



**LAKE RESOURCES**

**LAKE RESOURCES N.L. (ASX:LKE)**

ASX Market Announcements Office

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## **DRILLING ADVANCES AT KACHI LITHIUM PROJECT WITH CONSISTENT ASSAY RESULTS DELIVERED**

- **Drilling continues to confirm the large scale and quality of the Kachi Lithium Brine Project - a major discovery of a similar size to globally significant lithium producers.**
- **Results show brines returning averaging 326 mg/L lithium over 60 metres (237 – 301m) in drill hole K08R14.**
- **More assays pending and drilling to be extended based on these favorable results.**
- **Brines extend from near-surface to at least 400 metres depth consistently, with geophysics suggesting depths of 600-800 metres, with low impurities and low average Mg/Li ratio of 3.8 at K08R14, a ratio similar to large Argentine projects of Galaxy and Neo Lithium.**

Argentine-focused lithium exploration and project development company **Lake Resources NL (ASX: LKE)** has extended drilling activities at its 100%-owned Kachi Lithium Brine Project in Catamarca Province with assay results reinforcing the large scale and quality of the discovery.

Recent drill results returned **314-332 mg/L lithium over 60 metres in drillhole K08R14 averaging 326 mg/l lithium**. Brine samples in this hole display encouraging densities with a favourable Mg/Li ratio of 3.8. This follows averaged results of 306 mg/L lithium over 24 metres (213 – 237m) from hole K03R03 indicating consistent brine chemistry throughout the stratigraphic profile in the western sector of this project area.

To date, the lithium brines analysed show positive chemistry with low combined impurities (boron, sulphate, calcium, magnesium, iron). Visually, sediments suggest high porosities and permeabilities, with laboratory porosity and permeability results anticipated soon. Brines extend from near- surface to at least 400 metres depth consistently, and geophysics suggest 600-800 metres depth.

The drilling advances the Kachi discovery towards an initial resource target estimate, with data from a further hole, K04R15 in the western area (refer Figure 1 below), due prior to the resource estimation. The western area of the basin is being targeted at present for completion of the resource estimation. A number of sample results are pending from recent drilling, and regular updates will be provided as drilling progresses. An exploration target will be provided in the next two weeks as a precursor to the resource estimate.

### **Resource Drilling – Kachi Lithium Brine Project**

Lake Resources' 100%-owned Kachi Lithium Brine Project in Catamarca province, Argentina covers over 50,000 hectares of mining leases owned 100% by Lake's Argentine subsidiary. These are held over the centre of the known Kachi salt lake in the deepest part of the basin. Surface sampling revealed positive lithium results in brines, supported by positive results in drilling from surface to depth and through geophysics programs.

Recent drilling intersected different interlayered lithologies which are dominated by sandy sediments. Samples have been collected for porosity tests in a laboratory in the USA with extensive experience in analysing salt lake sediments for their porosity characteristics, in particular the specific yield (also known as drainable porosity).

Drilling has been completed at platform K04. New locations are currently being planned based on these recent favourable results. The company intends to conduct a resource estimate for the project in accordance with the JORC reporting code as soon as practical. This will incorporate the porosity data and systematic brine analyses from the drilling samples including yet to be reported result from K04R15. Further drilling is planned but this will not impact timing of the resource estimate which is based on drilling completed to date.

## Comment

**Managing Director Steve Promnitz said:** “Kachi continues to produce favourable assay results which are consistent with and similar to the large lithium brine projects of Galaxy and Neo Lithium, also in Catamarca. The grades we are achieving at Kachi demonstrate to us that, based on the scale of Kachi at 50,000 hectares, we have a project that is commercial with significant upside.

“We are well advanced in defining a resource estimate which will be based on some final assays we have pending. Beyond this, we have taken the decision to extend the drill program based on these new, very encouraging assays. We are also pleased to confirm that drilling is advancing well in Cauchari and first assays are on track for early next month.”

Table 1 provides drill hole location details and lithium results which are averaged where multiple samples have been taken at a single interval.

**Table 1: Kachi Lithium Project – details of drill-hole locations**

Exploration Hole	Drilling Method	Easting	Northing	Total Depth (m)	Assay Interval (m)	Lithium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)
Northern Area								
K07D01	Diamond	643829	7073100	76.25	10 - 34	157		3330
K03D02	Diamond	644880	7073149	150.5	74 - 92	180	1740	4435
<b>K03R03</b>	<b>Rotary</b>	<b>644898</b>	<b>7073147</b>	<b>242</b>	<b>213 - 237</b>	<b>306*</b>	<b>1307*</b>	<b>5998*</b>
<b>K03R12</b>	<b>Rotary</b>	<b>644885</b>	<b>7073132</b>	<b>400</b>	<b>358 - 400</b>	<b>267*</b>	<b>1180*</b>	<b>5180*</b>
K02D13	Diamond	646432	7074897		60	217	3557	4438
					64 - 108	182	2884	3620
					269 - 298	204	2163	4100
					313 - 343	252	1411	4987
Southern Area								
K06D04	Diamond	655320	7065352	167.5	95 - 113	203	766	3321
K06R05	Rotary	655273	7065354	87	68 - 85	167	1000	3160
K06R06	Rotary	655307	7065374	180	Not Sampled			
K06R07	Rotary	655326	7065362	189	159 - 179	191	1009	961
K06D08	Diamond	655326	7065362	405	69 - 70	194	958	3171
					120 - 121	191	873	3199
					165-166	170	880	3650
					205-206	164	894	3590
					258-259	164	888	3560
K05D09	Diamond	648899	7067469	139	354-405	170	877	3670
					62	83	1229	965
					108	222	1325	4360
K05D11	Diamond	648902	7067491	391	157	95	1460	1926
					188	215	919	3596
					224 - 248	175	876	3065
					289	143	1088	2251
					300.5	116	1035	1782
					291 - 334	234	3199	4980
<b>K08R14</b>	<b>Rotary</b>	<b>644218</b>	<b>7070750</b>	<b>364</b>	<b>301 - 361</b>	<b>326*</b>	<b>1232*</b>	<b>6038*</b>

Coordinates are WGS84 Z19 South

\* Average for multiple samples during extended air lift

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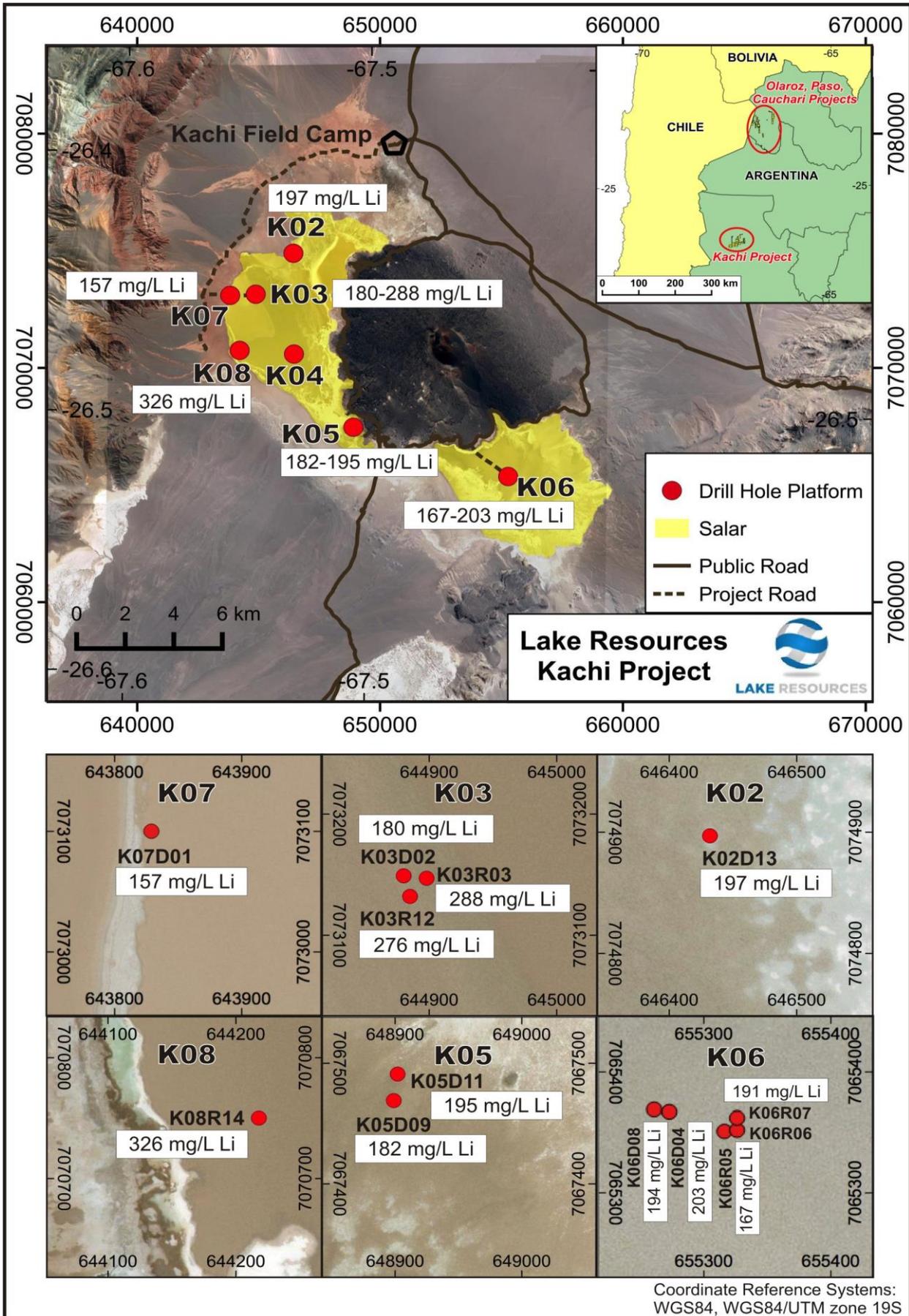


Figure 1. Kachi Lithium Project showing drilling locations, details of the drill hole layout at each location and lithium concentrations for each drill hole which are averaged where multiple brine samples have been taken at various depths

## Background on Lake Resources NL (ASX:LKE)

Lake Resources NL (ASX:LKE, Lake) is a lithium exploration and development company focused on developing its 3 lithium brine projects and 1 hard rock project in Argentina, all owned 100%. The leases are in a prime location among the lithium sector's largest players within the Lithium Triangle where half of the world's lithium is produced. Lake holds one of the largest lithium tenement packages in Argentina (~180,000Ha) secured in 2016 prior to a significant 'rush' by major companies. The large holdings provide the potential to provide security of supply demanded by battery makers and electric vehicle manufacturers.

The Kachi project covers 50,000 Ha over a salt lake south of FMC's lithium operation and near Albemarle's Antofalla project. Drilling at Kachi has confirmed a large lithium brine bearing basin over 22km long and over 400m deep. Drilling over Kachi is aimed to produce a resource statement in 2018, anticipated in Oct 2018. A direct extraction technique is planned to be trialled on site in tandem with conventional methods as part of a PFS to follow the resource statement. Scope exists to unlock considerable value through partnerships and corporate deals in the near-term.

The three key brine projects, Kachi, Olaroz/Cauchari, and Paso, are located adjacent to major world class brine projects either in production or being developed in the highly prospective Jujuy and Catamarca Provinces. The Olaroz-Cauchari project is located in the same basin as Orocobre's Olaroz lithium production and adjoins Ganfeng Lithium/Lithium Americas Cauchari project, with high grade lithium (600 mg/L) with high flow rates drilled immediately across the lease boundary.

A drill rig has been mobilised to Cauchari with results anticipated to extend the proven resources in adjoining properties into LKE's area with results anticipated from late October into December 2018. This will be followed by drilling extensions to the Olaroz area in LKE's 100% owned Olaroz leases.

Significant corporate transactions continue in adjacent leases with development of Ganfeng Lithium/Lithium Americas Cauchari project with Ganfeng announcing a US\$237 million for 37% of the Cauchari project previously held by SQM. Nearby projects of Lithium X were recently acquired via a takeover offer of C\$265 million completed March 2018. The northern half of Galaxy's Sal de Vida resource was purchased for US\$280 million by POSCO in June 2018

The demand for lithium continues to be strong for lithium ion batteries in electric vehicles, according to recent data from the leading independent battery minerals consultant - Benchmark Mineral Intelligence. Supply continues to be constrained suggesting good opportunities for upstream lithium companies for many years.

### Competent Person's Statement – Kachi Lithium Brine Project

*The information contained in this ASX release relating to Exploration Results has been compiled by Mr Andrew Fulton. Mr Fulton is a Hydrogeologist and a Member of the Australian Institute of Geoscientists and the Association of Hydrogeologists. Mr Fulton has 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 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.*

*Andrew Fulton is an employee of Groundwater Exploration Services Pty Ltd and an independent consultant to Lake Resources NL. Mr Fulton consents to the inclusion in this announcement of this information in the form and context in which it appears. The information in this announcement is an accurate representation of the available data from initial exploration at the Kachi project.*

Table 2 Report: Kachi Lithium Brine Project

Criteria	Section 1 - Sampling Techniques and Data
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>• Brine samples were taken from the diamond drill hole with a bottom of hole spear point during advance and using a straddle packer device to obtain representative samples of the formation fluid by purging a volume of fluid from the isolated interval, to minimize the possibility of contamination by drilling fluid then taking the sample. Low pressure airlift tests are used as well. The fluid used for drilling is brine sourced from the drill hole and the return from drillhole passes back into the excavator dug pit lined to avoid leakage.</li> <li>• The brine sample was collected in a clean plastic bottle (1 litre) and filled to the top to minimize air space within the bottle. A duplicate was collected at the same time for storage and submission of duplicates to the laboratory. Each bottle was taped and marked with the sample number.</li> <li>• Drill core in the hole was recovered in 1.5 m length core runs in core split tubes to minimize sample disturbance.</li> <li>• Drill core was undertaken to obtain representative samples of the sediments that host brine.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>• Diamond drilling with an internal (triple) tube was used for drilling. The drilling produced cores with variable core recovery, associated with unconsolidated material, in particularly sandy intervals. Recovery of these more friable sediments is more difficult with diamond drilling, as this material can be washed from the core barrel during drilling.</li> <li>• Rotary drilling has used 8.5" or 10" tricone bits and has produced drill chips.</li> <li>• Brine has been used as drilling fluid for lubrication during drilling.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• Diamond drill core was recovered in 1.5m length intervals in the drilling triple (split) tubes. Appropriate additives were used for hole stability to maximize core recovery. The core recoveries were measured from the cores and compared to the length of each run to calculate the recovery. Chip samples are collected for each metre drilled and stored in segmented plastic boxes for rotary drill holes.</li> <li>• Brine samples were collected at discrete depths during the drilling using a double packer over a 1 m interval (to isolate intervals of the sediments and obtain samples from airlifting brine from the sediments within the packer).</li> <li>• As the brine (mineralisation) samples are taken from inflows of the brine into the hole (and not from the drill core – which has variable recovery) they are largely independent of the quality (recovery) of the core samples. However, the permeability of the lithologies where samples are taken is related to the rate and potentially lithium grade of brine inflows.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• Sand, clay, silt, salt and cemented rock types was recovered in a triple tube diamond core drill tube, or as chip samples from rotary drill holes, and examined for geologic logging by a geologist and a photo taken for reference.</li> <li>• Diamond holes are logged by a senior geologist who also supervised taking of samples for laboratory porosity analysis as well as additional physical property testing.</li> <li>• Logging is both qualitative and quantitative in nature. The relative proportions of different lithologies which have a direct bearing on the overall porosity, contained and potentially extractable brine are noted, as are more qualitative characteristics such as the sedimentary facies and their relationships. When cores are split for sampling they are photographed.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• Brine samples were collected by packer and spear sampling methods, over a metre. Low pressure airlift tests are used as well to purge test interval and gauge potential yields.</li> <li>• The brine sample was collected in one-litre sample bottles, rinsed and filled with brine. Each bottle was taped and marked with the sample number.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• The Alex Stewart Argentina/Norlab SA in Palpala, Jujuy, Argentina, is used as the primary laboratory to conduct the assaying of the brine samples collected as part of the sampling program. The SGS laboratory in Buenos Aires has also been used for both primary and check samples. They also analyzed blind control samples and duplicates in the analysis chain. The Alex Stewart/Norlab SA laboratory and the SGS laboratory are ISO 9001 and ISO 14001 certified, and are specialized in the chemical analysis of brines and inorganic salts, with experience in this field. This includes the oversight of the experienced Alex Stewart Argentina S.A. laboratory in Mendoza, Argentina, which has been operating for a considerable period.</li> <li>• The quality control and analytical procedures used at the Alex Stewart/Norlab SA laboratory or SGS laboratory are considered to be of high quality and comparable to those employed by ISO certified laboratories specializing in analysis of brines and inorganic salts.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• Field duplicates, standards and blanks will be used to monitor potential contamination of samples and the repeatability of analyses. Accuracy, the closeness of measurements to the "true" or accepted value, will be monitored by the insertion of standards, or reference samples, and by check analysis at an independent (or umpire) laboratory.</li> <li>• Duplicate samples in the analysis chain were submitted to Alex Stewart/Norlab SA or SGS laboratories as unique samples (blind duplicates) during the process</li> <li>• Stable blank samples (distilled water) were used to evaluate potential sample contamination and will be inserted in future to measure any potential cross contamination</li> </ul>

	<ul style="list-style-type: none"> <li>• Samples were analysed for conductivity using a hand-held Hanna pH/EC multiprobe.</li> <li>• Regular calibration using standard buffers is being undertaken.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• The diamond drill hole sample sites and rotary drill hole sites were located with a hand-held GPS.</li> <li>• The properties are located at the junction of the Argentine POSGAR grid system Zone 2 and Zone 3 (UTM 19) and in WGS84 Zone 19 south.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• Brine samples were collected over 1m intervals every 6 m intervals within brine producing aquifers, where this was possible.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• The salt lake (<i>salar</i>) deposits that contain lithium-bearing brines generally have sub-horizontal beds and lenses that contain sand, gravel, salt, silt and clay. The vertical diamond drill holes will provide a better understanding of the stratigraphy and the nature of the sub-surface brine bearing aquifers</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• Samples were transported to the Alex Stewart/Norlab SA laboratory or SGS laboratory for chemical analysis in sealed 1-litre rigid plastic bottles with sample numbers clearly identified. Samples were transported by a trusted member of the team.</li> <li>• The samples were moved from the drillhole sample site to secure storage at the camp on a daily basis. All brine sample bottles sent to the laboratory are marked with a unique label not related to the location.</li> </ul>
<i>Review (and Audit)</i>	<ul style="list-style-type: none"> <li>• No audit of data has been conducted to date. However, the CP has been onsite periodically during the programme. The review included drilling practice, geological logging, sampling methodologies for water quality analysis and, physical property testing from drill core, QA/QC control measures and data management. The practices being undertaken were ascertained to be appropriate.</li> </ul>
<b>Criteria</b>	<b>Section 2 - Mineral Tenement and Land Tenure Status</b>
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• The Kachi Lithium Brine project is located approximately 100km south-southwest of FMC's Hombre Muerto lithium operation and 45km south of Antofagasta de la Sierra in Catamarca province of north western Argentina at an elevation of approximately 3,000m asl.</li> <li>• The project comprises approximately 51,770 Ha in twenty seven mineral leases (minas) of which five leases (9,445 Ha) are granted for drilling, twenty leases are granted for initial exploration (39,575 Ha) and two leases (2750 Ha) are applications pending granting.</li> <li>• The tenements are believed to be in good standing, with payments made to relevant government departments.</li> </ul>
<i>Exploration by other parties</i>	<ul style="list-style-type: none"> <li>• Marifil Mines Ltd conducted sparse near-surface pit sampling of groundwater at depths less than 1m during 2009.</li> <li>• Samples were taken from each hole and analysed at Alex Stewart laboratories in Mendoza Argentina.</li> <li>• Results were reported in an NI 43-101 report by J. Ebisch in December 2009 for Marifil Mines Ltd.</li> <li>• <b>NRG Metals Inc recently commenced exploration in adjacent leases under option. An initial diamond drillhole intersected lithium bearing brines from 172-198m and below with best results to date of 15m at 229 mg/L Lithium, reported in December 2017. A VES ground geophysical survey was completed prior to drilling. A NI 43-101 report was released in February 2017.</b></li> <li>• No other exploration results were able to be located</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• The known sediments within the <i>salar</i> consist of salt/halite, clay, sand and silt horizons, accumulated in the <i>salar</i> from terrestrial sedimentation and evaporation of brines.</li> <li>• Brines within the Salt Lake are formed by solar concentration, interpreted to be combined with warm geothermal fluids, with brines hosted within sedimentary units.</li> <li>• Geology was recorded during the diamond drilling and from chip samples in rotary drill holes.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• Lithological data was collected from the holes as they were drilled and drill cores or chip samples were retrieved. Detailed geological logging of cores is ongoing.</li> <li>• All drill holes are vertical, (dip -90, azimuth 0 degrees).</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• Assay averages have been provided where multiple sampling occurs in the same sampling interval.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• N/A pending results</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• A drill hole location plan is provided showing the locations of the drill platforms. Individual drill locations are provided in Table 1.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• Brine assay results are available from 12 drill holes from the drilling to date, reported here. Information will be provided as it becomes available.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• There is no other substantive exploration data available regarding the project.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• The company is undertaking a 1000m maiden diamond drilling programme and 2000m maiden rotary water well drilling programme which may be expanded based on results.</li> </ul>