

**TECHNICAL REPORT**

**On the**

**UNITED BIG SMOKY VALLEY BRINE LITHIUM PROPERTY**

**Esmeralda County,**

**Nevada, USA**

**Latitude: 37° 54' 21" - 37° 55' 28" N**

**Longitude: 117° 43' 55" - 117° 46' 40" W**

**Prepared for:**

**United Lithium Corp.**

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**July 30, 2017**

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## 1.0 SUMMARY

Muzaffer Sultan, P.Geo. (“the author”) was retained by United Lithium Corp. (“United” or “the Company”) to prepare an independent Technical Report (National Instrument 43-101 Technical Report) on the United Big Smoky Valley (BSV) Brine Lithium Property (“the Property”). The purpose of the report is to meet the Canadian Securities Exchange’s regulatory requirements and to support future financings.

The Property is located in the southwest Nevada, USA, approximately 25 miles (40 kilometres) from Tonopah in Esmeralda County. It is about 50 kilometres to the west of Goldfield, the County Seat of Esmeralda County. United Lithium Corporation property consists of 100 contiguous placer claims located in Townships 1 (T1N), Range 38 East, and Sections 20, 21, 22, 27, 28 and 29 in Esmeralda County, Nevada, USA. Each claim is approximately 20 acres with a total property area of 2000 acres.

The Property was acquired through an option agreement signed on July 14, 2017 between Ultra Lithium Inc. and United Lithium Corp. Under the terms of the agreement, United has an option to acquire 100% interest in the property through cash payments, issuing shares and work commitment.

The South Big Smoky Valley area is a typical internally drained valley hemmed in by mountains, low foothills, and broad alluvial fans. The valley is underlain by rocks ranging in age from Cambrian to Pleistocene and include sedimentary, igneous and metamorphic rocks. The sedimentation began early in the Cambrian period and continued in the Carboniferous. Limestone, quartzite, slate, and schist, aggregating several thousand feet in thickness and ranging in age from Lower Cambrian to Carboniferous are the oldest rocks found in this region. Since their deposition they have been extensively deformed, eroded, intruded by lavas, and largely covered by igneous bodies and sedimentary deposits. Originally, they probably covered the entire region, but at present they are found over extensive areas only in the Toyabe, Toquima, Silver Peak, and Lone Mountain ranges. The Quaternary deposits which overly stratified Pleistocene lake deposits are generally comprised of the soils of uplands and mountains, soils of valley fills, outwash plains and alluvial fans, soils on alluvial fans and aprons, and playas and soils on flats and basins. The playas soils are somewhat poorly drained and have desirable character for potential development of brines and accumulation of lithium.

The Late Miocene to Pliocene tuffaceous lacustrine facies of the Esmeralda Formation is documented to contain an overall average of 100 ppm lithium. 2015 surface sampling by

Ultra Lithium indicated lithium values in the range of 14 to 100 ppm in lake sediments which represent typical soils of Playas on Flats and Basins.

In 1980, United States Geological Survey carried out an investigation for potential lithium bearing brines in and around Clayton Valley as part of regional study related to lithium supply sources. Big Smoky Valley was also part of this study where two reverse circulatory drill holes (BS13 and BS 14) were drilled just outside the current Property. In BS 13. Bore-hole 14 was abandoned after drilling 215 feet (66 m) into unconsolidated sand and gravel.

Ultra Lithium Inc. carried out ground geophysical survey in 2014 which was followed by soil and water sampling program in 2015. The diamond drilling program was conducted in 2016. The geophysical survey consisted of eight CSAMT survey lines (named Lines A through H) covering 53.8 kilometers of data. Four of these lines (A, B, G, H) are running in the United Lithium Corp., area. A station spacing and electric-field dipole size of 100 meters was used on all lines except Line E, for which a station spacing and e-field dipole size of 200 m was used. The survey results indicate that, in the area of the southwestern gravity low, the largest area of lowest resistivities is seen on Line G from stations 5050 to 6700; the adjacent lines A and H are also low resistivity, though not as low as on Line G. A very tentative fault or contact in the vicinity of station 6800 on Line G is possible, suggesting a possible target for deep, low resistivity brines in the vicinity of stations 6000 to 6500.

Ground geophysical survey was followed by soil and water sampling program in 2015. This program was conducted on December 11 - 18, 2015. The program was aimed at following up on the results of the CSAMT ground geophysical survey, and its purpose was to investigate the presence of lithium in shallow soil, and within its groundwater system. The field investigations included traverses along CSMAT survey lines to study general soil, and collecting samples for Lab work. These Traverses indicated that subsurface sediments are generally composed of silty clay, silty sand and gravel. The amount of volcanogenic material and salt varies from place to place but overall it was observed in most of the claims. Distinct white to light gray ash beds occurring in Clayton Valley continue in the South Big Valley and appear to be very similar. No prominent outcrops were spotted in the property. Hydrogeological observations confirmed that the Property is within an area of the Big Smoky Valley (BSV) which is an enclosed basin and receives its water recharge from the surrounding ranges. The rocks on the southeastern part of BSV were observed to be dipping inwards towards the basin. Overall slope of the basin is to the southwest. A total of 48 soil / sediment samples were collected to cover survey lines A to H. Additionally, five water samples were collected from different areas, of which four were collected from surface water / ice and one from a water well, located on adjacent ground to the Property. The results confirmed the presence of lithium in the South Big Smoky hydrogeological system. Of particular interest is the area contained within geophysical survey lines C, D, E and F. The assay results indicated lithium values in the range of 14 ppm to 100 ppm, boron 2 ppm to 480 ppm, and potassium 1,100 ppm to 7,600 ppm.



Generally, lithium, boron and potassium values correspond well with each other, where samples with higher lithium concentrations yield higher values of other two elements.

In the year 2016, Ultra Lithium Inc. drilled two holes on their property. One of these holes (BSH16-02) is within the boundaries of United Lithium Corporation property. This bore hole was 549m (1800ft) deep and continuously cored with HQ size [96mm (3.78 inch) inside, 63.5mm (2.5inch) outside]. The lithology in the upper 471 ft (143.56m) consist of brown coarse sand and gravel which is followed by 630ft (192m) of greenish grey, medium to coarse grained sand representing Big Smoky valley sediments. Lower 700ft (213.36m) of strata include greenish grey to brownish silty clay. These clays are volcanic in nature, with bentonite and tuff interlayered and represent the low resistive unit interpreted by CSAMT geophysical survey. Based on this lithology, a water monitoring well is being constructed down to 1100 feet below surface with bottom 600 feet of well screen to intercept fluids form the middle greenish grey sand zone. Eighteen core samples were collected for analytical work. The results of these core samples from the hole BSH16-02 indicate average lithium concentration in all core samples is 61 ppm, boron 77 ppm, potassium 4,463 ppm, and magnesium 4,016 ppm. These samples were taken at various depth intervals down to 1,800 feet (305 meters) below ground surface. One round of groundwater sampling completed in October 2016 returned lithium values of less then method detection limit to 1.13 ppm. Total exploration expenditures for this drill hole were CAD \$293,404 paid by Ultra Lithium Inc.

The author visited the Property from May 13-14, 2017. The geological work performed in order to verify the existing data consisted of soil/sediment sampling using hand shovel, visiting existing drill hole on the Property (BSH16-02), examining rock outcrops and lake sediments areas of the Big Smoky Valley, taking geological and hydrogeological observations, and observing several claim posts. GPS coordinates using NAD 83 datum were also recorded for sample locations and several claim posts to confirm the staking process. Two soil/sediment samples were collected from depths of 0.75ft-1 ft below surface. The drill core for hole BSH16-02 is stored at a locked storage unit located on the Clown Motel property in Tonopah. The author viewed various core sections and collected four representative samples from selected intervals. All samples were under the care and control of the author and are considered representative.

The sample assay results (Table 8) indicated lithium values in the range of 25 ppm to 130 ppm, boron less then method detection limit to 410 ppm, potassium 6600 ppm to 13000 ppm, and magnesium 3400 ppm to 7400 ppm. These results are consistent with 18 core sample results of 2016 from the same drill hole as discussed in Section 6.2.3 of this report.

The data collected during the present study is considered reliable because it was collected by the author. The data quoted from other sources is deemed reliable because it was taken from various geological and engineering reports and technical papers published on the area and the work was conducted by professional engineers and or geologists.

Continental brines are the most common type of brine deposits located in saline desert basins (also known as salt lakes, salt flats or salars). They are located near tertiary or recent volcanoes and are made up of sand, minerals with brine and saline water with high concentrations of dissolved salts. A playa is a brine deposit whose surface is composed mostly of silts and clays and have less salt than a salar. South Big Smoky Valley brine lithium property also falls in playa type brine deposit model. It shares geological similarities with Clayton Valley which is the only lithium producing brine operation in North America.

The Property is located in an active mining and mineral exploration region where many operators carried out lithium exploration and/ or development work on adjacent properties. The Silver Peak brine lithium mine located on the adjacent Clayton Valley, currently operated by Rockwood is located approximately 25 kilometres to the southeast of the Property. Similarly, Pure Energy Minerals is working on the southern part of Clayton Valley, adjacent to the south extent of the Silver Peak mine.

The Property has good year-round road access from Tonopah Station through highway 6/95. Highway 265 to Silver Peak branches off from 6/95 and crosses the southwestern part of the Property. The source of water is groundwater exclusive and power is readily available locally.

The present report is primarily based on information provided by United Lithium Corp. The other sources include available data in the public domain, published reports by the US Geological Survey, and personal observations. All consulted sources are listed in the references section. The sources of the maps are noted on the individual figures. All consulted data sources are deemed reliable. The data collected during the course of present study is considered sufficient to provide an opinion about the merit of the Property and deemed a viable exploration target.

Based on the favourable geological, hydrogeological and tectonic setting, presence of anomalous surface lithium values, and the results of present study, it is concluded that the Property is a property of merit and possess a good potential for a discovery of lithium brine mineralization. The Property has good road access, readily available exploration and mining services, as well as nearby power and water resources to support mining activities. The author is of the opinion that the present study has met its original objectives.

***Recommendations:***

In the qualified person's opinion, the character of the South Big Smoky Valley Property is sufficient to merit for a follow-up work program. This can be accomplished through a two-phase exploration program, where each phase is contingent upon the results of the previous phase.

***Phase 1 – Detailed Soil and Water Sampling, Geophysical Data Integration***

A property wide soil / sediment sampling program is recommended to understand the distribution pattern of lithium across the Property, and to define target areas for further drilling. One more round of water sampling for monitoring well BSV16-02 should be completed to see variations in the water quality over time. Interpretation of drill hole BSH16-02 data and its integration with 2014 CSAMT geophysical survey data is also recommended to enable better understanding hydrogeological characters of this part of the Big Smoky basin, and to plan Phase 2 drill program if warranted. Total cost of Phase 1 work program is CAD \$119,800 and it will take approximately six months' time to complete.

***Phase 2 – Detailed Drilling***

Based on the results of Phase 1 program, an additional 5-hole drill program is recommended for the Property. Scope of work, location of drill holes and budget for Phase 2 will be prepared after reviewing the results of Phase 1 program.

## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

### **2.1 Purpose of Report**

Muzaffer Sultan, P.Geo. (“The author”) prepared this independent technical report covering 100 claims in the southwestern portion of Big Smoky Valley Brine Lithium Property (“the Property”). The author was retained by United Lithium Corp., (“United” or the “Company”). The purpose of the report is to meet the Toronto Stock Exchange’s regulatory requirements and to support future financings.

### **2.2 Sources of Information**

The present report is based on publicly available data, reports from United Lithium Corp., published reports by US Geological Survey and other sources, and personal observations. All consulted sources are listed in the References Section. The sources of the maps are noted on the Figures.

The author visited the property on May 13-14, 2017. The objective of this field work was to:

- Verify existing data
- Confirm hydrogeological studies, soil and water sampling
- Study accessible outcrops
- Collecting samples from BHS16-02 core
- Collecting soil samples

At the time of Property visit, the author also confirmed many of the claim posts on ground bearing name of Ultra Lithium Inc., the Option of the Property.

The information, opinions and conclusions contained herein are based on:

- Information available to the author at the time of preparation of this report;
- Assumptions, conditions, and qualifications as set forth in this report; and
- Data, reports, and other information supplied by United and other third-party sources.

The author has no reason to doubt the reliability of the information provided by United Lithium Corp. The author reserves the right, but will not be obliged; to revise the report and conclusions if additional information becomes known subsequent to the date of this report.

### **3.0 RELIANCE ON OTHER EXPERTS**

The author has relied on the records and copies of records provided by Ultra Lithium Inc. to verify the claim data. A limited search of tenure data on the Bureau of Land Management (BLM) website LR2000 on May 30, 2017, conforms to the data supplied by Ultra Lithium Inc. However, the limited research by the author does not express a legal opinion as to the ownership status of the Property. This disclaimer applies to ownership information relating to the Property, and the information is available in Section 1 (Summary) and Section 4 (Property Description and Location) of this report.

### **4.0 PROPERTY DESCRIPTION AND LOCATION**

The property is located in the southwest Nevada, USA and lies within Esmeralda County (Fig-1). It is approximately 25 miles (40 kilometers) from Tonopah in Esmeralda County (Local commercial town) and roughly 50 kilometers to the west of Goldfield, the County Seat of Esmeralda County. The investigated area is approximately 2000 acres and include 100 placer claims. Each claim is about 20 acres. These claims are situated in southwest of Big Smoky Valley Brine Lithium Property and occur in Townships 1 (T1N), Range 38 East, Sections 20, 21,22, 27 ,28 and 29 in Esmeralda County, Nevada (Fig-2). Table-1 summarizes the claim data and Figure 2 shows the claims

The Property was acquired through an option agreement signed on July 14, 2017 between Ultra Lithium Inc. and United Lithium Corp. Under the terms of the agreement United can earn 100% interest on 100 placer claims by paying cash, issuing shares and incurring exploration expenditures as per the following schedule:

#### Year 1:

- Paying \$ 5,000 cash on signing of Agreement;
- Paying \$ 10,000 cash on Closing Date;
- Issuing 300,000 common shares of United Lithium Corp. upon the signing of agreement; and,
- Exploration expenditures of not less than \$115,000 to be incurred within a period of one year following the Closing Date.

#### Year 2:

- Paying \$ 50,000 cash on the date that is the sixteen-month anniversary from the Closing Date.
- Issuing 200,000 common shares of United Lithium Corp. on the date that is the 13<sup>th</sup> month anniversary of the Closing Date.

- Additional exploration expenditures of not less than \$100,000 to be incurred for a period of two years following the Closing Date

Year 3:

- Paying \$ 60,000 cash on the date that is thirty-six months from Closing Date.
- Issuing 500,000 common shares of United Lithium Corp. on the date that is the 36<sup>th</sup> month anniversary of the Closing Date; and
- Additional exploration expenditures of not less than \$250,000 to be incurred for a period of three years following the Closing Date

United Lithium Corp.; will then have earned a 100% interest in the said Claims after completing the 3rd year cash payments, share payments and work commitment. The Optionor will provide United Lithium Corp. with a fully executed claim transfer following completion of the 3rd year cash and share payments.

Mineral deposits subject to placer claims include all those deposits not subject to lode claims. Originally, these included only deposits of unconsolidated materials, such as sand and gravel, containing free gold or other minerals. By Congressional acts and judicial interpretations, many nonmetallic bedded or layered deposits, such as gypsum, lithium, and high calcium limestone, are also considered placer deposits.

Placer claims, where practicable, are located by legal subdivision (for example: Township 1 North, Range 38 East, Section 22, and NE1/4). The maximum size of a placer claim is 20 acres per locator. An association of two locators may locate 40 acres, and three may locate 60 acres, etc. The maximum area of an association placer claim is 160 acres for eight or more persons. Corporations may not locate association placer claims unless they are in association with other private individuals or other corporations as co-locators.

[http://www.blm.gov/nv/st/en/prog/more\\_programs/geographic\\_sciences/mineral\\_surveyor\\_program/types\\_of\\_claims.html](http://www.blm.gov/nv/st/en/prog/more_programs/geographic_sciences/mineral_surveyor_program/types_of_claims.html)

The following claim maintenance and staking fees is applicable as per BLM schedule.

**Table 1: BLM Claim Fee Schedule**

Claim Type	Payment	Due Date
Existing <b>placer</b> mining claim	USD \$155 for every 20 acres or portion thereof per year	Sept. 1, 2017
Filing a new <b>placer</b> mining claim	USD \$212 (includes \$37.00 Location Fee and \$20.00 Processing Fee), for each new location and you pay \$155 for every 20 acres or portion thereof up to 160 acres' maximum. For example, a 40-acre claim = \$367 (\$212.00 + \$155.00) OR 20-acre claim = \$367.00	Upon filing (within 90 days from date of location)

In addition to filing with the BLM, the claim holder is required to file an Affidavit of Assessment

Work or Notice of Intent to Hold with the county recorder's office by September 30<sup>th</sup>. The location of this office will always be in the county seat of the county in which the claims are situated (Esmeralda County office located in Goldfield).

A Notice of Intent permitting process is required to carry out the recommended work program in Phase 2. This process entails providing a short description of the proposed works, plus supporting drawings and accompanying bonding, until such time that the works are complete and the area is reclaimed to its previous condition. A minimum bond required is \$3,000 but the actual bond amount is based upon the type of exploration and the degree of disturbance. No permitting is required for recommended Phase 1 work program.

The author is not aware of any environmental liabilities which have accrued from some historical exploration activity on the Property.

**Table 2: Claim Data**

<b>Serial No.</b>	<b>Claim Name/ No.</b>	<b>Mc Lead Case Ser. No.</b>	<b>Disposition</b>
NMC1091488	UL 19	NMC1091392	ACTIVE
NMC1091489	UL 20	NMC1091392	ACTIVE
NMC1091500	UL 21	NMC1091392	ACTIVE
NMC1091501	UL 32	NMC1091392	ACTIVE
NMC1091502	UL 33	NMC1091392	ACTIVE
NMC1091503	UL 34	NMC1091392	ACTIVE
NMC1091504	UL 35	NMC1091392	ACTIVE
NMC1091505	UL 36	NMC1091392	ACTIVE
NMC1091506	UL 37	NMC1091392	ACTIVE
NMC1091507	UL 38	NMC1091392	ACTIVE
NMC1091520	UL 39	NMC1091392	ACTIVE
NMC1091521	UL 52	NMC1091392	ACTIVE
NMC1091522	UL 53	NMC1091392	ACTIVE
NMC1091523	UL 54	NMC1091392	ACTIVE
NMC1091524	UL 55	NMC1091392	ACTIVE
NMC1091525	UL 56	NMC1091392	ACTIVE
NMC1091526	UL 57	NMC1091392	ACTIVE
NMC1091527	UL 58	NMC1091392	ACTIVE
NMC1091528	UL 59	NMC1091392	ACTIVE
NMC1091529	UL 60	NMC1091392	ACTIVE
NMC1091530	UL 61	NMC1091392	ACTIVE
NMC1091542	UL 62	NMC1091392	ACTIVE
NMC1091543	UL 74	NMC1091392	ACTIVE
NMC1091544	UL 75	NMC1091392	ACTIVE
NMC1091545	UL 76	NMC1091392	ACTIVE
NMC1091546	UL 77	NMC1091392	ACTIVE
NMC1091547	UL 78	NMC1091392	ACTIVE
NMC1091548	UL 79	NMC1091392	ACTIVE



<b>Serial No.</b>	<b>Claim Name/ No.</b>	<b>Mc Lead Case Ser. No.</b>	<b>Disposition</b>
NMC1091549	UL 80	NMC1091392	ACTIVE
NMC1091550	UL 81	NMC1091392	ACTIVE
NMC1091551	UL 82	NMC1091392	ACTIVE
NMC1091552	UL 83	NMC1091392	ACTIVE
NMC1091553	UL 84	NMC1091392	ACTIVE
NMC1091565	UL 85	NMC1091392	ACTIVE
NMC1091566	UL 97	NMC1091392	ACTIVE
NMC1091567	UL 98	NMC1091392	ACTIVE
NMC1091568	UL 99	NMC1091392	ACTIVE
NMC1091569	UL 100	NMC1091392	ACTIVE
NMC1091570	UL 101	NMC1091392	ACTIVE
NMC1091571	UL 102	NMC1091392	ACTIVE
NMC1091572	UL 103	NMC1091392	ACTIVE
NMC1091573	UL 104	NMC1091392	ACTIVE
NMC1091574	UL 105	NMC1091392	ACTIVE
NMC1091575	UL 106	NMC1091392	ACTIVE
NMC1091576	UL 107	NMC1091392	ACTIVE
NMC1091576	UL 108	NMC1091392	ACTIVE
NMC1091588	UL 120	NMC1091392	ACTIVE
NMC1091589	UL 121	NMC1091392	ACTIVE
NMC1091590	UL 122	NMC1091392	ACTIVE
NMC1091591	UL 123	NMC1091392	ACTIVE
NMC1091592	UL 124	NMC1091392	ACTIVE
NMC1091593	UL 125	NMC1091392	ACTIVE
NMC1091594	UL 126	NMC1091392	ACTIVE
NMC1091595	UL 127	NMC1091392	ACTIVE
NMC1091596	UL 128	NMC1091392	ACTIVE
NMC1091597	UL 129	NMC1091392	ACTIVE
NMC1091598	UL 130	NMC1091392	ACTIVE
NMC1091599	UL 131	NMC1091392	ACTIVE
NMC1091611	UL 143	NMC1091392	ACTIVE
NMC1091612	UL 144	NMC1091392	ACTIVE
NMC1091613	UL 145	NMC1091392	ACTIVE

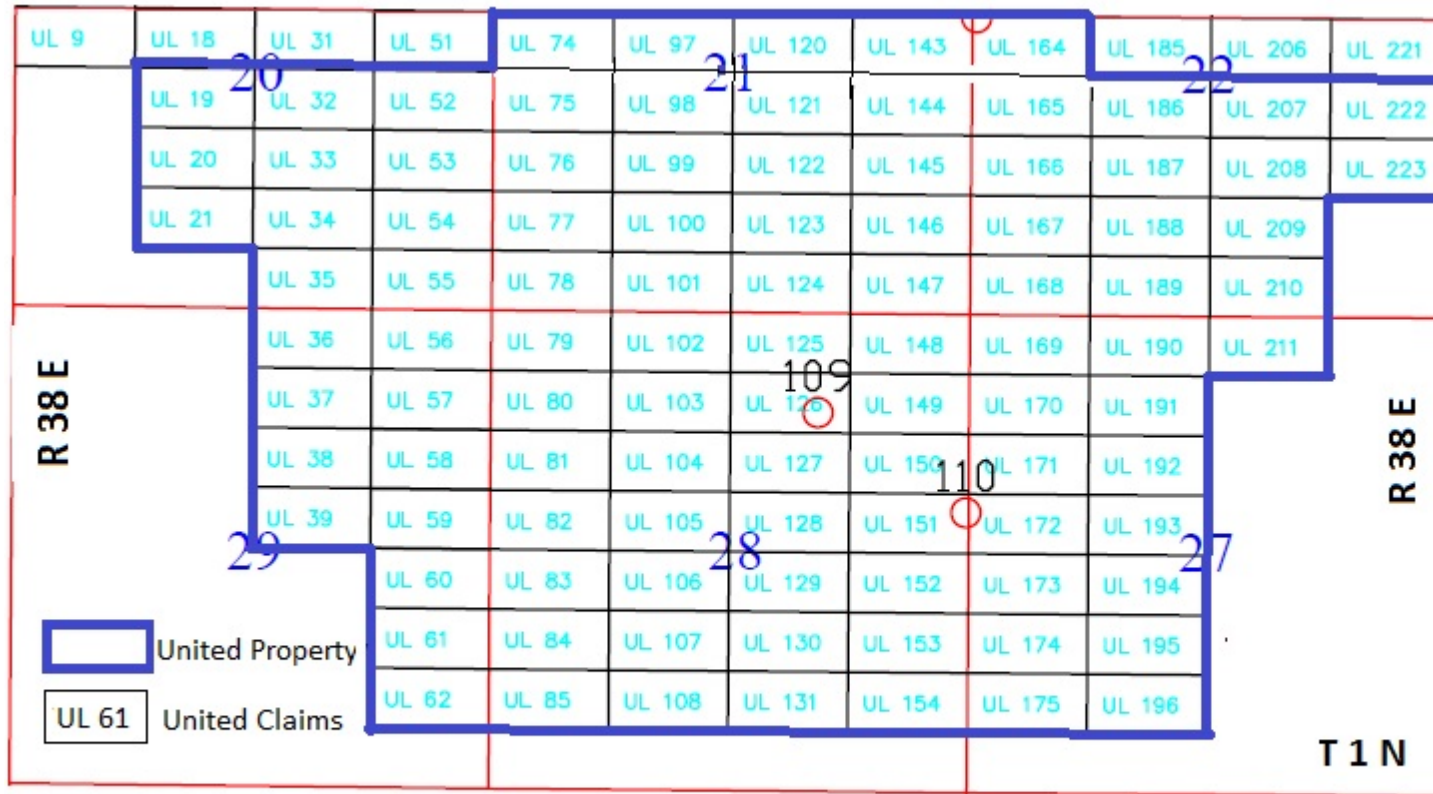
<b>Serial No.</b>	<b>Claim Name/ No.</b>	<b>Mc Lead Case Ser. No.</b>	<b>Disposition</b>
NMC1091614	UL 146	NMC1091392	ACTIVE
NMC1091615	UL 147	NMC1091392	ACTIVE
NMC1091616	UL 148	NMC1091392	ACTIVE
NMC1091617	UL 149	NMC1091392	ACTIVE
NMC1091618	UL 150	NMC1091392	ACTIVE
NMC1091619	UL 151	NMC1091392	ACTIVE
NMC1091620	UL 152	NMC1091392	ACTIVE
NMC1091621	UL 153	NMC1091392	ACTIVE
NMC1091622	UL 154	NMC1091392	ACTIVE
NMC1091632	UL 164	NMC1091392	ACTIVE
NMC1091633	UL 165	NMC1091392	ACTIVE
NMC1091634	UL 166	NMC1091392	ACTIVE
NMC1091635	UL 167	NMC1091392	ACTIVE
NMC1091636	UL 168	NMC1091392	ACTIVE
NMC1091637	UL 169	NMC1091392	ACTIVE
NMC1091638	UL 170	NMC1091392	ACTIVE
NMC1091639	UL 171	NMC1091392	ACTIVE
NMC1091640	UL 172	NMC1091392	ACTIVE
NMC1091641	UL 173	NMC1091392	ACTIVE
NMC1091642	UL 174	NMC1091392	ACTIVE
NMC1091643	UL 175	NMC1091392	ACTIVE
NMC1091654	UL 186	NMC1091392	ACTIVE
NMC1091655	UL 187	NMC1091392	ACTIVE
NMC1091656	UL 188	NMC1091392	ACTIVE
NMC1091657	UL 189	NMC1091392	ACTIVE
NMC1091658	UL 190	NMC1091392	ACTIVE
NMC1091659	UL 191	NMC1091392	ACTIVE
NMC1091660	UL 192	NMC1091392	ACTIVE
NMC1091661	UL 193	NMC1091392	ACTIVE
NMC1091662	UL 194	NMC1091392	ACTIVE
NMC1091663	UL 195	NMC1091392	ACTIVE
NMC1091664	UL 196	NMC1091392	ACTIVE
NMC1091675	UL 207	NMC1091392	ACTIVE
NMC1091676	UL 208	NMC1091392	ACTIVE

<b>Serial No.</b>	<b>Claim Name/ No.</b>	<b>Mc Lead Case Ser. No.</b>	<b>Disposition</b>
NMC1091677	UL 209	NMC1091392	ACTIVE
NMC1091678	UL 210	NMC1091392	ACTIVE
NMC1091679	UL 211	NMC1091392	ACTIVE
NMC1091690	UL 222	NMC1091392	ACTIVE
NMC1091691	UL 223	NMC1091392	ACTIVE
<b>TOTAL NUMBER OF</b>		<b>100</b>	

Figure 1: Location Map



Figure 2: Claim Map



## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY**

### **5.1 Access**

The property is located approximately 40km west of Tonopah town which is the closest population centre in the area. Tonopah is located at the junction of US Routes 6 and 95. US Route 95 is a major highway traversing north-south in the State of Nevada. The city of Las Vegas is situated 340km (211 mile) in the southeast on US Route 95. Tonopah is also connected with Las Vegas through 198-mile-(317km) long railroad which is a part of the Union Pacific Railroad and serves as their mainline between Los Angeles and Salt Lake City.

The Property has good year-round road access from Tonopah Station through highway 6/95 (Figure 3). Highway 265 to Silver Peak branches off from 6/95 and crosses the United Lithium Corp. Claims. From highways 6/95 and 265, numerous gravel roads traverse through different areas of the Property providing access to various claim blocks.

### **5.2 Climate**

The climate of the Big Smoky Valley, like Nevada's in general, is characterized by bright sunshine, clean and clear air, low, annual rainfall in the valleys and deserts, and variable heavy snow in the higher mountains. Annual average precipitation in the state is close to 9 inches, about one-half of which falls between December and March. January is the wettest month; August, the driest. Over a 24-year period, precipitation records during the first half of the twentieth century for Millett, a former stage station and town site at the north end of Smoky Valley, show an average of 6 inches per year, ranging from 2.45 to 8.67 inches (McCracken 1997). Maximum summer temperatures can reach over 90°F (32.2 C°) during the months of July and August, whereas the winter temperature can drop below 10°F (-12.2 C°) in December and January. Exploration work can be carried out around the year.

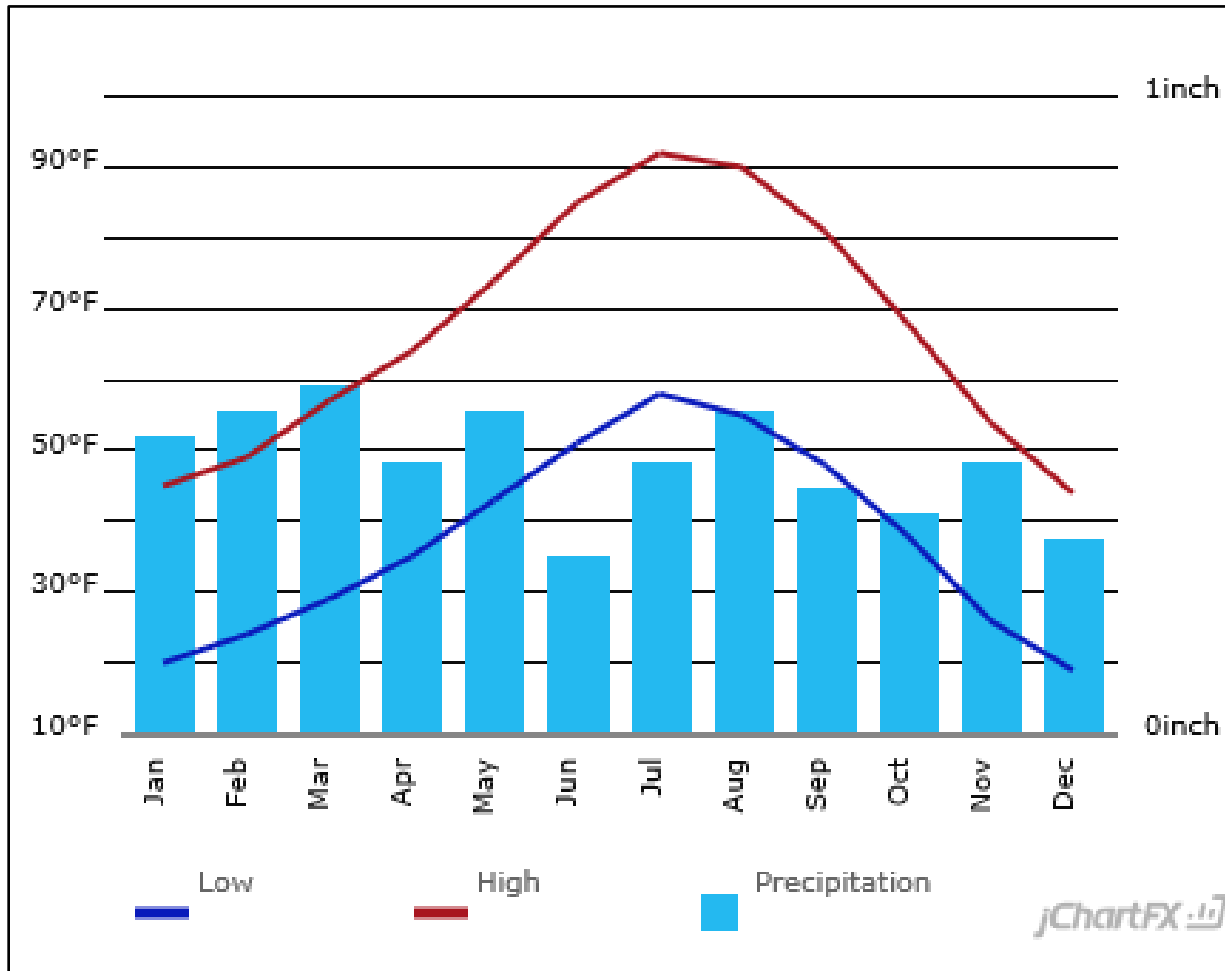
### **5.3 Physiography**

The Property is part of the South Big Smoky Valley which is located within the Basin and Range physiographic province of Nevada, an arid region throughout, characterized by numerous disconnected mountain ranges, low foothills, and broad alluvial fans. The ranges are primarily the result of faulting and uplifting of large blocks of the earth's crust.

The South Big Smoky Valley is bordered on the east by the San Antonio Mountains, an irregular mountain mass about 30 miles (48km) long beginning just south of the Toquima; the highest point is 8500 feet (2591 m). The southern terminus of the valley is formed by Lone Mountain, a conspicuous solitary peak with a precipitous slope that rises to 9114 feet (2778 m). The Silver Peak Range, the border on the southwest, is wide and rather high, separating Smoky Valley from Fish Lake Valley to the south; its highest point is Piper Peak, at 9447 feet (2879 m). The Monte

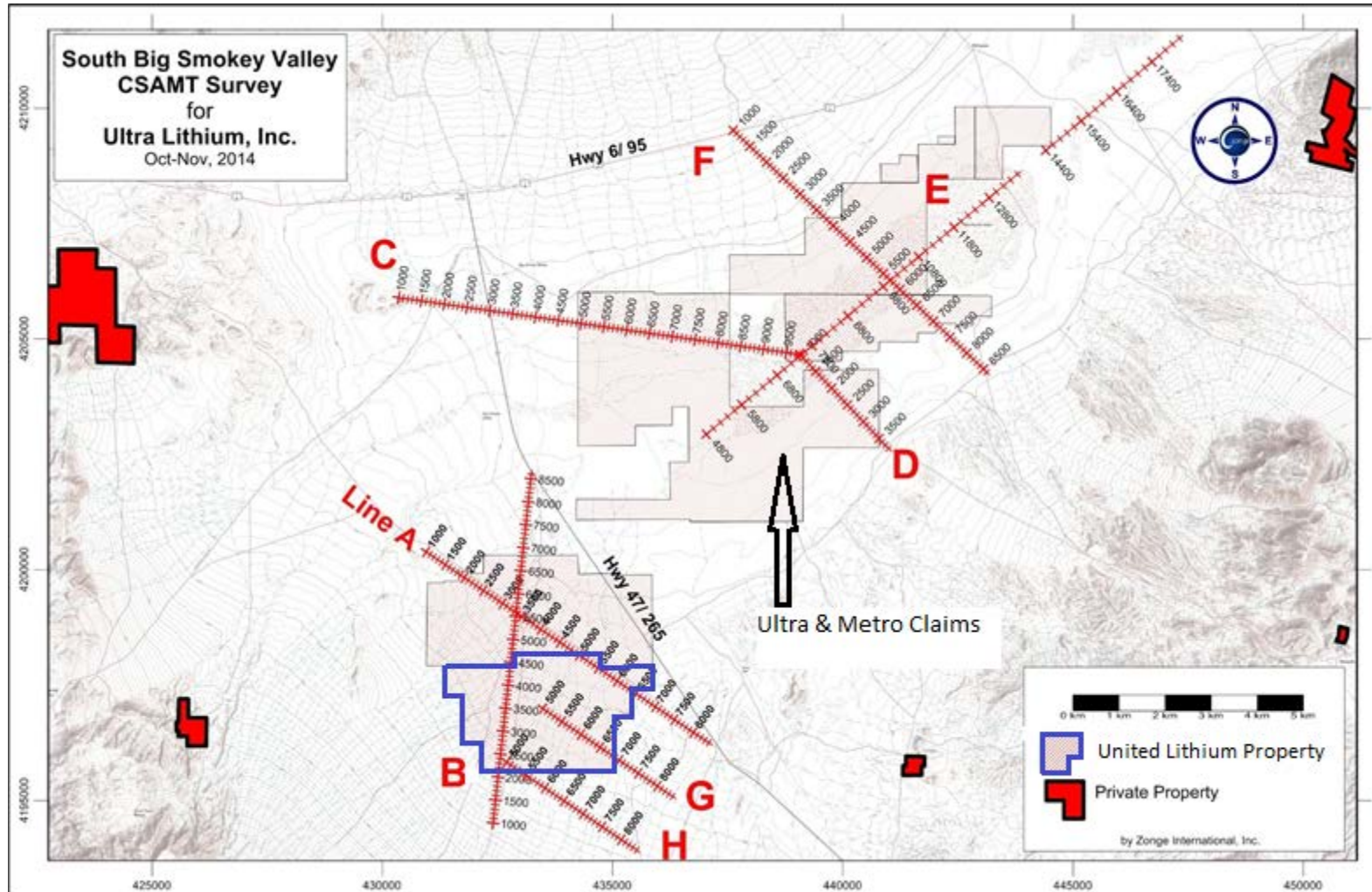
Cristo Range, which creates the western border of the 'lower valley', reaches 7997 feet (2437); with little timber or vegetation, it appears desiccated. Lone Valley, lying west of the southern end of Smoky Valley, has a drainage basin of about 500 square miles (1295 square km) that drains into the South Big Smoky Valley (McCracken 1997).

Figure 3: Tonopah Climate Graph



Source: <http://www.usclimatedata.com/climate/tonopah/nevada/united-states/usnv0091>

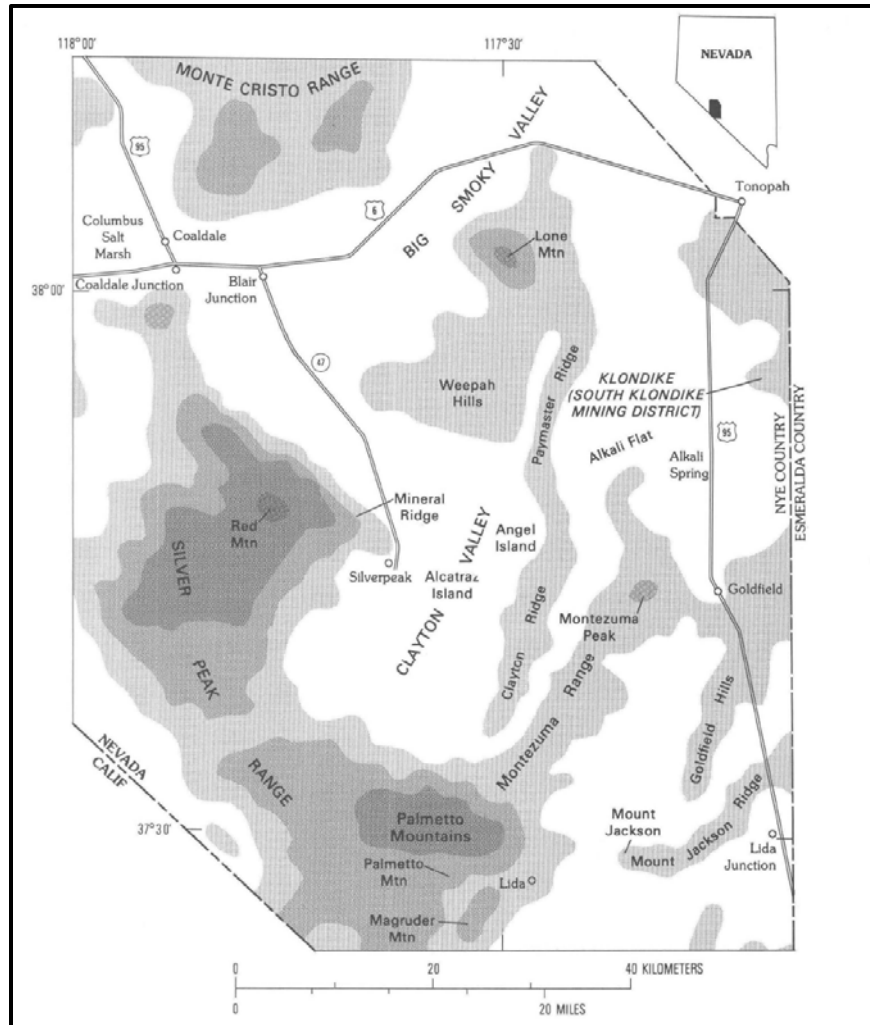
Figure 4: Access Road and Ground Geophysical Survey Lines 2014





Streams formed by snowmelt and occasional heavy rains have carved canyons of various sizes in the mountain walls enclosing the Big Smoky Valley, and at the mouth of each canyon that discharges water, a large alluvial fan has formed. Small gravelly fans that end abruptly and have little or no arable land are found at the mouths of the small dry canyons, and expanded, gently sloping fans are found at the mouths of the large canyons.

Figure 5: Physiographic Map of the Area



(Source: Albers and Stewart 1972)



Photo 1 - Looking northeast: General physiography of the South Big Smoky valley (May 2017 property visit photo)

#### **5.4 Local Resources and Infrastructure**

The property is connected with Tonopah through highway 6/95 which is located 40km west of the property and also serve County Seat of Nye County. Tonopah is the nearest principal commercial center and is situated halfway between Reno and Las Vegas. It is a historic mining town which experienced a silver rush at the turn of Twentieth Century and was named “Queen of the Silver Camps”. According to 2010 census data, the town had a population of 2,476. There are a few hotels, restaurants, grocery stores, and other businesses to support the needs of an exploration program.

Silver Peak which is one of the oldest mining community in Nevada, is located approximately 25 kilometers from the Property along State Route 265. Silver Peak lies near Clayton Valley which is currently the only operating source of lithium in the United States.

Mining personnel are available locally, whereas, the other specialized services like ground and airborne geophysical survey and drilling companies normally send their own crews. Groundwater

is a potential source of water for any mining operations on the Property. Historical water wells located on adjacent grounds indicate water is available from depths of 14 to over 100 feet. Several powerlines are located on the property and on adjacent areas. Union Pacific Railroad Nearest rail system is accessible from Tonopah.

## 6.0 HISTORY

### 6.1 General History

The mineral exploration activities in the nearby areas started in 1860 but were mostly restricted to silver and gold. Lithium was discovered in 1950 by Leprechaun Mining in Clayton Valley and has been in continuous production since 1967.

In 1980, the United States Geological Survey investigated the area in and around Clayton Valley for potential occurrences of lithium bearing brines as part of regional study related to lithium supply sources. Big Smoky Valley was also part of this study due to the fact that it is one of the largest intermontane valleys in Nevada and was occupied by two large lakes during the Pleistocene. The southern lake was 22 miles (35 km) long by 5.5 miles (9 km) wide and covered an area estimated to be 85 square miles (211 km<sup>2</sup>) to a maximum depth of approximately 70 feet (21 m). A series of gravelly beach ridges encircled the southwestern part of the ancient lake, enclosing a playa characterized by soft, puffy, unconsolidated, silty and clayey lake sediments.

Two widely spaced reverse circulatory holes (BS 13 and BS 14) were drilled in the Big Smoky Valley, however, these holes were outside the Property. One of these holes (BS 13) was located on a power line right-of-way road, whereas the other (BS 14) was drilled on a beach ridge on the southwestern edge of the playa. Drill hole BS 13 was completed to a depth of 675 feet (206 m), of which 655 feet (199 m) was in alluvial valley fill and the last 20 feet (7 m) was in the consolidated sedimentary rocks of the Esmeralda Formation of Miocene age. This complete penetration of the valley fill was helpful in the interpretation of the results of water analyses. A maximum value of 1.7 ppm Li in a water sample and 364 ppm in sediment sample with a Li-Cl ratio of 0.0027 at a depth of 395 feet (120 m) was found. BS 14 was abandoned after drilling 215 feet (66 m) into unconsolidated sand and gravel. A maximum of 1.3 ppm Li was found in a water sample with a Li-Cl ratio of 0.0031 at a depth of 135 feet (41 m), (Vine 1980).

**Table 3: Historical Drill Holes**

Hole ID	Location		Surface Elevation		Depth Drilled		Max Lithium Content (ppm)		
	Latitude	Longitude	ft	m	ft	m	water	sediment	
BS 13	38° 02'N	117° 37' W	4735	1443.2	675	205.7	1.7	364	
BS 14	37° 57'N	117° 42' W	4760	1450.8	215	65.5	1.3	287	

## **6.2 Work by Ultra Lithium Inc.**

Ultra Lithium Inc. (“ULI”) owned the property between Longitude 117° 37’ 56” and 117° 46’ 57” W and Latitude: 37° 54’ 21” and 38° 01’ 55” N (United claims are part of ULI property) until 2016. They began exploration of the property in 2014 and continued until 2016. The ground geophysical survey was carried out in 2014, followed by soil and water sampling program in 2015. The diamond drilling program was conducted in 2016. Based on this work, Afzal Pirzada, P.Geo. prepared a report for Ultra Lithium Inc. The following sections provide a summary of each work on the Property.

### **6.2.1 Ground Geophysics**

In 2014, ULI contracted Zonge International to complete a CSAMT (Controlled Source Audio-Frequency Magneto-telluric) ground geophysical survey program on the Property. This geophysical survey is a non-intrusive, low-impact method which is considered suitable for mineral and groundwater exploration purposes.

This survey consisted of eight CSAMT survey lines (named Lines A through H) covering 53.8 kilometers of data. A station spacing and electric-field dipole size of 100 meters was used on all lines except Line E, for which a station spacing and e-field dipole size of 200 m was used. Four of these line (A, B, G, H) are running partly in the United Lithium Corp., area. The location of the lines and stations are shown on Figure 3.

CSAMT is a surface-based electromagnetic method that provides subsurface electrical resistivity information, which can often be related to changes in pore space and pore fluids. Bedrock is often high resistivity relative to overlying material, and fractured, saturated bedrock is often lower resistivity than un-fractured bedrock. Areas of high TDS in the groundwater appear more conductive than equivalent areas of low TDS. Variations in depth to bedrock, faulting, and other structural changes are often also evident as changes in resistivity. In nearby Clayton Valley, lithium-bearing brines are known to be very low resistivity. The goal of the CSAMT survey was to delineate the extent and depth of very low resistivities, and to map, if possible, faults that may influence brine accumulation.

#### ***Geophysical Survey Results***

The survey results are included as cross sections of 2D inversion model results (Figures 6 to 11), with station numbers (in meters) across the top and elevation (in meters) down the side. Pertinent culture and reference points are shown along the line topography. Resistivity values are shown in ohm-meters, contoured logarithmically, with low resistivities shaded toward the red end of the spectrum and high resistivities shaded toward the blue. All resistivity cross sections are shaded using the same scale for comparison. Transparent black dashed lines indicate possible faults evident in the data.

In general, resistivity values are realistic and consistent with data acquired over other playas in Nevada, ranging from hundreds of ohm-meters to less than one ohm-meter. Moderate and high resistivities are seen in the near surface and toward the edges of the playa, and very low resistivities are seen in some areas, usually as layers rather than as small, localized features. For discussion purposes, the 1.0 ohm-meter contour line is thicker and bold on these cross sections to highlight the areas of lowest resistivities, but this is not intended to necessarily indicate an outline of lithium-bearing brine.

**Interpretation of United Lithium Property (Lines A, B, G, and H):**

Four CSAMT survey lines, A, B, G, and H are partly located on the United Lithium Corp. property. These lines cover approximately 22 kilometers of data. A station spacing and dipole size of 100 meters was used in all these lines. No cultural features were noted by the field crew along these lines, but a dirt road near station 3500 on line A and at station 5000 on line B, and 4-inch casing near 7925 along line A. Survey lines A and B were primarily planned to collect data across a gravity low evident in data provided by Ultra Lithium. Preliminary interpretation of A and B survey lines suggested deepening of bed rock to the southeast of the lines A and B intersection. The bedrock may be as shallow as 400 m on the northwest end of the line, it appears to be at least as deep as 1000 meters in the area from station 4500 to 6500. Two more lines G and H, parallel to line A were added in the southeast to verify the findings and further delineating the zones of lowest resistivity. Figure 4 and Figure 5 shows the cross sections for Line A, B, G, and H.

Figure 6: Geophysical lines A, G and H

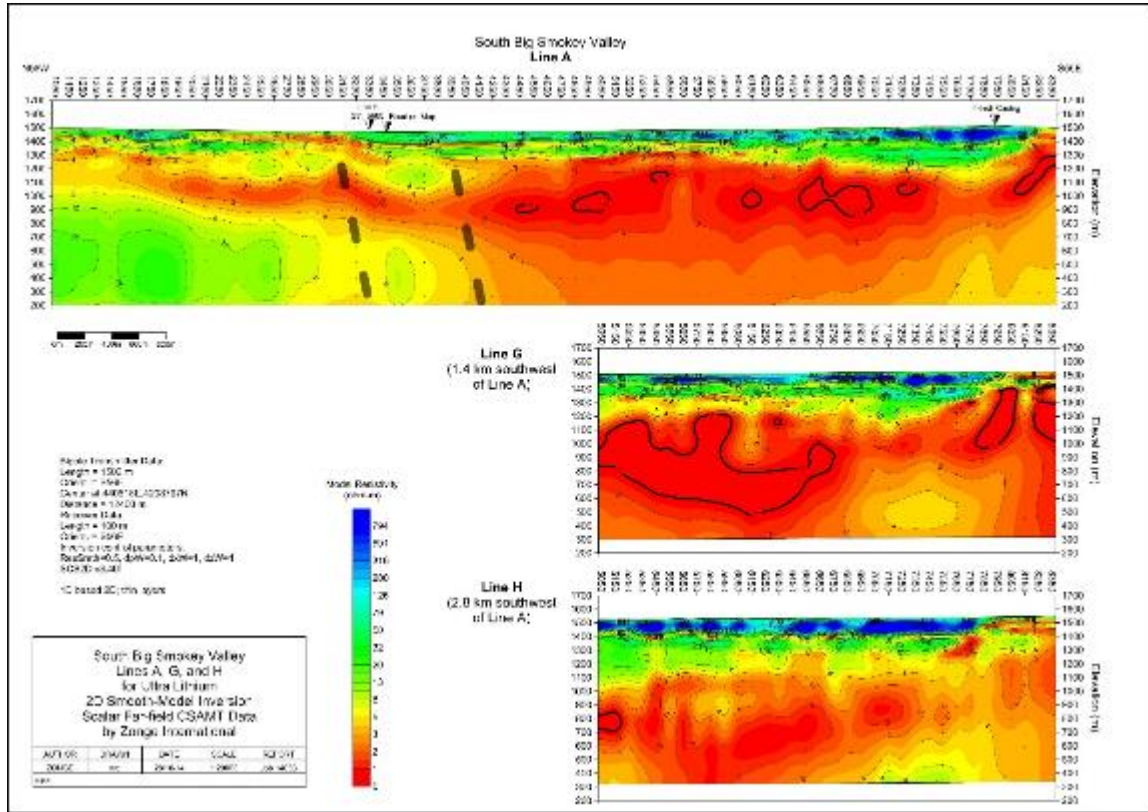
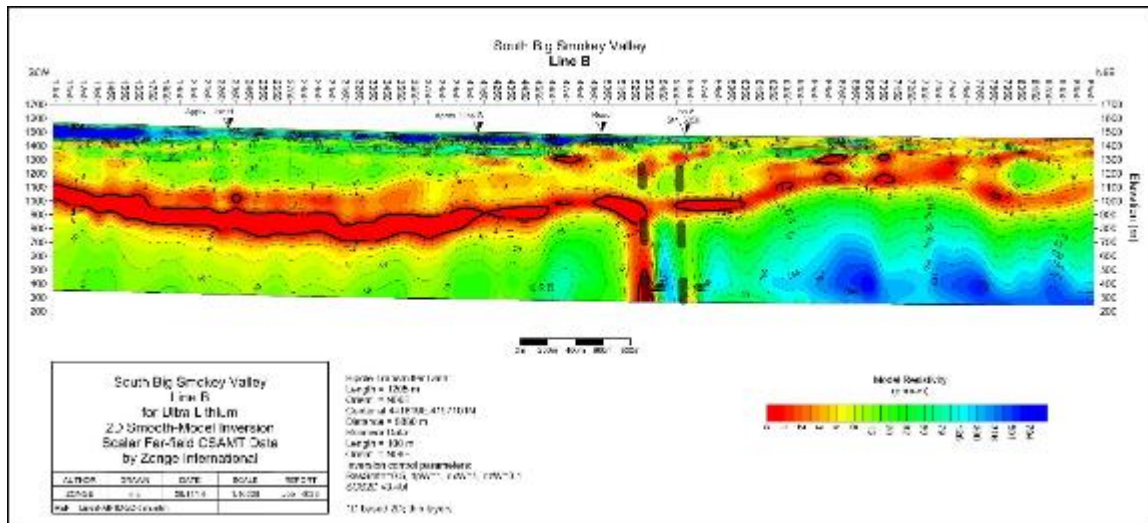


Figure 7: Geophysical line B



The data along Survey Line A (extending NW-SE) suggest a general trend of moderately high resistivities in the upper few hundred meters along the entire length of line, with thin layering of alternating high and low resistivities. Moderately thick layer of low resistivity is noted in between station 1000 and station 4000. It is centered at a depth of approximately 300 meters on the northwest end of the line and dipping gently to the southeast. Southeast of station 4000, this layer thickens substantially, and low resistivities extend to the depth of the survey. Steep faults are indicated in the vicinity of stations 3100 and 4000. A number of small zones of resistivities less than 1 ohm-meter are seen between stations 4300 and 7300 at a depth of approximately 500 meters; below that level, resistivities on this line increase very gradually.

Lines G and H are parallel and offset from the southeastern half of Line A indicate the near-surface values of moderate to high resistivity, but deep low resistivities particularly from the northwest ends of these lines to about station 6900. These results are very consistent with the Line A results. The lowest resistivities, less than 1 ohm-meter, are seen on Line G from the northwest end of the line to station 6700, extending to a depth of 1000 meters. Bedrock is likely being detected in the deep data in the vicinity of station 7500 on both lines; the contact between cover and bedrock appears to dip to the northwest at a steeper angle than on the northwest end of Line A. An alternative interpretation is that there is a northwest-dipping fault in the vicinity of station 6800 on Line G.

Line B extends almost in the north-south direction and intersects Line A at station 3350 (Figure 11). Since, this intersection is near a fault, it did not cross the large low resistivity zone on the southeastern half of Line A. Consistent with Line A, the Line B data show moderately high resistivities in the near surface, and a low resistivity layer approximately 400 to 500 meters deep, underlain by higher resistivities. This deeper material appears higher in resistivity on Line B than on Line A, but otherwise, the agreement is considered good. The data suggest that the shallowest bedrock is on the northern third of the line, probably near station 6800. This bedrock high appears to be consistent with gravity data provided by Ultra Lithium, which shows an increase in the Bouguer gravity values as this line extends north from the intersection with Line A. The data around station 5000 (close to the road) and at the intersection with Line A are laterally very irregular. This may be the result of the fault interpreted on Line A. One or more closely spaced faults may be present from station 5000 to 5700. The low resistivity layer is very gently synclinal between the south end of the line and station 5000, and is deepest at about station 3300, in between where Lines G and H would intersect this line.

Based on the interpretation of data from these four lines, it appears that a bedrock low is roughly consistent with the gravity low in the study area. The lowest and deepest resistivities were recorded near Line G, centered approximately at station 6100, though the entire region from station 5050 to 6700 shows very low resistivities. Two faults are identified on Line A, and multiple closely-spaced faults may be present on Line B. Since these faults don't appear to correlate with similar features on Lines G and H, they are either not extensive, or are oriented such that they do not cross Lines G and H, suggesting they are oriented north-south or northeast-southwest, but not northwest-southeast.

### **Interpretation of Lines C, D, E, and F (Not on the Property):**

Four CSMAT survey lines (C, D, E and F) are located in the neighbouring property owned by Metron and Ultra Lithium. This section is reproduced from Technical Report prepared for Ultra Lithium Inc. by Afzal Pirzada, P.Geo.

Lines C, D, E, and F (Figures 6 to 9) were intended to provide data across a separate gravity low, located northeast of the gravity low studied by Lines A and B. This area is topographically lower than Lines A and B, and is visually different at the surface with lighter, fine grained materials as well as sand dunes. Line E runs along the long axis of the oblong gravity low, while Line F is perpendicular, moving from darker surface material north of the playa, crossing the very light playa material, and back to darker surface material on the southeast, providing a good cross section of the feature. Line C started at a small outcrop of volcanic material on the west to examine a possible extension of the gravity low, ran east-southeast to Line E; following a bend in the line at Line E, the line continues as Line D to the southeast.

The resistivity modeling results for Lines C and D are plotted together in Figure 6. Roads were crossed on Line C at stations 1750 and 3000, but otherwise no other cultural features were noted by the field crews. Note that for these lines, the depth of investigation is shallower than on Lines A, B, G, and H, due to the overall lower resistivities, and as a result, bedrock is not evident except on the northwestern end of Line C. Resistivities generally decrease from the northwestern end of the line to the southeast. Surface resistivities are lowest from station 8600 on Line C to station 1300 on Line D, but the lowest resistivities at depth are offset further southeast, from station 9400 of Line C to 2800 on Line D. As noted below, this is consistent with the data from Line F, which also shows the deep lowest resistivities to be south of Line E, suggesting that Line E was not exactly centered along the axis of the gravity low. It is possible that the zone of lowest resistivities from station 9400 on Line C to station 2800 on Line D is bounded by faults near station 9400 and 2900, but this is difficult to interpret in the absence of any data extending into bedrock.

Line E ran along the axis of a gravity low in the Ultra Lithium data; as a result of the line length, two different transmitter locations were necessary for this line and the line is plotted as two segments in Figures 7 and 8. Note also that station spacing along this line was 200 meters due to budget constraints. Due to the low resistivities along most of the line, the depth of investigation is limited to only 600 meters on the southern segment, and about 800 meters on the northern segment. From the southwestern end of the line to about station 14500 surface resistivities are very low, as would be expected from the playa material. Along this segment of the line, low resistivities extend to the depth of the survey, though a thin moderately resistive layer is evident in the upper 150 m along the line, suggesting a layer of more competent, perhaps dryer material. The data on this line is in good agreement with the data at the intersections with the other lines, although the thin resistive layer is less evident on Line C-D than it is here on Line E. Northeast of station 14500, near-surface resistivities are more moderate, and the deep low resistivities weaken and become gradually shallower, underlain by moderately high resistivities, probably bedrock. At the north end of the line, this low resistivity layer is thin, and only about 300 m deep. In the absence of deeper bedrock information along this line, faults are difficult to interpret, though



possible faults may be located in the vicinity of station 5800, 8500, 12100, and 13300 based on subtle changes in resistivity.

Figure 8: Geophysical lines C and D

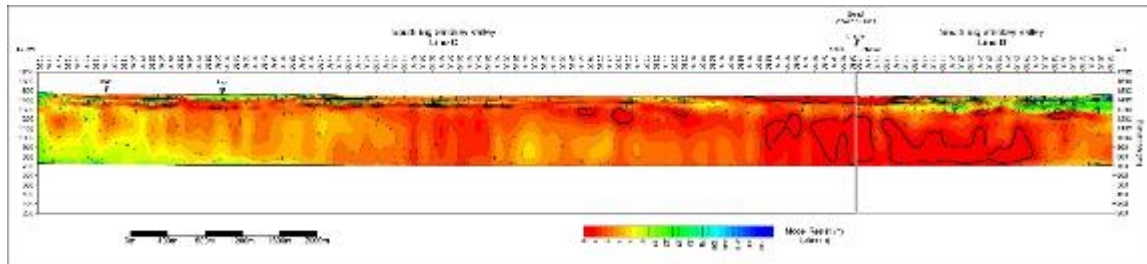


Figure 9: Geophysical line E

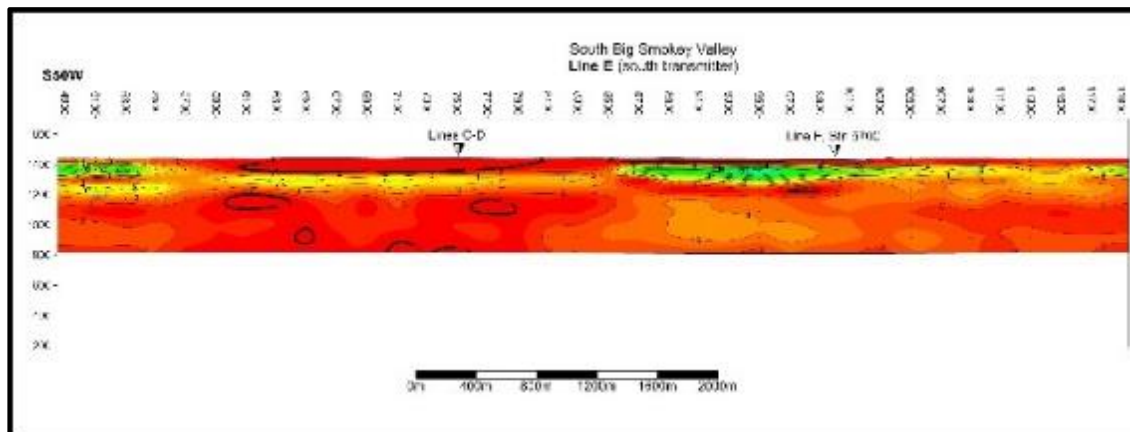


Figure 10: Geophysical line E (Extension)

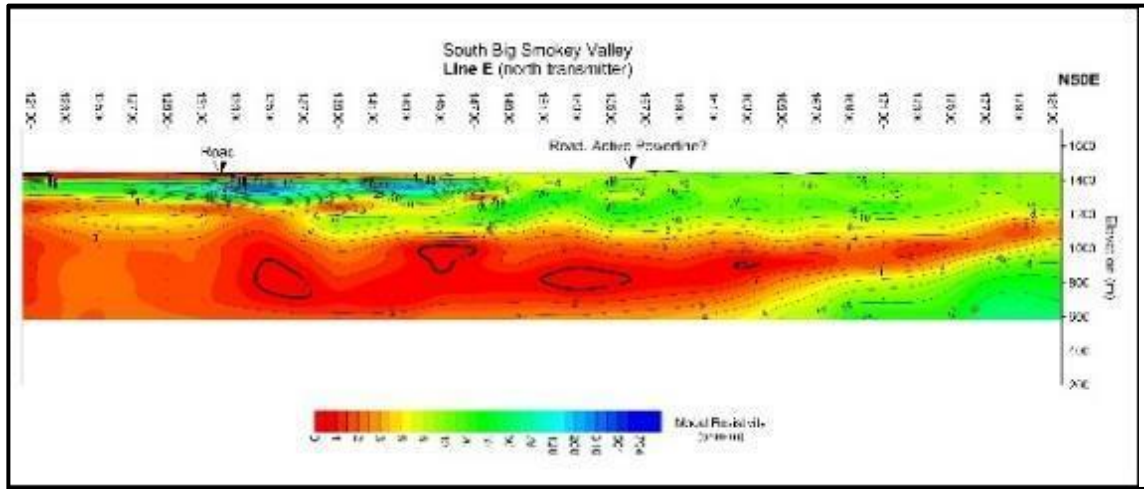
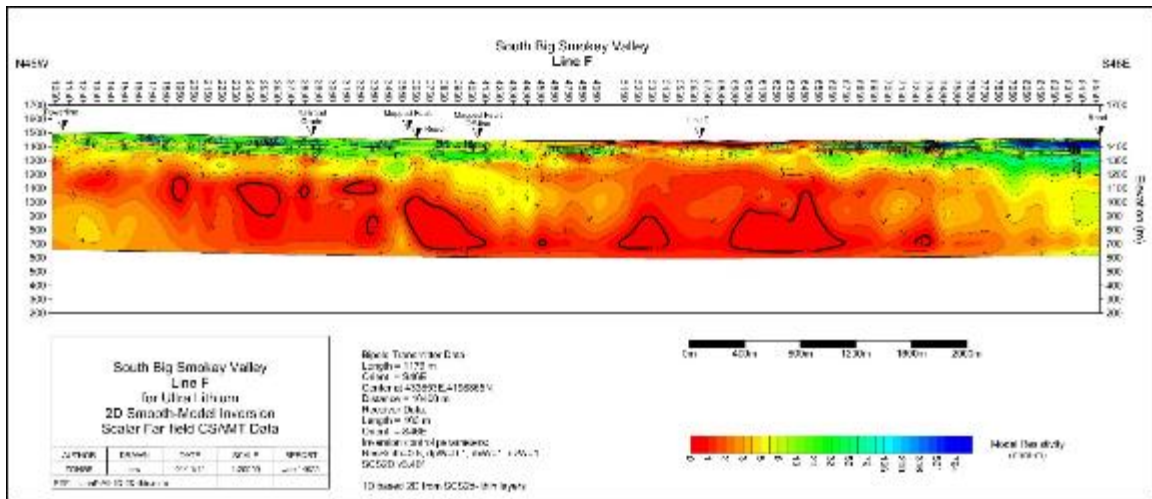


Figure 11: Geophysical line F



Line F ran from northwest to southeast, cutting across the oblong gravity low and intersecting Line E at station 10000 on that line (Figure 15). This line crossed a powerline on the northwest end of the line near Highway 6/95, but only minor effects are seen in the data. Low resistivities are seen at the surface as the line crosses the playa from about station 4900 to 7500, and moderate surface resistivities are evident north and south of the playa. Similar to some of the other lines, thin alternating layers of high and low resistivities are seen in the upper 200 meters. Line F is the only survey line that crossed a mapped fault according to digital data provided by Ultra Lithium. A fault is mapped at station 3600, and a second nearby fault would intersect the line at station 4100 if it were extended. A very low resistivity zone ( $< 1$  ohm-meter) in the deeper data is bounded by these two mapped faults, but the change in the data is relatively subtle, and the correlation is considered tentative. Additional low, deep resistivities are evident just southwest of the intersection with Line E, from station 5900 to 6600. This zone is consistent with the data seen on Lines C-D, in which low,

deep resistivities are seen south of Line E, suggesting that Line E is not running exactly down the axis of the gravity low.

## **6.2.2 2015 Soil and Water Sampling**

Ground geophysical survey was followed by soil and water sampling program in 2015. The program was aimed at following up on the results of the CSAMT ground geophysical survey, and its purpose was to investigate the presence of lithium in shallow soil, and within its groundwater system. Afzaal Pirzada, P.Geo. (currently VP Exploration of Ultra Lithium) was contracted to execute the program. The information presented in this section is extracted from his Technical Report which was submitted to Ultra Lithium in February 2016.

The field investigations were carried out in December 2015 and included traverses along CSAMT survey lines to study general soil, and collecting samples for Lab work. These Traverses indicated that subsurface sediments are generally composed of silty clay, silty sand and gravel. The amount of volcanogenic material and salt varies from place to place but overall it was observed in most of the claims held by Ultra Lithium. Distinct white to light gray ash beds occurring in Clayton Valley continue in the South Big Valley and appear to be very similar. No prominent outcrops were spotted in the property. At several locations, the top sections of sediments are covered by pebbles of broken rocks derived of surrounding outcrops.

Hydrogeological observations confirmed that the Property is within an area of the Big Smoky Valley (BSV) which is an enclosed basin and receives its water recharge from the surrounding ranges. The rocks on the southeastern part of BSV were observed to be dipping inwards towards the basin. Overall slope of the basin is to the southwest.

A total of 48 soil / sediment samples were collected from survey lines A to E. Twenty of these samples (9 from section A, 8 from section B and 3 from section G) are from the United property. Additionally, five water samples were collected from different areas, out of which four were from surface water / ice and one from a water well, located on adjacent ground to the Property. The soil samples were collected using hand shovel or a mechanical auger which was able to penetrate 1 to 5 feet below ground surface. All the samples were sent to Western Environmental Testing Laboratory (WETLABS) in Sparks, Nevada for analyses.

### *6.2.2.1 Sampling and analytical work from United Property*

#### **Geophysical Line A**

- A total of nine stations (A 2000, A 2500, A 3000, A 3500, A 4000, A 4500, A 5000, A 5500, and A 6000) were sampled along this line at 500 m spacing. A brown clay horizon with a mixture of volcanic ash material, considered prospective for lithium was intercepted at station A 2000, A 3500, A 4000, A 5500, and A 6000.

### **Geophysical Line B**

- A total of eight stations (B 2500, B 3000, B 3500, B 4000, B 4500, B 5000, B 6000, and B 6500) were sampled along this line at 500 m spacing, except for station B 5500 which was not sampled due to duplication as it was located at intersection with Line A. This line is marked by brown silty sand and gravel from surface to four feet in depth. It does not present a favorable surface horizon in terms of lithium accumulation as very little silt, clay or volcanic ash material was encountered during investigations.

### **Geophysical Line G**

- A total of three stations (G 5500, G 6000, G 6500) were sampled along this line at 500 m spacing. This line is marked by light brown silty sand and gravel. A light gray to brown clay mixed with volcanic material was encountered at station G 5500 and G 6000.

In conclusion, the area of lines A, B, G and H represents sand and gravel at shallow subsurface at the majority of the locations. A thin layer of volcanic clay was intercepted at few locations.

### **6.2.2.2 *Sampling and analytical work from Neighboring Property***

### **Geophysical Line F**

- Seven stations (F 4000, F 4500, F 5000, F 5500, F 6000, F6500, and F7000) were sampled along these lines at 500 m interval. A light grey clay unit mixed with volcanic ash material, considered an ideal geological marker for lithium exploration was intercepted in all stations except for F 6500 and F7000, located on the east margin of BSV. The clay unit is exposed on surface in the middle of the valley on stations F 4500, F5500, and F 6000. All thin water layers in the central portion of BSV were frozen due to severe winter weather conditions. One ice sample was broken at station F6000 and collected as a water sample.

### **Geophysical Line C**

- Eight stations (C 5000, C 5500, C 6000, C 6500, C 7000, C 7500, C 8000, and C 9600) were sampled along this line at approximately 500 m intervals. The area between station C 8000 and C 9600 was not sampled due to intervening staked claims by a third party. A light grey clay unit mixed with volcanic ash material, considered interesting for lithium exploration was intercepted in all stations. At stations C 5000 and C 9600, this unit was covered by a 1-3 feet layer of brown silty sand and gravel. This accumulation is a result of their locations being at the margins of the central part of BSV. This promising grey clay unit is exposed on surface, within the middle of the valley, as well as, on all the stations except for the two mentioned above.

### **Geophysical Line D**

- This line is in the southern extension of geophysical line C and runs almost parallel to line F. Five stations (D 1100, D 1500, D 2000, D 2500, and D 3000) were sampled along this line

at 500 m or less intervals. A light grey clay unit mixed with volcanic ash material, considered interesting for lithium exploration was intercepted at stations D 1100 and D 1500, whereas the remaining stations intersected brown and grey silty sand with some gravel due to their location on the east margin of BSV.

### **Geophysical Line E**

- Six stations (E 4800, E 5400, E 5600, E 7800, E 8400, and E 9000) were sampled along this line. A grey clay layer with volcanics was intercepted at two stations (E 5400 and E 4800) down to a depth of 3-5 feet. The surface was covered with brown silty sand with minor gravel. The clay layer is very sticky and plastic where damp or moist. This unit was not encountered at station E 5600 as the auger was not able to penetrate below 3 feet at this location.

### **Water Sampling**

Four of the five water samples collected represent surface water composition which is essentially a perched water table most likely due to the presence of a grey volcanogenic clay layer starting from surface or a few feet below surface. The water well which was the fifth sample has water table at 14 feet below ground surface (17 feet at top of casing) as measured on December 17, 2015. As there is no lithological data for this well it is not possible to comment on this water table as confined or unconfined.

### **Assay Results and Interpretation**

The assay results confirmed the presence of lithium in the South Big Smoky hydrogeological system. Maximum values for lithium in sediments is 100 ppm, boron 480 ppm, and potassium 7,600 ppm. Generally, the lithium, boron and potassium values corresponds well with each other, where the samples with higher lithium concentration have higher values of other two elements. A distinct geological similarity with Clayton Valley is the presence of volcanogenic clays in the South Big Smoky Valley. A summary of results is provided in the following paragraphs.

The surface and shallow subsurface water samples show less than one mg/L value of lithium and low values of other three elements tested. Average lithium concentration in all soil / sediment samples is 47 mg/kg, boron 142 mg/kg, potassium 4,915 mg/kg, and magnesium 6,685 mg/kg.

The area along lines A, B, G and H represents sand and gravel at shallow subsurface at majority of the sampling locations and represent a low lithium value on surface. Interpreted source of lithium is being contributed from the surrounding rocks as the historical sampling from Esmeralda Formation is documented to contain up to 1,300 mg/kg Li with average 100 mg/kg Li (Munk and Chamberlain 2011).

The present data, especially the water samples corresponds with similar investigations carried out on Clayton Valley by US Geological Survey (Munk and Chamberlain 2011) where the clay / sediment samples show average lithium concentration of 22 mg/kg, snow and fresh water samples

have lithium values of less than 1 mg/L (ppm), and one of the brine aquifer (LAS Aquifer) 406.9 mg/L.

The sampling data and results are presented in table 4-A and 4-B, concentration of lithium is shown on Figure 10, boron on Figure 11, potassium on Figure 12, and magnesium on Figure 13. The results along each line are summarized below.

#### **Geophysical Line A (Partly on the Property)**

- The results of nine samples show low lithium and boron in soil / sediment samples, with a moderate concentration of potassium and magnesium. Lithium values are in the range of 14 to 48 mg/kg, boron 11 to 37 mg/kg, potassium 3,700 to 7,600 mg/kg, and magnesium 3,300 to 7,900 mg/kg.

- 

#### **Geophysical Line B (Partly on the Property)**

- The results of eight samples show lithium in soil samples to be generally low, ranges from 14 mg/kg (ppm) to 45 mg/kg, boron 8.2 mg/kg to 80 mg/kg, potassium 1100 to 7600 mg/kg, and magnesium 2800 to 4400 mg/kg.

#### **Geophysical Line G (Partly on the Property)**

- The assay results yielded low values of lithium and boron in soil/sediments. Concentration of lithium is in the range of 16 to 20 mg/kg, boron 16 to 20 mg/kg, potassium 2,900 to 5,000 mg/kg, and magnesium 3,900 to 8,400 mg/kg.

#### **Geophysical Line C (Outside the Property)**

- The results of eight samples show that this line represents the best results for lithium, boron, and potassium. Magnesium level is also higher in samples. The assay results indicate lithium in the range of 50 to 100 mg/kg, boron 160 to 300 mg/kg, potassium 4,000 to 6,400 mg/kg, and magnesium 5,900 to 9,400 mg/kg.

#### **Geophysical Line D (Outside the Property)**

- This line is in the southern extension of geophysical line and its results represent low to moderate values of lithium, boron, and potassium potentially corresponding with ash layers, whereas magnesium concentration is moderate to higher. Concentration of lithium is in the range of 15 to 71 mg/kg, boron 82 to 330 mg/kg, potassium 2,300 to 6,500 mg/kg, and magnesium 3,000 to 9,700 mg/kg.

#### **Geophysical Line E (Outside the Property)**

- The assay results yielded the most consistent values in soil / sediments along this line with very little variation. Concentration of lithium is in the range of 65 to 92 mg/kg, boron 160 to 360 mg/kg, potassium 5,100 to 7,600 mg/kg, and magnesium 8,900 to 11,000 mg/kg.

### **Geophysical Line F (Outside the Property)**

- The soil / sediment samples from this line show a relatively wider range of concentration in all four elements tested. Lithium values are in the range of 16 to 78 mg/kg, boron 34 to 480 mg/kg, potassium 2,400 to 6,300 mg/kg, and magnesium 3,200 to 11,000 mg/kg.

### **Water Sampling (Outside the Property)**

Concentrations of all four elements tested in water samples was generally low representing freshwater conditions on the surface and shallow ground water. Lithium concentration in four surface water / ice samples was less than one mg/L (ppm) and in the water well sample the lithium value was below detection limit, boron 0.51 to 4 mg/L, potassium 27 to 58 mg/L and magnesium reporting 4 to 92 mg/L.

Figure 12. Lithium in soil / sediment samples along CSAMT Survey lines (modified from ULI report)

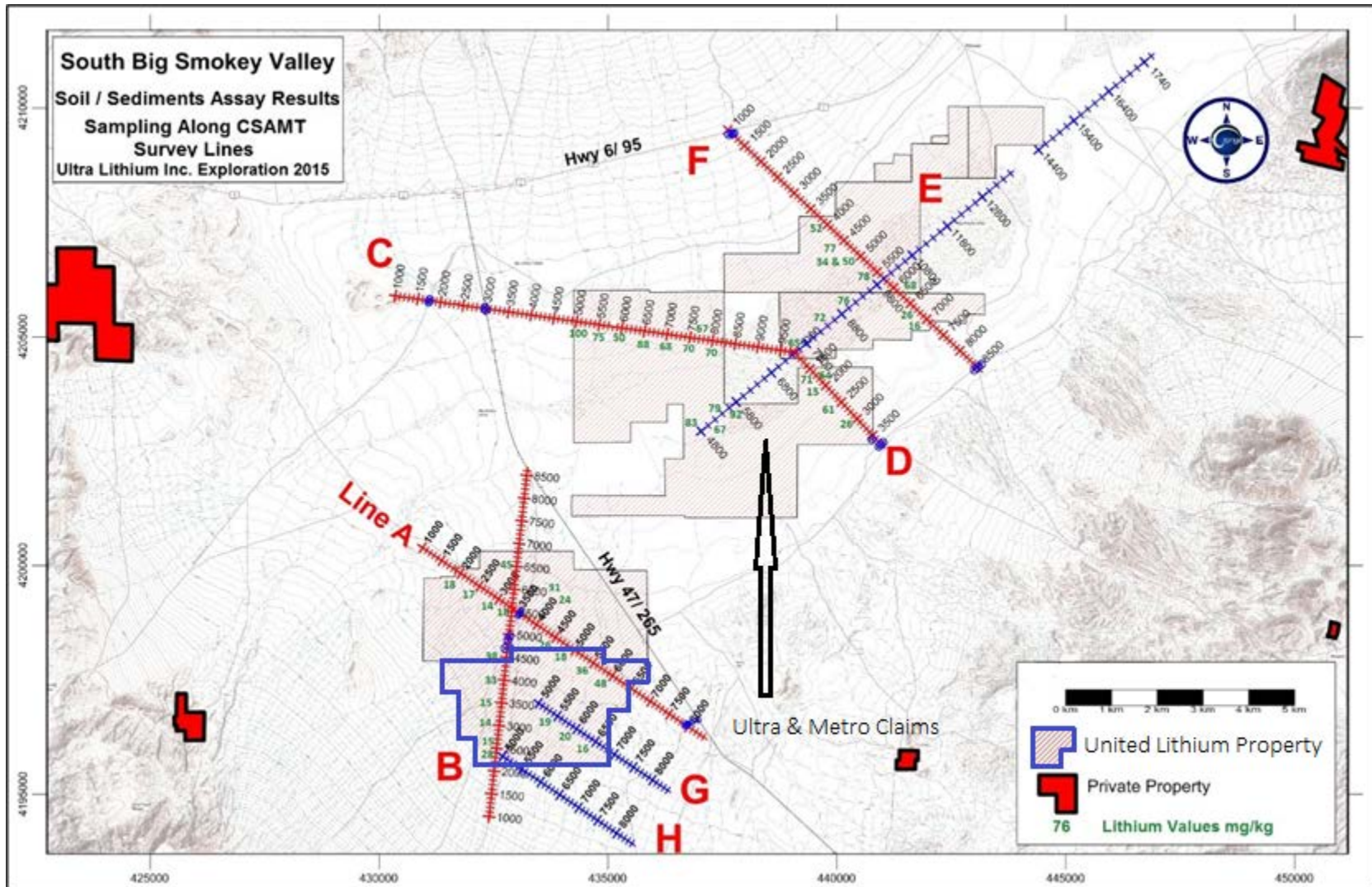




Figure 13. Boron in soil / sediment samples along CSAMT Survey lines (modified from ULI report)

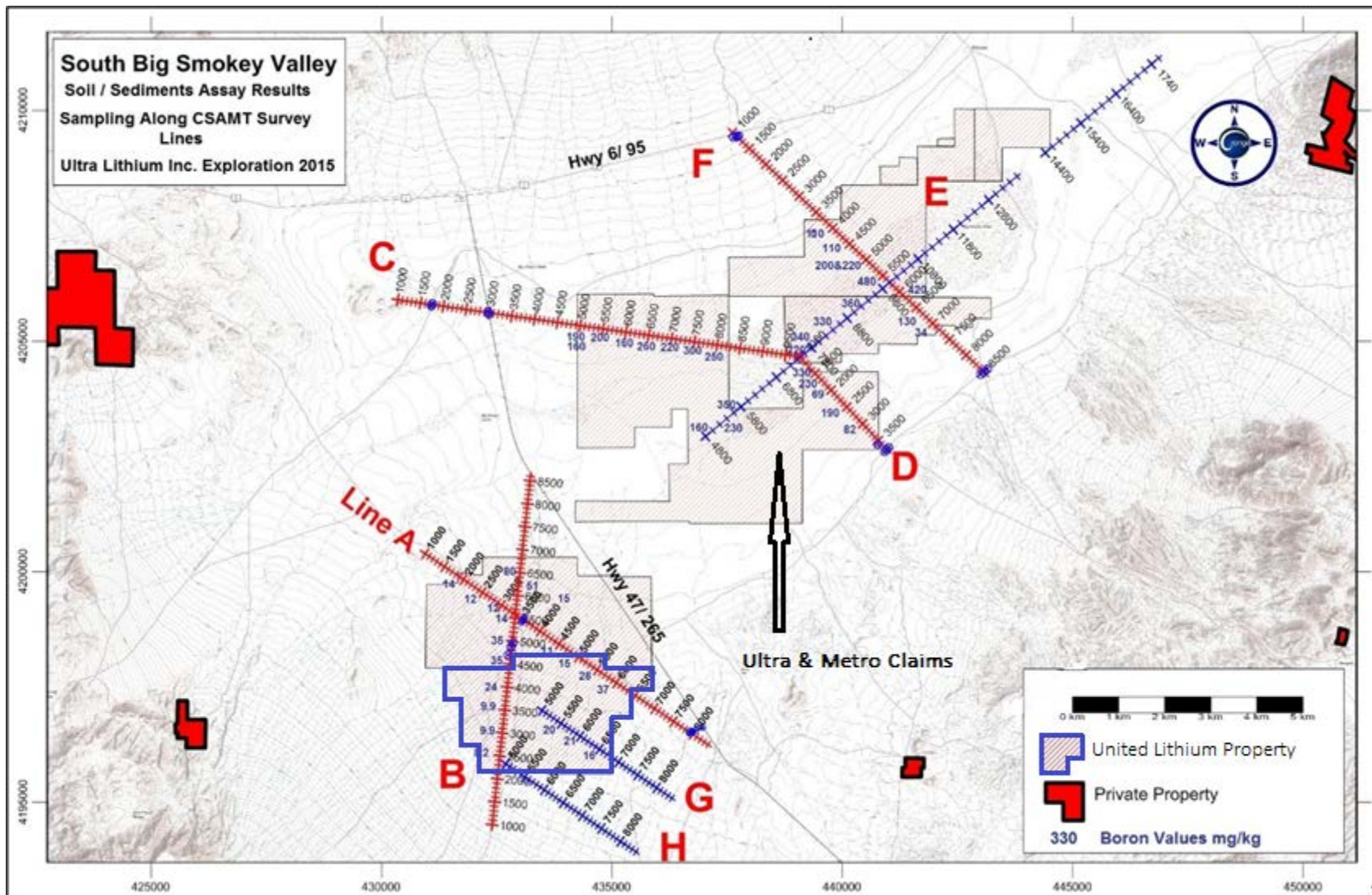


Figure 14. Potassium in soil / sediment samples along CSAMT Survey lines (modified from ULI report)

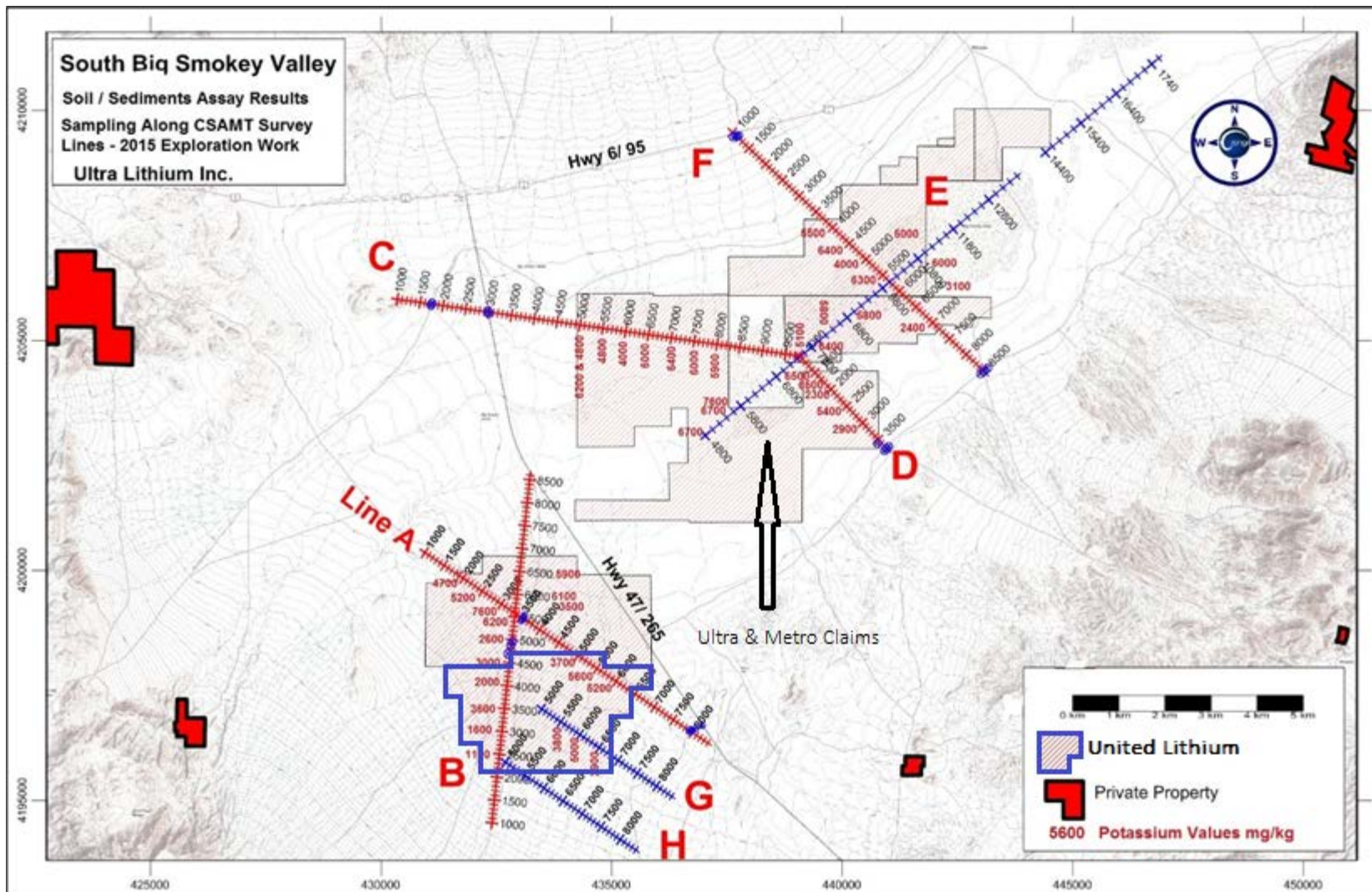


Figure 15. Magnesium in soil / sediment samples along CSAMT Survey lines (modified from ULI report)

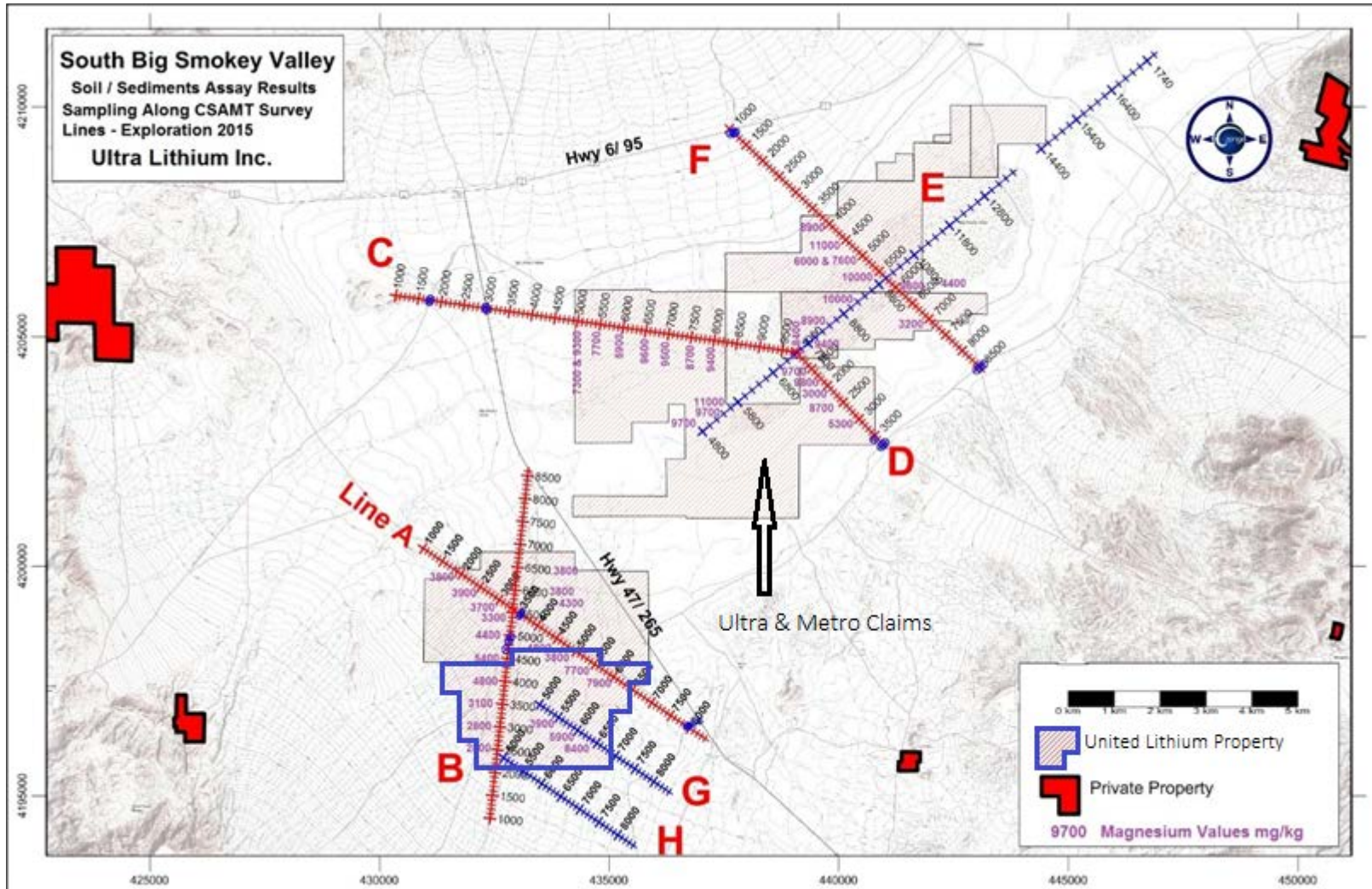


Table 4-A: Soil / sediment samples 2015 from United Property

Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation m	Description	Assays				Date
			Easting	Northing			Li (ppm)	K (ppm)	Mg (ppm)	B (ppm)	
		CM									
	A6000	0-10	435098	4197591	1484	Brownish grey SILTY SAND AND GRAVEL, damp					14-Dec-15
BSV 15-01		10-20				Brown clay with volcanic material, dry (Sample)	48	5200	7900	37	
	A5500	0-15	434684	4197871	1480	Light brown to earthy colour SILTY SAND AND GRAVEL, dry					14-Dec-15
BSV 15-02		15-35				Brown SILTY CLAY, with volcanic material, dry (Sample)	36	5600	7700	28	
	A5000	0-15	434264	4198188	1477	Brown GRAVEL, some sand, dry					14-Dec-15
BSV 15-03		15-30				Brown SILTY SAND, some gravel and volcanic material, dry (Sample)	18	3700	3800	15	
	A4500	0-10	433855	4198430	1475	Light grey to brown SAND AND GRAVEL, dry					14-Dec-15
BSV 15-04		10-25				Brown SILTY SAND, some clay and gravel, plus volcanic ash material (Sample)	26	6100	4800	11	
	A4000	0-10	433440	4198710	1473	Light grey to brownish SAND AND GRAVEL, dry					14-Dec-15
BSV 15-05		10-20				Brown CLAY AND GRAVEL, some sand and volcanic ash / bentonite material, damp (Sample)	24	3500	4300	15	
	A3500	0-10	433026	4195990	1469	Light grey SAND AND GRAVEL, dry					14-Dec-15

Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation	Description	Assays				Date
BSV 15-06		10-30				Brown CLAY, mixed with volcanic ash / bentonite material and gravel, some silt, damp (Sample)	18	6200	3300	14	
		0-10	432612	4199270	1473	Brown SAND AND GRAVEL, dry					14-Dec-15
BSV 15-07	A3000	10-30				Brown SAND AND GRAVEL, damp, active channel material (Sample)	14	7600	3700	12	
		0-10	432196	4199549	1476	Grey to brown SAND AND GRAVEL, dry					14-Dec-15
BSV 15-08	A2500	10-30				Light brown SAND, some gravel and volcanic material, damp (Sample)	17	5200	3900	12	
		0-10	431782	4199829	1483	Light brown SAND AND GRAVEL, dry					14-Dec-15
BSV 15-09	A2000	10-20				Brown SILTY SAND AND CLAY, mixed with volcanic ash material, damp (Sample)	18	4700	3800	14	
BSV 15-38	B6500	0-90	433007	4199981	1467	Brown SAND AND GRAVEL, coarse, dry (Sample)	45	5900	3800	80	16-Dec-15
		0-90	432951	4199483	1471	Brown SILTY SAND AND GRAVEL, dry					16-Dec-15
BSV 15-39	B6000	90-120				Light brown SILTY SAND, some gravel and clay, damp (Sample)	31	6100	3800	51	
BSV 15-40	B5000	0-90	432842	4198490	1483	Brown, SAND AND GRAVEL, coarse grained, loose, dry (Sample)	28	2600	4400	35	16-Dec-15
BSV 15-41	B4500	0-90	432787	4197993	1492	Brown SILTY SAND AND GRAVEL, dry, loose (Sample)	38	3000	5400	35	16-Dec-15
		0-90	432732	4197497	1499	Brown SILTY SAND AND GRAVEL, dry, loose					16-Dec-15
BSV 15-42	B4000	90-120				Same as above (Sample)	33	2000	4800	24	
BSV 15-43	B3500	0-90	432676	4196999	1503	Light brown SILTY SAND AND GRAVEL, dry, loose (Sample)	15	3600	3100	9.9	16-Dec-15
BSV 15-44	B3000	0-90	432622	4196503	1513	Light brown SILTY SAND AND GRAVEL, dry, loose (Sample)	14	1600	2800	9.9	16-Dec-15

Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation	Description	Assays				Date
BSV 15-45	B2500	0-90	432568	4196005	1528	Light brown SILTY SAND AND GRAVEL, dry, loose (Sample)	15	1100	2800	8.2	16-Dec-15
	G6500	0-90	434730	4196151	1516	Light brown SILTY SAND AND GRAVEL, medium to coarse grained, dry, loose					17-Dec-15
BSV 15-46		90-120				Same as above (Sample)	16	2900	4400	16	
	G6000	0-15	434315	4196431	1513	Light brown SILTY SAND AND GRAVEL, dry, loose					17-Dec-15
BSV 15-47		15-30				Grey CLAY, hard, dry, volcanic ash material (Sample)	20	5000	5900	21	
		30-90				Light grey to brown SILT, some sand and gravel, dry					
	G5500	0-10	433899	4196710	1509	Light brown SILTY SAND AND GRAVEL, dry, loose					17-Dec-15
BSV 15-48		10-30				Grey CLAY, hard, dry, volcanic ash material (Sample)	19	3800	3900	20	
		30-90				Light brown SILTY SAND AND GRAVEL, dry, loose					
BSV 15-01W		F6000	441240	4206073	1440	Ice water sample, brown with sediments (preserved immediately)	0.65	47	79	2	15-Dec-15

Table 4-B: Soil / sediment and water samples 2015 from adjacent Property

Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation m	Description	Assays				Date
			Easting	Northing			Li (ppm)	K (ppm)	Mg (ppm)	B (ppm)	
		CM									
		0-60	439793	4207452	1450	Light brown SILTY SAND AND GRAVEL, dry					15-Dec-15
		60-120				Brown SILTY SAND, some gravel, dry					
BSV 15-10	F4000	120-180				Light brown SILTY CLAY, mixed with volcanic ash (bentonite plus hectorite?) material, dry (Sample)	52	5500	8900	100	
BSV 15-11	F4500	0-90	440155	4207107	1442	Light brown SILTY CLAY, mixed with volcanic ash (bentonite plus hectorite), trace gravel, dry (Sample)	77	6400	11000	110	15-Dec-15
		0-90	440516	4206763	1444	Light brown SILTY SAND, trace gravel, dry					15-Dec-15
BSV 15-12		90-120				Light brown SILTY CLAY, mixed with volcanic ash, hard pan refusal at 3 locations to penetrate, success at fourth location, dry (Sample)	34	4000	6000	200	
BSV 15-13	F5000	120-150				Light brown SILTY SAND, some silt, trace gravel, damp (Sample)	50	5000	7600	220	
BSV 15-14	F5500	0-90	440878	4206418	1440	Light grey to brownish SILTY CLAY, sticky, damp (Sample)	78	6300	10000	480	15-Dec-15
BSV 15-15	F6000	0-90	441240	4206073	1440	Light grey SILTY CLAY, mixed with volcanic (B&H) material, damp (Sample plus Ice sample for water BSV 15-01W)	68	6000	9600	420	15-Dec-15

Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation	Description	Assays				Date
	F6500	0-90	441604	4205729	1446	Brown SILTY SAND, coarse grained, damp					15-Dec-15
BSV 15-16		90-150				Same as above but more silty, damp (Sample)	26	3100	4400	130	
		0-15	441965	4205384	1448	Brown SAND AND GRAVEL, dry					15-Dec-15
		15-90				Brown SILTY SAND, trace gravel, damp					
BSV 15-17	F7000	90-180				Brown SILTY SAND, becomes clayey and sticky at 150 cm, damp (Sample)	16	2400	3200	34	
	E9000	0-45	440261	4205625	1439	Brown SILTY SAND, fine, damp					15-Dec-15
BSV 15-18		45-90				Grey SILTY CLAY, mixed with volcanic ash (bentonite plus hectorite) material, sticky, plastic, damp (Sample)	76	5800	10000	360	
	E8400	0-60	439799	4205240	1442	Brown SILTY SAND, fine grained mixed with brown clay, damp					15-Dec-15
BSV 15-19		60-90				Grey to brown CLAY AND SILT, plastic, damp (Sample)	72	5800	8900	330	
	E7800	0-75	439339	4204857	1443	Dark brown SANDY SILT, mixed with brown clay, dry					15-Dec-15
BSV 15-20		75-90				Grey SILTY CLAY, plastic, damp (Sample)	67	6400	9400	340	
		0-10	434316	4205334	1452	Brown SILTY SAND AND GRAVEL, dry					16-Dec-15
BSV 15-21		10-90				Light brown to light grey SILT AND CLAY, plastic, damp (Sample)	67	4800	7300	160	
BSV 15-22	C5000	90-150				Light grey SILTY CLAY, mixed with volcanic ash material, plastic, damp (Sample)	100	6200	9300	190	
	C5500	0-90	434811	4205264	1450	Light brown SILT, some sand, damp					16-Dec-15
BSV 15-23		90-100				Grey SILTY CLAY, hard to drill, bentonitic, dry (Sample)	75	4800	7700	200	
	C6000	0-10	435306	4205194	1448	Light brown SILT AND GRAVEL, dry					16-Dec-15



Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation	Description	Assays				Date
		10-100				Light grey SILT AND CLAY, mixed with volcanic ash material, plastic, damp					
BSV 15-24		100-120				Same as above (Sample)	50	4000	5900	160	
BSV 15-25	C6500	0-90	435802	4205124	1447	Light grey SILTY CLAY, mixed with volcanic ash material, dry on top 10 cm, damp (Sample)	88	6000	9600	260	16-Dec-15
BSV 15-26	C7000	0-90	436297	4205054	1448	Light grey SILTY CLAY, mixed with volcanic ash and salt, plastic, damp, dry on top 15cm (Sample)	68	6400	9500	220	16-Dec-15
		0-90	436792	4204984	1449	Light grey SILTY CLAY, mixed with volcanic ash and salt, plastic, damp					16-Dec-15
BSV 15-27	C7500	90-105				Same as above (Sample)	70	6000	9600	300	
		0-30	437286	4204914	1449	Light brown SILT AND CLAY, dry					16-Dec-15
		30-90				Light grey SILTY CLAY, mixed with volcanic ash and salt, plastic, damp					
BSV 15-28	C8000	90-120				Same as above (Sample)	70	5900	9400	250	
		0-30	438870	4204690	1447	Brown SANDY SILT, mixed with clay, damp					16-Dec-15
		30-90				Light grey SILTY CLAY, mixed with volcanic ash and salt, plastic, damp, hard to drill, sticky					
BSV 15-29	C9600	90-135				Same as above (Sample)	65	5100	8400	220	
		0-30	439138	4204590	1442	Brown SILT, some sand and clay, damp					16-Dec-15
		30-90				Light grey SILTY CLAY, mixed with volcanic ash and salt, plastic, damp					
BSV 15-30	D1100	90-120				Same as above (Sample)	71	6500	9700	330	
	D1500	0-30	439411	4204299	1439	Brown SILTY CLAY, plastic, damp					16-Dec-15

Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation	Description	Assays				Date
BSV 15-31		30-90				Light grey SILTY CLAY, mixed with volcanic ash (bentonite and hectorite) and salt, plastic, damp, sticky (Sample)	64	6500	9800	230	
	D2000	0-90	439756	4203935	1444	Brown SILTY SAND, fine to medium grained, trace gravel, dry					16-Dec-15
		90-120				Light brown to grey SILTY SAND, fine to medium grained, dry					
BSV 15-32		120-150				Same as above (Sample)	15	2300	3000	69	
	D2500	0-90	440098	4203571	1449	Brown SILTY SAND, some gravel and clay, damp, dry on top 30cm					16-Dec-15
BSV 15-33		90-120				Same as above (Sample)	61	5400	8700	190	
BSV 15-34	D3000	0-90	440441	4203208	1452	Brown SILTY SAND, fine to medium grained, some gravel and clay, damp (Sample)	26	2900	5300	82	16-Dec-15
BSV 15-35	E5600	0-90	437649	4203447	1443	Brown SILTY SAND, some clay, trace gravel, damp (Sample)	92	7600	11000	350	16-Dec-15
	E5400	0-90	437496	4203319	1443	Light brown to light grey SILT, some sand, clay and gravel, damp					16-Dec-15
BSV 15-36		90-150				Light grey SILTY CLAY, mixed with volcanic ash (B&H) and salt, plastic, damp, sticky (Sample)	79	6700	9700	230	
BSV 15-37		E4800	0-90	437035	4202934	1443	Light brown to light grey SILT, some sand, clay and gravel, damp (Sample)	83	6700	9700	160
BSV 15-01W		F6000	441240	4206073	1440	Ice water sample, brown with sediments (preserved immediately)	0.65	47	79	2	15-Dec-15
BSV 15-02W			435394	4195308	1524	Water well sample, WT TOC 17 feet, ground 14 feet, water has some sediments, hair and murky (preserved immediately)	ND	27	4	0.51	17-Dec-15

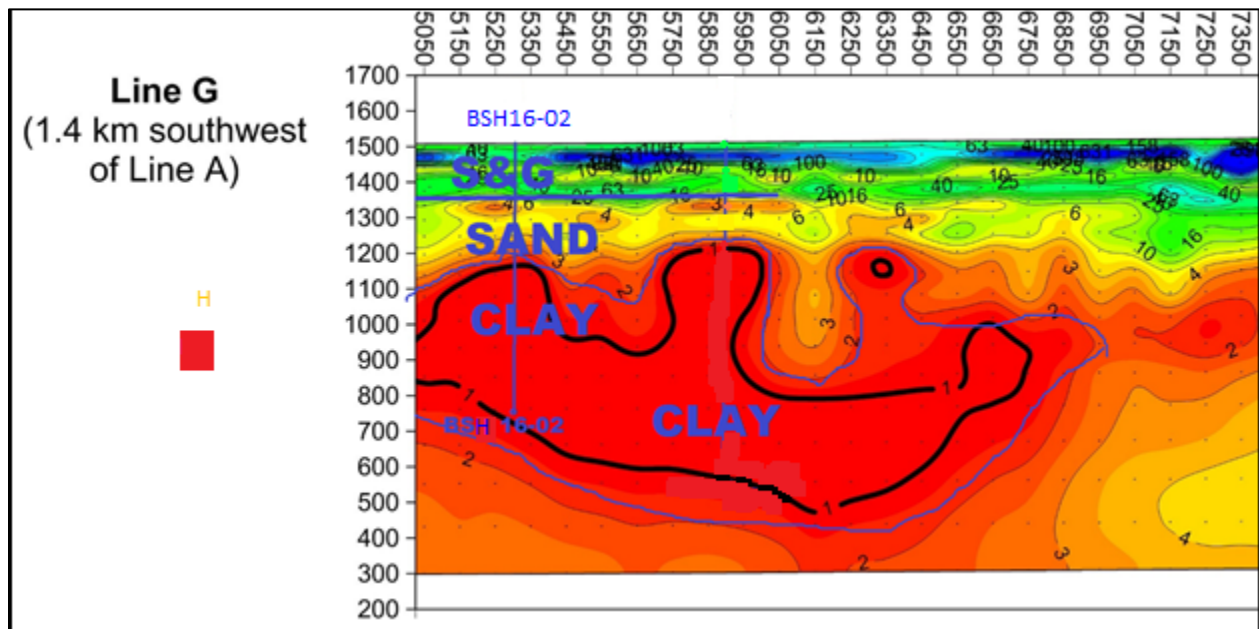
Sample ID	Station ID	Depth	Coordinates NAD 1983		Elevation	Description	Assays				Date
BSV 15-03W			443303	4208375	1443	Ice water sample, brown with sediments (preserved immediately)	0.73	58	92	3.8	17-Dec-15
BSV 15-04W			443326	4208371	1443	Ice water sample, brown with sediments (preserved immediately)	0.55	46	68	4.9	17-Dec-15
BSV 15-05W			443379	4208273	1444		0.64	52	78	4	17-Dec-15

### 6.2.3 Drilling

In the early 2016, Ultra Lithium Inc. applied for drilling permit for three drill holes to the Bureau of Land Management (BLM) and received notice-of-intent exploration work permit to conduct Phase 1 exploratory drilling. However, only two bore holes totalling 853m (2800ft) have been drilled within ULI property. One of these holes (BSH16-02) is within the boundaries of United Lithium property. This bore hole was 549m (1800ft) deep and was continuously cored, in order to collect samples for lithium determination. The drilling started on July 12, 2016 and completed on July 22, 2016. The core was HQ size [96mm (3.78 inch) inside, 63.5mm (2.5inch) outside] and the drilling was conducted by Harris Exploration Drilling. ULI geologist logged the core and core log is presented in **Table-5**.

Based on the (CSAMT) geophysical survey data from four lines in the United property, it appears that the lowest and deepest resistivities occur in the vicinity of Line G, centered approximately at station 6100, though the entire region from station 5050 to 6700 shows very low resistivities. As a result of this interpretation, BSH16-2 was drilled near station 5300 (GPS Coordinates 043373E, 4196825N) along CSAMT geophysical survey line G (Fig. 6).

Figure 16: A cross section based on BSH16-02 log and geophysical survey interpretation



The following are the highlights of the data collected from drill hole BSH16-02:

- Upper 471 ft (143.56m) consist of brown coarse sand and gravel which is loosely to moderately compact and include some volcanic material (bentonite) and alluvial fan material.

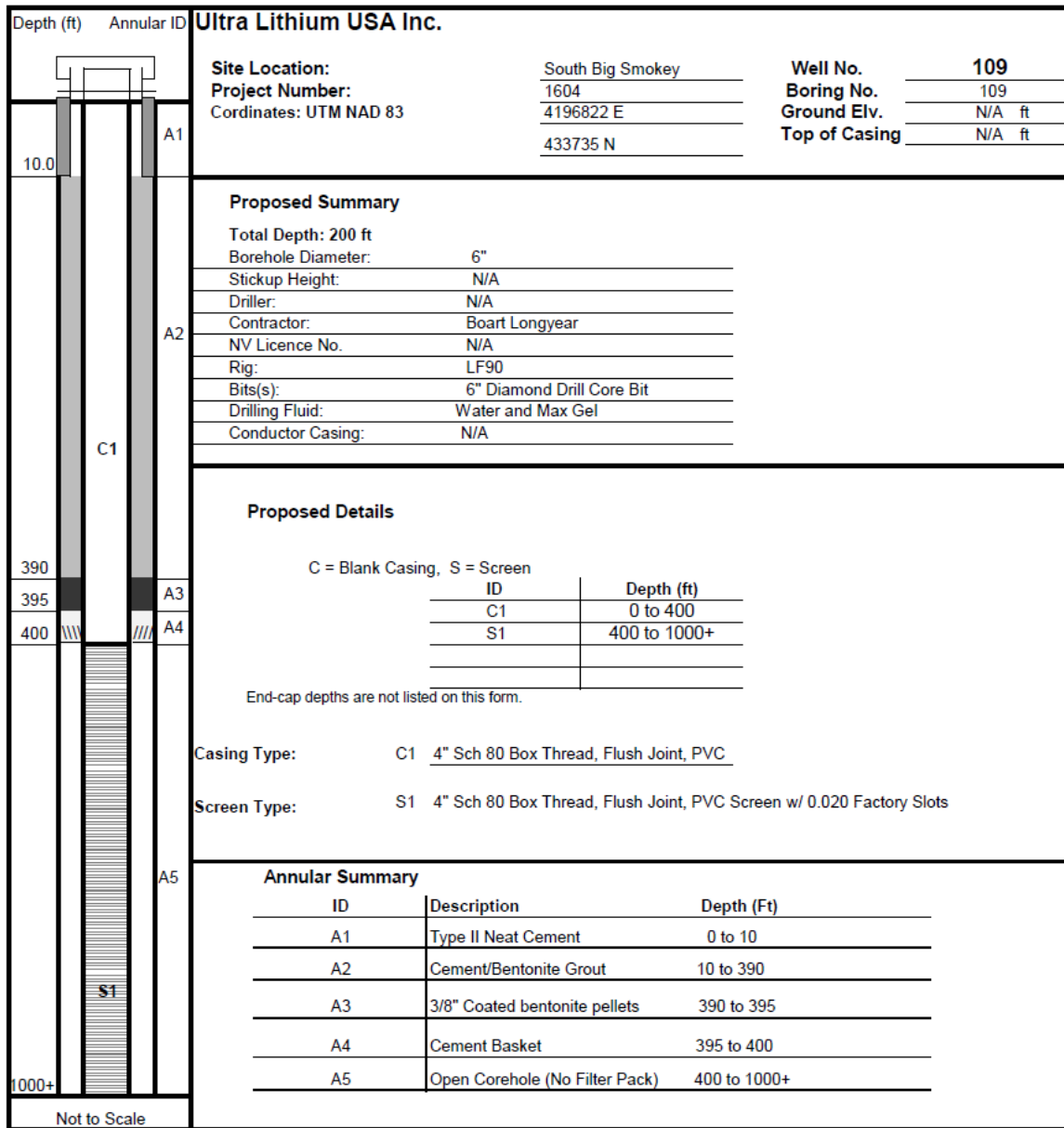
- Sequence from 471ft (143.56m) to 1100 ft (335.28m) comprises greenish grey, medium to coarse grained sand which represent Big Smoky valley sediments. They are interlayered with greenish grey silty clay, volcanic, some gravel and heavy mineral layers. Clays dominate in the lower part of this sequence.
- Lower 700ft (213.36m) of strata include greenish grey to brownish silty clay. These clays are volcanic in nature, with bentonite and tuff interlayered. As shown on Figure 14, the low resistive unit interpreted by CSAMT geophysical survey is dense clay which filled the valley and has relatively higher conductivity due to the fact that it has up to 10,000 ppm potassium, 12,000 ppm magnesium, 270 ppm lithium and 300 ppm boron. The clays in general have higher background conductivity than sands. These clays can release lithium to the surrounding water bearing zones if present.
- Based on this lithology, a water monitoring well is constructed down to 1100 feet below surface with bottom 600 feet of well screen to intercept fluids from the middle greenish grey sand zone.
- Results of water sampling

Eighteen core samples were collected for analytical work. The results of these core samples from the hole BSH16-02 indicate maximum values for lithium 200 parts per million (ppm), boron 420 ppm, potassium 8,200 ppm, and magnesium 8,200 ppm; whereas the average lithium concentration in all core samples is 61 ppm, boron 77 ppm, potassium 4,463 ppm, and magnesium 4,016 ppm. These samples were taken at various depth intervals down to 1,800 feet (305 meters) below ground surface. Groundwater sampling from this well carried out in October 2016 indicated lithium values of 1.13 ppm or less. Total exploration expenditures for this drill hole were CAD \$293,404 paid by Ultra Lithium Inc. The lithology and results are presented in Table-5 and groundwater sample results in table 6.



Photo 2: Drilling work in progress

Figure 17: Monitoring well details at BSV 16-02



**Table 5: BSH16-02 Core Description and Assay Results**

<b>Drill Hole BSH16-02</b>										
<b>Logged by</b>		<b>Afzal Pirzadah</b>		<b>Total Depth-1800 feet Started-July12, 2016 Completed-July-22, 2016</b>				<b>Soil Sample Results</b>		
<b>Depth From</b>	<b>Depth To</b>	<b>Total</b>	<b>Core</b>	<b>% Core</b>	<b>Lithology</b>	<b>Soil Sample ID</b>	<b>Li</b>	<b>K</b>	<b>B</b>	<b>Mg</b>
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
0	5.1	5.1	2	39	0-3 feet - Grey and brown COBBLES of mixed origin, up to 3 cm large; 3-5.1 feet - Brown SILTY SAND AND GRAVEL, coarse grained, dry					
5.1	10.6	5.5	5.5	100	Brown SAND AND GRAVEL, coarse grained, some gravel >2 cm					
10.6	16	5.4	3.3	61	Same as above, more gravelly					
16	19.5	3.5	2	57	Same as above					
19.5	24.5	5	5.5	110	19.5-20 feet: Coarse brown GRAVEL; 20-21.5: Brown SILTY CLAY, dry; 21.5-24.5: brown SILTY SAND, some gravel					
24.5	30	5.5	5.5	100	Light brown SILTY SAND & GRAVEL, mixed with bentonitic volcanic matter, (tuff)	BSH16-02-30'S	29	3100	36	3900
30	34.5	4.5	3.5	78	Brown SAND AND GRAVEL, coarse grained, black organic matter at places					
34.5	40	5.5	5.5	100	Same as above					
40	45.5	5.5	5.5	100	Same as above					
45.5	51	5.5	4.5	82	Brown SAND AND GRAVEL, coarse grained, cobble size gravel					



Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
51	56.5	5.5	0.5	9	Brown GRAVEL, up to 3 cm thick, mixed igneous and sedimentary origin, some reworked coarse sandy material also present					
56.5	58	1.5	0	0	No core					
58	60.9	2.9	2.6	90	Brown SAND AND GRAVEL, coarse grained sand, more gravelly at the base, limestone, chert					
60.9	65.1	4.2	4.5	107	Brown SAND AND GRAVEL, some green and black shaly and pink volcanic matter, gravel is of mm size					
65.1	68.1	3	1.1	37	Same as above					
68.1	73	4.9	4.9	100	Brown SAND AND GRAVEL, coarse, loose, mixed with brown clay and white volcanic matter which is light weight, gravel is mm size					
73	78	5	5	100	Same as above					
78	83	5	4.1	82	Brown GRAVEL, mm size, some coarse sand, clay matrix at places, some gravel up to 1 cm					
83	87	4	4	100	Brown SAND, coarse grained, gravelly, quartzitic, rounded to subrounded grains of quartz, rock fragments are angular, some volcanic matter					
87	92.5	5.5	0.5	9	Brown GRAVEL, some coarse sand, gravel mm to 1 cm size					
92.5	93	0.5	1	200	Same as above					
93	94.5	1.5	1	67	Brown GRAVEL, mixed with clay					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
94.5	99.3	4.8	4.8	100	Brown SAND, coarse grained, some gravel, quartzitic, rounded to subrounded grains of quartz, rock fragments are chert, clay, and igneous origin					
99.3	104.6	5.3	5.3	100	Brown SAND, coarse grained, gravelly, quartzitic, angular to sub rounded grains, gravel of mm size					
104	110.1	6.1	4.8	79	Same as above					
110.1	113	2.9	2.9	100	Brown SILTY CLAY AND GRAVEL, some sand, volcanic matter, gravel of mm size	BSH16-02-113'S	34	4300	20	4900
113	118	5	5	100	Grey SAND, gravelly, coarse grained, quartzitic, loose, subrounded grains, igneous and sedimentary fragments					
118	120	2	0	0	No core					
120	125.5	5.5	5.5	100	Same as above, more gravel than sand, color changes from grey to brown, angular gravel also present					
125.5	131	5.5	4.2	76	Brown CLAYEY GRAVEL, loose					
131	136.5	5.5	5.5	100	Brown SAND AND GRAVEL, up to 2 cm cobbles in a sandy and clayey matrix, loose					
136.5	142.5	6	6	100	Same as above					
142.5	147.5	5	5	100	Same as above					
147.5	152.7	5.2	5.2	100	Same as above, a 6-inch clay layer at 151.5					
152.7	158	5.3	5	94	Brownish grey SAND AND GRAVEL, loose, sand is quartzitic, with rock fragments, rounded to subrounded grains, poorly sorted, fragments of limestone, chert					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
158	160.7	2.7	2.3	85	Same as above					
160.7	166.2	5.5	5.5	100	Same as above					
166.2	171.7	5.5	5.5	100	Same as above, with gravel u to 1 cm, alluvial fan material					
171.7	177.2	5.5	5.5	100	Brownish grey SAND AND GRAVEL, loose, sand is dominant in this part					
177.2	182.7	5.5	5.5	100	Brownish grey SAND AND GRAVEL, loose					
182.7	188.2	5.5	5	91	Same as above					
188.2	193	4.8	3.7	77	Same as above					
193	198	5	5	100	Brown GRAVEL, up to 1 cm, mixed with sand, loose					
198	202.4	4.4	4.4	100	Same as above					
202.4	207.9	5.5	5.5	100	Brown SILTY SAND AND GRAVEL, fine to coarse sand, loose, quartzitic, rock fragments, clay cement, gravel up to 2 cm of mixed origin, reddish					
207.9	213	5.1	5.1	100	Light brown SILICA SAND, fine to medium grained, well sorted, loose, rounded to subrounded grains, 10% rock fragments, some gravel					
213	218	5	5	100	Brown SAND AND GRAVEL, coarse grained, poorly sorted, quartz, rock fragments, feldspar (<5%), gravel is of mixed origin, loose					
218	222.1	4.1	3.3	80	Brown SAND AND GRAVEL, coarse, gravel up to 3 cm, top 6-inch fine grained silica sand					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
222.1	227.5	5.4	5.4	100	Brown SAND ANG GRAVEL, coarse grained, poorly sorted, quartz, rock fragments, feldspar (<5%), gravel <1 cm size, loose					
227.5	230.8	3.3	2.6	79	Brown SAND, coarse grained, poorly sorted, quartzitic, sub angular to subrounded, rock fragments, <5% feldspar, loose, some gravel					
230.8	236.3	5.5	5.5	100	Brown SILTY SAND AND GRAVEL, fine to coarse sand, loose, quartzitic, rock fragments, clay cement, poorly sorted					
236.3	241.8	5.5	1.6	29	Same as above					
241.8	244.3	2.5	2.5	100	Brown SILTY SAND, coarse grained, quartzitic, rock fragments, reddish fragments of potassic feldspar					
244.3	249.1	4.8	1.5	31	Same as above					
249.1	252.7	3.6	3.8	106	Brown SAND, coarse grained, some gravel, quartzitic, poorly sorted, sub angular to subrounded, qtz 40%, rf 40%, cement and accessories 20%	BSH16-02-250'S	24	6000	10	2600
252.7	255	2.3	1.7	74	Same as above					
255	260.5	5.5	5.5	100	Top 2.5 feet: Brown SAND AND GRAVEL, loose; lower 3 feet: Brown SILTY SAND, fine to medium grained, loose to moderately compacted, well to moderately sorted, contains quartz, rock fragments, clay cement					
260.5	266	5.5	4.7	85	Same as above SAND, some gravel					
266	271	5	5.5	110	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
271	273	2	2	100	Brown SAND AND GRAVEL, coarse grained, loose, gravel >1cm at places of mixed origin, some angular gravel, loose					
273	278	5	4.5	90	Same as above					
278	282	4	3.3	83	Same as above					
282	287	5	5.5	110	Brown SILT AND GRAVEL, some portions are more clayey, moderately to well compacted; lower 1.5 feet is medium to coarse SAND, loose, poorly sorted					
287	292.5	5.5	5.5	100	Brownish grey SAND, medium to coarse grained, brownish grey, some gravel up to 1 cm, sand is poorly sorted with quartz, rock fragments, feldspar and accessories with volcanic matter, bentonite					
292.5	297.8	5.3	5.3	100	Same as above					
297.8	301	3.2	3.2	100	Same as above					
301	306.5	5.5	5.5	100	Same as above, with clay mixed					
306.5	312	5.5	5.5	100	Brown SAND, medium to coarse grained, moderately to well sorted, rounded to subrounded grains, quartz 40%, rock fragments 30%, feldspar, calcite cement 30%					
312	317.5	5.5	5.5	100	312-315: Brown SAND AND GRAVEL, coarse grained, a piece of gravel 10 cm thick; 315-317.5: Brown SAND, medium to coarse grained, moderately dense, qtz 40%, rf 30%, cement (silica + clay) 30% with accessories					
317.5	323	5.5	5.5	100	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
323	328	5	5	100	Brown SILTY SAND, some gravel, fine grained, quartzitic, well sorted, rounded to subrounded, clay cement, qtz 50%, rf 30%, cement 20%, some gravel at the bottom 1.5 feet					
328	333	5	4	80	Brown SAND AND GRAVEL, coarse, with volcanic matter (bentonite), and clay mixed					
333	338	5	5	100	Brown SAND, medium to coarse grained, moderately sorted, rounded to subrounded grains, quartz 40%, rock fragments 30%, feldspar, calcite cement 30%, a few heavy mineral layers, loose					
338	343	5	2.5	50	Same as above					
343	348	5	5	100	Same as above	BSH16-02-348'S	23	5100	8.3	2400
348	353	5	4.3	86	Brown to grey SAND AND GRAVEL, coarse grained, with heavy mineral layers					
353	357.7	4.7	5	106	Same as above gravel up to 8 cm thick, some volcanic matter (bentonitic)					
357.7	362.8	5.1	5.1	100	Same as above					
362.8	367.8	5	5	100	Same as above					
367.8	373	5.2	4.8	92	Same as above, a fine-grained silica sand layer 2" thick at 371'					
373	377.9	4.9	5.5	112	Brown SAND, medium to coarse grained, subrounded grains, qtz 40%, rf 40%, cement and accessories 20%					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
377.9	383	5.1	2.2	43	Brown SAND AND GRAVEL, moderately compacted, heavy minerals layers					
383	386.4	3.4	3.4	100	Brown SAND, medium to coarse grained, poorly sorted, sub angular to subrounded grains, qtz 40%, rf 40%, cem, access, fspar 20%					
386.4	389.4	3	2.3	77	Same as above					
389.4	393	3.6	3.6	100	Brown SAND AND GRAVEL, coarse grained sand, moderately compacted, gravel <1cm, volcanic matter, clay at places					
393	397.5	4.5	4.5	100	same as above					
397.5	403	5.5	5.5	100	Brown SAND, medium to coarse grained, moderately compacted, poorly to moderately sorted, subrounded to sub angular grains, qtz 40%, rf 40%, siliceous cement 20%					
403	408	5	5	100	Same as above with bentonite fragments					
408	413	5	5	100	Brown SAND AND GRAVEL, coarse sand					
413	418	5	5	100	Same as above					
418	423	5	5	100	Same as above					
423	428	5	5	100	Brownish grey SAND, coarse grained, moderately compacted, qtz 30%, rf 40%, rest is clay and silica cement and feldspar					
428	433	5	4.1	82	Same as above with heavy mineral layers					
433	436.6	3.6	2	56	Same as above with HM layers and patches, some gravel					
436.6	442.1	5.5	5.5	100	Brown SAND AND GRAVEL, coarse grained, HM layers, and silty clay					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
442.1	447.6	5.5	4.7	85	Same as above					
447.6	453	5.4	3.9	72	Same as above					
453	457.9	4.9	4.6	94	Brownish grey SAND, coarse grained, loose to moderately compacted, qtz 30%, rf 40%, rest is clay and silica cement and feldspar, some gravel	BSH16-02-457'S	25	5000	8.5	2300
457.9	463	5.1	5.1	100	Light brown SAND AND GRAVEL, coarse grained sand, <1cm size gravel					
463	466.2	3.2	3.2	100	Same as above					
466.2	471.2	5	5	100	Same as above					
471.2	476.3	5.1	4.1	80	471.2-471.5: Same as above; 471.5-476.3: Greenish grey SAND, moderately cemented, medium to coarse grained, sub angular, poorly sorted, chlorite, epidote and other green minerals, qtz 40%, rf 40%, cement 20%					
476.3	481.7	5.4	5.4	100	Same as above SAND					
481.7	487.2	5.5	5.5	100	same as above					
487.2	492.5	5.3	5.3	100	Same as above with some gravel up to 1 cm size					
492.5	495	2.5	1.5	60	Greenish grey SAND AND GRAVEL, coarse grained, poorly sorted, sub angular, calcite cement, qtz 40%, rf 40%, rest is cement					
495	500.5	5.5	5.5	100	Same as above					
500.5	505.5	5	4.5	90	Same as above					



Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
505.5	511	5.5	5	91	Greenish grey SAND, medium to coarse grained, poorly sorted, sub angular to subrounded grains, qtz, rf, epidote, chlorite, chert and limestone fragments, calcite and silica cement					
511	514	3	1.8	60	Same as above					
514	518.7	4.7	5.5	117	Same as above					
518.7	523	4.3	4.3	100	same as above					
523	527.8	4.8	3.4	71	Greenish grey SAND AND GRAVEL, coarse grained, poorly sorted, sub angular, calcite cement, qtz 40%, rf 40%, rest is cement					
527.8	532.7	4.9	5.6	114	Greenish grey SAND, medium to coarse grained, poorly sorted, sub angular to subrounded grains, qtz, rf, epidote, chlorite, chert and limestone fragments, calcite and silica cement					
532.7	538	5.3	5	94	Same as above					
538	543	5	3.5	70	Greenish grey SAND AND GRAVEL, mixed with clay at places					
543	548	5	4.5	90	Greenish SAND, fine to coarse grained, moderately sorted, 30% calcite and silica cement, some gravel					
548	552.5	4.5	4	89	Same as above					
552.5	558	5.5	4.5	82	Same as above with silt layers and mixing of clay matrix					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
558	563	5	5	100	same as above	BSH16-02-562'S	30	4000	10	2600
563	568	5	0	0	No core					
568	569.5	1.5	3.2	213	same as above					
569.5	575	5.5	5.5	100	Greenish grey SILTY CLAY, medium plastic, volcanic, bentonitic, sand layers at places					
575	578.5	3.5	3.5	100	Same as above					
578.5	583	4.5	3.5	78	Greenish grey SILTY CLAY AND GRAVEL, tuff, >1 cm size clast at places					
583	586.3	3.3	4.8	145	Same as above					
586.3	590	3.7	0	0	No core					
590	591.5	1.5	4	267	Greenish grey SILTY CLAY, stiff, medium plastic, volcanic					
591.5	597	5.5	5.5	100	Same as above					
597	602.5	5.5	5.5	100	Same as above CLAY					
602.5	608	5.5	5.5	100	602.5-603: Same as above CLAY; 603-608: Greenish grey SILTY SAND, mixed with clay, fine to medium grained, some heavy mineral layers, clay cement, mod sorted, qtz 40%, rf 40%, rest cement					
608	613	5	5	100	Same as above with coarse sand layers, trace gravel					
613	618	5	4.5	90	Same as above					
618	623	5	5	100	Same as above					
623	627.5	4.5	4	89	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
627.5	632.5	5	5	100	Same as above, sample of green silt	BSH16-02-629'S	100	6200	19	5200
632.5	638	5.5	5.5	100	Same as above					
638	643	5	5	100	Brown SILTY CLAY, volcanic, medium plastic, stiff					
643	648	5	5	100	Brownish grey SILTY CLAY AND SAND interlayered, sand is medium to coarse grained, well to moderately sorted, 30% calcite and silica cement, clay is stiff, medium plastic					
648	653	5	5	100	Same as above, turning to greenish grey color					
653	658	5	4	80	Greenish SILTY CLAY, stiff, medium plastic, volcanic					
658	661.8	3.8	4.8	126	Same as above					
661.8	667.3	5.5	5.5	100	Greenish grey SAND, medium to coarse grained, interlayered with green SILTY /CLAY, volcanic					
667.3	672.8	5.5	5.5	100	Same as above					
672.8	678	5.2	5.2	100	Same as above					
678	683	5	5	100	Same as above					
683	688	5	5	100	Same as above					
688	693	5	5	100	Greenish grey SAND, medium to coarse grained, mod sorted, subrounded grains, qtz 30%, rf 40%, felspar <5%, calcite and silica cement 30%					
693	698	5	4.5	90	Greenish grey SAND AND CLAY interlayered, sand is medium to coarse grained					
698	703	5	5	100	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
703	708	5	4.5	90	cement 30%Greenish grey SAND, medium to coarse grained with volcanic and gypsum clast, poorly sorted, angular to sub angular, qtz 30%, feldspar, clay and gypsum 40%,					
708	713	5	5	100	Same as above					
713	718	5	5	100	Same as above but fine to medium grained					
718	723	5	4.5	90	Same as above					
723	728	5	5	100	Greenish grey SILT AND SAND interlayered, silt has gypsum and volcanic clast, sand is medium to coarse grained					
728	733	5	5	100	Greenish grey SILTY CLAY, medium plastic, volcanic, bentonitic, sand layers at places					
733	738	5	5	100	Same as above					
738	743	5	4.5	90	Greenish grey SILT AND SAND interlayered, sand is medium to coarse grained, loose with gravel and gypsum	BSH16-02-740'S	48	3000	13	3700
743	748	5	5	100	Greenish grey SILTY CLAY, volcanic, plastic, damp, some parts are whitish, bentonitic					
748	753	5	5	100	Same as above					
753	758	5	5	100	Same as above with one-foot sand at the bottom					
758	763	5	5	100	Same as above CLAY					
763	768	5	4	80	Greenish grey SILT AND SAND interlayered, sand is fine to medium grained, quartzitic, with clay cement					
768	773	5	5	100	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
773	778	5	4.2	84	Greenish grey SAND mixed with clay, HM layers, poorly sorted, qtz, rf, clay cement and fragments, volcanic matter					
778	783	5	5	100	Same as above					
783	788	5	3	60	Same as above					
788	792.5	4.5	4.5	100	same as above					
792.5	797.5	5	5.6	112	Same as above					
797.5	803	5.5	5.5	100	Same as above with clay layers up to 3" and clast					
803	808.5	5.5	5.5	100	same as above SAND					
808.5	814	5.5	5.5	100	Greenish grey SAND, some gravel of clay and volcanic matter, qtz 30%, rf 30%, feldspar plag 10%, cement 30%, clast up to 1 cm at places					
814	819.5	5.5	4.5	82	same as above					
819.5	824.5	5	4.5	90	Same as above					
824.5	830	5.5	5.1	93	Same as above with clay patches and clast, fine to coarse grained					
830	835.3	5.3	5.6	106	Same as above					
835.3	840.8	5.5	5	91	Same as above					
840.8	846.4	5.6	5.6	100	Same as above					
846.4	852	5.6	4.6	82	Same as above with greenish clay clast	BSH16-02-852'S	56	4500	15	2900
852	857	5	5	100	Greenish grey SAND, fine to medium grained, some clay patches, moderately to well sorted, subrounded grains, qtz 30%, rf 30%, flspr 15%, rest is silica and clay cement					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
857	862.5	5.5	5.5	100	same as above					
862.5	868	5.5	1	18	Same as above					
868	869	1	3.4	340	Same as above with more finer and mixing of clay					
869	874	5	2.8	56	Same as above					
874	877	3	4	133	Same as above					
877	882	5	5.5	110	Greenish grey SAND, fine to coarse grained, mixed with clast <1cm size, green minerals include epidote and chlorite, qtz 30%, rf 30%, fsp 15%, rest clay and siliceous cement					
882	887.5	5.5	5.5	100	Same as above					
887.5	893	5.5	5.5	100	Greenish grey SILTY SAND, fine to medium grained, well sorted					
893	898	5	5	100	Greenish grey SILT, well compacted, medium hard to hard					
898	903	5	4.5	90	Same as above					
903	908	5	4.5	90	Greenish grey SILTY CLAY, medium plastic, volcanic, bentonitic, stiff					
908	913	5	5.5	110	Grey SILTY SAND, interlayered with silt					
913	918	5	5	100	Same as above with clay mixed					
918	923	5	4.5	90	Greenish grey SILT AND CLAY, volcanic, hard, med to low plastic					
923	928	5	5.5	110	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
928	933	5	5	100	Same as above					
933	938	5	5	100	Greenish grey SILTY CLAY, volcanic, medium plastic, stiff, shrinkage cracks on drying					
938	943	5	5	100	Same as above					
943	948	5	5	100	Same as above	BSH16-02-948'S	200	8200	49	8200
948	953	5	5	100	Same as above					
953	958	5	5	100	Same as above					
958	963	5	5	100	Same as above					
963	968	5	5	100	Same as above, silty sand layers at 964'					
968	973	5	3.6	72	Same as above CLAY					
973	978	5	5.5	110	same as above, with a 6" calcareous mudstone layer at 973'					
978	983	5	3.8	76	Greenish grey SILTY SAND, with mixing of clay and clay cement					
983	987.5	4.5	5.5	122	Greenish grey SILT, volcanic, hard to medium hard					
987.5	993	5.5	4	73	Same as above					
993	997	4	5.5	138	Greenish grey SILTY CLAY, medium plastic, volcanic					
997	1002.5	5.5	5.5	100	Same as above					
1002.5	1008	5.5	4.5	82	Same as above					
1008	1013	5	5	100	Greenish grey SAND, fine to medium grained, some clay patches, moderately to well sorted, subrounded grains, qtz					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
					40%, rf 30%, flspr 15%, rest is silica and clay cement, lower part contains clast					
1013	1018	5	5	100	Same as above					
1018	1023	5	5	100	Greenish grey SILTY SAND AND CLAY interlayered					
1023	1028	5	5	100	Same as above					
1028	1033	5	5	100	Same as above					
1033	1038	5	5	100	Same as above					
1038	1043	5	0.5	10	Same as above					
1043	1046	3	5.5	183	Same as above					
1046	1050	4	2.5	63	Greenish grey SILTY CLAY, medium plastic, volcanic					
1050	1051	1	1	100	Same as above					
1051	1054	3	5.2	173	Greenish grey SAND, medium grained, moderately sorted, subrounded, qtz 40%, rf 40%, fls 10%, rest is cement	BSH16-02-1051	32	2500	18	1500
1054	1059.7	5.7	4	70	Same as above with hard calcite bands					
1059.7	1064	4.3	4.8	112	Same as above					
1064	1069.5	5.5	4.8	87	Greenish grey SILT, hard cemented					
1069.5	1075	5.5	5.5	100	Greenish grey SILTY SAND, fine grained, some clast <1cm					
1075	1080.5	5.5	5.5	100	Greenish grey SILT AND SAND, interlayered					
1080.5	1086	5.5	5.5	100	Same as above					
1086	1091	5	2.5	50	Greenish grey SILTY CLAY AND SILT, medium plastic, some clast, tuff					



Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1091	1093.5	2.5	3.5	140	Same as above					
1093.5	1096	2.5	0	0	No core					
1096	1098	2	3	150	Greenish grey SILTY CLAY, with volcanic clast, tuff					
1098	1103	5	3.8	76	Same as above					
1103	1108	5	5.5	110	Same as above					
1108	1113	5	4.5	90	Greenish grey SILT, with volcanic clast, tuff					
1113	1118	5	5	100	Greenish grey SILTY CLAY, volcanic, plastic, a 3" layer of silty sand					
1118	1123	5	4.5	90	Greenish grey SILTY CLAY and SILTY SAND, interlayered, sand is fine to medium grained					
1123	1128	5	1	20	Greenish grey SILTY CLAY, stiff, medium plastic, volcanic, bentonite clast, tuff					
1128	1129.2	1.2	3.7	308	Same as above TUFF					
1129.2	1134.7	5.5	5.5	100	Same as above TUFF					
1134.7	1140.2	5.5	5.5	100	Same as above TUFF					
1140.2	1145.2	5	5	100	Same as above TUFF					
1145.2	1150.8	5.6	4.4	79	Same as above TUFF with abundant bentonitic clast					
1150.8	1156.3	5.5	5.5	100	Same as above TUFF with less bentonitic clast					
1156.3	1161.8	5.5	2.6	47	Greenish grey SILTY CLAY, volcanic, with bentonite specks, medium plastic, stiff					
1161.8	1164.5	2.7	5.2	193	Same as above	BSH16-02-1164'S	130	7400	88	7600

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1164.5	1170	5.5	0.4	7	Same as above					
1170	1171.2	1.2	5.5	458	Same as above					
1171.2	1176.7	5.5	5	91	Same as above					
1176.7	1181.7	5	5	100	Same as above					
1181.7	1186.7	5	5.5	110	Same as above					
1186.7	1192.2	5.5	3.8	69	Same as above					
1192.2	1196.2	4	5.6	140	Same as above					
1196.2	1201.7	5.5	5	91	Same as above					
1201.7	1206.4	4.7	1.3	28	Same as above					
1206.4	1208	1.6	5.5	344	Same as above					
1208	1213.5	5.5	2.5	45	Same as above, with some brownish clay					
1213.5	1216	2.5	3.5	140	Same as above					
1216	1219.5	3.5	4.5	129	Greenish grey SILTY CLAY, volcanic, with bentonite specks, medium plastic, stiff					
1219.5	1224	4.5	1.7	38	Same as above					
1224	1225.7	1.7	5.6	329	Same as above					
1225.7	1231.4	5.7	4.8	84	Brown and green SILTY CLAY interlayered, hard, stiff, medium to low plastic					
1231.4	1236	4.6	5.4	117	Same as above					
1236	1241.5	5.5	5	91	Greenish grey to brownish grey SILTY CLAY, volcanic, with bentonite clast up to 1 cm					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1241.5	1247	5.5	5.5	100	Same as above, with less clast but specks of bentonite					
1247	1252.5	5.5	0	0	No core					
1252.5	1253	0.5	5.5	1100	Same as above					
1253	1258.3	5.3	5.3	100	Same as above					
1258.3	1262.4	4.1	4.1	100	Same as above with bentonite clast					
1262.4	1267.6	5.2	1.6	31	Same as above					
1267.6	1269.3	1.7	5.3	312	Same as above with 4" SILTY SAND having clay matrix					
1269.3	1274.9	5.6	0	0	No core					
1274.9	1275	0.1	5.6	5600	Greenish grey SILTY CLAY, volcanic, with bentonite specks, medium plastic, soft to moderately stiff					
1275	1280.6	5.6	4.9	88	Same as above with bentonite clast					
1280.6	1286	5.4	2.7	50	Same as above with bentonite specks	BSH16-02-1280	51	4100	55	3700
1286	1288.8	2.8	5.3	189	Same as above					
1288.8	1294.7	5.9	1.5	25	Same as above					
1294	1295.7	1.7	5.6	329	Same as above with 3" SAND layer					
1295.7	1301	5.3	5.3	100	Greenish grey SILTY CLAY, volcanic, with bentonite specks, medium plastic, soft to moderately stiff					
1301	1306.7	5.7	5.2	91	Same as above with some clast					
1306.7	1312.2	5.5	5.5	100	Same as above					
1312.2	1317.8	5.6	5.6	100	Same as above					
1317.8	1323.3	5.5	3.5	64	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1323.3	1326	2.7	4.7	174	Same as above					
1326	1331	5	4	80	Same as above					
1331	1335.5	4.5	2.5	56	Same as above more plastic					
1335.5	1340.7	5.2	0	0	No core					
1340.7	1341.7	1	5.5	550	Greenish grey to brownish grey SILTY CLAY, volcanic, with bentonite clast up to 1 cm					
1341.7	1345	3.3	0.9	27	Same as above					
1345	1348	3	5.4	180	Same as above					
1348	1353.5	5.5	5.5	100	Same as above					
1353.5	1359	5.5	5.5	100	Same as above					
1359	1364.5	5.5	5.5	100	Same as above					
1364.5	1370	5.5	5	91	Same as above					
1370	1375	5	5.5	110	Same as above	BSH16-02-1375	34	2300	63	2900
1375	1380.5	5.5	5.5	100	Same as above					
1380.5	1386	5.5	5	91	Same as above					
1386	1391	5	0.5	10	Same as above					
1391	1392	1	4.5	450	Same as above					
1392	1397.7	5.7	5.6	98	Same as above					
1397.7	1403.2	5.5	5.5	100	Same as above					
1403.2	1408.7	5.5	0	0	No core					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1408.7	1410	1.3	3.7	285	Greenish grey to brownish grey SILTY CLAY, volcanic, with bentonite patches and clast up to 1 cm, breaks along tension cracks					
1410	1415	5	1.5	30	Same as above					
1415	1416.7	1.7	4.8	282	Same as above					
1416.7	1422.2	5.5	1.8	33	Same as above					
1422.2	1424.8	2.6	1.9	73	Same as above					
1424.8	1427	2.2	2.2	100	Same as above					
1427	1428.8	1.8	0.5	28	Same as above					
1428.8	1432.4	3.6	5.5	153	Same as above					
1432.4	1437.6	5.2	5.2	100	Greenish grey SILTY CLAY, medium plastic, stiff, volcanic, bentonitic specks, tuff					
1437.6	1442.8	5.2	5.5	106	Same as above, with a 6" bentonite layer, white, soft	BSH16-02-1442'S	68	650	130	1700
1442.8	1448.2	5.4	0.5	9	Greenish grey SILTY CLAY, plastic to medium plastic, volcanic with bentonitic patches					
1448.2	1449	0.8	5.6	700	Same as above					
1449	1454.5	5.5	2.5	45	Same as above					
1454.5	1457	2.5	5.5	220	Same as above, a 4" SITY SAND at the bottom, interstices filled with clay					
1457	1461	4	3	75	Greenish grey SILTY CLAY, medium plastic, volcanic, stiff					
1461	1464.5	3.5	3.5	100	Greenish to brown SILTY CLAY, volcanic, medium plastic, stiff					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1464.5	1468	3.5	4.2	120	Same as above					
1468	1473	5	4	80	Same as above					
1473	1477.5	4.5	5.5	122	Same as above					
1477.5	1482.5	5	5	100	Same as above					
1482.5	1488	5.5	1	18	Same as above					
1488	1491	3	5.5	183	Greenish grey to brown SILTY CLAY, volcanic, plastic to medium plastic, stiff					
1491	1496.5	5.5	5.5	100	Same as above, up to 6" greenish grey SAND layers at 1493 and 1494 feet					
1496.5	1501.5	5	5	100	Greenish grey to brown SILTY CLAY, volcanic, plastic to medium plastic, stiff					
1501.5	1507	5.5	2.2	40	Same as above					
1507	1509.5	2.5	5.6	224	Same as above					
1509.5	1515	5.5	5.5	100	Same as above					
1515	1520.2	5.2	5.2	100	Same as above					
1520.2	1522	1.8	1.8	100	Same as above					
1522	1527.5	5.5	5.2	95	Same as above					
1527.5	1532.6	5.1	5.1	100	Same as above					
1532.6	1537.7	5.1	5.1	100	Same as above					
1537.7	1542.9	5.2	5.2	100	Same as above					
1542.9	1548.1	5.2	5.2	100	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1548.1	1553.1	5	5	100	Brown SILTY CLAY, volcanic, medium plastic, stiff, some greenish clay layers					
1553.1	1558.6	5.5	5.5	100	Same as above					
1558.6	1564.2	5.6	0.9	16	Same as above					
1564.2	1567.4	3.2	5.2	162	Same as above					
1567.4	1571.2	3.8	3	79	Greenish grey SILTY CLAY, volcanic, medium plastic, stiff, shrinkage cracks on drying	BSH16-02-1571'S	42	4000	190	4300
1571.2	1574	2.8	5.5	196	Same as above					
1574	1578	4	4	100	Same as above with brown SILTY CLAY layers					
1578	1583	5	5	100	Brown SILTY CLAY, volcanic, medium plastic, stiff					
1583	1588	5	5	100	Same as above with greenish CLAY layers					
1588	1593	5	5	100	Same as above					
1593	1598	5	4.5	90	Greenish grey to brown SILTY CLAY, volcanic, plastic to medium plastic, stiff					
1598	1603	5	5.5	110	Same as above					
1603	1608	5	5	100	Brown SILTY CLAY, volcanic, medium plastic, stiff, some greenish clay layers					
1608	1613	5	5	100	Same as above					
1613	1618	5	5	100	Same as above					
1618	1622.5	4.5	4.5	100	Same as above					
1622.5	1628.5	6	6	100	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1628.5	1633	4.5	5.5	122	Greenish grey to brown SILTY CLAY, volcanic, plastic to medium plastic, stiff, bentonite clast					
1633	1638	5	5	100	Same as above, with brown Clay layers					
1638	1643	5	5	100	Same as above					
1643	1648	5	4.4	88	Same as above, with 1.5' greenish tuff layer at 1645.5 with bentonite clast	BSH16-02-1647'S	62	4000	240	5500
1648	1653	5	4.5	90	Brown SILTY CLAY, volcanic, medium plastic, stiff, some greenish clay layers, tuff					
1653	1657.5	4.5	5.4	120	Same as above					
1657.5	1663	5.5	5	91	Same as above					
1663	1668	5	5.4	108	Same as above					
1668	1673	5	3.4	68	Same as above					
1673	1676.5	3.5	3.4	97	Same as above, 3" SILT layer at 1667'					
1676.5	1682	5.5	3.2	58	Brown SILTY CLAY, volcanic, medium plastic, stiff, some greenish clay layers, tuff					
1682	1684.5	2.5	4.8	192	Same as above					
1684.5	1689.5	5	5.6	112	Brown to dark brown SILTY CLAY, medium plastic to plastic, stiff					
1689.5	1695	5.5	3.8	69	Same as above					
1695	1698.5	3.5	0.7	20	Same as above					
1698.5	1700.2	1.7	5.6	329	Same as above					
1700.2	1701.8	1.6	2.6	163	Same as above					



Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1701.8	1707	5.2	4	77	Same as above					
1707	1711	4	5.2	130	Same as above					
1711	1716.4	5.4	5	93	Brownish to greenish SILTY CLAY, medium plastic, with 3" green SILT layer at 1714', volcanic, bentonite specks					
1716.4	1721	4.6	4.6	100	Brownish to greenish SILTY CLAY, medium plastic, volcanic, bentonite specks					
1721	1725.5	4.5	4.9	109	Same as above					
1725.5	1731.1	5.6	5.6	100	Brown to dark brown SILTY CLAY, medium plastic to plastic, stiff					
1731.1	1736.6	5.5	5.5	100	Same as above					
1736.6	1741.9	5.3	5.3	100	Same as above	BSH16-02-1741'S	100	6000	420	6400
1741.9	1747.4	5.5	5.5	100	Same as above					
1747.4	1752	4.6	3.8	83	Greenish to light brown SILTY CLAY, medium plastic, stiff, volcanic with bentonite specks					
1752	1756.5	4.5	4.2	93	Same as above, more brown at bottom					
1756.5	1761.5	5	4.2	84	Brown SILTY CLAY, medium plastic, stiff, volcanic					
1761.5	1767	5.5	5.2	95	Brown to dark brown SILTY CLAY, medium plastic to plastic, stiff					
1767	1772	5	5	100	Same as above					
1772	1777	5	5	100	Same as above					
1777	1782	5	5	100	Same as above					

Depth From	Depth To	Total	Core	% Core	Lithology	Soil Sample ID	Li	K	B	Mg
Feet	Feet	Feet	Feet				ppm	ppm	ppm	ppm
1782	1787	5	5	100	Same as above, top 1.5' dark greyish brown clay with organic matter					
1787	1792.5	5.5	0	0	No core					
1792.5	1793	0.5	5.4	1080	Brown to dark brown SILTY CLAY, medium plastic to plastic, stiff					
1793	1798	5	5	100	same as above					
1798	1800	2	2	100	Same as above					
					<b>END OF HOLE</b>					

**Table 6: Water Sampling Results**

Drill Hole BSH16-02 (October 11-13, 2016 Sampling)

Sample ID	Depth	Lithium (Li)	Boron (B)	Potassium (K)	Magnesium (Mg)
	Feet	mg/L	mg/L	mg/L	mg/L
BSH16-02-F500	500	ND	5.5	140	110
BSH16-02-E700	700	1.13	7.7	58	34
BSH16-02-D900	900	ND	ND	140	92
BSH16-02-C1000	1000	ND	2.5	9.2	30

*Notes:*

*ND - Below labs detection limit*

## **7.0 GEOLOGICAL SETTING AND MINERALIZATION**

### **7.1 Regional Geology**

South Big Smoky Valley area is a typical internally drained valley hemmed in by mountains, low foothills, and broad alluvial fans. The valley is underlain by rocks ranging in age from Cambrian to Pleistocene and include sedimentary, igneous and metamorphic rocks. The sedimentation began early in the Cambrian period and continued in the Carboniferous. Limestone, quartzite, slate, and schist, aggregating several thousand feet in thickness are the oldest rocks found in this region. Since their deposition they have been extensively deformed, eroded, intruded by lavas, and largely covered by igneous bodies and sedimentary deposits. Originally, they probably covered the entire region, but at present they are found over extensive areas only in the Toyabe, Toquima, Silver Peak, and Lone Mountain ranges.

The era of sedimentation was followed by intrusion of magma. Several bodies of granite and associated crystalline rocks occur in this region. Wherever their relations have been determined they are intrusive in the Paleozoic strata and older than the Tertiary eruptive rocks. A large granite mass forms the main part of Lone Mountain, and granite crops out in the ridges farther southwest. No evidence of sedimentary rocks is found in Mesozoic era.

The Tertiary period is characterized by repeated volcanic activity. Eruptive formations of Tertiary age, consisting of rhyolite and minor amounts of basalt and rocks of intermediate composition with associated tuffs and breccia, occur over extensive areas in all the ranges bordering the Big Smoky Valley. They lie at the surface in much of the greater part of the San Antonio and Monte Cristo ranges and the hill country north of the Monte Cristo Range, and in considerable areas in the Silver Peak and Lone Mountain ranges.

Tertiary sedimentary rocks of Esmeralda Formation are developed in the foothill region southwest of Lone Mountain and in the region west and southwest of Blair Junction, but they are widely distributed in the ranges bordering the lower valley and either crop out or lie near the surface over extensive areas in the marginal parts of the lower valley and lone Valley. In some places, there is a sharp structural unconformity between the Tertiary beds and the overlying Quaternary deposits (O. E. Ivieinzer, 1915).

The Quaternary deposits which overly stratified Pleistocene lake deposits, generally comprised of soils of uplands and mountains, soils of valley fills, outwash plains and alluvial fans, soils on alluvial fans and aprons, and playas and soils on flats and basins, as described in US Department of Agriculture report on Soil Survey of Big Smoky Valley (1980).

### **7.2 Local and Property Geology**

The South Big Smoky Valley is located within the Basin and Range Province in southern Nevada. It is a closed-basin that is bounded to the northwest by Monte Cristo Range, the east and

northeast by Lone Mountain, and to the southeast by Weepah Hills and to the south by Red Mountain and the Silver Peak Range. The basement rocks consist of late Neoproterozoic to Ordovician carbonate and clastic rocks which were deposited along the ancient western passive margin of North America. During late Paleozoic and Mesozoic orogenies, the region was shortened and subjected to low-grade metamorphism and granitoids were emplaced at ca. 155 and 85 Ma.

Multiple wetting and drying periods during the Pleistocene resulted in the formation of lacustrine deposits, salt beds, in this part of the Big Smoky Valley and cover majority of the property claims. The following types of soils are described in US Department of Agriculture report on Soil Survey of Big Smoky Valley (1980).

**Soils of Uplands and Mountains:** These soils are formed in residuum and colluvium derived from basalt, andesite, rhyolite, and volcanic ash. The surface layer is gravelly and cobbly and is medium textured and moderately coarse textured. The soils are well drained, shallow and moderately deep, exposed mostly at the margins of the property claims, and the southwestern claim block.

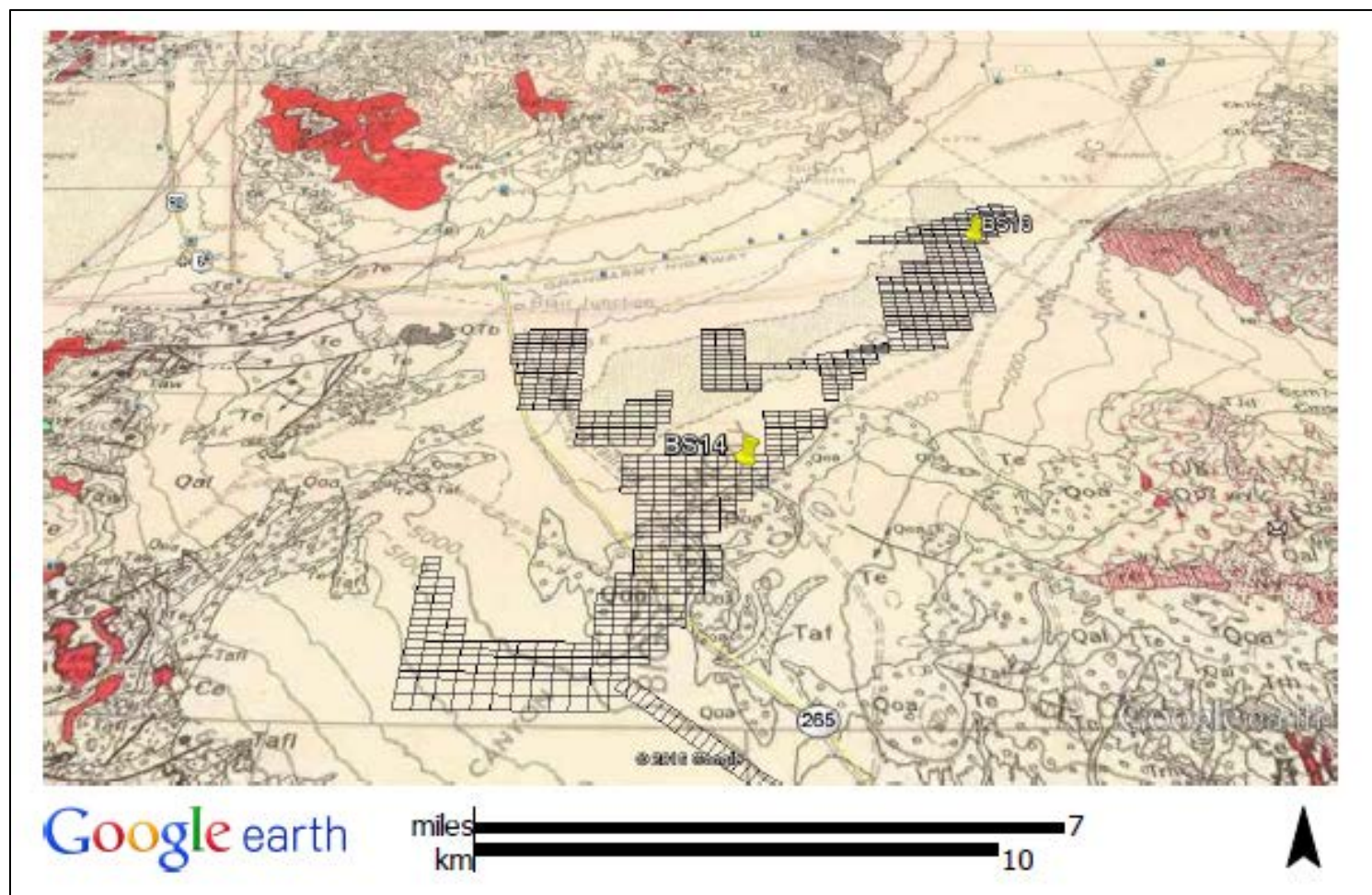
**Soils of Valley Fills, Outwash Plains and Alluvial Fans:** These soils formed in alluvium mainly derived from volcanic rocks such as basalt, rhyolite, tuffs and latite and admixtures of limestone and shale. The surface layer is gravelly and coarse, moderately coarse, or medium in texture. The soils are well drained to excessively drained.

**Soils on Alluvial Fans and Aprons:** These soils formed in alluvium mainly derived from volcanics such as basalt, rhyolite, tuffs and andesite, and from limestone and granitic rocks. The surface layer is generally coarse textured or moderately coarse textured. The soils are excessively drained, somewhat excessively drained, and well drained.

**Playas and Soils on Flats and Basins:** The soils formed in silty lacustrine sediment derived from mixed rock sources. The surface layer is generally medium textured, moderately fine textured or fine textured. These soils are somewhat poorly drained to poorly drained and have desirable character for potential development of brines and accumulation of lithium.

The Late Miocene to Pliocene tuffaceous lacustrine facies of the Esmeralda Formation are documented to contain up to 1,300 ppm lithium and an average of 100 ppm lithium. 2015 surface sampling by Ultra Lithium indicated up to 100 ppm lithium in lake sediments which represent soils of Playas on Flats and Basins.

Figure 18: Geological Map of the ULI Property Area



Legend: Taf – Lava flows and ash flows, Te – Esmeralda Formation, Qal – Desert wash alluvium and colluvium, Qoa – Older alluvium chiefly gravel, Tafl – Non-welded ash flows



Photo 3: Soil profile showing volcanic ash layer at geophysical Line A



Photo 4: Concentration of salt on soil surface



Photo 5: Looking east – outcrop of Esmeralda Formation sediments

### **7.3 Mineralization**

The fine-grained lake sediments in the centre of the South Big Smoky Valley have anomalous values of lithium. Surface and shallow subsurface water samples collected during 2015 fieldwork season did not show anomalous values of lithium.

### **7.4 Hydrogeology**

Hydrogeological observations during 2015 and the present fieldwork indicate that the property area which is a part of the South Big Smoky Valley (BSV), is an enclosed basin which receives water recharge from the surrounding ranges. The rocks on the southeastern part of BSV were observed to be dipping inwards towards the basin, whereas the overall slope of the basin is to the southwest. Traverses along geophysical survey lines indicated subsurface sediments were generally composed of silty clay, silty sand and gravel. The amount of volcanogenic material and salt varies from place to place, however was generally observed in most of the claims held by Ultra Lithium. At several locations, the top portion of sediments was covered by pebbles of broken rocks of surrounding outcrops. The Central part of the Property represents a light grey fine silty clay unit mixed with volcanic ash material which has a puffy appearance due to water action on its soil surface.

The Lithium brine at Clayton Valley is documented to be formed from a complex process of evaporation, mixing, halite and hectorite dissolution, precipitation and ion-exchange/absorption. Mixing of salts and volcanic material is observed within the central part of the South Big Smoky Valley and on the Property indicating a favorable setting for the accumulation of lithium. Numerous sand dunes were observed in the northeastern claim area near geophysical lines E (station 10000) and F (between station 5000 and 6000).

Within the Clayton Valley including the Silver Peak brine lithium project area a display of distinct layers of white to light grey colored volcanic ash beds can be observed. These ash beds can be seen to continue to the north, towards the South Big Smoky Valley. Similarity of the presence of volcanic ash is of note for both valleys. Of contrast, outcrops of rhyolite, observed in Clayton valley are not very prominent in the Big Smoky Valley.

## **8.0 DEPOSIT TYPES**

### **8.1 Lithium Deposit Types**

Lithium does not occur as the free metal in nature because of its high reactivity and is extracted from the following three types of sources:

- Brines
- Pegmatites
- Sedimentary rocks

World-wide lithium resources are estimated to be 39 million metric tons (MT). Continental brines and pegmatites (or hard-rock ore) are the major sources for commercial lithium production. Generally, lithium extraction from brine sources has proven more economical than production from hard-rock ore. While hard-rock lithium production once dominated the market, most of lithium carbonate is now produced from continental brines in Latin America, primarily due to the lower cost of production.

#### **8.1.1 Brine Deposits**

Brine deposits represent about 66 percent of global lithium resources and are found mainly in the salt flats of Chile, Argentina, China and Tibet. The second half of the 20th century saw a dramatic shift in lithium carbonate (and some lithium chloride) production from the usual pegmatite sources to brines. Today, all lithium carbonate, which is the basis of various downstream lithium chemicals, comes from the brines of the Salar de Atacama, Chile, and Clayton Valley, Nevada (United States). Lithium chloride is also produced from the Salar del Hombre Muerto, Argentina. Various other salars and playas such as those of China, Bolivia, Argentina, and Tibet are being evaluated for future lithium chemical production. The industry was once dominated by two major U.S. producers, until a third producer from Chile started production of various salts, including lithium carbonate. This shift in sources led to the shutdown of both U.S. pegmatite operations. Australia, Canada, and Zimbabwe have continued to supply lithium mineral concentrates for the ceramic and glass industry and other applications. Minor producers in Brazil, Portugal, Russia, and the People's Republic of China mine various lithium minerals. One new U.S. supplier of lithium chemicals came on stream using the depleted lithium hydroxide government stockpile (Kunasz 2004).

#### **8.2.2 Pegmatites Deposits**

Pegmatite is coarse-grained intrusive igneous rock formed from slow cooling of magma below the earth crust and contain large crystals. It can contain extractable amounts of a number of elements, including lithium, tin, niobium and tantalum. Lithium in pegmatites is most commonly found in the mineral spodumene, but also may be present in petalite, lepidolite, amblygonite and eucryptite. This form of deposit accounts for 26 percent of known global lithium resources.



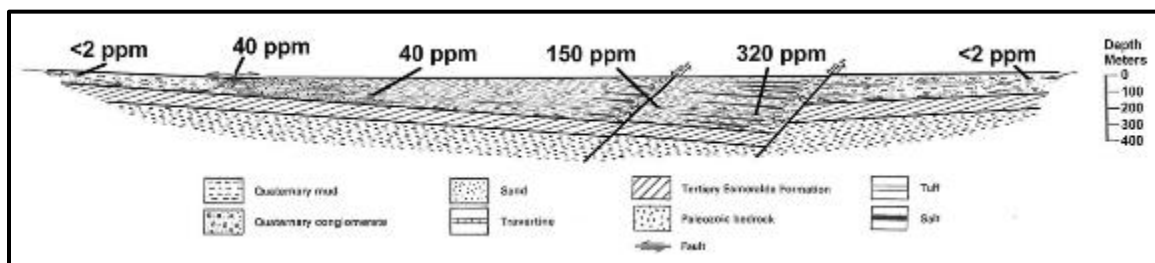
### 8.2.3 Sedimentary rock deposits

Sedimentary rock deposits represent 8 percent of known global lithium resources and are found in clay deposits and lacustrine evaporites. In clay deposits, lithium is found in hectorite, which is rich in both magnesium and lithium. The most commonly-known form of lithium-containing lacustrine deposit is found in the Jadar Valley in Serbia for which the lithium- and boron-bearing element jadarite is named.

### 8.3 Deposit Models

There are three types of brine deposit — continental, geothermal and oil field. The continental saline desert basins (also known as salt lakes, salt flats or salars) is the most common type. They occur near tertiary or recent volcanoes and are made up of sand, minerals with brine and saline water with high concentrations of dissolved salts. A playa is a brine deposit whose surface is composed mostly of silts and clays; they have less salt than a salar. South Big Smoky Valley brine lithium property also falls in playa type brine deposit model. It shares geological similarities with Clayton Valley which is the only lithium producing brine operation in North America. The Li brine at Clayton Valley is documented to be formed from a complex process of evaporation, mixing, and halite and hectorite dissolution, precipitation and ion-exchange/sorption. The Li-rich brines are currently being produced from six different aquifers in the playa as shown in the following Figure (Munk 2011).

Figure 19- Generalized cross section of nearby Clayton Valley, after Davis (1986) (Indicating that lithium concentrations (in ppm) increase against faults forming structural traps)



All producing lithium brine deposits share a number of first-order characteristics: (1) arid climate; (2) closed basin containing a playa or salar; (3) tectonically driven subsidence; (4) associated igneous or geothermal activity; (5) suitable lithium source-rocks; (6) one or more adequate aquifers; and (7) sufficient time to concentrate a brine. Key aspects of the proposed lithium-brine deposit model are shown in Figure 19. In essence, lithium is liberated by weathering or derived from hydrothermal fluids from a variety of rock sources within a closed basin. Circumstantial evidence from Clayton Valley suggests that felsic vitric tuffs are a particularly favorable primary source. Another potentially important lithium source in Clayton Valley is uplifted Neogene lake beds from earlier in the basin's history, which had previously been hydrothermally altered to hectorite. Lithium is highly soluble and, unlike sodium (Na), potassium (K), or calcium (Ca), does

not readily produce evaporite minerals when concentrated by evaporation. Instead it ends up in residual brines in the shallow subsurface. Economic brines have Li concentrations in the range of 200 to 4,000 milligrams per liter (mg/l). Other elements in solution, such as boron and potassium, may be recovered as byproducts or coproducts; brines can also contain undesirable elements that create problems in processing (magnesium) or toxic elements that require care in waste disposal (Bradley 2013).

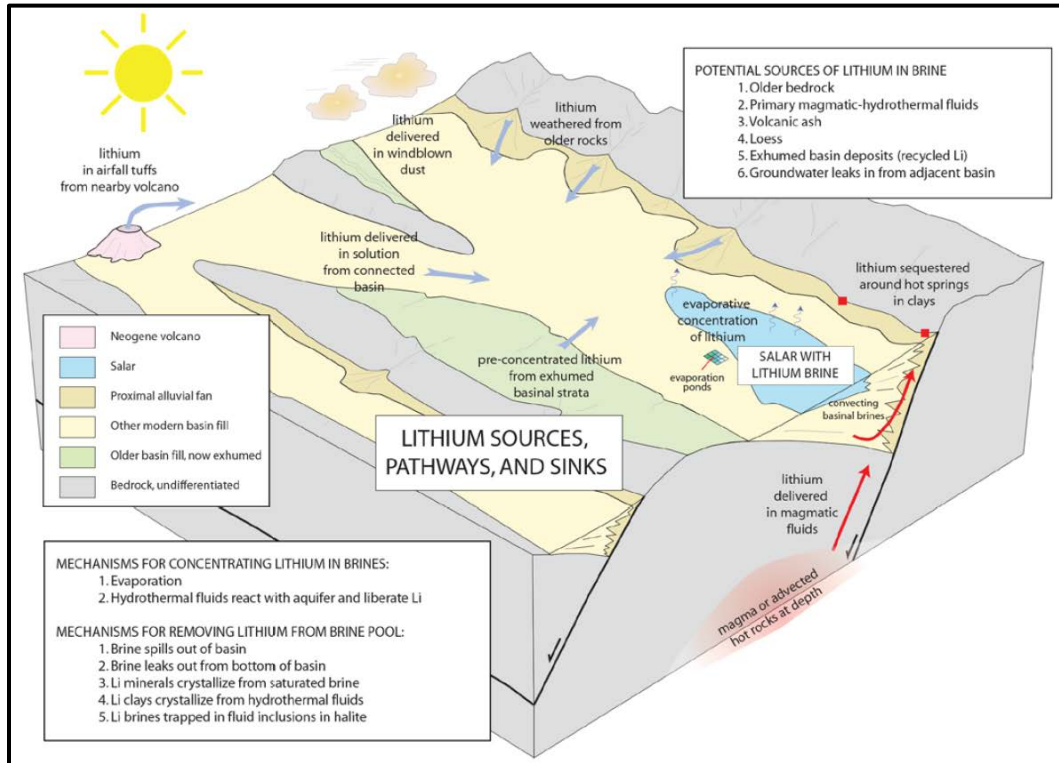
The single most important factor determining if a non-marine basin can accumulate lithium brine is whether or not the basin is closed. Closed basins *form* because of tectonics but they are *maintained* only where, over longer time-spans, evaporation exceeds precipitation. If the long-term rate of precipitation in a basin increases sufficiently, eventually lake water will overtop some point along the drainage divide and drain away, carrying with it any dissolved lithium.

Active faulting appears to be involved in all lithium basins. Fault-related subsidence creates accommodation space, without which only a thin veneer of basin sediments could accumulate. A thick basin fill is needed to provide an aquifer of sufficient volume to hold a viable brine resource. In contrast, shallow, superficial basins in cratonic regions such as the Sahara Desert lack fault control and are not known to be prospective for lithium brines. Some basins are cut by active intrabasinal faults. Brine pools in Clayton Valley and Salar de Atacama are localized along active intrabasinal faults that control the distribution of aquifers and also influence groundwater movement patterns. These intrabasinal faults are known from boreholes and have no surface expression (Bradley et.al., 2013).

Because they are contained by aquifers of various geometries, lithium brines are localized in the subsurface rather than being present everywhere at depth. At Salar de Atacama, the brine is hosted in the porous, upper 30 meters of the salar's halite nucleus. Little is known about the potential of brine aquifers at depth in Salar de Atacama. At Clayton Valley, brines are pumped from six gently dipping aquifers that are variously composed of ash, fanglomerate, tufa, and halite (Bradley et.al., 2013).

Figure 20: Schematic deposit model for lithium brines

Showing part of a closed-basin system consisting of interconnected sub-basins. The sub-basin containing the salar is the lowest (McNutt and Salazar 2013)



## **9.0 EXPLORATION**

United Lithium Corp. has not done any exploration work on the Property.

## **10.0 DRILLING**

No drilling was done on the Property by United Lithium Corp.

## **11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY**

The samples for this study were shipped directly by the author to Western Environmental Testing Laboratory in Sparks, Nevada, which is an US EPA accredited laboratory. The samples were analyzed for lithium, potassium, boron, and magnesium using Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846), Third Edition. The soil and water samples from Ultra Lithium's exploration work of 2015-16 were also prepared and analyzed from the same laboratory using the above- mentioned methodology.

For the present study, the sample preparation, security and analytical procedures used by the laboratories are considered adequate. No officer, director, employee or associate of United Lithium Corp. or Ultra Lithium Inc. was involved in sample preparation and analysis.

The Western Environmental Testing Laboratory in Sparks, Nevada was used for the samples. Western Environmental Testing Laboratory is a commercial laboratory independent of United Lithium Corp. and has no interest in the United Big Smoky Valley Brine Lithium Property.

Laboratory used its own quality control and quality assurance protocols for sample analysis.

## **12.0 DATA VERIFICATION**

The author visited the Property from May 13-14, 2017. The purpose of the visit was to conduct the geological work, verify the existing data and visit the core storage facility. The data verification included a visit to the United Lithium Property for drill collar verification, examining rock outcrops and lake sediment areas of the Big Smoky Valley, taking geological and hydrogeological observations, observing claim posts and visiting Tonopah core storage facility. The data verification also included an independent re-analysis of sediments and selected core samples.

During the visit of the property, GPS coordinates using NAD 83 datum were recorded for several claim posts to confirm the staking process. (Photo 7 & Photo 8).

The author visited the drill hole (BSH16-02) on the Property (Photo 6), surveyed the casing location and elevation using a GPS, and validated the location of the drill hole.

The drill core for hole BSH16-02 is stored at a locked storage unit located on the Clown Motel property in Tonopah. All core boxes are labelled and properly stored. Drill core handling, logging and sampling were conducted satisfactorily. The author viewed various core sections (Photo 10) and collected four representative samples from selected intervals (Table 8) for analyses.

Two soil/sediment samples were collected in the field from depths of approximately 1ft below surface (Table 7, Photo 9) from different locations.

All samples were under the care and control of the author and are considered representative.

The sample assay results (Table-7 & 8) indicated lithium values in the range of 25 ppm to 130 ppm, boron less than detection limit to 410 ppm, potassium 2400 ppm to 13000 ppm, and magnesium 3400 ppm to 7400 ppm. These results are consistent with 18 core sample results of 2016 from the same drill hole as discussed in Section 6.2.3 of this report.

Overall, the author is of the opinion that the data verification process demonstrated the validity of the data and considers the Smoky Valley database to be valid and of sufficient quality.



Photo 6: Drill Hole BSH16-02 (GPS location 433728E 4196866N)



Photo 7: Ultra Lithium Claim Post on the Property (Location 4334230E, 4198366N)



Photo 8: Ultra Lithium Claim Post on the Property (Location 435439 E, 4197549 N)



Photo 9: Soil/Sediment Sample ULI 17- 01Location (GPS location433728E 4196866N)



Photo 10: Drill Hole BSH16-02 Core (Sample ULI 17-03-Core)



**Table 7: Soil/ sediment samples 2017 description (from United Property)**

Sample ID	Depth	Coordinates NAD 1983		Elevation	Description	Assays				Date
		Easting	Northing			m	Li	K	Mg	
ULI 17-01-Sediment	20-30	433728	4196866	1497	Light brown silty sand, some gravel, dry, loose	32	7500	5500	ND	13-May-17
ULI 17-02-Sediment	15-25	432416	4197359	1312	Yellowish brown, silt, and silty sand, some gravel, dry	36	2400	4700	ND	13-May-17

**Table 8: Core Sample 2017 description (from United Property)**

Sample ID	Drill Hole	From (ft)	To (ft)	Width (ft)	Description	Li (ppm)	K (ppm)	Mg (ppm)	B (ppm)
ULI 17-01-Core	BSH16-02	202	207	5	HQ Core Sample, Light brown, Silty Sand	25	13000	3400	ND
ULI 17-02-Core	BSH16-02	1275	1280	5	HQ Core Sample, Light Grey to Greenish Grey Clay, Slightly Silty	130	7900	7400	130
ULI 17-03-Core	BSH16-02	1464.5	1468	3.5	HQ Core Sample, Brownish Grey Clay, Slightly Silty	97	6600	7200	240
ULI 17-04-Core	BSH16-02	1633	1638	5	HQ Core Sample, Light Grey to Brown Clay with minor Sandy Clay layers, occasional Bentonite Clasts	130	6800	7000	410

## **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

No mineral processing or metallurgical testing was carried out on the Property by United Lithium Corp.

## **14.0 MINERAL RESOURCE ESTIMATES**

No mineral resource estimate was carried out on the Property by United Lithium Corp.

***Item 15 to 22 is not applicable.***

## **23.0 ADJACENT PROPERTIES**

The Property is located in an active mining and mineral exploration region where many operators have been carrying out lithium exploration and/ or development work on adjacent properties. The following information is taken from the publicly available sources which are identified in the text and in Section 27. The writer has not independently verified the information referenced however has no reason to doubt the reliability of the information used. The information relied upon is not necessarily indicative of the mineralization on the South Big Smoky Valley Property, which is the subject of this technical report and was utilized solely to provide background and context material for benefit of the reader.

### **23.1 Silver Peak Mine, Clayton Valley, Nevada**

The Clayton Valley is located in Esmeralda County, Nevada, USA approximately 180 km north of Death Valley, California and is the location of the only lithium brine deposit in production in North America (Fig 20). The Clayton Valley is a closed basin with an area of 1,342 km<sup>2</sup> and a playa surface of 72 km<sup>2</sup>. The basin lies in the eastern rain shadow of the Sierra Nevada and is arid with an annual average precipitation of 13 cm, average evaporation rates of 142 cm/yr and an average temperature of 13°C. The elevation of the valley floor is 1298 m, the lowest of than any of neighboring basins in the region (Munk 2011).

Foote Mineral Company traces its origins to A.E. Foote, who founded the company in 1876 as a purveyor of rare minerals. It became a major producer of lithium chemicals when it acquired the right to mine spodumene at Kings Mountain, North Carolina, in the early 1950s. In the 1960s, Foote pioneered the production of lithium carbonate from brine with the opening of the Silver Peak plant (Clayton Valley). It was acquired by Cyprus Minerals Company, then by Chemetall of Germany and more recently by Rockwood Specialties. Albemarle Corporation purchased the mine as part of its acquisition of Rockwood Lithium in early 2015. The Clayton Valley salt marsh was first investigated during the World War II effort to locate sources of strategic minerals, one of which was potash. The salt marsh area was leased by the American Potash Corp., which let the leases lapse. The leases were picked up by the Leprechaun Mining Company (Clyde Kegel), which conducted some exploration on the subsurface brines and identified lithium in addition to potassium. An agreement was later negotiated with Foote Mineral Company, which developed the brines of the basin as a source of lithium carbonate (Barrett and O'Neill 1970). Clayton Valley, lithium-bearing brines occur in an asymmetric, undrained structural depression filled with Quaternary sediments composed

mainly of clay minerals, including hectorite, volcanic sands, and alluvial gravels, and saline minerals consisting of gypsum and halite (Kunasz 1970). The brine that saturates the sediments is chemically simple. It is a concentrated sodium chloride solution containing subordinate amounts of potassium and minor amounts of magnesium and calcium. The lithium concentration is variable and decreases with pumping; the lithium concentration in the brine varies from 100 to 300 ppm Li. The dominant source of lithium has been a volcanic ash that extends across the basin. Exploration has identified additional aquifers which supply additional volumes of lithium-bearing brine.

An extensive well field supplies the brine into some 4,000 acres of solar evaporation ponds. Over 12 to 18 months, the concentration of the brine increases to 6,000 ppm Lithium solely via solar evaporation. When the lithium chloride reaches an optimum concentration, the liquid is pumped to a recovery plant and treated with soda ash, precipitating lithium carbonate, which is then filtrated out, dried, and shipped. At this time, the Silver Peak mine operation is one of the world's leading producers of lithium hydroxide (Kunasz 2004).

## **23.2 Pure Energy Minerals Ltd.**

Pure Energy Minerals Ltd. is a publicly traded lithium exploration company listed on the TSX Venture Exchange (TSX:PE) with a total lease area of 3,240 ha (8,004 acres) of public land in the southern Clayton Valley, Nevada, USA. The leases are adjacent to Albemarle's Silver Peak Operations where lithium brines are processed in evaporation ponds and used to produce a variety of lithium chemicals. The operation is unique to North America and has been in operation since 1967. Highways and electric power are in place, and local and regional resources are easily accessible.

Rodinia Minerals, Inc., a previous holder of the claims, completed a geophysical survey surrounding the existing lithium operation and identified a deep northeast-southwest structural trough in the southern Clayton Valley. Rodinia drilled 2 dual wall reverse circulation boreholes in the north section of its claims (now Pure Energy claims) in 2009/10 and identified aquifers that contained lithium up to 400 ppm to 488 m (1600 ft) in depth. Rodinia dropped the claims in order to concentrate financial resources on other projects in South America.

Pure Energy completed detailed gravity and seismic reflection surveys during 2014 and 2015 that confirmed a deep structural trough on its claims and identified 19 reflectors from sediment layers that correspond to previously identified Lithium host aquifer horizons. Two exploratory boreholes were completed in the north end of Pure Energy's claims. CV-1 "twinned" the Rodina hole SPD-9, and CV-2 explored new ground further south. Pumping tests completed for 8 hrs. in CV-1 provided positive results of 150 ppm (9.5 L/s pumping rate) and 225 ppm Li.

An Inferred Resource of 816,000 metric tonnes of Lithium Carbonate Equivalent (LCE) has been calculated based on borehole sample chemistry, seismic and gravity interpretations of basin stratigraphy.

Figure 21: Adjacent properties



## 24.0 OTHER RELEVANT DATA AND INFORMATION

### 24.1 Environmental Concerns

The author is not aware of any environmental liabilities related to the Property. The company is bound by the federal and the state laws concerning environmental compliance.

## 25.0 INTERPRETATION AND CONCLUSIONS

The United Big Smoky Valley Brine Lithium Property is located approximately 25 miles (40 kilometres) from Tonopah in Esmeralda County, Nevada, USA. It is about 50 kilometres to the west of Goldfield, the County Seat of Esmeralda County. It consists of 100 placer claims located in Townships 1 (T1N), Range 38 East, in Esmeralda County, Nevada, USA. Each claim is approximately 20 acres with a total property area of 2,000 acres.

This part of the valley is a typical internally drained basin hemmed in by mountains, low foothills, and broad alluvial fans. Limestone, quartzite, slate, and schist, aggregating several thousand feet in thickness and ranging in age from Lower Cambrian to Carboniferous are the oldest rocks found in this region. Since their deposition, they have been extensively deformed, eroded, intruded by lavas, and largely covered by igneous bodies and sedimentary deposits. Originally, they probably covered the entire region, but at present they are found over extensive areas only in the Toyabe,

Toquima, Silver Peak, and Lone Mountain ranges. The Quaternary deposits are generally comprised of the soils of uplands and mountains, soils of valley fills, outwash plains and alluvial fans, soils on alluvial fans and aprons, and playas and soils on flats and basins. The playas soils are somewhat poorly drained and have a desirable character for potential development of brines and accumulation of lithium.

The Late Miocene to Pliocene tuffaceous lacustrine facies of the Esmeralda Formation are documented to contain up to 1,300 ppm lithium and an average of 100 ppm lithium. 2015 surface sampling by Ultra Lithium indicated up to 100 ppm lithium in lake sediments which represent soils of Playas on Flats and Basins.

In 1980, United States Geological Survey carried out an investigation for potential lithium bearing brines in and around Clayton Valley as part of regional study related to lithium supply sources. Big Smoky Valley was also part of this study where two reverse circulatory drill holes (BS13 and BS 14) were drilled just outside the current Property. In BS 13. Bore-hole 14 was abandoned after drilling 215 feet (66 m) into unconsolidated sand and gravel.

Ultra Lithium Inc. carried out ground geophysical survey in 2014, and a soil and water sampling program in 2015. A ground geophysical survey consisted of eight CSAMT survey lines (called Lines A through H) covering 53.8 kilometers of data. Four of these lines (A, B, G, and H) are running in the United Lithium Corp., area. The survey results indicate that, in the area of the southwestern gravity low, the largest area of lowest resistivities is seen on Line G from stations 5050 to 6700; the adjacent lines A and H are also low resistivity, though not as low as on Line G. A very tentative fault or contact near station 6800 on Line G is possible, suggesting a possible target for deep, low resistivity brines near stations 6000 to 6500.

On December 11-18, 2015, a soil and water sampling program completed by Ultra Lithium was designed to follow up on the results of a CSAMT ground geophysical survey, and its purpose was to investigate the presence of lithium in shallow soil and within its groundwater system. A total of 48 soil / sediment samples were collected to cover survey lines A to H. Additionally, five water samples were collected from different areas, of which four were collected from surface water / ice and one from a water well, located on adjacent ground to the Property. The results confirmed the presence of lithium in the South Big Smoky hydrogeological system. Of particular interest is the area contained within geophysical survey lines C, D, E and F. The assay results indicated lithium values in the range of 14 ppm to 100 ppm, boron 2 ppm to 480 ppm, and potassium 1,100 ppm to 7,600 ppm. Generally, lithium, boron and potassium values correspond well with each other, where samples with higher lithium concentrations yield higher values of other two elements.

In May 2016, Ultra Lithium Inc. completed one HQ size core drill hole on the United Property. The hole was drilled down to 1,800 feet (549 metres). The hole was later reamed to a six-inch diameter and a monitoring well was installed to a depth of 1,100 feet. A 3-inch diameter screen was installed at the bottom 600 feet of the hole. The results of 18 drill core samples collected from the hole BSH16-02 indicate average lithium concentration in all core samples was 61 ppm,

boron 77 ppm, potassium 4,463 ppm, and magnesium 4,016 ppm. These samples were taken at various depth intervals down to 1,800 feet (549 meters). Two rounds of groundwater sampling from this well indicated lithium values of 1 ppm or less. Total exploration expenditures for this drill hole were CAD \$293,404 paid by Ultra Lithium Inc.

The author visited the Property from May 13-14, 2017. The geological work performed in order to verify the existing data consisted of soil/sediment sampling using hand shovel, visiting existing drill hole on the Property (BSH16-02), examining rock outcrops and lake sediments of the Big Smoky Valley, taking geological and hydrogeological observations, and observing several claim posts. GPS coordinates using NAD 83 datum were also recorded for sample locations and several claim posts to confirm the staking process. Two soil/sediment samples were collected from depths of approximately one foot below surface. The drill core for hole BSH16-02 is stored at a locked storage unit located on the Clown Motel property in Tonopah. The author viewed various core sections and collected four representative samples from selected intervals. All samples were under the care and control of the author and are considered representative.

Continental brines are the most common type of brine deposits located in saline desert basins (also known as salt lakes, salt flats or salars). They are located near tertiary or recent volcanoes and are made up of sand, minerals with brine and saline water with high concentrations of dissolved salts. A playa is a brine deposit whose surface is composed mostly of silts and clays and have less salt than a salar. The South Big Smoky Valley brine lithium property would be characterized as a playa type brine deposit model. It shares geological similarities with neighboring Clayton Valley.

The Property is located in an active mining and mineral exploration region where many neighboring operators have recently carried out lithium exploration and/ or development work on their adjacent properties. The Silver Peak brine lithium mine on the adjacent Clayton Valley, currently operated by Rockwood is located approximately 15 kilometres to the southeast of the Property. Similarly, Pure Energy Minerals is working on the southern portion of the Clayton Valley, adjacent to the south extent of the Silver Peak mine.

There are some risks associated with the Property as it is still at very early stages of exploration. The data gathered so far, is very limited. The company will need a detailed exploration program to determine any potential lithium resources on the Property.

The Property has a good year-round road access from Tonopah Station through highway 6/95. Highway 265 to Silver Peak branches off from 6/95 and crosses the southwestern extent of the Property. The primary source of water is groundwater and power is available locally.

Based on the favourable geological, hydrogeological and tectonic setting, presence of surface lithium anomalous values, and the results of present study, it is concluded that the Property is a property of merit and possess a good potential for discovery of brine lithium mineralization. It has good road access, most of the exploration and mining services are available in the immediate vicinity. The author is of the opinion that the present study has met its original objectives.

## **26.0 RECOMMENDATIONS**

In the qualified person's opinion, the character of the South Big Smoky Valley Property is sufficient to merit for a follow-up work program. This can be accomplished through a two-phase exploration program, where each phase is contingent upon the results of the previous phase.

### ***Phase 1 – Detailed Soil and Water Sampling, Geophysical Data Integration***

A property wide soil / sediment sampling program is recommended to understand the distribution pattern of lithium across the Property, and to define target areas for further drilling. One more round of water sampling for monitoring well BSV16-02 should be completed to see variations in the water quality over time. Interpretation of drill hole BSH16-02 data and its integration with 2014 CSAMT geophysical survey data is also recommended to enable better understanding hydrogeological characters of this part of the Big Smoky basin, and to plan Phase 2 drill program if warranted. Total cost of Phase 1 work program is CAD \$119,800 and it will take approximately six months' time to complete.

### ***Phase 2 – Detailed Drilling***

Based on the results of Phase 1 program, an additional 5-hole drill program is recommended for the Property. Scope of work, location of drill holes and budget for Phase 2 will be prepared after reviewing the results of Phase 1 program.

**Table 9: Phase 1 Budget**

Item	Unit	Currency	No. Of Units	Rate	Total CAD	TOTAL USD
Fieldwork preparation and organization	day	CAD	4	\$650	\$2,600	\$1,820.00
Fieldwork for sediment sampling	day	CAD	21	\$650	\$13,650	\$9,555.00
Fieldwork for water sampling	day	CAD	8	\$650	\$5,200	\$3,640.00
Field Assistant (2 person crew)	day	CAD	21	\$900	\$18,900	\$13,230.00
Assaying sediment and soil samples	sample	CAD	100	\$100	\$10,000	\$7,000.00
Water samples brine	sample	CAD	10	\$100	\$1,000	\$700.00
Accommodation and Meals	day	CAD	63	\$250	\$15,750	\$11,025.00
Vehicle rental and gas	day	CAD	23	\$200	\$4,600	\$3,220.00
Equipment Rentals	day	CAD	21	\$150	\$3,150	\$2,205.00
Supplies and Rentals	lump sum	CAD	1	\$3,000	\$3,000	\$2,100.00
Traveling to Big Smoky and back	Flight	CAD	2	\$1,000	\$2,000	\$1,400.00
Interpretation of drill logs	day	CAD	8	\$650	\$5,200	\$3,640.00
Geophysical data integration	lump sum	CAD	1	\$15,000	\$15,000	\$10,500.00
GIS and Maps	hrs	CAD	80	\$60	\$4,800	\$3,360.00
Project Management	day	CAD	8	\$650	\$5,200	\$3,640.00
NI 43-101 Technical Report update	day	CAD	15	\$650	\$9,750	\$6,825.00
<b>SUB TOTAL</b>					<b>\$119,800</b>	<b>\$83,860.00</b>



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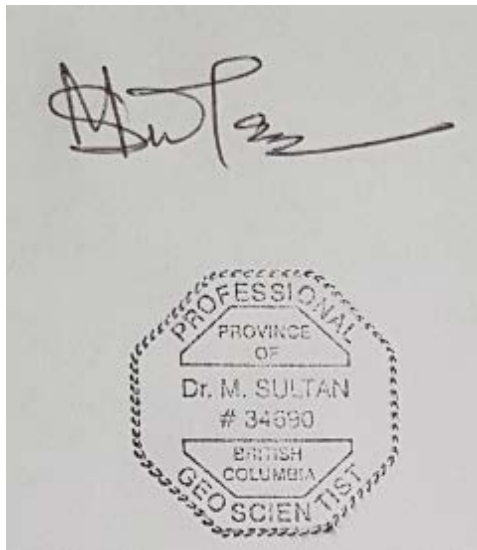
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## 28.0 SIGNATURE PAGE



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Muzaffer Sultan, Ph.D., P. Geo.

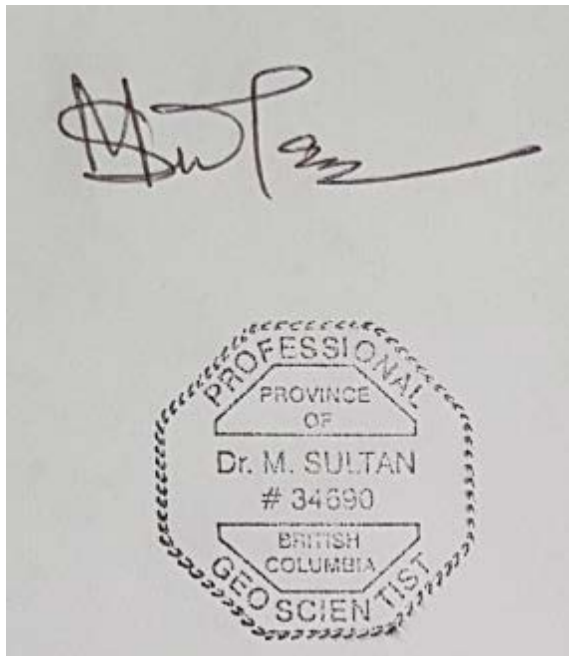
Effective Date: July 30, 2017 Muzaffer Sultan, Ph.D., P. Geo.

## 29.0 CERTIFICATE OF AUTHOR

I, **Muzaffer Sultan P.Geo.**, as an author of this report entitled “Technical Report on the United Big Smoky Valley Brine Lithium Property, Esmeralda County, Nevada, USA”, dated July 30, 2017, do hereby certify that:

- 1) I am an independent consulting geologist
- 2) This certificate applies to the current report entitled “Technical Report on the United Big Smoky Valley Brine Lithium Property, Esmeralda County, Nevada, USA”, dated May 31, 2017
- 3) I have Ph.D. degree from the University of South Carolina, Columbia, USA.
- 4) I am a member (Professional Geoscientist, Licence No. 34690) of the Association of Professional Engineers and Geoscientists of British Columbia.
- 5) I have worked as a geologist for over 43 years since my graduation from university. I have broad experience in mineral exploration and evaluation for base metals, gold, silver, iron and titanium, lithium and rare earths and coal. I also possess 9 years’ experience in oil and gas investigations.
- 6) I certify that by reason of my education, affiliation with a professional association, and past relevant work experience, having written numerous published and private geological reports and technical papers, that I am qualified as a Qualified Person as defined by Canadian *National Instrument 43-101*.
- 7) I visited the property from May 13-14, 2017, and I am the author of the report. To my knowledge, no exploration work has been carried out by United Lithium Corp
- 8) I am responsible for all items of this report.
- 9) I have no interest, direct or indirect in the United Big Smoky Valley Brine Lithium Property, nor do I have any interest in any other properties of United Lithium Corp.
- 10) I am independent of United Lithium Corp., as that term is defined in Section 1.5 of NI 43-101. I do not own any securities of United Lithium Corp.
- 11) I have no prior involvement with the United Big Smoky Valley Brine Lithium Property other than as disclosed in item 7 of this certificate.

- 12) I have read National Instrument 43-101 (“NI43-101”), and the Technical Report has been prepared in compliance with NI43-101, and Form 43-101F1.
- 13) I am not aware of any material fact or material change with respect to the United Lithium Corp.’s Property the omission of which would make this report misleading.
- 14) As at the date of this certificate, to the best of my knowledge, information and belief the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.



Muzaffer Sultan, Ph.D., P. Geo.  
9026 162 St Surrey,  
BC V4N 3L5

Dated: July 30, 2017