ASX & Media Announcement: 12 September 2023
ASX: RXM | OTCQB: RXRLF

ABN 12 124 960 523

T 1300 822 161 (Australia)
T +61 3 9068 3077 (International)
P PO Box 3435 Rundle Mall
South Australia 5000
E rex@rexminerals.com.au
W www.rexminerals.com.au

Rex identifies lithium mineralisation at Hog Ranch

Rex Minerals Limited (Rex or the Company) advises that it has identified potential for significant lithium (Li) at its 100% owned Hog Ranch Property (Hog Ranch or the Property), located in Nevada, USA. Lithium is deemed critical to U.S. National Security and the Economy as per the Department of Interior's 2018 publication of U.S. Critical Minerals under Executive Order 13817.

Highlights

- Lithium clay mineralisation of **12.2m @ 971ppm Li from 125m** identified in HR22-007
- The lithium is hosted in a very similar geological setting to the McDermitt Caldera which hosts Lithium Americas[1] world class Thacker Pass Lithium clay deposit
- Lithium mineralisation remains open and un-tested, and has scale potential
- As a consequence of this lithium discovery, mining claims at or near to Hog Ranch have been increased by 70% to secure the prospective caldera for lithium.

Investigations for critical minerals at Hog Ranch have found that significant quantities of lithium mineralisation have been intersected in two of its north-westernmost drill holes, located to the north-west of the Airport Project. This lithium discovery has been named the 'Caldera Prospect.' The lithium concentration and deposit style at Hog Ranch is of economic significance because it indicates that the caldera is indeed fertile in lithium. However, before this current campaign at Hog Ranch, it has never been explored for lithium.

Rex's Managing Director, Richard Laufmann, said: *"As part of our Strategic Review, we analysed the drill data for prospective geology for critical minerals. Lithium, amongst other minerals, located within the borders of the USA is very important to the national interest, and Tesla's Giga plant is just over two hours' drive from the project site.*

"This lithium clay style deposit is very different to Australian lithium pegmatite deposits, generally larger and more consistent for bulk tonnage, but lower grade. One only has to look to Thacker Pass for an analogue, which highlights the significance of this geological setting at Hog Ranch. We see the discovery of lithium as another fabulous opportunity for value creation at Hog Ranch which has already established itself as a promising gold province."

1. https://www.lithiumamericas.com/_resources/presentations/corporate-presentation.pdf

Rex review of Hog Ranch lithium potential

Nevada is home to several substantial lithium clay deposits These deposits are advancing rapidly as critical metal sources for a low carbon energy future (see Figure 1).

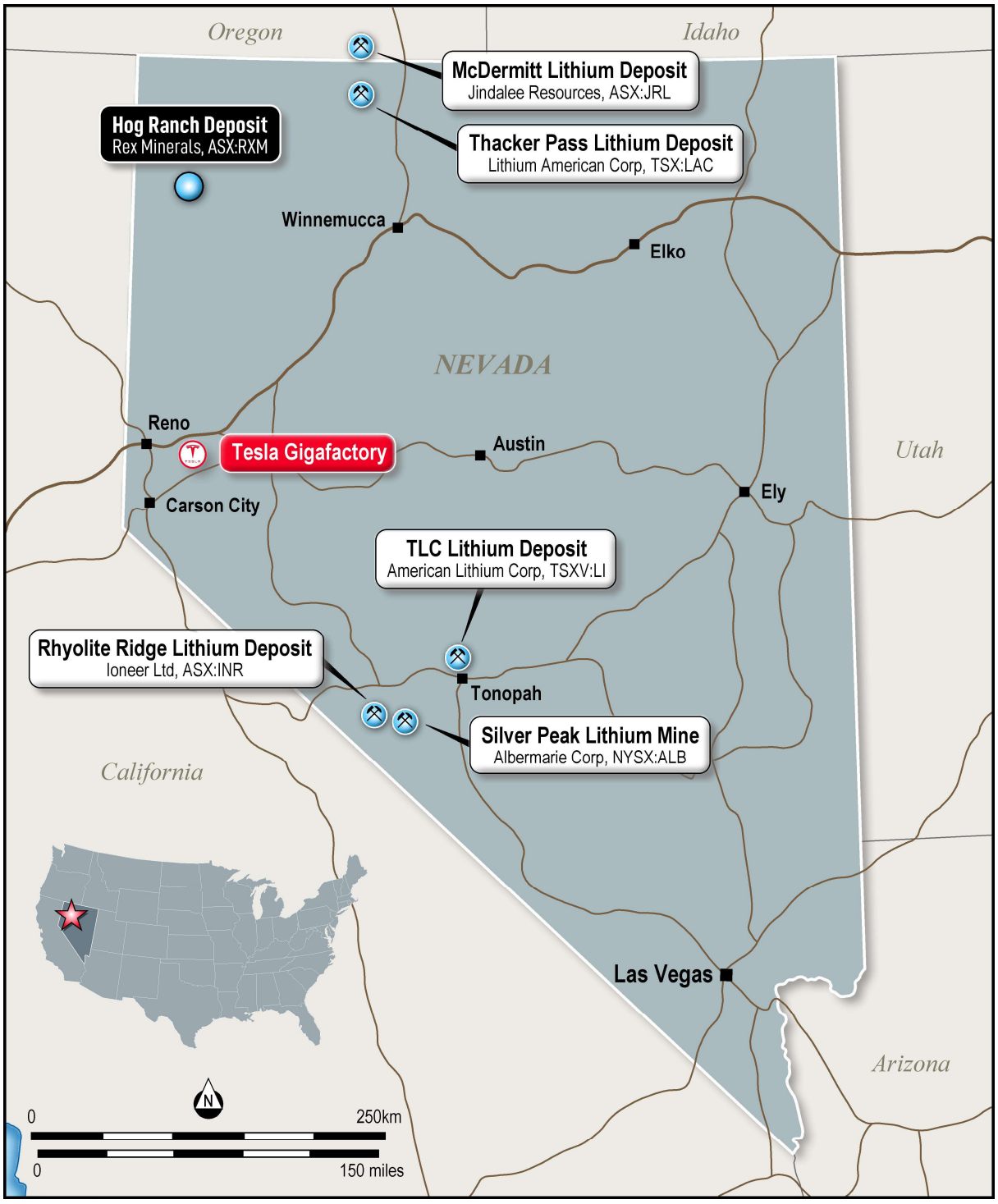


Figure 1: Location of significant lithium deposits throughout Nevada relative to Hog Ranch.

Hog Ranch geology and mineralisation is similar to the Thacker Pass Lithium Deposit which is currently being developed. The lithium at Thacker Pass is hosted within clay in lacustrine sediments which is part of a ~16-million-year-old volcanic caldera associated with the early activity of the Yellowstone hot spot (see Figure 2). This is very similar to recently identified lithium intersections at Hog Ranch which are also hosted in clays within lacustrine sediments and sit within a ~16Ma volcanic caldera linked to the Yellowstone hot spot (see Figure 2).

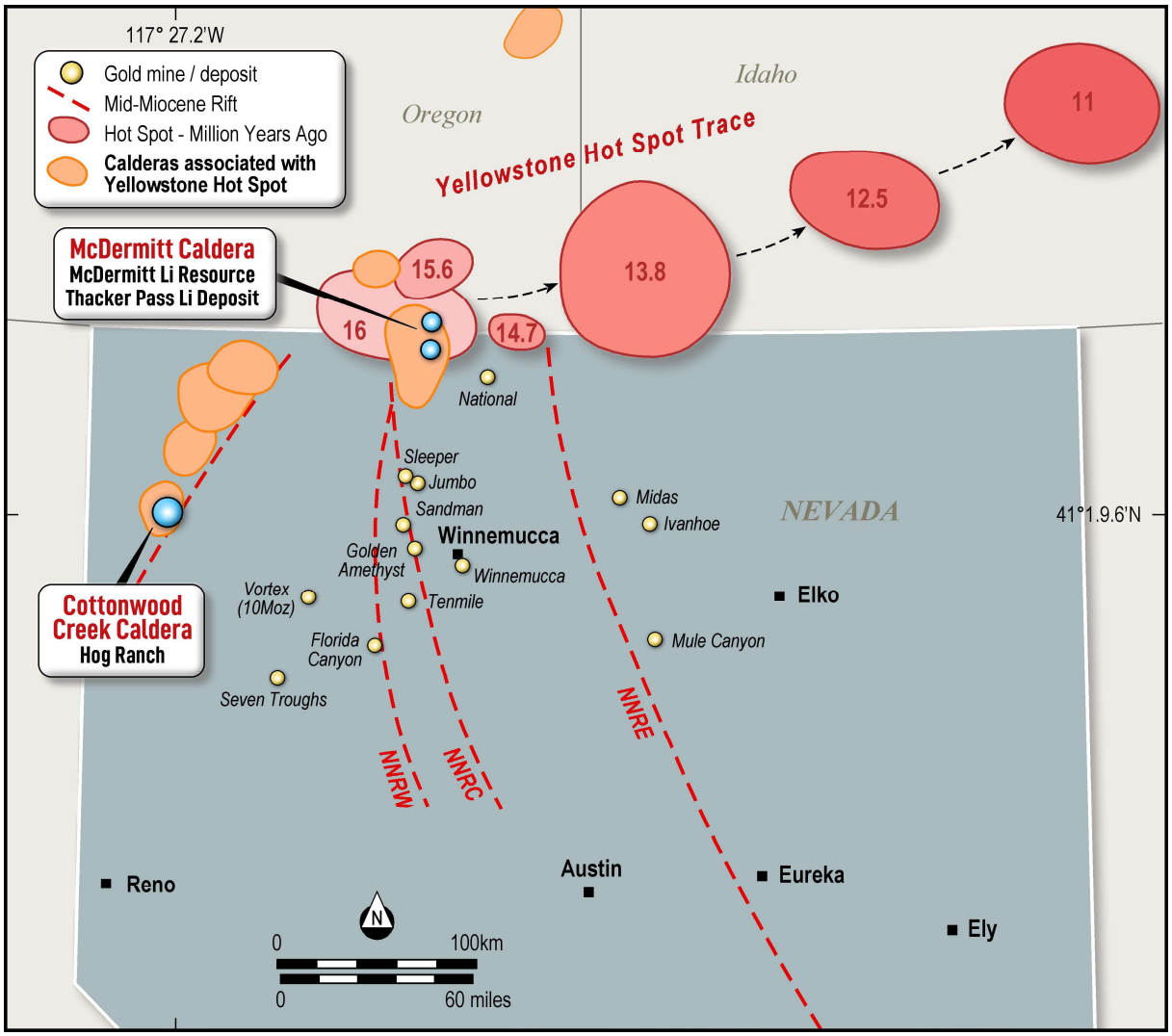


Figure 2: Location of Cottonwood Creek Caldera (host to Hog Ranch) and the McDermitt Caldera (host to Thacker Pass Li deposit) which are both large caldera systems which formed ~16 million years ago relating to the development of the Yellowstone Hotspot.

In light of this recognised lithium potential at Hog Ranch, Rex investigated the lithium assay results and geological setting for any substantial lithium intersections which were available from the recent Rex drilling programs. Historical drilling at Hog Ranch contains gold only assay results with minimal to no multi-element data, and therefore only the recent drilling assays completed by the Company were assessed as part of this review. The lithium intersections are the most north-western drill holes within the property.

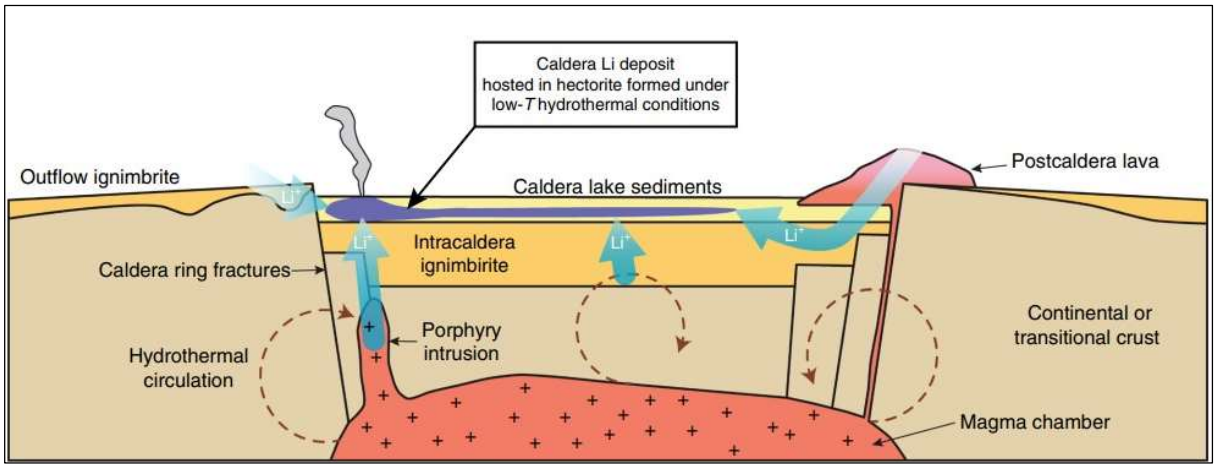


Figure 3: Schematic diagram highlighting the interpreted mode of formation of caldera-hosted Li Clay deposits similar to the geological setting at both the McDermitt Caldera (host to Thacker Pass) and the Cottonwood Creek Caldera (host to the Lithium mineralisation at Hog Ranch). From Benson, et. al., 2017.

This review identified an increase in the lithium values within the lacustrine sediments at the Airport Project leading to a significant intersection of 12.2m @ 971ppm Li in drill hole HR22-007, which is one of the western most drill holes completed by Rex and nearing the centre of the host caldera at Hog Ranch (see Figures 4 and 5).

These results, along with the relative location of the lithium intersections, point to a large prospective area within the lacustrine sediments which surround the central basalt feature at Hog Ranch.

Given the potential extents of the lithium at Hog Ranch, Rex has increased its land holding via staking an additional 702 mining claims to secure the prospective claystone lithology which it has identified as prospective for a large-scale lithium clay mineralisation (Figure 4).

Drill Hole Number	From (m)	To (m)	Down-hole Length (m)	Average Li Assay (ppm)
HR21-025	67.1	73.2	6.1	593
HR22-007	125.0	137.2	12.2	971
Including	*128.0*	*134.1*	*6.1*	*1,246*

Table 1: *Composited intersections from all drill holes containing significant values of Li (above 500ppm Li). See Figure 4 for the relative location of the drill holes compared against the historical drill hole data. True widths are interpreted to be between 85% and 95% of the down hole lengths based on the relationship between the drill hole angle and the horizontally distribution of the Lithium mineralisation.*

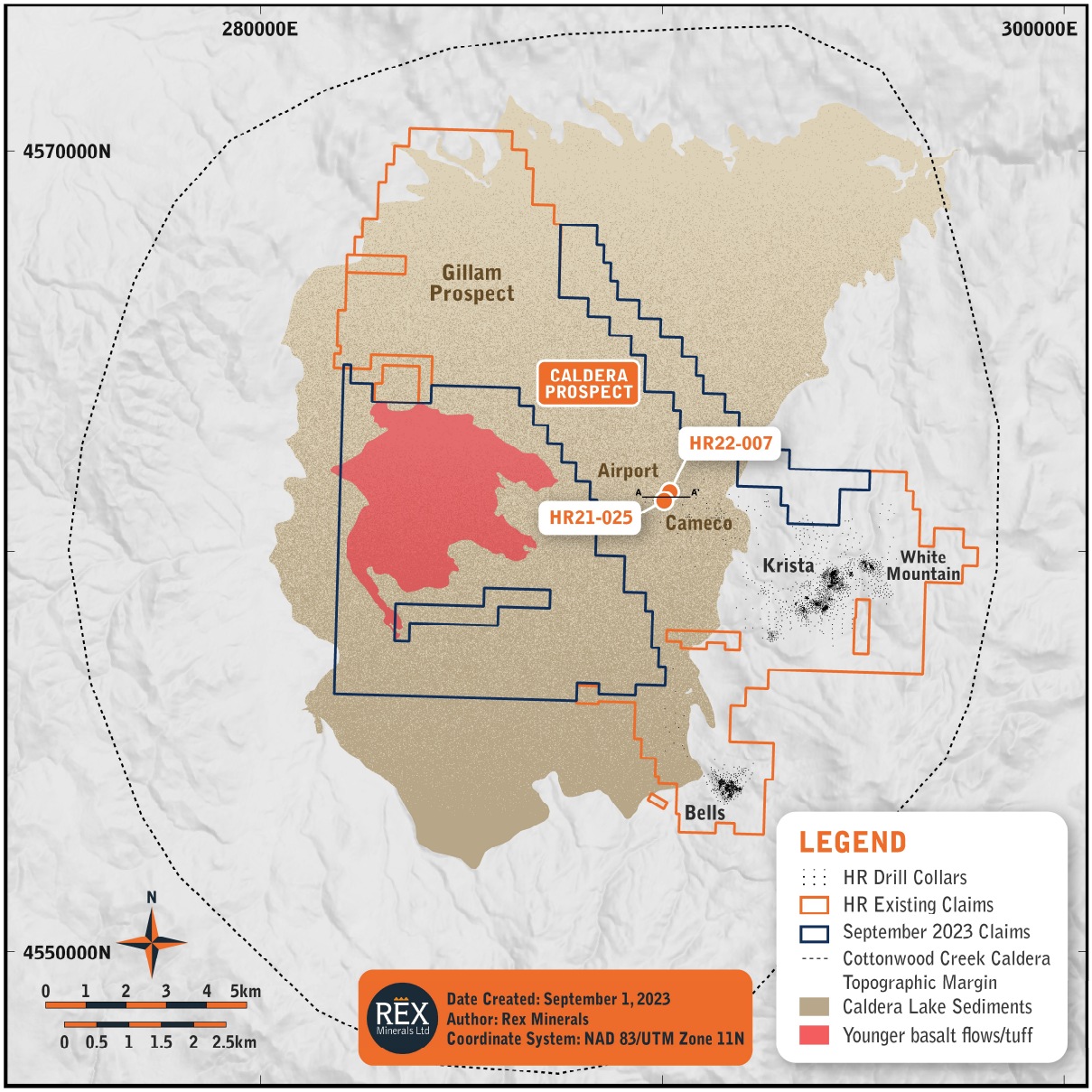


Figure 4: Geology map highlighting the new mining claims (blue) which cover the prospective area for lithium mineralisation at Hog Ranch.

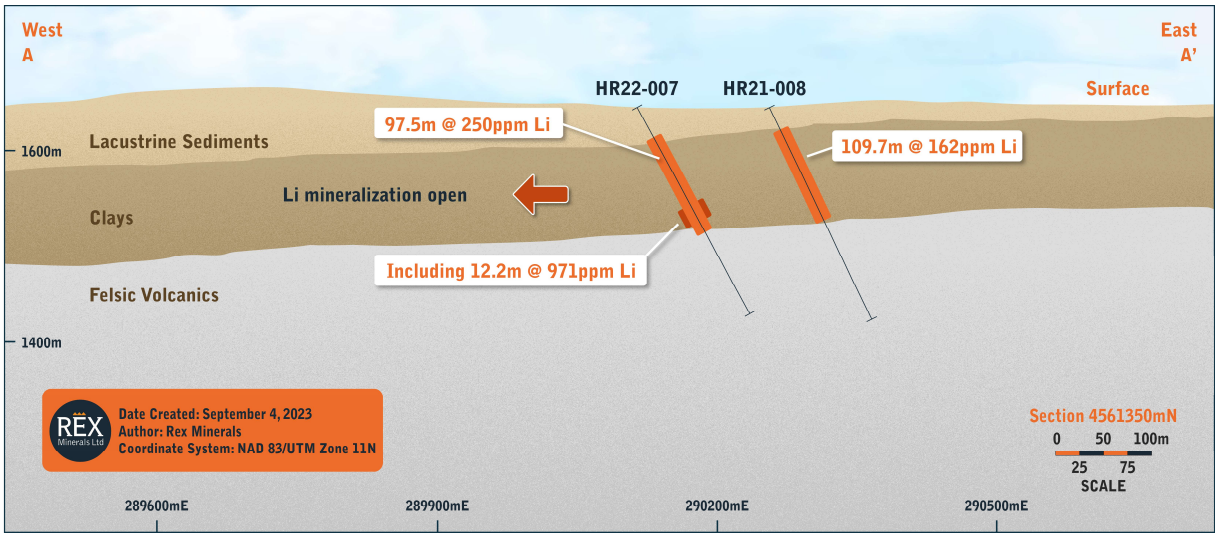


Figure 5: Cross section illustrating anomalous Li values at the Airport project. Drill hole HR21-008 contains elevated lithium concentrations that exceed 100ppm Li. Lithium contents increase to the west in drill hole HR22-007 (including an intersection of 12.2m @ 971ppm Li) with increasing proximity to the centre of the caldera.

References

Bussey, S.D., 1996. Gold mineralisation and associated rhyolitic volcanism at the Hog Ranch District, northwest Nevada , in Coyner, A.R., and Fahey, P.L. eds., Geology and Ore Deposits of the American Cordillera: Geological Society of Nevada Symposium Proceedings, Reno/Sparks, Nevada, April 1995., p. 181-207.

Benson, T. R., Coble, M. A., Rytuba, J. J. and Mahood, G. A. 2017. Lithium enrichment in intracontinental rhyolite magmas leads to Li deposits in caldera basins. Nature Communications 8:2770.

This announcement has been authorised for release by the Board of Directors of Rex Minerals.

For more information about the Company and its projects, please visit our website https://www.rexminerals.com.au/ or contact:

Peter Bird
EGM Investor Relations & Business Development
T +1300 822 161 or +61 3 9068 3077
M 61 438 871 995
E 'rex@rexminerals.com.au'

Media Enquiries:
Gavan Collery
T +1300 822 161 or +61 3 9068 3077
M +61 419 372 210
E 'gcollery@rexminerals.com.au'

COMPETENT PERSON'S STATEMENT

The information in this announcement for the Hog Ranch Property that relates to Exploration Results, Exploration Targets or Mineral Resources is based on, and fairly reflects, information compiled by Mr Steven Olsen who is a Member of the Australasian Institute of Mining and Metallurgy and an employee of Rex Minerals Ltd. Mr Olsen has sufficient experience which is relevant to the style of mineralisation and type of deposit 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 Olsen consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Forward-Looking Statements

This announcement may include forward looking statements. These forward-looking statements are based on Rex's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Rex, which could cause actual results to differ materially from such statements. Rex makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of this announcement.

JORC Code, 2012 Edition – Table 1 Report

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	**RC Drilling** Sample intervals were taken over 5-foot intervals (1.52m) which were collected after separation of the sample using a rotary splitter situated at the base of the cyclone. The sample was split into three exit points for the following: primary sample, duplicate sample and remaining rejected material, from which a sample of rock chips were collected for geological logging. Water is injected at the head of the drill string at the hammer to supress dust. The individual drill rod length is 10 feet. After the addition of a new drill rod (after the collection of two 5-foot samples) the total return column is flushed to prevent spill over and contamination into subsequent samples down the drill hole. The rods would routinely be held static and flushed for a period of 4 to 5 minutes after the addition of each drill rod. The time taken to flush the return column is considered more than adequate to prevent contamination for subsequent samples given the relatively short total length of all the drilling completed in the reported RC drilling program. Regular gold standards, including pulp standards were routinely placed throughout the samples for each drill hole. Standards for multi-element data (including Lithium) were not inserted at the time of drilling as they were not target elements. Unrecognisable waste rock blanks were placed throughout the samples for each drillhole. A review of the results from all gold standards did not identify any evidence of any material analytical imprecision or bias. A review of the results from the wase rock blanks did not identify that there was contamination between samples as a result of the sampling techniques conducted at the drill rig. Sample weights collected as the primary sample typically exceeded 2.0kg which were subsequently pulverised to produce a 0.5g sample for a 5-acid digest with ICP-OES/MS finish at the laboratory.
Drilling techniques	Drilling was completed using Reverse Circulation (RC) drilling utilising double wall drill pipe, interchange hammer and 4¾ inch hammer bits to drill and sample the rock formation.
Drill sample recovery	Drill sample recovery was found to be good with minor low sample weights occurring, likely to be due to the effects of clay alteration, and occasionally alternating sections of harder siliceous material. With particular reference to the drill holes referenced in this announcement, approximately 4% of all samples were considered underweight (<1kg) with poor sample capture.
Logging	The major rock units and alteration characteristics at Hog Ranch were identified from substantial earlier work and technical studies completed largely by Western Mining Corporation (WMC). Based on what was observed from the original paper drilling logs prior to 1986 just prior to the commencement of mining, a standard rock code and alteration code system was established for rock chip and core logging at Hog Ranch (Table 2). For the purpose of consistency with this earlier system, the 2021 and 2022 RC drilling program also adopted the same logging system for entry into the Hog Ranch database.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>
Table 2: Sample legend for drill hole logging information recorded from 1986 up to 1991 by Western Hog Ranch and WMC, which makes up 80% of the drill hole database.
<table>
<tr><th>Rock Code</th><th>Definition</th><th>Alteration Code</th><th>Definition</th><th>Oxidation Code</th><th>Definition</th></tr>
<tr><td>1</td><td>Lithic tuff/clastic</td><td>1</td><td>Silicified</td><td>Blank</td><td>Oxidised</td></tr>
<tr><td>2</td><td>Pumice rich tuff</td><td>2</td><td>Bleached silica</td><td>0</td><td>Unoxidised</td></tr>
<tr><td>3</td><td>Ash fall tuff</td><td>3</td><td>Argillic</td><td>1</td><td>Oxidized Breccia</td></tr>
<tr><td>4</td><td>Laminated tuff</td><td>4</td><td>Opaline</td><td>2</td><td>Unoxidised Breccia</td></tr>
<tr><td>5</td><td>Tuff/rdd qtz grains</td><td>5</td><td>Sponge</td><td>3</td><td>Oxidised qtz sul</td></tr>
<tr><td>6</td><td>Tuff w/quartz eyes</td><td>6</td><td>Silica rich w/clay</td><td>4</td><td>Unoxidized qtz sul</td></tr>
<tr><td>7</td><td>Basal bx</td><td>7</td><td>Clay rich /silica</td><td></td><td></td></tr>
<tr><td>8</td><td>Clay</td><td>8</td><td>Bleached argillic</td><td></td><td></td></tr>
<tr><td>9</td><td>Spheroidal tuff</td><td>9</td><td>Unaltered</td><td></td><td></td></tr>
</table>
Where logging information is available, this has been placed into the Rex database and used to define the broad boundaries between the major flow banded units and the lacustrine sediments which host the Li mineralisation.
</td></tr>
<tr><td>Sub-sampling techniques and sample preparation</td><td>
RC Drilling
Drill cuttings were discharged from the cyclone into a rotating splitter. Cuttings exit the splitter into three exit points with both a primary and secondary field sample collected directly into a sample bag which was fitted onto a collection bucket. A small portion of the rock chips for each 5-foot interval was placed into chip trays for record keeping and geological logging. This process was repeated for each interval, with the sample bags replaced after each 1.52m (5 feet) interval.
After collection of the samples and drying at the laboratory (American Assay Laboratory (AAL) in Sparkes, Reno), the samples were initially crushed to 70% passing 2mm before separation of a 250gm sample using a riffle splitter.
The crushed 250gm sample was pulverised to better than 85% passing 105 microns and a 0.5g pulp sub sample was used for analysis.
</td></tr>
<tr><td>Quality of assay data and laboratory tests</td><td>
The multi-element (including Li) assay information was completed by AAL. AAL is accredited by the Standards Council of Canada (SCC) for specific tests listed in their Scopes of Accreditation to ISO/IEC 17025:2017.
The analysis used for all the reported Lithium assays was a 5-acid digest with ICP-OES/MS finish.
AAL routinely includes its own CRM’s, blanks and duplicates within each batch of samples. In addition, Rex inserted a large number of its own QA/QC check samples within each batch of samples for gold. At the time of analysis, no specific CRM’s or check samples were inserted for Lithium, however based on the QAQC analysis for gold, it is the opinion of the CP that it is unlikely that there would be any issues related to
</td></tr>
</table>

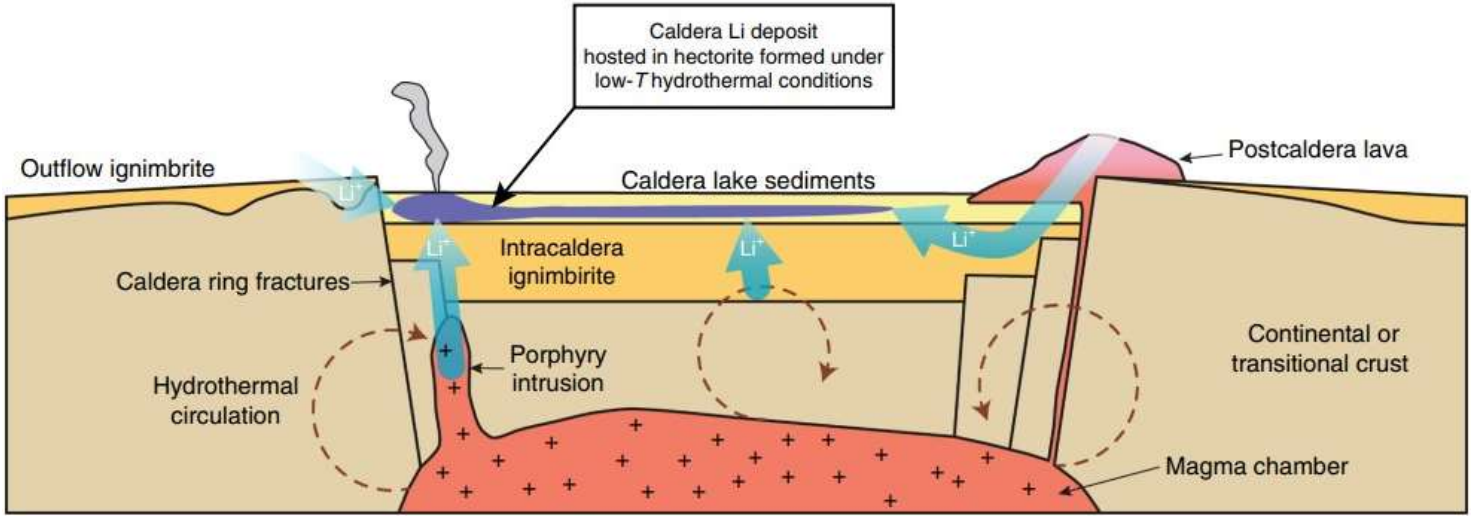
Criteria	Commentary
	the multi-element analytical data. A review of the inserted blanks and the Lab internal standards did not identify any issues with the Lithium analysis.
Verification of sampling and assaying	The RC drilling program included a large number (over 10% of all samples) of QA/QC check samples that were placed throughout the samples for gold. The QA/QC data included a 0.81g/t pulp standard, a 0.38g/t pulp standard, a blank pulp standard and a barren rock (unrecognisable) all spread throughout each sample submission. All QA/QC samples for gold were returned within reasonable error limitations and there was no evidence to suggest that the assay results contained any contamination or systematic errors in either the sampling process or the assaying process at the laboratory. No specific QA/QC standards were inserted for Lithium. However, a review of the internal blanks did not highlight any issues associated with the Li assay results from the drill holes reported in this release.
Location of data points	**RC Drilling** Drill hole collar co-ordinates are recorded in UTM NAD83 (Zone 11N) within the Hog Ranch database. After completion of each drill hole, a labelled tag was left at the drill collar position for subsequent survey pick up of the actual collar location. All drill collars from the 2021 and 2022 drilling program were located using a Trimble ProXRT2 dual frequency L1/L2 GPS receiver capable of 10cm/4in accuracies. Data collected is post processed using GPS data files from the UNAVCO, Vya Nevada base station located approximately 18 miles from the project site. Accuracy based on the distance from the base station is estimated at 20cm.
Data spacing and distribution	**RC Drilling** Data spacing down hole is at 5 feet (1.52m). The Li mineralisation from the drill holes reported in this release are interpreted to exist on the margins of a large-scale clay hosted exploration target, the full extents and distribution of which is not yet understood at this early stage of exploration. The spacing and locations of the current drilling information are not sufficient at this stage to understand the size and extent of the Lithium mineralisation.
Orientation of data in relation to geological structure	The bulk of the Li mineralisation is interpreted to be horizontal. **RC Drilling** The drill holes reported in this release was completed at a dip range of between 60 and 69 angle which implies a true width ranging between 85% and 95% of the down hole length in the reported drill hole results as identified in Table 1.
Sample security	The Hog Ranch Property is in a remote location with no other people present during the drilling program other than the supervising geologist, and the drilling crew. The drill samples were all collected and placed on the ground at each respective drill hole under the supervision of Rex's Geologist. At the end of the program, the samples were collected and placed directly into a sample collection truck under the custody of the independent laboratory, AAL in Sparkes, Nevada. Based on the known chain of custody of the samples and generally low-grade nature of the drilling results, there is no evidence to suggest that any of the samples were interfered with.
Audits or reviews	No audits or reviews were commissioned for the reported RC drilling program.

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The Project is made up of 1,737 unpatented mining claims located in Washoe County, Nevada, USA. Mining claims have increased by ~70% (previously 1,035) to secure the prospective caldera for Lithium. The underlying title is held by Nevada Select Royalty Inc ("Nevada Select") and Hog Ranch Minerals Inc (100% owned by Rex). The Nevada Select claims are subject to an underlying agreement between Nevada Select Royalty Inc and Hog Ranch Minerals Incorporated. The agreement provides full operational control of the Project to Hog Ranch Minerals Inc., with a series of minimum expenditure and activity commitments required to keep the agreement and the option to acquire 100% of Hog Ranch. In August 2019, Rex purchased a 100% interest in Hog Ranch via its purchase of the private company Hog Ranch Group, which in turn has 100% ownership of the company Hog Ranch Minerals Inc. The mining claims at Hog Ranch are located on open public land managed by the Bureau of Land Management (BLM).
Exploration done by other parties	Gold mineralisation at Hog Ranch was first discovered in 1980 after the Project had been initially explored for Uranium. Ferret Exploration was the first company to actively pursue the gold potential at Hog Ranch, leading to some initial Mineral Resource estimates and mining proposals. A consortium made up of Western Goldfields, Geomax (parent Company of Ferret Exploration) and Royal Resources ultimately provided the funding to commence gold production at Hog Ranch in 1986 via open pit mining and heap leach methods under the name of Western Hog Ranch Inc. After approximately 18 months of production, the Project was subsequently sold to WMC, who purchased 100% of Hog Ranch in early 1988. WMC commenced a significant exploration effort, drilling over 1,600 RC holes, a series of additional deep diamond drill holes and further detailed studies during the life of the operation which continued until 1991. A summary of the gold production and geological information that was obtained during the mining operations was later summarised in a paper by Bussey (1996) – see Table 3. **Table 3:** (after Bussey, 1996) Summary of the historical production (mined) from each open pit based on production blast hole information prior to placement onto the leach pads.

Deposit/Resources	Tons (Mt)	Tonnes (Mt)	Gold (oz/ton)	Gold (g/t)	Comments
Bells	1.18	1.07	0.041	1.4	Found first, mined last
East Deposit	1.00	0.91	0.038	1.3	
Krista Deposit	4.64	4.21	0.036	1.23	Largest deposit
Geib Deposit	1.28	1.16	0.033	1.13	
139 Deposit	0.23	0.21	0.028	0.96	Local visible gold
West Deposit	0.17	0.15	0.045	1.54	
TOTAL	**8.5**	**7.7**	**0.036**	**1.23**	

There has been no focussed exploration effort historically for Li mineralisation.

Criteria	Commentary
Geology	The geological setting, alteration and characteristics of the host rock caldera setting at Hog Ranch provide evidence for the presence of clay hosted Li mineralisation which could be of economic significance. The style of Li mineralisation contemplated by Rex is analogous in style to a geological model postulated in a technical paper by Benson et.al., 2017. In the paper by Benson et. al., 2017 they postulated that rhyolitic magmas in continental settings have elevated Li concentrations such that eruptions voluminous enough to result in caldera collapse produce volcanic products with sufficient total Li to form economic deposits. Post-caldera magmatism contributes additional Li via lavas and outgassing of intrusions. This geological setting also generates hydrothermal systems (linked to the gold mineralisation) focused along caldera fractures. The Li is leached from ignimbrite and caldera-related lavas by meteoric and hydrothermal fluids and is structurally bound in clay minerals (eg: hectorite) which developed in ash rich sediments adjacent to the source rocks.  **Figure 6:** *(after from Benson, et al., 2017) Schematic representation of the geological environment for the formation of Li mineralisation at Hog Ranch.*
Drill hole information	Significant drilling results which are the subject of this release is summarised in Table 1:, and with their location identified in Figure 4 and **Figure 5**. Table 4 below identifies the drill collar location (in UTM NAD83 (Zone 11) Datum), dip, azimuth and total length for the drill hole in the reported drilling program.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>Table 4: Drill Hole location information (UTM NAD83 (Zone 11N) Co-ordinate System)
<table>
<tr><th>Drill Hole Number</th><th>Easting</th><th>Northing</th><th>Elevation (m)</th><th>Dip</th><th>Azimuth</th><th>Total Length</th></tr>
<tr><td>HR21-025</td><td>290075.20</td><td>4561282.00</td><td>1646.9</td><td>-61</td><td>90</td><td>192.0m (630ft)</td></tr>
<tr><td>HR22-007</td><td>290100.00</td><td>4561350.00</td><td>1646.0</td><td>-61</td><td>90</td><td>246.9m (810ft)</td></tr>
<tr><td>HR21-008</td><td>290238.02</td><td>4561369.41</td><td>1645.6</td><td>-60</td><td>90</td><td>248.4m (820ft)</td></tr>
</table></td></tr>
<tr><td>Data aggregation methods</td><td>In reporting the assay results in Table 1:, a nominal cut-off grade of 500ppm Li was used. In order to show the extents of the Li anomalism in figure 5, broad intervals above 100ppm Li are identified or drill holes HR21-008 and HR22-007.</td></tr>
<tr><td>Relationship between mineralisation widths and intercept lengths</td><td>The drilling information reported has an average dip ranging between 60 to 69 degrees. The general orientation of the gold mineralisation is interpreted to have a horizontal dispersion with true widths typically at 85% to 95% of the down hole intercept lengths. Figure 5 shows a representation of the Li mineralisation relative to the dip of the drill holes.</td></tr>
<tr><td>Diagrams</td><td>See Figure 4 and Figure 5 for summary representation of the drilling results pertaining to this announcement.</td></tr>
<tr><td>Balanced reporting</td><td>All drilling results have been reported in full.</td></tr>
<tr><td>Other substantive exploration data</td><td>Hog Ranch Property has been the subject of extensive exploration and historical drilling, predominantly over the period from 1981 through to 1997, in addition to a period of historical mining from 1989 to 1991. Rex has reported drilling information from work completed in 2019 and up to this announcement by the Company in earlier announcements, including a summary of the historical drilling information which was reported in the Mineral Resource announcement published on 2 September 2019.</td></tr>
<tr><td>Further work</td><td>Rex is reviewing all Li and Li pathfinders elements in its soil sampling dataset which covers the bulk of the mining claims at Hog Ranch. This review is expected to guide a new broad RC drilling campaign to test the extents of the potential Li mineralisation.</td></tr>
</table>