

8 February 2024

## Multiple Brines Horizons Intersected in Second Hole- Liberty Lithium Brine Project USA

- Drillhole 2 has been completed at 443m depth; Brine sampling and geophysics are underway.
- Numerous brine aquifers were intersected between 90m and 295m depth in drillhole 2.
- Both diamond drillholes, located 4km apart, were centred over significant geophysical targets in magnetotellurics (MT) that inferred a series of conductive brine bearing aquifers.
- Results and interpretations from drillhole 1 are expected in mid-February, with drillhole 2 results in late March.

QX Resources Limited (ASX: QXR, 'QXR') is pleased to confirm that numerous brine aquifers\* were successfully intersected in the second hole of a two-hole diamond drill (DD) program over the large scale Liberty Lithium brine project in California, USA.

*\*Cautionary Statement: The intersection of brines does not imply that the brines are lithium bearing. Chemical analysis from an independent laboratory will determine lithium concentrations in a brine.*

Brine sampling\* and downhole geophysics of the second drill hole is underway. Specific aquifers are being sampled using packer sampling, with intervals determined from the downhole geophysical and geological logs. Lithium assay results with interpretations are expected from drillhole 1 in the coming weeks, with drillhole 2 lithium results in late March.

The second vertical diamond drill hole has been completed at 443.5 metres depth. Numerous brine aquifers varying in width from a few metres to 10 metres in width were intersected at 90m, 130m, 210m, 245m, and 295m<sup>†</sup>. Running sands, favourable for brine aquifers, were intersected at these same levels. Increased salinity suggests a favourable zone from 210m to 270m.

Fine grained sediments with sandy layers were common from the top of hole to 205m depth with gravels, conglomerates and coarse alluvial fan material below this to the base of the hole. The geology intersected reflected the anticipated target sequence as its similar in profile to the producing sequences of Albemarle's nearby Silver Peak lithium brine producer in Clayton Valley USA<sup>1</sup>.

The second hole will be cased, with slotted casing in favourable aquifers to allow for further sampling and monitoring. Large brine sample volumes (>20,000 litres) will then be pumped and stored. Bulk volumes of brine will be submitted for analysis and testwork with various direct lithium extraction (DLE) providers (refer ASX announcement dated 25 October 2023).

**QXR Managing Director, Stephen Promnitz, said:** "Intersecting numerous brine aquifers in the second hole is very encouraging. The running sand horizons and numerous saline aquifers encountered are exactly the desired geological setting when exploring for new lithium brine basins. Additionally, the geology in the second hole is very similar to the producing sequences at the nearby lithium brine producer of Albemarle.

*The sampling undertaken is quite specific, using a packer sampler to take samples over individual aquifers from 3m to 10m thick. Bulk samples will be sent for direct lithium extraction testwork once collected.*

*It's taking a little longer than anticipated to get assays and interpret those results due to end-of-year issues but it's a great start to this large target Liberty Lithium project."*

<sup>†</sup> **Note – Brine Intercepts:** Information currently available is not adequate to accurately state the width of the brine intercepts which relies on further geophysics and sampling data.

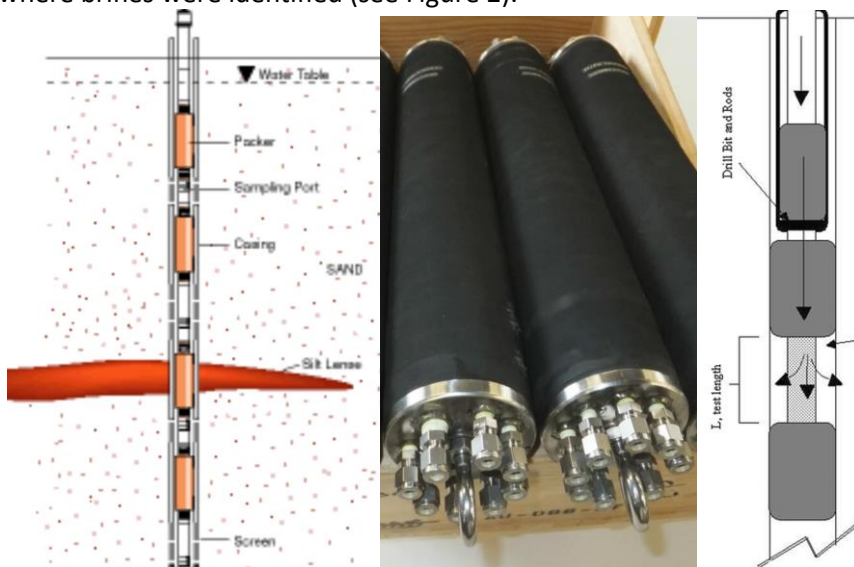
<sup>1</sup> [https://www.pureenergyminerals.com/wp-content/uploads/2018/04/PureEnergy\\_ClaytonValleyPEA\\_Rev1\\_23March2018.pdf](https://www.pureenergyminerals.com/wp-content/uploads/2018/04/PureEnergy_ClaytonValleyPEA_Rev1_23March2018.pdf)



**Figure 1: The Liberty Lithium Brine Project**

## Packer Sampling

Packer sampling, using “straddle” packers, are being utilised to sample specific aquifers downhole. Within the open drillhole, below the drill bit head, rubber stoppers are inflated either side of the specific aquifer between 3m to 10m, with intervals determined from the resistivity and gamma downhole geophysical log together with the geological log, where brines were identified (see Figure 2).



**Figure 2: “Straddle” Packer Sampling** – Schematic images showing selective sampling of specific saline aquifers downhole (Source: Baker Hughes; Quinn, P, Cherry, J, Parker, B: Combined use of straddle packer testing for hydraulic testing in fractured rock boreholes, May 2015, *Journal of Hydrology* 524).

## Drillholes and Deal Terms

The first vertical diamond drill hole was completed at 369 metres depth in late December 2023. Target horizons were intersected at 49m depth and 329m depth<sup>†</sup>. Fine grained sediments, gravels and coarse alluvial fan material were intersected down the length of the hole.

Drillhole 2 is located 4km to the south of drillhole 1 and both are centred over significant MT geophysical targets interpreted as inferring a series of conductive brine bearing aquifers at depth. Both holes are positioned within an extensive lithium brine surface anomaly of over 10km defined in auger samples (see image 4 below).

QXR has the ability to earn a 75% interest of the 102km<sup>2</sup> Liberty Lithium Brine Project, located in SaltFire Flat, in California, USA (refer ASX announcement dated 5 October 2023). The Project is one of the largest single lithium brine projects in the USA (for scale, equivalent to 2x area of Sydney Harbour). The Project’s geological setting mirrors Albemarle’s nearby Silver Peak lithium brine producer in Clayton Valley USA<sup>1</sup>.



Figure 3: The drill rig on the first drill hole as seen from the second hole site at the Liberty Lithium Brine Project

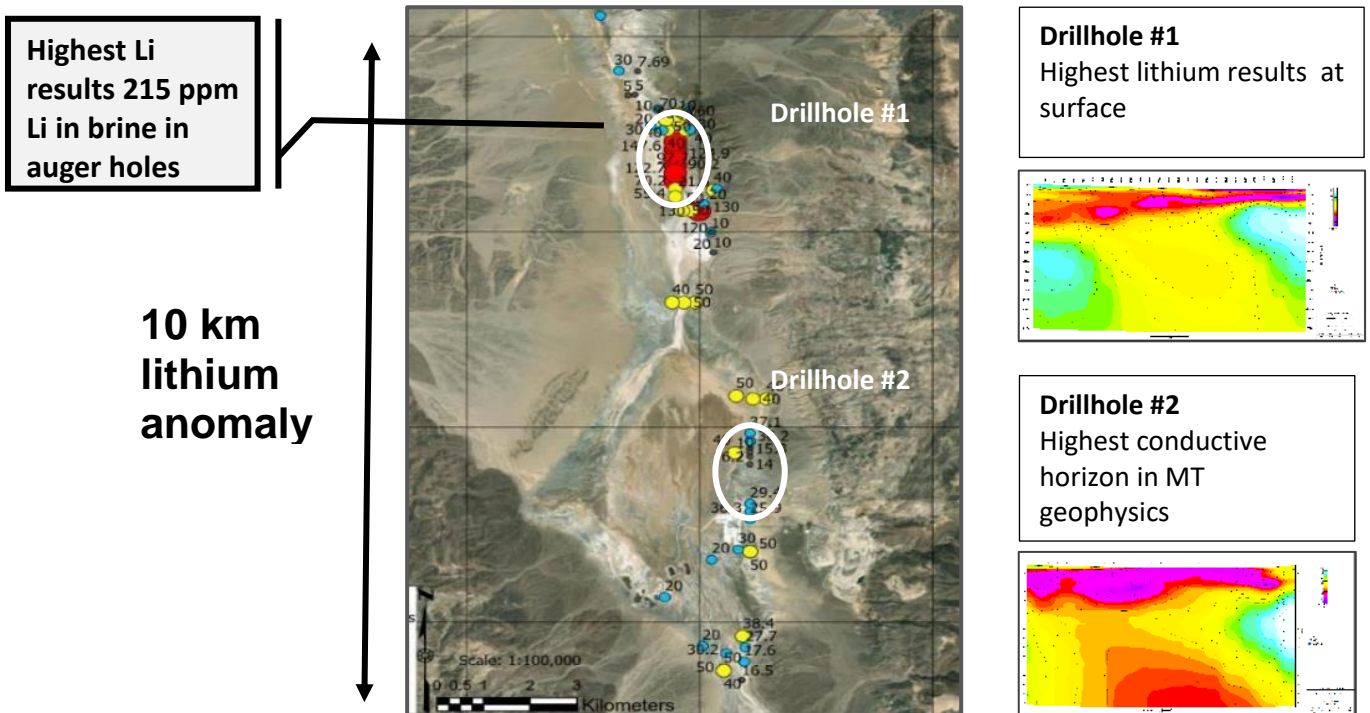
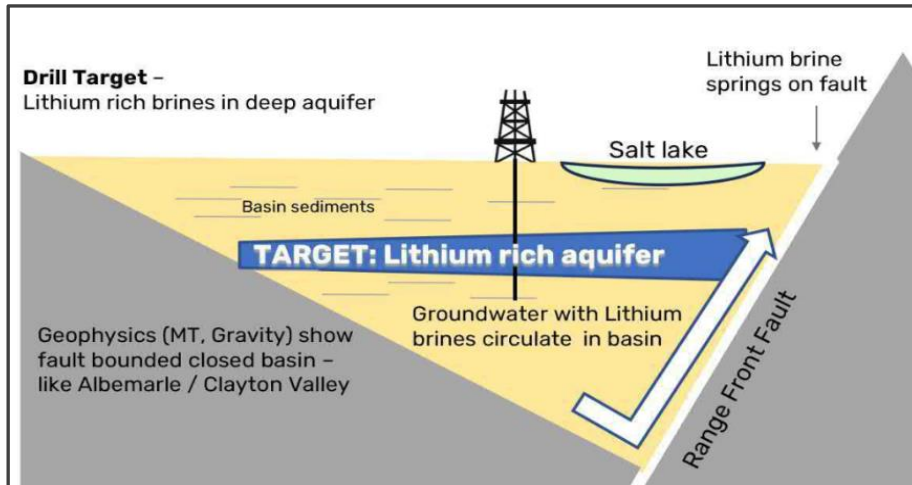


Figure 4: Location Map - Liberty Lithium with surface brine sample results (ppm Li) and geophysics profiles (MT) showing conductive horizons permissible for brine filled aquifers and drilling platforms (ASX announcement 26 July 2023, 5 October 2023 presentation).



**Figure 5: Stylised Target Aquifer in modelled cross section of basin - Liberty Lithium Project**  
(ASX announcement 5 October 2023 presentation).



**Figure 6: Location map of Liberty Lithium area (SaltFire Flat Project)**

Authorised by the Board of QX Resources Limited.

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**Table 1. Drill hole collar summary**

Hole_ID	Easting (m)	Northing (m)	UTM Zone	RL m	Depth m	Az.	Dip	Drill Type	Core Size
LLD23001	479799	3987118	11S	294	369	0	-90	DD	PQ
LLD24002	480044	3983246	11S	297	443.5	0	-90	DD	PQ

## **About QX Resources:**

QX Resources (ASX:QXR) is focused on exploration and development of battery minerals, with hard rock lithium assets in a prime location of Western Australia (WA), lithium brine project in the USA, copper/moly/gold assets in Queensland and a strategic investment in nickel sulphides in Sweden. The aim is to connect end users (battery, cathode and car makers) with QXR, an experienced explorer/developer of battery minerals, with an expanding mineral exploration project portfolio and solid financial support.

**Lithium hard rock portfolio:** QXR's lithium strategy is centred around WA's prolific Pilbara province, where it has four projects in strategic proximity to some of Australia's largest lithium deposits and mines. Across the Pilbara, QXR's regional lithium tenement package (both granted or under application) spans more than 350 km<sup>2</sup>.

**Lithium brine:** QXR has entered an Option to Purchase Agreement to earn-in to 75% of the Liberty Lithium Brine Project, a large recently consolidated lithium brine project in California, USA.

**Gold portfolio:** QXR is also developing two Central Queensland gold projects through an earn-in agreement with Zamia Resources Pty Ltd. Both gold projects are strategically located within the Drummond Basin, a region that has a >6.5moz gold endowment.

**Nickel sulphides:** QXR has a significant 39% shareholding in unlisted public Australian company Bayrock Resources Limited, which has a portfolio of highly prospective battery minerals assets in Sweden, primarily in nickel, cobalt and copper. QXR is assisting Bayrock with project development and financing initiatives

## **Competent Persons Statement**

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr. Roger Jackson, a Director and Shareholder of the Company, who is a 25+ year Fellow of the Australasian Institute of Mining and Metallurgy (MAusIMM), Fellow of the Australian Institute of Geoscientists and a Member of Australian Institute of Company Directors.

Mr. Jackson has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking 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". Mr. Jackson consents to the inclusion of the data contained in relevant resource reports used for this announcement as well as the matters, form and context in which the relevant data appears.

*The exploration results contained in this announcement were first reported by QXR on 17 May 2023 and 26 July 2023 and 5 October 2023 presentation and 13 Dec 2023. QXR confirms that it is not aware of any new information or data that materially affects the exploration results previously announced.*

## **Forward Looking Statements and Important Notice**

This report contains forecasts, projections and forward-looking information. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions it can give no assurance that these will be achieved. Expectations and estimates and projections and information provided by the Company are not a guarantee of future performance and involve unknown risks and uncertainties, many of which are out of QX Resources' control.

Actual results and developments will almost certainly differ materially from those expressed or implied. QX Resources has not audited or investigated the accuracy or completeness of the information, statements and opinions contained in this announcement.

To the maximum extent permitted by applicable laws, QX Resources makes no representation and can give no assurance, guarantee or warranty, express or implied, as to, and takes no responsibility and assumes no liability for the authenticity, validity, accuracy, suitability or completeness of, or any errors in or omission from, any information, statement or opinion contained in this report and without prejudice, to the generality of the foregoing, the achievement or accuracy of any forecasts, projections or other forward looking information contained or referred to in this report. Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities

## Appendix 1 - JORC Code, 2012 Edition – Table 1

### Section 1 - Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<i>Sampling techniques</i>	<p><b>Historical exploration 2018-2023</b></p> <ul style="list-style-type: none"> <li>• Brine samples have been collected as hand auger samples from near surface up to 2m, collected in clean plastic bottles. Brine samples were collected over an area of approximately 20km<sup>2</sup> at irregular intervals.</li> <li>• 3 shallow diamond drill holes were drilled. Limited brine samples were collected in clean plastic bottles using a bailer process - although samples may have been contaminated by fresh water and not representative.</li> <li>• A ground gravity and MT geophysical survey was conducted.</li> </ul> <p><b>Current exploration 2023-2024</b></p> <ul style="list-style-type: none"> <li>• QXR completed two PQ diamond drillholes to 369m and 443.5m depth.</li> <li>• Holes positioned over a lithium anomaly generated from surface hand auger brine samples and conductive MT geophysics anomalies.</li> <li>• Brine samples were collected from a number of depths in each hole. QAQC sampling protocols were conducted to the latest standard</li> </ul>
<i>Drilling techniques</i>	<p><b>Historical Drilling</b></p> <ul style="list-style-type: none"> <li>• 3 shallow vertical diamond drill holes were drilled to test stratigraphy and some brine samples.</li> <li>• 2018: 2BMR 256m PQ/HQ vertical RC1 287m HQ</li> <li>• 2020: PV4C 452m , PV5C 353m PQ/HQ vertical</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <ul style="list-style-type: none"> <li>• 2 Diamond holes: LLD23001 (369 metres); LLD24002 (443.5 metres) <ul style="list-style-type: none"> <li>• Drilling diameters: PQ</li> <li>• Drill rig used: Atlas Copco CT14 (truck mounted)</li> </ul> </li> </ul>
<i>Drill sample recovery</i>	<p><b>Historical Drilling</b></p> <ul style="list-style-type: none"> <li>• Core sample recoveries were of a good standard. Sampling recoveries were documented.</li> <li>• Brine samples were taken from brine bailed from the hole (and not from the drill core) &amp; they are largely independent of the quality (recovery) of the core samples.</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <ul style="list-style-type: none"> <li>• Measuring produced core's length vs drill run's length for diamond drilling</li> <li>• All measurements were done on site with high recovery</li> <li>• Brine samples were taken by a bailer at the base of the core tube and are largely independent of the quality (recovery) of the core samples.</li> <li>• Other brine samples were collected by bailer after an airlift and purging of the drillhole together with pumping of the hole over 24 hours.</li> </ul>
<i>Logging</i>	<p><b>Historical Drilling</b></p> <ul style="list-style-type: none"> <li>• All holes were logged by qualified geologists at drilling site. Only quantitative (spreadsheet) logging has been sighted. Some core photography has been sighted.</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <ul style="list-style-type: none"> <li>• All holes were logged by qualified geologists at drilling site.</li> <li>• Quantitative (spreadsheet) logging has been completed</li> <li>• Core photography has been completed.</li> <li>• Downhole geophysics has been conducted as a separate logging method.</li> </ul>
<i>Sub-sampling</i>	<p><b>Historical Drilling</b></p> <ul style="list-style-type: none"> <li>• Sample preparation records exist with QA/QC procedures.</li> </ul>

Criteria	Commentary
<i>techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <b>Current Drilling 2023-2024</b></li> <li>• Brine samples collected by bailer and airlift/bailer.</li> <li>• Samples will be collected from saddle packer sampling from drillhole #2.</li> <li>• A QA/QC procedure of sample preparation implemented.</li> <li>• The Blanks and Duplicates, and Standard samples were inserted for QA/QC, approximately at 1 in 25 samples</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<p><b>Historical Exploration</b></p> <ul style="list-style-type: none"> <li>• All of the surface brine samples and drillhole bailer samples were submitted to registered recognised laboratories. Analytical methods are being determined .</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <p>Brine samples collected were submitted to a registered recognised laboratory, WETLabs, in Reno, Nevada</p>
<i>Verification of sampling and assaying</i>	<p><b>Historical Drilling</b></p> <ul style="list-style-type: none"> <li>• Primary data was sourced from unpublished documents from IG Lithium</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <ul style="list-style-type: none"> <li>• Preliminary logging was done by site geologists in and later entered into graphic logs by geologists.</li> <li>• All data were prepared in accordance with prepared procedure.</li> </ul>
<i>Location of data points</i>	<p><b>Historical Drilling</b></p> <ul style="list-style-type: none"> <li>• Coordinates for the drillholes have been recorded.</li> </ul>
<i>Data spacing and distribution</i>	<p><b>Historical Drilling</b></p> <ul style="list-style-type: none"> <li>• Coordinates for the drillholes were Collar surveys completed by geologists using a GPS.</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <ul style="list-style-type: none"> <li>• Coordinates for the drillholes were Collar surveys completed by geologists using a GPS</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<p><b>Historical Exploration</b></p> <ul style="list-style-type: none"> <li>• Surface brine sampling covered most of the visible salt lake.</li> <li>• Drillholes were vertical perpendicular to the lake sediments</li> </ul> <p><b>Current Drilling</b></p> <ul style="list-style-type: none"> <li>• Drillholes are vertical perpendicular to the lake sediments</li> </ul>
<i>Sample security</i>	<p><b>Historical Exploration</b></p> <ul style="list-style-type: none"> <li>• Drill core samples were kept onsite. Brine samples were taken to the laboratory.</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <ul style="list-style-type: none"> <li>• Drill core samples are kept onsite. Brine samples were taken directly to the laboratory by the supervising geologists.</li> </ul>
<i>Audits or reviews</i>	<p><b>Historical Exploration</b></p> <ul style="list-style-type: none"> <li>• Historical data was carefully review by Dr Mark King a renowned global specialist in lithium brines.</li> </ul> <p><b>Current Drilling 2023-2024</b></p> <ul style="list-style-type: none"> <li>• Not considered necessary at this stage</li> </ul>

## Section 2 - Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>The Liberty Lithium Brine Project (Salt Fire Flat project) is covered by 1264 unpatented BLM claims over covering approximately 10,230 Ha (25,280 acres) of contiguous title in Inyo County, California.</li> <li>The claims are held by an unrelated third party under agreement and on behalf of IG Lithium LLC.</li> <li>QXR entered an Agreement to earn a 75% interest of the Liberty Lithium Brine Project in October 2023.</li> </ul>
<i>Exploration done by other parties</i>	<p><b>Historical Exploration 2018-2023</b></p> <ul style="list-style-type: none"> <li>The project is held by the original claim owner and under a pre-existing option to purchase agreement, two companies conducted exploration works including surface and auger brine sampling, detailed gravity and MT geophysics and 3 drillholes.</li> <li>Sampling highlighted anomalous Lithium in auger brine samples up to 215ppm Li.</li> <li>Geophysics included broad spaced gravity and magnetotellurics (MT)</li> <li>Limited brine samples were collected in by a bailer process from drillhole and appear to have been contaminated by fresh water and not representative.</li> <li></li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>The project is an enclosed arid basin with sand, silt, clay and halite horizons accumulated in a salt lake setting from terrestrial sediments 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. Geology was recorded at surface and in drillhole logs.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>Current drilling included in Table 1.</li> </ul>
<i>Data aggregation methods</i>	Averaging over the sampled brine intercept will be used in future
<i>Relationship between mineralisation widths and intercepts</i>	<ul style="list-style-type: none"> <li>Brine mineralisation interpreted as horizontally lying with drilling perpendicular</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>A diagram showing surface brine samples and auger brine samples is represented here with lithium analyses in mg/L (ppm) lithium.</li> <li>Appropriate Maps sections and figures are included in this report</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>Further data will be released once sample assay information is available and assessed.</li> </ul>
<i>Other substantive exploration</i>	<ul style="list-style-type: none"> <li>Gravity and MT geophysics suggest a basin of at least 800m-1000m in depth filled with sediments and potentially zones with brine mineralisation</li> </ul>
<i>Further work</i>	Results, once received, will be analysed and interpreted, together with geophysics, prior to further work.