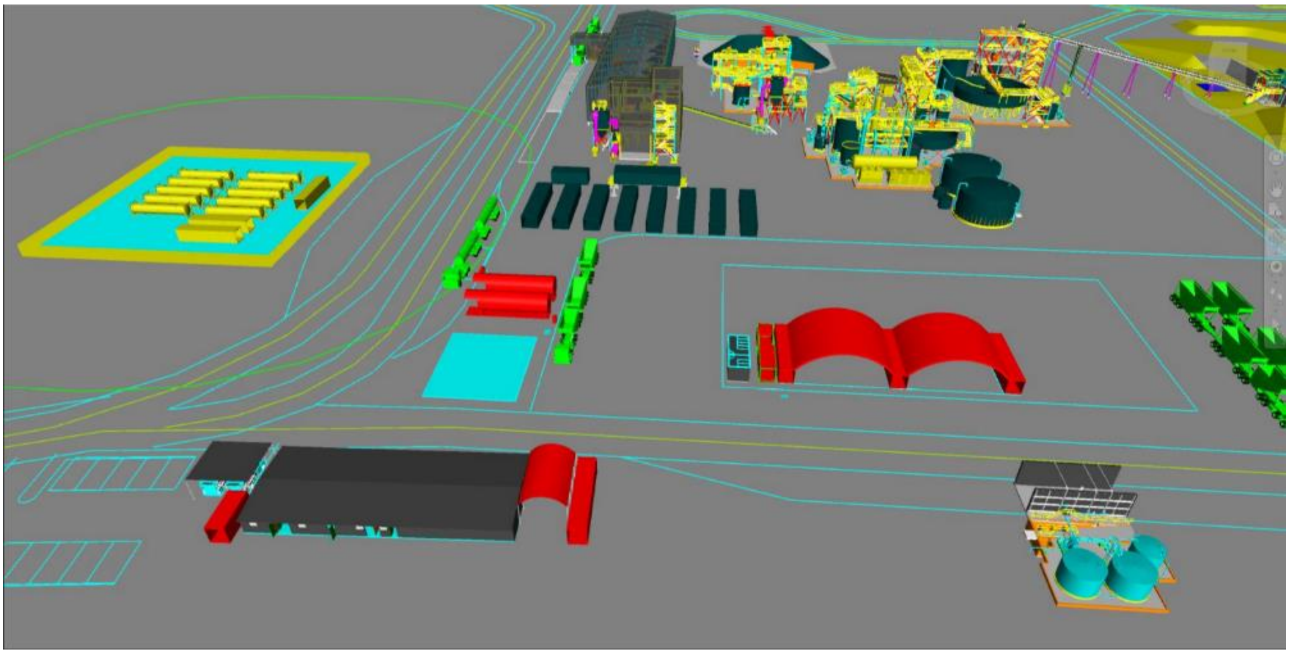


Figure 75: 3D Model of Workshop and Administration Building [10][16]

17.1.1 Fresh Water

Raw water will be pumped and piped from water supply bores located at 10 Mile South or Kumarina as shown in Figure 76. Full hydrogeological exploration, testing and modelling has been completed on both borefield aquifers and reports submitted for abstraction licence applications. It is considered that 10 Mile South will act as the primary borefield with Kumarina being utilised if required post expansion to 164 ktpa.

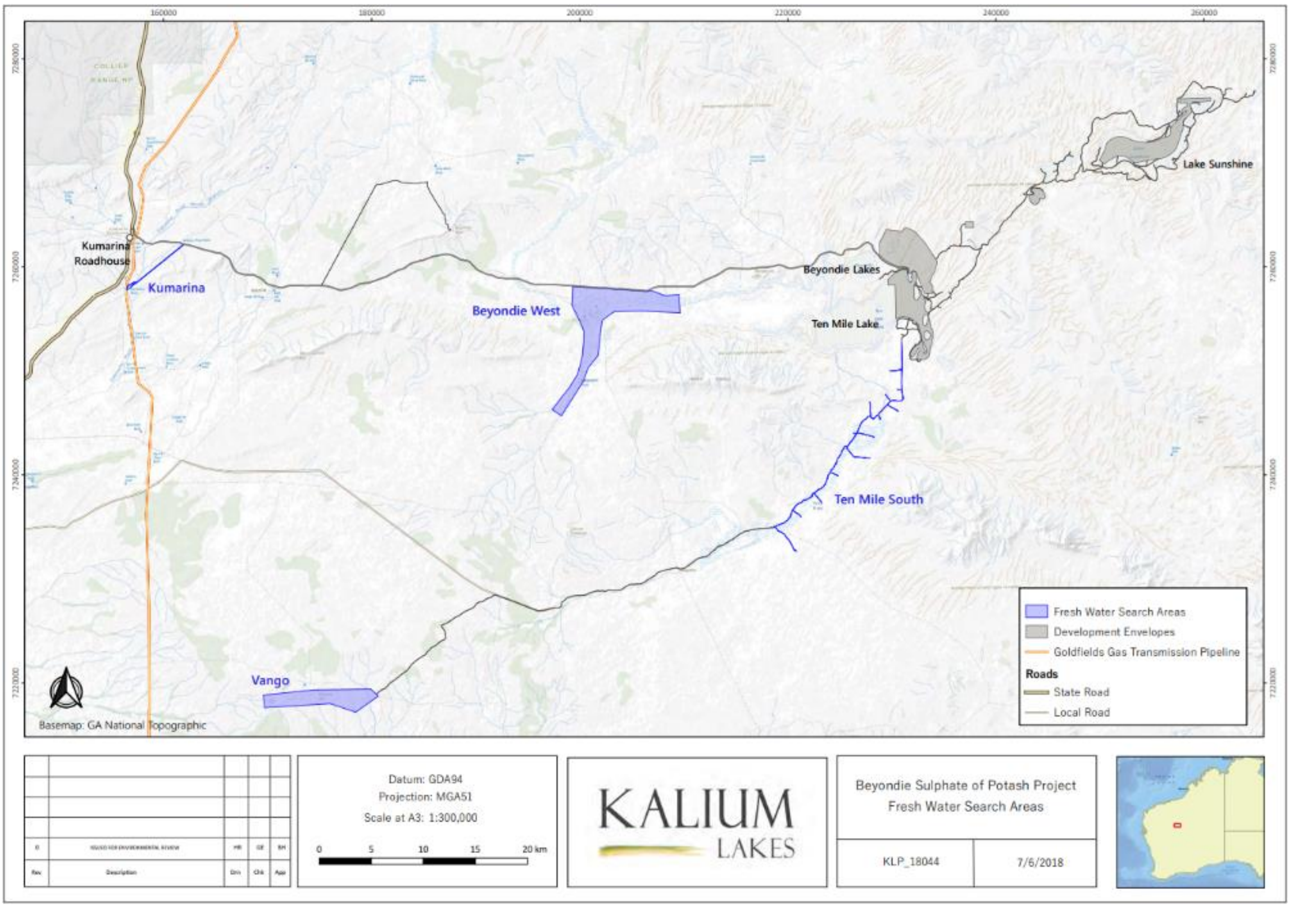


Figure 76: Fresh Water Supply Areas [17]

Each bore pump will be powered from a combination of solar power and a local diesel generator through a local control panel with a wireless telemetry link to the central control system. Each system will be installed with a self-bunded diesel storage tank sized to allow for sufficient buffer capacity. Above ground HDPE pipelines will transfer water to a central raw water dam located adjacent to the plant, which will be configured with a fire water reserve and will supply raw water to the workshops, process area, raw water pumps and fire water pumps. A separate water storage tank / fire tank will be situated at the village. Fire and general purpose water will be reticulated in a common system.

Raw (bore) water will be treated to potable water standards at the admin buildings and workshop area by a packaged plant consisting of fine filtration followed by a chlorine dosing and ultraviolet treatment.

The filtration will remove fine particles from the raw water, while the cal-hypo chlorine dosing system will disinfect the water to meet the requirements of the *Australian Drinking Water Guidelines*.

Estimated raw water supply in flow rate and annual volumes are shown in Table 28.

Table 28: Raw Water Requirements

Raw Water Supply Required	82 ktpa	164 ktpa
Village (m^3/a)	1,916	2,902
Purification Plant (m^3/a)	991,249	1,982,498
Non-processing Infrastructure (m^3/a)	128	193
Road Maintenance (m^3/a)	36,500	73,000
Total Raw Water Required (Gl/a)	**1.03**	**2.06**

17.1.2 Power Supply

Electrical power for the operation will be provided by a centralised gas fuelled power station located near the processing plant. A combination of overhead lines and underground cabling will distribute power to the plant, workshops, administration facilities and accommodation village.

Fuel for power generation will be sourced from gas supplied by road train for the initial development, with a DN100 78 km gas spur to be built from the GGP for production at 164 ktpa and above.

Approximately 7 MW of installed power is required for operations at 82 ktpa.

17.1.3 Communication Facilities

Communications systems are to be seamless across all sites and cater for business, village entertainment and voice communications. KLL have been in discussions with Telstra and other service providers to provide an integrated and cost-effective communications system for the project.

The functional requirements of the system include:

- Microwave transmission between the Kumarina Roadhouse and the outer edges of the entire Stage 1 area; and
- The pump controllers for the borefield to be run over wi-fi in order to remotely alter flow rates from the process plant’s control room.

Figure 77: Installed Communications Tower [26]

17.1.4 Accommodation

The accommodation village site is located between the process plant and the northern bank of 10 Mile Lake, isolated from plant noise and lake surface water by a small elevated hill. The village atmosphere will be enhanced by adopting layouts which maximise advantages offered by the local topography. Roads and pathways will separate vehicles from the accommodation and recreational areas.

The village includes accommodation, recreational facilities, waste water treatment, a helipad and potable water supply. The village will be constructed as an early priority to provide accommodation for the construction workforce and startup scale operational workforce. The accommodation village layout is indicated in Figure 78.

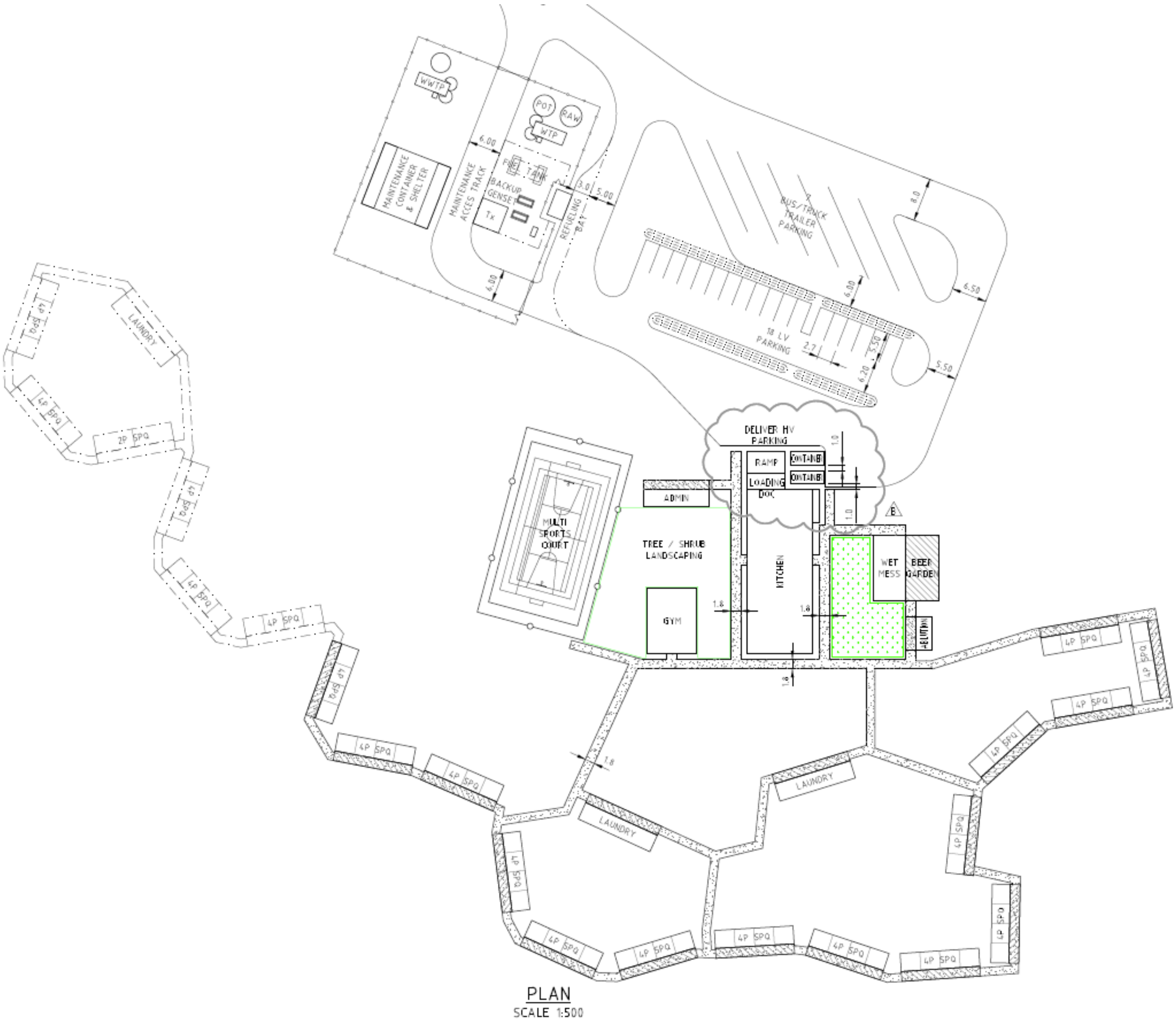


Figure 78: Proposed Accomodation Village Layout [26]

17.2 Site Access and Product Haulage

The Beyondie site is due east of the Great Northern Highway (**GNH**) and requires upgrading and partially realigning 78 km of existing access road to the processing facility and village. The access road connects with the GNH just north of the existing Kumarina roadhouse.

Road haulage for transporting product from the Beyondie site to the various distribution centres via the public road network has been selected as the optimum solution for the BSOPP. This is based on the close proximity to existing public road infrastructure, the relatively low product haulage requirements and diversity in delivery locations.

Trucking options for the BSOPP include a combination of bulk loaded trailers, bulk loaded containers and break bulk cargo (i.e. bulk bags) loaded on flat top truck trailers and curtain sided taut liners. Recommended contracting strategies for road haulage includes dedicated contractor owned road trains utilising back loaded capacity that travel past the Beyondie site to Perth.

17.3 Port

Kalium Lakes has investigated a number of port locations for export of product to the east coast of Australia and into Asian markets.

Fremantle Port has been determined as the preferred container port, due to its mobile ship-loading facilities and status as a destination on regular shipping routes.

Kwinana or Geraldton Port have been determined as the preferred ports for bulk export due to the availability of existing port facilities, proximity to agricultural distribution centres and storage and stockpiling facilities.

18 Market Studies and Contracts

Kalium Lakes has conducted a review of the potash market utilising leading industry market research reports (CRU, Green Markets, Integer and Fertecon) and has formed the view that, although the potassium chloride (**KCl** or **MOP**) is well supplied, the premium potassium sulphate (**K_2SO_4** or **SOP**) is undersupplied. Based on CRU forecast US$606/t average LOM SOP. CRU estimates that CFR Australian prices in KLL's first year of full production (2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.

It is notable that there is also no potash production in Australia, a nation which presently consumes ~360 ktpa of MOP and ~70 ktpa SOP. Thus an opportunity exists to capture the Australian supply market with opportunities to extend into South East Asia, the Americas and Africa. The current pricing landed in Australia is US$520/t.

Only five companies have capacity to produce greater than 350 ktpa of SOP and account for approximately 60% of global supply. China accounts for the largest percentage of supply and has seen a rapid increase in recent years.

The BSOPP product will seek to exploit its competitive position within Australia associated with its low production cost and low cost of freight when compared to overseas suppliers. The principal focus is to supply the Australian market in the first instance whilst looking at opportunities to diversify supply into South East Asia and other international locations.

Kalium Lakes has signed an offtake terms sheet with German fertiliser producer and distributor K+S for 100% of Stage 1 production from the BSOPP. The offtake arrangement is subject to the execution of a formal binding offtake agreement and satisfaction of certains conditions precedent, including completion of due diligence by K+S. It is proposed that Kalium Lakes will supply 75 to 82 ktpa of SOP to K+S over an initial 10 year term.

19 Environmental Studies, Permitting and Social or Community Impact

19.1 Environmental Studies

KLL has initiated and substantially completed an extensive range of baseline environmental studies and investigations which have been conducted in consultation with government agencies and regulators including DMIRS, EPA, DWER and DBCA. The survey programme has been completed to inform a formal environmental impact assessment under the Environmental Protection Act 1986.

To date the following biological surveys in support of the Project have been undertaken by Phoenix Environmental Sciences:

Table 29: Survey Program Undertaken to Date

Survey Description	Area of Coverage	Field Dates	Report Title
Baseline aquatic invertebrate fauna survey	Beyondie Lakes, 10 Mile Lake	9 Feb 2015; 16 April 2015, 23 July 2015	Waterbird and aquatic invertebrate survey for the Beyondie Potash Project
Waterbird census	Beyondie Lakes, 10 Mile Lake	9 Feb 2015; 16 April 2015, 23 July 2015	Waterbird and aquatic invertebrate survey for the Beyondie Potash Project
Level 2 terrestrial fauna survey (incl. SREs)	Beyondie Lakes and proposed haul road to GNH	13-23 April 2015; 8 May 2015	Terrestrial fauna survey for the Beyondie Potash Project
Level 1 terrestrial fauna survey (incl. SREs)	10 Mile Lake perimeter, evaporation trial pond area	13-23 April 2015; 22-24 July 2015	Terrestrial fauna survey for the Beyondie Potash Project
Level 1 terrestrial fauna survey (incl. SREs)	Lake Sunshine and transport corridor between LS and TM	6-9 November 2015	Terrestrial fauna survey for the Beyondie Potash Project

Survey Description	Area of Coverage	Field Dates	Report Title
Level 1 terrestrial fauna survey (incl. SREs)	Four proposed concentrator lakes	12-17 October 2017	Flora, vegetation and fauna survey for the Beyondie Sulphate of Potash Project Concentrator Lakes
Level 2 flora and vegetation survey	Beyondie Lakes and proposed haul road to GNH, evaporation trial pond area	13-23 April 2015 and 22-23 July 2015 (Phase 1); 7-14 October 2015 (Phase 2)	Flora and vegetation survey for the Beyondie Potash Project
Level 1 flora and vegetation survey	Four proposed concentrator lakes	12-17 October 2017	Flora, vegetation and fauna survey for the Beyondie Sulphate of Potash Project Concentrator Lakes
Riparian vegetation mapping	10 Mile Lake perimeter	13-23 April; 16 August 2017 (samphire boundaries checked only	Flora and vegetation survey for the Beyondie Potash Project
Level 2 flora and vegetation survey	Lake Sunshine and transport corridor between LS and TM	2-9 November 2015 (Phase 1); 16 August 2017 (checking samphire boundaries only)	Flora and vegetation survey for the Beyondie Potash Project
Subterranean fauna Level 1 assessment	E69/3309, E69/3346, E69/3347, E69/3351 and E69/3352 and regional	29-31 March 2017	Level 1 subterranean fauna assessment of the Beyondie Potash Project
Targeted Night Parrot Survey	10 Mile and Lake Sunshine	March, August/September and November 2017	Targeted Night Parrot (*Pezoporus occidentalis*) Survey for the Beyondie Potash Project
Stygofauna Level 2 assessment	10 Mile South, Kumarina and Beyondie West, E 69/3347 and E 69/3309	22–27 February 2018	Level 2 stygofauna assessment for the Beyondie Sulphate of Potash Project

Work to characterise the environment is complete to BFS level, to date there have been no significant issues identified that could not be managed through proper planning or appropriate environmental management systems. The salt lake systems are reasonably common and extensive, however may offer a unique habitat for some species.

19.2 Stakeholders

The KLL consultation strategy identifies key external stakeholders and determines how they will be impacted by the BSOPP and what influence they may have over the project. The aim of such extensive consultation is to develop productive relationships that ensure the BSOPP is underwritten by sustainable agreements and the necessary approvals. The consultation strategy has been developed to secure the approvals necessary for the construction and operation phase of the BSOPP including the supporting infrasctructure i.e. export road routes and port export facilities which will require consultation with the following:

- Local Government (Including Shire);
- State Government;
- Commonwealth Government;
- Underlying and Adjacent Mining Companies;

- Aboriginal groups with a connection to the BSOPP lands; and
- Other community stakeholders, e.g. pastoralists.

Commonwealth, State and Local Government authorities have been briefed on the BSOPP to ensure any issues, concerns or suggestions are identified and, where appropriate, addressed or responded to by the project team. The consultations have been ongoing since 2014 and, while they have helped inform the final BSOPP design, in most cases it results in providing the Government authority with additional information and clarity about the project. The following regulatory departments and authorities have been consulted extensively during the BSOPP feasibility study:

- Department of the Environment and Energy (Commonwealth);
- Department of State Development (State);
- Department of Mines, Industry Regulation and Safety (State) *formally Department of Mines and Petroleum;*
- Office of the Environmental Protection Authority;
- Department of Biodiversity, Conservation and Attractions (State) *formally Department of Parks and Wildlife;*
- Department of Water and Environmental Regulation, Perth and Pilbara Regional Office (State) *formally Department of Environment Regulation and Department of Water;*
- Department of Transport (State);
- Department of Planning, Lands and Heritage (State) formally Department of Planning, Department of Lands and Department of Aboriginal Affairs;
- Department of Health (Commonwealth);
- Environmental Protection Agency (State);
- Main Roads WA (State);
- Mid-West Port Authority (State);
- Minister for Mines (State);
- Minister for Aboriginal Affairs (State);
- Shire of Wiluna (Local authority);
- Shire of Meekatharra (Local authority); and
- Shire of Geraldton (Local authority).

The consultation strategy also recognises that individuals, companies and broader communities are interested in the impact that the BSOPP may have on them and can influence the approvals, licences and agreements for the project. KLL has undertaken extensive engagement with the following stakeholders to inform them of the BSOPP and discuss any opportunities or concerns that the stakeholders would like to raise and resolve:

- Gingirana People (represented by the Marputu Aboriginal Corporation);
- Birriliburu People (represented by the Mungarlu Ngurrarankatja Rirraunkaja (MNR) Aboriginal Corporation);
- Central Desert Native Title Services;
- Kumarina Pastoral Station;
- Marymia Pastoral Station;
- Kumarina Road House;
- APA (Goldfields Gas Pipeline);
- Drillabit;
- Murchison Copper Mines;
- AIC Resources;
- Great Sandy Pty Ltd; and
- Other independent explorers.

19.3 Native Title and Heritage

KLL has successfully negotiated two Land Access and Mineral Exploration Agreements with the underlying Native Title groups, MNR people and the Gingirana people, which has enabled KLL to undertake ground disturbing and non-ground disturbing exploration activities.

KLL have executed Mining Land Access Agreements with both the MNR and Gingirana people for the BSOPP. The agreements notably consent to mining at the project’s commencement areas of Beyondie Lake, 10 Mile Lake and Lake Sunshine.

A number of ethnographic and archaeological heritage surveys were completed between 2015 and 2018, enabling access for exploration activities. Isolated heritage sites have been identified.

19.4 Permitting and Approvals

The Approvals Strategy is based on a staged approach to allow progressive and timely approvals for each development phase of the base case for the BSOPP. The development phases are:

- Pilot Scale Development Ponds;
- Feasibility Studies;
- Debt and Equity Funding;
- Demonstration Scale Project Development – 82 ktpa SOP Production;
- Full Scale Project Development – 164 ktpa SOP Production; and
- Expansion and Enhancement – >250 ktpa SOP Production.

Approvals for the Pilot Scale Development Ponds and test pumping are currently in place. Based on a legislative review and consultation, the following is a list of approvals required for the full-scale project, Table 30. A number of these approvals have been secured or are expected to be secured during 2018 and 2019.

At the completion of mining operations, disturbed areas will be rehabilitated, a Mine Closure Plan and cost estimate have been developed as part of the BFS and approval requirements.

Table 30: List of Approvals (Demonstration Scale)

Approval	Nature of Approval	NT Review	Submission Status	Approval Status
Native Title Act 1993	Mining Land Access Agreement	n/a	n/a	Secured March 2016 Gingirana Secured January 2018 MNR
Aboriginal Heritage Act 1972	Cultural Heritage Management Plans	n/a	n/a	Secured March 2016 Gingirana Secured January 2018 MNR
	Heritage Surveys	n/a	n/a	Secured September 2018 Progressive reviews as required
	Section 18 consents	n/a	n/a	Not required
Environmental Protection Act 1986	Part IV – EPA Approval (Early Works)	Complete	Submitted 30 Oct 2017	Secured May 2018
	Part IV – EPA Approval	Complete	Submitted 30 Oct 2017	EPA approval expected Q4 2018 Ministerial approval expected Q4 2018
	Part V – Works Approval Evaporation Ponds amendment	Complete	Submitted 26 July 2018	Post EPA ministerial statement - Expected Q4 2018
	Part V – Licence – Evaporation Ponds amendment	n/a	To be submitted at commencement of commissioning	Expected Q4 2019

Approval	Nature of Approval	NT Review	Submission Status	Approval Status
	Part V – Works Approval Waste Water Treatment Plant	Complete	Submitted May 2018	Expected Q3 2018
	Part V – Works Approval Landfill Site	Complete	Submitted September 2018	Post EPA ministerial statement – Expected Q4 2018
Environment Protection and Biodiversity Conservation Act 1999	EPBC Act approval	Complete	Submitted October 2017	Expected Q4 2018
Mining Act 1978	Mining Proposal and Closure Plan (Early Works)	Complete	Submitted September 2018	Secured August 2018
	Mining Proposal and Closure Plan	Complete	Submitted September 2018	Post EPA ministerial statement – Expected Q4 2018
RIWI Act	5C licences for production (brine) and supply (fresh) – additional bores	-	Submitted January 2018	Post EPA ministerial statement - Expected Q4 2018
	26D Licence for bore construction – additional bores	-	Submitted June 2018	Post EPA ministerial statement - Expected Q4 2018
Dangerous Goods Safety Act	Dangerous Goods licence for diesel storage facilities	n/a	To be completed by supplier	Expected H1 2019
	Dangerous Goods licence for LNG storage facilities	n/a	To be completed by supplier	Expected H1 2019
Mines Safety and Inspection Act	Project Management Plan (Early Works)	n/a	Submitted December 2017	Secured February 2018
	Project Management Plan	n/a	Submitted September 2018	Expected Q4 2018
Petroleum Pipelines Act 1969	Pipeline Licence to Construct	-	Submitted July 2018	Expected Q1 2019
	Pipeline Licence to Operate	-	To be submitted pending licence	Expected Q1 2020
Health Regulation 1974	Approval to construct or install an apparatus for the treatment of sewage	n/a	Submitted August 2018	Expected Q4 2018
Main Roads Act Building Approvals	Great Northern Hwy Intersection Approval	n/a	Submitted August 2018	Expected Q4 2018
Main Roads Act	Shire Building Licence	n/a	Submitted September 2018	Expected Q4 2018

20 Capital and Operating Costs

20.1 Capital Costs

The BSOPP capital cost estimate (**CAPEX**) was developed to an AACE Class 3 estimate with an implied accuracy of ±15 %. It includes the capital expenditure for extraction, evaporation, processing, supporting infrastructure, road haulage, port facilities, utilities and services required for the development of the BSOPP. Capital Costs were developed by area as defined in the Work Breakdown Structure. The base case development includes a phased ramp up from a start-up of 82 ktpa SOP and then expanding to the BFS case of 164 ktpa. Pre-production Phase 1 capital cost of

A$159 million for the initial 82 ktpa phase. A deferred capital cost of A$125 million is required to ramp up production to 164 ktpa SOP. Pricing has been received from contractors and suppliers for over 80% of capex costs. Table 31 presents the details of the capital cost estimate.

Table 31: Capital Cost Estimates (Based on incremental costs)

Area	Area Description	Phase 1 – Demonstration Scale	Phase 2 – Full Scale Production
		82 ktpa SOP A$M	164 ktpa SOP A$M
1000	Brine Supply & Ponds Evaporation	34.7	32.8
2000	SOP Purification Plant	54.4	47.9
3000	Non-Process Infrastructure	9.4	5.2
4000	Accommodation Village	2.5	0.2
5000	Off-Site Infrastructure	5.3	0.4
6000	Construction Indirect Costs	17.7	13.6
7000	Project Consultants & Management	12.8	8.1
8000	Owners Cost	7.8	7.1
9000	Contingency	15.0	10.0
	Total Capital Cost	**159.6**	**125.3**

The project will source natural gas for power generation and other uses by initially using storage bullets on site and then potentially via a connection to the Goldfields Gas Pipeline (GGP) near the Kumarina roadhouse at the GNH. The approximately 78 km gas pipeline will follow the site access road alignment. The pipeline design is sufficient to support gas requirements for the expanded 164 ktpa scenario and potential magnesium by-products. A pipeline diameter of DN100 has been selected and can support flows from 1.16 to 5 TJ/d. An upgrade of the delivery facilities would be required to support >5 TJ/d flow if a heater was not installed in the initial works.

The option to install a gas pipeline will incur a capital cost of A$29 million but would result in an operating cost reduction.

The installation timing of the gas pipeline will be determined by securing the appropriate funding arrangements either during Phase 1, Phase 2 or at a later stage.

20.2 Operating Costs

An operating cost estimate (**OPEX**) with an implied accuracy better than ±15 % has been developed for the BSOPP. The OPEX includes the operating expenditure required to extract, crystallise, process and transport product to Fremantle or Geraldton Port and various off-take locations, including shipping to the eastern states of Australia, China, Singapore, the USA and New Zealand. All costs are in 2018 Australian dollars. Cash Operating Costs were developed for production scenarios as shown in Table 32.

Table 32: Operating Cost Estimates

Area	Phase 1 – Demonstration Scale	Phase 2– Full Scale Production
	82 ktpa A$t	164 ktpa A$t
Ex-Works	245.2*1*2	204.6*1*2
Haulage	39.9	42.88
Port (FCA – Containers, FOB – Bulk)	27.6	27.3
Cash Costs	**312.7**	**274.4**
Corporate Costs	31.7	23.1
Cash + Corporate Costs	**344.4**	**297.8**
Sustaining Capex	16.5	12.3
All In Sustaining Costs A$/t^	**360.9**	**310.1**
AISC US$ (@ 0.73 USD:AUD)^	USD 263	USD 226

^Excludes Royalties and Taxes which are detailed in the Economic Analysis

*1If the gas pipeline is included in the BSOPP, the ex-works operating cost for Phase 1 decreases by $31.5/t SOP and for Phase 2 by $33.9/t SOP.

*2Includes a 5 year Build Own Operate Transfer (**BOOT**) power station. At the end of the five year BOOT contract, the power station ownership is transferred to Kalium and the ex-works operating cost for Phase 1 decreases by $31.7/t SOP and for Phase 2 by $18.9/t SOP.

These estimates are in line with existing brine SOP producers, and secondary Mannheim (derived from MOP) SOP producers as detailed in leading industry market research reports. A global operating cost curve for existing SOP producers is presented in Figure 79 including the BSOPP's position based on the estimates presented in the BFS. This cost curve has been extracted from the CRU SOP market study report [27].

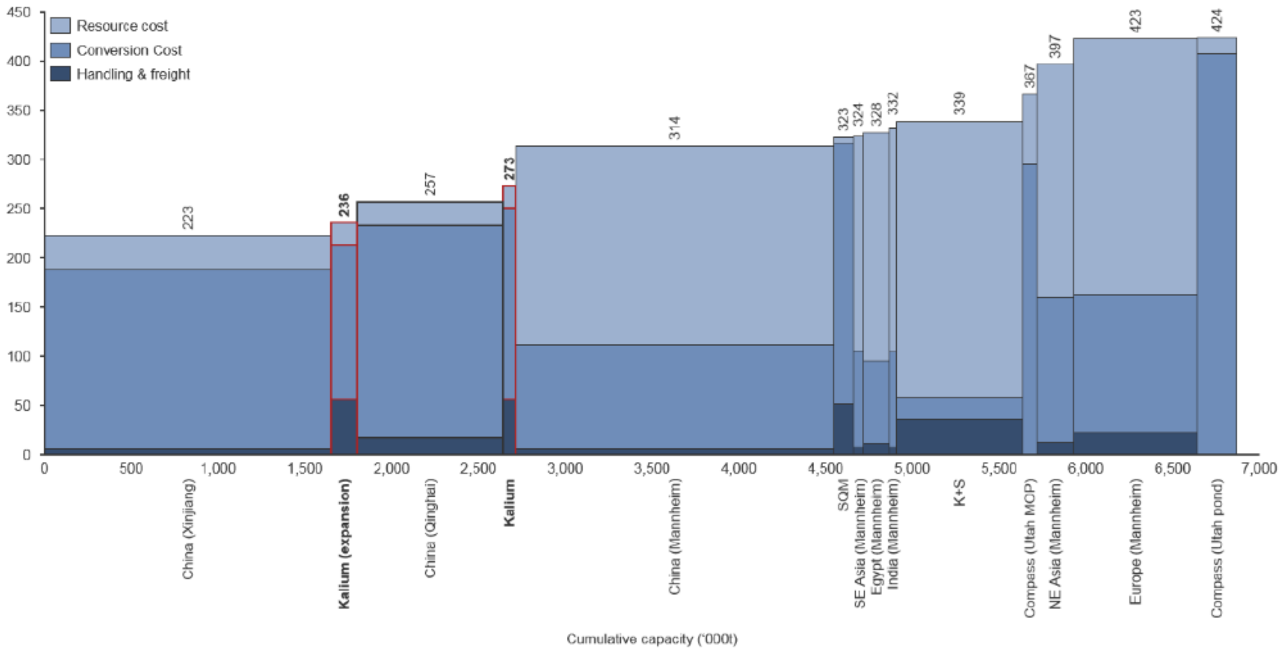


Figure 79: SOP Operating Cost Comparison (US$/t) [27]

21 Economic Analysis

Kalium Lakes has considered two financial cases:

1. **Base Case:** A phased ramp-up development scenario, starting with a commercial demonstration scale 82ktpa SOP operation, before ramping up to a 164ktpa full scale SOP production facility with a mine life of 30 years based on Figure 68.

2. **Bank Finance Case:** As financial institutions will only consider initial product development parameters this case reflects a constant 82ktpa SOP production facility with a mine life of 50 years based on Figure 67.

Discounted cash flow analysis (DCF) was used to calculate key project valuation indicators for the project, in particular, the Net Present Value (NPV) and Internal Rate of Return (“IRR”). NPV, IRR and payback periods are measures of the return that are generated based on the applied assumptions. An 8% discount rate (post–tax, nominal) was used for NPV calculations. A 2% inflation factor is used. The DCF were modelled on a quarterly basis in nominal terms, referenced to CAPEX and OPEX developed in Australian dollars (A$). The project was analysed on an unleveraged (100% equity) basis.

The macro assumptions in the financial model are as follows:

- Discount Rate (post-tax nominal) – 8%
- Corporate Tax Rate - Rate based on ATO guidance – 30%
- Depreciation – Straight line
- WA Royalty Rate – non-beneficiated - A$0.73/t SOP
- Native Title Royalty – unable to provide
- Founders' Royalty - 1.9% gross revenue
- Mine Life - Variable, subject to production rate
- LOM Exchange Rate A$:US$ - $0.73
- A detailed SOP market study was commissioned by KLL and provided by CRU in September 2018, this has been used as the basis for the commodity price, forecasted US$606/t average LOM SOP sales @ $A/$US exchange rate of 0.73.
- CRU estimates that CFR Australian prices in KLL's first year of full production (2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.

A summary of the financial evaluation is presented in Table 33.

Table 33: Financial Summary

		Production Case SOP	
Description	**Unit**	**Base Case 164 ktpa SOP**	**Bank Finance Case 82 ktpa SOP**
Average LOM Reliased Sales Price[1]	US$/t SOP	**606**	643
Exchange Rate	A$:US$	**0.73**	0.73
Assumed Life of Mine	years	**30[2]**	50[3]
LOM SOP Produced	Tonnes	**4,664**	4,270
Project NPV_8 (Pre-tax, nom)[4]	A$M	**575**	361
Project NPV_8 (Post-tax, nom)[5]	A$M	**347**	217
IRR (Pre-tax)	%	**20.4**	18.5
IRR (Post-tax)	%	**16.5**	14.9
LOM Revenue	A$M	**5,689**	6,876
LOM OPEX Cash Cost (Real)(FCA – containers, FOB bulk)[6]	A$/t SOP	**231[7]**	284[8]
LOM OPEX	A$M	**1,532**	2,141
Initial CAPEX	A$M	**160**	160

		Production Case SOP	
Description	**Unit**	**Base Case 164 ktpa SOP**	**Bank Finance Case 82 ktpa SOP**
LOM CAPEX (incl. Sustaining)	A$M	**491**	308
LOM Royalties[9]	A$M	**130**	155
LOM Corporate Tax	A$M	**956**	1,092
LOM Free Cash Flow (pre-tax)	A$M	**3,045**	3,555
Free Cash Flow (pre-tax)	A$M p.a.	**108**	75
LOM Free Cash Flow (post tax)	A$M	**2,069**	2,463
Free Cash Flow (post tax)	A$M p.a.	**76**	53
LOM EBITDA	A$M	**3,487**	3,838
EBITDA (average)	A$M p.a.	**116**	77
EBITDA Margin	%	**61.3**	55.8
CAPEX / EBITDA (average p.a.)	x	**0.14**	0.08
Initial Payback Period (pre-tax)[10]	Years	**7.0**	6.3
Initial Payback Period (post-tax)[11]	Years	**8.3**	7.8

[1]Based on CRU forecast US$606/t average LOM SOP under the Base Case (US$643/t under the Bank Finance Case). CRU estimates that CFR Australian prices in the first year of full production (FY2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.

[2]The Base Case mine plan comprises Ore Reserves (83%) and Indicated Mineral Resources (11%), it is partly based on Inferred Mineral Resources (6%), per Figure 68. No Exploration Target brine has been included in the assumed life of mine or economic evaluation of the project.

[3]The Bank Finance Case mine plan comprises 86% Ore Reserves and 14% Indicated Mineral Resources, per Figure 67.

[4]NPV as at construction start, Q3 CY2018; a 2% inflation factor used; WACC calculation = 8% Discount Rate.

[5]See Note 4.

[6]Life of Mine OPEX Cash Cost FOB includes all mining, processing, site administration, product haulage to port and ports costs, but excludes head office corporate costs, sustaining costs, royalties and taxes.

[7] Assumes BOOT Power Station for first five years (See Note *2, Table 32).

[8] Assumes BOOT Power Station for first five years and gas pipeline installed from Year 6 onwards (See Notes *1 and *2, Table 32).

[9] A WA Royalty Rate = A$0.73/t SOP; Native Title Royalty Rate = 0.75% of Mine Gate; Founders' Royalty = 1.9% gross revenue.

[10] Calculated from first production date. For the phased expansion, the payback periods shown are inclusive of ramp up to full production.

[11] See Note 10.

NPV ranges and sensitivities determined for key assumptions and inputs including, SOP price, production rate, capital cost, operating cost, foreign exchange, discount rate, recovery rates and construction delays.

Key sensitivities for the base case operation are illustrated in Figure 80. It is only under a low price, combined with high exchange rate scenario that BSOPP could generate a negative NPV. On the contrary, weaker AUD/USD exchange rate and SOP prices higher than the base case CRU prices, would provide additional valuation upside to BSOPP.

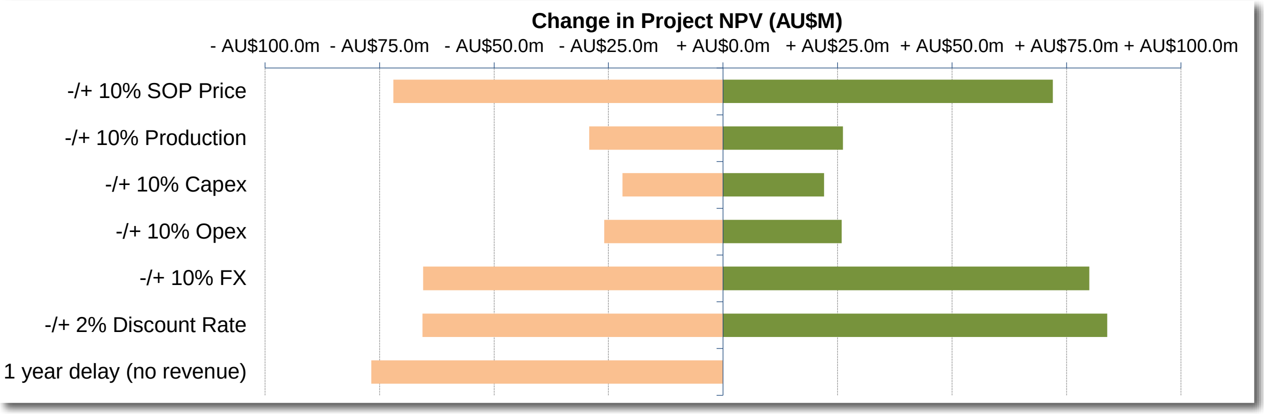


Figure 80: NPV Sensitivity Analysis (US$/t) [20]

22 Adjacent Properties

The BSOPP tenements were chosen because of the outlines of geological formations and the brine hosting sediments. Only two properties adjoin the area of the BSOPP. The tenement E69/3202 belongs to Kronos Gold LLC (fresh water feed points to Lake Yanneri) and E69/3247 is owned by AIC Minerals (fresh water feed to Beyondie Lake / 10 Mile Lake and approximately half of 10 Mile Lake). Neither companies are currently exploring for potash.

23 Other Relevant Data and Information

No other pertinent data or information.

24 Risks

As with all brine deposits, there is a risk that the brine grade is less than expected, highly variable or is unable to be abstracted from subsurface aquifers at the required rates. Additionally, there are many non-process related risks, these may be due to any of the following:

- Variability in deposit could influence brine recovery;
- Brine volume and extraction assessment is inaccurate;
- Inability to abstract brine volumes due to low permeability of the aquifer material;
- Purification facility design, operation, recovery and product specification;
- Project delays and cost overruns;
- Evaporation pond design;
- Commodity price and currency volatility;

- Dependence on key personnel;
- New operational commodity and lack of experience;
- Inclement weather and natural disasters;
- Statutory approvals may be delayed or may not be attainable at all;
- Title Risk – involuntary relinquishment of tenements;
- Environmental risk due to accidents and unforeseen circumstances;
- Inadequate insurances or unavailable cover;
- Contractual disputes;
- Third party risk i.e. financial failure, default or contractual non-compliance of suppliers, contractors, clients etc;
- Competition from potential SOP producers;
- Aquifer lithology;
- Capital and operating costs; and
- Changes in regulations and government royalties.

25 Conclusions

Based on current CAPEX and OPEX estimates, the BFS has demonstrated that the BSOPP is economically and technically robust and has the potential to generate substantial value for shareholders.

There are upside and downside risks to returns relating to exchange rates, product price, CAPEX, OPEX and production rates.

Following an assessment of various risks versus valuation metrics, it is recommended that the base case for the BFS is a phased approach, sized at 82 ktpa initially and ramping up to 164 ktpa.

This approach benefits from the practical benefits of starting with a smaller operation, reduced upfront CAPEX and ability to de-risk the project from a financier's perspective for future expansions.

26 Recommendations

The recommended stages remaining to complete the BSOPP are as follows:

1. Front End Engineering Design (**FEED**) and final contract negotiations:
   - FEED is being completed by KLL's engineering consultants including K-UTEC, DRA Global & ZEB Engineering (water pipelines); and
   - Finalising major operating and capital cost contracts, as well as binding offtake agreements.
2. Early Works:
   - Construction, operation and maintenance of: site access road upgrade; accommodation camp, including wastewater treatment plant;
   - Administration building installation;
   - Drilling of all brine and fresh water production bores; and
3. Debt and Equity Funding and Final Investment Decision:
   - Commencement and finalisation of equity and debt funding arrangements. This is generally a 4-6 month process with discussions well advanced as at the completion of the BFS.
4. Phase 1 Demonstration Scale Project Development – 82 ktpa SOP Production:
   - Installation of ~445 ha evaporation and crystalliser ponds at the Beyondie-10 Mile area and Lake Sunshine area;
   - Installation of 40 production bores and 9 trenches totalling 58 km at 10 Mile and Lake Sunshines;
   - Installation of 82 ktpa SOP purification facility;
   - 78 km of access road widening, realignment and construction;
   - Installation of 60 person accommodation, buildings, services and utilities as required;
   - Installation of communications tower for microwave internet and two way radio;
   - Construction of power station;
   - Installation of freshwater borefields at 10 Mile South;

- Use of the Main Roads WA network from the Kumarina Road house located on the Great Northern Highway (**GNH**) to the various WA depots and Fremantle, Kwinana and Geraldton Ports for product delivery;
- Backloaded haulage of product to Perth/Fremantle and Geraldton;
- Use of Fremantle, Kwinana and Geraldton Port Facilities to access export markets to Asia and the Eastern States of Australia; and
- Installation of a 78 km Natural Gas pipeline to the purification facility at the 10 Mile area. (Phase 1 or Phase 2 TBC).

5. Full Scale Project Development – 164 ktpa SOP Production:

- Installation of additional evaporation and crystalliser ponds at the Beyondie – 10 Mile and Lake Sunshines areas;
- Expansion and duplication or purification plant;
- Installation of additional production bores and trenches at western and eastern lakes;
- Expansion of site buildings, services and utilities as required;
- Expansion of port export facilities, including bulk export facilities at Geraldton Port;
- Installation of freshwater borefields at Kumarina and Beyondie;
- Installation of a 78 km Natural Gas pipeline to the purification facility at the 10 Mile area. (Phase 1 or Phase 2 TBC).

6. Project Expansion and Enhancement – up to 250 ktpa SOP Production (subject to future investment decisions):

- Installation of additional evaporation and crystalliser ponds at western and eastern lakes;
- Expansion and duplication or purification plant;
- Construction of road and installation of Potassium Brine pipeline from the western and eastern lakes to the 10 Mile ponds area;
- Installation of additional production bores and trenches at western and eastern lakes;
- Installation of road and Potassium Brine pipeline(s) to, and between western and eastern lakes;
- Expansion of buildings, services and utilities as required; and
- Expansion of port export facilities as required.

27 References

[1] JORC, 2012: Australasian Code for Reporting of Mineral Resources and Ore Reserves – The JORC Code 2012 Edition.- The Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and the Minerals Council of Australia. 20 December 2012.

[2] CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines, Prepared by the Sub-Committee on Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines.

[3] Kalium Lakes Pty Ltd, 2015: Beyondie Potash Project - Concept Study, unpublished April 2015.

[4] Bureau of Meteorology (BOM): Meteorological Data

[5] BULLEN, Geological Survey of Western Australia, 1995: Australia 1:250,000 Geological Series. Sheet SG 51 – 1. Second Edition. 1995.

[6] Magee J.W., 2009: Palaeovalley groundwater resources in arid and semi-arid Australia – A literature review, record 2009/03, Geoscience Australia, Canberra, 224p.

[7] Schicht, T., Penndorf, A., 2015: Report of the site visit to the Salt Lakes of the Beyondie Potash Project and the visit to the company AQ2 from August 17 to August 21, 2015, unpublished, 31 August 2015.

[8] AQ2, 2016: Assessment of the hydrogeology of Beyondie Project Saline Lake System, Pre-Feasibility Study Report, unpublished, February 2016.

[9] Kalium Lakes Potash Pty Ltd, 2017: Beyondie Potash Project – Pre-Feasibility Study, unpublished March 2016.

[10] K-UTEC AG, 2016: Bankable Feasibility Study for the Beyondie Sulphate of Potash Project project, Australia; Part Crystalisers, Processing. unpublished draft, September 2018.

[11] Schicht, T., Penndorf, A., 2017: Report of the site visit to the Salt Lakes of the Beyondie Potash Project and the visit to the companies Advisian and Western Geophysics from June 06 to June 11, 2017, unpublished, 11. September 2017.

[12] Advisian, 2017: PFS and Resource Report for the Beyondie Sulphate of Potash Project: September 2017.

[13] Wingate, M.T. D., Pirajno, F., Morris, P. A., 2004, Warakurna Large Igneous Province: A new Mesoproterozoic Large Igneous Province in West-Central Australia, Geology: v. 32, no. 2. p. 105-108.

[14] Barnett, B., Townley, L.R., Post, V., Evans, R.E., Hunt, R.J., Peeters, L., Richardson, S., Werner, A.D., Knapton, A., and Boronkay, A, 2012, Australian groundwater modelling guidelines. Waterlines Report Series No 82, June 2012, National Water Commission, Australian Government, 191pp.

[15] DHI-WASY GmbH, 2015, FEFLOW 7.0 User Guide, Berlin, Germany, 220pp.

[16] DRA Global: Beyondie Potash Project, Infrastructure Pre-Feasibility Study, Document DRA-CP1237-PM-RP-001, Dated 23/08/2017.

[17] Advisian, 2018, Hydrogeology and Resource BFS for the Beyondie Sulphate of Potash Project, September 2018.

[18] Watermark Numerical Computing 2010, PEST Model-Independent Parameter Estimation User Manual: 5th Edition (with slight additions in 2010), 336pp.

[19] Schicht, T., Penndorf, A. 2018: Report of the site visit to the Salt Lakes and production sites of the Beyondie Potash Project from January 29 to February 03, 2018, unpublished, 20/02/2018.

[20] Kalium Lakes Pty Ltd, 2018: Beyondie Sulphate of Potash Project – Bankable Feasibility Study, unpublished September 2018.

[21] Advisian, 2018, Beyondie Sulphate of Potash Project – Surface Water Assessment, April 2018

[22] K-UTEC AG Salt Technologies, 2015: Company Presentation, unpublished, September 2015.

[23] Butts, D., 2016, Kalium Lakes Potash Data Reference Handbook, unpublished, May 2016.

[24] Kalium Lakes Limited, 2018. Pilot Pond Update and Harvest Trials, March 2018.

[25] K-UTEC AG Salt Technologies, 2018. Status Meeting. May 2018.

[26] Kalium Lakes Limited, 2018, unpublished charts, figures or pictures, 2018.

[27] CRU Consulting, 2018, SOP Market Study, unpublished September 2018.

[28] Advisian, 2018, Beyondie Sulphate of Potash Project – Infrastructure Surface Water Assessment, September 2018

APPENDIX 1: JORC CODE, 2012 EDITION – TABLE 1 REPORT TEMPLATE

Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Brine samples were obtained during drilling from prolonged airlift yields and collected at the cyclone. These samples are interpreted to come from the zone above the drilling depth, although the possibility of downhole flow outside of the drill rods from shallower zones cannot be excluded. These mixed samples were only used for estimation of the inferred resource calculation. • Brine samples during test production bore pumping were obtained from the end of the discharge line and represent an average composition of groundwater pumped from the screened section of the production bore. • Brine samples from trench pumping were obtained from the end of the discharge line and are an average representation of the aquifer zone the trench intercepts. • The sampling program involved the collection of brine samples and samples of the aquifer material during drilling to define the brine and geological variation. • Lithological samples at 1 m intervals were obtained by a combination of methods including reverse circulation, aircore and auger. • Brine was obtained during drilling from the cyclone of the drill rig during airlift yields. These samples are interpreted to come from the zone above the drilling depth, although the possibility of downhole flow outside of the drill rods from shallower zones cannot be excluded. • Sonic drill core was retrieved to obtain representative samples of the sediments that host brine to evaluate the porosity and hydraulic conductivity of the sediments and calibrate the geophysical tools being used. Core was extruded from the sonic core barrel and sealed within plastic core bags and placed in metal core boxes for storage. • All sonic holes were geophysically logged with the methods listed in this report.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Reverse circulation (140 mm diameter), aircore (90 mm and 85 mm diameter) and sonic (150 mm) drilling has been utilised for all exploration and monitoring bore holes drilled during this report. • HQ diamond tails were used on a number of deep reverse circulation holes to penetrate bedrock stratigraphy. • All shallow lake surface sediment holes were drilled with auger techniques. • All production bores were drilled using conventional mud rotary, casing advancer or sonic techniques. • All holes were drilled vertically.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Geological sample recovery was high, in all lithologies, except fractured bedrock which had lost circulation of drill cuttings in the fracture zone and only returned minor chip samples back to the surface. • Brine recoveries were high for reverse circulation drilling in the productive aquifer zones (Surficial sediments, palaeochannel sand and bedrock). The low transmissivity clay yielded very low volumes, with more sporadic sampling resulting, generally occurring near the base of the formation. • Brine recoveries during aircore drilling were minimal due to the nature of the drilling technique. • Airlifts were generally of prolonged duration to obtain representative samples, however water flowing down from the surficial aquifer during deeper airlift yields cannot be ruled out. • Sonic core was recovered in variable lengths between 1.5 m and 6 m core runs depending on the ground conditions. The length of the run was marked on each of the core boxes. • Sonic core recovery was generally high with some expansion of the stiff lacustrine clays observed during the drilling process resulting in excess core.
Geologic Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• All drill holes were geologically logged by a qualified geologist. • All geological samples collected during all forms of drilling are qualitatively logged at 1 m intervals, to gain an understanding of the variability in aquifer materials hosting the brine. • Geological logging and other hydrogeological parameter data is recorded within a database and summarised into stratigraphic intervals. • Solid samples are collected, washed and stored in chip trays for future reference. • Core was logged and core plugs selected for laboratory testing by a senior geologist. • Downhole geophysical methods (Resistivity, spectral gamma and BMR) were used to assist with lithological logging. • Geological logging and other hydrogeological parameter data is recorded within a database.

Criteria	JORC Code explanation	Commentary
Subsampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/ second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• During drilling all brine was sampled directly from the cyclone during prolonged airlift yields. This provides the most representative sample recovered from the inside return, i.e. from the bit face. • Aircore drilling with low pressure air aims to collect a brine sample that is representative of the interval immediately above the bit face. However, this method does not exclude the potential for downhole mixing of brine. The fact that the low transmissivity clays were slow to yield brine, while underlying permeable intervals did yield brine with ease provides confidence that representative samples with depth have been obtained. • Samples from the pumping tests were taken in intervals of between one per day or every two days. • All samples collected are kept cool until delivery to the laboratory in Perth. • Brine samples were collected in 500 ml bottles with little to no air. • Field brine duplicates have been taken at approximately 1 in 11 intervals.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• Elemental analysis of brine samples are performed by Perth laboratory, the Bureau-Veritas (BV) (formerly Amdel/Ultrace) mineral processing laboratories. BV is certified to the Quality Management Systems standard ISO 9001. Additionally, they have internal standards and procedures for the regular calibration of equipment and quality control methods. • Laboratory equipment are calibrated with standard solutions. • Analysis methods for the brine samples used are inductively coupled plasma optical emission spectrometry, Ion Selective Electrode, Inductive coupled plasma mass spectroscopy , volumetrically and colourimetrically. • The assay method and results are suitable for the calculation of a resource estimate. • Repeat assays and reference standards have been undertaken and indicate an average error of less than 5%. • BMR tool calibration was completed by Qtec the developers of the BMR tool utilised (BMR-60). The diameter of investigations was 280 mm, the signal to noise ratio at this depth of investigation was deemed acceptable. • BMR T2 calibration and cut-offs have been discussed in the report.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Multiple samples have also been taken from nearby locations during sampling to verify assay results and sampling methods. • Assays have been completed on samples taken up to two years apart indicating consistent grade. • Assays have been completed on samples obtained from pumping of the aquifer units on a daily basis of up to 29 days at a single location to determine variability of grade during pumping. • Field parameters of SG and total salinity have been taken. • Data concerning sample location was obtained in the field, data entry then performed back in the Perth office to an electronic database and verified by Advisian. • Assay data remains unadjusted. • Sonic cores are twin holes of exploration air core holes.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Hole location coordinates obtained by a qualified mines surveyor using a Trimble RTK GPS with an accuracy of +/- 25mm in X,Y and +/- 50mm in Z. • Regional auger holes have been surveyed using a hand held GPS. • The grid system used was MGA94, Zone 51.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Drill spacing is discussed in the report. • The drill holes are not on an exact grid due to the irregular spatial nature of the deep targets and access issues when traversing the lakes.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Not applicable, considering the deposit type. • All drill holes are vertical given the estimated flat lying structure of a salt lake.
Sample security	• *The measures taken to ensure sample security.*	• Samples are labelled and transported by KLL personnel to Perth. They are then hand delivered to BV laboratories by KLL personnel.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• Advisian has conducted a review of works undertaken previously by AQ2 and K-UTEC. • A data review is summarised in the Mineralisation and Resource estimate section of this report. • No audits were undertaken.

Section 2 – Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The BSOPP is 100% owned by Kalium Lakes Limited (KLL or Kalium Lakes) with project tenure held under granted exploration licences: E69/3306, E69/3309, E69/3339, E69/3340, E69/3341, E69/3342, E69/3343, E69/3344, E69/3345, E69/3346, E69/3347, E69/3348, E69/3349, E69/3351, E69/3352. • KLL also has granted Mining Licences: M69/145 and M69/146. • KLL also has granted Miscellaneous Licences: L52/162, L52/186; L52/187, L52/187, L52/193, L69/28, L69/29, L69/30, L69/31, L69/32, L69/34, L69/35, L69/36. • KLL has a land access and mineral exploration agreement, and a Mining Land Access Agreement with the Mungarlu Ngurrarankatja Rirraunkaja (MNR) Aboriginal Corporation over tenures E69/3339, E69/3340, E69/3342, E69/3343, E69/3344, E69/3345, E69/3348, E69/3349 and E69/3351. • KLL has an exploration and prospecting deed of agreement, and a Mining Land Access Agreement with the Gingirana Native Title Claim Group over tenures E69/3306, E69/3309, E69/3341, E69/3346, E69/3347, E69/3348, E69/3351 and E69/3352. • MNR and Gingirana have provided letters of Consent to the grant of Mining Leases and Miscellaneous Licences.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• There has been no previous exploration for SOP at the BSOPP by third parties.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The deposit is a brine containing potassium and sulphate ions that can form a potassium sulphate salt. The brine is contained within saturated sediments below the lake surface and in sediments adjacent to the lake. The lakes sit within a broader palaeovalley system that extends over hundreds of kilometres, this system has been eroded into the North-West Officer Basin sediments.
Drillhole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* • *easting and northing of the drillhole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* • *dip and azimuth of the hole* • *downhole length and interception depth* • *hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• Information has been included in drill collar tables and bore logs appended to this report or previously reported. • All holes are vertical.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No grade cut-offs have been used. • Data aggregation comprised calculation of volume weighted average potassium, sulphate and magnesium concentration of all Specific Yield and Total Porosity within a Resource area for a given geological unit (i.e. All palaeochannel sand and silcrete zones per area were aggregated and summarised as a volume weighted average).
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').*	• Not applicable.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Refer to figures/tables in this announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All pertinent results have been reported.

Criteria	JORC Code explanation	Commentary
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Approximately 1,105 km of gravity and passive seismic geophysical surveys have been completed. The tests were performed to define the deepest parts of the palaeochannel, with traverses undertaken across the channel, extending from 10 Mile Lake to T-Junction Lake. • Additionally, NanoTEM geophysical surveys have been completed in 2017 to distinguish between highly conductive and less conductive areas to support the passive seismic and gravity interpretations. • XRF and XRD analysis of the lake sediments has provided a breakdown of the minerals and their percent components of the lake sediments. • Metallurgical and mineral processing test work has included bench scale solar evaporation tests, milling, flotation and conversion. The results of the test work have enabled preliminary process plant design for the Beyondie brine. • Other companies have regionally performed exploration for similar brine deposits.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• More extensive drilling may confirm the occurrence of basal sands and sandstones throughout the whole palaeodrainage system to the East of the Stage 1 area.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• Cross-check of laboratory assay reports and database. • Review of sample histograms used in Resource models. • QA/QC analysis and protocols as described in Section 10.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Multiple site visits have been undertaken throughout the field program that has verified the data obtained. • All other site visits are discussed in Section 8.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The resource is contained within Cenozoic Palaeovalley stratigraphy and the underlying fractured and weathered bedrock. • The geological model for the indicated and measured resources is well constrained. Drill hole coverage is relatively consistent for the scale of the project, and the deposit is not structurally complex; it is alluvial fill in a palaeovalley depo-centre, within a shallow dipping large sedimentary basin. • The geological model for the fractured bedrock is less certain, the continuity and structural controls on rock fracturing are not well understood, but can be mapped in geophysical responses and is considered to be associated with the unconformity between formations and structural orientation. • The geological interpretation informs the volume of the resource. • The nature of aquifer properties in different geologies does affect grade, where transmissivity appears to be a minor diluting factor in the highest areas of the brine grade. In addition the bedrock appears to be elevated in potassium which likely to be a source of the resource. • The paleo-topography is key to the determining the aquifers with the highest transmissivity and predicting their extent within the vicinity of the surficial lakes where brine grade, specific yield and transmissivity are highest.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The length of the mineral resource is defined by the company's tenement boundaries which have been fit to the margins of the salt lake/palaeodrainage system. Where the tenement boundary is wider than the palaeochannel system, the palaeochannel boundaries have been defined by geophysical surveys (gravity, passive seismic and TEM). • The thickness of the hosting aquifer holding the brine mineral resources has been based on the groundwater elevation (measured as depth below surface) and a sediment thickness above the impermeable bedrock. • The mineral resource extends laterally outside of KLL tenement boundaries in some cases, notably at 10 Mile Lake. • The volume of brine that can be abstracted has been based on a combination of aquifer test pumping and core calibrated geophysical techniques using Borehole Magnetic Resonance (BMR).

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Modelling procedures and parameters are discussed in Section 13. Additional details are presented below were relevant. • Potassium, sulphate and magnesium concentration point data were separated by project area (10 Mile Lake and Lake Sunshine) and imported into the leapfrog modelling domain. • Sand and silcrete zones have been defined by the presence of either one of these facies in the lithological log, these maybe of weathered bedrock origin or transported origins. • Resource zones were derived in GIS software using drill hole spacing and areas of measured drawdown from extended duration aquifer testing. • The block model cell sizes took into account the density of the sample spacing within the Measured Resource zones so that on average of at least one sample was attributed to each block in the x and y directions. The block spacing of the z direction considered the vertical variability of the brine within lithologies, an increase in grade with depth is observed in each lithology therefore high resolution z component (2.5 to 5 m) was selected to allow for pinching geology, so this trend in grade variability can be accurately represented. Automatic sub-blocking was used where complex geological contacts are present or greater resolution of sampling was available. • Volumetric weighted average of SOP grade per Resource Zone was calculated where multiple zones are determined (i.e. upper sand and basal sand zones have been merged into a sand and silcrete group by volumetric weighted average to determine SOP grade). • Selective mining units have not been considered. • There are no assumptions about correlation between variables. • No cut-off grade has been used.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages of potassium have been estimated on a dry, weight volume basis (%w/v). For example, 10 kg potassium per cubic metre of brine.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• No cut-off grade has been used in this Resource update so that a longer life of mine can be sustained during the in-progress Reserve update.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• The mining method will be recovery of brine from the underground salt lake by submersible bore pumps targeting the deeper aquifer and shallow trenches targeting the surficial aquifer. • Though specific yield and total porosity provide a measure of the volume of brine present in an aquifer system, hydraulic conductivity and transmissivity controls are the main factor in defining Mining factors and are discussed in the Reserve. • It is not possible to extract all the contained brine with these methods, due to the natural physical dynamics of abstraction from an aquifer. • The Reserve is required to quantify the economically extractable resources.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Chemical assays of brine waters suggest a similar chemical composition to other exploration SOP projects in Western Australia. Feasibility studies abroad have demonstrated that SOP recovery is possible with conventional mineral processing techniques. • Metallurgical test work on brine water has been carried out in both small scale lab benchtop trials and larger scale evaporation pilot ponds with confirmed results to the efficacy of standard metallurgical recovery methods.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• The project is expected to have a limited, localized environmental impact, with minor impacts on surface disturbance associated with excavation, adjacent "fresher" aquifer systems, stockpiling of salt by-products, stygofauna and potentially groundwater dependent vegetation. • The project is located in a very remote area and does not expect to contain significant quantities of waste tailings. • Acid mine drainage is not expected to be an issue.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Tonnages of potassium have been estimated on a dry, weight volume basis(%w/v). For example, 10 kg potassium per cubic metre of brine. • As the resource is a brine, bulk density is not applicable. • The resource has been calculated from Sy (drainable porosity) determined using a combination of aquifer testing and laboratory calibrated geophysical methods.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• At this stage of the project an exploration target, inferred, indicated and measured resource are defined. The CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines and JORC code were used to determine these confidence categories.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• None
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The mineral resource contains aqueous potassium, sulphate and other ions, existing as a brine in a sub-surface salt lake. The current JORC code (2012) deals predominantly with solid minerals, and does not deal with liquid solutions as a resource. The relative accuracy of the stated resource considers the geological uncertainties of dealing with a brine. See also: CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines, Prepared by the Sub-Committee on Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines. • Kalium Lakes is part of the Association of Mining and Exploration Companies (AMEC) Potash Working Group which has developed guidelines to define a brine Mineral Resource and Ore Reserve, in order to increase the certainty, clarity and transparency in reporting of these resources. • Specific Yield (Sy) estimates to determine drainable brine volume in this Resource estimate have used industry first techniques. However, these techniques are industry best practice in the petroleum industry for estimating Reservoir volumes of all components of a petroleum reservoir therefore are considered to be “industry leading”. Traditional core derived analysis is point based, whilst a continuous log provides a far better means to deriving average properties for individual lithologies. • BMR technology has only recently been made financially economical in the brine resource industry by the use slim-line tools with low sign to noise ratios and appropriate depths of investigation.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in section 2 and 3, also apply to this section.)

Criteria	Explanation	Comments
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• See Resources table above (JORC Table 1, Section 3 – Estimation and Reporting of Mineral Reserve), the modelling process and Mineral Reserve estimate are also detailed above. • Indicated and Measured Resources are reported inclusive of Ore Reserves. • No inferred resources are included in the Reserve estimate.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Three site visits by the Competent Persons, the first during August 2015, the second during June 2017 and the third during January/February 2018 . Details of site visit outcomes are described in the relevant site visit reports [7], [11], [19].
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• The Ore Reserve Estmate has been completed in conjunction with a Bankable Feasibility Study with a +/-15% level of accuracy. • A mine plan has been developed utilising all reserves and resources for the mine production scenarios to support the BFS.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• A cut off grade of 2,500 mg/L has been applied to the Reserve. • The solute transport model has been used to predict the grade over the life of mine from each abstraction point, where grades at the abstraction point diminishes below the cut-off grade the production is omitted from the Reserve.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.*	• The volume of convertible resources has been determined by detailed numerical groundwater flow and solute transport modelling. Modelling has been completed to the Australian Groundwater Modelling Guidelines [14] using the FeFlow modelling package [15]. • The construction of the numerical groundwater model is based on the geological model derived from drill data. Drill spacing is such to have high confidence in geology and brine distribution in the resource areas. • Calibration of the groundwater model to steady state and transient conditions (test pumping data from trenches and bores and trial pond pumping) using an iterative process of manual and automated calibration to reduce statistical residual error between observed data and simulated data. • Sensitivity analysis to “compare model outputs with different sets of reasonable parameter estimates, both during the period of calibration (the past) and during predictions (in the future)” [14]. • Predictive modelling of the resource recovery by adding production bores within the deep aquifer and extending trenches over the lake surface and simulating pumping rates over the life of mine (30 years). • Concentration of potassium has been directly input to the numerical model from the block model and simulated using conservative transport parameters.

Criteria	Explanation	Comments
	• *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• Abstraction is mapped using capture zone analysis, any abstraction originating from outside of the Resource zone is factored out of the Reserve calculation. • Trial lake surface trenches and deep production bores have been tested in the field and proved successful in abstraction of brine. The construction methodology, design and cost determined from the field studies has been adopted for the feasibility study. • Well efficiencies have been taken into account when simulating abstraction rates. An average well efficiency of 60% is derived for the abstraction assessment. • Grade control in brine resources relates to the target grade of brine delivered to the concentor ponds. Flexibility in the infrastructure design is considered the grade control management measures. • Inferred Resources are not included in the Reserve estimate. Inferred Resources make up the later part of the mine plan. • Hydraulic models have been developed to ensure brine pumping can be undertaken with the selected pipes and pumps in the study. • New abstraction bores, headworks, power supply, pumping, telemetry and monitoring have been incorporated in the design.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• The metallurgical process is covered broadly through the following stages; Evaporation pond crystallization and harvest of KTMS; Pre-treatment of harvested KTMS; conversion of KTMS to Schoenite; Flotation; Cooling crystallization; conversion of Schoenite to SOP; Dewatering; Drying and Compaction. The process is considered appropriate given the high potassium brine based nature of the mineralisation. • For 82 ktpa SOP, the project will require: 36 extraction bores, 58 km of trenches, 7.9 – 9.4 GL/a brine flow, 445 hectares of evaporation ponds. For 164 ktpa SOP, the project will require: 41 extraction bores, 58 km of trenches, 10.9 – 17.8 GL/a brine flow, 1,118 hectares of evaporation ponds. Both throughputs include: 8,766 evaporation pond operating hours per year, 94% evaporation pond recovery, 1 mm sealed HDPE lined ponds, 7,500 purification plant operating hours and 77% purification plant recovery. • The metallurgical process proposed is similar to that used by major existing SOP producers in Utah(Compass Minerals), Luobupo (SDIC), Salar de Atacama(SQM). • Ten discrete metallurgical test phases were undertaken, utilising a five different industry recognised consultants. Test phases varied from small bench scale evaporation tests, to 10 hectare site pilot pond works and pilot plant testing by K-UTEC. • There are no elements in the BSOPP brine that are likely to be deleterious. • Metallurgical test work has successfully produced SOP of sufficient product purity. Metallurgical test work included the complete process from treatment of feed brine to final production of SOP. • Initially, a total volume of 2m^3 of partially evaporated brine at a density of 1.28 g/cm^3 was sent to K-UTEC's facilities in Sondershausen, Germany for preliminary process test work, see Figure 34 Figure 35. This was followed up with several tonnes of crystallized KTMS produced at the BSOPP's pilot pond for K-UTEC's pilot plant and BFS optimisation works, see Figure 40. More than 10,000 tonnes of salts have been produced so far, including 3,160 tonnes of mixed potassium salts that can be processed to generate approximately 520 tonnes of SOP, see Figure 39. The brine used to produce these bulk samples is from the 10 Mile Lake area, and is a mixture of the surficial and palaeochannel aquifers. • Hypersaline potash brine is not defined by any specifications.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• KLL has engaged with key stakeholders such as the Office of the Environmental Protection Authority (OEPA) Terrestrial Branch, DPaW regional experts and Traditional Owners. The issues raised that may represent project constraints and the management actions have been identified and potential management actions are being implemented. • A biological study programme occurred during 2015-2018 and enabled project planning and impact assessment to commence. The study programme entailed a Level 2 survey for flora and vegetation, fauna and lake fringing vegetation. At this stage, subterranean fauna is not a significant impact on the basis of a maximum allowable drawdown of 50% of the freshwater aquifer plus and adaptive management plan to rotate the use of bores of the 4 fresh water areas. • Early works approvals are in place from the Environmental Protection Authority of Western Australia (EPA) and Department of Mines, Industry Regulation and Safety (DMIRS), with formal approval for the full-scale project anticipated to be in place during Q4 2018. The bitterns comprising $MgCl^2$ / $MgSO_4$ are proposed to be recovered as Magnesium salts and may be sold if viable. If excess to market requirements they will be placed with the excess halite on 10 Mile Lake or used for dust suppression around the site.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• Infrastructure at the mine area, including workshops, warehousing and power generation, will be located within finite footprints and granted exploration tenements, adjacent to the processing plant, to enable control of access and easy operability and maintainability. Ancillary infrastructure is situated within the tenements at locations to provide suitable access and drainage, whilst preventing inundation during or following a storm event. • The central site administration area is located where the access road enters the site from the west. This area comprises the main administration building, emergency services, laboratory, communications hub, general workshops, stores and fuel farm. • Fuel for power generation will be supplied in LNG gas bullets for the initial development, or eventually via a 78 km gas spur to be built from the Goldfields Gas Pipeline (GGP) for production levels exceeding 82 ktpa. Access to the Goldfield Gas Pipeline located approximately 78 km to the west of the proposed mine site is achievable and KLL have commenced discussions with APA to confirm tie in and pipeline extension requirements and costs. • The accommodation village site is located between the proposed process plant and the northern bank of 10 Mile lake, isolated from plant noise and lake surface water by a small elevated hill. The village includes accommodation, recreational facilities such as a sports court and gym, waste water treatment, potable water supply and a dedicated power generator. The village will be constructed as part of an Early Works package to provide accommodation for the construction workforce. The accommodation village will be designed to provide housing and messing for ~60 people at the project area.

Criteria	Explanation	Comments
		• Raw water will be pumped from water supply bores located within an area extending West and South of the process plant site. Approximately 1.5-2 GL/a of raw water will be required for the process plant and potable water for 164 ktpa SOP production. Each bore pump will be powered by its own diesel generator through a local control panel, with a wireless telemetry link to the central control system at the plant. Each system will be installed in a fenced compound with a self-bunded diesel storage tank sized to allow for sufficient buffer capacity. Above ground HDPE pipelines will transfer water to a central raw water tank located at the process plant. The raw water tank is sized to hold the required water reserve for fire-fighting purposes, available as a priority supply from a separate flange appropriately positioned on the tank and distributed via fire water pumps. A separate flange and raw water pump set will supply raw water to the workshops, process plant area, administration offices, and Emergency Services Area. A separate water storage tank / fire tank will be situated at the village. Fire and general-purpose water will be reticulated in a common system. • Raw (bore) water will be treated to potable water standards at the village and workshop area, by packaged plants consisting of fine filtration followed by reverse osmosis, a chlorine dosing and UV treatment. The filtration will remove fine particles from the raw water, while the cal-hypo chlorine dosing system will disinfect the water to meet the requirements of the Australian Drinking Water Guidelines. • Communications infrastructure will allow a single-channel CB radio envelope along the site access road, with mobile or portable radios operating over a dual-channel, digital mobile radio (DMR) system servicing the main plant and accommodation area and remote borefields. The DMR integrates with the site telemetry system for monitoring of bores. The radio system will also provide a high-speed IP data link to the Telstra 4G network service at Kumarina Roadhouse. A site-LAN will be installed, with access provided via the Wi-Fi network installed as part of the radio system. • A contractor-operated laboratory building will be installed onsite along with the construction of administration buildings, maintenance workshops and warehouses.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• The Capital cost estimate was based on the following fundamentals: o Work Breakdown Structure. o Material Take-Offs from designs for construction and fabrication. o Mechanical equipment list, specifications & data sheets. o Electrical equipment load list. o Vehicle list. o Proposals (materials & equipment supply, installation, design & construct, etc.). o Proposals for construction road freight. o Freight estimates based on supply weight / volume requirements per 23t payload trailer (2.4m x 14m). o Direct labour hours and rates build up by first principles. o Benchmarked allowances and factors (minimal). o Preferred contracting strategies. o Use of existing knowledge from previous experience information where no other source was available. o Contingency based on capex input confidence and discreet risk modelling. • The capital cost estimate was completed to an accuracy meeting the criteria of The Association for the Advancement of Cost Engineering (AACE) Class 3 estimate accuracy of ±15%. • The BFS has developed an operating cost estimate (OPEX) for the BSOPP with an accuracy better than ±15%. The OPEX includes the operating expenditure required to crystallise, process and transport product to Fremantle and Geraldton Port, and various off-take locations, including shipping to the eastern states of Australia, China, Singapore, the USA and New Zealand. All costs are in 2018 Australian dollars. • The operating cost has been developed around cost elements with the primary activities and items included. The following assumptions have been made associated with operating costs and the base case operating philosophy: o Overall management will be undertaken by KLL. o Owner operated operations for ex-works production. o A Haulage contractor will be engaged to provide all transport of SOP product form the site to the distribution centres in Perth and Geraldton. o Contractor proposals have been received and form the basis of transportation charges, port and shipping charges. o Accommodation villages will be Contractor operated. o FIFO flights for all personnel will be arranged and managed by KLL. o Flights have been based on commercial services between Perth and Newman. o Diesel fuel will be purchased in bulk and distrsibuted by KLL. o Gas will be supplied as Liquid Natural Gas (LNG) by a new lateral tie-in to the Goldfields Gas Pipeline (GGP) near Kumarina roadhouse on the Great Northern Highway (GNH), or as Liquefied Natural Gas (LNG). o Power will be provided via a 5 year Build Own Operate (BOO) contractor. o Carbon tax has been excluded. o Allowances for maintenance down time have been considered by operating unit.

Criteria	Explanation	Comments
		○ The estimate base date is Q3, 2018. ○ Escalation of the estimate past the base date has been excluded. ○ All costs are in Australian dollars (AUD). ○ An exchange rate of AU$1.00 = US$0.75 has been used during operations where necessary based on Bloomberg Rates. ○ GST has been excluded. ○ Contingency has been applied to the Ex-Works and FOB estimates. ○ All tonnages are on a dry basis unless otherwise indicated. ○ WA Royalty Rate – non-beneficiated - A$0.73/t SOP ○ Native Title Royalty – unable to provide ○ Founders' Royalty - 1.9% gross revenue
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• Product specifications identified and replicated with metallurgical test work. • Market reports from CRU, Profercy, Greenmarkets, Fertecon and Integer have been utilised to derive the assumption for the SOP price. • A detailed SOP market study was commissioned by KLL and provided by CRU in September 2018, this has been used as the basis for the commodity price, forecasted US$606/t average LOM SOP sales @ $A/$US exchange rate of 0.73. • CRU estimates that CFR Australian prices in KLL's first year of full production (2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• Demand, supply and stock situation determined for SOP by studying recent market reports from CRU, Fertecon, Green Markets, Profercy and Integer. Reports covered consumptions trends and discussions with factors that can likely affect supply and demand into the future. The reports also covered price and volume forecasts based on market trends. • The proposed SOP product meets or exceeds current market accepted specifications. • Offtake Terms Sheet executed with German fertiliser producer and distributor K+S for 100% of Stage 1 production. The Offtake arrangement is subject to the execution of a formal binding offtake agreement and satisfaction of certain conditions precedent, including completion of due diligence by K+S. • Kalium Lakes has signed non binding Letters of Intent with other offtake partners. • A detailed customer and competitor analysis has been included in the CRU marketing study.
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• Discounted cash flow analysis (DCF) was used to calculate key project valuation indicators for the project, in particular, the Net Present Value (NPV) and Internal Rate of Return ("IRR"). NPV, IRR and payback periods are measures of the return that are generated based on the applied assumptions. An 8% discount rate (post–tax, nominal) was used for NPV calculations. A 2% inflation factor is used. The DCF were modelled on a quarterly basis in nominal terms, referenced to CAPEX and OPEX developed in Australian dollars (A$). The project was analysed on an unleveraged (100% equity) basis. • The macro assumptions in the financial model are as follows: ○ Discount Rate (post-tax nominal) – 8% ○ Corporate Tax Rate - Rate based on ATO guidance – 30% ○ Depreciation – Straight line ○ WA Royalty Rate – non-beneficiated - A$0.73/t SOP ○ Native Title Royalty – unable to provide ○ Founders' Royalty - 1.9% gross revenue ○ Mine Life - Variable, subject to production rate ○ LOM Exchange Rate A$:US$ - $0.73 ○ A detailed SOP market study was commissioned by KLL and provided by CRU in September 2018, this has been used as the basis for the commodity price, forecasted US$606/t average LOM SOP sales @ $A/$US exchange rate of 0.73. ○ CRU estimates that CFR Australian prices in KLL's first year of full production (2022) will be US$530/t with prices rising to US$961-997/t in 2040. CRU forecasts a 2.8%pa growth in SOP. ○ NPV ranges and sensitivities determined for key assumptions and inputs including, SOP price, production rate, capital cost, operating cost, foreign exchange, discount rate, recovery rates and construction delays.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• Two Native Title Land Access Agreements have been executed allowing for the consent to the grant of mining leases, ancillary tenure and approvals required for the BSOPP. • The BSOPP tenements were originally applied for by Rachlan Holdings Pty Ltd (Rachlan) with an agreement in place to transfer tenure to KLL as soon as practicable after grant, which has occurred for all granted tenements to date. • All relevant regulatory departments and authorities have been consulted extensively. • Access agreements are in place with all pastoralists and neighbours that will allow construction and development of the project.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*	• Kalium Lakes has reviewed the legislative requirements and has compiled a register of the environmental, heritage and planning approvals and permits necessary to scope, develop, construct and operate the BSOPP for each development phase. Each phase will

Criteria	Explanation	Comments
	• *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	require; new specific approvals, or utilise approvals granted in the prior phase, or seek to modify existing approvals. Approvals for the Pilot Scale Development Ponds and Pump Testing are currently in place, inclusive of a 5C dewatering licence for 1.5 Gl/pa. See Table 30 for a detailed list of required approvals and current status. • Early works approvals are in place from the Environmental Protection Authority of Western Australia (EPA) and Department of Mines, Industry Regulation and Safety (DMIRS), with formal approval for the full-scale project anticipated to be in place during Q4 2018. • Two Mining Leases and 10 Miscellaneous Licences have been granted for the Beyondie SOP Project. • The level of assessment being targeted is known as an Environmental Review, where an Environmental Review Document is prepared and submitted to the WA Environmental Protection Authority (EPA) for assessment under Part IV of the Environmental Protection Act 1986. • Kalium Lakes has undertaken extensive consultation with leading agencies to confirm the approvals that will be required. Based on this consultation Kalium Lakes believes that there are reasonable grounds for Government approvals to be received within the timeframes anticipated in the Bankable Feasibility Study. • Offtake Terms Sheet executed with German fertiliser producer and distributor K+S for 100% of Stage 1 production. The Offtake arrangement is subject to the execution of a formal binding offtake agreement and satisfaction of certain conditions precedent, including completion of due diligence by K+S. • The Company is proposing to fund the project capital expenditure by a combination of up to 60% debt and the residual in equity. • Debt financing is well advanced with initial due diligence completed and Expression of Interest (EOI) Term Sheets received. • The Company estimates that approximately A$42 million of the project capital expenditure is expected to qualify under the German Export Credit Agency (ECA) scheme which has received a positive preliminary assessment decision by the German Government Inter-Ministerial Committee (IMC) and Euler Hermes Aktiengesellschaft (Hermes), the appointed export credit agency that administers the German ECA scheme for the German Government. • Australian Government's Northern Australia Infrastructure Facility (NAIF) has provided written confirmation that the NAIF Board has considered a Strategic Assessment Paper for the BSOPP and has consented to the NAIF Executive continuing its investigation.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• Proved and Probable Reserves have been estimated. • Proved Reserves come from the production bores in the measured zones at Ten Mile and Sunshine deep aquifer. All trench pumps and all other production bores have been allocated to Probable Reserves. Though the lake surface has Measured Mineral Resources for the top 5 m the effects of variable recharge on this zone means that these Resources remain in the Probable category. • 36% of the Probable Ore Reserves have been derived from the Lake Sediments, 64% from production bores. • 24% of the Total Reserves have been derived from the Lake Sediments, 76% from production bores.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The Ore Reserve Estimates was reviewed and audited by the Competent Persons. • The Ore Reserves and the Competent Persons' report was reviewed by Advisian.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• Model sensitivity and predictive uncertainty analysis has been completed on the numerical models to determine the most sensitive parameters of the model and the reliability of the data used to gain an understanding of the relative accuracy of the model predictions. • Highly sensitive uncertainties in the modelling include aquifer recharge and vertical leakage from the lacustrine clay. Modelling has taken a conservative approach to these parameters to ensure the model is representative of the level of understanding of the hydrogeology. • NPV ranges and sensitivities determined for key assumptions and inputs including, SOP price, production rate, capital cost, operating cost, foreign exchange, discount rate and construction delays. • See Section 24 for a list of potential risks.

APPENDIX 2: DRILL HOLE ASSAYS AND DETAILS

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	48	-90	0	745	5,585	53,350	7,850	89,150	23,397
SDHTM08	10 Mile	228,257	7,260,913	560	Drilling	0	-90	0	737	5,450	51,250	7,780	88,000	23,367
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	27	-90	0	742	5,430	54,100	7,640	88,000	23,068
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	30	-90	0	763	5,600	54,800	7,900	88,000	23,936
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	33	-90	0	766	5,590	53,800	7,860	88,300	23,397
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	36	-90	0	745	5,585	51,500	7,670	88,150	22,993
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	39	-90	0	760	5,550	53,600	7,780	88,200	23,457
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	42	-90	0	748	5,570	53,300	7,820	87,800	23,217
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	45	-90	0	752	5,640	54,600	7,940	89,600	23,457
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	3	-90	0	746	5,540	51,800	7,800	88,900	23,068
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	6	-90	0	742	5,510	52,800	7,780	90,400	23,098
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	9	-90	0	735	5,480	52,900	7,760	89,200	23,128
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	12	-90	0	731	5,370	51,800	7,630	88,000	22,858
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	15	-90	0	746	5,380	50,600	7,550	87,100	22,798
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	18	-90	0	758	5,430	51,900	7,670	86,900	22,858
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	21	-90	0	758	5,480	52,600	7,700	86,900	23,367
SDHTM08	10 Mile	230,359	7,259,357	560	Drilling	24	-90	0	735	5,340	53,700	7,540	86,900	22,948
TMAC06	10 Mile	233,139	7,256,566	560	Drilling	42	-90	0	737	6,330	50,100	6,030	85,900	21,600
TMAC06	10 Mile	233,139	7,256,566	560	Drilling	75	-90	0	453	9,370	78,300	9,990	136,000	30,300
TMAC06	10 Mile	233,139	7,256,566	560	Drilling	62	-90	0	762	6,050	47,900	6,050	85,100	21,700
TMAC11	10 Mile	230,975	7,253,145	560	Drilling	77	-90	0	427	9,050	80,900	11,200	140,000	31,800
TMAC11	10 Mile	230,975	7,253,145	560	Drilling	79	-90	0	416	9,060	81,900	11,300	139,000	32,400
TMAC11	10 Mile	233,485	7,256,791	560	Drilling	72	-90	0	519	7,130	66,900	9,070	120,000	25,400
TMAC12	10 Mile	233,485	7,256,791	568	Drilling	84	-90	0	514	7,630	70,200	9,290	121,000	27,300
TMAC13	10 Mile	233,486	7,256,939	568	Drilling	78	-90	0	641	5,560	47,000	6,200	82,300	18,800
TMAC13	10 Mile	233,486	7,256,939	568	Drilling	78	-90	0	638	5,560	47,200	6,200	82,400	18,700
TMAC13	10 Mile	233,486	7,256,939	568	Drilling	16	-90	0	634	4,640	40,100	5,120	68,500	16,300
TMAC13	10 Mile	233,486	7,256,939	568	Drilling	16	-90	0	637	4,600	40,400	5,130	68,200	16,200
TMAC13	10 Mile	233,486	7,256,939	568	Drilling	72	-90	0	518	7,270	68,400	9,220	121,000	27,000
TMAC13	10 Mile	233,486	7,256,939	568	Drilling	84	-90	0	523	7,820	70,000	9,260	123,000	27,800
TMAC13	10 Mile	233,486	7,256,939	568	Drilling	84	-90	0	519	7,780	69,800	9,200	123,000	27,600
TMAC14	10 Mile	233,453	7,257,458	568	Drilling	72	-90	0	519	7,180	68,300	9,200	118,000	26,300
TMAC14	10 Mile	233,453	7,257,458	568	Drilling	75	-90	0	500	7,590	68,900	9,200	121,000	27,300
TMAC21	10 Mile	233,892	7,253,504	561	Drilling	59	-90	0	589	6,930	56,600	7,300	99,300	23,500
TMAC21	10 Mile	233,892	7,253,504	561	Drilling	61	-90	0	890	3,430	30,000	3,840	52,700	12,800
TMAC21	10 Mile	233,892	7,253,504	561	Drilling	61	-90	0	883	3,420	29,400	3,810	52,800	12,600
TMAC15	10 Mile	235,752	7,257,213	571	Drilling	17	-90	0	400	645	7,500	1,190	12,950	2,610
TMAC15	10 Mile	235,752	7,257,213	571	Drilling	17	-90	0	410	640	7,490	1,190	12,950	2,640
TMAC15	10 Mile	235,752	7,257,213	571	Drilling	71	-90	0	519	6,430	57,600	7,730	103,400	23,200
TMAC15	10 Mile	235,752	7,257,213	571	Drilling	78	-90	0	541	6,600	61,300	8,340	108,300	23,900

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
TMAC16	10 Mile	232,062	7,254,489	562	Drilling	71	-90	0	493	7,880	66,800	7,880	117,500	28,800
TMAC22	10 Mile	230,516	7,254,836	561	Drilling	65	-90	0	392	9,160	81,900	11,300	144,000	30,300
TMAC22	10 Mile	230,516	7,254,836	561	Drilling	65	-90	0	393	9,210	81,700	11,300	144,000	30,300
TMAC22	10 Mile	230,516	7,254,836	561	Drilling	77	-90	0	400	9,050	82,100	11,400	144,000	30,300
TMAC22	10 Mile	230,516	7,254,836	561	Drilling	79	-90	0	391	9,050	82,400	11,500	146,000	30,000
TMAC23	10 Mile	230,934	7,253,523	563	Drilling	29	-90	0	126	165	940	140	1,500	630
TMAC23	10 Mile	230,934	7,253,523	563	Drilling	82	-90	0	320	6,180	55,900	7,550	96,700	21,700
TMAC24M1	10 Mile	231,840	7,251,994	561	Re-development	58.7	-90	0	751	3,180	25,300	2,940	40,300	13,100
TMAC24M2	10 Mile	231,840	7,251,994	561	Re-development	58.7	-90	0	745	4,480	33,100	3,960	55,450	18,000
TMAC26	10 Mile	232,825	7,253,032	561	Drilling	64	-90	0	808	5,070	39,800	5,390	72,050	18,300
TMAC26	10 Mile	232,825	7,253,032	561	Drilling	64	-90	0	813	5,020	39,800	5,370	71,700	17,900
TMAC27	10 Mile	229,050	7,258,970	561	Drilling	69	-90	0	520	6,360	61,800	8,810	104,350	24,900
TMAC28	10 Mile	231,526	7,258,961	561	Drilling	74	-90	0	469	6,450	60,300	8,310	103,800	25,200
TMAC28	10 Mile	231,526	7,258,961	561	Drilling	74	-90	0	473	6,430	60,900	8,380	104,150	25,100
TMAC30	10 Mile	236,365	7,258,144	561	Drilling	24	-90	0	59	345	4,450	770	7,700	1,020
TMAC09	10 Mile	232,951	7,251,176	561	Drilling	39	-90	0	831	2,490	19,300	2,400	32,000	9,780
WB09TB01	10 Mile	230,482	7,254,260	561	Re-development	53	-90	0	668	3,650	26,600	3,040	43,800	13,400
WB10	10 Mile	233,468	7,257,249	568	Airlift development	72	-90	0	700	4,530	41,900	5,700	72,000	13,430
WB10	10 Mile	233,468	7,257,249	568	Airlift development	72	-90	0	557	7,200	64,600	8,630	108,000	25,080
WB11MBI	10 Mile	233,539	7,255,526	560	Re-development	91	-90	0	716	5,900	43,600	5,100	72,650	20,200
WB11TB01	10 Mile	233,559	7,255,517	560	Re-development	91	-90	0	877	4,880	39,000	4,560	64,600	16,800
WB11	10 Mile	233,540	7,255,533	560	Airlift development	91	-90	0	803	4,560	37,000	4,480	61,200	11,790
WB12	10 Mile	233,894	7,253,901	560	Airlift development	91	-90	0	989	4,300	37,000	4,540	61,500	11,640
WB12	10 Mile	233,894	7,253,901	560	Airlift development	91	-90	0	668	6,805	51,700	6,205	86,500	16,310
WB12	10 Mile	233,894	7,253,901	560	Airlift development	91	-90	0	940	4,150	35,700	4,400	61,000	11,540
WB13	10 Mile	236,154	7,257,232	560	Airlift development	91	-90	0	686	7,320	57,100	7,755	97,800	17,675
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	1.5	-90	0	530	6,440	69,400	11,000	119,000	24,596
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	51	-90	0	545	6,590	69,200	10,900	125,000	25,554
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	60	-90	0	565	6,500	69,800	11,200	125,000	25,315
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	9	-90	0	520	6,460	68,000	10,900	122,000	24,326
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	12	-90	0	525	6,350	66,800	10,800	126,000	24,626
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	15	-90	0	525	6,390	66,200	10,800	125,000	24,835
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	18	-90	0	525	6,610	66,500	10,900	125,000	25,015
SDHB3	Beyondie	223,400	7,259,044	559	Drilling	21	-90	0	525	6,370	65,700	10,800	123,000	24,566
SDHB4	Beyondie	223,400	7,259,044	559	Drilling	3	-90	0	860	4,650	45,200	6,300	78,200	18,214
SDHB4	Beyondie	225,891	7,260,242	560	Drilling	2	-90	0	870	4,720	45,800	6,280	78,700	18,963
SDHB4	Beyondie	225,891	7,260,242	560	Drilling	9	-90	0	845	4,520	44,400	6,170	78,700	17,675
SDHB4	Beyondie	225,891	7,260,242	560	Drilling	12	-90	0	858	4,590	43,400	6,210	79,050	18,005
SDHB4	Beyondie	225,891	7,260,242	560	Drilling	15	-90	0	835	4,590	44,800	6,080	79,400	17,885
SDHB4	Beyondie	225,891	7,260,242	560	Drilling	18	-90	0	840	4,810	45,900	6,270	80,400	18,724
SDHB4	Beyondie	225,891	7,260,242	560	Drilling	21	-90	0	820	4,540	44,600	6,130	79,800	18,155
SDHB5	Beyondie	225,891	7,260,242	560	Drilling	1	-90	0	565	7,660	59,100	9,500	109,000	28,880
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	2	-90	0	580	7,890	58,800	9,600	110,000	29,209
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	9	-90	0	560	7,200	60,100	9,440	112,000	26,962

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay Ca (mg/L)	Mg	Na	K	Cl	SO_4
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	12	-90	0	560	7,600	61,800	9,440	112,000	29,898
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	15	-90	0	565	7,780	63,000	9,740	110,000	30,857
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	15	-90	0	575	7,940	65,600	10,000	114,000	30,557
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	18	-90	0	535	7,710	64,100	9,900	115,000	29,658
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	21	-90	0	545	8,220	65,200	10,100	115,000	31,156
SDHB5	Beyondie	224,874	7,259,474	559	Drilling	27	-90	0	545	7,760	62,400	9,950	114,000	29,359
SDHB6	Beyondie	224,874	7,259,474	559	Drilling	3	-90	0	880	4,310	45,700	6,690	79,100	17,645
SDHB6	Beyondie	227,305	7,259,097	560	Drilling	6	-90	0	870	4,240	45,200	6,590	78,500	17,286
SDHB6	Beyondie	227,305	7,259,097	560	Drilling	9	-90	0	870	4,270	45,350	6,585	79,400	17,406
SDHB6	Beyondie	227,305	7,259,097	560	Drilling	12	-90	0	855	4,250	43,400	6,560	78,000	17,046
SDHB6	Beyondie	227,305	7,259,097	560	Drilling	15	-90	0	860	4,360	44,600	6,710	79,900	17,166
SDHB6	Beyondie	227,305	7,259,097	560	Drilling	18	-90	0	850	4,290	45,800	6,610	79,500	17,525
SDHB6	Beyondie	227,305	7,259,097	560	Drilling	21	-90	0	860	4,580	46,600	7,010	83,000	17,615
SDHB7	Beyondie	227,305	7,259,097	560	Drilling	3	-90	0	905	3,990	39,400	5,190	66,200	15,968
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	30	-90	0	915	4,060	38,100	5,240	66,200	16,177
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	33	-90	0	910	4,030	37,900	5,210	66,200	15,608
SDHB7	Beyondie	227,305	7,259,097	560	Drilling	6	-90	0	915	4,020	38,900	5,190	66,800	15,758
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	9	-90	0	905	4,020	38,900	5,180	64,600	15,548
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	12	-90	0	915	4,020	39,000	5,170	65,900	15,938
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	15	-90	0	930	3,990	38,100	5,200	66,900	16,058
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	18	-90	0	940	4,020	39,200	5,300	65,700	15,998
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	21	-90	0	940	4,030	38,600	5,260	65,800	16,117
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	24	-90	0	940	4,100	38,700	5,330	66,400	16,177
SDHB7	Beyondie	228,257	7,260,913	560	Drilling	27	-90	0	950	4,140	39,300	5,360	66,200	16,327
SSAC01	Sunshine	242,989	7,266,582	543	Drilling	140	-90	0	635	5,790	57,400	6,780	96,600	20,700
SSAC01	Sunshine	242,989	7,266,582	543	Drilling	90	-90	0	244	1,610	15,300	1,800	25,550	5,250
SSAC01	Sunshine	242,989	7,266,582	543	Drilling	90	-90	0	243	1,590	15,300	1,800	25,400	5,310
SSAC01	Sunshine	242,989	7,266,582	543	Drilling	18	-90	0	86	405	4,050	520	6,950	1,320
SSAC01	Sunshine	242,989	7,266,582	543	Drilling	18	-90	0	88	410	4,090	540	7,000	1,350
SSAC01	Sunshine	242,989	7,266,582	543	Drilling	36	-90	0	55	200	2,130	300	3,450	660
SSAC06	Sunshine	249,574	7,268,965	545	Drilling	53	-90	0	366	5,030	48,400	4,780	83,150	16,900
SSAC13	Sunshine	258,504	7,271,068	540	Drilling	41	-90	0	392	4,390	43,600	3,580	74,050	11,500
SSAC13	Sunshine	258,504	7,271,068	540	Drilling	59	-90	0	392	4,320	42,600	3,530	73,350	11,500
SSAC14	Sunshine	257,922	7,274,721	536	Drilling	47	-90	0	585	6,480	73,700	6,990	123,950	19,200
SSAC15	Sunshine	257,617	7,275,041	533	Drilling	24	-90	0	505	6,050	69,200	6,290	114,350	19,400
SSAC15	Sunshine	257,617	7,275,041	533	Drilling	24	-90	0	511	6,130	68,900	6,300	114,150	19,500
SSAC15	Sunshine	257,617	7,275,041	533	Drilling	59	-90	0	702	5,610	65,700	6,030	107,000	17,100
SSAC18	Sunshine	261,062	7,276,002	540	Drilling	101	-90	0	755	5,640	67,100	6,520	112,900	16,500
SSAC18	Sunshine	261,062	7,276,002	540	Drilling	54	-90	0	766	5,580	66,000	6,530	111,500	16,200
SSAC18	Sunshine	261,062	7,276,002	540	Drilling	54	-90	0	768	5,550	66,200	6,530	111,550	15,900
SSAC18	Sunshine	261,062	7,276,002	540	Drilling	77	-90	0	760	5,590	66,900	6,550	113,450	16,300
SSAC19	Sunshine	264,078	7,276,655	538	Drilling	47	-90	0	652	4,360	50,200	4,280	82,100	14,000
SSAC21	Sunshine	248,414	7,269,423	541	Drilling	53	-90	0	640	6,000	51,600	5,240	88,600	19,300
SSAC22	Sunshine	248,258	7,269,820	540	Drilling	24	-90	0	1,100	2,780	23,800	3,270	44,500	9,450

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
SSAC22	Sunshine	248,258	7,269,820	540	Drilling	37	-90	0	1,080	2,800	24,300	3,300	43,950	9,360
SSAC25	Sunshine	255,111	7,272,747	540	Drilling	53	-90	0	547	7,560	76,300	7,470	132,200	21,500
SSAC42	Sunshine	249,756	7,269,754	534	Drilling	37	-90	0	448	3,740	33,700	3,680	58,100	11,900
SSAC034	Sunshine	241,523	7,265,061	558	Drilling	34	-90	0	83	400	3,600	480	6,050	1,290
SSAC034	Sunshine	241,523	7,265,061	558	Drilling	51	-90	0	89	470	4,510	600	7,600	1,500
SSAC034	Sunshine	241,523	7,265,061	558	Drilling	59	-90	0	87	555	5,210	680	8,800	1,860
SSAC034	Sunshine	241,523	7,265,061	558	Drilling	60	-90	0	88	610	5,530	730	9,450	2,010
SSAC035	Sunshine	242,796	7,266,865	544	Drilling	54	-90	0	408	2,360	16,600	1,770	30,350	7,200
SSAC035	Sunshine	242,796	7,266,865	544	Drilling	66	-90	0	264	1,460	10,700	1,160	18,500	4,560
SSAC036	Sunshine	244,151	7,267,248	547	Drilling	16	-90	0	1,040	2,790	32,300	4,460	55,050	12,200
SSAC036	Sunshine	244,151	7,267,248	547	Drilling	31	-90	0	1,040	3,170	35,500	5,000	61,550	12,900
SSAC036	Sunshine	244,151	7,267,248	547	Drilling	57	-90	0	1,040	3,320	35,300	5,050	62,450	13,100
SSAC036	Sunshine	244,151	7,267,248	547	Drilling	69	-90	0	1,020	3,260	35,800	5,030	63,500	13,200
SSAC038	Sunshine	244,516	7,267,313	543	Drilling	33	-90	0	998	3,740	41,000	5,820	70,700	16,000
SSAC038	Sunshine	244,516	7,267,313	543	Drilling	42	-90	0	998	3,660	41,200	5,770	70,350	15,500
SSAC038	Sunshine	244,516	7,267,313	543	Drilling	48	-90	0	998	3,810	40,600	5,810	70,900	15,500
SSAC038	Sunshine	244,516	7,267,313	543	Drilling	54	-90	0	969	4,040	43,000	6,190	74,800	16,400
SSAC038	Sunshine	244,516	7,267,313	543	Drilling	60	-90	0	960	4,070	42,500	6,110	75,150	16,200
SSAC038	Sunshine	244,516	7,267,313	543	Drilling	66	-90	0	928	4,020	43,000	6,060	74,050	16,100
SSAC039	Sunshine	244,090	7,267,920	544	Drilling	26	-90	0	567	1,830	17,500	2,310	30,700	7,110
SSAC040	Sunshine	244,854	7,269,177	538	Drilling	42	-90	0	415	2,100	16,000	1,880	29,450	6,570
SSAC041	Sunshine	244,170	7,269,767	540	Drilling	30	-90	0	65	245	1,820	210	2,950	780
SSAC042	Sunshine	244,308	7,269,452	539	Drilling	42	-90	0	28	65	690	130	1,100	270
SSAC042	Sunshine	244,308	7,269,452	539	Drilling	48	-90	0	62	265	2,280	290	3,900	900
SSAC042	Sunshine	244,308	7,269,452	539	Drilling	53	-90	0	382	2,810	22,600	2,670	40,050	9,420
SSAC043	Sunshine	245,717	7,269,914	539	Drilling	39	-90	0	414	1,560	11,300	1,320	20,200	5,100
SSAC043	Sunshine	245,717	7,269,914	539	Drilling	45	-90	0	497	1,090	7,940	940	13,850	3,870
SSAC043	Sunshine	245,717	7,269,914	539	Drilling	53	-90	0	883	4,630	38,700	4,910	67,350	14,500
SSAC044	Sunshine	245,953	7,269,783	538	Drilling	37	-90	0	1,290	3,080	24,500	3,320	45,700	8,940
SSAC044	Sunshine	245,953	7,269,783	538	Drilling	48	-90	0	1,240	3,230	25,300	3,490	48,150	9,510
SSAC044	Sunshine	245,953	7,269,783	538	Drilling	52	-90	0	1,260	3,250	25,600	3,530	46,900	9,660
SSAC044	Sunshine	245,953	7,269,783	538	Drilling	57	-90	0	1,240	3,230	25,300	3,510	48,500	9,480
SSAC044	Sunshine	245,953	7,269,783	538	Drilling	63	-90	0	1,250	3,310	26,700	3,580	49,200	9,810
SSAC044	Sunshine	245,953	7,269,783	538	Drilling	72	-90	0	1,200	3,510	28,300	3,800	52,200	10,700
SSAC044	Sunshine	245,953	7,269,783	538	Drilling	75	-90	0	1,190	3,560	29,400	3,820	52,900	10,900
SSAC045	Sunshine	245,949	7,269,526	538	Drilling	37	-90	0	1,240	3,250	27,700	3,730	51,150	10,400
SSAC045	Sunshine	245,949	7,269,526	538	Drilling	42	-90	0	1,240	3,260	27,800	3,750	50,950	10,700
SSAC045	Sunshine	245,949	7,269,526	538	Drilling	45	-90	0	1,240	3,260	27,700	3,790	51,150	10,700
SSAC046	Sunshine	247,863	7,269,882	541	Drilling	30	-90	0	1,150	3,050	24,500	3,340	45,350	10,100
SSAC046	Sunshine	247,863	7,269,882	541	Drilling	45	-90	0	1,150	2,950	24,400	3,210	43,750	9,690
SSAC046	Sunshine	247,863	7,269,882	541	Drilling	54	-90	0	1,080	2,850	23,500	3,130	43,050	9,510
SSAC047	Sunshine	247,043	7,269,910	537	Drilling	27	-90	0	1,060	2,890	21,400	2,650	38,450	9,810
SSAC047	Sunshine	247,043	7,269,910	537	Drilling	42	-90	0	1,020	3,100	22,700	2,820	41,250	10,200
SSAC047	Sunshine	247,043	7,269,910	537	Drilling	48	-90	0	770	4,850	38,800	4,660	70,200	14,800

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
SSAC048	Sunshine	247,442	7,270,641	536	Drilling	24	-90	0	620	2,420	18,800	2,250	33,850	7,410
SSAC048	Sunshine	247,442	7,270,641	536	Drilling	36	-90	0	503	1,930	15,100	1,770	27,350	5,880
SSAC048	Sunshine	247,442	7,270,641	536	Drilling	48	-90	0	540	2,100	16,300	1,960	29,800	6,540
SSAC048	Sunshine	247,442	7,270,641	536	Drilling	54	-90	0	637	3,310	27,100	3,200	49,050	10,400
SSAC049	Sunshine	247,162	7,271,081	540	Drilling	27	-90	0	386	1,640	12,200	1,220	21,850	5,130
SSAC049	Sunshine	247,162	7,271,081	540	Drilling	45	-90	0	426	2,050	15,300	1,620	28,050	6,540
SSAC049	Sunshine	247,162	7,271,081	540	Drilling	57	-90	0	539	3,020	23,100	2,340	40,550	9,720
SSAC049	Sunshine	247,162	7,271,081	540	Drilling	69	-90	0	612	6,130	48,800	5,390	88,700	19,100
SSAC050	Sunshine	247,579	7,270,288	536	Drilling	30	-90	0	1,070	4,710	39,900	5,480	73,700	13,900
SSAC050	Sunshine	247,579	7,270,288	536	Drilling	42	-90	0	1,020	4,800	41,100	5,540	76,900	14,100
SSAC050	Sunshine	247,579	7,270,288	536	Drilling	49	-90	0	1,030	4,810	40,300	5,580	76,550	14,500
SSAC051	Sunshine	261,751	7,276,749	537	Drilling	21	-90	0	487	2,830	27,200	2,880	49,050	7,470
SSAC051	Sunshine	261,751	7,276,749	537	Drilling	33	-90	0	478	3,010	31,600	3,180	54,850	8,190
SSAC051	Sunshine	261,751	7,276,749	537	Drilling	45	-90	0	525	3,350	32,800	3,450	60,300	9,090
SSAC051	Sunshine	261,751	7,276,749	537	Drilling	57	-90	0	617	4,530	47,200	4,860	85,350	13,300
SSAC051	Sunshine	261,751	7,276,749	537	Drilling	66	-90	0	543	3,660	37,900	3,860	69,150	10,700
SSAC052	Sunshine	261,875	7,276,513	541	Drilling	27	-90	0	456	2,820	26,800	2,700	49,050	7,560
SSAC052	Sunshine	261,875	7,276,513	541	Drilling	39	-90	0	605	3,790	38,800	4,140	71,600	9,870
SSAC053	Sunshine	261,850	7,276,277	539	Drilling	23	-90	0	519	3,200	30,600	3,060	55,400	8,790
SSAC054	Sunshine	261,639	7,276,962	538	Drilling	21	-90	0	205	1,270	14,100	1,420	24,100	3,750
SSAC054	Sunshine	261,639	7,276,962	538	Drilling	30	-90	0	351	2,300	22,800	2,110	37,200	6,810
SSAC054	Sunshine	261,639	7,276,962	538	Drilling	42	-90	0	321	2,090	20,800	1,960	36,000	6,180
SSAC054	Sunshine	261,639	7,276,962	538	Drilling	48	-90	0	349	2,300	21,800	2,100	37,500	6,810
SSAC054	Sunshine	261,639	7,276,962	538	Drilling	54	-90	0	318	2,080	21,000	1,970	35,200	6,330
SSAC054	Sunshine	261,639	7,276,962	538	Drilling	60	-90	0	300	1,970	19,800	1,860	33,800	5,880
SSAC054	Sunshine	261,639	7,276,962	538	Drilling	63	-90	0	309	2,040	20,300	1,940	34,800	6,180
SSAC055	Sunshine	258,203	7,273,609	530	Drilling	20	-90	0	652	6,790	71,500	6,510	127,000	18,300
SSAC055	Sunshine	258,203	7,273,609	530	Drilling	25	-90	0	635	6,920	71,800	6,600	128,000	18,600
SSAC055	Sunshine	258,203	7,273,609	530	Drilling	42	-90	0	629	6,940	74,400	6,690	129,000	18,500
SSAC055	Sunshine	258,203	7,273,609	530	Drilling	43	-90	0	622	7,130	76,200	6,750	133,000	18,800
SSAC056	Sunshine	258,327	7,273,538	530	Drilling	30	-90	0	685	6,580	62,300	5,640	111,000	17,700
SSAC056	Sunshine	258,327	7,273,538	530	Drilling	41	-90	0	623	6,110	62,200	5,400	104,000	16,900
SSAC057	Sunshine	258,497	7,273,430	530	Drilling	21	-90	0	661	5,520	53,600	4,620	92,100	16,100
SSAC057	Sunshine	258,497	7,273,430	530	Drilling	30	-90	0	629	6,450	59,500	5,160	103,000	18,300
SSAC057	Sunshine	258,497	7,273,430	530	Drilling	42	-90	0	601	6,040	56,100	4,950	98,200	16,700
SSAC057	Sunshine	258,497	7,273,430	530	Drilling	48	-90	0	559	4,700	45,200	4,420	77,200	13,800
SSAC057	Sunshine	258,497	7,273,430	530	Drilling	58	-90	0	573	4,510	42,900	3,850	75,000	13,100
SSAC057	Sunshine	258,497	7,273,430	530	Drilling	66	-90	0	533	4,780	46,300	4,100	79,200	13,400
SSAC057	Sunshine	258,497	7,273,430	530	Drilling	69	-90	0	523	4,560	42,500	3,930	76,500	12,700
SSAC058	Sunshine	261,455	7,277,135	539	Drilling	30	-90	0	227	1,360	12,100	1,100	20,500	4,080
SSAC058	Sunshine	261,455	7,277,135	539	Drilling	42	-90	0	234	1,410	12,800	1,150	21,200	4,170
SSAC058	Sunshine	261,455	7,277,135	539	Drilling	48	-90	0	226	1,320	11,900	1,090	20,100	3,870
SSAC058	Sunshine	261,455	7,277,135	539	Drilling	57	-90	0	224	1,330	11,900	1,090	20,100	3,900
SSAC058	Sunshine	261,455	7,277,135	539	Drilling	63	-90	0	405	2,550	25,800	2,570	44,800	7,620

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
SSAC058	Sunshine	261,455	7,277,135	539	Drilling	72	-90	0	723	5,190	59,100	6,210	101,000	15,300
SSAC059	Sunshine	248,075	7,269,537	540	Drilling	30	-90	0	784	2,510	19,800	2,300	34,400	8,490
SSAC059	Sunshine	248,075	7,269,537	540	Drilling	45	-90	0	678	3,090	24,800	2,720	43,700	10,100
SSAC059	Sunshine	248,075	7,269,537	540	Drilling	51	-90	0	741	3,720	30,600	3,290	52,000	12,400
SSAC059	Sunshine	248,075	7,269,537	540	Drilling	63	-90	0	666	4,730	40,700	4,280	70,200	15,300
SSAC059	Sunshine	248,075	7,269,537	540	Drilling	68	-90	0	562	6,860	60,100	6,160	104,000	21,500
SSAC060	Sunshine	246,645	7,270,336	536	Drilling	30	-90	0	1,060	3,670	30,300	3,750	54,100	11,200
SSAC060	Sunshine	246,645	7,270,336	536	Drilling	42	-90	0	830	4,720	40,000	4,820	71,600	14,000
SSAC060	Sunshine	246,645	7,270,336	536	Drilling	48	-90	0	796	5,280	44,600	5,370	80,800	15,900
SSAC060	Sunshine	246,645	7,270,336	536	Drilling	57	-90	0	835	3,670	31,700	3,730	54,500	11,100
SSAC060	Sunshine	246,645	7,270,336	536	Drilling	63	-90	0	838	3,820	31,400	3,850	57,300	11,300
SSAC061	Sunshine	245,574	7,269,996	539	Drilling	24	-90	0	355	420	3,000	330	5,050	1,800
SSAC061	Sunshine	245,574	7,269,996	539	Drilling	39	-90	0	218	545	4,050	440	6,650	1,740
SSAC061	Sunshine	245,574	7,269,996	539	Drilling	45	-90	0	603	3,970	34,400	3,730	59,800	13,100
SSAC061	Sunshine	245,574	7,269,996	539	Drilling	51	-90	0	649	4,360	37,500	4,220	66,100	14,300
SSAC061	Sunshine	245,574	7,269,996	539	Drilling	66	-90	0	698	4,780	42,000	4,760	70,500	16,600
SSAC062	Sunshine	249,314	7,269,793	530	Drilling	18	-90	0	985	3,270	29,200	3,780	52,700	10,400
SSAC062	Sunshine	249,314	7,269,793	530	Drilling	30	-90	0	473	6,810	65,700	7,160	112,000	23,300
SSAC062	Sunshine	249,314	7,269,793	530	Drilling	36	-90	0	436	7,010	68,200	7,620	120,000	23,400
SSAC062	Sunshine	249,314	7,269,793	530	Drilling	42	-90	0	417	7,360	76,100	8,320	128,000	24,800
SSAC062	Sunshine	249,314	7,269,793	530	Drilling	48	-90	0	403	7,350	74,500	8,480	131,000	24,600
SSAC062	Sunshine	249,314	7,269,793	530	Drilling	53	-90	0	412	7,440	75,300	8,680	133,000	24,900
SSAC064	Sunshine	242,691	7,267,055	552	Drilling	30	-90	0	77	310	2,510	310	3,750	900
SSAC064	Sunshine	242,691	7,267,055	552	Drilling	42	-90	0	78	325	2,660	330	4,150	990
SSAC064	Sunshine	242,691	7,267,055	552	Drilling	57	-90	0	359	3,200	26,700	3,080	45,700	10,500
SSAC064	Sunshine	242,691	7,267,055	552	Drilling	63	-90	0	373	3,360	27,900	3,190	46,400	11,000
SSAC064	Sunshine	242,691	7,267,055	552	Drilling	68	-90	0	358	3,320	28,700	3,210	47,300	11,000
SSAC065	Sunshine	243,925	7,265,471	547	Drilling	36	-90	0	137	740	6,440	710	10,800	2,130
SSAC065	Sunshine	243,925	7,265,471	547	Drilling	45	-90	0	166	970	8,060	870	13,800	2,850
SSAC065	Sunshine	243,925	7,265,471	547	Drilling	54	-90	0	324	2,090	16,800	1,650	27,700	6,240
SSAC065	Sunshine	243,925	7,265,471	547	Drilling	63	-90	0	434	2,840	22,200	2,230	37,600	8,520
SSAC065	Sunshine	243,925	7,265,471	547	Drilling	68	-90	0	548	3,570	27,200	2,710	46,900	10,900
SSAC066	Sunshine	243,390	7,266,181	545	Drilling	18	-90	0	113	365	3,720	460	5,900	1,560
SSAC066	Sunshine	243,390	7,266,181	545	Drilling	36	-90	0	87	300	2,490	330	4,050	900
SSAC066	Sunshine	243,390	7,266,181	545	Drilling	60	-90	0	151	655	5,530	640	9,000	2,100
SSAC066	Sunshine	243,390	7,266,181	545	Drilling	65	-90	0	135	570	4,710	550	7,850	1,830
SSAC067	Sunshine	248,265	7,270,148	541	Drilling	27	-90	0	1,010	3,520	31,700	3,940	54,700	10,900
SSAC067	Sunshine	248,265	7,270,148	541	Drilling	33	-90	0	938	3,930	35,200	4,220	61,400	12,200
SSAC067	Sunshine	248,265	7,270,148	541	Drilling	38	-90	0	928	4,040	34,800	4,240	60,000	12,200
SSAC068	Sunshine	248,198	7,270,409	542	Drilling	21	-90	0	714	2,990	22,900	2,580	40,400	8,640
SSAC068	Sunshine	248,198	7,270,409	542	Drilling	30	-90	0	864	3,630	29,000	3,260	50,800	10,700
SSAC069	Sunshine	256,883	7,273,184	534	Drilling	33	-90	0	675	5,980	66,700	6,750	118,000	18,000
SSAC069	Sunshine	256,883	7,273,184	534	Drilling	45	-90	0	663	6,210	70,000	7,050	122,000	18,900
SSAC069	Sunshine	256,883	7,273,184	534	Drilling	47	-90	0	635	6,270	70,500	7,210	123,000	19,000

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
SSAC070	Sunshine	256,880	7,273,373	534	Drilling	33	-90	0	576	6,570	69,500	6,820	120,000	20,300
SSAC070	Sunshine	256,880	7,273,373	534	Drilling	45	-90	0	620	6,720	69,900	6,950	120,000	19,900
SSAC070	Sunshine	256,880	7,273,373	534	Drilling	47	-90	0	582	6,740	71,000	6,880	122,000	20,000
SSAC071	Sunshine	256,823	7,273,708	529	Drilling	24	-90	0	558	6,730	72,900	7,580	128,000	18,100
SSAC071	Sunshine	256,823	7,273,708	529	Drilling	36	-90	0	562	6,730	75,100	7,550	127,000	18,600
SSAC071	Sunshine	256,823	7,273,708	529	Drilling	42	-90	0	553	6,730	73,900	7,540	127,000	18,600
SSAC072	Sunshine	261,460	7,277,140	540	Drilling	24	-90	0	242	1,520	14,000	1,330	23,900	4,410
SSAC072	Sunshine	261,460	7,277,140	540	Drilling	51	-90	0	469	3,130	32,200	2,910	60,700	9,480
SSAC072	Sunshine	261,460	7,277,140	540	Drilling	53	-90	0	487	3,220	32,200	3,020	53,800	9,510
SSAC073	Sunshine	258,726	7,275,741	531	Drilling	18	-90	0	890	5,040	56,200	6,160	104,000	13,900
SSAC073	Sunshine	258,726	7,275,741	531	Drilling	27	-90	0	842	5,480	62,800	6,570	110,000	15,200
SSAC073	Sunshine	258,726	7,275,741	531	Drilling	39	-90	0	744	5,670	66,400	6,970	113,000	16,500
SSAC073	Sunshine	258,726	7,275,741	531	Drilling	40	-90	0	760	5,710	65,100	6,990	114,000	16,700
SSAC074	Sunshine	258,655	7,275,386	532	Drilling	13	-90	0	938	4,390	51,800	5,470	90,300	14,000
SSAC075	Sunshine	258,818	7,275,076	533	Drilling	15	-90	0	948	4,140	48,700	4,750	82,400	14,200
SSAC076	Sunshine	259,041	7,274,804	535	Drilling	26	-90	0	835	4,870	53,600	5,010	90,100	16,800
TMAC045	10 Mile	230,974	7,254,137	561	Drilling	30	-90	0	351	1,360	5,710	540	8,600	6,090
TMAC045	10 Mile	230,974	7,254,137	561	Drilling	46	-90	0	343	1,870	11,000	1,110	17,000	8,070
TMAC045	10 Mile	230,974	7,254,137	561	Drilling	51	-90	0	337	2,730	18,300	1,970	29,850	10,400
TMAC046	10 Mile	230,923	7,254,248	560	Drilling	21	-90	0	307	855	4,070	420	6,550	3,330
TMAC046	10 Mile	230,923	7,254,248	560	Drilling	56	-90	0	482	7,350	55,300	6,210	92,150	28,900
TMAC047	10 Mile	230,900	7,254,388	563	Drilling	54	-90	0	569	7,350	55,200	6,100	91,950	28,600
TMAC047	10 Mile	230,900	7,254,388	563	Drilling	60	-90	0	499	7,860	63,400	7,610	108,100	30,300
TMAC048	10 Mile	230,880	7,254,602	569	Drilling	54	-90	0	523	8,050	62,800	7,510	107,750	29,600
TMAC048	10 Mile	230,880	7,254,602	569	Drilling	65	-90	0	492	8,320	65,400	8,000	113,750	29,200
TMAC049	10 Mile	230,911	7,254,514	571	Drilling	54	-90	0	540	7,390	56,300	6,180	94,450	28,900
TMAC050	10 Mile	230,941	7,253,691	565	Drilling	63	-90	0	707	4,940	39,100	4,880	66,700	17,200
TMAC050	10 Mile	230,941	7,253,691	565	Drilling	68	-90	0	464	5,680	46,600	6,030	79,850	18,700
TMAC052	10 Mile	231,968	7,254,794	564	Drilling	48	-90	0	694	2,580	17,100	1,970	29,000	10,000
TMAC052	10 Mile	231,968	7,254,794	564	Drilling	57	-90	0	651	3,440	26,300	3,020	44,750	12,600
TMAC053	10 Mile	231,849	7,254,896	566	Drilling	60	-90	0	631	4,860	30,900	3,450	53,000	16,700
TMAC053	10 Mile	231,849	7,254,896	566	Drilling	78	-90	0	599	5,110	34,000	3,760	57,750	18,100
TMAC054	10 Mile	230,952	7,255,130	559	Drilling	66	-90	0	400	9,420	80,100	11,100	143,900	29,600
TMAC055	10 Mile	233,131	7,256,954	563	Drilling	0.5	-90	0	487	8,730	71,500	9,670	129,000	27,600
TMAC055	10 Mile	233,131	7,256,954	563	Drilling	23	-90	0	815	4,850	45,300	6,230	77,700	16,400
TMAC055	10 Mile	233,131	7,256,954	563	Drilling	60	-90	0	523	7,030	64,300	8,720	113,750	24,600
TMAC055	10 Mile	233,131	7,256,954	563	Drilling	75	-90	0	525	7,460	67,800	9,280	119,550	25,000
TMAC055	10 Mile	233,131	7,256,954	563	Drilling	81	-90	0	474	8,640	73,200	9,760	130,050	28,100
TMAC056	10 Mile	233,146	7,256,729	567	Drilling	59	-90	0	619	6,820	62,800	8,380	108,450	24,300
TMAC057	10 Mile	233,114	7,256,293	569	Drilling	69	-90	0	535	8,310	67,400	8,630	119,350	26,900
TMAC057	10 Mile	233,114	7,256,293	569	Drilling	78	-90	0	477	9,170	72,500	9,240	127,050	28,600
TMAC058	10 Mile	233,130	7,255,931	570	Drilling	66	-90	0	538	8,580	68,600	8,650	119,350	28,200
TMAC059	10 Mile	233,064	7,257,104	563	Drilling	72	-90	0	538	7,500	70,200	9,100	120,400	27,200
TMAC059	10 Mile	233,064	7,257,104	563	Drilling	78	-90	0	482	8,280	74,000	9,470	127,600	28,500

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
TMAC059	10 Mile	233,064	7,257,104	563	Drilling	85	-90	0	464	8,440	74,000	9,740	130,600	29,000
TMAC060	10 Mile	233,001	7,257,196	562	Drilling	57	-90	0	784	4,740	48,400	7,070	82,500	18,200
TMAC060	10 Mile	233,001	7,257,196	562	Drilling	67	-90	0	510	6,880	63,000	8,010	106,350	25,300
TMAC061	10 Mile	232,927	7,257,276	561	Drilling	57	-90	0	790	4,960	47,100	6,500	79,500	19,300
TMAC061	10 Mile	232,927	7,257,276	561	Drilling	66	-90	0	764	4,990	47,600	6,440	81,100	19,600
TMAC062	10 Mile	233,773	7,256,060	573	Drilling	70	-90	0	477	6,720	54,800	6,440	93,750	26,100
TMAC063	10 Mile	233,775	7,256,290	571	Drilling	57	-90	0	468	3,870	29,300	3,500	50,000	13,800
TMAC063	10 Mile	233,775	7,256,290	571	Drilling	69	-90	0	460	6,010	48,900	5,870	83,000	22,100
TMAC064	10 Mile	233,815	7,256,514	576	Drilling	67	-90	0	428	4,200	33,700	3,970	54,950	15,700
TMAC065	10 Mile	233,753	7,256,708	570	Drilling	68	-90	0	496	6,550	56,300	7,040	96,700	23,600
TMAC065	10 Mile	233,753	7,256,708	570	Drilling	74	-90	0	492	6,240	53,000	6,540	91,250	22,200
TMAC066	10 Mile	234,232	7,256,823	565	Drilling	60	-90	0	423	3,090	25,000	3,050	42,100	11,600
TMAC066	10 Mile	234,232	7,256,823	565	Drilling	72	-90	0	468	6,560	57,200	7,130	97,050	24,100
TMAC066	10 Mile	234,232	7,256,823	565	Drilling	77	-90	0	481	7,420	63,700	8,040	109,150	26,700
TMAC067	10 Mile	234,196	7,257,105	564	Drilling	69	-90	0	535	4,790	45,900	6,040	77,600	17,800
TMAC067	10 Mile	234,196	7,257,105	564	Drilling	70	-90	0	494	7,110	64,500	8,530	111,100	25,800
TMAC068	10 Mile	234,663	7,256,174	571	Drilling	65	-90	0	284	2,220	16,900	1,980	27,300	8,220
TMAC068	10 Mile	234,663	7,256,174	571	Drilling	73	-90	0	456	6,710	55,100	6,280	91,450	25,500
TMAC069	10 Mile	234,599	7,256,435	570	Drilling	60	-90	0	315	2,160	17,300	2,080	27,850	7,950
TMAC069	10 Mile	234,599	7,256,435	570	Drilling	69	-90	0	464	6,870	58,500	6,860	96,900	26,300
TMAC069	10 Mile	234,599	7,256,435	570	Drilling	72	-90	0	464	6,930	58,400	6,920	97,750	26,100
TMAC070	10 Mile	233,349	7,257,823	559	Drilling	60	-90	0	759	5,600	52,700	7,080	90,400	20,200
TMAC070	10 Mile	233,349	7,257,823	559	Drilling	64	-90	0	735	5,520	51,500	6,980	89,150	20,200
TMAC071	10 Mile	233,449	7,257,660	567	Drilling	57	-90	0	817	5,010	49,000	6,750	83,700	17,700
TMAC071	10 Mile	233,449	7,257,660	567	Drilling	67	-90	0	716	5,720	55,200	7,580	95,300	20,600
TMAC072	10 Mile	232,580	7,256,969	558	Drilling	51	-90	0	680	5,930	56,000	8,130	98,300	21,200
TMAC072	10 Mile	232,580	7,256,969	558	Drilling	69	-90	0	482	8,570	73,600	9,540	127,600	28,900
TMAC073	10 Mile	232,664	7,257,044	571	Drilling	51	-90	0	711	5,710	54,000	8,150	96,900	20,600
TMAC073	10 Mile	232,664	7,257,044	571	Drilling	63	-90	0	701	5,910	56,800	8,130	97,950	21,400
TMAC074	10 Mile	232,719	7,257,140	562	Drilling	56	-90	0	747	5,450	51,100	7,330	88,300	19,800
TMAC074	10 Mile	232,719	7,257,140	562	Drilling	63	-90	0	724	5,460	51,200	7,380	89,500	19,800
TMAC074	10 Mile	232,719	7,257,140	562	Drilling	69	-90	0	646	5,980	56,500	7,550	98,650	22,400
TMAC075	10 Mile	232,082	7,257,053	568	Drilling	54	-90	0	626	6,730	56,800	7,200	95,300	24,000
TMAC075	10 Mile	232,082	7,257,053	568	Drilling	66	-90	0	557	6,860	57,700	7,340	101,250	24,400
TMAC076	10 Mile	232,057	7,257,198	562	Drilling	55	-90	0	472	8,840	77,600	10,000	136,000	29,600
TMAC076	10 Mile	232,057	7,257,198	562	Drilling	60	-90	0	436	8,790	78,200	9,900	135,800	28,800
TMAC077	10 Mile	233,298	7,255,394	563	Drilling	56	-90	0	715	5,240	39,200	4,960	70,700	17,600
TMAC077	10 Mile	233,298	7,255,394	563	Drilling	61	-90	0	712	5,430	41,000	5,140	74,050	18,400
TMAC078a	10 Mile	232,870	7,255,294	558	Drilling	12	-90	0	795	5,770	50,000	6,740	90,300	19,100
TMAC078a	10 Mile	232,870	7,255,294	558	Drilling	36	-90	0	826	5,460	46,800	6,350	85,550	18,400
TMAC078a	10 Mile	232,870	7,255,294	558	Drilling	54	-90	0	829	5,610	49,100	6,550	87,500	19,200
TMAC078b	10 Mile	232,870	7,255,294	558	Drilling	6	-90	0	742	6,710	64,200	8,730	109,500	20,200
TMAC078b	10 Mile	232,870	7,255,294	558	Drilling	12	-90	0	551	8,200	79,200	10,900	137,200	23,200
TMAC078b	10 Mile	232,870	7,255,294	558	Drilling	16	-90	0	538	8,410	80,000	11,000	140,200	23,000

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
TMAC079	10 Mile	233,918	7,255,679	569	Drilling	58	-90	0	887	4,040	29,400	3,430	51,500	14,900
TMAC079	10 Mile	233,918	7,255,679	569	Drilling	62	-90	0	713	4,250	30,700	3,590	54,650	15,000
TMAC080	10 Mile	233,992	7,255,533	569	Drilling	53	-90	0	693	4,080	29,200	3,360	51,650	14,700
TMAC080	10 Mile	233,992	7,255,533	569	Drilling	59	-90	0	659	5,500	40,600	4,310	71,250	21,100
TMAC081	10 Mile	235,130	7,257,211	565	Drilling	59	-90	0	204	1,070	10,300	1,540	18,750	3,390
TMAC081	10 Mile	235,130	7,257,211	565	Drilling	74	-90	0	394	4,970	43,700	5,820	76,350	17,200
TMAC082	10 Mile	235,509	7,257,560	574	Drilling	59	-90	0	166	920	9,210	1,440	16,500	2,910
TMAC082	10 Mile	235,509	7,257,560	574	Drilling	71	-90	0	174	930	9,230	1,440	16,100	2,940
TMAC083	10 Mile	236,016	7,258,036	579	Drilling	37	-90	0	111	960	8,510	1,170	15,150	3,390
TMAC083	10 Mile	236,016	7,258,036	579	Drilling	81	-90	0	116	1,060	10,300	1,510	17,750	3,570
TMAC083	10 Mile	236,016	7,258,036	579	Drilling	82	-90	0	102	875	8,490	1,280	14,750	2,880
TMAC084	10 Mile	236,895	7,258,664	574	Drilling	39	-90	0	66	315	2,940	330	4,600	1,440
TMAC085	10 Mile	236,897	7,258,489	576	Drilling	31	-90	0	38	130	1,570	290	2,700	480
TMAC086	10 Mile	236,887	7,258,814	581	Drilling	27	-90	0	8	30	790	120	1,100	300
TMAC086	10 Mile	236,887	7,258,814	581	Drilling	30	-90	0	21	55	560	110	850	240
TMAC087	10 Mile	236,440	7,259,824	571	Drilling	27	-90	0	34	40	320	50	550	120
TMAC087	10 Mile	236,440	7,259,824	571	Drilling	57	-90	0	108	455	4,180	520	7,150	1,740
TMAC087	10 Mile	236,440	7,259,824	571	Drilling	66	-90	0	91	340	2,850	340	4,850	1,140
TMAC087	10 Mile	236,440	7,259,824	571	Drilling	69	-90	0	122	480	3,580	410	6,300	1,500
TMAC088	10 Mile	235,789	7,256,956	571	Drilling	36	-90	0	142	820	9,010	1,220	14,300	3,060
TMAC088	10 Mile	235,789	7,256,956	571	Drilling	66	-90	0	400	5,200	46,600	5,540	77,100	19,100
TMAC088	10 Mile	235,789	7,256,956	571	Drilling	70	-90	0	450	6,110	54,600	6,490	89,200	21,900
TMAC089	10 Mile	233,177	7,257,963	560	Drilling	33	-90	0	733	5,510	50,600	6,830	87,100	20,100
TMAC089	10 Mile	233,177	7,257,963	560	Drilling	51	-90	0	754	5,420	50,400	6,620	85,400	20,100
TMAC089	10 Mile	233,177	7,257,963	560	Drilling	59	-90	0	761	5,190	48,800	6,230	80,200	19,600
TMAC090	10 Mile	233,099	7,258,086	561	Drilling	33	-90	0	716	5,360	49,700	6,580	84,100	20,000
TMAC090	10 Mile	233,099	7,258,086	561	Drilling	51	-90	0	733	5,390	49,200	6,580	84,500	20,200
TMAC090	10 Mile	233,099	7,258,086	561	Drilling	59	-90	0	721	5,120	44,900	6,130	78,700	18,800
TMAC091	10 Mile	233,079	7,258,222	563	Drilling	36	-90	0	713	5,400	49,500	6,560	84,300	20,300
TMAC091	10 Mile	233,079	7,258,222	563	Drilling	48	-90	0	697	5,460	49,900	6,640	84,100	20,300
TMAC091	10 Mile	233,079	7,258,222	563	Drilling	61	-90	0	698	5,510	50,600	6,600	83,800	20,000
TMAC091	10 Mile	233,079	7,258,222	563	Drilling	65	-90	0	688	5,340	49,500	6,590	83,800	19,700
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	12	-90	0	703	5,630	58,300	9,180	106,000	19,000
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	39	-90	0	724	5,500	59,200	9,110	105,000	18,700
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	42	-90	0	790	4,770	49,200	7,020	85,400	15,600
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	45	-90	0	714	5,570	61,300	9,180	105,000	18,700
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	51	-90	0	732	5,330	56,600	8,810	101,000	18,200
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	54	-90	0	683	5,150	55,000	8,280	95,200	17,600
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	57	-90	0	707	5,070	55,000	8,280	95,800	17,500
TMAC092	10 Mile	233,896	7,257,855	557	Drilling	64	-90	0	702	5,060	53,200	8,150	93,100	17,000
TMAC093	10 Mile	233,759	7,257,611	556	Drilling	18	-90	0	809	5,050	51,000	7,500	90,700	16,800
TMAC093	10 Mile	233,759	7,257,611	556	Drilling	30	-90	0	785	4,750	47,700	7,020	85,400	16,200
TMAC093	10 Mile	233,759	7,257,611	556	Drilling	60	-90	0	781	4,730	48,600	7,060	83,800	16,100
TMAC093	10 Mile	233,759	7,257,611	556	Drilling	68	-90	0	621	5,940	56,800	8,150	101,000	20,800

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay Ca (mg/L)	Mg	Na	K	Cl	SO_4
TMAC094	10 Mile	233,967	7,257,182	558	Drilling	33	-90	0	642	4,660	43,000	5,480	71,400	16,400
TMAC094	10 Mile	233,967	7,257,182	558	Drilling	51	-90	0	653	4,820	44,600	5,730	76,400	17,700
TMAC094	10 Mile	233,967	7,257,182	558	Drilling	63	-90	0	641	4,530	42,000	5,420	71,100	16,500
TMAC094	10 Mile	233,967	7,257,182	558	Drilling	69	-90	0	549	5,990	55,000	7,330	95,100	21,100
TMAC094	10 Mile	233,967	7,257,182	558	Drilling	75	-90	0	478	7,480	68,500	8,830	117,000	25,900
TMAC094	10 Mile	233,967	7,257,182	558	Drilling	84	-90	0	477	7,540	67,500	8,870	117,000	26,000
TMAC094	10 Mile	233,967	7,257,182	558	Drilling	86	-90	0	473	7,660	68,200	9,010	118,000	26,800
TMAC095	10 Mile	234,364	7,257,242	565	Drilling	53	-90	0	564	3,300	32,300	4,820	56,550	12,100
TMAC095	10 Mile	234,364	7,257,242	565	Drilling	69	-90	0	553	3,960	38,800	5,580	66,850	14,500
TMAC095	10 Mile	234,364	7,257,242	565	Drilling	72	-90	0	552	5,010	47,400	6,710	81,350	18,100
TMAC095	10 Mile	234,364	7,257,242	565	Drilling	73	-90	0	536	5,170	48,800	6,950	84,800	18,800
TMAC096	10 Mile	232,893	7,255,522	560	Drilling	36	-90	0	851	5,150	41,500	5,320	72,600	18,100
TMAC096	10 Mile	232,893	7,255,522	560	Drilling	43	-90	0	723	6,510	54,000	7,360	97,200	20,400
TMAC096	10 Mile	232,893	7,255,522	560	Drilling	54	-90	0	850	5,040	40,000	5,290	71,900	17,400
TMAC096	10 Mile	232,893	7,255,522	560	Drilling	58	-90	0	822	5,290	43,200	5,830	77,650	17,900
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	21	-90	0	378	995	10,000	1,540	17,800	3,660
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	30	-90	0	694	3,790	38,800	5,870	66,500	13,500
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	39	-90	0	671	3,690	37,200	5,660	65,650	13,200
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	48	-90	0	625	3,480	36,200	5,420	61,800	12,200
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	57	-90	0	633	3,520	36,200	5,500	63,000	12,500
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	66	-90	0	635	3,520	36,400	5,490	62,850	12,500
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	72	-90	0	536	6,990	65,000	9,190	111,200	25,500
TMAC097	10 Mile	234,219	7,257,373	561	Drilling	79	-90	0	518	7,300	66,300	9,400	115,350	26,000
TMAC098	10 Mile	234,512	7,257,886	563	Drilling	34	-90	0	559	3,470	37,200	5,620	66,150	13,100
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	18	-90	0	178	815	8,310	1,130	13,450	3,030
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	30	-90	0	313	2,500	21,700	2,800	36,300	9,330
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	42	-90	0	350	2,960	25,200	3,140	41,900	11,200
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	54	-90	0	317	2,670	23,300	2,950	38,200	9,930
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	63	-90	0	238	1,860	17,700	2,370	29,850	7,320
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	72	-90	0	313	3,340	30,500	4,340	52,900	11,700
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	78	-90	0	423	5,640	51,200	7,210	89,200	19,600
TMAC099	10 Mile	234,853	7,257,549	561	Drilling	81	-90	0	475	7,730	64,900	9,380	117,800	26,400
TMAC100	10 Mile	235,369	7,257,744	565	Drilling	21	-90	0	135	790	8,510	1,350	15,550	2,520
TMAC100	10 Mile	235,369	7,257,744	565	Drilling	30	-90	0	168	980	10,500	1,560	16,750	3,330
TMAC101	10 Mile	233,185	7,255,793	561	Drilling	24	-90	0	758	6,050	49,000	6,430	84,300	20,300
TMAC101	10 Mile	233,185	7,255,793	561	Drilling	36	-90	0	760	5,700	47,200	6,170	81,000	19,400
TMAC101	10 Mile	233,185	7,255,793	561	Drilling	45	-90	0	771	5,840	48,100	6,260	81,000	20,000
TMAC101	10 Mile	233,185	7,255,793	561	Drilling	54	-90	0	891	4,900	41,300	5,440	68,750	17,400
TMAC101	10 Mile	233,185	7,255,793	561	Drilling	60	-90	0	348	6,240	49,100	6,210	84,150	20,800
TMAC101	10 Mile	233,185	7,255,793	561	Drilling	63	-90	0	436	9,460	73,700	9,700	128,300	30,300
TMAC102	10 Mile	233,303	7,255,628	558	Drilling	53	-90	0	475	8,890	69,400	8,970	120,800	28,900
TMAC102	10 Mile	233,303	7,255,628	558	Drilling	57	-90	0	442	7,660	60,000	7,700	105,750	25,200
TMAC102	10 Mile	233,303	7,255,628	558	Drilling	69	-90	0	478	8,770	70,500	8,840	121,500	29,200
TMAC103	10 Mile	233,489	7,255,597	558	Drilling	27	-90	0	762	4,320	34,000	4,440	59,000	15,300

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
TMAC103	10 Mile	233,489	7,255,597	558	Drilling	36	-90	0	736	4,230	33,300	4,260	57,050	15,300
TMAC103	10 Mile	233,489	7,255,597	558	Drilling	45	-90	0	736	3,990	31,600	4,130	54,100	14,500
TMAC103	10 Mile	233,489	7,255,597	558	Drilling	54	-90	0	711	3,990	31,900	4,110	55,350	14,400
TMAC103	10 Mile	233,489	7,255,597	558	Drilling	57	-90	0	725	4,030	32,100	4,180	54,300	15,200
TMAC103	10 Mile	233,489	7,255,597	558	Drilling	63	-90	0	660	5,260	41,500	5,350	72,250	18,600
TMAC103	10 Mile	233,489	7,255,597	558	Drilling	67	-90	0	641	5,720	45,000	5,820	78,200	19,600
TMAC104	10 Mile	233,215	7,254,356	569	Drilling	27	-90	0	608	7,430	70,000	9,290	118,700	23,400
TMAC104	10 Mile	233,215	7,254,356	569	Drilling	36	-90	0	644	7,010	66,000	8,780	112,600	22,400
TMAC104	10 Mile	233,215	7,254,356	569	Drilling	45	-90	0	632	7,260	68,500	9,020	113,800	23,300
TMAC104	10 Mile	233,215	7,254,356	569	Drilling	54	-90	0	604	7,180	65,300	9,040	114,850	22,700
TMAC104	10 Mile	233,215	7,254,356	569	Drilling	60	-90	0	539	8,070	70,200	9,430	121,300	25,400
TMAC105	10 Mile	233,514	7,255,223	570	Drilling	48	-90	0	924	3,900	33,000	4,460	58,450	14,300
TMAC105	10 Mile	233,514	7,255,223	570	Drilling	57	-90	0	990	3,790	34,000	4,300	57,050	13,900
TMAC105	10 Mile	233,514	7,255,223	570	Drilling	65	-90	0	978	3,900	35,200	4,440	59,500	14,300
TMAC106	10 Mile	233,651	7,254,433	567	Drilling	39	-90	0	682	4,300	36,700	4,710	63,350	14,800
TMAC106	10 Mile	233,651	7,254,433	567	Drilling	48	-90	0	683	6,980	57,100	7,510	97,050	22,400
TMAC106	10 Mile	233,651	7,254,433	567	Drilling	54	-90	0	617	7,430	60,200	8,190	106,100	24,400
TMAC107	10 Mile	233,785	7,254,077	567	Drilling	21	-90	0	932	4,530	39,600	5,010	67,200	16,200
TMAC107	10 Mile	233,785	7,254,077	567	Drilling	30	-90	0	931	4,460	39,400	4,970	67,900	16,100
TMAC107	10 Mile	233,785	7,254,077	567	Drilling	39	-90	0	930	4,560	39,500	5,100	68,250	16,400
TMAC107	10 Mile	233,785	7,254,077	567	Drilling	48	-90	0	698	6,500	52,200	6,770	90,250	21,900
TMAC107	10 Mile	233,785	7,254,077	567	Drilling	51	-90	0	688	6,720	52,500	6,980	93,050	23,200
TMAC108	10 Mile	233,885	7,253,028	567	Drilling	21	-90	0	946	3,600	29,100	3,580	48,350	13,500
TMAC108	10 Mile	233,885	7,253,028	567	Drilling	33	-90	0	1,000	3,270	26,600	3,340	45,550	12,500
TMAC108	10 Mile	233,885	7,253,028	567	Drilling	42	-90	0	898	4,030	31,000	3,960	53,950	15,200
TMAC108	10 Mile	233,885	7,253,028	567	Drilling	51	-90	0	907	3,830	28,900	3,820	52,350	14,300
TMAC108	10 Mile	233,885	7,253,028	567	Drilling	57	-90	0	884	4,230	31,600	4,180	59,700	15,500
TMAC108	10 Mile	233,885	7,253,028	567	Drilling	63	-90	0	897	4,220	32,400	4,260	57,050	15,500
TMAC109	10 Mile	233,831	7,252,726	567	Drilling	30	-90	0	959	3,390	26,500	3,420	47,450	12,800
TMAC109	10 Mile	233,831	7,252,726	567	Drilling	39	-90	0	958	3,320	26,400	3,370	45,900	12,500
TMAC109	10 Mile	233,831	7,252,726	567	Drilling	48	-90	0	950	3,300	25,700	3,360	46,450	12,500
TMAC109	10 Mile	233,831	7,252,726	567	Drilling	57	-90	0	946	3,300	25,700	3,340	46,450	12,400
TMAC109	10 Mile	233,831	7,252,726	567	Drilling	66	-90	0	956	3,250	25,900	3,280	45,200	12,200
TMAC109	10 Mile	233,831	7,252,726	567	Drilling	75	-90	0	934	3,230	25,900	3,310	45,750	12,300
TMAC110	10 Mile	234,789	7,256,052	584	Drilling	30	-90	0	325	2,730	17,600	2,070	29,850	10,600
TMAC110	10 Mile	234,789	7,256,052	584	Drilling	39	-90	0	280	2,200	15,500	1,850	25,150	8,490
TMAC110	10 Mile	234,789	7,256,052	584	Drilling	48	-90	0	268	2,120	15,000	1,810	24,800	8,040
TMAC110	10 Mile	234,789	7,256,052	584	Drilling	57	-90	0	280	2,320	16,000	1,890	26,200	8,880
TMAC110	10 Mile	234,789	7,256,052	584	Drilling	66	-90	0	298	2,450	16,300	1,970	27,600	9,420
TMAC110	10 Mile	234,789	7,256,052	584	Drilling	75	-90	0	439	6,390	48,900	6,020	86,200	25,100
TMAC110	10 Mile	234,789	7,256,052	584	Drilling	79	-90	0	432	6,300	50,100	5,940	86,550	24,900
TMAC111	10 Mile	235,568	7,256,813	575	Drilling	30	-90	0	127	600	6,950	980	11,350	2,250
TMAC111	10 Mile	235,568	7,256,813	575	Drilling	39	-90	0	131	790	8,530	1,150	13,600	3,060
TMAC111	10 Mile	235,568	7,256,813	575	Drilling	48	-90	0	120	665	7,240	1,040	10,800	2,550

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
TMAC111	10 Mile	235,568	7,256,813	575	Drilling	57	-90	0	112	620	7,060	990	11,000	2,460
TMAC111	10 Mile	235,568	7,256,813	575	Drilling	66	-90	0	231	2,510	22,100	2,830	37,000	9,360
TMAC112	10 Mile	236,494	7,259,574	572	Drilling	18	-90	0	32	45	440	140	800	210
TMAC112	10 Mile	236,494	7,259,574	572	Drilling	27	-90	0	96	210	1,030	130	1,950	360
TMAC112	10 Mile	236,494	7,259,574	572	Drilling	36	-90	0	106	295	2,270	280	3,900	750
TMAC112	10 Mile	236,494	7,259,574	572	Drilling	48	-90	0	140	610	4,660	510	7,850	1,890
TMAC112	10 Mile	236,494	7,259,574	572	Drilling	57	-90	0	173	985	7,450	760	12,350	3,180
TMAC112	10 Mile	236,494	7,259,574	572	Drilling	62	-90	0	186	1,150	8,760	900	14,750	3,690
TMAC113	10 Mile	236,211	7,260,316	567	Drilling	24	-90	0	37	40	320	50	500	90
TMAC113	10 Mile	236,211	7,260,316	567	Drilling	33	-90	0	84	180	1,510	200	2,500	450
TMAC113	10 Mile	236,211	7,260,316	567	Drilling	42	-90	0	56	115	880	110	1,400	300
TMAC113	10 Mile	236,211	7,260,316	567	Drilling	51	-90	0	57	110	810	100	1,350	270
TMAC113	10 Mile	236,211	7,260,316	567	Drilling	58	-90	0	61	120	870	100	1,450	360
TMAC115	10 Mile	234,139	7,257,618	560	Drilling	15	-90	0	736	4,060	42,900	6,740	77,150	14,500
TMAC115	10 Mile	234,139	7,257,618	560	Drilling	48	-90	0	669	3,710	39,200	6,180	68,250	13,200
TMAC115	10 Mile	234,139	7,257,618	560	Drilling	57	-90	0	580	3,210	33,100	5,350	59,350	10,900
TMAC115	10 Mile	234,139	7,257,618	560	Drilling	63	-90	0	583	3,260	34,000	5,460	59,850	11,300
TMAC115	10 Mile	234,139	7,257,618	560	Drilling	66	-90	0	676	4,670	46,400	7,250	83,250	16,400
TMAC115	10 Mile	234,139	7,257,618	560	Drilling	72	-90	0	571	6,460	60,200	8,860	106,100	22,900
TMAC115	10 Mile	234,139	7,257,618	560	Drilling	76	-90	0	553	6,300	58,700	8,910	106,100	22,700
TMAC116	10 Mile	233,377	7,258,633	563	Drilling	15	-90	0	597	3,930	38,700	5,240	63,600	14,800
TMAC116	10 Mile	233,377	7,258,633	563	Drilling	27	-90	0	715	4,900	47,600	6,510	79,600	18,500
TMAC116	10 Mile	233,377	7,258,633	563	Drilling	36	-90	0	717	5,040	49,300	6,780	81,900	19,200
TMAC116	10 Mile	233,377	7,258,633	563	Drilling	48	-90	0	707	5,060	49,100	6,860	82,950	18,900
TMAC116	10 Mile	233,377	7,258,633	563	Drilling	57	-90	0	645	5,620	54,500	7,540	91,050	20,300
TMAC116	10 Mile	233,377	7,258,633	563	Drilling	63	-90	0	636	5,770	56,400	7,690	94,750	21,100
TMAC117	10 Mile	232,270	7,258,638	561	Drilling	21	-90	0	836	4,200	44,600	6,560	73,650	16,600
TMAC117	10 Mile	232,270	7,258,638	561	Drilling	39	-90	0	864	3,860	41,200	6,090	68,200	15,600
TMAC117	10 Mile	232,270	7,258,638	561	Drilling	48	-90	0	847	3,900	42,000	6,210	69,400	15,900
TMAC117	10 Mile	232,270	7,258,638	561	Drilling	57	-90	0	880	3,830	41,100	6,070	66,950	15,800
TMAC118	10 Mile	232,151	7,258,230	560	Drilling	30	-90	0	889	4,060	43,800	6,540	71,900	16,200
TMAC118	10 Mile	232,151	7,258,230	560	Drilling	39	-90	0	940	3,710	38,800	5,940	65,200	14,800
TMAC118	10 Mile	232,151	7,258,230	560	Drilling	48	-90	0	922	3,940	42,400	6,300	69,600	16,000
TMAC118	10 Mile	232,151	7,258,230	560	Drilling	54	-90	0	930	3,840	41,500	6,180	68,700	15,700
TMAC118	10 Mile	232,151	7,258,230	560	Drilling	70	-90	0	601	7,050	68,100	9,250	111,400	25,100
TMAC119	10 Mile	232,106	7,257,727	560	Drilling	9	-90	0	849	4,230	40,300	5,560	67,150	17,000
TMAC119	10 Mile	232,106	7,257,727	560	Drilling	18	-90	0	780	5,100	47,100	6,660	78,900	19,800
TMAC119	10 Mile	232,106	7,257,727	560	Drilling	27	-90	0	927	3,640	35,400	5,150	59,400	14,700
TMAC119	10 Mile	232,106	7,257,727	560	Drilling	36	-90	0	933	3,540	34,200	5,020	58,350	14,500
TMAC119	10 Mile	232,106	7,257,727	560	Drilling	45	-90	0	926	3,600	34,100	5,030	57,450	14,400
TMAC119	10 Mile	232,106	7,257,727	560	Drilling	54	-90	0	841	4,060	38,100	5,550	64,850	16,200
TMAC119	10 Mile	232,106	7,257,727	560	Drilling	65	-90	0	797	4,470	42,500	6,010	71,550	17,400
TMAC120	10 Mile	232,072	7,257,356	560	Drilling	12	-90	0	579	6,750	58,200	7,830	100,200	25,300
TMAC120	10 Mile	232,072	7,257,356	560	Drilling	45	-90	0	634	6,460	56,700	7,730	95,600	24,200

Point Reference	Location	Easting	Northing	RL (m)	Description	Depth (m)	Dip	Azimuth	Assay					
									Ca	Mg	Na	K	Cl	SO_4
									mg/L					
TMAC120	10 Mile	232,072	7,257,356	560	Drilling	54	-90	0	507	7,180	64,100	8,550	106,350	26,600
TMAC120	10 Mile	232,072	7,257,356	560	Drilling	67	-90	0	463	8,040	72,100	9,610	122,150	28,300
TMAC121	10 Mile	232,070	7,257,494	560	Drilling	15	-90	0	598	6,460	57,700	7,800	96,300	24,500
TMAC121	10 Mile	232,070	7,257,494	560	Drilling	24	-90	0	643	5,660	50,700	6,930	85,750	22,100
TMAC121	10 Mile	232,070	7,257,494	560	Drilling	33	-90	0	509	6,570	58,300	8,060	100,200	24,800
TMAC121	10 Mile	232,070	7,257,494	560	Drilling	42	-90	0	550	6,390	57,400	7,810	97,900	24,200
TMAC121	10 Mile	232,070	7,257,494	560	Drilling	51	-90	0	553	6,450	58,000	7,850	97,000	23,900
TMAC121	10 Mile	232,070	7,257,494	560	Drilling	60	-90	0	491	7,450	66,600	9,020	114,250	27,200
TMAC121	10 Mile	232,070	7,257,494	560	Drilling	66	-90	0	508	7,150	64,000	8,730	110,700	25,800
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	18	-90	0	670	5,840	56,900	8,400	95,950	24,200
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	27	-90	0	781	4,840	49,200	7,100	79,450	20,300
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	36	-90	0	713	5,480	53,300	7,830	90,000	22,600
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	45	-90	0	690	5,260	53,600	7,640	85,950	22,100
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	57	-90	0	652	5,570	53,900	7,910	91,050	22,200
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	66	-90	0	671	5,470	53,400	7,810	89,300	22,100
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	81	-90	0	660	5,510	54,800	8,000	91,400	22,800
TMAC122	10 Mile	231,295	7,258,994	560	Drilling	93	-90	0	716	5,450	53,500	7,800	89,650	22,100
TMAC123	10 Mile	231,403	7,259,277	560	Drilling	30	-90	0	760	5,190	49,200	6,770	80,150	21,700
TMAC123	10 Mile	231,403	7,259,277	560	Drilling	51	-90	0	611	5,410	51,300	7,090	84,000	21,500
TMAC124	10 Mile	229,145	7,259,074	560	Drilling	18	-90	0	626	5,300	52,000	7,560	88,050	21,400
TMAC124	10 Mile	229,145	7,259,074	560	Drilling	30	-90	0	598	5,470	53,800	7,670	88,600	22,000
TMAC124	10 Mile	229,145	7,259,074	560	Drilling	43	-90	0	589	5,440	53,600	7,690	90,850	22,400
TMAC124	10 Mile	229,145	7,259,074	560	Drilling	51	-90	0	594	5,460	53,300	7,680	89,800	22,600
TMAC124	10 Mile	229,145	7,259,074	560	Drilling	60	-90	0	569	5,600	54,700	7,840	91,400	22,600
TMAC125	10 Mile	228,869	7,258,856	560	Drilling	9	-90	0	567	5,520	52,100	7,040	88,050	19,900
TMAC125	10 Mile	228,869	7,258,856	560	Drilling	18	-90	0	498	5,960	56,600	7,960	94,050	24,500
TMAC125	10 Mile	228,869	7,258,856	560	Drilling	30	-90	0	525	6,010	56,600	7,850	94,550	23,600
TMAC125	10 Mile	228,869	7,258,856	560	Drilling	39	-90	0	554	5,670	53,100	7,300	90,500	21,100
TMAC125	10 Mile	228,869	7,258,856	560	Drilling	60	-90	0	550	5,880	54,000	7,550	92,250	22,300
TMAC126	10 Mile	232,991	7,259,949	564	Drilling	18	-90	0	431	3,340	30,000	3,700	49,200	12,800
TMAC126	10 Mile	232,991	7,259,949	564	Drilling	39	-90	0	337	2,790	25,600	3,200	42,000	10,500
TMAC126	10 Mile	232,991	7,259,949	564	Drilling	57	-90	0	336	2,730	25,000	3,120	41,300	10,300
TMAC126	10 Mile	232,991	7,259,949	564	Drilling	70	-90	0	419	3,860	34,800	4,460	60,650	14,000
TMAC127	10 Mile	258,721	7,275,738	564	Drilling	24	-90	0	420	3,470	28,900	3,180	46,800	13,900
TMAC127	10 Mile	258,721	7,275,738	564	Drilling	48	-90	0	407	3,490	28,700	3,310	47,800	13,900
TMAC127	10 Mile	258,721	7,275,738	564	Drilling	63	-90	0	460	4,510	40,500	4,810	66,150	17,100

APPENDIX 3: AUGER HOLE ASSAYS AND DETAILS

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
10 Mile	B1	230,925	7,255,738	563	2015_Auger	2015	-90	0	0.25	<1.5m	699	7,180	57,800	7,660	120,000	21,504
10 Mile	B2	233,648	7,257,946	563	2015_Auger	2015	-90	0	0.25	<1.5m	1,080	2,470	32,100	5,380	56,100	11,441
10 Mile	32	230,000	7,258,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	785	4,390	46,700	7,470	79,500	19,677
10 Mile	33	231,000	7,259,500	565	2015_Auger	2015	-90	0	0.25	<1.5m	816	4,010	36,700	5,310	63,300	18,509
10 Mile	34	231,000	7,258,500	561	2015_Auger	2015	-90	0	0.25	<1.5m	776	4,490	48,400	8,450	84,400	19,827
10 Mile	35	231,000	7,257,500	562	2015_Auger	2015	-90	0	0.25	<1.5m	463	6,730	73,000	11,000	133,000	26,745
10 Mile	36	231,000	7,256,500	562	2015_Auger	2015	-90	0	0.25	<1.5m	513	6,750	70,800	10,650	127,000	26,431
10 Mile	43	232,000	7,259,500	564	2015_Auger	2015	-90	0	0.25	<1.5m	936	4,100	45,100	7,400	84,000	15,904
10 Mile	44	232,000	7,258,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	839	3,880	40,000	6,240	68,500	17,072
10 Mile	45	232,000	7,257,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	1,000	2,820	31,300	4,920	53,400	12,579
10 Mile	46	232,000	7,256,500	561	2015_Auger	2015	-90	0	0.25	<1.5m	537	7,650	67,200	10,000	125,000	24,889
10 Mile	47	232,000	7,255,500	564	2015_Auger	2015	-90	0	0.25	<1.5m	832	5,180	39,100	5,200	68,400	18,958
10 Mile	51	232,000	7,251,500	564	2015_Auger	2015	-90	0	0.25	<1.5m	932	3,070	25,200	3,520	43,300	14,077
10 Mile	60	233,000	7,256,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	860	4,390	37,700	4,900	63,500	16,742
10 Mile	61	233,000	7,255,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	853	5,090	44,200	5,880	78,800	17,161
10 Mile	62	233,000	7,254,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	877	4,870	46,300	6,560	82,300	16,413
10 Mile	TML1	223,799	7,259,792	561	2015_Auger	2015	-90	0	0.25	<1.5m	457	7,967	73,701	11,392	132,800	32,850
10 Mile	TMBH 1	226,025	7,255,591	560	2015_Auger	2015	-90	0	0.25	<1.5m	600	2,660	21,600	2,910	35,600	11,084
10 Mile	TMBH 2	228,521	7,257,319	561	2015_Auger	2015	-90	0	0.25	<1.5m	635	2,660	21,700	2,930	34,800	11,714
10 Mile	TME	233,050	7,252,797	565	2015_Auger	2015	-90	0	0.25	<1.5m	480	9,300	75,400	10,400	147,000	24,026
10 Mile	TMW	222,778	7,253,100	565	2015_Auger	2015	-90	0	0.25	<1.5m	415	8,760	79,500	12,800	144,000	36,848
10 Mile	H7	230,375	7,259,340	564	2015_Auger	2015	-90	0	0.25	<1.5m	903	2,790	29,400	4,530	49,300	13,777
Aerodrome 1 Auger	Aerodrome 1	380,000	7,272,500	475	2017_Auger	2017	-90	0	0.25	2	544	6,950	75,300	8,320	133,500	22,600
Aerodrome 2 Auger	Aerodrome 2	384,000	7,275,500	476	2017_Auger	2017	-90	0	0.25	2	654	7,000	71,600	7,710	131,950	17,700
Aerodrome 3 Auger	Aerodrome 3	377,000	7,277,500	476	2017_Auger	2017	-90	0	0.25	2	652	7,000	71,400	7,690	132,450	17,400
Aerodrome North 4 Auger	Aerodrome North 4	370,000	7,285,500	479	2017_Auger	2017	-90	0	0.25	2	1,150	7,760	47,800	6,000	96,550	12,600
Aerodrome	A1	378,955	7,276,704	473	2015_Auger	2015	-90	0	0.25	<1.5m	439	8,610	82,300	7,960	138,000	26,326
Aerodrome	A2	377,806	7,275,416	474	2015_Auger	2015	-90	0	0.25	<1.5m	480	8,590	88,200	8,420	148,000	23,511
Aerodrome	506	375,378	7,279,311	473	2015_Auger	2015	-90	0	0.25	<1.5m	398	8,270	76,200	9,075	136,000	21,923
Aerodrome	508	376,000	7,278,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	453	8,500	85,300	9,220	153,000	23,271
Aerodrome	508 (1)	376,000	7,278,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	459	8,620	84,300	9,280	151,000	22,762
Aerodrome	513	376,842	7,278,311	473	2015_Auger	2015	-90	0	0.25	<1.5m	498	7,710	82,500	7,580	143,000	21,594
Aerodrome	514	377,000	7,277,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	461	8,610	86,100	9,130	154,000	22,043
Aerodrome	519	377,284	7,276,752	479	2015_Auger	2015	-90	0	0.25	<1.5m	553	6,515	78,300	8,795	135,000	20,156
Aerodrome	520	378,000	7,277,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	458	7,590	83,900	7,640	149,000	22,522
Aerodrome	527	379,000	7,275,500	478	2015_Auger	2015	-90	0	0.25	<1.5m	720	6,000	63,500	6,740	113,000	17,431
Aerodrome	528	379,000	7,274,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	431	7,870	81,600	8,510	149,000	23,301
Aerodrome	529	379,000	7,273,500	481	2015_Auger	2015	-90	0	0.25	<1.5m	401	8,720	83,500	9,060	157,000	23,601
Aerodrome	530	379,158	7,272,500	479	2015_Auger	2015	-90	0	0.25	<1.5m	370	8,190	88,200	10,300	161,000	25,757

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
Aerodrome	531	379,189	7,271,563	481	2015_Auger	2015	-90	0	0.25	<1.5m	561	7,000	71,800	7,820	128,000	20,875
Aerodrome	532	379,653	7,276,248	477	2015_Auger	2015	-90	0	0.25	<1.5m	390	9,580	84,100	8,260	150,000	27,494
Aerodrome	533	380,000	7,275,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	415	9,730	82,500	7,660	147,000	26,236
Aerodrome	534	380,000	7,274,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	916	5,390	47,600	4,370	81,500	15,544
Aerodrome	535	380,000	7,273,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	535	7,050	78,000	7,910	135,000	20,935
Aerodrome	536	380,000	7,272,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	578	6,410	73,600	7,620	126,000	21,444
Aerodrome	538	380,000	7,271,099	473	2015_Auger	2015	-90	0	0.25	<1.5m	456	8,515	83,150	8,000	147,000	24,290
Aerodrome	540	381,095	7,274,996	478	2015_Auger	2015	-90	0	0.25	<1.5m	1,050	4,070	40,100	3,740	68,400	12,369
Aerodrome	541	381,000	7,274,500	478	2015_Auger	2015	-90	0	0.25	<1.5m	667	5,880	70,000	7,460	116,000	20,097
Aerodrome	542 (1)	381,000	7,273,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	567	5,220	75,100	7,670	125,000	22,313
Aerodrome	542	381,000	7,273,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	554	5,100	75,900	7,740	125,000	22,223
Aerodrome	543	381,000	7,272,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	588	6,760	79,500	8,200	132,000	21,564
Aerodrome	544	381,000	7,271,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	676	7,020	68,200	6,920	117,000	19,228
Aerodrome	546	382,000	7,275,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	717	6,840	68,300	6,680	117,000	19,408
Aerodrome	546 (1)	382,000	7,275,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	695	6,880	69,300	6,750	118,000	19,003
Aerodrome	547	382,000	7,274,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	663	6,230	69,900	7,830	117,000	20,546
Aerodrome	548	382,000	7,273,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	631	5,720	73,200	7,370	123,000	19,737
Aerodrome	549	381,874	7,272,595	477	2015_Auger	2015	-90	0	0.25	<1.5m	778	7,230	64,400	5,820	112,000	17,251
Aerodrome	550	381,527	7,271,878	478	2015_Auger	2015	-90	0	0.25	<1.5m	794	5,580	48,900	4,230	81,700	17,311
Aerodrome	552	383,000	7,275,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	631	6,520	73,700	7,760	125,000	20,815
Aerodrome	553	383,000	7,274,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	651	6,220	72,700	7,850	126,000	18,869
Aerodrome	557	384,000	7,275,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	529	9,320	83,400	7,840	144,000	22,103
Aerodrome	559	383,685	7,273,658	475	2015_Auger	2015	-90	0	0.25	<1.5m	410	9,640	78,600	8,890	137,000	21,923
Aerodrome	A	381,187	7,273,011	476	2015_Auger	2015	-90	0	0.25	<1.5m	564	6,690	71,600	7,880	133,000	21,660
Aerodrome (NW)	A3	370,281	7,286,454	483	2015_Auger	2015	-90	0	0.25	<1.5m	1,290	5,480	33,200	3,880	64,800	10,243
Aerodrome (NW)	A4	370,831	7,286,573	485	2015_Auger	2015	-90	0	0.25	<1.5m	1,070	5,800	37,500	4,530	72,600	11,531
Aerodrome (NW)	461	368,000	7,286,500	485	2015_Auger	2015	-90	0	0.25	<1.5m	1,100	6,470	39,100	4,420	80,800	11,890
Aerodrome (NW)	467	369,000	7,285,500	483	2015_Auger	2015	-90	0	0.25	<1.5m	1,160	6,570	42,900	5,210	87,800	11,381
Aerodrome (NW)	467 (1)	369,000	7,285,500	483	2015_Auger	2015	-90	0	0.25	<1.5m	1,170	6,640	43,800	5,320	89,000	11,531
Aerodrome (NW)	468	369,347	7,285,288	483	2015_Auger	2015	-90	0	0.25	<1.5m	1,360	5,500	37,300	4,330	74,500	10,093
Aerodrome (NW)	469	369,000	7,286,500	485	2015_Auger	2015	-90	0	0.25	<1.5m	1,200	5,710	38,000	4,610	74,000	11,052
Aerodrome (NW)	471	370,701	7,284,847	484	2015_Auger	2015	-90	0	0.25	<1.5m	1,230	5,890	40,200	4,650	78,200	10,752
Aerodrome (NW)	479	370,000	7,285,500	483	2015_Auger	2015	-90	0	0.25	<1.5m	1,240	6,050	37,700	4,640	74,800	10,692
Aerodrome (NW)	480	370,063	7,284,847	484	2015_Auger	2015	-90	0	0.25	<1.5m	1,220	5,900	40,300	4,860	77,600	11,231
Aerodrome (NW)	488	370,496	7,287,689	484	2015_Auger	2015	-90	0	0.25	<1.5m	1,360	4,750	28,300	3,340	57,100	9,105
Aerodrome (NW)	490	371,000	7,285,500	483	2015_Auger	2015	-90	0	0.25	<1.5m	1,270	5,640	37,500	4,490	71,700	10,572
Aerodrome (NW)	491	371,284	7,285,067	484	2015_Auger	2015	-90	0	0.25	<1.5m	1,160	5,430	36,800	4,060	68,900	11,800
Beyondie	B3	226,163	7,260,513	563	2015_Auger	2015	-90	0	0.25	<1.5m	604	2,070	20,700	3,140	33,500	10,662
Beyondie	B4	223,939	7,260,371	563	2015_Auger	2015	-90	0	0.25	<1.5m	1,020	2,950	26,200	3,530	47,400	11,351
Beyondie	B5	226,314	7,259,540	563	2015_Auger	2015	-90	0	0.25	<1.5m	959	2,920	30,400	4,620	52,300	13,088
Beyondie	B6	227,558	7,259,135	562	2015_Auger	2015	-90	0	0.25	<1.5m	969	713	7,590	1,180	12,500	4,762
Beyondie	11	225,000	7,259,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	790	2,510	25,400	3,700	32,700	12,010

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
Beyondie	11 (1)	225,000	7,259,500	563	2015_Auger	2015	-90	0	0.25	<1.5m	747	2,220	23,100	3,360	38,800	10,812
Beyondie	23	228,000	7,261,500	566	2015_Auger	2015	-90	0	0.25	<1.5m	862	3,940	40,100	6,020	73,600	16,862
Beyondie	BL2	223,597	7,258,770	561	2015_Auger	2015	-90	0	0.25	<1.5m	510	6,740	69,800	10,100	123,000	23,966
Beyondie	BL1	224,311	7,259,754	561	2015_Auger	2015	-90	0	0.25	<1.5m	567	7,741	66,291	8,882	108,300	29,189
Beyondie Stream	BS1	217,112	7,257,953	565	2015_Auger	2015	-90	0	0.25	<1.5m	880	2,225	21,950	3,130	40,050	7,310
Beyondie/10 Mile	N2	232,811	7,251,800	563	2015_Auger	2015	-90	0	0.25	<1.5m	959	2,830	28,200	4,100	46,600	12,789
Beyondie/10 Mile	N4	224,317	7,258,591	563	2015_Auger	2015	-90	0	0.25	<1.5m	906	3,800	35,700	4,980	59,800	15,993
Beyondie/10 Mile	N6	228,003	7,261,488	565	2015_Auger	2015	-90	0	0.25	<1.5m	870	4,000	43,500	6,240	73,500	17,012
Beyondie/10 Mile	N7	233,000	7,253,500	562	2015_Auger	2015	-90	0	0.25	<1.5m	861	4,560	41,500	5,570	71,900	16,712
Central (E)	EC1	357,345	7,270,169	480	2015_Auger	2015	-90	0	0.25	<1.5m	807	7,070	39,500	5,400	73,000	20,785
Central (E)	425	354,473	7,281,618	478	2015_Auger	2015	-90	0	0.25	<1.5m	322	10,500	79,800	10,900	141,000	39,534
Central (E)	426	354,284	7,281,217	477	2015_Auger	2015	-90	0	0.25	<1.5m	337	8,520	78,200	11,300	131,000	44,326
Central (E)	427	354,630	7,280,847	477	2015_Auger	2015	-90	0	0.25	<1.5m	472	9,940	66,200	8,350	120,000	29,052
Central (E)	429	353,937	7,278,666	478	2015_Auger	2015	-90	0	0.25	<1.5m	803	3,920	22,400	2,630	40,200	12,729
Central (E)	430	354,315	7,277,351	479	2015_Auger	2015	-90	0	0.25	<1.5m	791	6,220	37,800	4,500	68,400	18,449
Central (E)	430 (1)	354,315	7,277,351	479	2015_Auger	2015	-90	0	0.25	<1.5m	800	6,290	37,600	4,500	67,900	19,018
Central (E)	431	354,630	7,279,690	480	2015_Auger	2015	-90	0	0.25	<1.5m	696	6,040	51,400	8,300	93,900	21,894
Central (E)	434	357,575	7,271,067	481	2015_Auger	2015	-90	0	0.25	<1.5m	851	5,780	33,300	4,700	63,300	16,622
Central (E)	436	352,913	7,277,918	480	2015_Auger	2015	-90	0	0.25	<1.5m	800	4,880	29,500	2,980	52,000	17,311
Central (E)	442	358,284	7,271,193	482	2015_Auger	2015	-90	0	0.25	<1.5m	789	6,230	37,500	5,200	67,900	19,498
Central (E)	443	359,000	7,270,500	481	2015_Auger	2015	-90	0	0.25	<1.5m	629	7,365	46,600	7,620	86,900	25,592
Central (E)	443 (1)	359,000	7,270,500	481	2015_Auger	2015	-90	0	0.25	<1.5m	627	7,350	47,200	7,630	87,900	25,038
Central (N)	PC6	335,180	7,292,778	475	2015_Auger	2015	-90	0	0.25	<1.5m	463	12,000	74,400	10,100	155,000	25,554
Central (S)	PC8	336,052	7,281,468	476	2015_Auger	2015	-90	0	0.25	<1.5m	621	9,710	82,400	5,400	163,000	15,518
Central (W)	WC1	335,403	7,281,884	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,220	4,750	31,700	2,570	59,100	10,902
Central (W)	WC2	336,869	7,282,657	476	2015_Auger	2015	-90	0	0.25	<1.5m	387	12,000	93,700	6,360	173,000	20,965
Central (W)	WC3	334,065	7,292,685	477	2015_Auger	2015	-90	0	0.25	<1.5m	1,030	3,840	25,000	3,770	44,700	12,429
Central (W)	WC4	335,913	7,293,437	478	2015_Auger	2015	-90	0	0.25	<1.5m	640	7,380	49,300	6,260	93,700	16,892
Central (W)	WC5	337,097	7,291,603	478	2015_Auger	2015	-90	0	0.25	<1.5m	1,880	5,780	32,900	4,310	70,400	6,679
Central (W)	WC6	336,861	7,290,535	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,310	2,880	17,400	2,240	34,600	6,020
Central (W)	WC7	339,841	7,280,505	477	2015_Auger	2015	-90	0	0.25	<1.5m	386	14,800	83,500	6,820	166,000	23,870
Central (W)	319	329,000	7,282,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	1,010	1,440	8,590	1,330	16,200	5,541
Central (W)	320 (1)	328,811	7,281,847	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,040	1,560	10,700	1,300	20,000	5,900
Central (W)	320	328,811	7,281,847	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,030	1,570	10,800	1,290	20,000	6,080
Central (W)	321	329,401	7,284,807	475	2015_Auger	2015	-90	0	0.25	<1.5m	980	1,500	10,300	1,420	18,000	6,319
Central (W)	323	330,000	7,283,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,085	3,400	20,650	3,175	42,300	9,419
Central (W)	324	330,000	7,282,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,100	3,300	21,300	2,910	40,800	9,404
Central (W)	325	330,622	7,284,902	477	2015_Auger	2015	-90	0	0.25	<1.5m	966	4,950	29,100	3,780	56,500	13,178
Central (W)	325 (1)	330,622	7,284,902	477	2015_Auger	2015	-90	0	0.25	<1.5m	961	5,110	29,000	3,820	56,700	13,418
Central (W)	327	331,000	7,283,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	898	6,150	40,500	5,760	80,700	14,705
Central (W)	328	330,779	7,283,067	475	2015_Auger	2015	-90	0	0.25	<1.5m	999	5,510	34,700	4,850	68,500	13,148
Central (W)	329	332,347	7,284,839	475	2015_Auger	2015	-90	0	0.25	<1.5m	812	6,940	41,700	5,420	82,600	16,682

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
Central (W)	330	332,000	7,284,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	665	7,500	49,900	7,070	98,600	20,486
Central (W)	331	332,000	7,283,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	966	5,050	32,200	4,470	66,400	12,819
Central (W)	332	340,412	7,294,346	479	2015_Auger	2015	-90	0	0.25	<1.5m	1,580	2,180	11,700	1,610	26,600	4,253
Central (W)	332 (1)	340,412	7,294,346	479	2015_Auger	2015	-90	0	0.25	<1.5m	1,550	2,150	11,600	1,580	26,600	4,103
Central (W)	333	333,063	7,285,217	475	2015_Auger	2015	-90	0	0.25	<1.5m	773	5,550	37,200	4,800	74,600	16,802
Central (W)	334	333,000	7,284,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	890	5,090	31,900	4,730	65,100	13,987
Central (W)	335	333,000	7,283,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,010	5,270	34,900	4,720	69,100	12,669
Central (W)	338	333,158	7,283,036	474	2015_Auger	2015	-90	0	0.25	<1.5m	917	4,640	29,200	3,560	57,300	13,328
Central (W)	339	334,126	7,285,185	474	2015_Auger	2015	-90	0	0.25	<1.5m	722	5,830	42,500	5,780	85,400	17,730
Central (W)	340	334,000	7,284,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	930	4,650	36,800	5,810	73,400	12,968
Central (W)	341	334,000	7,283,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,110	4,490	32,500	3,990	67,800	10,992
Central (W)	342 (1)	334,000	7,293,500	479	2015_Auger	2015	-90	0	0.25	<1.5m	1,070	4,180	28,300	3,830	56,100	11,591
Central (W)	342	334,000	7,293,500	479	2015_Auger	2015	-90	0	0.25	<1.5m	1,080	4,210	28,800	3,840	56,200	11,740
Central (W)	344	340,333	7,293,548	477	2015_Auger	2015	-90	0	0.25	<1.5m	1,570	2,480	11,700	1,400	26,800	4,582
Central (W)	345	334,252	7,282,784	475	2015_Auger	2015	-90	0	0.25	<1.5m	908	6,150	40,100	4,600	78,300	16,023
Central (W)	346	335,000	7,285,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	1,100	4,230	32,400	4,730	61,200	12,160
Central (W)	347	335,000	7,284,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,240	3,580	25,100	2,770	48,600	9,584
Central (W)	347 (1)	335,000	7,284,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,230	3,540	25,300	2,750	48,300	9,524
Central (W)	348	335,000	7,283,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	550	9,610	76,500	6,640	146,000	19,378
Central (W)	349	335,315	7,282,689	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,080	7,740	48,000	4,280	95,700	13,238
Central (W)	351	335,819	7,281,036	475	2015_Auger	2015	-90	0	0.25	<1.5m	690	8,990	80,900	5,090	153,000	15,185
Central (W)	352	335,000	7,293,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	636	11,200	62,700	7,790	125,000	22,822
Central (W)	353	335,000	7,292,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	416	12,600	80,200	11,200	155,000	27,075
Central (W)	354	335,032	7,291,752	474	2015_Auger	2015	-90	0	0.25	<1.5m	468	10,200	74,200	10,100	137,000	29,830
Central (W)	356	336,000	7,292,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	545	13,100	81,800	12,600	163,000	19,378
Central (W)	357	336,000	7,291,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	1,600	6,710	44,600	5,870	89,000	8,596
Central (W)	358	336,000	7,290,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	660	2,230	15,100	2,030	28,100	5,361
Central (W)	359	336,819	7,290,004	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,320	6,740	38,500	4,780	75,600	11,141
Central (W)	360	336,630	7,288,847	475	2015_Auger	2015	-90	0	0.25	<1.5m	636	12,200	76,600	10,000	153,000	17,341
Central (W)	361	336,158	7,287,343	476	2015_Auger	2015	-90	0	0.25	<1.5m	873	8,250	58,600	7,040	115,000	15,754
Central (W)	362	336,189	7,286,185	474	2015_Auger	2015	-90	0	0.25	<1.5m	1,070	5,195	40,000	5,215	73,400	14,286
Central (W)	363	336,000	7,285,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,210	3,930	33,700	4,100	58,000	12,369
Central (W)	364	336,000	7,284,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,250	5,720	40,400	3,410	73,500	12,354
Central (W)	365	336,000	7,283,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	731	13,100	64,600	5,790	128,000	19,917
Central (W)	366	336,000	7,282,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	452	13,400	98,900	7,240	178,000	21,894
Central (W)	367	336,000	7,281,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	714	9,220	84,600	5,440	152,000	16,293
Central (W)	368	336,000	7,280,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	330	17,100	90,900	7,690	181,000	24,799
Central (W)	370	337,000	7,289,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	622	10,600	74,100	9,020	146,000	17,102
Central (W)	371	337,000	7,288,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	554	13,750	80,850	9,835	170,000	15,559
Central (W)	372	337,000	7,287,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	700	13,100	71,700	10,200	153,000	13,987
Central (W)	373	336,779	7,286,343	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,030	7,950	42,800	4,410	86,500	13,807
Central (W)	374	337,000	7,285,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	723	8,580	59,200	6,390	115,000	17,850

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
Central (W)	374(1)	337,000	7,285,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	732	8,790	60,300	6,500	115,000	18,210
Central (W)	375	337,000	7,284,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	490	11,500	78,200	6,350	145,000	23,691
Central (W)	378	337,000	7,281,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	588	9,950	83,000	5,440	154,000	16,682
Central (W)	378 (1)	337,000	7,281,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	585	9,720	82,400	5,360	155,000	16,592
Central (W)	380	338,544	7,291,363	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,880	6,950	37,300	4,800	83,100	6,619
Central (W)	381	336,370	7,292,311	474	2015_Auger	2015	-90	0	0.25	<1.5m	673	11,900	72,000	9,500	149,000	15,245
Central (W)	383	337,905	7,285,248	475	2015_Auger	2015	-90	0	0.25	<1.5m	915	7,580	49,000	4,700	97,200	14,406
Central (W)	384	338,000	7,284,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	1,220	6,000	35,000	3,080	67,900	11,171
Central (W)	385	337,811	7,283,784	475	2015_Auger	2015	-90	0	0.25	<1.5m	538	12,100	73,200	6,090	145,000	20,097
Central (W)	386	337,811	7,282,658	474	2015_Auger	2015	-90	0	0.25	<1.5m	1,020	5,870	30,900	2,300	61,900	13,208
Central (W)	387	337,622	7,282,036	474	2015_Auger	2015	-90	0	0.25	<1.5m	593	13,400	71,100	5,710	146,000	17,910
Central (W)	388	338,000	7,280,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	565	10,900	89,400	5,320	167,000	15,484
Central (W)	389	338,095	7,279,784	473	2015_Auger	2015	-90	0	0.25	<1.5m	582	12,100	75,500	5,950	154,000	16,443
Central (W)	390	336,141	7,279,666	474	2015_Auger	2015	-90	0	0.25	<1.5m	1,260	6,180	35,700	2,610	73,900	9,674
Central (W)	391	339,544	7,278,949	473	2015_Auger	2015	-90	0	0.25	<1.5m	384	14,800	88,300	5,920	174,000	20,576
Central (W)	392	338,811	7,281,343	476	2015_Auger	2015	-90	0	0.25	<1.5m	590	8,110	77,300	5,020	143,000	16,982
Central (W)	393	339,000	7,280,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	553	9,990	83,300	5,470	158,000	16,383
Central (W)	394	339,284	7,280,036	473	2015_Auger	2015	-90	0	0.25	<1.5m	418	12,100	90,200	6,090	174,000	19,228
Central (W)	398	340,000	7,279,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	728	8,800	71,200	4,560	133,000	15,634
Central (W)	398 (1)	340,000	7,279,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	703	8,930	70,300	4,640	135,000	15,634
Central (W)	399	340,000	7,278,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	440	12,100	94,800	5,810	177,000	17,910
Central (W)	400	339,937	7,277,973	473	2015_Auger	2015	-90	0	0.25	<1.5m	407	13,700	94,200	5,620	180,000	18,869
Central (W)	401	341,378	7,281,059	475	2015_Auger	2015	-90	0	0.25	<1.5m	681	9,160	68,900	4,650	129,000	17,551
Central (W)	402	341,000	7,280,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	696	8,810	76,700	4,950	137,000	16,053
Central (W)	403	341,000	7,279,500	474	2015_Auger	2015	-90	0	0.25	<1.5m	237	20,600	90,900	9,850	191,000	31,448
Central (W)	404	341,000	7,278,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	622	10,000	84,600	5,250	154,000	15,963
Central (W)	408	342,189	7,282,059	474	2015_Auger	2015	-90	0	0.25	<1.5m	649	9,900	74,700	4,880	138,000	17,641
Central (W)	409	342,000	7,281,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	714	9,650	69,600	4,590	133,000	16,263
Central (W)	410	342,000	7,280,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	491	13,000	79,900	5,500	155,000	20,636
Central (W)	411	342,000	7,279,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	612	9,720	80,800	4,810	149,000	16,503
Central (W)	412	342,000	7,278,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	363	14,400	94,400	5,980	181,000	21,265
Central (W)	420	341,622	7,278,036	473	2015_Auger	2015	-90	0	0.25	<1.5m	380	15,650	92,850	5,860	181,000	21,115
Central (W)	422	342,811	7,282,217	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,001	5,995	38,200	3,095	72,100	13,612
Central (W)	422 (1)	342,811	7,282,217	476	2015_Auger	2015	-90	0	0.25	<1.5m	1,020	6,000	39,100	3,100	69,300	13,627
Central (W)	423	342,685	7,280,689	475	2015_Auger	2015	-90	0	0.25	<1.5m	601	10,200	78,900	4,960	146,000	17,341
Central (W)	424	342,559	7,279,752	473	2015_Auger	2015	-90	0	0.25	<1.5m	431	13,400	80,800	5,560	157,000	21,654
Central (W)	379	337,000	7,280,500	473	2015_Auger	2015	-90	0	0.25	<1.5m	973	8,130	52,800	3,595	96,300	14,032
Central (W)	PC7	333,703	7,284,444	473	2015_Auger	2015	-90	0	0.25	<1.5m	550	11,000	65,300	9,900	139,000	22,229
Central 1 Auger	Central 1	335,000	7,292,500	474	2017_Auger	2017	-90	0	0.25	2	418	12,700	82,100	11,600	161,750	22,900
Central 2 Auger	Central 2	337,000	7,288,500	474	2017_Auger	2017	-90	0	0.25	2	676	13,500	77,900	10,200	161,200	13,600
Central 3 Auger	Central 3	337,000	7,284,500	474	2017_Auger	2017	-90	0	0.25	2	551	10,800	76,600	6,530	150,350	18,300
Central 3 Auger Rpt	Central 3	337,000	7,284,500	474	2017_Auger	2017	-90	0	0.25	2	555	11,000	75,400	6,500	149,800	18,700

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay Ca (mg/L)	Assay Mg (mg/L)	Assay Na (mg/L)	Assay K (mg/L)	Assay Cl (mg/L)	Assay SO_4 (mg/L)
Central 3 Dup Auger	Central 3	337,000	7,284,500	474	2017_Auger	2017	-90	0	0.25	2	576	11,000	78,300	6,750	149,300	18,900
Central 4 Auger	Central 4	333,703	7,284,444	474	2017_Auger	2017	-90	0	0.25	2	485	11,500	71,900	11,400	141,950	25,300
Central 4 Dup Auger	Central 4	333,703	7,284,444	474	2017_Auger	2017	-90	0	0.25	2	481	11,500	71,000	11,500	141,750	25,600
Central 5 Auger	Central 5	338,000	7,280,500	474	2017_Auger	2017	-90	0	0.25	2	664	8,850	78,300	5,140	146,300	15,400
Central 6 Auger	Central 6	341,000	7,279,500	474	2017_Auger	2017	-90	0	0.25	2	633	9,670	79,500	5,200	150,700	16,200
Central North 1 Auger	Central North 1	340,333	7,293,548	475	2017_Auger	2017	-90	0	0.25	2	412	12,600	80,900	11,500	161,050	22,900
Lake Wilderness 1 Auger	Lake Wilderness 1	310,000	7,312,500	538	2017_Auger	2017	-90	0	0.25	2	746	9,030	58,400	7,330	111,250	18,800
Lake Wilderness 1 Auger Rpt	Lake Wilderness 1	310,000	7,312,500	538	2017_Auger	2017	-90	0	0.25	2	737	8,950	58,000	7,260	111,250	18,900
Lake Wilderness 2 Auger	Lake Wilderness 2	312,000	7,311,500	538	2017_Auger	2017	-90	0	0.25	2	776	8,300	57,000	7,770	110,200	16,400
Lake Wilderness South 2 Auger	Lake Wilderness South 2	305,633	7,310,032	538	2017_Auger	2017	-90	0	0.25	2	1,170	3,660	28,700	3,740	53,600	10,200
North Sunshine Auger	North Sunshine	265,000	7,276,500	535	2017_Auger	2017	-90	0	0.25	2	1,130	4,960	35,400	3,600	66,250	11,400
North Sunshine 3 Auger	North Sunshine 3	272,010	7,280,857	533	2017_Auger	2017	-90	0	0.25	2	1,160	4,890	36,300	3,510	64,300	12,400
North Sunshine East Auger	North Sunshine East	271,524	7,278,932	535	2017_Auger	2017	-90	0	0.25	2	1,160	4,930	36,500	3,610	66,050	12,200
North T-Junction 1 Auger	North T-Junction 1	292,000	7,303,500	514	2017_Auger	2017	-90	0	0.25	2	958	7,860	55,900	5,880	108,650	13,000
North T-Junction 2 Auger	North T-Junction 2	294,658	7,307,222	514	2017_Auger	2017	-90	0	0.25	2	927	7,850	50,900	6,930	99,350	14,900
Northern	406	341,252	7,322,626	501	2015_Auger	2015	-90	0	0.25	<1.5m	1,150	2,220	13,400	1,530	24,900	6,739
Northern	407	341,000	7,321,500	501	2015_Auger	2015	-90	0	0.25	<1.5m	1,140	7,460	42,700	5,120	84,600	12,280
Northern	413	341,433	7,321,933	500	2015_Auger	2015	-90	0	0.25	<1.5m	1,010	6,430	41,700	5,550	80,600	13,867
Northern	414	342,000	7,321,500	500	2015_Auger	2015	-90	0	0.25	<1.5m	1,310	4,060	26,600	3,870	52,400	8,775
Northern	415	342,000	7,320,500	502	2015_Auger	2015	-90	0	0.25	<1.5m	1,430	4,970	31,800	4,100	62,500	9,374
Northern	416	342,000	7,319,500	501	2015_Auger	2015	-90	0	0.25	<1.5m	1,560	4,120	21,600	2,720	45,700	7,008
Northern	416 (1)	342,000	7,319,500	501	2015_Auger	2015	-90	0	0.25	<1.5m	1,560	4,080	21,500	2,680	45,900	6,918
Northern	418	342,000	7,317,500	500	2015_Auger	2015	-90	0	0.25	<1.5m	1,470	2,670	13,200	1,790	27,400	5,481
Northern	419	341,590	7,316,689	501	2015_Auger	2015	-90	0	0.25	<1.5m	1,130	1,630	7,770	1,090	16,000	4,433
Northern 1 Auger	Northern 1	341,433	7,321,933	501	2017_Auger	2017	-90	0	0.25	2	894	8,740	57,000	8,320	109,700	15,200
Northern 1 Auger Rpt	Northern 1	341,433	7,321,933	501	2017_Auger	2017	-90	0	0.25	2	893	8,710	56,900	8,320	110,400	15,400
Northern 2 Auger	Northern 2	342,000	7,317,500	501	2017_Auger	2017	-90	0	0.25	2	432	12,700	81,700	11,600	160,700	23,000
Sunshine	LS1	250,567	7,270,569	534	2015_Auger	2015	-90	0	0.25	<1.5m	465	8,099	74,071	7,938	127,700	19,117
Sunshine	SL5	250,567	7,270,569	534	2015_Auger	2015	-90	0	0.25	<1.5m	425	8,920	79,600	13,000	140,000	37,448
Sunshine	S1	251,204	7,271,670	534	2015_Auger	2015	-90	0	0.25	<1.5m	515	8,510	82,300	8,350	144,000	21,474
Sunshine	S2	252,058	7,270,801	534	2015_Auger	2015	-90	0	0.25	<1.5m	620	6,620	72,000	8,070	127,000	19,767
Sunshine	S2(1)	252,058	7,270,801	535	2015_Auger	2015	-90	0	0.25	<1.5m	621	6,830	73,700	8,200	129,000	20,246
Sunshine	S3	252,953	7,272,362	532	2015_Auger	2015	-90	0	0.25	<1.5m	547	7,540	80,000	8,250	140,000	20,366
Sunshine	S4	256,979	7,270,642	534	2015_Auger	2015	-90	0	0.25	<1.5m	557	7,750	79,000	7,210	141,000	19,767
Sunshine	S5	256,972	7,272,301	538	2015_Auger	2015	-90	0	0.25	<1.5m	838	5,360	54,700	5,690	100,000	15,454
Sunshine	S6	258,021	7,274,313	536	2015_Auger	2015	-90	0	0.25	<1.5m	841	4,640	53,900	5,570	91,800	16,503
Sunshine	S7	258,088	7,271,383	541	2015_Auger	2015	-90	0	0.25	<1.5m	1,070	3,710	36,450	3,265	62,600	11,890
Sunshine	S8	259,202	7,274,397	538	2015_Auger	2015	-90	0	0.25	<1.5m	1,120	3,670	42,400	4,520	72,300	11,651
Sunshine	S9	259,221	7,275,346	539	2015_Auger	2015	-90	0	0.25	<1.5m	978	3,840	47,800	4,850	79,300	13,897
Sunshine	S10	257,681	7,275,541	534	2015_Auger	2015	-90	0	0.25	<1.5m	1,070	4,450	53,100	5,380	89,800	12,998
Sunshine	S10(1)	257,681	7,275,541	534	2015_Auger	2015	-90	0	0.25	<1.5m	1,045	4,255	51,400	5,325	91,200	12,324
Sunshine	124	249,558	7,270,017	536	2015_Auger	2015	-90	0	0.25	<1.5m	786	5,290	45,500	5,270	81,900	13,987

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
Sunshine	126	250,000	7,270,500	538	2015_Auger	2015	-90	0	0.25	<1.5m	512	8,350	83,100	8,410	145,000	21,354
Sunshine	134	252,000	7,272,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	760	7,110	65,800	6,630	130,000	15,814
Sunshine	135	252,000	7,271,500	536	2015_Auger	2015	-90	0	0.25	<1.5m	473	6,910	78,300	8,510	137,000	23,062
Sunshine	137	251,666	7,270,132	532	2015_Auger	2015	-90	0	0.25	<1.5m	515	8,190	76,600	7,840	137,000	20,785
Sunshine	138	252,703	7,272,794	537	2015_Auger	2015	-90	0	0.25	<1.5m	379	11,000	84,200	8,200	151,000	26,326
Sunshine	140	253,000	7,271,500	534	2015_Auger	2015	-90	0	0.25	<1.5m	593	6,350	71,400	7,650	126,000	20,246
Sunshine	141	253,000	7,270,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	580	7,330	77,600	8,210	136,000	19,677
Sunshine	143	253,666	7,272,203	540	2015_Auger	2015	-90	0	0.25	<1.5m	769	5,820	60,600	6,440	106,000	16,622
Sunshine	144	254,000	7,271,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	604	6,160	72,000	7,720	125,000	18,659
Sunshine	145	254,000	7,270,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	571	6,450	73,100	7,990	128,000	21,624
Sunshine	150	255,149	7,272,017	538	2015_Auger	2015	-90	0	0.25	<1.5m	721	4,400	56,400	5,890	96,200	17,850
Sunshine	151	255,000	7,271,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	661	6,020	69,600	7,570	119,000	19,168
Sunshine	152	255,000	7,270,500	534	2015_Auger	2015	-90	0	0.25	<1.5m	634	7,550	69,700	6,460	124,000	19,408
Sunshine	156	256,000	7,272,500	537	2015_Auger	2015	-90	0	0.25	<1.5m	832	5,010	51,400	5,220	85,200	16,862
Sunshine	157	256,000	7,271,500	536	2015_Auger	2015	-90	0	0.25	<1.5m	556	5,460	75,800	8,250	123,000	22,103
Sunshine	158	256,000	7,270,500	533	2015_Auger	2015	-90	0	0.25	<1.5m	685	6,540	69,600	6,710	119,000	17,521
Sunshine	158 (1)	256,000	7,270,500	533	2015_Auger	2015	-90	0	0.25	<1.5m	671	6,530	69,200	6,660	124,000	17,341
Sunshine	167	257,000	7,273,500	538	2015_Auger	2015	-90	0	0.25	<1.5m	666	5,450	71,800	7,690	124,000	18,988
Sunshine	169	257,000	7,271,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	612	5,840	71,600	7,800	124,000	20,396
Sunshine	177	257,000	7,274,500	538	2015_Auger	2015	-90	0	0.25	<1.5m	691	6,320	69,600	7,200	126,000	17,940
Sunshine	179	257,740	7,276,091	536	2015_Auger	2015	-90	0	0.25	<1.5m	814	5,700	58,600	5,560	104,000	16,952
Sunshine	182	258,000	7,273,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	489	8,230	78,500	7,380	141,000	23,271
Sunshine	183	258,000	7,272,500	536	2015_Auger	2015	-90	0	0.25	<1.5m	1,020	3,980	38,300	3,530	68,400	13,358
Sunshine	195	258,443	7,274,058	537	2015_Auger	2015	-90	0	0.25	<1.5m	1,190	3,080	39,000	4,040	67,700	10,932
Sunshine (N)	PC1	272,010	7,280,857	533	2015_Auger	2015	-90	0	0.25	<1.5m	1,130	5,980	42,500	4,300	87,400	11,863
Sunshine (NE)	TJ1	269,298	7,279,748	535	2015_Auger	2015	-90	0	0.25	<1.5m	978	5,650	44,500	3,610	79,200	15,005
Sunshine (NE)	TJ2	271,524	7,278,932	535	2015_Auger	2015	-90	0	0.25	<1.5m	1,050	5,040	38,900	3,900	70,900	13,418
Sunshine (NE)	218	265,000	7,276,500	535	2015_Auger	2015	-90	0	0.25	<1.5m	1,100	3,100	22,800	2,340	40,500	10,273
Sunshine (NE)	224	267,777	7,276,946	534	2015_Auger	2015	-90	0	0.25	<1.5m	1,060	4,310	33,500	3,610	60,000	13,298
Sunshine (NE)	224 (1)	267,777	7,276,946	534	2015_Auger	2015	-90	0	0.25	<1.5m	1,060	4,320	34,300	3,610	60,500	13,388
Sunshine (NE)	229	269,703	7,280,017	535	2015_Auger	2015	-90	0	0.25	<1.5m	1,610	5,350	35,900	2,620	71,800	8,146
Sunshine (NE)	233	271,000	7,280,500	536	2015_Auger	2015	-90	0	0.25	<1.5m	1,220	5,500	40,700	3,680	77,200	11,591
Sunshine (NE)	236	271,000	7,277,500	536	2015_Auger	2015	-90	0	0.25	<1.5m	1,055	4,815	39,100	3,930	69,900	14,121
Sunshine (NE)	237	272,000	7,280,500	536	2015_Auger	2015	-90	0	0.25	<1.5m	1,260	4,280	34,400	3,280	63,100	10,453
Sunshine (NE)	240	271,443	7,277,909	534	2015_Auger	2015	-90	0	0.25	<1.5m	1,180	4,960	38,700	3,780	69,400	12,429
Sunshine (NE)	241	272,284	7,281,437	534	2015_Auger	2015	-90	0	0.25	<1.5m	1,440	4,640	33,500	2,780	62,300	9,464
Sunshine (NE)	243	273,000	7,280,500	538	2015_Auger	2015	-90	0	0.25	<1.5m	1,140	4,280	36,900	3,360	64,000	12,309
Sunshine (NE)	243 (1)	273,000	7,280,500	538	2015_Auger	2015	-90	0	0.25	<1.5m	1,160	4,340	36,700	3,420	64,500	12,429
Sunshine (NE)	244	272,182	7,280,058	535	2015_Auger	2015	-90	0	0.25	<1.5m	1,060	5,750	44,700	4,370	80,700	14,077
Sunshine (NE)	238	272,000	7,279,500	538	2015_Auger	2015	-90	0	0.25	<1.5m	1,090	5,040	40,200	3,870	68,700	12,938
Sunshine (SW)	120	247,000	7,270,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	1,050	4,770	37,500	4,140	66,500	15,095
Sunshine (SW)	123	247,405	7,270,132	541	2015_Auger	2015	-90	0	0.25	<1.5m	1,100	3,570	32,300	4,140	54,600	11,651

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
Terminal	T1	258,296	7,291,599	541	2015_Auger	2015	-90	0	0.25	<1.5m	841	4,810	40,600	5,350	73,000	16,952
Terminal	171	257,000	7,293,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	859	5,350	44,600	5,890	82,300	17,221
Terminal	186	258,000	7,293,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	686	6,800	49,400	6,010	92,000	22,672
Terminal	187	258,000	7,292,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	1,020	3,230	27,900	3,580	47,100	12,579
Terminal	191	257,546	7,293,754	541	2015_Auger	2015	-90	0	0.25	<1.5m	716	6,070	44,700	5,090	77,400	21,175
Terminal	196	259,000	7,293,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	752	6,470	52,900	7,090	94,500	21,414
Terminal	196 (1)	259,000	7,293,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	728	6,290	51,200	6,920	92,700	21,115
Terminal	199	259,000	7,290,500	541	2015_Auger	2015	-90	0	0.25	<1.5m	928	4,150	34,800	4,570	62,800	15,305
Terminal	201	258,562	7,293,835	540	2015_Auger	2015	-90	0	0.25	<1.5m	773	6,290	47,800	5,440	85,100	20,815
Terminal	204	260,000	7,293,500	541	2015_Auger	2015	-90	0	0.25	<1.5m	822	6,020	44,300	5,840	81,400	20,007
Terminal	205	260,000	7,292,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	969	5,020	42,400	5,760	77,400	15,095
Terminal	206	260,000	7,291,500	540	2015_Auger	2015	-90	0	0.25	<1.5m	1,100	3,730	30,300	3,900	55,800	11,890
Terminal	209	259,481	7,293,819	540	2015_Auger	2015	-90	0	0.25	<1.5m	960	4,930	38,900	4,640	67,500	15,724
Terminal	211	260,189	7,293,170	540	2015_Auger	2015	-90	0	0.25	<1.5m	979	4,390	36,100	4,800	62,500	15,095
Terminal	215	260,465	7,292,673	540	2015_Auger	2015	-90	0	0.25	<1.5m	1,095	3,905	33,100	4,385	59,000	13,103
Terminal	172	257,000	7,292,500	541	2015_Auger	2015	-90	0	0.25	<1.5m	973	6,740	50,500	6,660	90,400	14,825
Terminal	IL2	255,695	7,294,630	544	2015_Auger	2015	-90	0	0.25	<1.5m	315	14,100	80,700	16,400	153,000	51,228
Terminal 1 Auger	Terminal 1	257,000	7,293,500	513	2017_Auger	2017	-90	0	0.25	2	939	5,730	44,900	5,670	85,000	14,500
Terminal 2 Auger	Terminal 2	260,000	7,291,500	514	2017_Auger	2017	-90	0	0.25	2	939	5,810	47,200	5,860	86,550	14,800
TJ	PC3	293,407	7,306,315	514	2015_Auger	2015	-90	0	0.25	<1.5m	822	7,270	48,400	6,490	99,200	14,679
TJ	TJ	295,133	7,307,154	514	2015_Auger	2015	-90	0	0.25	<1.5m	1,050	5,070	41,100	5,650	76,800	12,849
TJ (N)	267	291,000	7,303,500	514	2015_Auger	2015	-90	0	0.25	<1.5m	1,070	6,440	46,200	5,350	85,800	14,346
TJ (N)	268	291,000	7,302,500	515	2015_Auger	2015	-90	0	0.25	<1.5m	1,330	6,020	42,500	4,470	80,500	11,082
TJ (N)	272	292,000	7,303,500	515	2015_Auger	2015	-90	0	0.25	<1.5m	1,000	6,380	45,500	5,650	85,600	14,316
TJ (N)	274	293,000	7,306,500	515	2015_Auger	2015	-90	0	0.25	<1.5m	1,220	3,300	24,000	3,030	44,000	8,895
TJ (N)	275	293,000	7,305,500	515	2015_Auger	2015	-90	0	0.25	<1.5m	884	4,640	30,800	4,080	57,800	9,584
TJ (N)	276	293,000	7,304,500	514	2015_Auger	2015	-90	0	0.25	<1.5m	1,140	6,190	40,100	5,140	76,700	13,178
TJ (N)	277	293,000	7,303,500	514	2015_Auger	2015	-90	0	0.25	<1.5m	1,350	4,750	31,300	3,280	57,100	10,123
TJ (N)	279	294,000	7,307,500	513	2015_Auger	2015	-90	0	0.25	<1.5m	1,040	5,890	43,800	5,815	81,550	13,957
TJ (N)	281	294,000	7,305,500	514	2015_Auger	2015	-90	0	0.25	<1.5m	979	7,330	51,100	6,110	96,200	15,185
TJ (N)	281 (1)	294,000	7,305,500	514	2015_Auger	2015	-90	0	0.25	<1.5m	979	7,350	50,500	6,090	96,200	14,975
TJ (N)	282	294,000	7,304,500	514	2015_Auger	2015	-90	0	0.25	<1.5m	1,150	5,880	40,600	4,640	75,700	12,729
TJ (N)	283	295,000	7,307,500	515	2015_Auger	2015	-90	0	0.25	<1.5m	1,000	5,250	44,800	7,120	84,900	14,316
TJ (N)	284	295,000	7,306,500	514	2015_Auger	2015	-90	0	0.25	<1.5m	931	5,720	41,400	5,090	75,500	16,293
TJ (N)	285	294,703	7,305,723	514	2015_Auger	2015	-90	0	0.25	<1.5m	1,090	5,560	37,200	4,310	67,500	13,478
TJ (N)	PC4	294,658	7,307,222	514	2015_Auger	2015	-90	0	0.25	<1.5m	984	6,500	48,600	6,580	96,700	13,960
TJ (S)	258	282,000	7,295,500	522	2015_Auger	2015	-90	0	0.25	<1.5m	1,590	4,220	32,000	3,440	59,700	8,296
TJ (S)	259	283,000	7,296,500	521	2015_Auger	2015	-90	0	0.25	<1.5m	1,525	4,480	32,100	3,250	59,200	9,255
TJ (S)	260	282,907	7,295,593	523	2015_Auger	2015	-90	0	0.25	<1.5m	1,490	2,890	21,400	2,400	41,100	7,278
TJ (S)	261	284,000	7,296,500	522	2015_Auger	2015	-90	0	0.25	<1.5m	1,520	4,410	32,900	3,470	62,300	9,195
TJ (S)	PC2	290,985	7,302,991	514	2015_Auger	2015	-90	0	0.25	<1.5m	1,055	7,635	51,350	5,600	108,000	12,448
T-Junction 1 Auger	T-Junction 1	282,000	7,295,500	522	2017_Auger	2017	-90	0	0.25	2	1,430	4,200	30,700	3,310	60,300	8,400

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay Ca (mg/L)	Mg	Na	K	Cl	SO_4
T-Junction 2 Auger	T-Junction 2	284,000	7,296,500	522	2017_Auger	2017	-90	0	0.25	2	1,430	4,190	31,100	3,230	58,850	8,430
T-Junction South Auger	T-Junction South	277,152	7,290,635	535	2017_Auger	2017	-90	0	0.25	2	1,510	4,250	31,000	3,300	109,150	8,400
White Lake	WL1	362,764	7,271,645	483	2015_Auger	2015	-90	0	0.25	<1.5m	602	4,840	46,200	5,690	73,500	20,486
White Lake	WL2	362,828	7,270,349	477	2015_Auger	2015	-90	0	0.25	<1.5m	380	9,750	75,800	9,760	137,000	34,143
White Lake	WL3	364,119	7,271,740	480	2015_Auger	2015	-90	0	0.25	<1.5m	402	7,540	73,900	9,000	125,000	29,082
White Lake	WL4	364,959	7,271,231	476	2015_Auger	2015	-90	0	0.25	<1.5m	384	8,370	79,600	9,280	137,000	30,849
White Lake	WL5	364,755	7,269,083	476	2015_Auger	2015	-90	0	0.25	<1.5m	303	10,600	84,000	9,950	147,000	38,037
White Lake	WL6	368,055	7,268,763	477	2015_Auger	2015	-90	0	0.25	<1.5m	388	7,940	80,700	9,550	141,000	31,448
White Lake	WL6(1)	368,055	7,268,763	477	2015_Auger	2015	-90	0	0.25	<1.5m	393	8,070	80,900	9,530	143,000	32,047
White Lake	WL7	370,287	7,265,617	476	2015_Auger	2015	-90	0	0.25	<1.5m	811	3,920	38,800	4,130	64,500	18,240
White Lake	WL8	369,960	7,269,333	477	2015_Auger	2015	-90	0	0.25	<1.5m	464	6,985	73,600	8,420	129,000	26,745
White Lake	WL9	371,107	7,268,655	481	2015_Auger	2015	-90	0	0.25	<1.5m	478	8,190	76,300	7,800	142,000	27,464
White Lake	WL10	376,247	7,266,387	478	2015_Auger	2015	-90	0	0.25	<1.5m	841	4,060	41,100	3,730	68,400	16,982
White Lake	WL10(1)	376,247	7,266,387	478	2015_Auger	2015	-90	0	0.25	<1.5m	842	4,030	40,400	3,730	68,000	17,281
White Lake	446	362,110	7,271,020	475	2015_Auger	2015	-90	0	0.25	<1.5m	508	7,830	58,200	7,640	106,000	25,278
White Lake	449	364,000	7,269,500	479	2015_Auger	2015	-90	0	0.25	<1.5m	397	12,600	69,400	8,470	128,000	35,341
White Lake	453	365,779	7,270,248	475	2015_Auger	2015	-90	0	0.25	<1.5m	324	8,980	83,000	9,140	150,000	32,945
White Lake	456	366,842	7,269,154	475	2015_Auger	2015	-90	0	0.25	<1.5m	277	10,700	83,900	9,690	151,000	38,336
White Lake	457	367,000	7,268,500	475	2015_Auger	2015	-90	0	0.25	<1.5m	263	11,800	86,600	11,300	163,000	38,336
White Lake	458	367,347	7,267,910	475	2015_Auger	2015	-90	0	0.25	<1.5m	319	8,550	81,900	10,100	149,000	33,844
White Lake	463	369,000	7,269,500	478	2015_Auger	2015	-90	0	0.25	<1.5m	437	6,800	64,000	8,010	114,000	26,176
White Lake	466	369,000	7,266,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	458	6,940	67,000	8,300	122,000	27,374
White Lake	481	370,748	7,269,059	478	2015_Auger	2015	-90	0	0.25	<1.5m	392	8,460	77,000	8,790	135,000	29,052
White Lake	481 (1)	370,748	7,269,059	478	2015_Auger	2015	-90	0	0.25	<1.5m	391	8,375	76,050	8,600	134,000	28,527
White Lake	483	371,000	7,267,500	479	2015_Auger	2015	-90	0	0.25	<1.5m	479	5,050	71,100	8,090	114,000	31,448
White Lake	484	371,000	7,266,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	493	5,590	65,900	8,500	107,000	28,662
White Lake	485	371,000	7,265,500	478	2015_Auger	2015	-90	0	0.25	<1.5m	420	5,900	81,800	9,320	125,000	33,544
White Lake	486	371,000	7,264,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	474	5,890	73,300	8,990	121,000	29,052
White Lake	487	371,000	7,263,500	483	2015_Auger	2015	-90	0	0.25	<1.5m	725	5,860	58,100	6,380	102,000	19,348
White Lake	493	372,000	7,267,500	479	2015_Auger	2015	-90	0	0.25	<1.5m	535	6,280	67,500	7,950	117,000	24,230
White Lake	494	371,716	7,266,626	477	2015_Auger	2015	-90	0	0.25	<1.5m	645	5,120	56,100	6,640	91,900	23,391
White Lake	495	372,000	7,265,500	476	2015_Auger	2015	-90	0	0.25	<1.5m	479	6,195	74,800	8,925	122,000	30,220
White Lake	496	372,000	7,264,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	878	5,670	52,700	5,840	92,300	16,652
White Lake	496 (1)	372,000	7,264,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	868	5,600	53,600	5,730	92,800	16,772
White Lake	498	372,496	7,268,248	478	2015_Auger	2015	-90	0	0.25	<1.5m	482	8,400	75,100	8,090	131,000	27,434
White Lake	499	372,401	7,267,500	480	2015_Auger	2015	-90	0	0.25	<1.5m	964	3,730	36,500	3,760	62,800	14,226
White Lake	500	372,905	7,266,847	479	2015_Auger	2015	-90	0	0.25	<1.5m	802	4,220	50,100	6,160	82,900	18,958
White Lake	501	373,000	7,265,500	479	2015_Auger	2015	-90	0	0.25	<1.5m	478	5,700	75,300	8,700	121,000	29,621
White Lake	502	373,095	7,263,744	476	2015_Auger	2015	-90	0	0.25	<1.5m	914	4,850	44,000	4,840	75,700	15,574
White Lake	503	373,905	7,265,847	477	2015_Auger	2015	-90	0	0.25	<1.5m	631	6,470	66,000	7,000	114,000	21,205
White Lake	504	375,567	7,266,721	477	2015_Auger	2015	-90	0	0.25	<1.5m	831	5,080	49,100	4,630	81,100	18,000
White Lake	505	374,969	7,265,878	477	2015_Auger	2015	-90	0	0.25	<1.5m	452	8,790	77,300	7,000	130,000	27,704

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
White Lake	510	376,000	7,265,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	504	7,400	75,300	8,210	127,000	25,547
White Lake	515	377,000	7,266,500	478	2015_Auger	2015	-90	0	0.25	<1.5m	372	10,200	84,500	9,890	155,000	27,135
White Lake	515 (1)	377,000	7,266,500	478	2015_Auger	2015	-90	0	0.25	<1.5m	364	10,100	84,400	9,800	156,000	27,255
White Lake	516	377,000	7,265,500	478	2015_Auger	2015	-90	0	0.25	<1.5m	413	7,660	78,800	8,490	135,000	29,621
White Lake	517	377,000	7,264,500	480	2015_Auger	2015	-90	0	0.25	<1.5m	777	5,480	52,500	5,210	90,400	17,940
White Lake	518	375,834	7,264,981	476	2015_Auger	2015	-90	0	0.25	<1.5m	507	7,470	70,400	7,350	119,000	25,727
White Lake	523	377,779	7,265,406	479	2015_Auger	2015	-90	0	0.25	<1.5m	927	4,190	35,700	3,620	61,100	14,466
White Lake	524	378,000	7,264,500	477	2015_Auger	2015	-90	0	0.25	<1.5m	788	5,250	42,400	4,380	72,100	19,078
White Lake	WL	370,802	7,266,910	476	2015_Auger	2015	-90	0	0.25	<1.5m	511	6,600	75,200	9,130	126,000	30,258
White Lake 1 Auger	White Lake 1	357,345	7,270,169	480	2017_Auger	2017	-90	0	0.25	2	821	6,640	34,900	4,700	66,250	19,400
White Lake 2 Auger	White Lake 2	365,779	7,270,248	475	2017_Auger	2017	-90	0	0.25	2	486	7,100	73,000	8,980	124,050	30,000
White Lake 3 Auger	White Lake 3	370,802	7,266,910	476	2017_Auger	2017	-90	0	0.25	2	458	6,810	72,800	8,840	124,250	29,500
White Lake 4 Auger	White Lake 4	377,000	7,265,500	478	2017_Auger	2017	-90	0	0.25	2	408	7,820	80,800	9,070	142,450	29,800
White Lake W Auger	White Lake W	354,284	7,281,217	477	2017_Auger	2017	-90	0	0.25	2	327	12,900	84,200	10,800	158,200	33,900
White Lake W Dup Auger	White Lake W	354,284	7,281,217	477	2017_Auger	2017	-90	0	0.25	2	324	12,800	85,200	10,800	157,850	33,600
Wilderness	PC5	309,577	7,311,102	505	2015_Auger	2015	-90	0	0.25	<1.5m	765	8,340	56,600	7,390	121,000	17,885
Wilderness	U1	320,586	7,310,804	510	2015_Auger	2015	-90	0	0.25	<1.5m	2,570	2,560	11,200	1,400	26,200	3,115
Wilderness	289	309,000	7,311,500	508	2015_Auger	2015	-90	0	0.25	<1.5m	1,030	4,160	30,800	3,920	57,600	11,471
Wilderness	290	309,158	7,310,689	510	2015_Auger	2015	-90	0	0.25	<1.5m	745	4,490	33,800	4,480	62,600	10,572
Wilderness	291	310,000	7,313,500	504	2015_Auger	2015	-90	0	0.25	<1.5m	615	7,190	45,100	5,590	88,000	15,814
Wilderness	292	310,000	7,312,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	1,300	3,820	22,500	3,400	44,300	9,075
Wilderness	293	310,000	7,311,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	908	6,900	46,000	6,220	85,400	17,850
Wilderness	294	310,000	7,310,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	969	6,370	47,500	5,940	88,500	15,305
Wilderness	295	310,158	7,310,193	506	2015_Auger	2015	-90	0	0.25	<1.5m	404	5,420	34,500	4,490	68,000	11,411
Wilderness	296	311,000	7,312,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	1,230	4,380	30,100	4,170	57,900	10,932
Wilderness	297	311,000	7,311,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	960	6,810	45,900	6,520	86,600	15,724
Wilderness	298	311,000	7,310,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	861	6,740	52,400	6,950	99,000	16,413
Wilderness	298 (1)	311,000	7,310,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	858	6,710	51,800	6,930	96,200	16,323
Wilderness	299	312,000	7,312,500	507	2015_Auger	2015	-90	0	0.25	<1.5m	1,125	6,030	43,200	5,915	84,250	13,343
Wilderness	300	312,000	7,311,500	506	2015_Auger	2015	-90	0	0.25	<1.5m	870	8,920	58,500	6,790	117,000	14,196
Wilderness	301	311,842	7,310,721	507	2015_Auger	2015	-90	0	0.25	<1.5m	763	2,980	20,000	2,260	38,600	7,008
Wilderness	302	313,000	7,312,500	505	2015_Auger	2015	-90	0	0.25	<1.5m	723	6,715	47,050	6,560	96,000	9,225
Wilderness	303	312,685	7,311,815	506	2015_Auger	2015	-90	0	0.25	<1.5m	1,240	5,540	34,300	3,540	67,400	10,273
Yanerie 1 2 Auger	Yanerie 1	243,334	7,294,635	550	2017_Auger	2017	-90	0	0.25	2	429	11,600	62,700	10,800	112,650	40,200
Yanerie 2 Auger	Yanerie 2	247,630	7,297,225	542	2017_Auger	2017	-90	0	0.25	2	527	8,160	55,900	9,160	96,000	33,300
Yanneri	IL1	243,334	7,294,635	550	2015_Auger	2015	-90	0	0.25	<1.5m	425	9,420	57,100	10,600	101,000	38,945
Yanneri	IL3	241,573	7,298,445	546	2015_Auger	2015	-90	0	0.25	<1.5m	693	7,200	52,550	6,535	97,250	22,963
Yanneri	Y1	242,442	7,297,381	547	2015_Auger	2015	-90	0	0.25	<1.5m	613	10,900	52,700	9,220	98,500	37,737
Yanneri	Y2	245,664	7,295,084	547	2015_Auger	2015	-90	0	0.25	<1.5m	865	5,030	39,200	6,880	70,100	17,970
Yanneri	Y3	244,852	7,295,411	544	2015_Auger	2015	-90	0	0.25	<1.5m	744	6,340	38,500	6,420	71,500	22,552
Yanneri	Y4	242,844	7,294,628	543	2015_Auger	2015	-90	0	0.25	<1.5m	686	7,400	39,500	6,830	68,500	27,524
Yanneri	Y5	242,453	7,293,438	545	2015_Auger	2015	-90	0	0.25	<1.5m	665	7,470	38,500	5,870	67,800	28,273

Lake	Point Reference	Easting	Northing	RL (m)	Data Source	Sample Date	Dip	Azimuth	Down Hole Width (m)	Depth (m)	Assay					
											Ca	Mg	Na	K	Cl	SO_4
											mg/L					
Yanneri	Y6	242,549	7,292,557	549	2015_Auger	2015	-90	0	0.25	<1.5m	827	6,380	38,900	6,640	71,800	19,857
Yanneri	Y7	243,821	7,292,698	546	2015_Auger	2015	-90	0	0.25	<1.5m	767	7,280	40,200	6,040	73,600	20,935
Yanneri	Y8	242,840	7,291,276	547	2015_Auger	2015	-90	0	0.25	<1.5m	827	6,090	35,300	5,120	64,000	19,557
Yanneri	Y8(1)	242,840	7,291,276	547	2015_Auger	2015	-90	0	0.25	<1.5m	835	6,110	35,200	5,090	63,100	19,647
Yanneri	Y9	242,397	7,291,525	548	2015_Auger	2015	-90	0	0.25	<1.5m	723	6,895	43,500	7,345	78,000	24,409
Yanneri	86	240,441	7,298,445	546	2015_Auger	2015	-90	0	0.25	<1.5m	861	3,320	16,100	2,710	29,200	11,980
Yanneri	104	245,000	7,294,500	546	2015_Auger	2015	-90	0	0.25	<1.5m	794	6,640	39,900	6,870	76,400	19,887
Yanneri	104 (1)	245,000	7,294,500	546	2015_Auger	2015	-90	0	0.25	<1.5m	798	6,530	39,900	6,810	75,550	19,872
Yanneri	105	245,000	7,293,500	546	2015_Auger	2015	-90	0	0.25	<1.5m	819	5,640	37,700	6,750	68,500	19,138
Yanneri	106	245,000	7,292,500	545	2015_Auger	2015	-90	0	0.25	<1.5m	824	6,820	41,900	5,620	77,800	19,737
Yanneri	110	246,158	7,297,658	545	2015_Auger	2015	-90	0	0.25	<1.5m	676	6,380	35,900	4,880	61,600	25,008
Yanneri	111	246,000	7,296,500	545	2015_Auger	2015	-90	0	0.25	<1.5m	530	7,810	46,600	8,470	86,100	26,356
Yanneri	113	246,000	7,294,500	545	2015_Auger	2015	-90	0	0.25	<1.5m	900	4,940	39,500	6,990	73,800	15,604
Yanneri	117	247,000	7,297,500	546	2015_Auger	2015	-90	0	0.25	<1.5m	598	7,550	47,000	6,620	79,900	30,549
Yanneri	118	247,347	7,296,563	545	2015_Auger	2015	-90	0	0.25	<1.5m	643	6,840	49,200	7,360	81,100	25,907
Yanneri	119	246,811	7,295,721	545	2015_Auger	2015	-90	0	0.25	<1.5m	766	5,970	44,600	6,990	75,250	21,265
Yanneri	119 (1)	246,811	7,295,721	545	2015_Auger	2015	-90	0	0.25	<1.5m	755	5,885	43,100	6,830	75,100	20,875
Yanneri	121	247,842	7,297,374	543	2015_Auger	2015	-90	0	0.25	<1.5m	642	7,180	45,400	6,140	74,400	27,913
Yanneri	122	248,032	7,296,815	545	2015_Auger	2015	-90	0	0.25	<1.5m	714	6,150	42,300	6,210	71,800	22,822
Yanneri Feed	YLF1	235,010	7,295,291	547	2015_Auger	2015	-90	0	0.25	<1.5m	935	3,860	17,391	2,768	30,100	12,478
Yanneri/Terminal	YT1	254,096	7,296,955	542	2015_Auger	2015	-90	0	0.25	<1.5m	811	4,910	37,700	5,440	67,000	19,827
Yanneri/Terminal	YT1	247,630	7,297,225	543	2015_Auger	2015	-90	0	0.25	<1.5m	615	7,600	47,600	7,180	90,900	28,310
Yanneri/Terminal	YT2	254,232	7,297,072	542	2015_Auger	2015	-90	0	0.25	<1.5m	794	5,390	41,600	5,730	74,700	19,413

APPENDIX 4: TEST PUMPING ASSAYS AND DETAILS

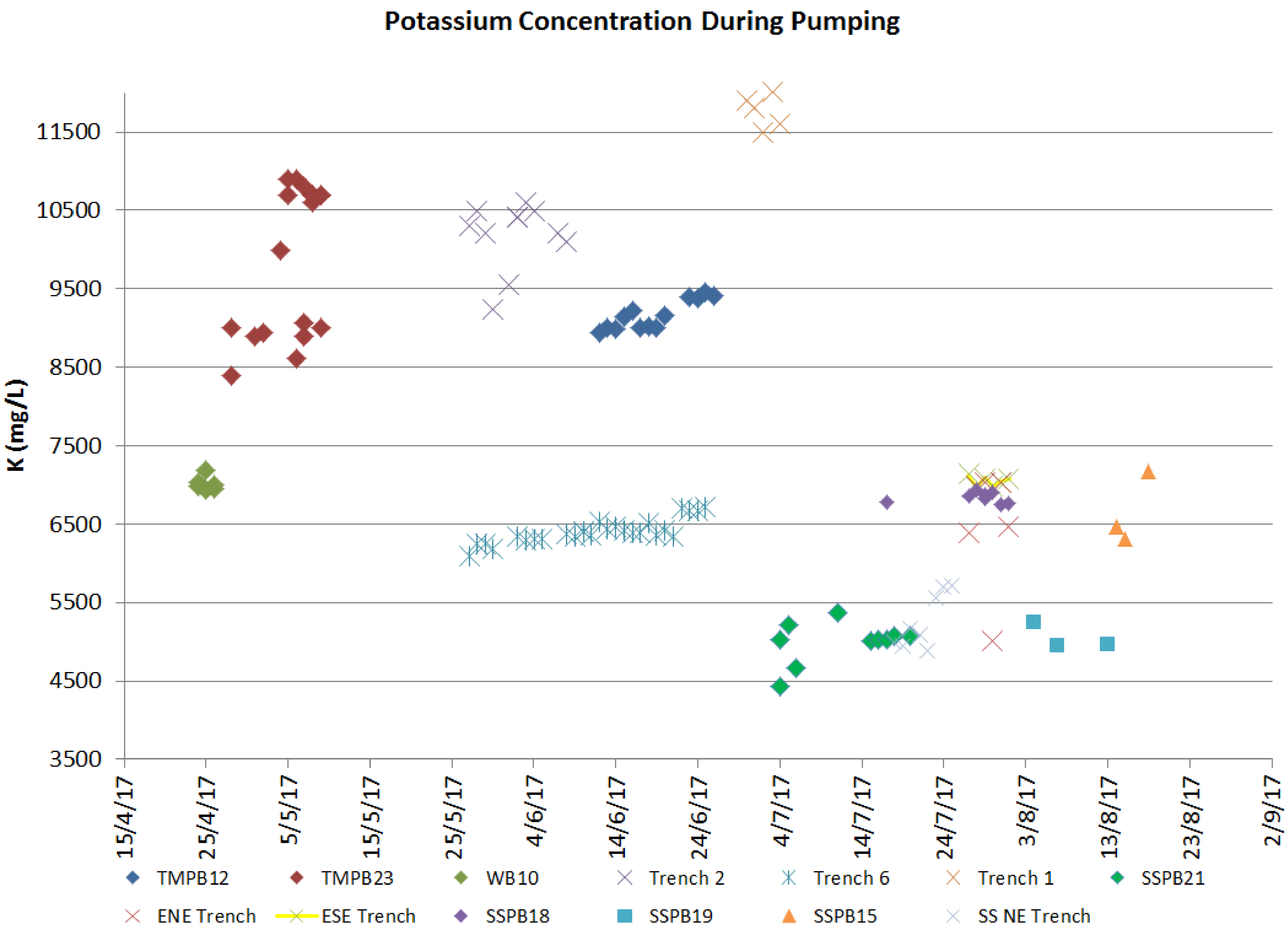
Point ID	Description	Location	Easting	Northing	Representative Aquifer	Date	Assay					
							Ca	Mg	Na	K	Cl	SO_4
							mg/L					
SDHTM08	Test pump	10 Mile	230,359	7,259,357	Bedrock	2015	731	5,480	53,300	7,680	88,600	22,918
SDHTM08	Test pump	10 Mile	230,359	7,259,357	Bedrock	2015	759	5,460	53,500	7,860	89,300	23,667
SDHTM09	12v Pumping	10 Mile	235,582	7,257,149	Whole profile	2015	156	600	6,750	1,110	12,000	1,887
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	12-Jun-17	489	7,730	69,000	8,930	120,550	25,500
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	13-Jun-17	487	7,770	70,100	9,000	119,850	25,100
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	14-Jun-17	481	7,730	70,200	8,980	120,550	25,600
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	15-Jun-17	479	7,880	69,900	9,130	120,900	26,300
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	16-Jun-17	474	7,990	71,500	9,220	120,700	26,500
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	17-Jun-17	485	7,800	67,700	9,000	121,250	25,200
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	18-Jun-17	493	7,800	71,400	9,020	120,900	25,700
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	19-Jun-17	495	7,840	70,100	9,000	121,400	25,600
TMPB12	Test pumping	10 Mile	233,490	7,256,785	Basal Sand	20-Jun-17	494	7,860	70,500	9,150	121,050	25,800
TMPB12	Test pumping	10 Mile	233,486	7,256,791	Basal Sand	4-Jun-17	496	9,080	70,100	7,730	118,500	27,300
TMPB12	Test pumping	10 Mile	233,486	7,256,791	Basal Sand	22-Jun-17	805	5,410	49,600	6,620	86,650	18,600
TMPB12	Test pumping	10 Mile	233,486	7,256,791	Basal Sand	23-Jun-17	512	8,150	70,400	9,390	121,650	27,100
TMPB12	Test pumping	10 Mile	233,486	7,256,791	Basal Sand	24-Jun-17	507	8,070	71,600	9,380	123,450	27,200
TMPB12	Test pumping	10 Mile	233,486	7,256,791	Basal Sand	25-Jun-17	505	8,090	73,000	9,450	125,900	27,300
TMPB12	Test pumping	10 Mile	233,486	7,256,791	Basal Sand	26-Jun-17	501	8,060	71,100	9,400	127,000	26,600
TMPB12	Test pumping	10 Mile	233,486	7,256,791	Basal Sand	26-Jun-17	508	8,100	71,600	9,480	127,000	26,700
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	1-May-17	403	10,900	78,500	8,890	136,350	32,100
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	6-May-17	413	10,800	75,000	8,610	129,700	30,600
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	7-May-17	398	10,700	78,100	8,890	137,050	31,500
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	7-May-17	407	10,600	78,200	9,070	137,050	30,900
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	8-May-17	405	8,840	77,700	10,600	137,400	29,900
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	8-May-17	400	8,860	78,000	10,700	137,600	29,600
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	9-May-17	400	10,600	79,000	9,000	136,350	31,500
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	4-May-17	651	5,780	66,400	9,990	114,300	21,000
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	5-May-17	411	8,960	80,100	10,900	137,950	29,900
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	5-May-17	413	8,930	79,700	10,700	138,450	29,900
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	6-May-17	410	8,940	79,400	10,900	137,950	29,600
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	7-May-17	405	8,800	79,400	10,800	138,100	29,900
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	8-May-17	407	8,970	78,900	10,700	138,650	29,900
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	9-May-17	408	8,990	80,300	10,700	137,600	30,000
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	9-May-17	405	8,930	79,100	10,700	137,750	30,000
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	28-Apr-17	404	10,700	77,100	9,000	133,200	30,900
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	2-May-17	391	10,400	79,300	8,930	136,700	31,500
TMPB23	Test pumping	10 Mile	230,918	7,253,522	Fractured Bedrock	28-Apr-17	413	10,900	74,900	8,390	129,200	30,300
WB06D	12v Pumping	10 Mile	230,190	7,259,422	Bedrock	2015	378	8,360	94,700	13,300	152,000	32,700
WB07	12v Pumping	10 Mile	230,475	7,257,584	Bedrock	2015	524	7,660	70,200	9,600	124,000	27,210

Point ID	Description	Location	Easting	Northing	Representative Aquifer	Date	Assay					
							Ca	Mg	Na	K	Cl	SO_4
							mg/L					
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	19-Dec-15	594	6,600	58,100	7,930	101,000	22,620
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	24-Apr-17	521	8,440	65,000	6,990	109,400	25,600
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	25-Apr-17	517	8,320	64,200	6,930	109,250	24,800
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	25-Apr-17	518	8,290	64,700	7,180	108,900	25,100
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	26-Apr-17	516	8,260	63,500	7,000	109,400	25,400
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	26-Apr-17	516	8,260	64,600	6,940	109,050	25,400
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	24-Apr-17	523	8,470	65,200	7,040	109,050	24,900
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	Dec-15	595	5,590	49,900	6,790	86,800	18,870
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	Dec-15	587	6,330	55,700	7,530	96,500	21,600
WB10	Test pumping	10 Mile	233,468	7,257,249	Basal Sand	Dec-15	560	6,770	60,700	7,990	104,000	23,310
WB10MBD	12v Pumping	10 Mile	233,468	7,257,249	Basal Sand	2015	707	4,050	36,800	5,280	65,300	13,110
WB10MBI	12v Pumping	10 Mile	233,487	7,257,251	Clay	2015	699	4,550	41,200	5,690	72,900	15,360
WB11MBI	12v Pumping	10 Mile	233,539	7,255,526	Surficial	2015	842	4,510	35,900	4,550	62,600	15,750
WB11MBS	12v Pumping	10 Mile	233,539	7,255,524	Surficial	2015	830	5,100	39,800	4,990	67,500	17,190
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	15-Dec-15	648	6,780	50,800	6,355	90,450	23,385
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	14-Dec-15	651	6,700	49,800	6,210	89,800	22,890
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	657	6,650	49,900	6,080	85,300	22,590
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	689	7,080	53,000	6,490	89,100	23,310
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	696	7,050	51,800	6,480	88,100	23,580
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	672	6,890	51,000	6,380	88,600	22,770
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	678	7,140	54,800	6,660	92,100	23,940
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	646	6,910	52,000	6,440	92,600	23,400
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	691	7,205	53,400	6,700	89,450	23,475
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	676	6,900	51,800	6,300	89,600	23,730
WB12	Test pumping	10 Mile	233,894	7,253,901	Upper Sand	Dec-15	660	7,090	54,200	6,700	93,800	23,610
WB12MBD	12v Pumping	10 Mile	233,894	7,253,901	Upper Sand	2015	729	5,475	42,800	5,270	74,200	19,125
WB12MBI	12v Pumping	10 Mile	233,888	7,253,923	Clay	2015	999	4,470	38,300	4,840	64,600	15,510
WB19	12v Pumping	10 Mile	235,565	7,257,151	Surficial	2015	230	1,130	12,400	1,870	21,900	3,450
WB23	12v Pumping	10 Mile	235,582	7,257,150	Surficial	2015	265	1,590	16,000	2,290	27,500	5,070
WB25	12v Pumping	10 Mile	235,579	7,257,152	Surficial	2015	476	560	6,575	1,120	10,800	2,250
ESE Trench	Test Pumping	Sunshine	260,414	7,276,115	Surficial	1-Aug-17	848	6,080	65,000	6,480	115,500	14,800
ESE Trench	Test Pumping	Sunshine	260,414	7,276,115	Surficial	27-Jul-17	828	5,900	65,600	6,390	116,200	14,600
ESE Trench	Test Pumping	Sunshine	260,414	7,276,115	Surficial	28-Jul-17	687	6,890	73,500	6,990	130,700	15,700
ESE Trench	Test Pumping	Sunshine	260,414	7,276,115	Surficial	29-Jul-17	695	6,930	74,700	7,040	130,700	16,100
ESE Trench	Test Pumping	Sunshine	260,414	7,276,115	Surficial	30-Jul-17	1,000	4,900	52,700	5,010	92,500	13,100
ESE Trench	Test Pumping	Sunshine	260,414	7,276,115	Surficial	31-Jul-17	707	6,980	73,300	7,040	131,050	16,400
ESE Trench	Test Pumping	Sunshine	257,690	7,271,774	Surficial	1-Aug-17	630	7,960	73,200	7,080	127,150	19,900
ESE Trench	Test Pumping	Sunshine	257,690	7,271,774	Surficial	1-Aug-17	617	7,850	73,600	7,000	127,700	19,400
ESE Trench	Test Pumping	Sunshine	257,690	7,271,774	Surficial	27-Jul-17	673	8,010	72,900	7,130	129,100	20,300
ESE Trench	Test Pumping	Sunshine	257,690	7,271,774	Surficial	28-Jul-17	630	7,850	70,800	6,960	127,700	19,500
ESE Trench	Test Pumping	Sunshine	257,690	7,271,774	Surficial	29-Jul-17	631	7,960	72,800	7,090	127,500	19,800

Point ID	Description	Location	Easting	Northing	Representative Aquifer	Date	Assay					
							Ca	Mg	Na	K	Cl	SO_4
							mg/L					
ESE Trench	Test Pumping	Sunshine	257,690	7,271,774	Surficial	30-Jul-17	621	7,850	72,200	6,980	128,200	19,200
ESE Trench	Test Pumping	Sunshine	257,690	7,271,774	Surficial	31-Jul-17	623	7,910	72,200	7,040	127,500	19,500
SSAC15M1	Slugtest	Sunshine	257,617	7,275,041	Basal Sand	10-Jun-17	784	5,830	60,200	5,860	103,900	17,900
SSAC15M2	Slugtest	Sunshine	257,617	7,275,041	Surficial	10-Jun-17	837	5,480	55,200	5,160	95,050	16,300
SSAC16M1	Slugtest	Sunshine	257,301	7,275,361	Basal Sand	10-Jun-17	333	4,670	41,400	4,250	73,100	14,000
SSAC16M2	Slugtest	Sunshine	257,301	7,275,361	Surficial	10-Jun-17	798	5,110	56,400	5,440	98,600	14,900
SSAC19M1	Slugtest	Sunshine	264,078	7,276,655	Basal Sand	10-Jun-17	325	4,630	41,100	4,210	72,150	13,000
SSAC19M2	Slugtest	Sunshine	264,078	7,276,655	Surficial	10-Jun-17	201	880	8,890	860	15,050	2,550
SSAC24M1	Slugtest	Sunshine	256,660	7,273,834	Basal Sand	10-Jun-17	330	4,650	41,500	4,240	73,800	13,500
SSAC24M2	Slugtest	Sunshine	256,660	7,273,834	Surficial	10-Jun-17	472	5,130	46,800	4,650	80,150	14,400
SSPB15	Test pumping	Sunshine	257,634	7,275,045	Basal Sand	8-Jul-17	747	6,000	63,000	7,960	120,200	17,900
SSPB15	Test pumping	Sunshine	257,634	7,275,045	Basal Sand	8-Jul-17	794	5,560	59,200	6,350	104,600	16,700
SSPB15	Test pumping	Sunshine	257,634	7,275,045	Basal Sand	15-Aug-17	707	5,880	66,700	6,310	110,250	17,800
SSPB15	Test pumping	Sunshine	257,634	7,275,045	Basal Sand	15-Aug-17	707	5,850	66,200	6,280	109,550	17,600
SSPB15	Test pumping	Sunshine	257,634	7,275,045	Basal Sand	18-Aug-17	660	6,600	70,000	7,170	121,450	18,700
SSPB15	Test pumping	Sunshine	257,634	7,275,045	Basal Sand	18-Aug-17	680	6,700	71,100	7,250	109,550	19,100
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	1-Aug-17	761	5,720	65,600	6,760	113,550	16,000
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	17-Jul-17	765	5,440	59,500	6,770	107,600	15,600
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	27-Jul-17	763	5,890	65,800	6,870	114,400	16,300
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	28-Jul-17	757	5,920	65,700	6,930	113,550	16,200
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	29-Jul-17	755	5,820	64,600	6,830	113,350	16,100
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	29-Jul-17	784	5,900	64,900	6,880	113,550	16,300
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	30-Jul-17	782	5,930	65,100	6,900	114,050	16,200
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	31-Jul-17	768	5,720	64,400	6,750	113,550	16,000
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	4-Aug-17	769	5,880	65,300	6,840	113,700	16,300
SSPB18	Test pumping	Sunshine	261,022	7,275,999	Basal Sand	4-Aug-17	791	5,880	64,400	7,040	112,200	16,300
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	10-Aug-17	692	5,000	54,200	4,880	90,600	15,400
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	11-Aug-17	680	5,100	55,300	4,890	93,250	15,500
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	12-Aug-17	692	5,150	55,700	4,950	91,850	15,600
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	13-Aug-17	690	5,210	54,500	4,960	93,950	15,800
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	13-Aug-17	684	5,200	55,000	4,930	93,250	15,600
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	4-Aug-17	717	5,410	56,000	5,250	93,250	16,400
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	4-Aug-17	802	5,930	64,600	7,050	112,200	16,700
SSPB19	Test pumping	Sunshine	264,084	7,276,673	Basal Sand	4-Aug-17	698	5,280	54,200	5,120	93,250	16,100
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	20-Jul-17	529	6,040	61,800	5,830	104,150	16,700
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	20-Jul-17	524	5,960	61,700	5,800	103,950	16,700
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	8-Jul-17	607	5,460	46,800	5,330	83,950	17,100
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	4-Jul-17	563	5,260	44,900	5,040	80,800	16,400
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	4-Jul-17	580	4,720	40,300	4,440	71,500	15,000
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	5-Jul-17	580	5,370	47,100	5,220	82,700	17,300
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	6-Jul-17	565	4,780	41,200	4,650	72,350	15,200

Point ID	Description	Location	Easting	Northing	Representative Aquifer	Date	Assay					
							Ca	Mg	Na	K	Cl	SO_4
							mg/L					
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	6-Jul-17	555	4,720	41,000	4,630	72,000	14,900
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	11-Jul-17	604	5,510	47,900	5,370	84,100	17,600
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	15-Jul-17	563	5,150	45,200	5,010	79,200	16,300
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	16-Jul-17	565	5,170	44,500	5,030	80,050	16,500
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	17-Jul-17	567	5,210	45,300	5,040	80,600	16,500
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	18-Jul-17	572	5,250	44,600	5,060	80,250	16,400
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	20-Jul-17	574	5,290	45,200	5,070	79,900	16,700
SSPB21	Test pumping	Sunshine	248,431	7,269,419	Basal Sand	20-Jul-17	572	5,300	45,100	5,040	80,600	16,400
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	18-Jul-17	1,070	4,170	46,700	5,000	81,700	12,500
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	19-Jul-17	1,100	4,170	46,400	4,950	79,750	12,500
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	20-Jul-17	1,050	4,260	47,900	5,160	83,450	12,600
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	21-Jul-17	1,030	4,190	48,400	5,080	82,900	12,700
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	22-Jul-17	1,060	4,050	46,000	4,880	80,100	12,200
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	23-Jul-17	1,020	4,600	51,600	5,550	89,550	13,200
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	24-Jul-17	1,060	4,810	52,100	5,700	90,450	13,300
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	25-Jul-17	1,050	4,810	52,600	5,710	90,100	13,400
Trench NE	Test pumping	Sunshine	260,451	7,276,110	Surficial	25-Jul-17	1,060	4,830	52,600	5,780	90,450	13,400

APPENDIX 5: TEST PUMPING RESULTS AND SUMMARIES



10 Mile Test Pumping Summary

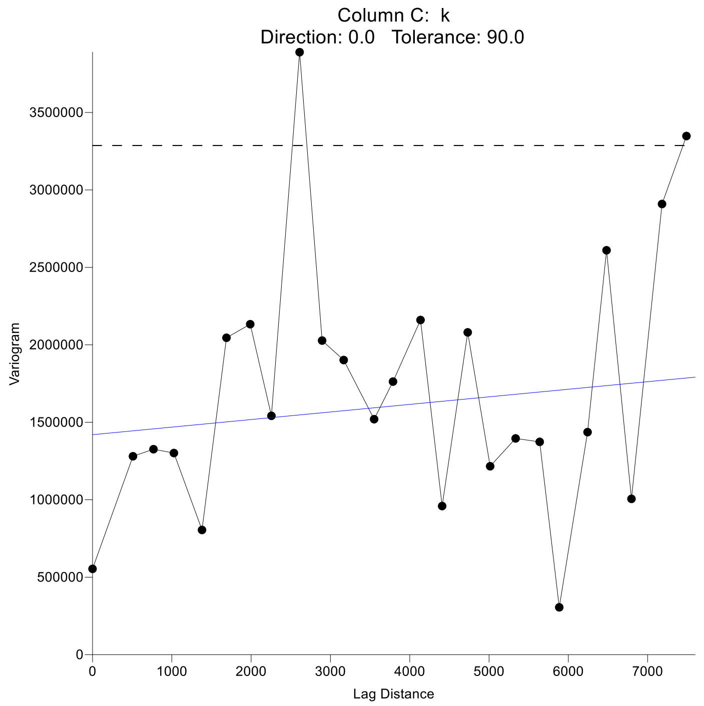
TEST	MONITORING BORE	TEST RATE (L/s)	DURATION	METHOD	TRANSMISSIVITY (m^2/d)	HYDRAULIC CONDUCTIVITY (K) (m/d)	CONFINED STORAGE (-)	COMMENTS	Medium to Long Term Yield	Bore Efficiency @ test rate
TMPB23	TMAC23M1	10	6.5 Days	Theis	34	1.4	1.88E-05	Boundary at 300 mins	5 – 8 L/s	75%
	TMAC22M1			Theis	52	2.2	1.23E-04	Boundary at 2,500 mins		
	TMAC11M1			Theis	62	2.6	1.08E-04	Boundary at 600 mins		
	PB			Thiem	41	1.7	-			
WB10	TMAC12M1	32 – 24	5 Days	Cooper Jacob	168	15.3	3.67E-05	Boundary at 200 mins	18 – 22 L/s	60%
				Theis	123	11.1	5.11E-05			
	TMAC13M1			Theis	124	11.3	8.83E-05			
				Cooper Jacob	159	14.4	6.51E-05			
	TMAC14M1			Theis	147	13.3	1.13E-04	Boundary at 300 mins		
				Cooper Jacob	165	15.0	9.06E-05	Boundary at 300 mins		
TMPB26	TMAC26M1	3.5	17 Hours	Theis	9	0.7	4.75E-04		2 - 3 L/s	35%
TMPB12	TMAC12M1	12	14 Days	Theis	25	2.3	7.79E-04	Some early time leakage observed between 15 mins and 2.5 hours, follows Theis type curve from then on	8 - 10 L/s	60%

Lake Sunshine Test Pumping Summary

TEST	MONITORING BORE	TEST RATE (L/s)	DURATION	METHOD	TRANSMISSIVITY (m^2/d)	HYDRAULIC CONDUCTIVITY (m/d)	CONFINED STORAGE (-)	Comments	Medium to Long Term Yield	Bore Efficiency @ test rate
SSPB18	SSAC18M1	10	10 days	Theis - Recovery	20	1.9	-	Boundary at 600 mins	6 - 10 L/s	40%
	SSPB18			Cooper Jacob	29	2.7	2.89E-04			
	SSPB18			Theis	28	2.5	5.24E-04			
	SSPB18			Theis - Recovery	18	1.7	-	Leaky response		
	SSAC18M1			Theis	21	1.9	9.16E-04	Poor Fit		
SSPB19	SSAC19M1	8	10 days	Cooper Jacob	21	2.3	2.98E-04	Boundary at 200 mins	6 – 10 L/s	65%
	SSAC19M1			Theis	23	2.5	2.60E-04	Boundary at 200 mins		
	SSAC19M1			Theis - Recovery	21	2.3	-			
	SSAC19			Cooper Jacob	19	2.1	-	Leaky response		
	SSAC19			Theis	21	2.1	-	Leaky response		
	SSAC19			Theis - Recovery	28	3.1	-	Boundary at 200 mins		
SSPB15	SSAC15M1	4	3 days	Theis	22	3.1	5.37E-04	Boundary at 200 mins	3 – 5 L/s	20%
	SSAC15M1			Cooper Jacob	24	3.4	4.32E-04			
	SSAC15M1			Theis Recovery	29	4.1	-			
	SSPB15			Theis Recovery	20	2.8	-			
SSPB21	SSAC21M1	9.5	12 days	Theis	23	2.3	2.33E-04	Boundaries not observable	6 – 8 L/s	35%
	SSPB21			Theis Recovery	19	1.9	-			
SSSN03PB	SSSN03MB	17	14 and 21 days	Cooper-Jacob ET	102	2.0	1.36E-03	Leaky aquifer response	12 – 14 L/s	50%
				Cooper-Jacob LT	226	4.3	-	T and K representative of leakage		
				Hantush-Jacob	109	2.1	6.64E-03	Leakage parameter – 0.04		
	SSAC06-M1			Hantush-Jacob	12	0.3	4.96E-04	Monitoring Bore in weathered siltstone		
	SSAC21-M1			Hantush-Jacob	22	1	2.96E-04	Monitoring Bore in palaeochannel sand		
	All Bores			Thiem	103	4.3	-	Bulk aquifer		

APPENDIX 6: STAGE 2 VARIOGRAM ANALYSIS

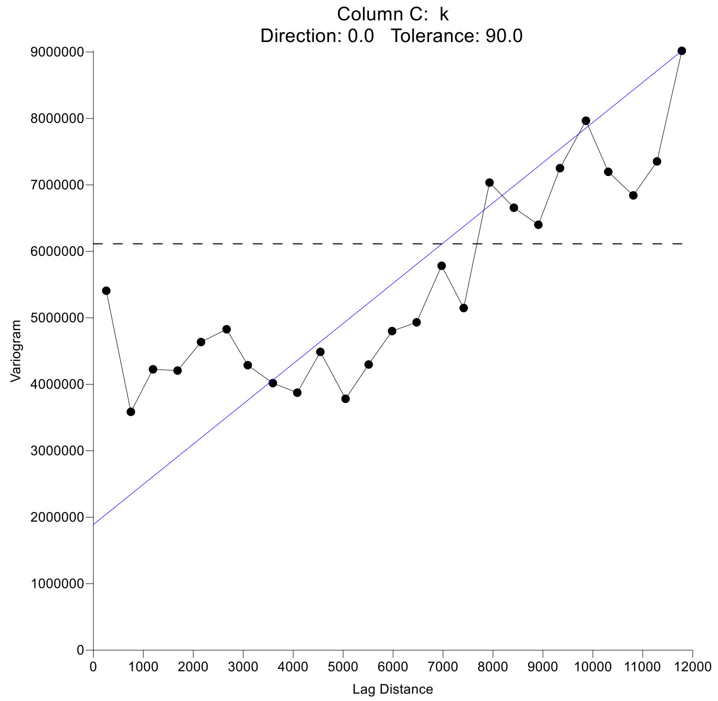
Aerodrome Lake Sediments



Coefficient of Variance = 0.26

Error Variance = 1.42E+006

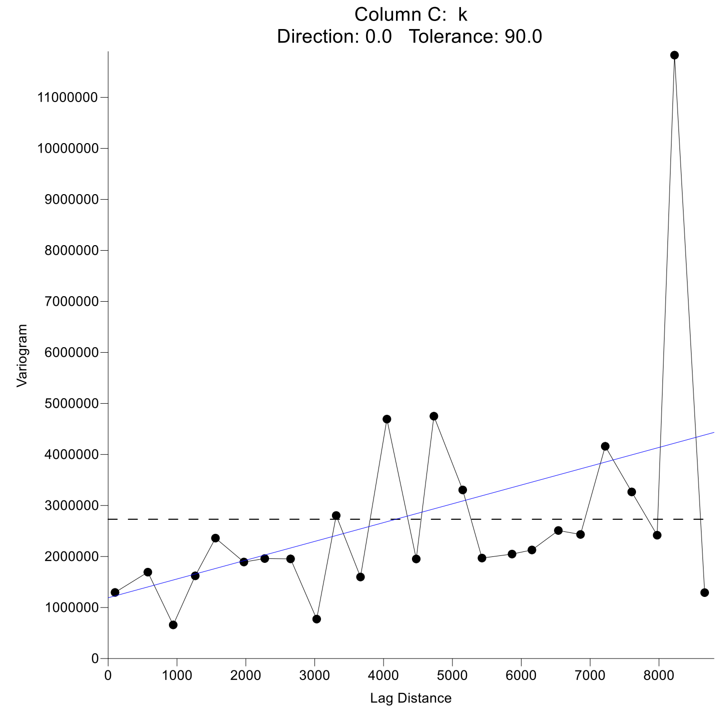
Central Lake Sediments



Coefficient of Variance = 0.43

Error Variance = 1.89E+006

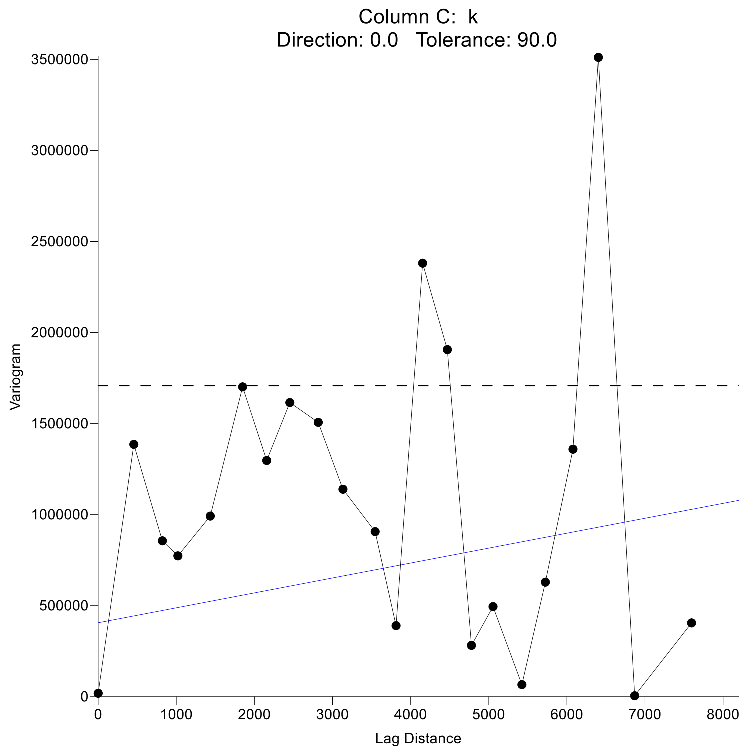
T Junction lake Sediments



Coefficient of Variance = 0.27

Error Variance = 2.69E+006

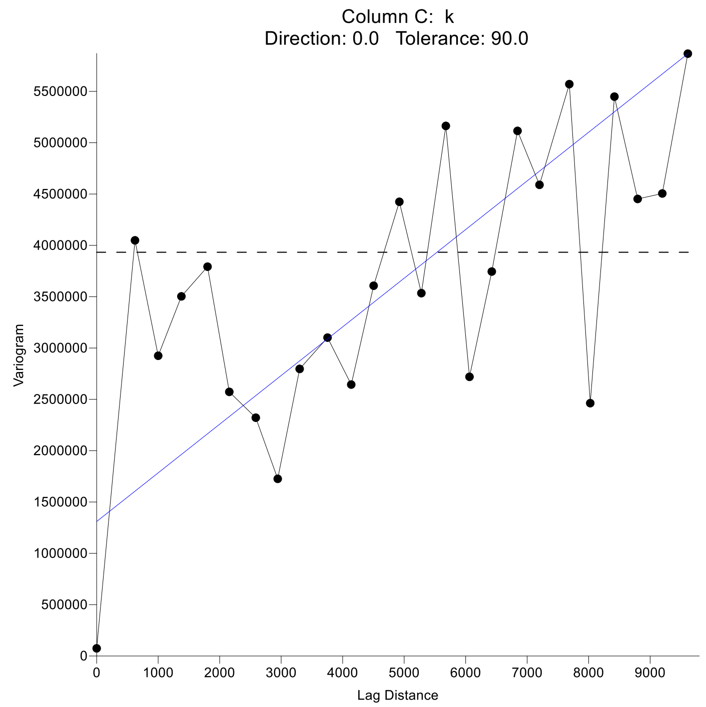
Terminal and Yanerri Lake Sediments



Coefficient of Variance = 0.28

Error Variance = 4.06E+005

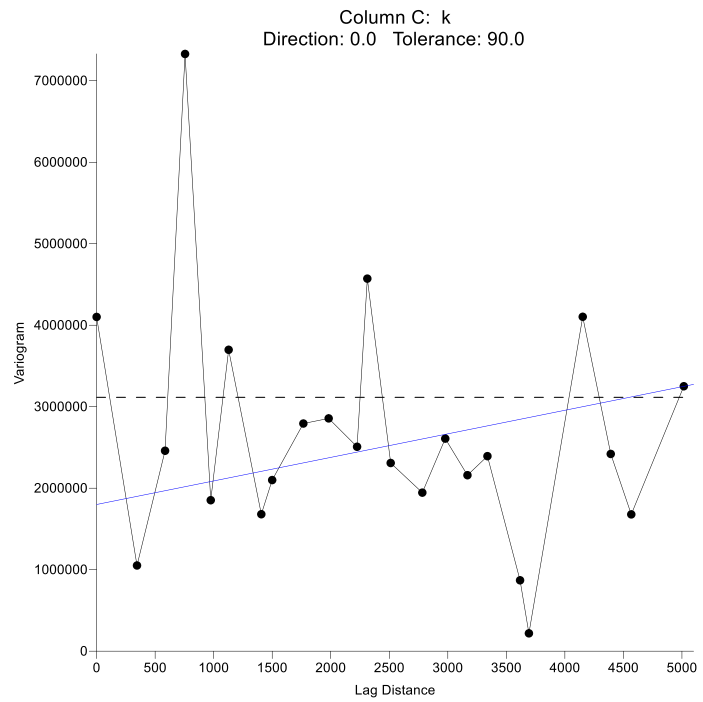
White Lake, Lake Sediments



Coefficient of Variance = 0.26

Error Variance = 1.31E+006

Wilderness Surficial Aquifer



Coefficient of Variance = 0.33

Error Variance = 1.80E+006

APPENDIX 7: BMR LOGS

Qteq

Core Calibration Analysis

SSSN01

COMPANY	Kalium	**DRILL DEPTH**	72m	**DATE**	02/03/18
WELL NAME	SSSN01	**BIT SIZE**	80mm	**TOOL NAME**	
FIELD	Kalium	**CASING TYPE**	PVC	**RUN NUMBER**	
PROJECT	Kalium	**CASING SIZE**	80mm	**LOGGING CO.**	
COUNTRY	Australia	**CASING BOTTOM**	68m	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	DJ
LOCATION	Kalium			**VEHICLE**	SV030
LATITUDE	7267315	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	245514	**ELEV PERM DATUM**		**ELEV DF**	
TOOL CONFIG FILE		**CALIBRATION FILE**		**NMRLib Version**	

PROCESSED BY	**T2_START (µs)**	**CBW_CUTOFF (ms)**	**TEMP_OPTION**
NUM_STACKS	**T2_STOP (s)**	**CAPW_CUTOFF (ms)**	**TEMP_GRAD (°C/100m)**
IGNORE_ECHO	**NUM_STEPS**	**FFV_CUTOFF (s)**	**SURFACE_TEMP (°C)**
BURSTS			

COMMENTS

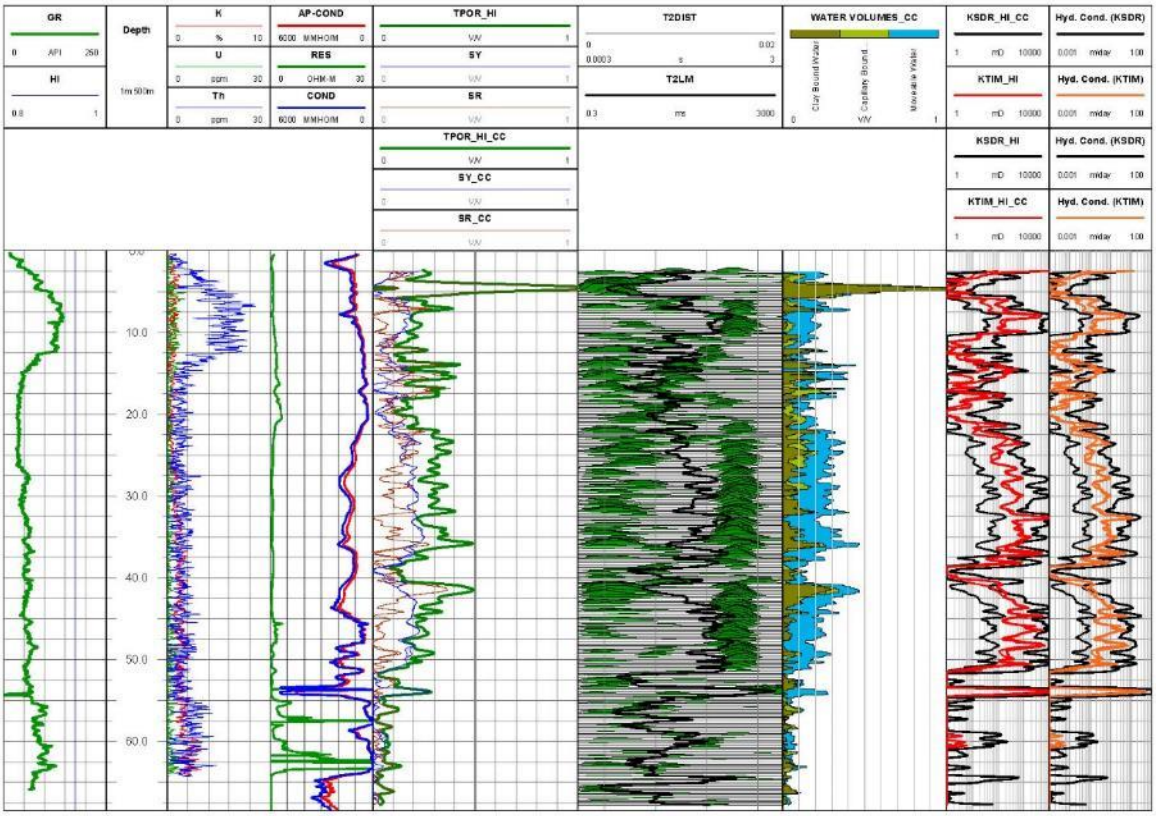
Some noise and poor borehole conditions in upper part of the borehole affect the readings

A linear Hydrogen Index was used to correct porosity and hydraulic conductivity due to hypersalinity

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

The following interpretations are opinions based upon inferences from borehole logs, QTEQ Pty Ltd cannot and does not guarantee the correctness or accuracy of any interpretations. Therefore QTEQ Pty Ltd shall not be liable or responsible for any loss, damage, cost or expense incurred or sustained by anyone resulting from any interpretations.



Qteq

Core Calibration Analysis

SSSN02

COMPANY	Kalium	DRILL DEPTH	74	DATE	02/03/18
WELL NAME	SSSN02	BIT SIZE	80	TOOL NAME	174002
FIELD	Kalium	CASING TYPE	STEEL	RUN NUMBER	
PROJECT	Kalium	CASING SIZE	80	LOGGING CO.	
COUNTRY	Australia	CASING BOTTOM	64	CLIENT REP	
STATE	WA	FLUID LEVEL		ENGINEER	DJ
LOCATION	Kalium			VEHICLE	SV030

LATITUDE	7269997	PERMANENT DATUM		ELEV GL	ELEV KB
LONGITUDE	245579	ELEV PERM DATUM		ELEV DF	

TOOL CONFIG FILE	CALIBRATION FILE	NMRLib Version

PROCESSED BY	T2_START (µs)	CBW_CUTOFF (ms)	TEMP_OPTION
NUM_STACKS	T2_STOP (s)	CAPW_CUTOFF (ms)	TEMP_GRAD (°C/100m)
IGNORE_ECHO	NUM_STEPS	FFV_CUTOFF (s)	SURFACE_TEMP (°C)
BURSTS			

COMMENTS

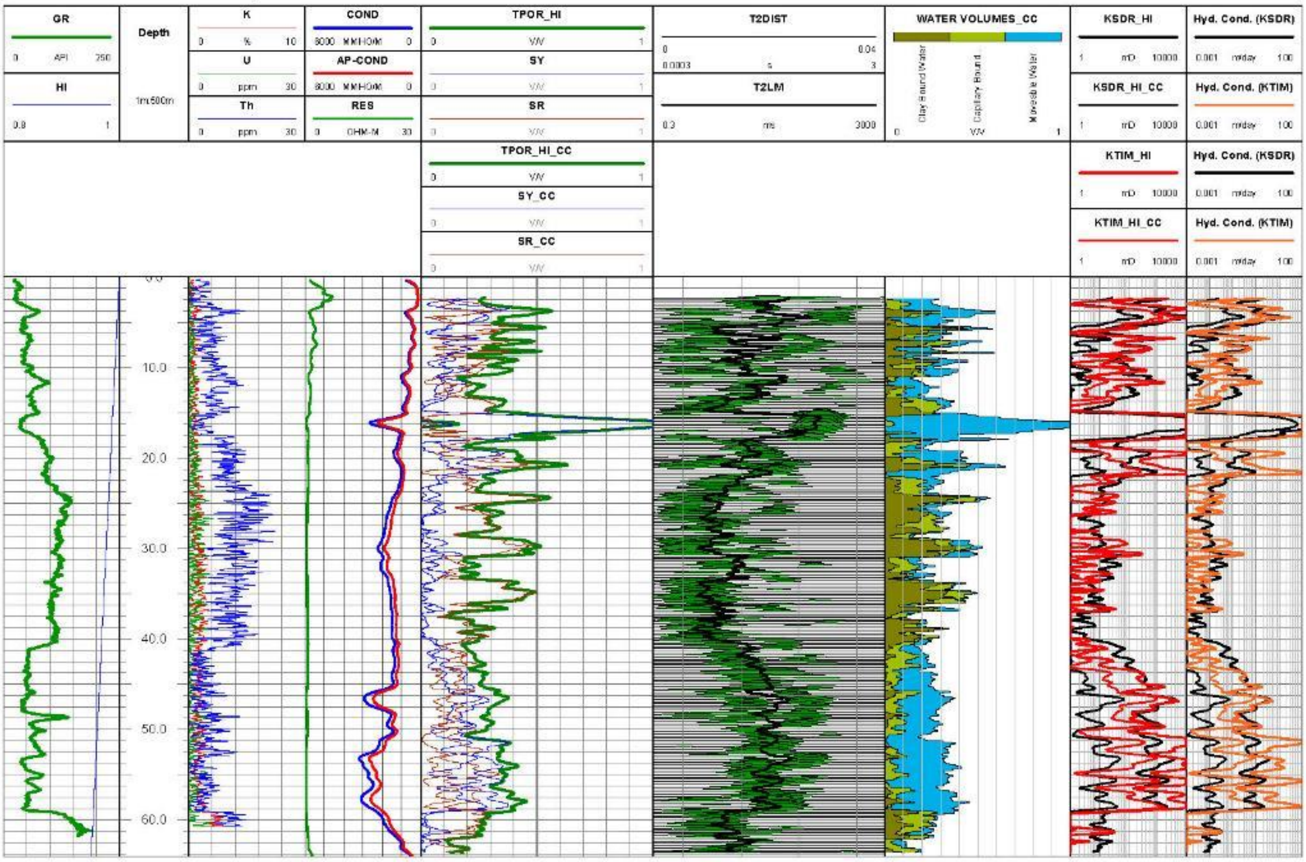
A linear Hydrogen Index was used to correct porosity and hydraulic conductivity due to hypersalinity.

Some noise and poor borehole conditions in upper part of the borehole affect the readings

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

The following interpretations are opinions based upon inferences from borehole logs, QTEQ Pty Ltd cannot and does not guarantee the correctness or accuracy of any interpretations. Therefore QTEQ Pty Ltd shall not be liable or responsible for any loss, damage, cost or expense incurred or sustained by anyone resulting from any interpretations.



Qteq

Core Calibration Analysis

SSSN03

COMPANY	Kalium	**DRILL DEPTH**	50m	**DATE**	21/03/18
WELL NAME	SSSN03	**BIT SIZE**	80mm	**TOOL NAME**	174002
FIELD	Kalium	**CASING TYPE**	PVC	**RUN NUMBER**	
PROJECT	Sunshine Lake	**CASING SIZE**	80mm	**LOGGING CO.**	
COUNTRY	AUSTRALIA	**CASING BOTTOM**	50m	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	BS
LOCATION	Kalium			**VEHICLE**	SV030

LATITUDE	7269797	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	249318	**ELEV PERM DATUM**		**ELEV DF**	

TOOL CONFIG FILE NMR-174002_230mmDOI_27Feb2018 **CALIBRATION FILE** NMR-174002_230mmDOI_27Feb2018 **NMRLib Version** 1.3.3

PROCESSED BY	B.Birt	**T2_START (µs)**	300	**CBW_CUTOFF (ms)**	3	**TEMP_OPTION**	Gradient
NUM_STACKS	3	**T2_STOP (s)**	10	**CAPW_CUTOFF (ms)**	33	**TEMP_GRAD (°C/100m)**	2.2
IGNORE_ECHO	FALSE	**NUM_STEPS**	128	**FFV_CUTOFF (s)**	5	**SURFACE_TEMP (°C)**	21
BURSTS	TRUE						

COMMENTS

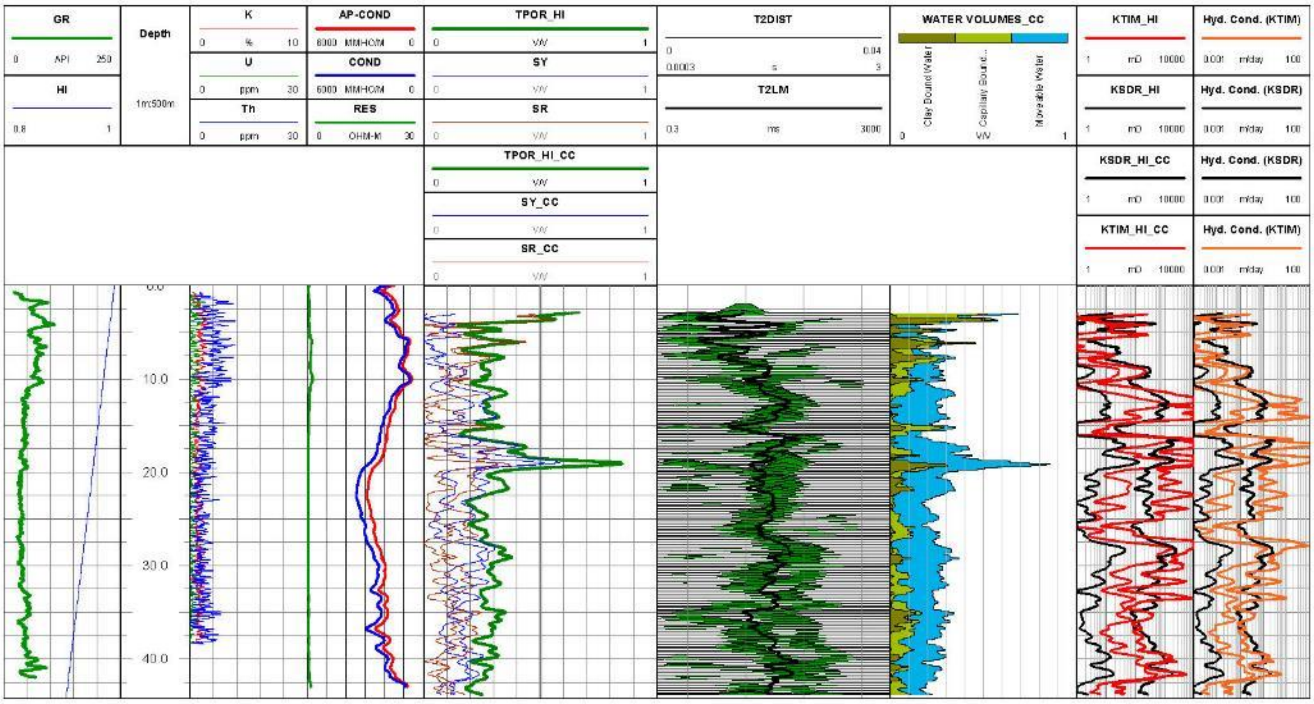
Water volumes have been corrected due to hypersalinity with a hydrogen index correction

Noise Spike at 19 m

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

The following interpretations are opinions based upon inferences from borehole logs, QTEQ Pty Ltd cannot and does not guarantee the correctness or accuracy of any interpretations. Therefore QTEQ Pty Ltd shall not be liable or responsible for any loss, damage, cost or expense incurred or sustained by anyone resulting from any interpretations.



Qteq

Core Calibration Analysis

SSSN04

COMPANY	Kalium	**DRILL DEPTH**	53m	**DATE**	22/3/18
WELL NAME	SSSN04	**BIT SIZE**	80mm	**TOOL NAME**	
FIELD	Kalium	**CASING TYPE**	PVC	**RUN NUMBER**	
PROJECT	Sunshine Lake	**CASING SIZE**	80mm	**LOGGING CO.**	
COUNTRY	Australia	**CASING BOTTOM**	53m	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	BS
LOCATION	Kalium			**VEHICLE**	SV030
LATITUDE	7273375	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	256879	**ELEV PERM DATUM**		**ELEV DF**	

TOOL CONFIG FILE	NMR-174002_230mmDOI_27FEB2018	**CALIBRATION FILE**	NMR-174002_230mmDOI_27FEB2018	**NMRLib Version**	1.3.3

PROCESSED BY	B.Birt	**T2_START (µs)**	300	**CBW_CUTOFF (ms)**	3	**TEMP_OPTION**	Gradient
NUM_STACKS	128	**T2_STOP (s)**	10	**CAPW_CUTOFF (ms)**	33	**TEMP_GRAD (°C/100m)**	2.2
IGNORE_ECHO	FALSE	**NUM_STEPS**	128	**FFV_CUTOFF (s)**	5	**SURFACE_TEMP (°C)**	21
BURSTS	TRUE						

COMMENTS

Water volumes have been corrected for hypersalinity using a hydrogen index correction.

Noise spikes evident in upper sections (7m,18-20m)

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

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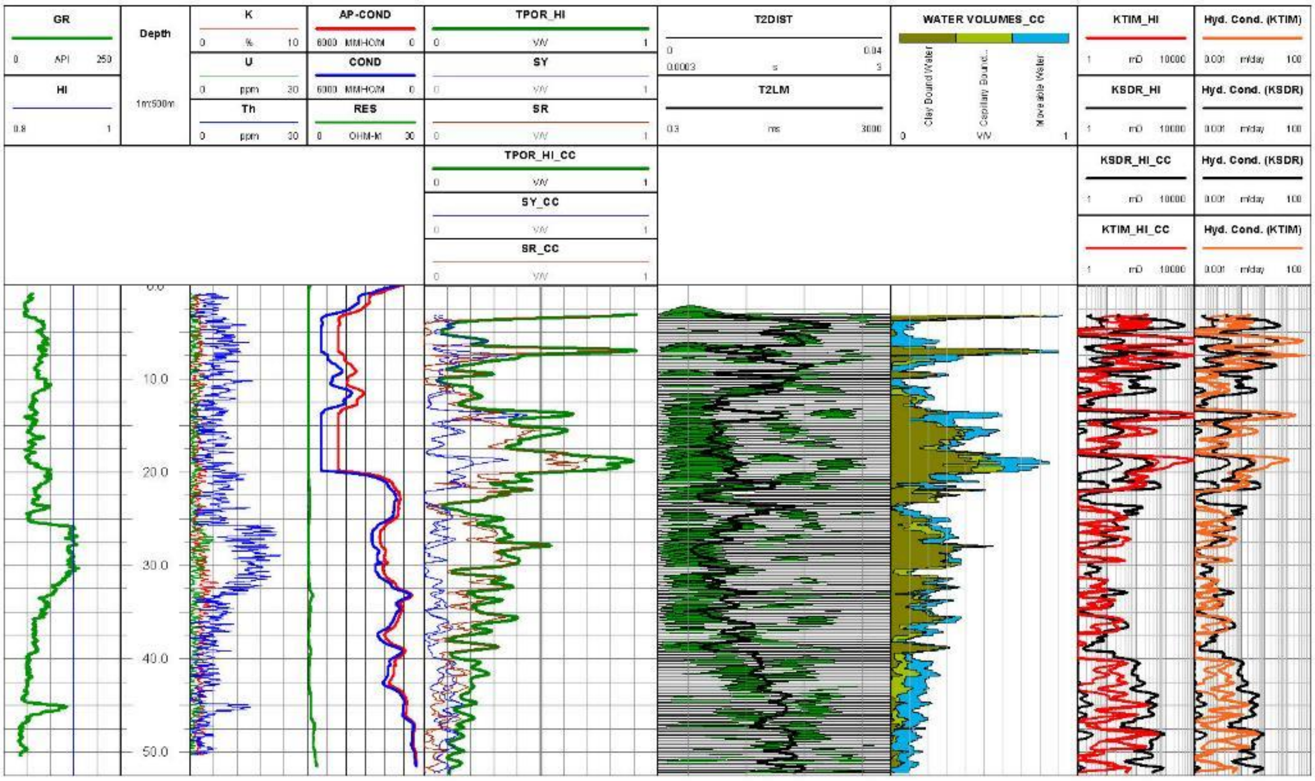


Qteq

Core Calirbation Analysis

SSSN05

COMPANY	Kalium	**DRILL DEPTH**	81m	**DATE**	23/03/18
WELL NAME	SSSN05	**BIT SIZE**	80mm	**TOOL NAME**	174002
FIELD	Kalium	**CASING TYPE**	PVC	**RUN NUMBER**	
PROJECT	Sunshine Lake	**CASING SIZE**	80m	**LOGGING CO.**	
COUNTRY	Australia	**CASING BOTTOM**	81m	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	BS
LOCATION	Kalium			**VEHICLE**	SV030

LATITUDE	7275738	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	258721	**ELEV PERM DATUM**		**ELEV DF**	

TOOL CONFIG FILE	NMR-174002_230mmDOI_27Feb2018	**CALIBRATION FILE**	NMR-174002_230mmDOI_27Feb2018	**NMRLib Version**	1.3.3

PROCESSED BY	B.Birt	**T2_START (µs)**	300	**CBW_CUTOFF (ms)**	3	**TEMP_OPTION**	Gradient
NUM_STACKS	3	**T2_STOP (s)**	10	**CAPW_CUTOFF (ms)**	33	**TEMP_GRAD (°C/100m)**	2.2
IGNORE_ECHO	FALSE	**NUM_STEPS**	128	**FFV_CUTOFF (s)**	5	**SURFACE_TEMP (°C)**	21
BURSTS	TRUE						

COMMENTS

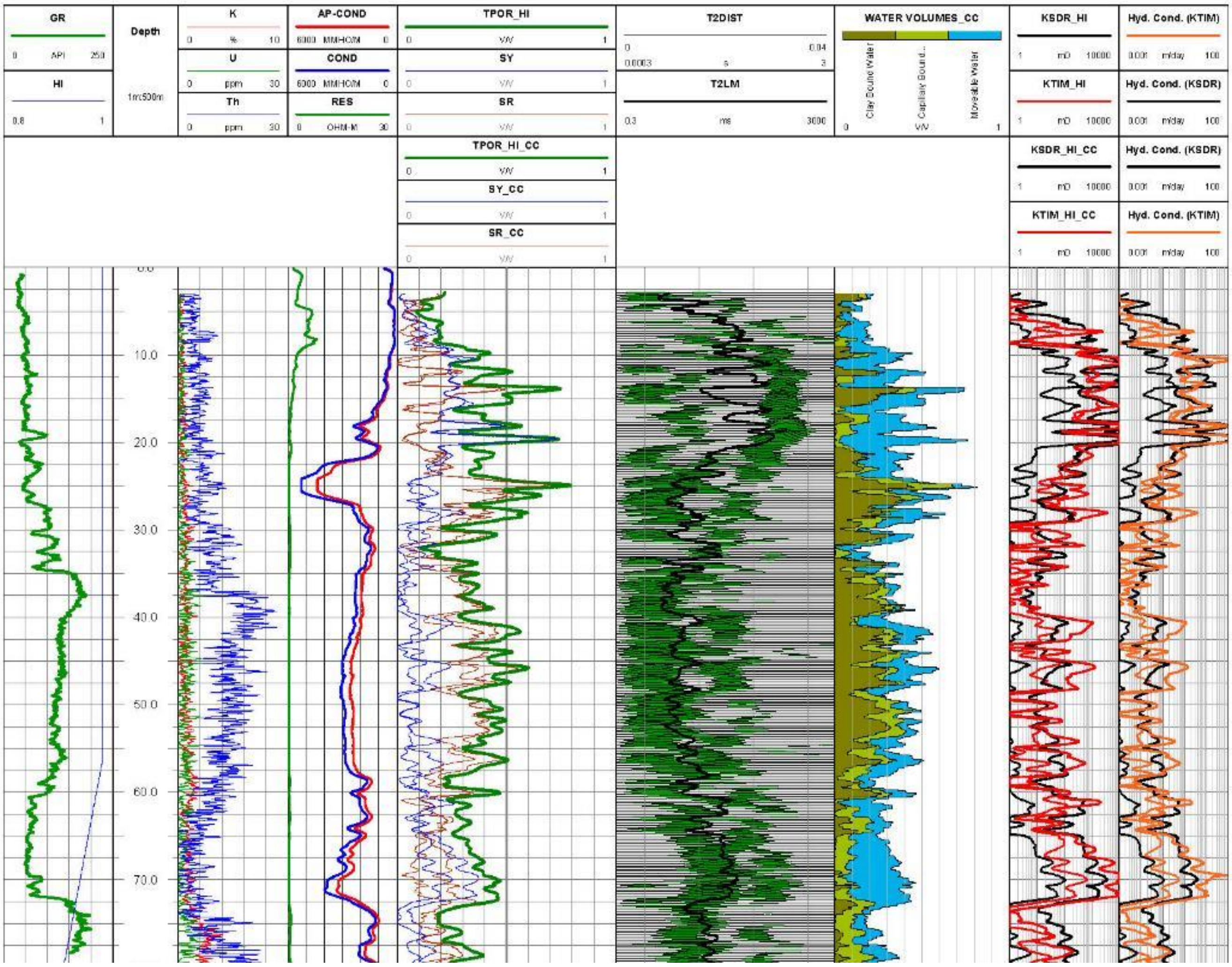
Water volumes have been corrected for hypersalinity with a linear hydrogen index correction

Potential noise spikes at 14 m and 24 m

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

The following interpretations are opinions based upon inferences from borehole logs, QTEQ Pty Ltd cannot and does not guarantee the correctness or accuracy of any interpretations. Therefore QTEQ Pty Ltd shall not be liable or responsible for any loss, damage, cost or expense incurred or sustained by anyone resulting from any interpretations.



Qteq

Core Calibration Analysis

SSSN06

COMPANY	Kalium	**DRILL DEPTH**	43m	**DATE**	23/03/18
WELL NAME	SSSN06	**BIT SIZE**	80mm	**TOOL NAME**	174002
FIELD	Kalium	**CASING TYPE**	PVC	**RUN NUMBER**	
PROJECT	Sunshine Lake	**CASING SIZE**	80mm	**LOGGING CO.**	
COUNTRY	Australia	**CASING BOTTOM**	35.3m	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	BS
LOCATION	Kalium			**VEHICLE**	SV030

LATITUDE	7275738	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	258721	**ELEV PERM DATUM**		**ELEV DF**	

TOOL CONFIG FILE	**CALIBRATION FILE**	**NMRLib Version**

PROCESSED BY	**T2_START (µs)**	**CBW_CUTOFF (ms)**	**TEMP_OPTION**
NUM_STACKS	**T2_STOP (s)**	**CAPW_CUTOFF (ms)**	**TEMP_GRAD (°C/100m)**
IGNORE_ECHO	**NUM_STEPS**	**FFV_CUTOFF (s)**	**SURFACE_TEMP (°C)**
BURSTS			

COMMENTS

Water volumes have been corrected for hyperalinity formation water with a hydrogen index correction (linear).

Significant noise in BMR signal 11.1 m to surface.

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

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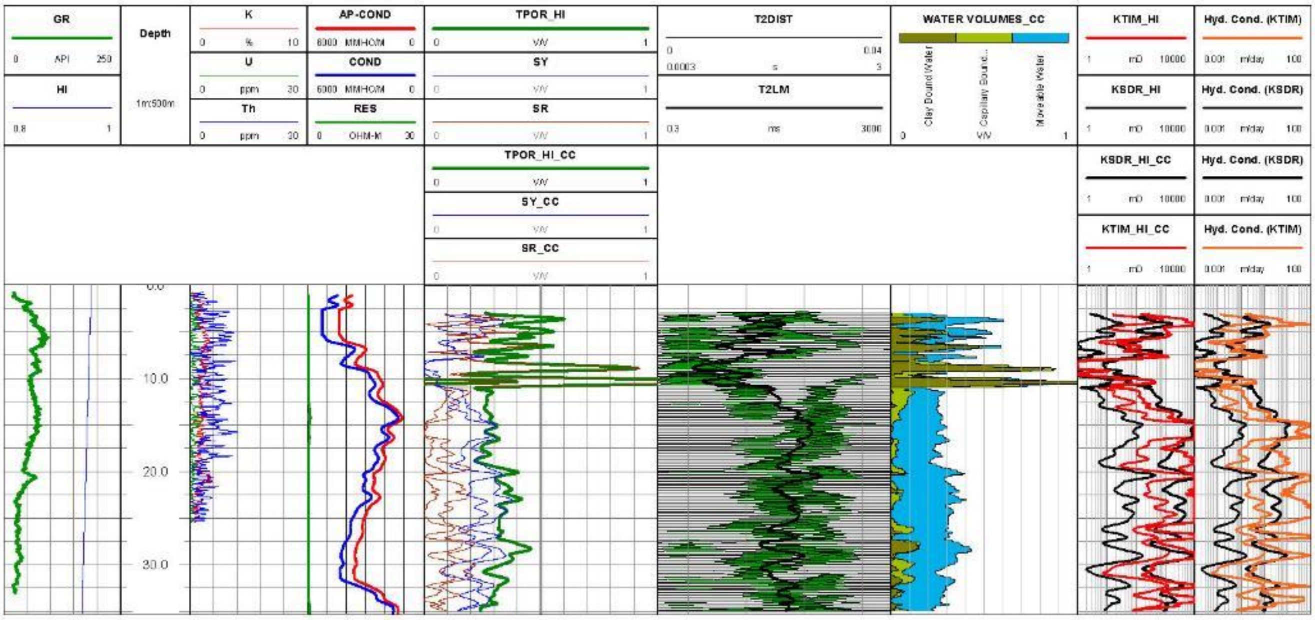


Qteq

Core Calibration Analysis

TMSN01

COMPANY	Kalium	**DRILL DEPTH**	92	**DATE**	01/03/18
WELL NAME	TMSN01	**BIT SIZE**	80	**TOOL NAME**	174002
FIELD	Kalium	**CASING TYPE**	STEEL	**RUN NUMBER**	
PROJECT	Kalium	**CASING SIZE**	80	**LOGGING CO.**	
COUNTRY	Australia	**CASING BOTTOM**	85	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	DJ
LOCATION	Kalium			**VEHICLE**	SV030
LATITUDE	7254259	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	230487	**ELEV PERM DATUM**		**ELEV DF**	
TOOL CONFIG FILE		**CALIBRATION FILE**		**NMRLib Version**	

PROCESSED BY	**T2_START (µs)**	**CBW_CUTOFF (ms)**	**TEMP_OPTION**
NUM_STACKS	**T2_STOP (s)**	**CAPW_CUTOFF (ms)**	**TEMP_GRAD (°C/100m)**
IGNORE_ECHO	**NUM_STEPS**	**FFV_CUTOFF (s)**	**SURFACE_TEMP (°C)**
BURSTS			

COMMENTS

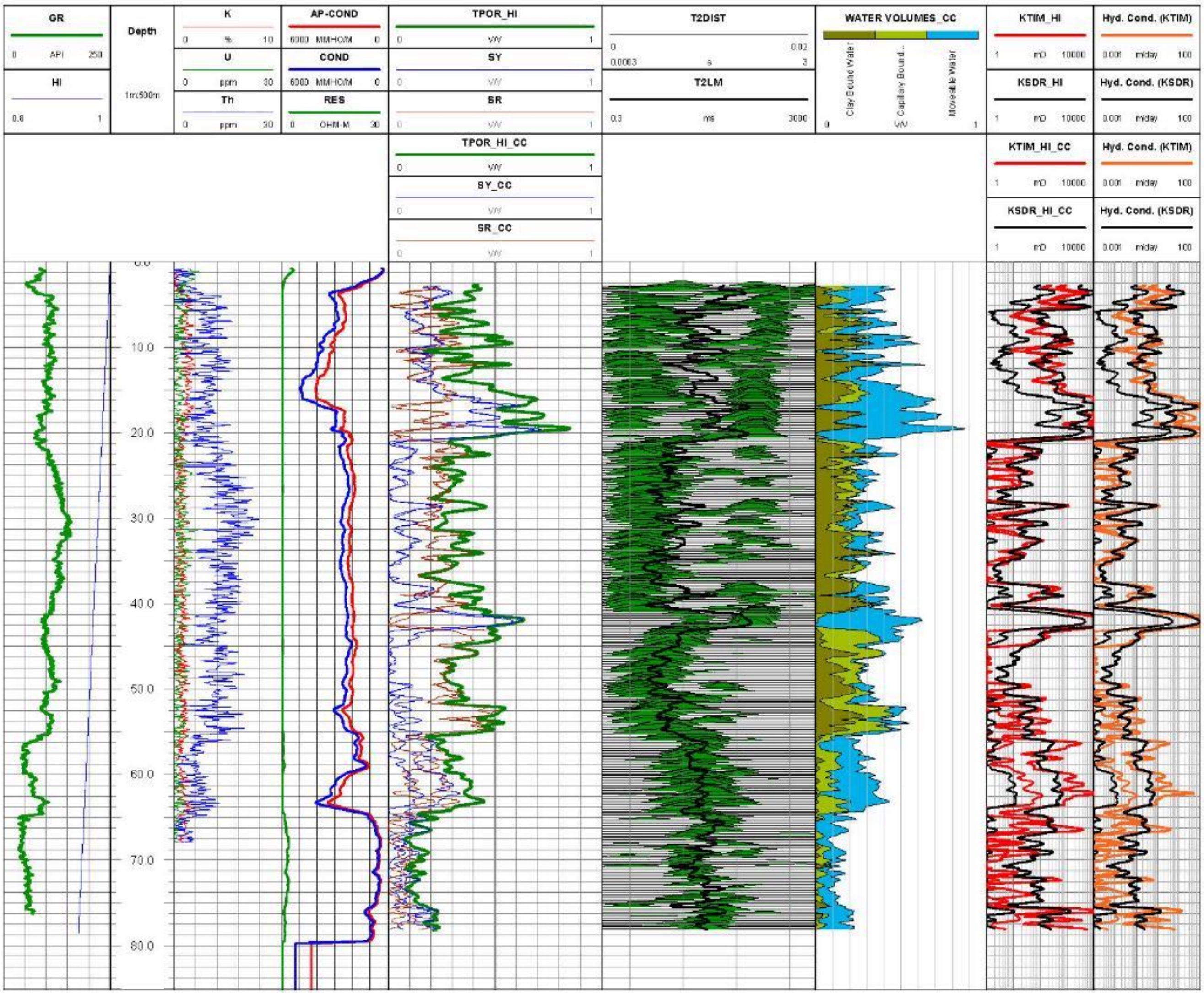
Could be metal in hole past 80 m as tool tripped out

A linear Hydrogen Index was used to correct porosity and hydraulic conductivity due to hypersalinity

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

The following interpretations are opinions based upon inferences from borehole logs, QTEQ Pty Ltd cannot and does not guarantee the correctness or accuracy of any interpretations. Therefore QTEQ Pty Ltd shall not be liable or responsible for any loss, damage, cost or expense incurred or sustained by anyone resulting from any interpretations.



Qteq

Core Calibration Analysis

TMSN02

COMPANY	Kalium	**DRILL DEPTH**	74	**DATE**	01/03/18
WELL NAME	TMSN02	**BIT SIZE**	72	**TOOL NAME**	174002
FIELD	Kalium	**CASING TYPE**	STEEL	**RUN NUMBER**	
PROJECT	Kalium	**CASING SIZE**	80	**LOGGING CO.**	
COUNTRY	Australia	**CASING BOTTOM**	72.5	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	DJ
LOCATION	Kalium			**VEHICLE**	SV030
LATITUDE	7254597	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	230882	**ELEV PERM DATUM**		**ELEV DF**	
TOOL CONFIG FILE		**CALIBRATION FILE**		**NMRLib Version**	

PROCESSED BY	**T2_START (µs)**	**CBW_CUTOFF (ms)**	**TEMP_OPTION**
NUM_STACKS	**T2_STOP (s)**	**CAPW_CUTOFF (ms)**	**TEMP_GRAD (°C/100m)**
IGNORE_ECHO	**NUM_STEPS**	**FFV_CUTOFF (s)**	**SURFACE_TEMP (°C)**
BURSTS			

COMMENTS

Porosity and hydraulic conductivity have been corrected with a linear hydrogen index down the borehole due to hypersalinity

Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

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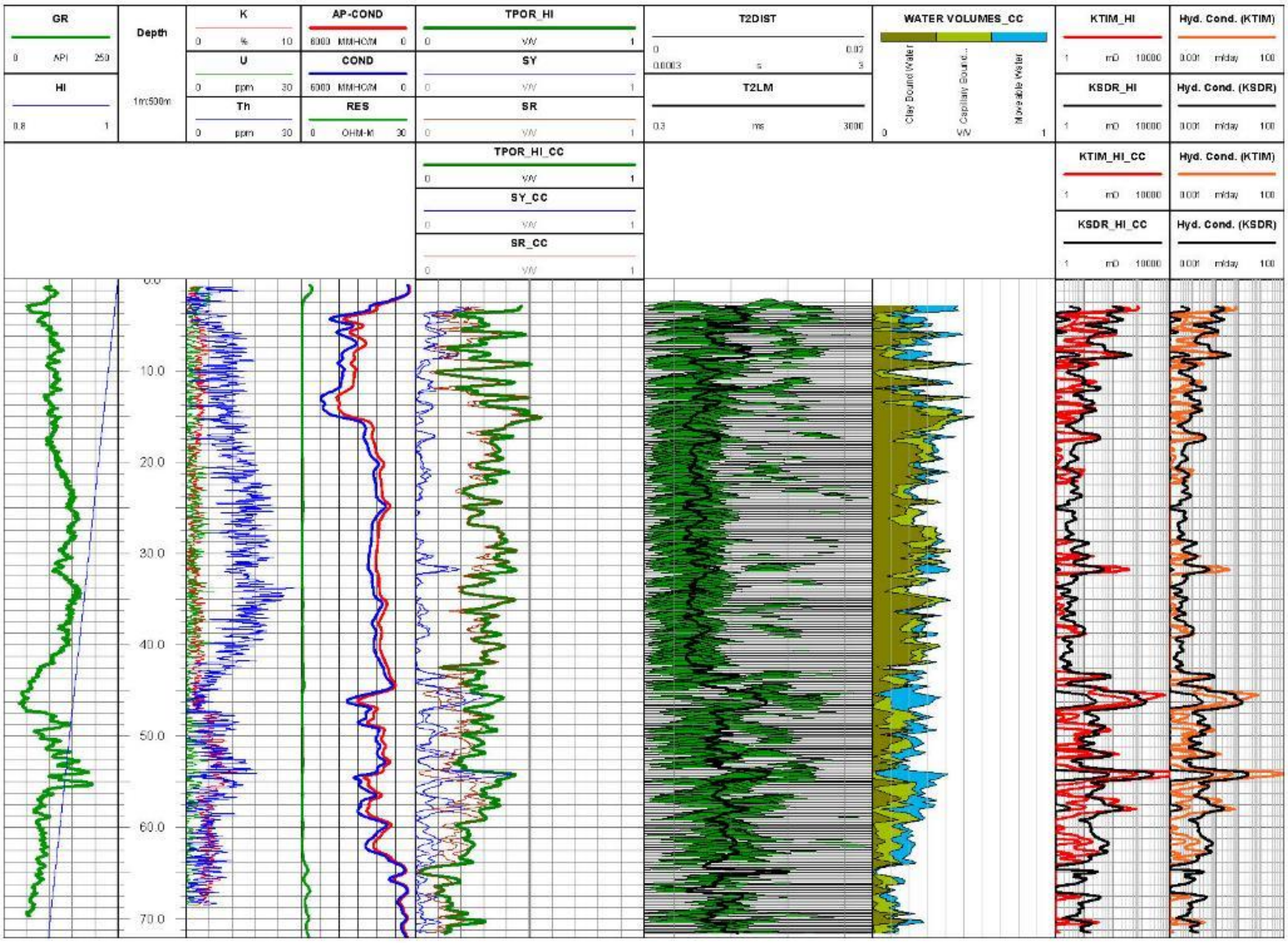


Qteq

Core Calibration Analysis

TMSN03

COMPANY	Kalium	**DRILL DEPTH**	89	**DATE**	01/03/18
WELL NAME	TMSN03	**BIT SIZE**	80	**TOOL NAME**	174002
FIELD	Kalium	**CASING TYPE**	STEEL	**RUN NUMBER**	
PROJECT	Kalium	**CASING SIZE**	80	**LOGGING CO.**	
COUNTRY		**CASING BOTTOM**	86	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	DJ
LOCATION	Kalium			**VEHICLE**	SV030

LATITUDE 233105	**PERMANENT DATUM**	**ELEV GL**	**ELEV KB**
LONGITUDE 7257019	**ELEV PERM DATUM**	**ELEV DF**	

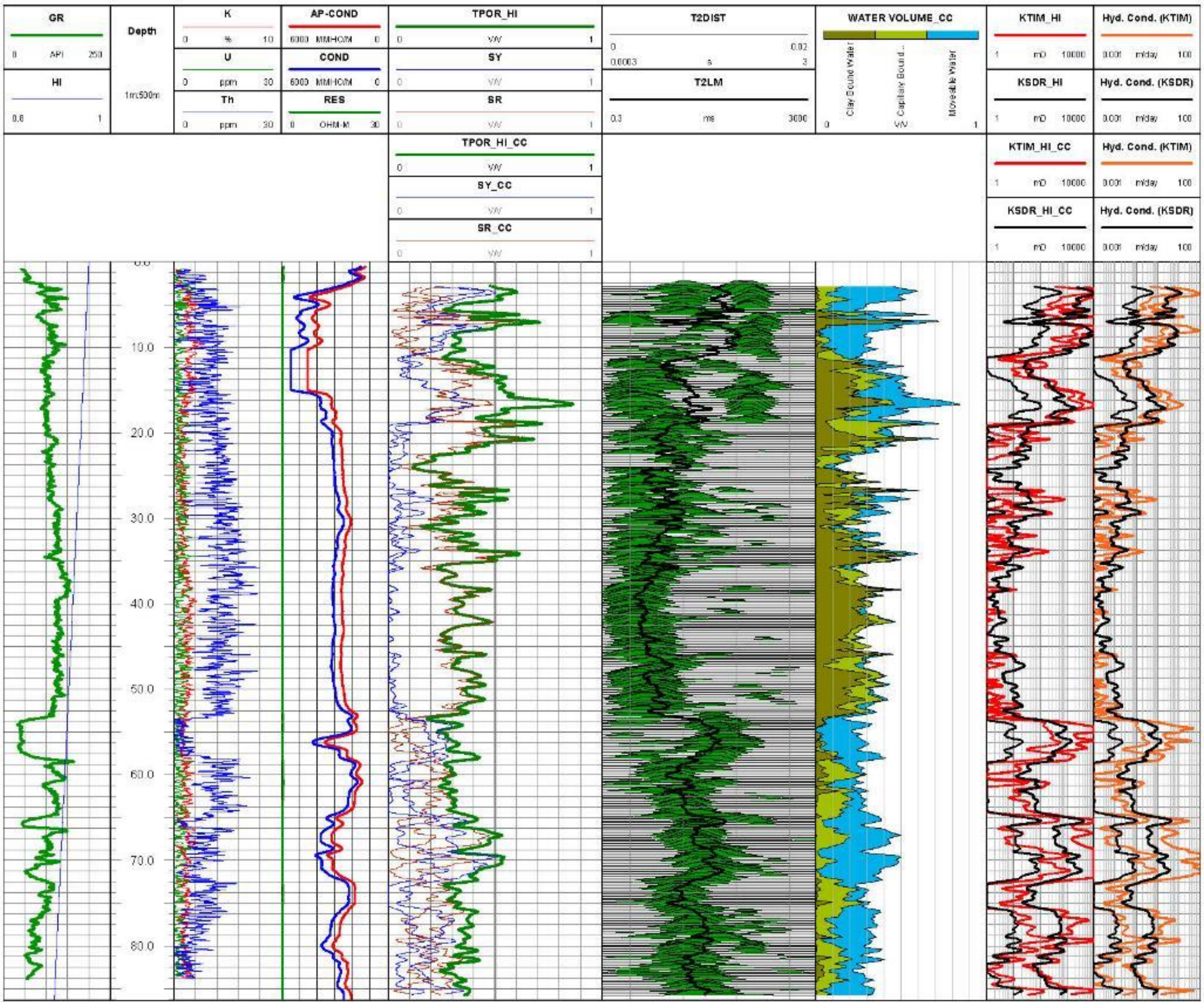
TOOL CONFIG FILE	**CALIBRATION FILE**	**NMRLib Version**

PROCESSED BY	**T2_START (µs)**	**CBW_CUTOFF (ms)**	**TEMP_OPTION**
NUM_STACKS	**T2_STOP (s)**	**CAPW_CUTOFF (ms)**	**TEMP_GRAD (°C/100m)**
IGNORE_ECHO	**NUM_STEPS**	**FFV_CUTOFF (s)**	**SURFACE_TEMP (°C)**
BURSTS			

COMMENTS

Some noise and potential borehole damage towards the top of the borehole
A linear Hydrogen Index correction was made to porosity and hydraulic conducivity due to hypersalinity
Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE	The following interpretations are opinions based upon inferences from borehole logs, QTEQ Pty Ltd cannot and does not guarantee the correctness or accuracy of any interpretations. Therefore QTEQ Pty Ltd shall not be liable or responsible for any loss, damage, cost or expense incurred or sustained by anyone resulting from any interpretations.



Qteq

Core Calibration Analysis

TMSN04

COMPANY	Kalium	**DRILL DEPTH**	72	**DATE**	02/03/18
WELL NAME	TMSN04	**BIT SIZE**	80	**TOOL NAME**	174002
FIELD	Kalium	**CASING TYPE**	PVC	**RUN NUMBER**	
PROJECT	Kalium	**CASING SIZE**	80	**LOGGING CO.**	
COUNTRY	Australia	**CASING BOTTOM**	67.5	**CLIENT REP**	
STATE	WA	**FLUID LEVEL**		**ENGINEER**	DJ
LOCATION	Kalium			**VEHICLE**	SV030
LATITUDE	7256057	**PERMANENT DATUM**		**ELEV GL**	**ELEV KB**
LONGITUDE	233775	**ELEV PERM DATUM**		**ELEV DF**	
TOOL CONFIG FILE		**CALIBRATION FILE**		**NMRLib Version**	

PROCESSED BY **NUM_STACKS** **IGNORE_ECHO** **BURSTS**	**T2_START (µs)** **T2_STOP (s)** **NUM_STEPS**	**CBW_CUTOFF (ms)** **CAPW_CUTOFF (ms)** **FFV_CUTOFF (s)**	**TEMP_OPTION** **TEMP_GRAD (°C/100m)** **SURFACE_TEMP (°C)**

COMMENTS

Predicted washouts towards the upper part of the hole.
A linear hydrogen index correction was made for the porosities and hydraulic conductivities
Core calibration of T2 cutoff and permeability coefficients

IMPORTANT NOTE

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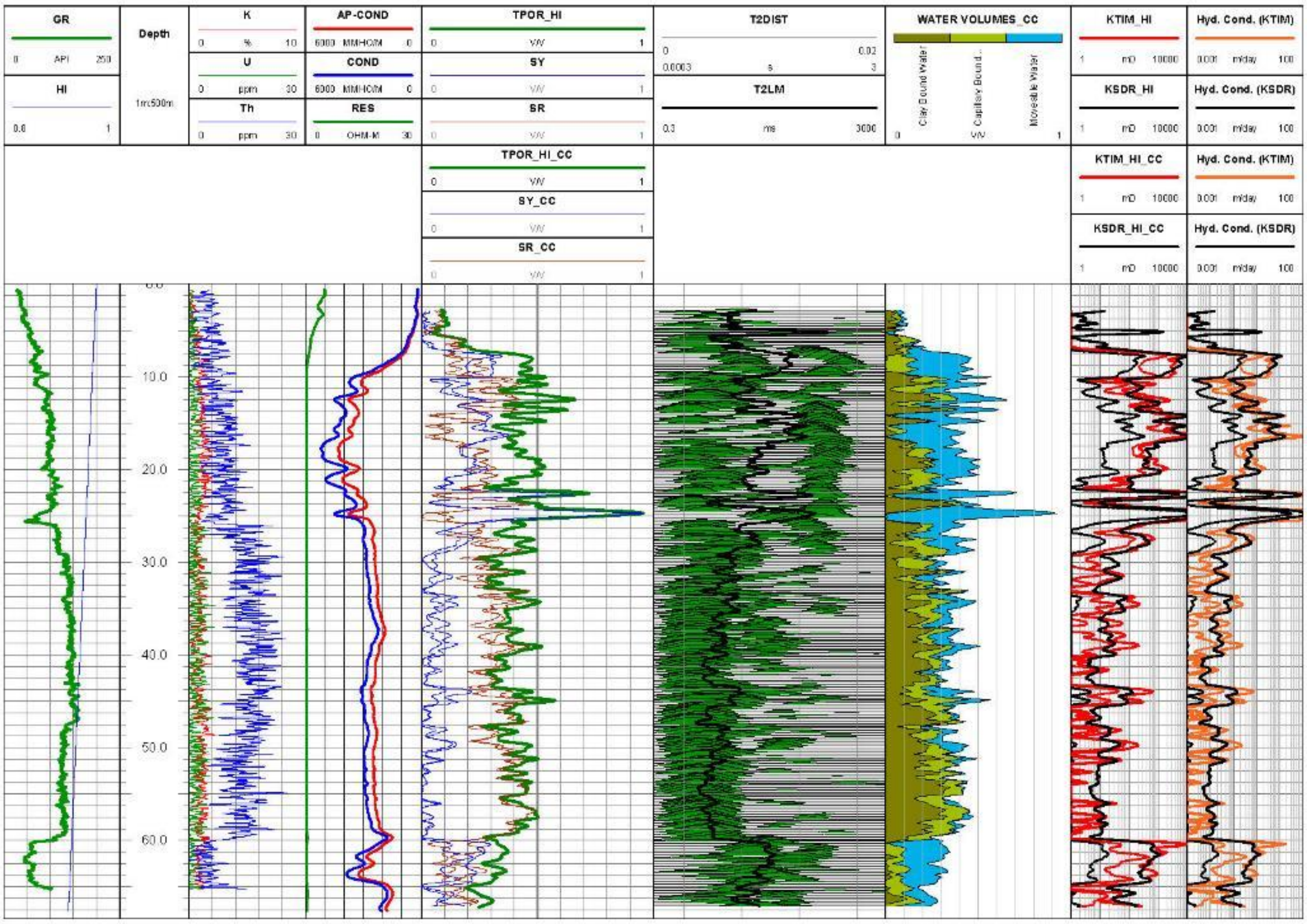
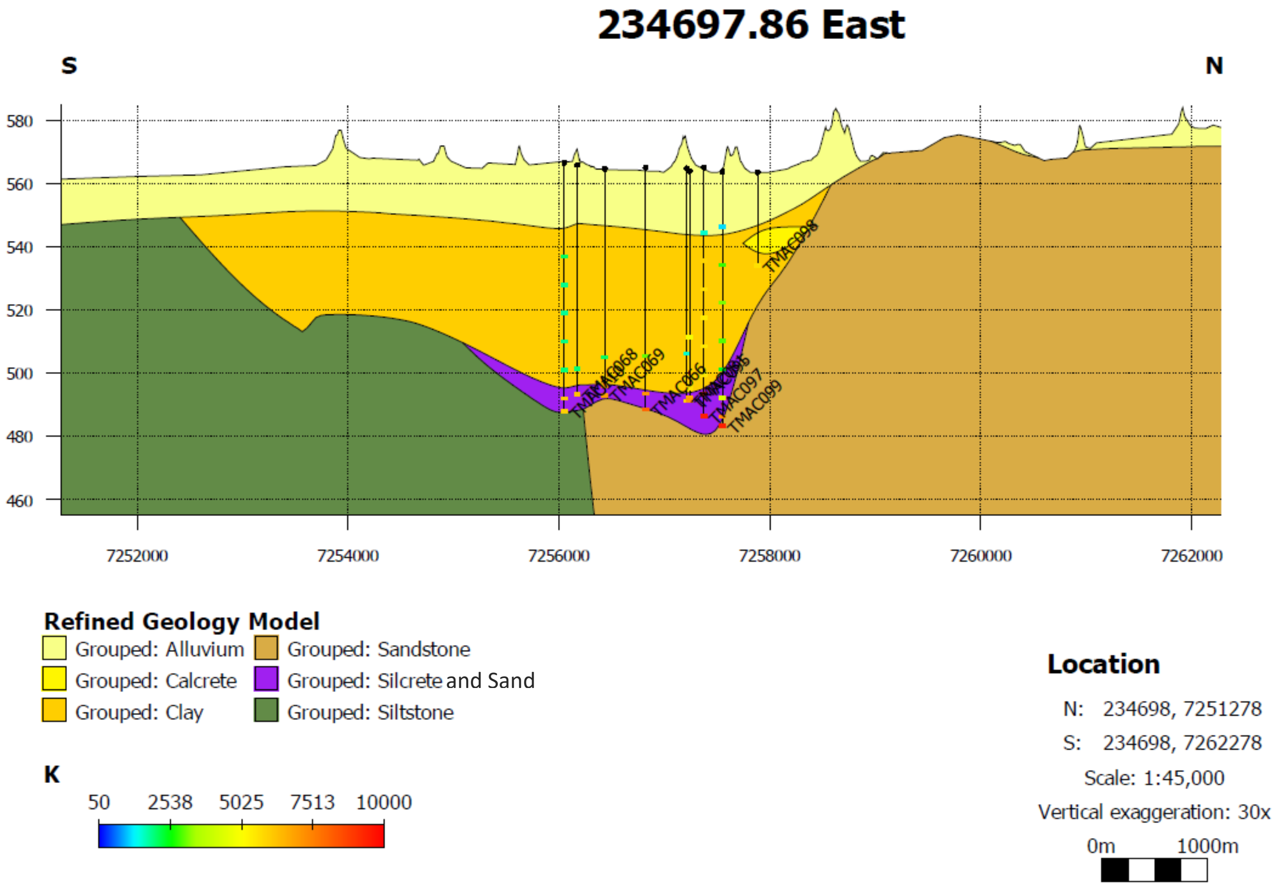
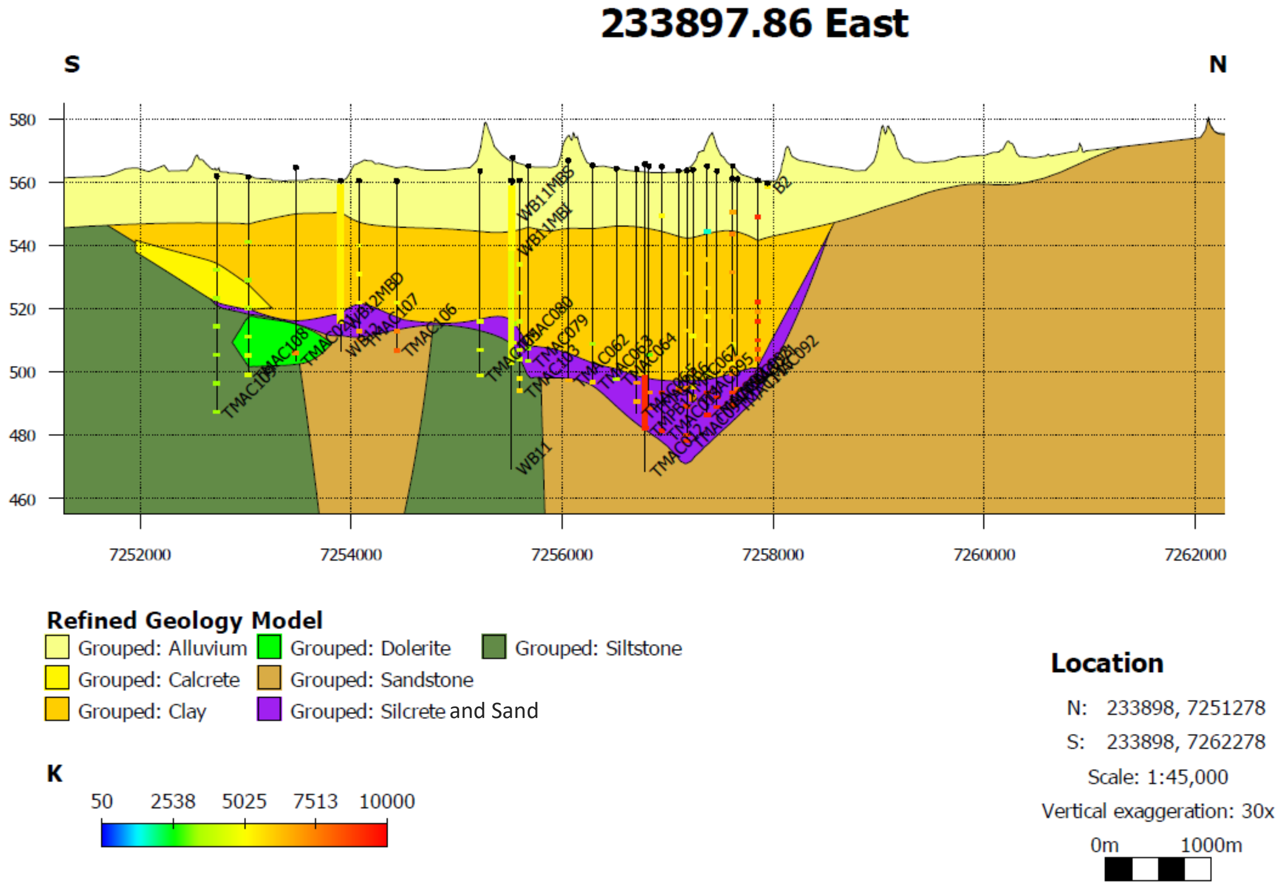
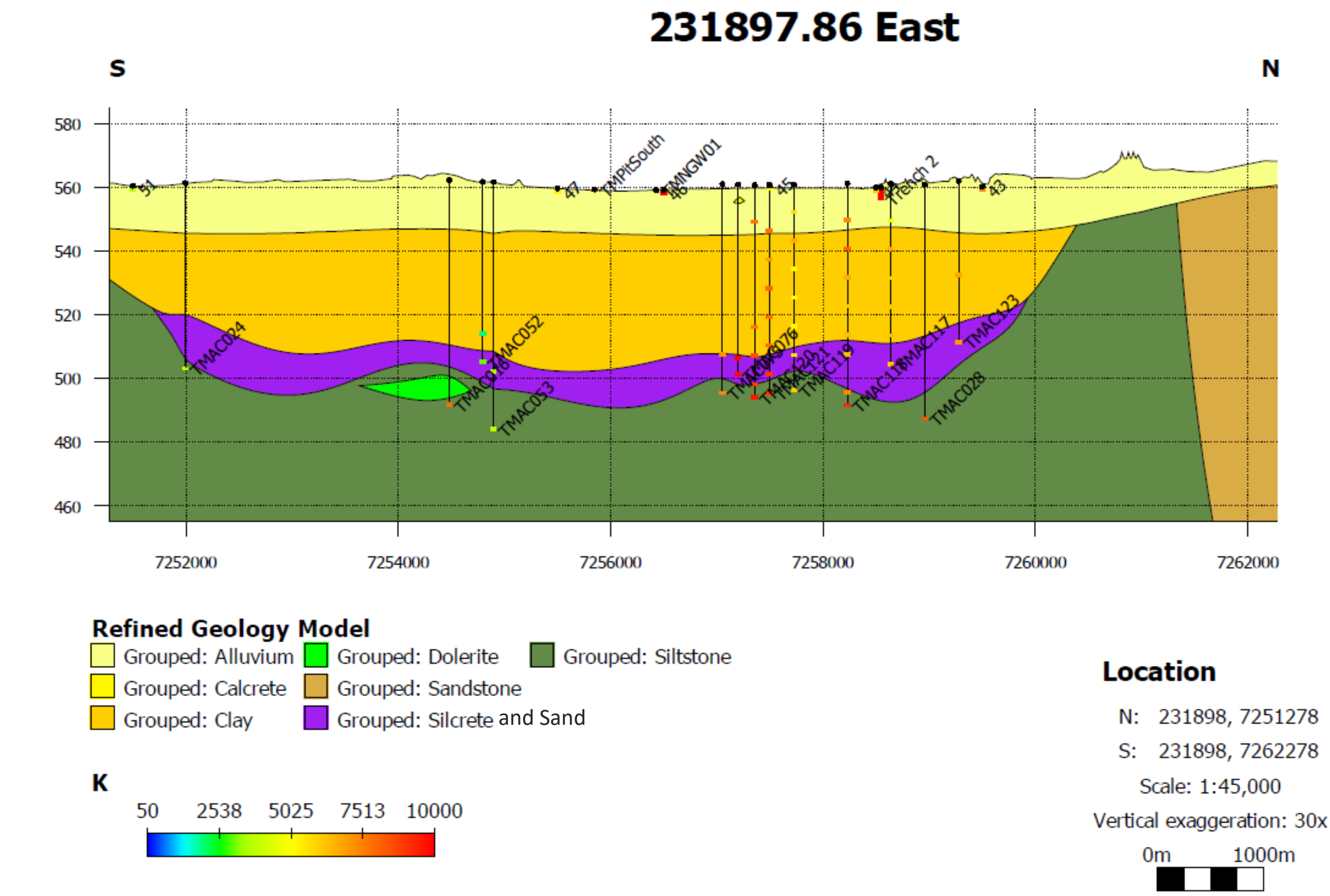


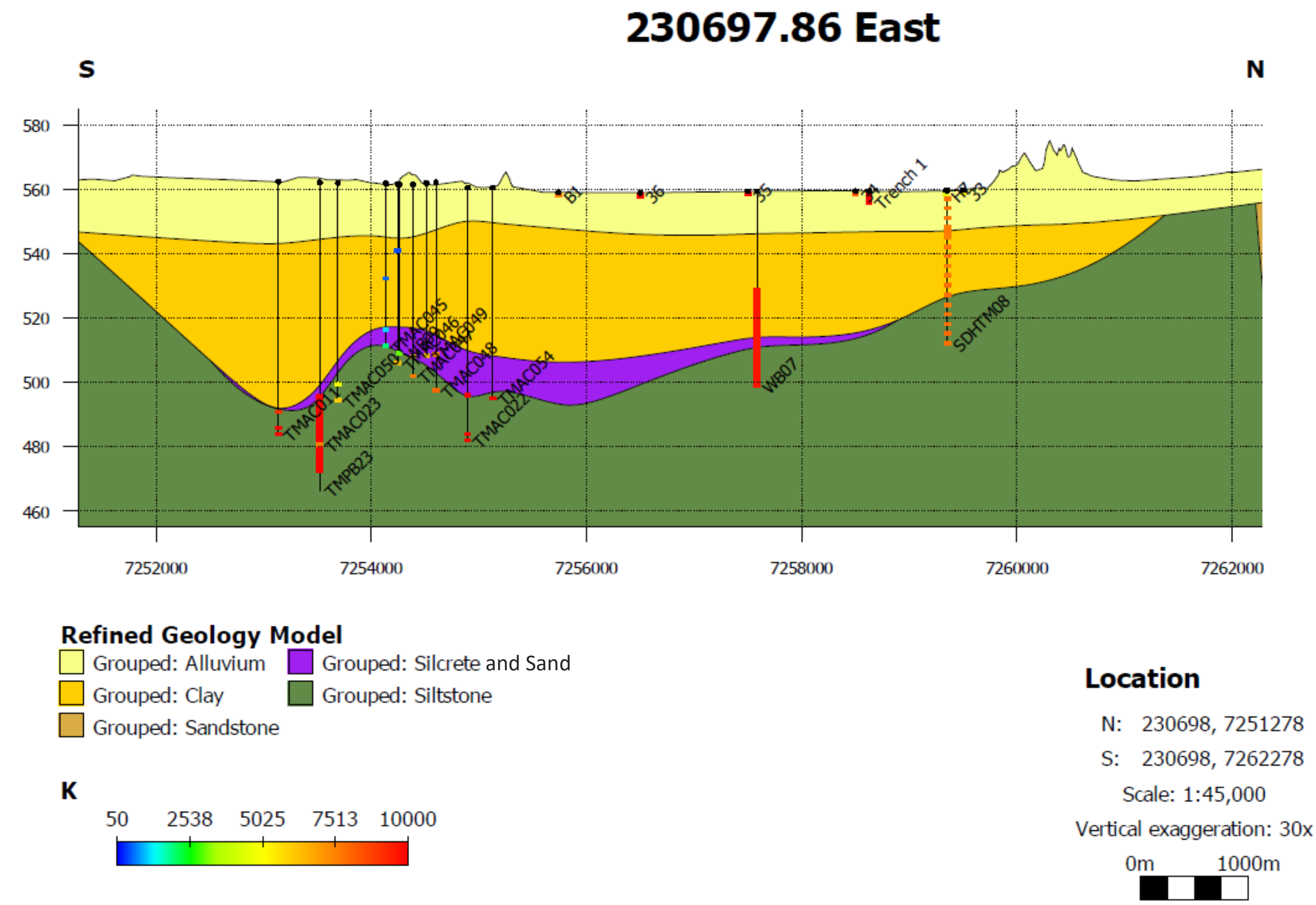
APPENDIX 8: GEOLOGICAL SECTIONS

10 Mile

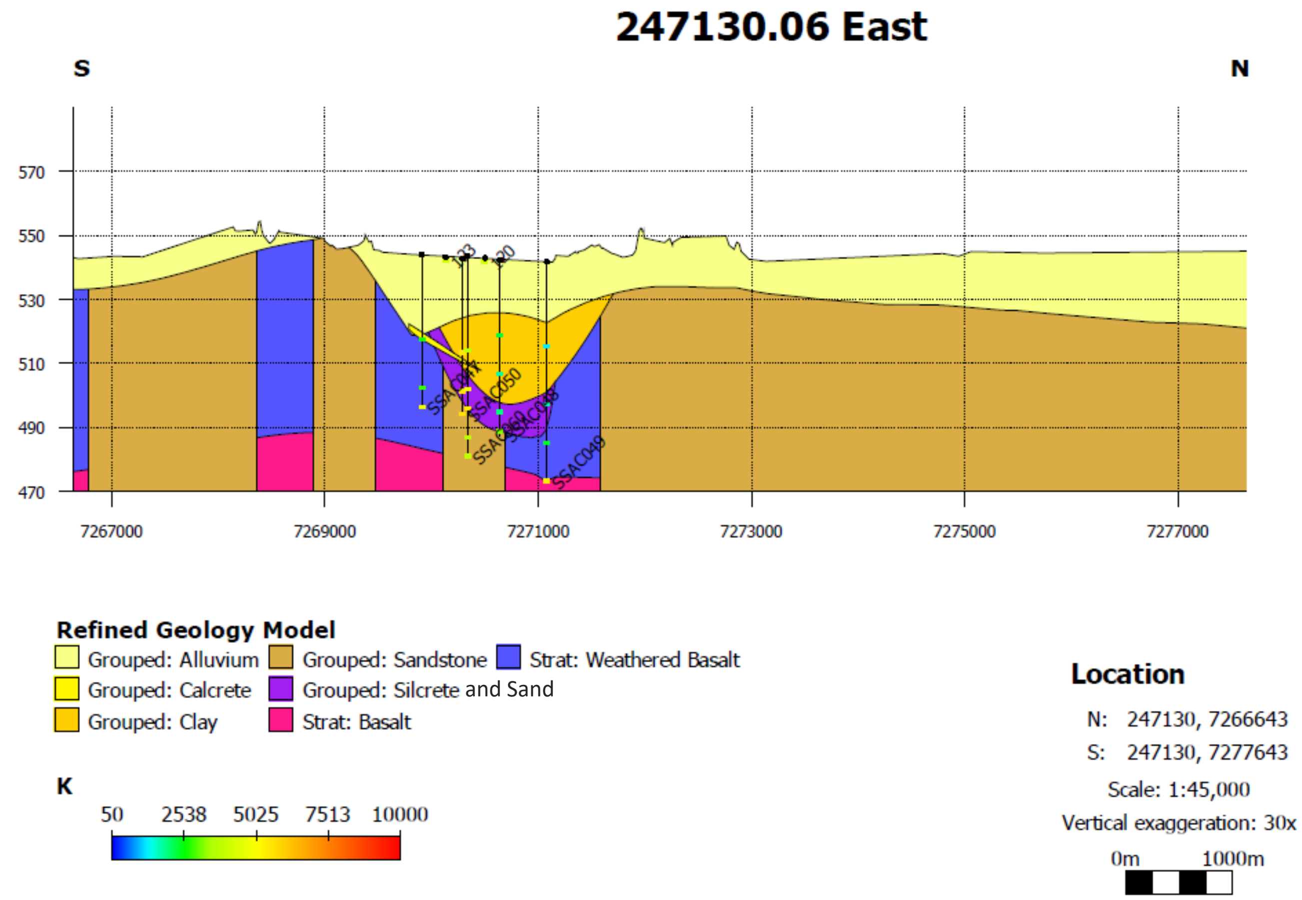


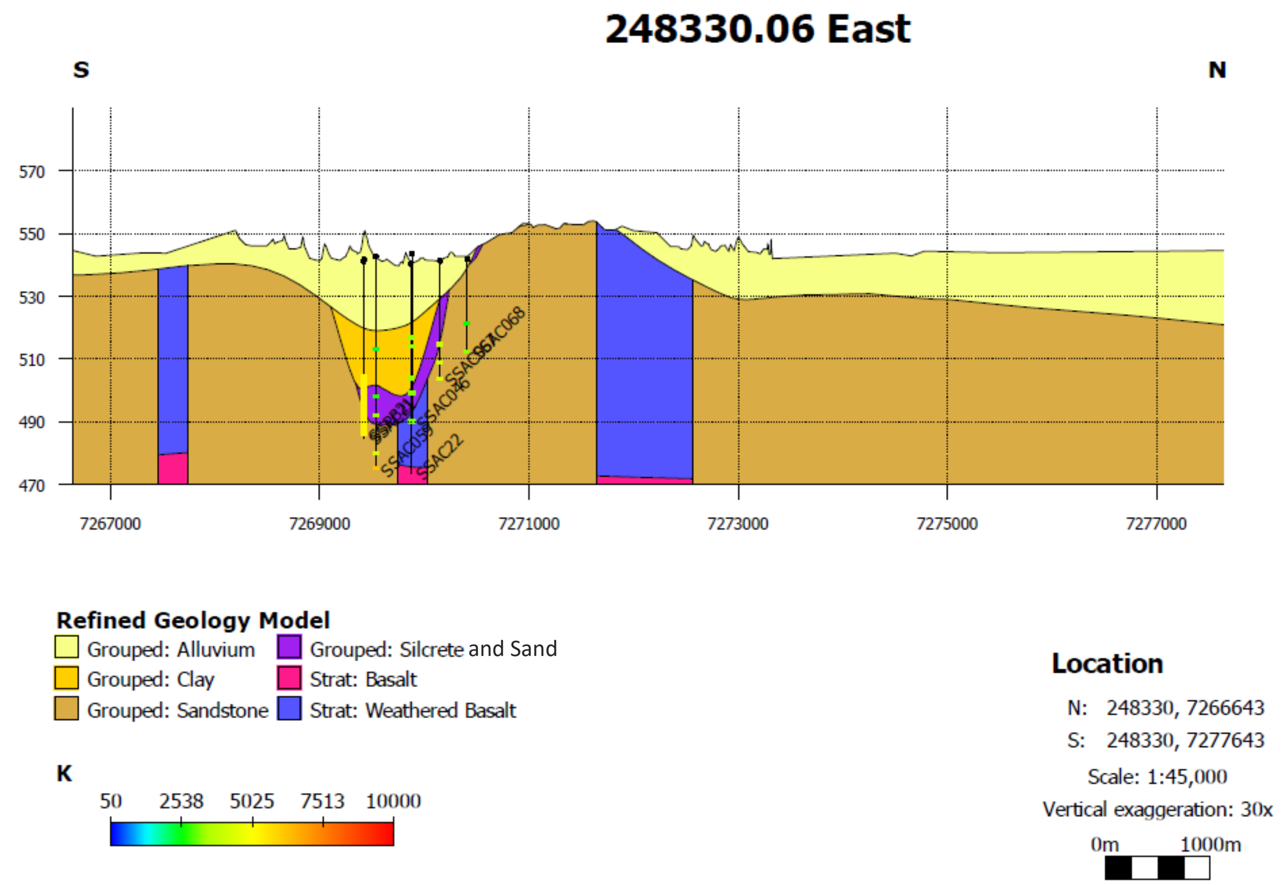


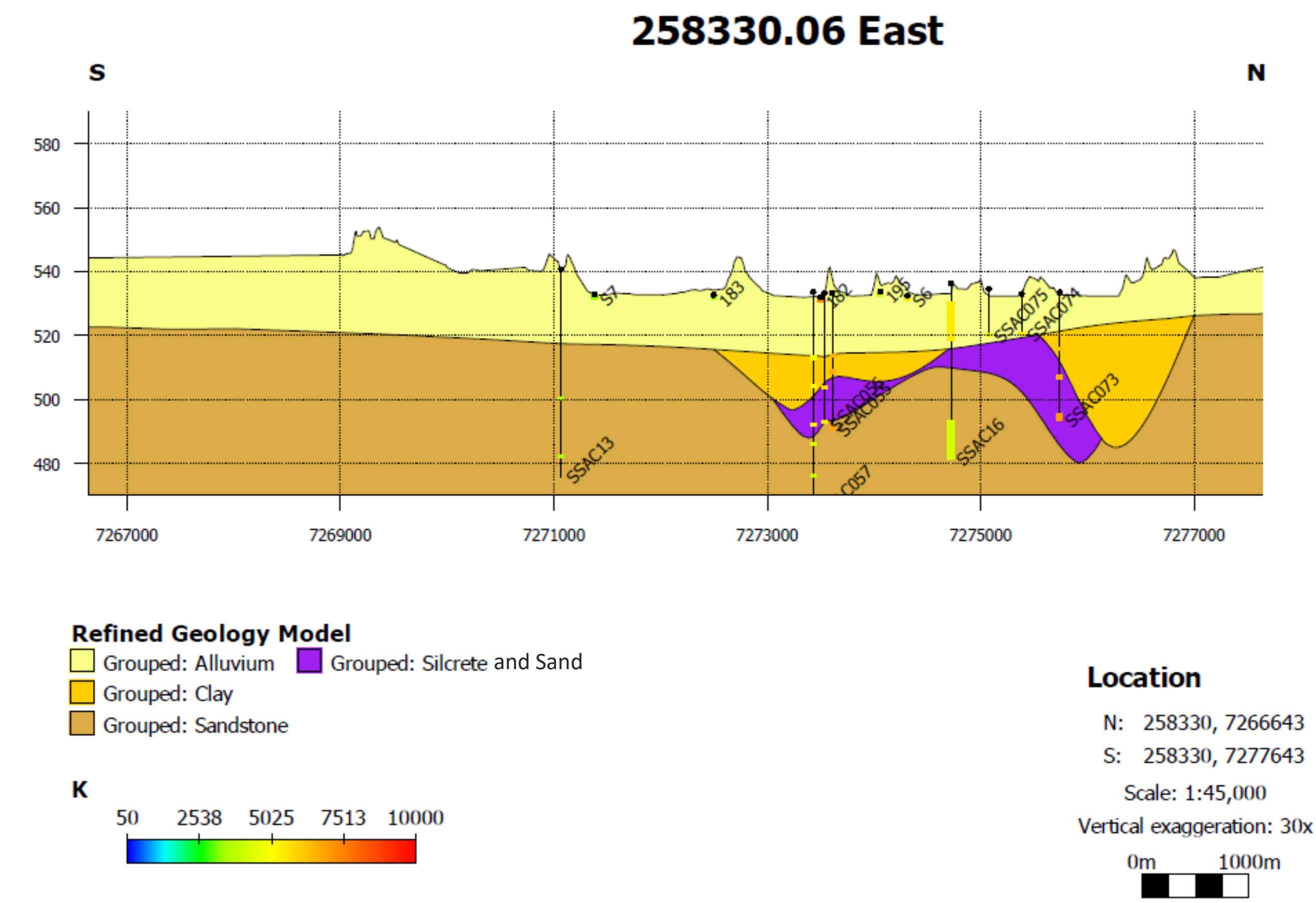

231897.86 East
S
N
580
560
540
520
500
480
460
7252000
7254000
7256000
7258000
7260000
7262000
Refined Geology Model
Grouped: Alluvium
Grouped: Dolerite
Grouped: Siltstone
Grouped: Calcrete
Grouped: Sandstone
Grouped: Clay
Grouped: Silcrete and Sand
K
50 2538 5025 7513 10000
Location
N: 231898, 7251278
S: 231898, 7262278
Scale: 1:45,000
Vertical exaggeration: 30x
0m 1000m

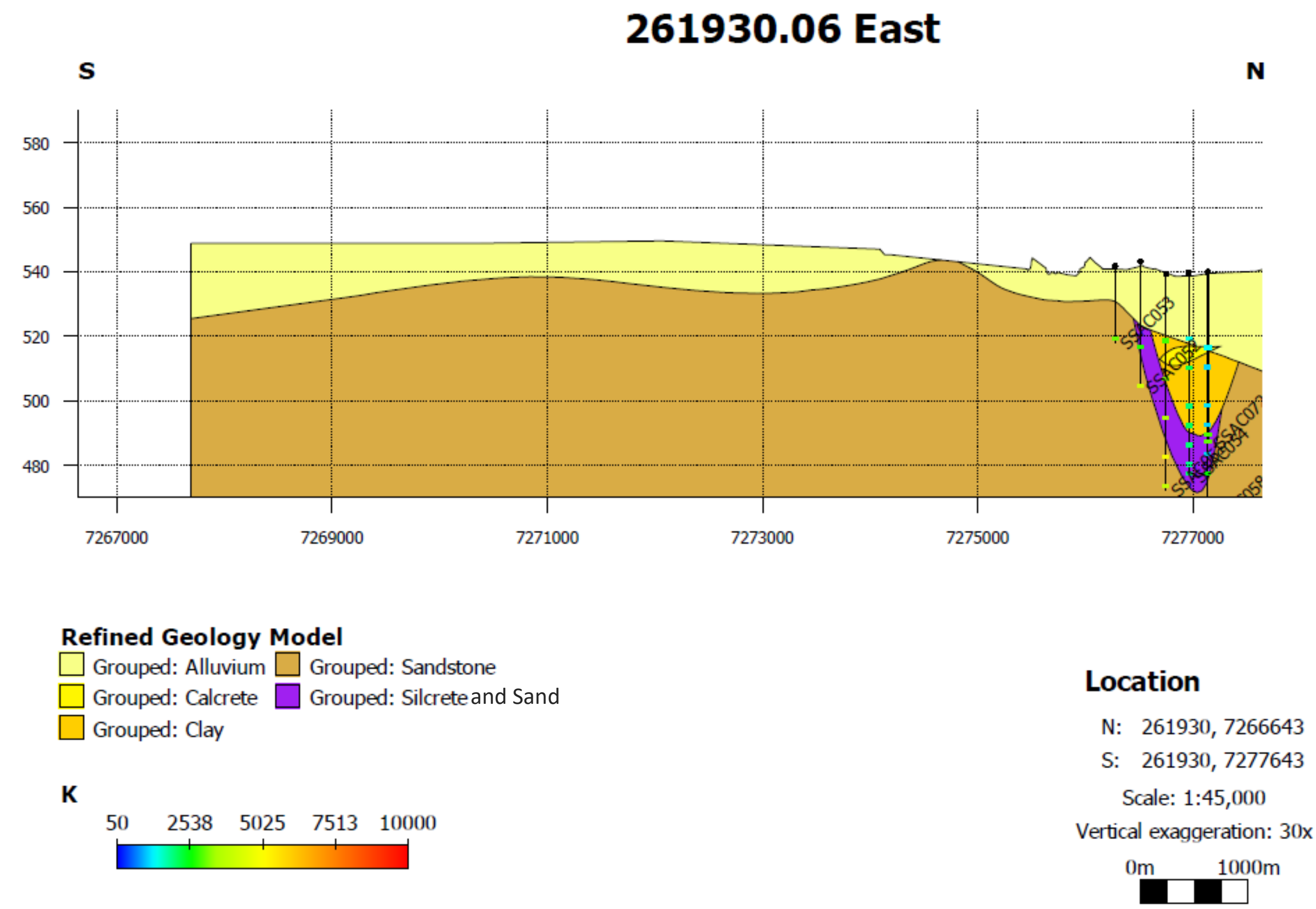

230697.86 East
S
N
580
560
540
520
500
480
460
7252000
7254000
7256000
7258000
7260000
7262000
Refined Geology Model
Grouped: Alluvium
Grouped: Silcrete and Sand
Grouped: Clay
Grouped: Siltstone
Grouped: Sandstone
K
50 2538 5025 7513 10000
Location
N: 230698, 7251278
S: 230698, 7262278
Scale: 1:45,000
Vertical exaggeration: 30x
0m 1000m

Lake Sunshine






258330.06 East
S
N
580
560
540
520
500
480
7267000
7269000
7271000
7273000
7275000
7277000
Refined Geology Model
Grouped: Alluvium
Grouped: Silcrete and Sand
Grouped: Clay
Grouped: Sandstone
K
50 2538 5025 7513 10000
Location
N: 258330, 7266643
S: 258330, 7277643
Scale: 1:45,000
Vertical exaggeration: 30x
0m 1000m


261930.06 East
S
N
580
560
540
520
500
480
7267000
7269000
7271000
7273000
7275000
7277000
Refined Geology Model
Grouped: Alluvium
Grouped: Sandstone
Grouped: Calcrete
Grouped: Silcrete and Sand
Grouped: Clay
K
50 2538 5025 7513 10000
Location
N: 261930, 7266643
S: 261930, 7277643
Scale: 1:45,000
Vertical exaggeration: 30x
0m 1000m

APPENDIX 9: LEACH TEST RESULTS

10 Mile Leach Test Results

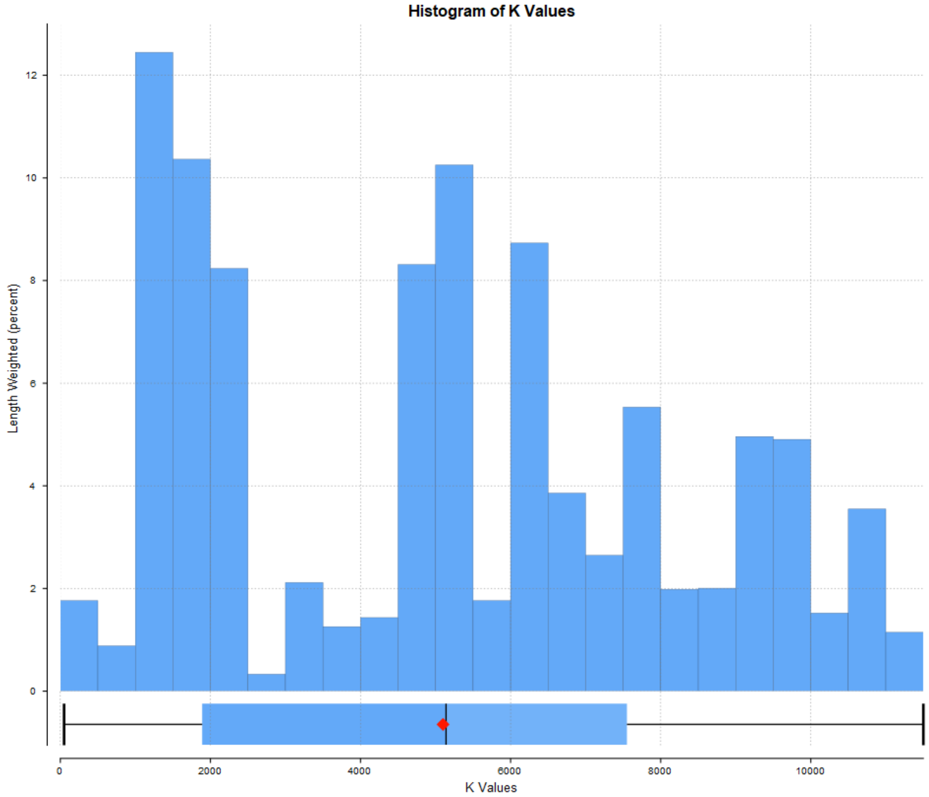
Sample ID	Leach Test	Time to fill 128 mL (sec)	Ca (mg/L)	K (mg/L)	Na (mg/L)	Cl (mg/L)	Mg (mg/L)	SO_4 (mg/L)	TDS (mg/L)	SG (g/cm^3)
TML01	1	9,078	842	5,820	37,500	65,300	3,680	14,700	134,000	1.09
TML01	2	325,000	699	9,620	65,200	107,500	6,620	21,500	215,000	1.14
TML01	3	Incomplete - low infiltration rate								
TML02	1	13,045	716	5,590	41,700	74,050	5,250	18,800	156,000	1.1
TML02	2	11,547	875	5,210	37,800	68,900	4,970	17,900	142,000	1.09
TML02	3	10,398	573	890	6,030	8,900	688	3,810	22,400	1.01
TML03	1	Incomplete - low infiltration rate								
TML04	1	312	1,040	3,270	23,500	39,200	1,870	8,250	81,600	1.05
TML04	2	298	851	1,750	11,500	18,100	956	5,670	41,400	1.02
TML04	3	162	704	1,130	7,030	10,800	641	4,440	26,400	1.01
TML05	1	325,000	799	8,560	61,800	113,550	6,950	18,800	220,000	1.14
TML05	2	604,800	919	6,630	45,000	73,900	4,630	17,500	151,000	1.1
TML05	3	1,209,600	899	2,760	17,200	28,250	1,800	9,930	62,100	1.04
TML06	1	325,000	293	14,200	107,000	178,450	11,400	31,500	350,000	1.22
TML06	2	565,400	997	4,530	29,200	49,300	3,030	13,300	104,000	1.07
TML06	3	Incomplete - low infiltration rate								
TML07	1	123	908	6,940	57,900	103,500	3,360	14,300	197,000	1.12
TML07	2	47								
TML07	3	43	651	2,000	6,330	9,350	599	7,110	26,100	1.01
TML08	1	103	948	6,560	51,500	90,600	3,360	14,500	171,000	1.11
TML08	2	94	831	3,920	23,100	36,950	1,570	11,000	80,600	1.05
TML08	3	77	630	1,460	4,950	8,150	457	5,430	20,500	1.01
TML09	1	59	790	5,200	37,000	65,100	2,670	13,900	125,000	1.08
TML09	2	34								
TML09	3	38	637	420	1,770	2,450	189	2,760	8,600	1
TML10	1	Incomplete - low infiltration rate								

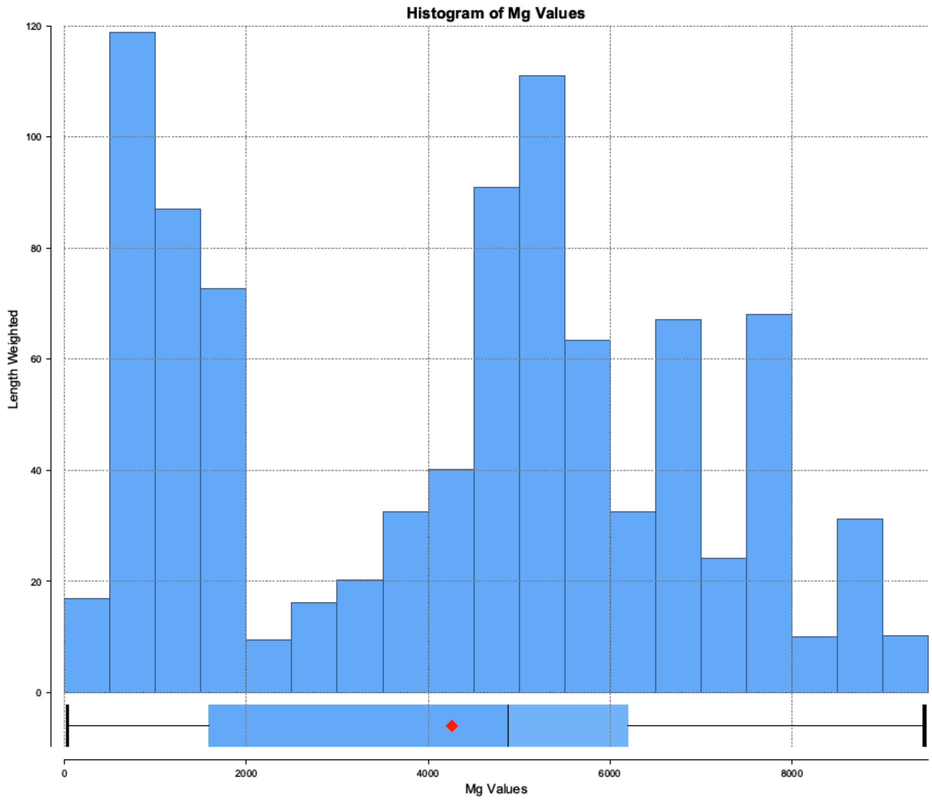
Lake Sunshine Leach Test Results

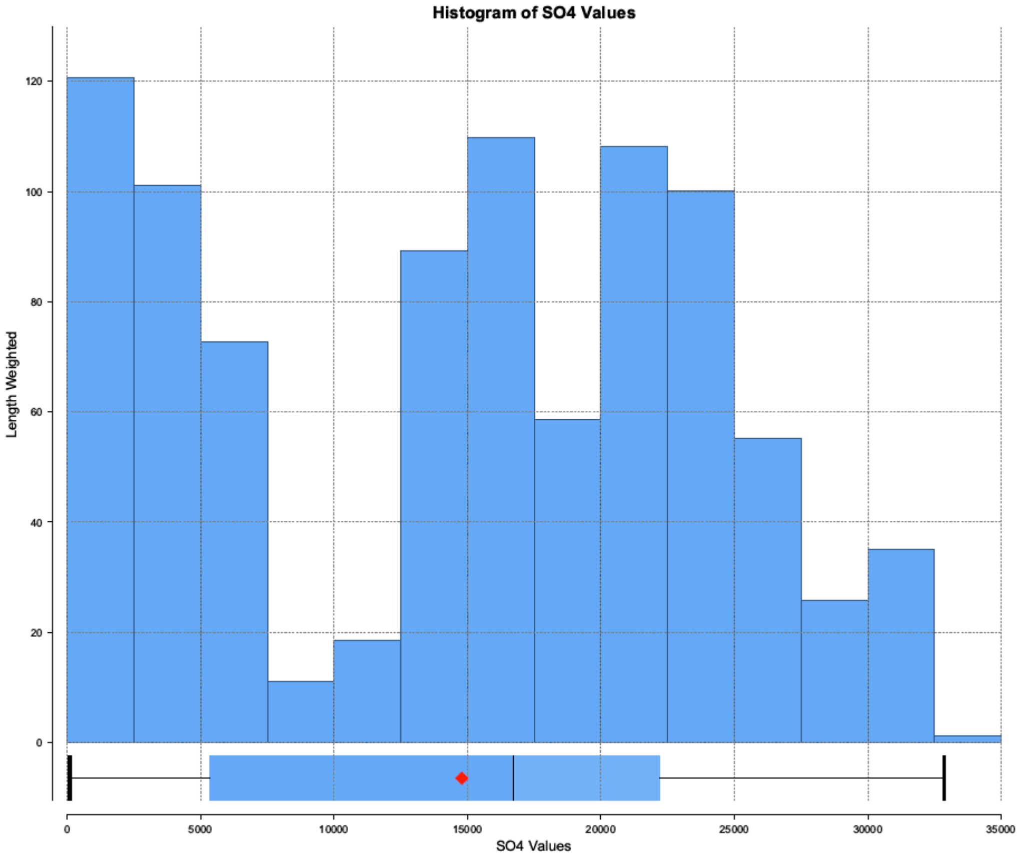
Sample ID	Leach Test	Time to fill 128 mL (sec)	Ca (mg/L)	K (mg/L)	Na (mg/L)	Cl (mg/L)	Mg (mg/L)	SO_4 (mg/L)	TDS (mg/L)	SG (g/cm^3)
SSL01	1	600	616	2,590	22,000	39,550	2,260	6,600	56,200	1.05
SSL01	2	500	396	1,110	9,270	20,300	1,030	3,420	40,900	1.02
SSL01	3	400	358	650	5,430	10,400	613	2,520	19,800	1.01
SSL02	1	Incomplete - low infiltration rate								
SSL03	1	7,200	428	2,700	28,000	50,350	3,460	8,310	99,800	1.06
SSL03	2	518,400	306	10,100	104,000	183,500	14,800	29,600	356,000	1.22
SSL03	3	Incomplete - low infiltration rate								
SSL04	1	180	1,310	3,190	40,200	69,700	2,850	9,180	134,000	1.08
SSL04	2	140	904	1,380	15,700	25,150	1,050	6,360	52,600	1.03
SSL04	3	100	678	630	4,800	8,000	361	3,900	17,900	1.01
SSL05	1	12,000	359	2,670	27,800	50,350	3,410	7,590	98,500	1.06
SSL05	2	72,000	484	7,820	87,800	153,700	11,200	22,200	294,000	1.18
SSL05	3	475,200	434	8,570	91,100	162,400	12,000	23,500	309,000	1.19
SSL06	1	Incomplete - low infiltration rate								
SSL07	1	900	1,050	2,290	23,200	38,350	1,780	8,220	79,300	1.05
SSL07	2	600	730	610	5,900	8,550	485	3,930	21,300	1.01
SSL07	3	300	640	230	2,080	3,450	208	2,460	9,100	1
SSL08	1	90,000	201	18,800	86,500	183,500	24,900	50,400	390,000	1.24
SSL08	2	Incomplete - low infiltration rate								
SSL09	1	180	1,220	3,900	55,300	97,950	4,660	10,900	186,000	1.12
SSL09	2	150	1,160	1,990	29,300	52,950	1,840	8,100	93,400	1.06
SSL09	3	120	792	910	8,900	14,050	574	5,310	30,900	1.02
SSL10	1	120	1,030	3,300	24,900	42,150	2,240	8,940	86,300	1.06
SSL10	2	90	767	1,080	7,180	11,650	651	4,710	26,300	1.01
SSL10	3	60	644	370	2,360	4,700	227	2,640	9,950	1
SSL11	1	Incomplete - low infiltration rate								
SSL12	1	1,200	179	1,750	19,200	32,950	1,790	4,530	64,000	1.04
SSL12	2	79,000	237	14,300	97,500	179,150	17,300	39,300	374,000	1.23
SSL12	3	Incomplete - low infiltration rate lete								
SSL13	1	100	1,080	2,360	21,500	38,200	1,750	7,590	74,700	1.05
SSL13	2	80	833	760	6,980	10,250	557	4,170	24,900	1.01
SSL13	3	60	651	260	2,280	3,800	185	2,550	9,400	1
SSL14	1	750	930	4,820	59,300	101,050	3,780	14,200	194,000	1.12
SSL14	2	500	811	1,710	19,500	28,800	684	9,120	61,100	1.04
SSL14	3	250	558	820	4,750	5,200	218	5,250	17,100	1.01
SSL15	2	1,300	638	1,700	19,000	33,700	1,720	6,330	65,400	1.04
SSL15	3	1,100	401	500	4,890	8,700	441	2,370	16,700	1.01

APPENDIX 10: RESOURCE HISTOGRAMS

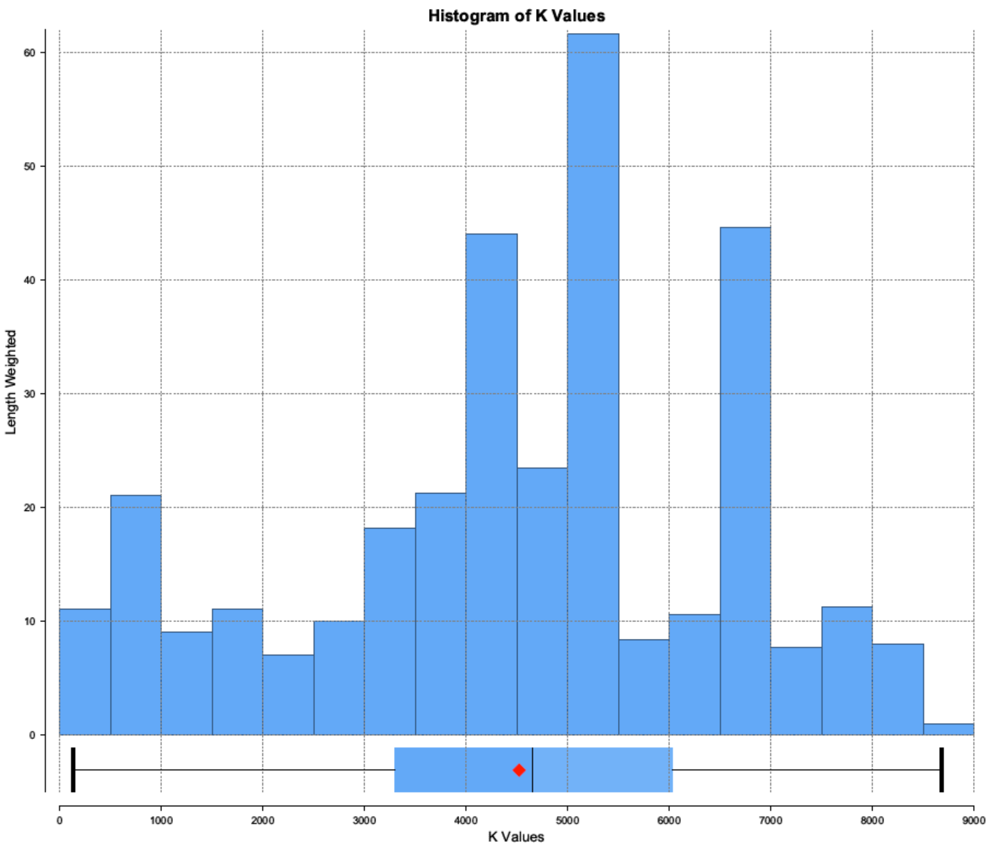
10 Mile

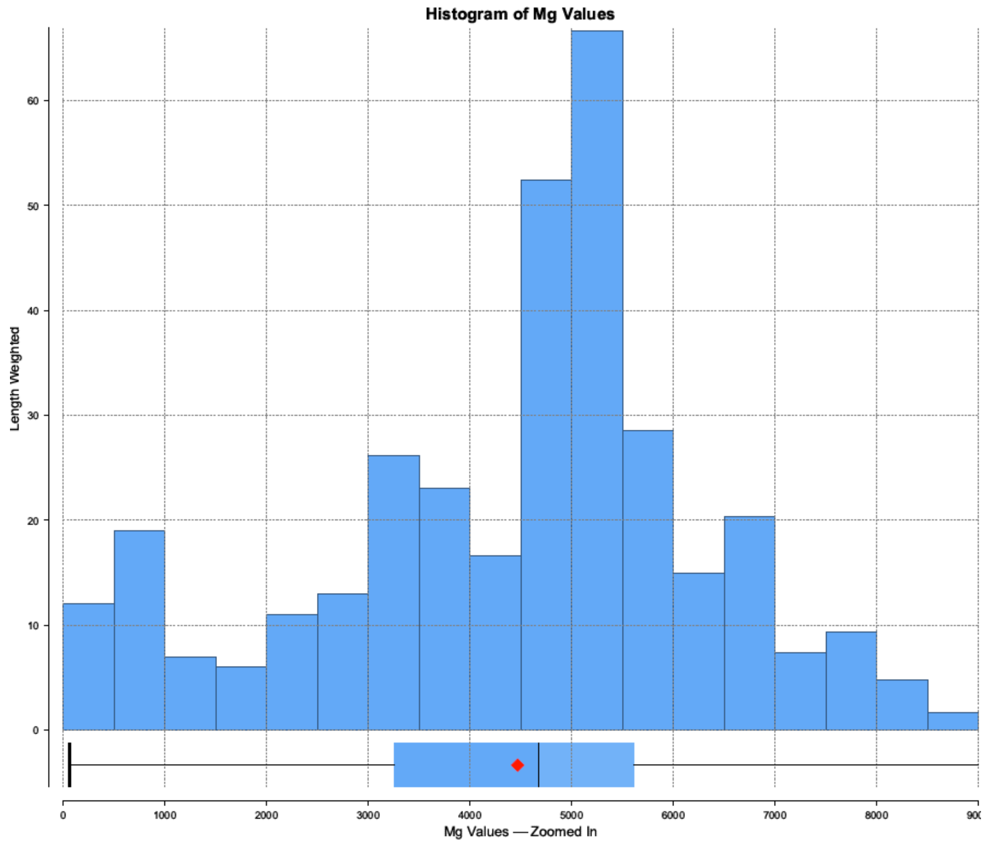


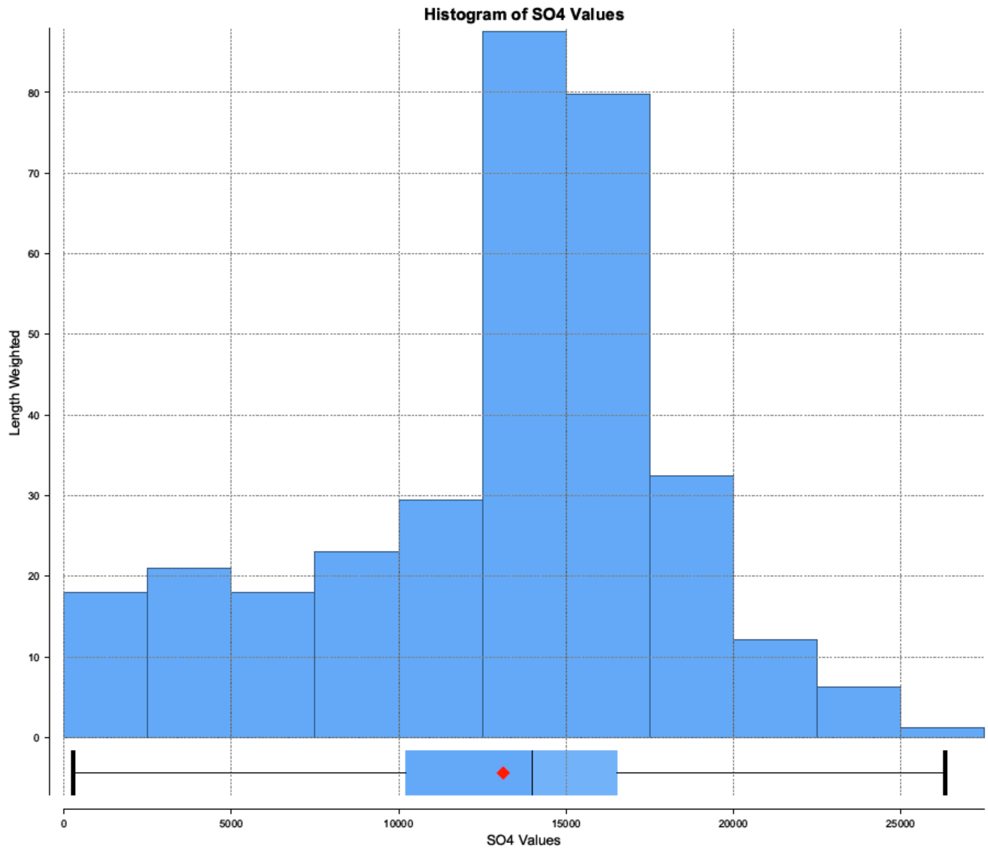




Lake Sunshine

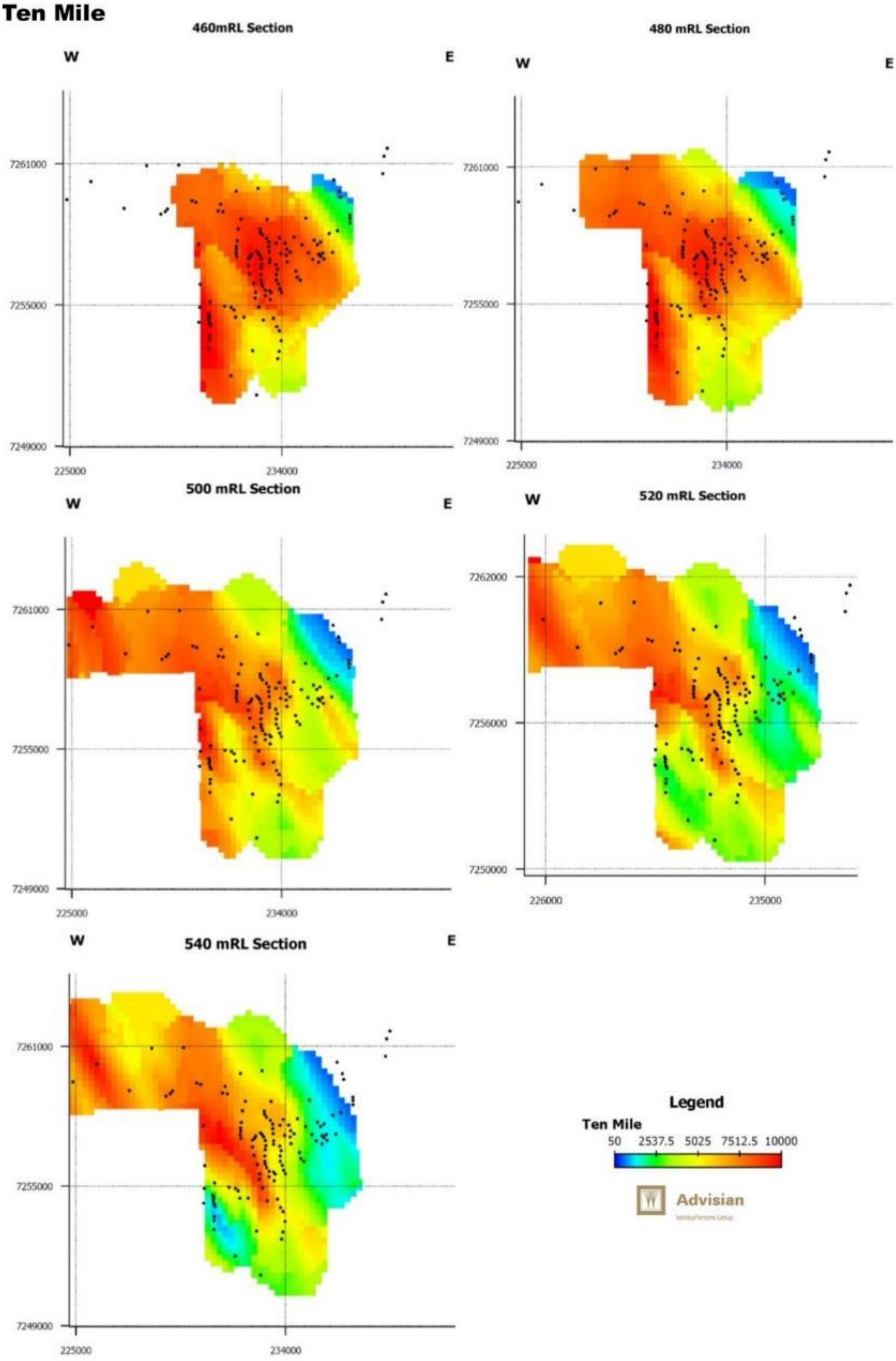


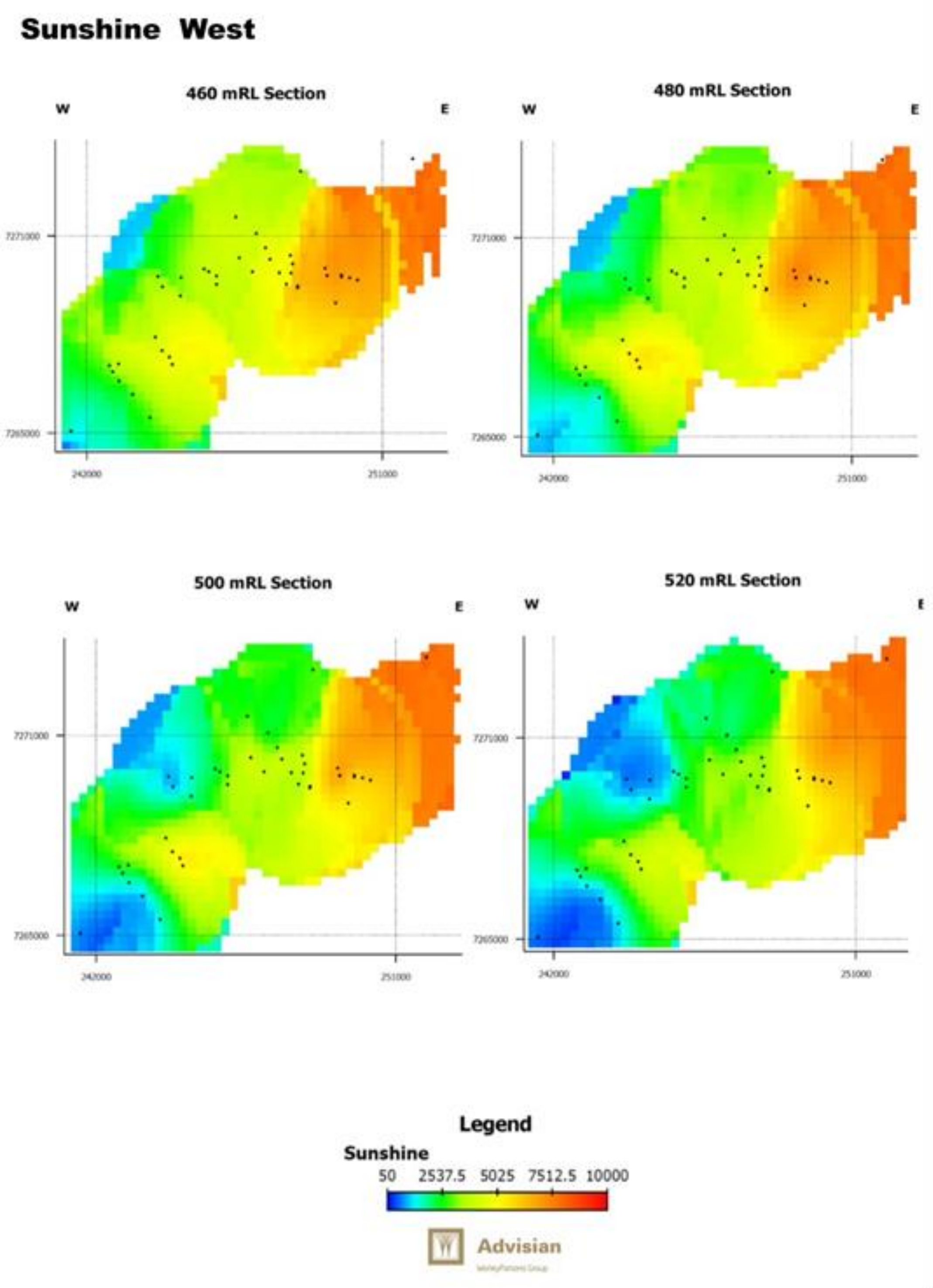

Histogram of Mg Values
Length Weighted
Mg Values — Zoomed In
0
10
20
30
40
50
60
1000
2000
3000
4000
5000
6000
7000
8000


Histogram of SO4 Values
Length Weighted
SO4 Values
0
10
20
30
40
50
60
70
80
5000
10000
15000
20000
25000

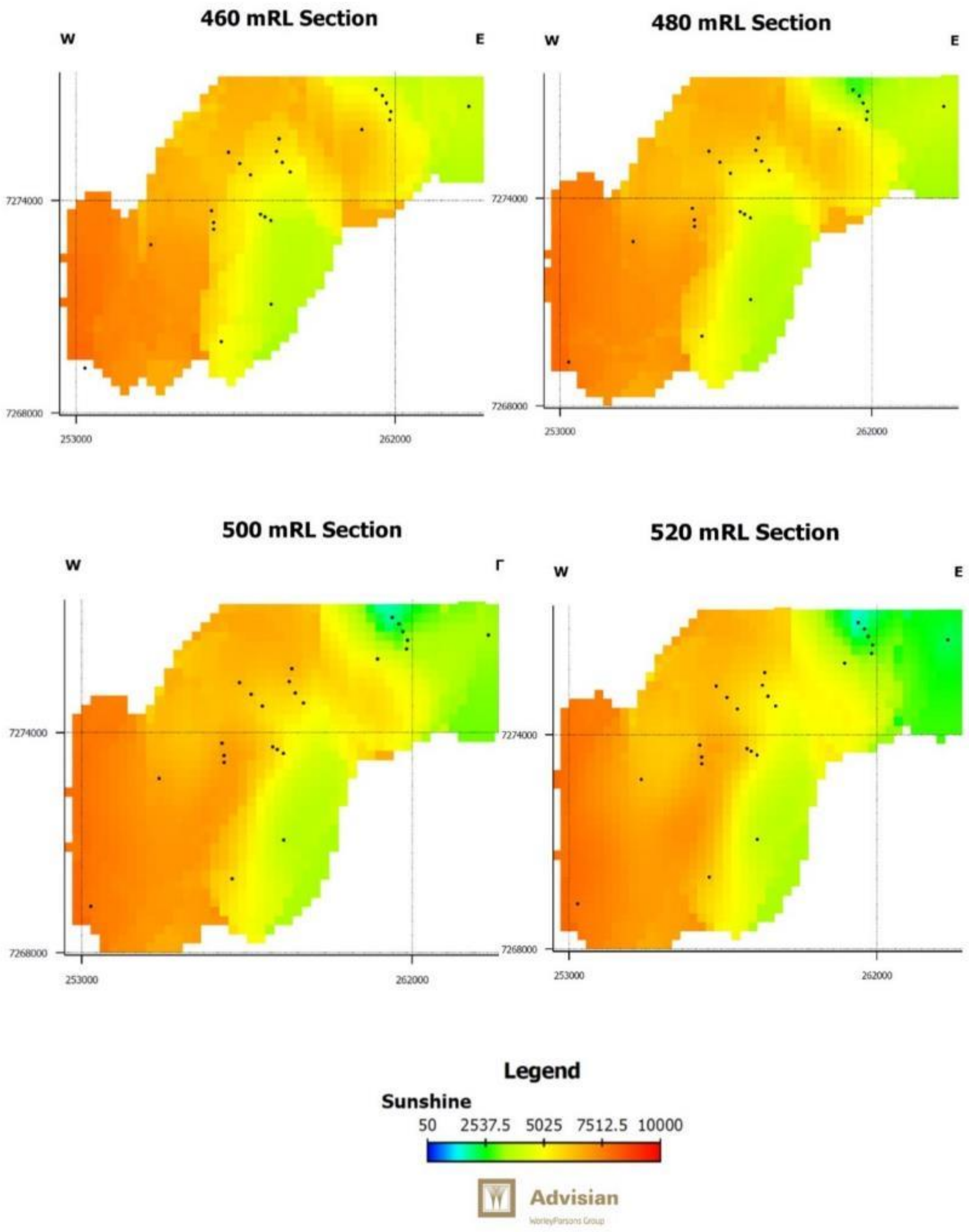
APPENDIX 11: BLOCK MODEL SECTIONS

Ten Mile



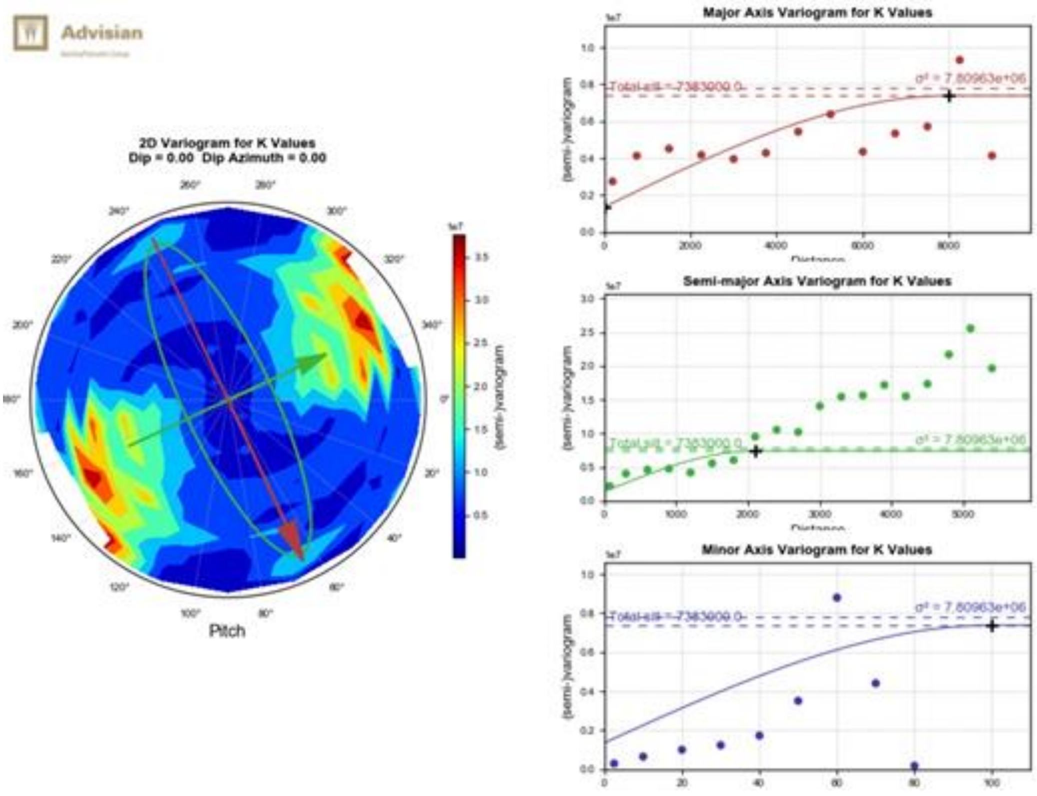

Sunshine West
460 mRL Section
480 mRL Section
500 mRL Section
520 mRL Section
W
E
7271000
7265000
242000
251000
Legend
Sunshine
50 2537.5 5025 7512.5 10000
Advisian

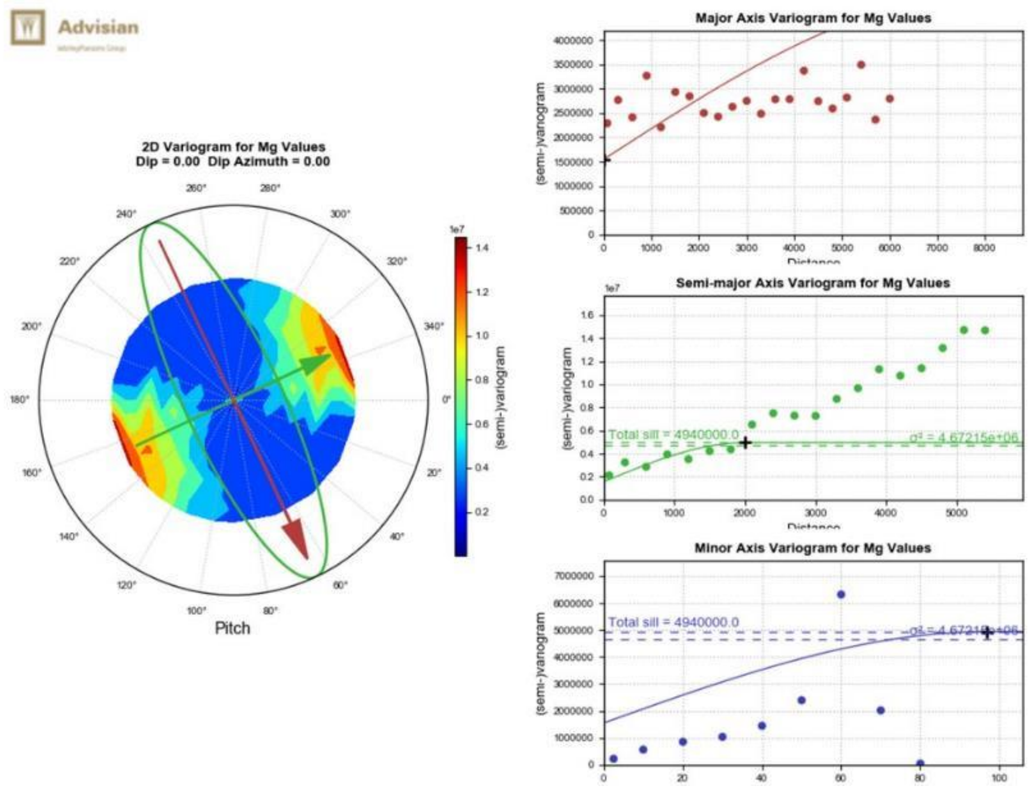
Sunshine East

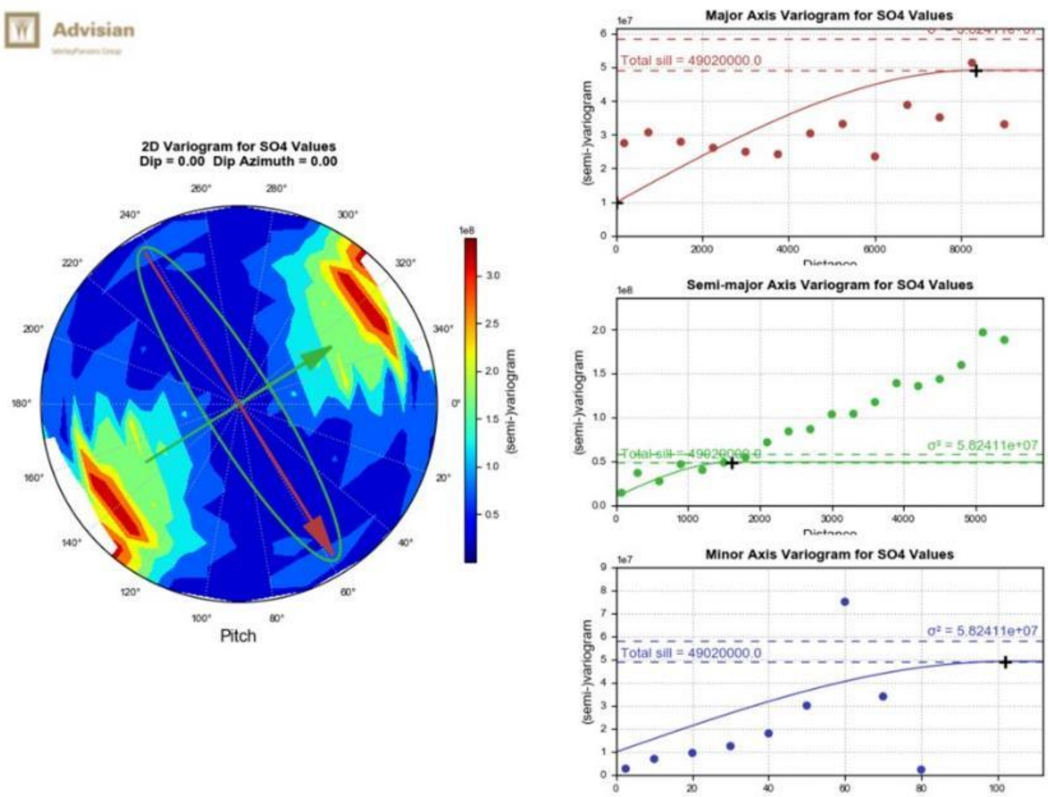


APPENDIX 12: STAGE 1 VARIOGRAMS

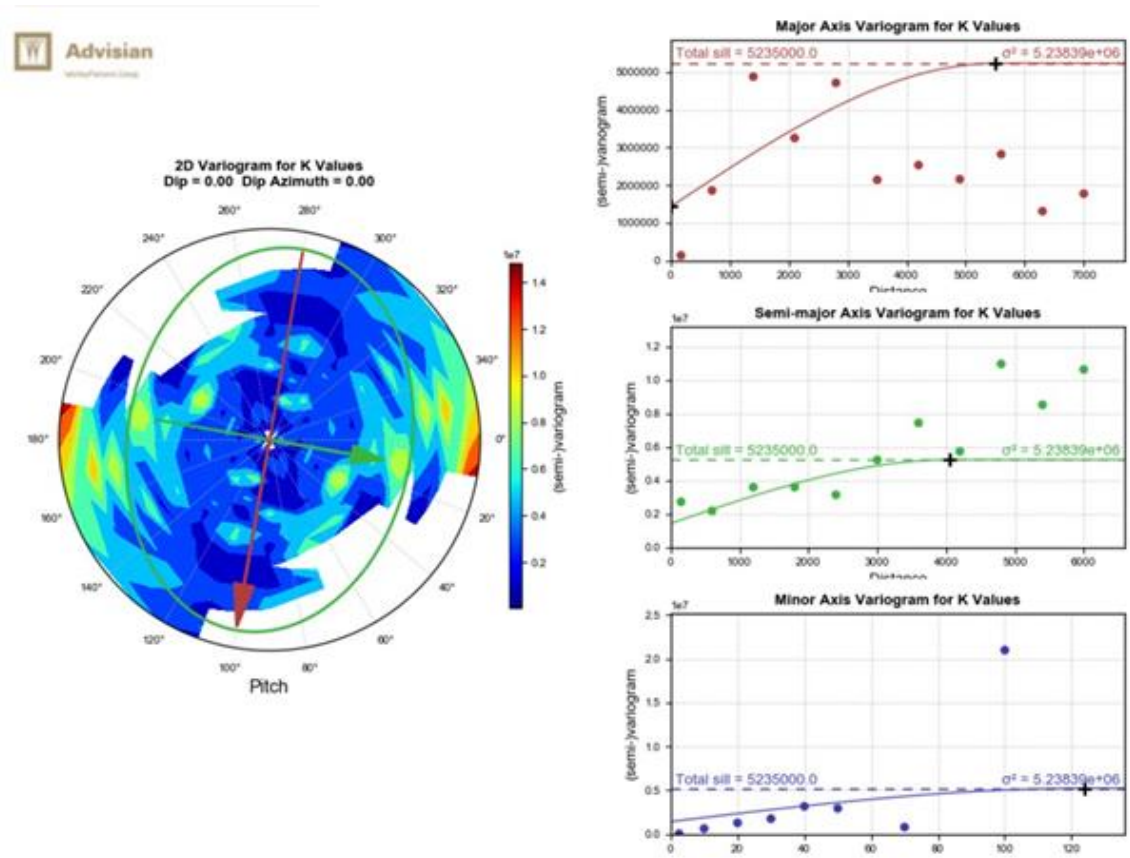
10 MILE

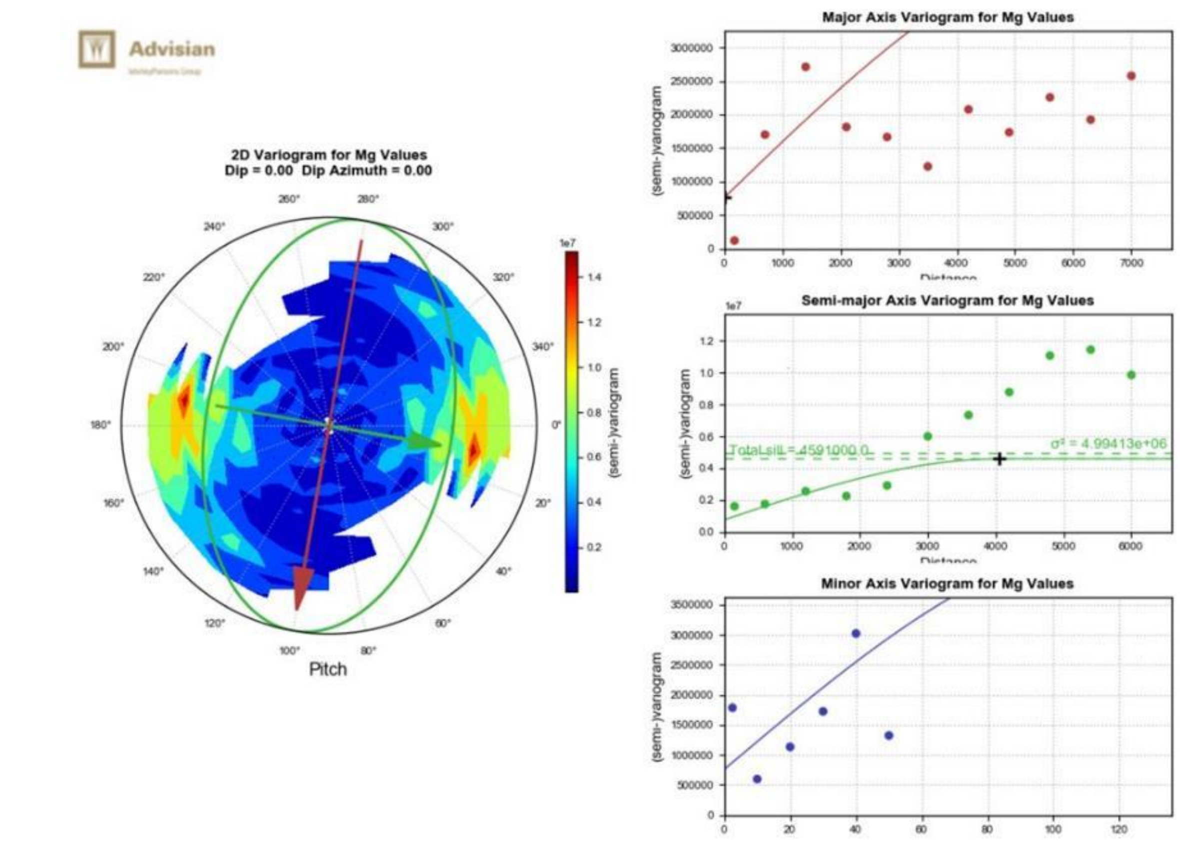


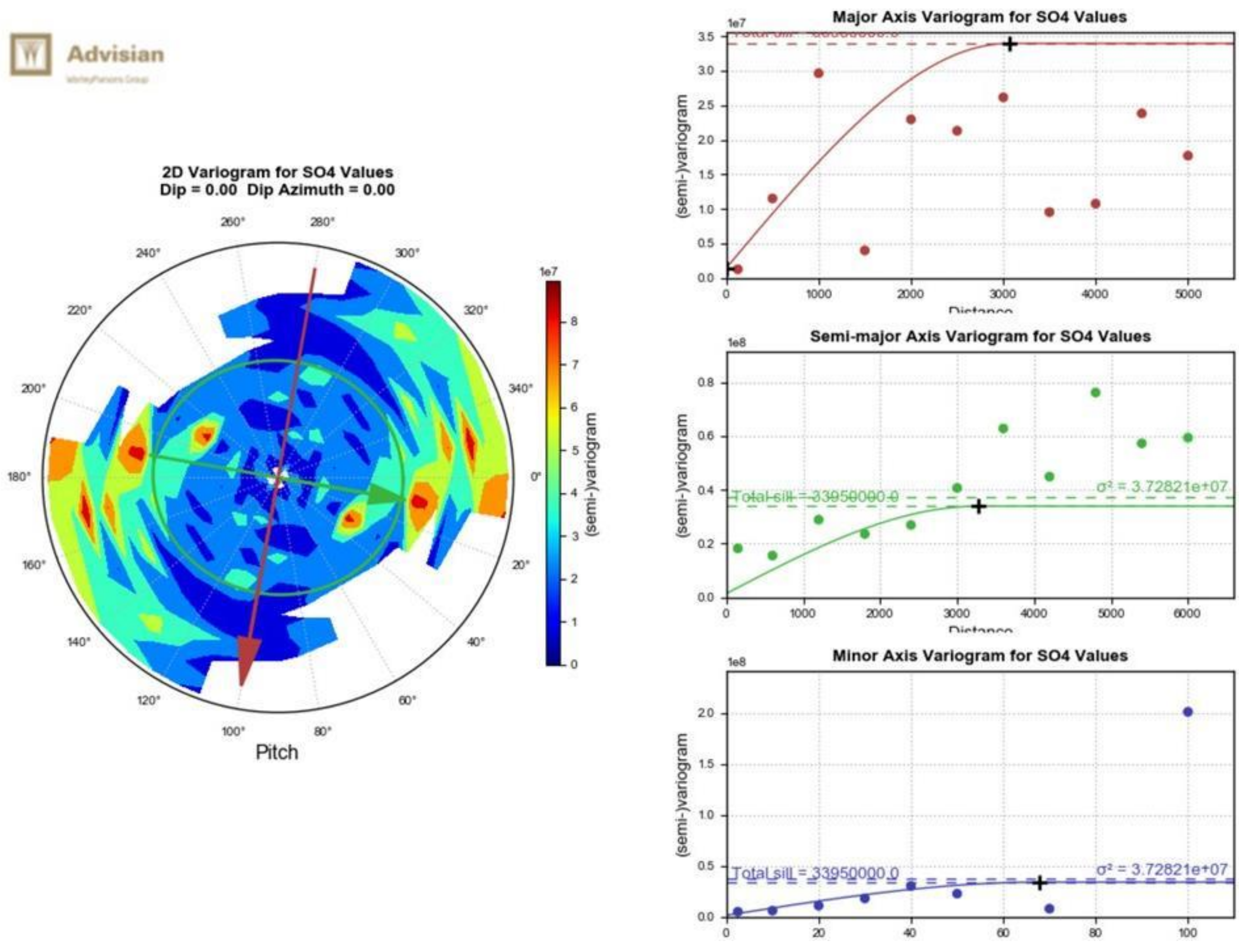




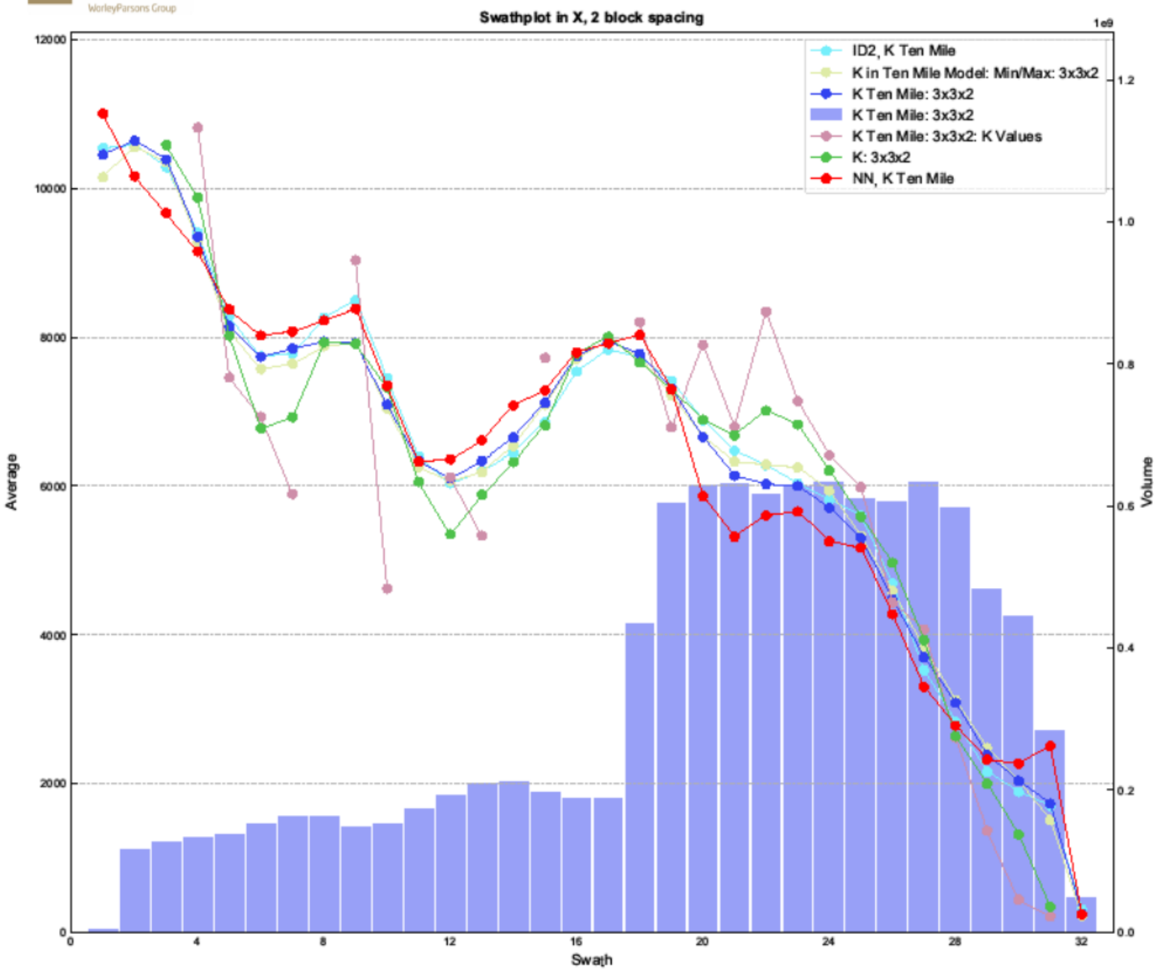
Lake Sunshine

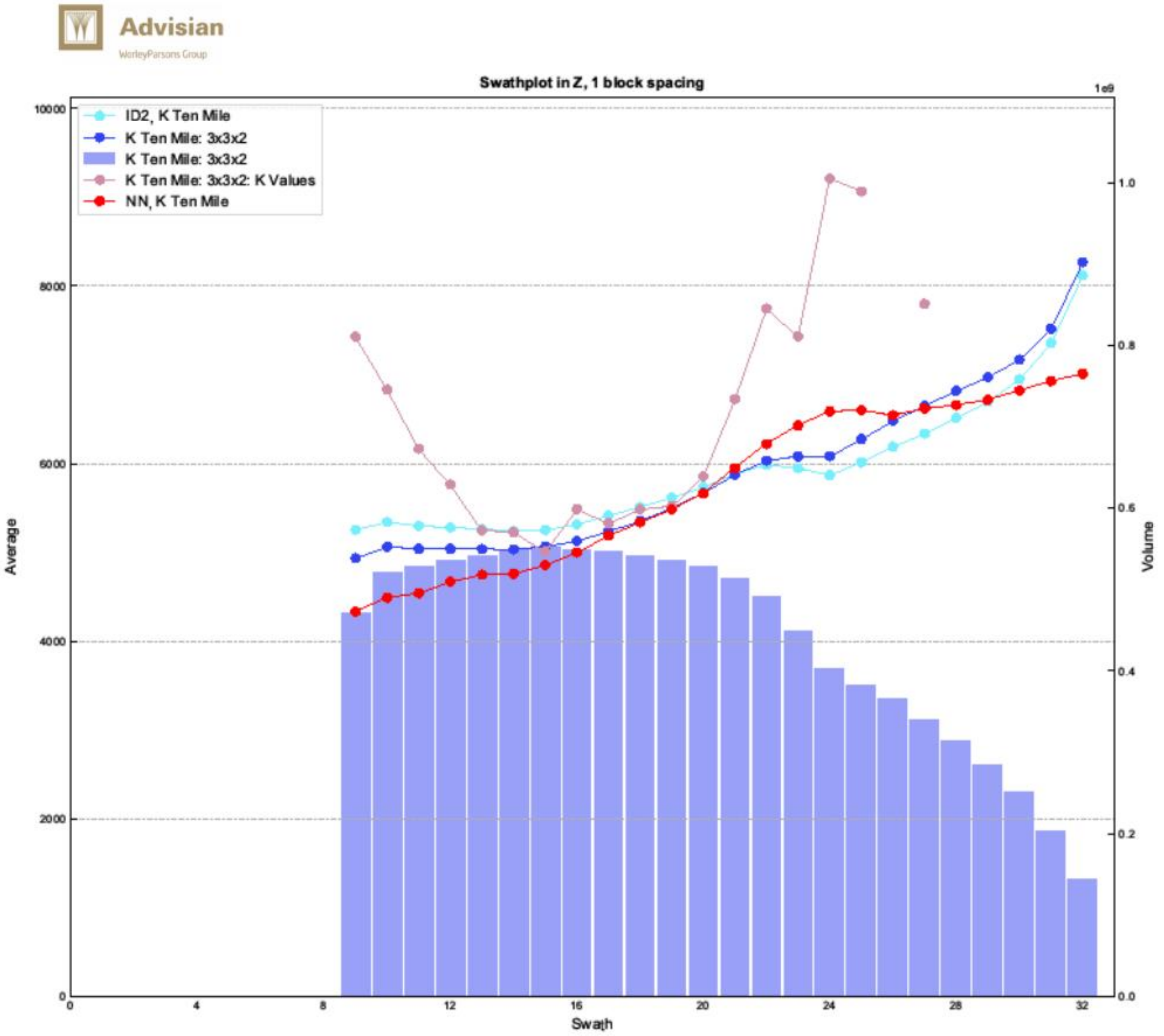


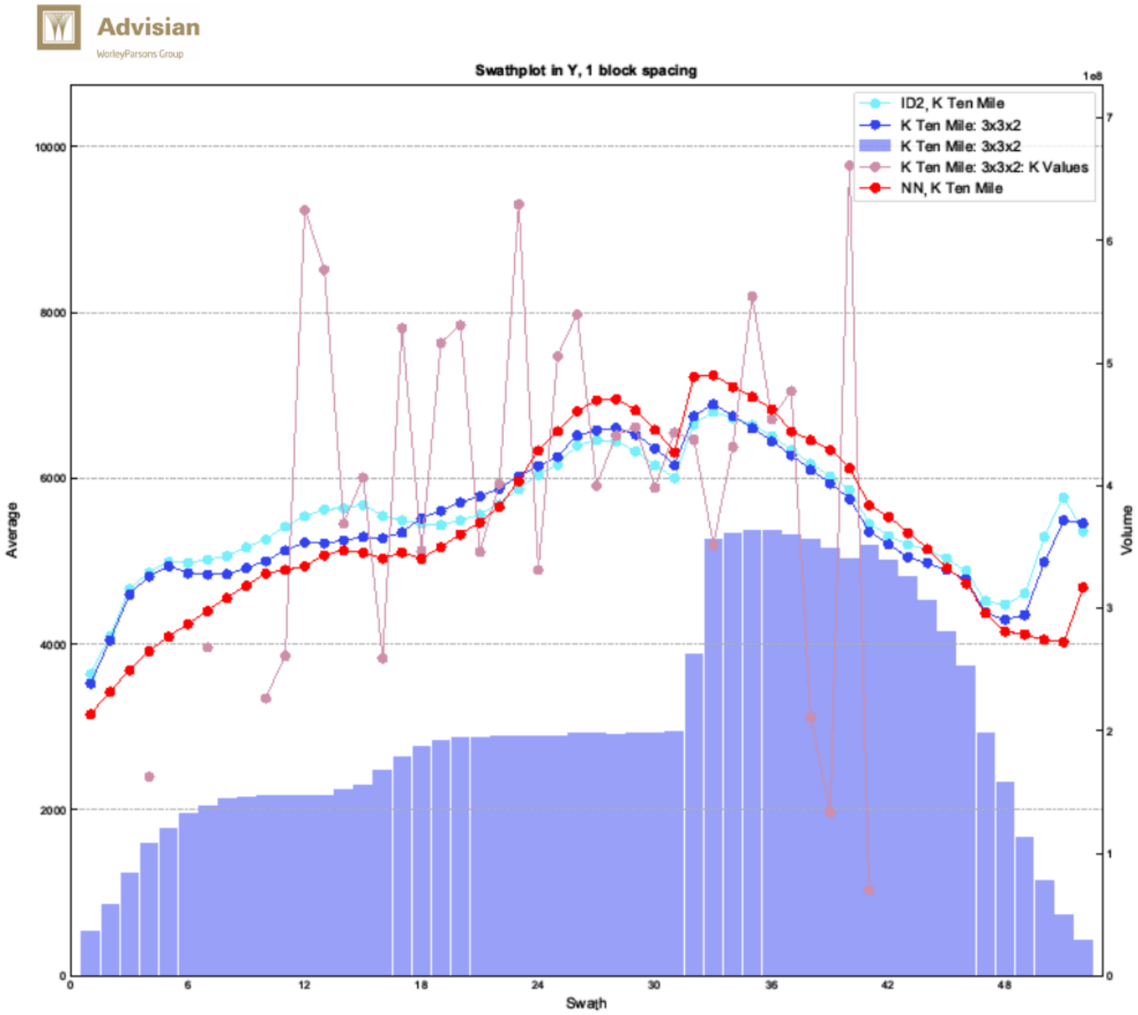

Advisian
2D Variogram for Mg Values
Dip = 0.00 Dip Azimuth = 0.00
Pitch
(semi-)variogram
Major Axis Variogram for Mg Values
Semi-major Axis Variogram for Mg Values
Total sill = 4591000.0
σ² = 4.99413e+06
Minor Axis Variogram for Mg Values

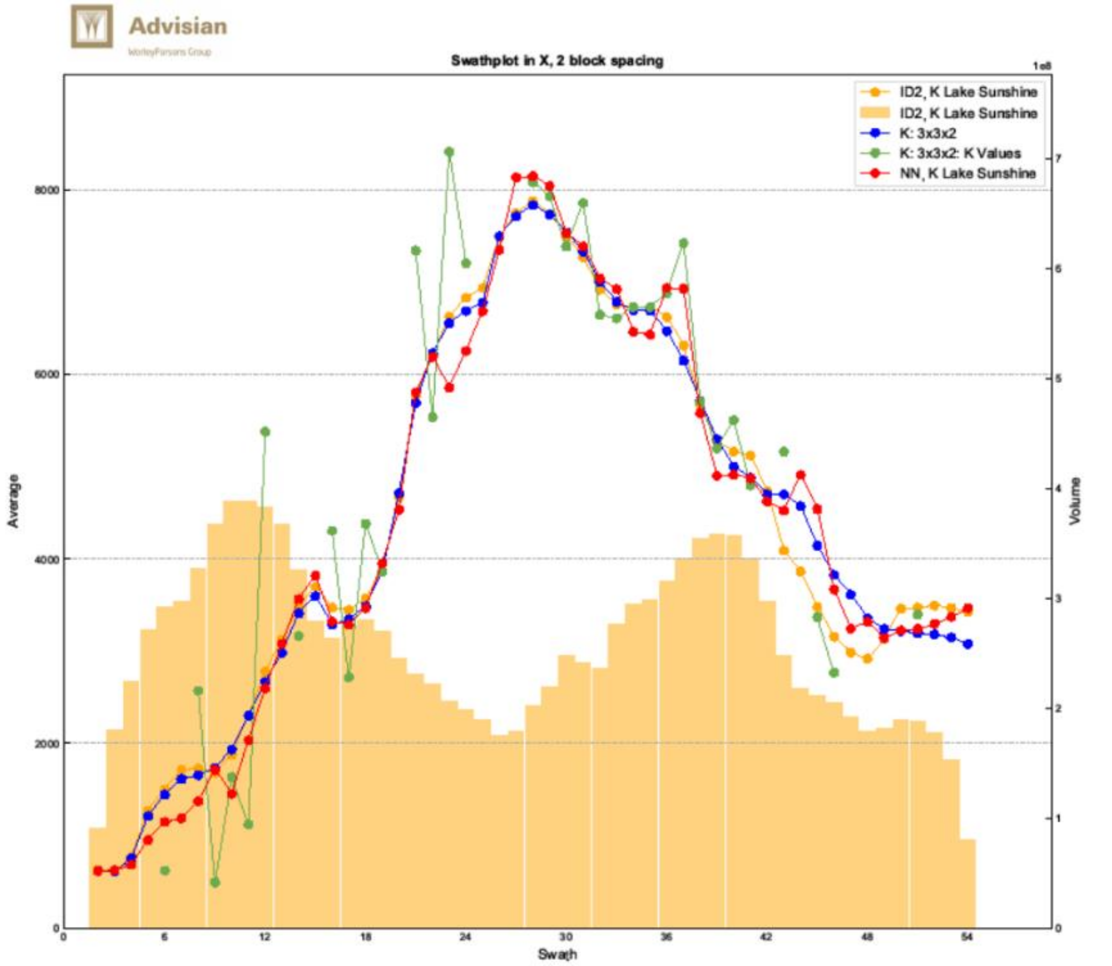

Advisian
2D Variogram for SO4 Values
Dip = 0.00 Dip Azimuth = 0.00
Pitch
(semi-)variogram
Major Axis Variogram for SO4 Values
Semi-major Axis Variogram for SO4 Values
Total sill = 33950000.0
σ² = 3.72821e+07
Minor Axis Variogram for SO4 Values
Total sill = 33950000.0
σ² = 3.72821e+07

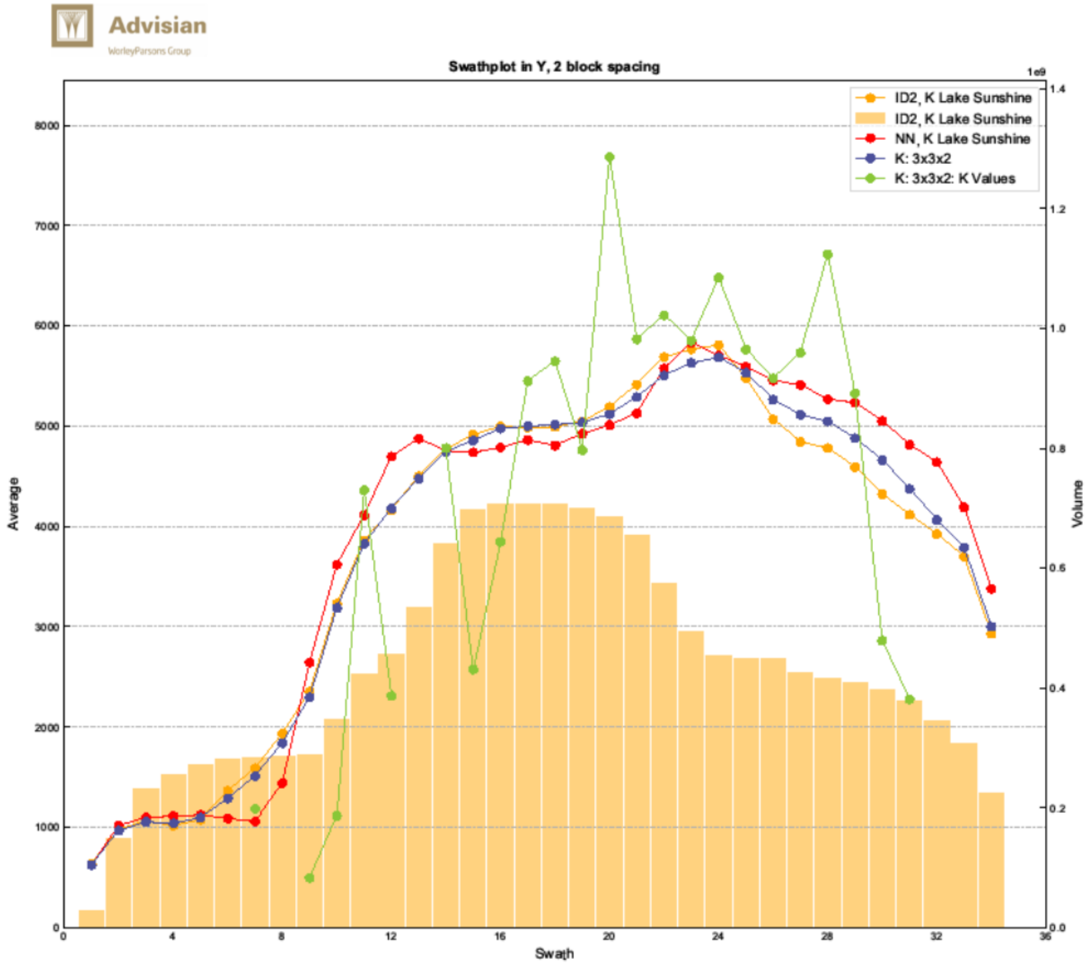
APPENDIX 13: RESOURCE SWATH PLOTS

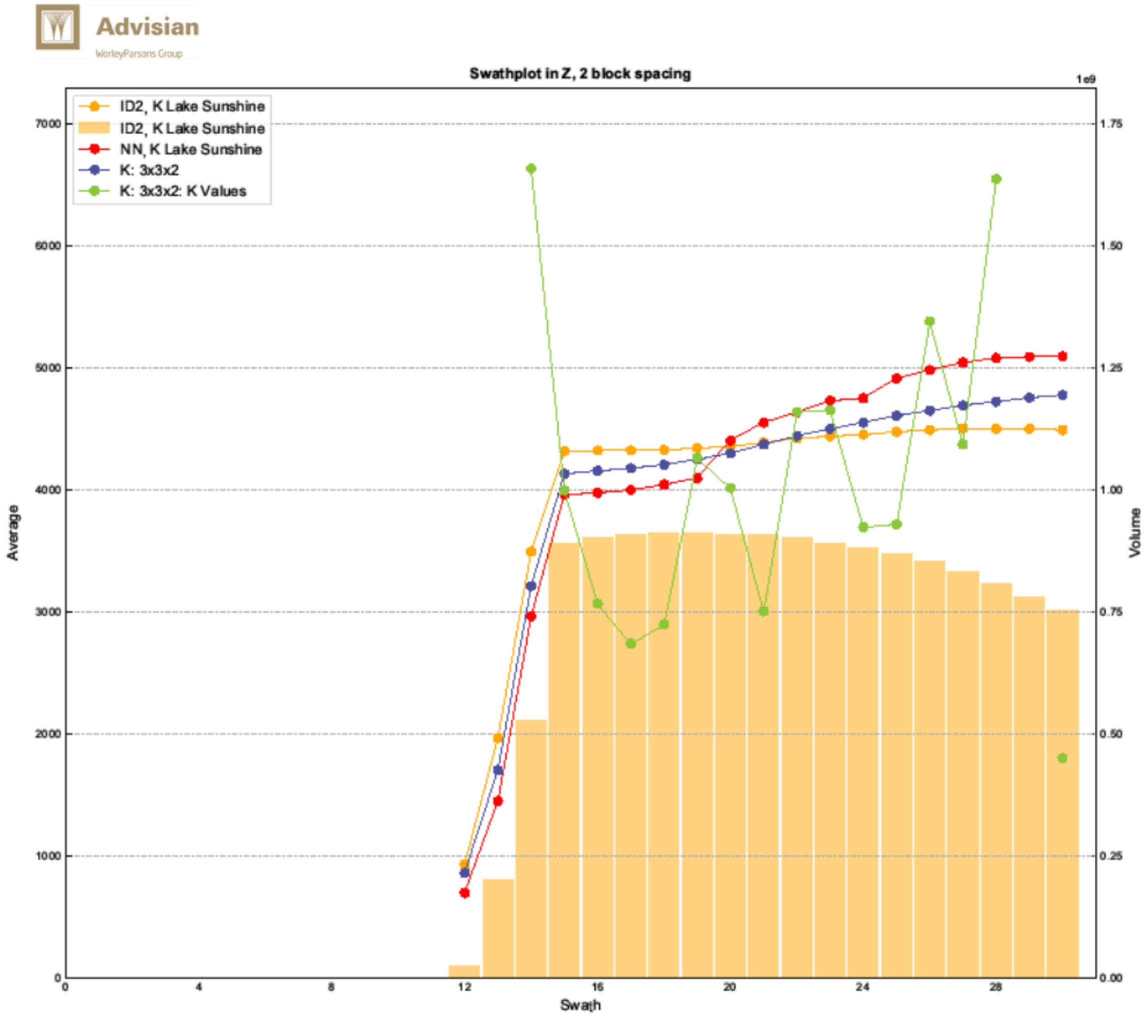



Advisian
WorleyParsons Group
Swathplot in Z, 1 block spacing
ID2, K Ten Mile
K Ten Mile: 3x3x2
K Ten Mile: 3x3x2
K Ten Mile: 3x3x2: K Values
NN, K Ten Mile
Average
Volume
Swath
1e9


Advisian
WorleyParsons Group
Swathplot in Y, 1 block spacing
1e8
ID2, K Ten Mile
K Ten Mile: 3x3x2
K Ten Mile: 3x3x2
K Ten Mile: 3x3x2: K Values
NN, K Ten Mile
Average
Volume
Swath
0
2000
4000
6000
8000
10000
0
6
12
18
24
30
36
42
48
1
2
3
4
5
6
7


Advisian
WorleyParsons Group
Swathplot in X, 2 block spacing
1e8
ID2, K Lake Sunshine
ID2, K Lake Sunshine
K: 3x3x2
K: 3x3x2: K Values
NN, K Lake Sunshine
Average
Volume
Swath
0
2000
4000
6000
8000
0
6
12
18
24
30
36
42
48
54
1
2
3
4
5
6
7


Advisian
WorleyParsons Group
Swathplot in Y, 2 block spacing
ID2, K Lake Sunshine
ID2, K Lake Sunshine
NN, K Lake Sunshine
K: 3x3x2
K: 3x3x2: K Values
Average
Volume
Swath
1e9


Advisian
WorleyParsons Group
Swathplot in Z, 2 block spacing
ID2, K Lake Sunshine
ID2, K Lake Sunshine
NN, K Lake Sunshine
K: 3x3x2
K: 3x3x2: K Values
Average
Volume
Swath
1e9
7000
6000
5000
4000
3000
2000
1000
0
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0
4
8
12
16
20
24
28