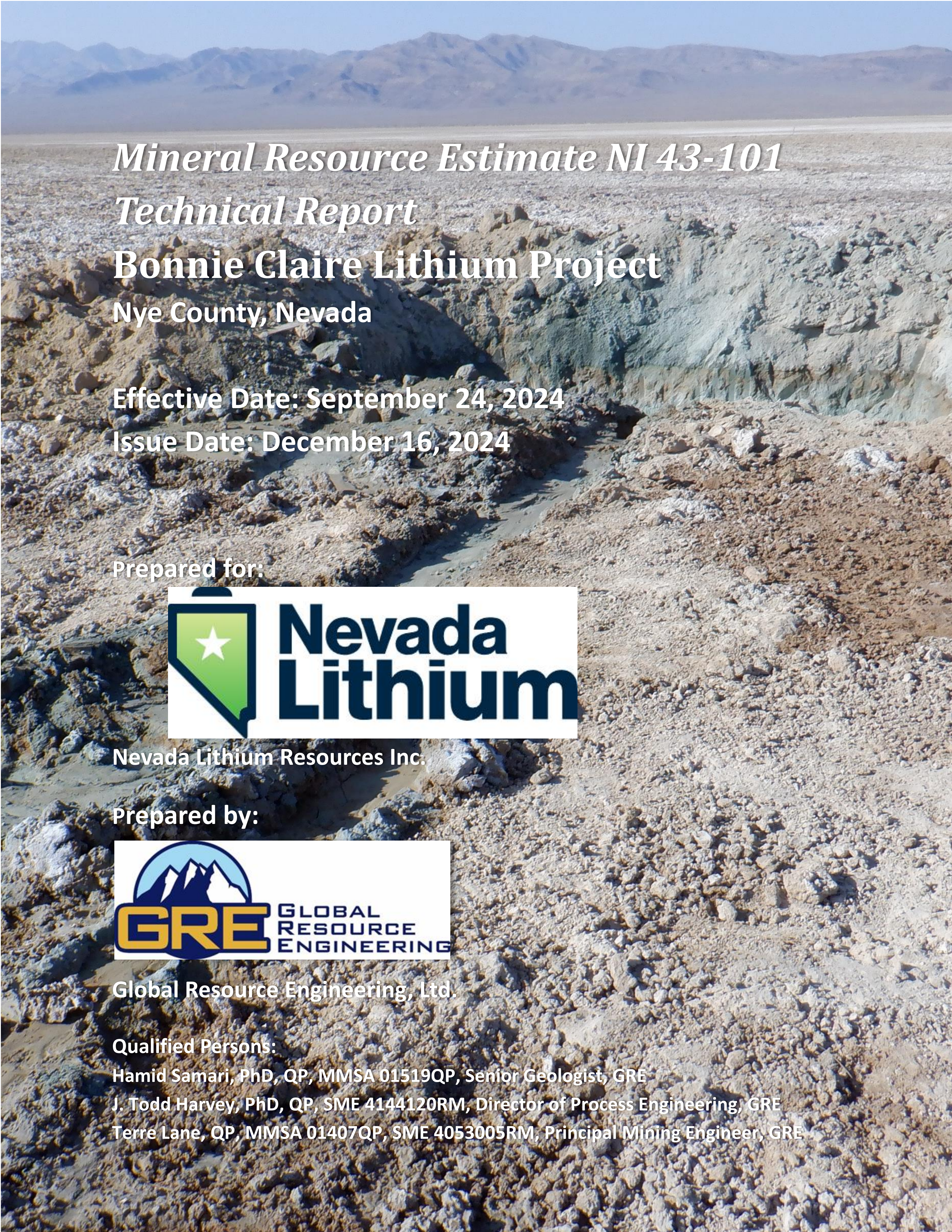

Mineral Resource Estimate NI 43-101 Technical Report

Bonnie Claire Lithium Project

Nye County, Nevada

Effective Date: September 24, 2024

Issue Date: December 16, 2024

Prepared for:

Nevada Lithium Resources Inc.

Prepared by:

Global Resource Engineering, Ltd.

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Date and Signature Page

This Technical Report on the Bonnie Claire Lithium Project is submitted to Nevada Lithium Resources Inc. and is effective September 24, 2024, issued December 16, 2024.

The Qualified Persons and Responsible Report Sections follow:

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PHOTOS

APPENDICES

ABBREVIATIONS AND ACRONYMS

Ωm	ohm-meter
µm	micron
µS/cm	microsiemens per centimeter
ATS	Applied Test Systems
B	boron
BLM	Bureau of Land Management
$CaCO_3$	limestone

$Ca(OH)_2$	hydrated lime
CaSO4	calcium sulfate
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CO_2	carbon dioxide
Company	Nevada Lithium Resources Inc.
cm	centimeter
CPS	counts per second
CRM	Certified Reference Material
DC	direct current
DH	diamond hole
EIS	Environmental Impact Statement
FEC	fluid electrical conductivity
G&A	General & Administrative
g/cm^3	grams per cubic centimeter
g/L	grams per liter
GPS	global positioning system
GRE	Global Resource Engineering Ltd.
H_2SO_4	sulfuric acid
HCL	hydrochloric acid
HNO_3	nitric acid
Hazen	Hazen Research Inc.
HBHM	Hydraulic Borehole Mining
HF	Harper furnace
HRI	Hazen internal tracking number
Iconic	Iconic Minerals Ltd.
ICP-AES	inductively coupled plasma-atomic emission spectroscopy
ICP-MS	inductively coupled plasma-atomic mass spectrometry
ICP-OES	Inductively coupled plasma-optical emission spectroscopy
ID2	inverse distance to the second power
kg	kilogram
kg/t	kilograms per tonne
Kinley	Kinley Exploration
km	kilometer
km^2	square kilometers
Li	lithium
LiCl	lithium chloride
LiOH·H2O	lithium hydroxide monohydrate
Li_2CO_3	lithium carbonate
Li_2O	lithium oxide
Li_2SO_4	lithium sulfate
m^2	square meter
Major Drilling	Major Drilling Group International Inc.
mg	milligram

MH	mud hole
min	minutes
mm	millimeter
MMSA	Mining and Metallurgical Society of America
Mn	manganese
MT	MagnetoTelluric
na	not applicable/not analyzed
NaOH	sodium hydroxide
Na_2CO_3	sodium carbonate
Na_2SO_4	sodium sulfate
nc	not calculated
nd	not detected
ns	not sampled
NEPA	National Environmental Policy Act
Nevada Lithium	Nevada Lithium Resources Inc.
NI	National Instrument
NMR	nuclear magnetic resonance
NSR	net smelter returns
PIR	Primary Impurity Removal
PLS	pregnant leach solution
PoO	Plan of Operations
ppm	parts per million
Project	Bonnie Claire Lithium Project
Property	Bonnie Claire Lithium Project
psig	pounds per square inch gauge
QA/QC	quality assurance/quality control
QP	qualified person
RC	reverse circulation
SG	specific gravity
SIR	Secondary Impurity Removal
SME	Society of Mining, Metallurgy & Exploration
SPR	single point resistance
TD	total depth
TGA-DSC	thermogravimetric analysis with differential scanning calorimetry
USD	U.S. dollars
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VLRL	very low resistivity layer
WSP	wireline straddle-packer
wt%	weight percent
XRD	x-ray diffraction

1.0 SUMMARY

Global Resource Engineering Ltd. (“GRE”) was retained Nevada Lithium Resources Inc. (the “Company” or “Nevada Lithium”) to prepare, in accordance with National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (“NI 43-101”), an updated Mineral Resource Estimate Technical Report for the Bonnie Claire Lithium Project, Nevada (the “Project” or “Property”).

Bonnie Claire is a very large, sediment hosted lithium occurrence situated within the Sarcobatus Flat, which spans approximately 20 kilometers (km) x 8 km in Nye County, southern Nevada. At Bonnie Claire, lithium mineralization is not present in clay minerals but rather is present as lithium compounds (lithium carbonate and lithium salts) deposited within the fine grain clay, silt, and sand pore space. The lithium mineralization extends from surface to depth, with the highest-grade lithium sediment layers occurring one hundred to several hundred meters below the surface. However, above-cutoff mineralization occurs within the basin at surface with a generally increasing trend with depth.

1.1 Location and Property Description

The Project is centered near 497900 meters East, 4114900 meters North, Universal Transverse Mercator (UTM) WGS84, Zone 11 North datum, in Nye County, Nevada. The Project’s location is 201 km (125 miles) northwest of Las Vegas, Nevada. The town of Beatty is 40 km (25 miles) southeast of the Project. The Project lies within T8S, R44E and R45E and T9S, R44E and R45E, Mt. Diablo Meridian. Topographical data of the area was downloaded from United States Geological Survey (USGS) 7.5-minute quadrangles Bonnie Claire, Bonnie Claire NW, Springdale NW, Scotty’s Junction, and Tolicha Peak SW.

The Project is located within the Great Basin physiographic region and, more precisely, within the Walker Lane province of the western Great Basin. The Project is located within a flat-bottomed salt basin, known as the Sarcobatus Flat that is surrounded by a series of mountain ranges. Broad, low passes lead into the basin from the northwest and southeast.

As of the issue date of this report, the Project claim group consists of 915 placer mining claims owned 100% Nevada Lithium. The claims lie within portions of surveyed sections 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, and 36 of T8S, R44E, within portions of surveyed sections 1, 2, 3, 4, 10, 11, 12, 13, 14, 15, 23, and 24 of T9S, R 44E, within portions of surveyed section 31 of T8S R45E, and within portions of surveyed sections 6, 7, 17, and 18 of T9S, R45E, in the southwestern portion of Nye County, Nevada.

The placer claims cover 18,300 acres and provide conic and Nevada Lithium with the mineral rights to sedimentary deposits, which include the rights to any lithium sediment or brines present.

1.2 Accessibility and Climate

The Project can be reached from Las Vegas, Nevada by traveling northwest on US Highway 95, then west on NV-267 and then south to the north portion of the Bonnie Claire Project, approximately 40 km (25 miles) north of Beatty, Nevada (county seat). The Project is easily accessible via US Highway 95, approximately 40 km (25 miles) northwest of Beatty and is situated in close proximity to power lines and regional towns that service the mining industry.

The climate of the region is hot in summer, with average high temperatures around 100 °F (38 °C), and cool in the winter with average daily lows of 15 to 30 °F (-9 to -1 °C).

The terrain at the Project is dominated by Quaternary alluvium and Quaternary Mud Flat. Access on the Property is excellent due to the overall flat terrain and proximity of infrastructure.

1.3 History

The Project area shows no signs of mineral exploration or prior geologic investigations. Geologic maps of southern Nevada from Nevada Bureau of Mines (Stewart, et al., 1977) are the only evidence of prior geologic work performed on site; they show that the area is a generalized salt flat with little distinctive geologic features or mapping detail.

The USGS has reportedly performed investigations of similar mudstones in the Bonnie Claire region, and limited sampling was completed as part of the USGS traverses. The majority of USGS work in the basin was focused on lithium brine investigations. Although in this study no sample was collected from the Bonnie Claire claim group, there are some assay results from auger hole sampling in the region:

- Gold field: 7 parts per million (ppm) lithium (Li) located 40 km northwest from Bonnie Claire
- Stonewall Flat: 65 ppm Li located 45 km north
- Clayton Valley: 300 ppm Li, located 72 km northwest of the Project Site.

There is no indication or documentation of any drilling occurring on the Project prior to Iconic Minerals Ltd's (Iconic's) efforts in 2016.

1.4 Geology and Mineralization

Bonnie Claire is a closed basin near the southwestern margin of the Basin and Range geo-physiographic province of western Nevada. Horst and graben normal faulting is a dominant structural element of the Basin and Range.

Bonnie Claire is the lowest-elevation intermediate size playa-filled valley in a series of similar topographic features. It has a playa floor of about 100 square kilometers (km^2) that receives surface drainage from an area of about 1,300 km^2. The Bonnie Claire basin lies within an extensional graben system between two Quaternary northwest-southeast faults with both normal and strike-slip components. The general structure of the middle part of the Bonnie Claire basin (Claim area) is known from geophysical surveys to be a graben structure with its most down-dropped part on the east-northeast side of the basin along the extension of a few normal faults.

The resulting topography consists of an elongate, flat area of covered quaternary sediments of alluvium and a playa. The alluvial fans in the eastern portions of the Project area are commonly mantled with weathered remnants of rock washed down from the surrounding highlands. The alluvial fans are covered with sporadic shrubs. In most portions of the Project, the playa is completely covered with mud and salt and is frequently referred to as mud flats in this report.

Multiple wetting and drying periods during the Pleistocene resulted in the formation of lacustrine deposits, salt beds, and lithium-bearing brines in the Bonnie Claire basin. Extensive diagenetic alteration of tuffaceous rocks to zeolites and clay minerals has taken place, and anomalously high lithium concentrations accompany the alteration.

Significant lithium concentrations were encountered in the alluvial fans and playa within the Project area. Elevated lithium was encountered at ground surface and to depths of up to 603.5 meters (the deepest depth of reverse circulation [RC] drilling to date). The lithium-bearing sediments occur throughout the multi-layered alluvium. The overall mineralized sedimentary package is laterally and vertically extensive, containing roughly tabular zones of fine-grained sediments grading down to claystone.

The average grade of lithium appears to depend on the host sedimentary layers:

- Sand or sandstone appear to have the lowest grade, averaging about 30 ppm near the surface to 570 ppm at depth
- Silt or siltstone appear to have approximately 135 ppm near surface to 1,270 ppm at depth
- Clay, mud, claystone, or mudstone appear to have 300 ppm near the surface to 2,550 ppm at depth

The lithium at Bonnie Claire is not found in the mineral crystal lattices (e.g. clays) but rather the lithium compounds, like lithium carbonate and lithium salts, are deposited within the fine grain clay, silt, and sand pore space. Although most of the sediment-hosted lithium in the literature occurs in clays, it does not at Bonnie Claire.

1.5 Exploration

Iconic began exploring the Project in 2015. Exploration activities carried out by Iconic included drilling, detailed geologic mapping, surface sampling, and geophysical surveying.

Fritz Geophysics conducted a ground geophysical campaign at the Project in July 2016. The geophysical study included the survey design, survey supervision, and the interpretation of a MagnetoTelluric (MT) survey. The MT data was collected by Zonge Engineering of Reno Nevada on nine east-west lines of various lengths. A total of about 52.2 km of data was collected with a consistent 200-meter receiver dipole. The MT data and inversions suggest a well-developed very low resistivity layer (VLRL) in the subsurface covering approximately 25 km^2 in the southern two-thirds of the Bonnie Claire basin. Based on the MT survey, the VLRL has the characteristics of a possible lithium brine source. However, the MT inversions can only show the distribution of the VLRL; they cannot ascertain the economic value of a lithium resource. To date, no significant concentrations of lithium have been discovered in the brine encountered at depth through drilling.

Surface samples were collected by Iconic geologists in two periods: Samples BC-1 to BC-22 were collected in October 2015 and Samples BG-1 to BG-318 were collected in May and June 2017. In total, Iconic has submitted 330 soil samples for laboratory analysis by 33 element 4-acid inductively-coupled plasma atomic emission spectroscopy (ICP-AES). Analytical results indicate elevated lithium concentrations at ground surface over nearly the full extent of the area sampled. The highest-grade for the BC-1 through BC-22 sampling set came from the central portion of the Property, near the contact between the alluvial fans and the mud flat. The 2017 sample collection was conducted using systematic grid dimensions of 400 meters x 200 meters in the central and southern portions of the Project area. This surface sampling yielded an average lithium grade of 262 ppm Li.

1.6 Deposit Type

The Bonnie Claire lithium deposit appears to be a lacustrine salt deposit hosted in sediments. The Project area as a sedimentary basin, from an environment and geology point of view, is reasonably well represented by the USGS preliminary deposit model, which describes the most readily ascertainable attributes of such deposits as light-colored, ash-rich, lacustrine rocks containing swelling clays, occurring within hydrologically closed basins with some abundance of proximal silicic volcanic rocks. The geometry of the Bonnie Claire deposit is roughly tabular, with the lithium concentrated in gently dipping, locally undulating Quaternary sedimentary strata. The sedimentary units consist of interbedded calcareous, ash-rich mudstones and claystones and tuffaceous mudstone/siltstone and occasional poorly cemented sandstone and siltstone.

From a lithium deposit point of view, Bonnie Claire is interpreted to be a new type of sediment-hosted lithium deposit whereby lithium compounds such as lithium carbonate and lithium salts have been deposited within the fine grain clay, silt, and sand pore space. Although most of the sediment-hosted lithium in the literature occurs in clays, it does not at Bonnie Claire.

1.7 Drilling

Iconic conducted exploration drilling in 2016, 2017, 2018, 2020, 2022, 2023, and 2024. As of the effective date of this Report, Iconic has completed 23 holes, including six vertical RC holes, 11 vertical diamond core holes (DH), four vertical mud hole (MH), and two vertical sonic holes, totaling 10,092.74 meters (32,905.97 feet).

Three drill programs were completed at the Bonnie Claire Project between 2016 and 2018. Iconic conducted drilling exploration at the Project in 2016, 2017, and 2018. A total of four vertical holes, including two mud holes (MH) and two RC holes, totaling 1,737.36 meters, were drilled by Harris Exploration Drilling & Associates Inc. Although the drill holes are widely spaced, averaging 1,100 meters between holes, the lithium profile with depth is mostly consistent from hole to hole. The average Li for all 434 samples assayed is 778 ppm, with an overall range of 18 to 2,550 ppm Li.

In 2020, Iconic conducted drilling exploration at the Project. Iconic used Harris Exploration Drilling & Associates Inc. to do this work. A total of four vertical RC and two vertical DH holes, totaling 540.71 meters, were drilled. The lithium content averaged 627.7 ppm Li for all 169 samples assayed, with an overall range from 105 to 1,710 ppm Li.

In 2022, Iconic conducted a drilling exploration at the Project. Iconic used two drilling companies to do this work, American Drilling Corp, LLC. for Core holes (DH) and Harris Exploration Drilling & Associates Inc for Mud Rotary holes (MH). In this campaign, a total of five vertical DH, totaling 2,952.90 meters and two vertical MH holes, totaling 932.68 meters were drilled. For this campaign, the average sample interval length was 6.09 meters (20 feet) for both DH and MH drillings, except for BC2201C, which was less than 20 feet in general and less than 10 feet for most intervals. For the five core holes, lithium content averaged 1,161.1 ppm for all 806 samples assayed, with an overall range from 25.1 to 7,160 ppm Li. For the two mud holes, lithium content averaged 452.9 ppm Li for all 152 samples assayed, with an overall range from 51.9 to 2,190 ppm Li.

In 2023, Iconic conducted a drilling exploration at the Project. Iconic used Major Drilling Group International Inc. (“Major Drilling”) for core drilling and Harris Drilling for sonic holes. A total of two vertical core holes (DH) and two vertical sonic holes (SH) were drilled. A total of 1,706.88 meters of DH drilling and 388.62 meters of SH drilling, totaling 2,095.50 meters, were performed in 2023. Assay results from these four holes show an excellent correlation between core and sonic holes. In the 2023 drilling program, lithium content averaged 1,545.92 ppm for two core holes for all 280 samples assayed, with an overall range from 35.4 to 5,840 ppm Li. For the two sonic holes, lithium content averaged 609.05 ppm Li for all 64 samples assayed, with an overall range from 54.2 to 1,245 ppm Li.

Assay results from the 2023 drilling program also show a great correlation with the results from the 2022 drilling program, confirming two high-grade horizons, one as a shallow zone at a depth of about 33 meters to about 118 meters with a maximum lithium content of 1,855 ppm and an average of 1,024 ppm, and the other one as a deep zone at a depth of about 521 meters to about 750 meters, with a maximum lithium content of 5,840 ppm and an average of 3,816 ppm.

In 2024, Nevada Lithium conducted drilling exploration at the Project. Nevada Lithium used Major Drilling for this core drilling. In this program, two vertical core holes (DH) were drilled, totaling 1,770.57 meters of DH drilling. The result of drilling exploration in 2024 confirmed the same subsurface stratigraphy mentioned in previous drilling campaigns. The core samples showed that the high-grade lithium extended down to a depth of 843.38 meters, with 3,200 ppm Lithium for hole BC2401C and up to a depth of 867.76 meters with 2,220 ppm lithium for hole BC2402C. In the 2024 drilling program, lithium content averaged 1,924.31 ppm for core hole BC2401C for all 140 samples assayed, with an overall range from 63.4 to 6,880 ppm Li. For hole BC2402C, lithium content averaged 1,632.81 ppm for all 150 samples assayed, with an overall range from 31.21 to 6,150 ppm Li.

1.8 Mineral Processing and Metallurgical Testing

The following are conclusions and interpretations of the metallurgical work:

- The mineral assemblage is different with depth. The upper sections of the deposit are generally lower grade lithium and boron and higher-grade calcite, while the lower sections of the deposit tend to be significantly higher-grade lithium and boron and lower grade calcite. The final mine design has not been completed, and the project may have several options: mine the upper portion, mine the lower portion, or mine the entire deposit. As a result, two distinct treatment options have been evaluated.
- Initial test work on upper sections of the deposit evaluated sulfuric acid leaching followed by impurity removal and lithium carbonate production. The lithium extractions in the leach were good but issues arose related to impurity removal. These samples did not respond to the iron removal stage and resulted in significant lithium losses. For this reason, alternative processes were explored.

- For the upper deposit, a thermal treatment was developed that involved a sulfate calcination followed by a hot water leach. This process had the advantage of not solubilizing as many impurities, particularly iron. High lithium extractions (up to 80%) were achieved.
- Pre-concentration of the lithium and rejection of calcite through size separation was shown to be effective for the upper portion of the deposit. At a cut size of 45 microns (µm), the coarse fraction contained approximately 90% of the calcite and less than 2% of the lithium. The mass rejection was approximately 25%.
- New drill samples from the lower deposit were tested, and the calcination process was not effective due to the low melting point of the boron minerals (searlesite). Subsequently, sulfuric acid leaching was evaluated to treat the deeper deposit material.
- The acid treatment demonstrated that the lithium host is readily soluble in a strong sulfuric acid solution, achieving extractions of approximately 85%. The conventional downstream purification of the acid liquor had challenges for the upper sections of the deposit due to high iron solubilization.
- Iron removal remains a challenge for the upper portions of the deposit but further test work is planned examining alternative removal processes like the Goethite Process. Iron removal from the lower deposit leach solution has not been evaluated yet.
- Boron concentrations in the lower deposit warrant a separate boron recovery circuit. Boron is recovered from the leach liquor after primary impurity removal via ion exchange to produce a boric acid product.
- Battery grade lithium carbonate has been produced at bench scale from the upper deposit. To reach the required lithium carbonate purity, a bicarbonate purification process was employed.
- Membrane technologies are currently being explored for lithium processing and may provide an alternative purification path for impurity removal.
- No additional biproduct production has been investigated at this stage; however, the Bonnie Claire material does contain significant sodium and potassium.

1.9 Mineral Resource Estimate

The updated Mineral Resource Estimate for the Bonnie Claire Lithium Project was performed using Leapfrog® Geo and Leapfrog® Edge software. Leapfrog® Geo was used to update the geologic model, and Leapfrog® Edge was used for geostatistical analysis and grade modeling in the block model.

The drill hole database used for the estimation included:

- 21 exploration drill holes, including eight RC holes and 11 DH holes
- 9,159.54 meters of drilling in exploration drill holes
- 1,898 assay intervals in exploration drill holes
- Minimum grade of 18 ppm Li in exploration drill holes
- Maximum grade of 7,160 ppm Li in exploration drill holes

Resources for the deposit have been separated into two categories: shallow (i.e., mineralization occurring in the upper claystone unit) and deep (i.e., mineralization occurring in the upper sandstone and lower claystone units).

<u>Cautionary Statements Regarding Mineral Resource Estimates</u>:

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Mineral Reserves. Inferred Mineral Resources are that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Table 1-1 presents the Mineral Resource estimate for shallow mineralization at the Bonnie Claire Project by confidence category assuming open pit mining methods and reported in accordance with CIM Definition Standards (2014).

Due to the large ratio of deposit size to block size and method of grade estimation, the grade model is fully diluted, and the resource is 100% recoverable as estimated.

Table 1-1: Bonnie Claire Mineral Resource Estimate Within a Constraining Pit Shell with Consideration of Shallow Mineralization Only

	Lithium				Boron		
Class	**Mass (Million Tonnes)**	**ID2 Li Grade (ppm)**	**Li (Million Tonnes)**	**Li Carbonate Equivalent (Million Tonnes)**	**Mass (Million Tonnes)**	**B Grade (ppm)**	**B (Million Tonnes)**
Indicated	188.08	1,074	0.202	1.075	152.11	1,519	0.231
Inferred	451.10	1,106	0.499	2.655	270.53	1,505	0.407

1. The effective date of the Mineral Resource is September 24, 2024.
2. The Qualified Person for the estimate is Terre Lane of GRE.
3. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Mineral Resources are reported at a 900 ppm Li cutoff, an assumed lithium carbonate (Li_2CO_3) price of $20,000/tonne, 5.323 tonnes of Li_2CO_3 per tonne Li, 75% recovery, a slope angle of 18 degrees, no royalty, processing and G&A cost of $26.52/tonne, mining cost of $3.52/tonne, and selling costs of $100/tonne Li_2CO_3.
5. Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

Table 1-2 shows the sensitivity of the shallow mineral resource to cutoff grade.

Table 1-2: Bonnie Claire Resource Estimate Sensitivity to Cutoff Grade Within a Constraining Pit Shell with Consideration of Shallow Mineralization Only

	Lithium				Boron		
Cutoff Grade (ppm)	**Mass (Million Tonnes)**	**ID2 Li Grade (ppm)**	**Li (Million Tonnes)**	**Li Carbonate Equivalent (Million Tonnes)**	**Mass (Million Tonnes**	**B Grade (ppm)**	**B (million Tonnes)**
Indicated							
400	393.27	859	0.338	1.799	339.24	1,576	0.535
600	317.20	944	0.300	1.595	271.49	1,556	0.422
900	**188.08**	**1,074**	**0.202**	**1.075**	**152.11**	**1,519**	**0.231**

Cutoff Grade (ppm)	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes	B Grade (ppm)	B (million Tonnes)
1200	25.54	1,314	0.034	0.179	12.24	1,665	0.020
1500	1.17	1,561	0.0018	0.0097	1.11	1,547	0.0017
Inferred							
400	2,466.72	681	1.681	8.945	1,007.76	2,041	2.057
600	1,260.72	865	1.090	5.804	666.80	1,960	1.307
900	**451.10**	**1,106**	**0.499**	**2.655**	**270.53**	**1,505**	**0.407**
1200	126.06	1,300	0.164	0.872	58.78	812	0.0048
1500	0.70	1,530	0.0000011	0.0000057	0.06	337	0.00000002

Table 1-3 presents the Mineral Resource estimate for the deep mineralization at the Bonnie Claire Project by confidence category assuming borehole mining methods and reported in accordance with CIM Definition Standards (2014).

Due to the large ratio of deposit size to block size and method of grade estimation, the grade model is fully diluted, and the resource is 100% recoverable as estimated.

Table 1-3: Bonnie Claire Mineral Resource Estimate With 60% Borehole Mining Recovery with Consideration of Deep Mineralization Only

Class	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes	B Grade (ppm)	B (million Tonnes)
Indicated	275.85	3,519	0.971	5.167	275.85	8,404	2.318
Inferred	1,561.06	3,085	4.816	25.634	0.00	0	0.00

1. The effective date of the Mineral Resource is September 24, 2024.
2. The Qualified Person for the estimate is Terre Lane of GRE.
3. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Mineral Resources are reported at a 1,800 ppm Li cutoff, an assumed lithium carbonate (Li_2CO_3) price of $20,000/tonne, 5.323 tonnes of Li_2CO_3 per tonne Li.
5. Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

Table 1-4 shows the sensitivity of the deep mineral resource to cutoff grade.

Table 1-4: Bonnie Claire Resource Estimate Sensitivity to Cutoff Grade With 60% Borehole Mining Recovery with Consideration of Deep Mineralization Only

Cutoff Grade (ppm)	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes	B Grade (ppm)	B (million Tonnes)
Indicated							
900	344.52	3,074	1.059	5.637	344.52	7,031	2.422
1200	316.39	3,255	1.030	5.482	316.39	7,588	2.401
1500	292.14	3,414	0.997	5.309	292.14	8,086	2.362
1800	**275.85**	**3,519**	**0.9716**	**5.167**	**275.85**	**8,404**	**2.318**
2100	262.84	3,597	0.945	5.032	262.84	8,635	2.270
2400	249.11	3,671	0.915	4.868	249.11	8,847	2.204
2700	229.37	3,766	0.864	4.598	229.37	9,092	2.085
Inferred							
900	3,504.76	2,043	7.161	38.116	0.00	0	0.00
1200	2,367.38	2,527	5.982	31.843	0.00	0	0.00
1500	1,859.91	2,852	5.304	28.234	0.00	0	0.00
1800	**1,561.06**	**3,085**	**4.816**	**25.634**	**0.00**	**0**	**0.00**
2100	1,346.94	3,267	4.400	23.423	0.00	0	0.00
2400	1,175.89	3,415	4.016	21.378	0.00	0	0.00
2700	997.06	3,571	3.560	18.952	0.00	0	0.00

1.10 Recommendations

GRE QPs recommend additional drilling, geotechnical testwork, and mining method testing to determine the feasibility of recovery of both the shallow mineralization via open pit mining and the deeper, higher grade material using borehole mining methods.

Ms. Lane recommends the following activities be conducted in two phases for the Bonnie Claire Lithium Project:

Phase 1 – Estimated Cost $400,000

- Review the existing process design documentation
- Set-up, establish, and coordinate test works campaign with a third-party laboratory
- Reassess current flowsheet configuration based on the feedback obtained from the test works campaign
- Develop preliminary BFDs
- Develop a preliminary mass balance
- Prepare a preliminary equipment list including equipment sizing
- Evaluate the required footprint of the plant to support the site selection
- Prepare a Class 5 AACE-compliant cost estimate for capital costs and operating costs, compared with benchmarks of similar operations

- Identify trade-offs to evaluate in a next phase.

This work would be completed over two to three years. The estimated costs to complete the proposed recommended actions are shown in Table 1-5.

Table 1-5: Breakdown of Estimated Costs to Complete the Phase 1 Program

Activity	Estimated Cost
Review the existing process design documentation	$25,000
Set-up, establishment, and coordination of test works campaign with a third-party laboratory	$30,000
Sample characterization, beneficiation, leach, leach+ partial neutralization, acid recycle, Fe/Al precipitation	$95,000
Reassessment current flowsheet configuration based on the feedback obtained from the test works campaign	$30,000
Develop preliminary BFDs	$25,000
Develop a preliminary mass balance	$25,000
Prepare a preliminary equipment list including equipment sizing	$20,000
Evaluate the required footprint of the plant to support the site selection	$20,000
Prepare a Class 5 AACE-compliant cost estimates for capital and operating costs, compared with benchmarks of similar operations	$100,000
Identify trade offs to evaluate in a next phase	$30,000
Total	**$400,000**

Phase 2 – Estimated Cost $16,000,000

- Infill drilling to increase confidence in the resource estimate from Inferred to Indicated or Measured
- Twinned rotary, RC, and core holes should be planned to test the improvement in grade as seen in the existing core and RC twin holes
- Additional drilling around drill holes BC-1601 and BC-2001C should be planned to identify shallow mineralization
- Field pilot testing of borehole mining methodology to determine efficacy and design parameters
- Pump testing to determine if clays can be dewatered prior to mining
- Metallurgical test work to identify and optimize operating conditions for Li extraction and producing final lithium products
- Market analysis to determine production impacts and product prices, including reagent pricing
- Evaluation of potential by-product recovery
- Prefeasibility Study, including determination of infrastructure requirements, such as sources of power, water, reagents, and natural gas
- Phase I environmental permitting and baseline data collection
- Hydrogeology study
- Geotechnical test work should be performed in the next drilling campaign.

This work would be completed over two to three years. The estimated costs to complete the proposed recommended actions are shown in Table 1-6.

Table 1-6: Breakdown of Estimated Costs to Complete the Phase 2 Proposed Program

Activity	Estimated Cost
Drilling, Surface Sampling, and geochemistry Down-Hole Surveys	$3,000,000
Borehole Mining Testing	$10,000,000
Metallurgical Test Work	$700,000
Market Analysis	$50,000
43-101 Technical Reports	$450,000
Phase I Environmental Permitting	$400,000
Hydrogeology Study	$900,000
Geotechnical Test work	$500,000
Total	**$16,000,000**

Based on observations and conversation with Nevada Lithium personnel during the QP site visit, and in conjunction with the results of GRE QP's review and evaluation of Nevada Lithium's quality assurance/quality control (QA/QC) program, Dr. Samari makes a number of recommendations regarding QA/QC, as detailed in Section 26.

2.0 INTRODUCTION

As requested by Nevada Lithium Resources Inc. (the "Company" or "Nevada Lithium"), Global Resource Engineering Ltd ("GRE") has prepared, in accordance with National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* ("NI 43-101"), an updated Mineral Resource Estimate Technical Report for the Bonnie Claire Lithium Project, Nevada, based on data collected from 2016 to the present. This NI 43-101 Technical Report includes mineral resources on the Bonnie Claire claim blocks, which are referred to in this Technical Report as the "Bonnie Claire Lithium Project" (the "Project" or "Property" or "Bonnie Claire").

The Company previously published a NI 43-101 Technical Report for the Bonnie Claire claim blocks in 2018 (GRE, 2018) and July 2021 (GRE, 2021). The Qualified Persons for this report are Hamid Samari, PhD, J. Todd Harvey, PhD, and Terre A. Lane, all of GRE.

2.1 Company

Nevada Lithium Resources Inc. was incorporated under the *Business Corporations Act* (British Columbia) on December 17, 2020, under the name "Hermes Acquisition Corp.". On March 2, 2021, in connection with the acquisition of Nevada Lithium Corp., the Company changed its name to "Nevada Lithium Resources Inc." The head office of the Company is located at 1570 – 505 Burrard Street, Vancouver, British Columbia V7X 1M5. The registered and records office of the Company is located at Suite 1500 – 1055 West Georgia Street, PO Box 11117, Vancouver, British Columbia V6E 4N7. The Company has one subsidiary, in which it holds 100% interest, Nevada Lithium Corp., existing under the laws of Nevada and having a registered office located at 318 N Carson St., #208, Carson City, Nevada 89701.

Nevada Lithium Corp. is party to an option agreement dated November 30, 2020, as amended (the "**Option Agreement**"), with Iconic and Bonaparte, pursuant to which Nevada Lithium Corp. acquired a 50% interest in the Project by funding certain expenditures as contemplated within the Option Agreement. In March 2023 Iconic and Nevada Lithium entered into an Arrangement to consolidate 100% ownership interest of the Bonnie Claire Lithium Project within Nevada Lithium.

2.2 Scope of Work

The scope of work undertaken by GRE was to prepare an updated Mineral Resource Estimate for the Project and prepare recommendations on further work required to advance the Project to the Prefeasibility stage.

2.3 Qualified Persons

The Qualified Persons (QPs) responsible for this report are:

- Hamid Samari, PhD, QP, Mining and Metallurgical Society of America (MMSA) #01519QP
- J. Todd Harvey, PhD, QP, Member Society of Mining, Metallurgy & Exploration (SME) Registered Member 4144120, Director of Process Engineering, GRE
- Terre A. Lane, MMSA 01407QP, SME Registered Member 4053005, Principal Mining Engineer, GRE

Practices consistent with Canadian Institute of Mining, Metallurgy and Petroleum (CIM) (CIM, 2014) were applied to the generation of this Mineral Resource Estimate.

Dr. Samari, Dr. Harvey, and Ms. Lane are collectively referred to as the "authors" of this Mineral Resource Estimate. Dr. Samari visited the Project on August 24, 2018, October 9 and 10, 2020, June 28 and 29, 2022, and January 12 and 13, 2024. Ms. Lane visited the property June 1, 2022. Dr. Harvey has not visited the Property because no site visit was needed at this stage of the Project for the metallurgical or cost estimation and economics work. In addition to their own work, the authors have made use of information from other sources and have listed these sources in this document under "References."

Table 2-1 identifies QP responsibility for each section of this report.

Table 2-1 List of Contributing Authors

Section	Section Name	Qualified Person
1	Summary	Terre Lane
1.1	Location and Property Description	Terre Lane
1.2	Accessibility and Climate	Terre Lane
1.3	History	Hamid Samari
1.4	Geology and Mineralization	Hamid Samari
1.5	Deposit Type	Hamid Samari
1.6	Exploration	Hamid Samari
1.7	Drilling	Hamid Samari
1.8	Mineral Processing and Metallurgical Testing	J. Todd Harvey
1.9	Mineral Resource Estimation	Terre Lane
1.10	Recommendations	Terre Lane
2	Introduction	Terre Lane
3	Reliance on Other Experts	Terre Lane
4	Property Description and Location	Terre Lane
5	Accessibility, Climate, Local Resources, Infrastructure, and Physiography	Terre Lane
6	History	Hamid Samari
7	Geological Setting and Mineralization	Hamid Samari
8	Deposit Types	Hamid Samari
9	Exploration	Hamid Samari
10	Drilling	Hamid Samari
11	Sample Preparation, Analyses and Security	Hamid Samari
12	Data Verification	Hamid Samari
13	Mineral Processing and Metallurgical Testing	J. Todd Harvey
14	Mineral Resource Estimates	Terre Lane
15	Mineral Reserve Estimates	Terre Lane
16	Mining Methods	Terre Lane
17	Recovery Methods	J. Todd Harvey
18	Project Infrastructure	Terre Lane
19	Market Studies and Contracts	Terre Lane
20	Environmental Studies, Permitting and Social or Community Impact	Terre Lane
21	Capital and Operating Costs	Terre Lane
22	Economic Analysis	Terre Lane
23	Adjacent Properties	Terre Lane

Section	Section Name	Qualified Person
24	Other Relevant Data and Information	Terre Lane
25	Interpretation and Conclusions	Terre Lane
26	Recommendations	Terre Lane
27	References	Terre Lane

2.4 Sources of Information

Information provided by Iconic and Nevada Lithium included:

- Drill hole records
- Project history details
- Sampling protocol details
- Geological and mineralization setting
- Data, reports, and opinions from third-party entities
- Lithium assays from original records and reports.

2.5 Units

All measurements used for the Project are metric units unless otherwise stated. Tonnages are in metric tonnes, and grade is reported as parts per million (ppm) unless otherwise noted.

2.6 Inspection on the Property by QPs

2.6.1 Site Inspection (2018)

GRE representative and QP Dr. H. Samari conducted an on-site inspection of the Project on August 24, 2018, accompanied by Iconic CEO Richard R. Kern and Iconic geologist Richard S. Kern. While on site, Dr. Samari conducted general geologic field reconnaissance, including the inspection of surficial geologic features and ground-truthing of reported drill collar and soil sample locations. Good site access and rapid transport using an All-Terrain Vehicle made it possible to complete the site inspection in one day.

Field observations confirmed that the geological mapping and interpretation of the Project area was accurate. The site lithology and structural understanding are all consistent with descriptions provided in existing Project reports (as described in Section 7 of this report).

Geographic coordinates for all four existing drill hole collar locations were recorded in the field using a hand-held global positioning system (GPS) unit. The average variance between field collar coordinates and collar coordinates contained in the Project database is roughly 41 meters, which is well outside of the expected margin of error. The drill hole collars are not well-marked in the field, and some have no marker at all. The QP recommends that Iconic clearly identify all existing drill holes in the field by installing semi-permanent markers, such as labeled and grouted-in lathe, at each collar location. The existing drill collars should then be professionally surveyed and tied into the digital topographic surface used for geologic and resource modeling. Future drill holes can be located using survey-grade GPS instrumentation, provided that the GPS coordinates are reasonably similar to those reported for the same locations within the digital topographic surface.

2.6.2 Site Inspection (2020)

GRE's QP Dr. Hamid Samari conducted a second on-site inspection of the Project on October 9, 2020, accompanied by field geologist at the site and Iconic CEO Richard R. Kern and Iconic geologist Richard S. Kern at the storage facility in Reno, Nevada. While on-site, the QPs conducted a general geological inspection, checking the RC rig, drill collars, and RC samples of the hole of BC2003, which was drilled at the time of the field visit. Because all diamond holes were drilled at the time of the field visit, on October 10, 2020, all core boxes of holes BC2001C and BC2002C were inspected visually at the Iconic storage facility in Reno, Nevada. The QPs also visited the Iconic core facility in Tonopah, Reno, where HQ cores first were logged and then cut longitudinally into one half and two quarters.

2.6.3 Site Inspection (2022)

GRE's QP Dr. Hamid Samari conducted a third onsite inspection of the Project from the 28 to 29 June 2022, accompanied by field technician on the site and Iconic CEO Richard R. Kern at the locked storage facility on the Spicer Ranch, 12 km (7.5 miles) north of Beatty, Nevada. The QP conducted this field visit mainly to check the 2022 exploration programs, including checking the DH rig, the validation and accuracy of collar coordinates, geological logging, and inspection of core samples from the hole BC2201C, which was drilled at the time of the field visit.

Ms. Lane visited the site June 1, 2022.

2.6.4 Site Inspection (2024)

GRE's QP, Dr. Hamid Samari, conducted a fourth onsite inspection of the Project from 12 to 13 January 2024, accompanied by a field technician, Sean McCormic and the Nevada Lithium geologist, Rich Kern, on the site and at the locked storage facility, north of Beatty, Nevada, mainly to check the 2023 drilling exploration programs such as all field activities carried out in 2024.

3.0 RELIANCE ON OTHER EXPERTS

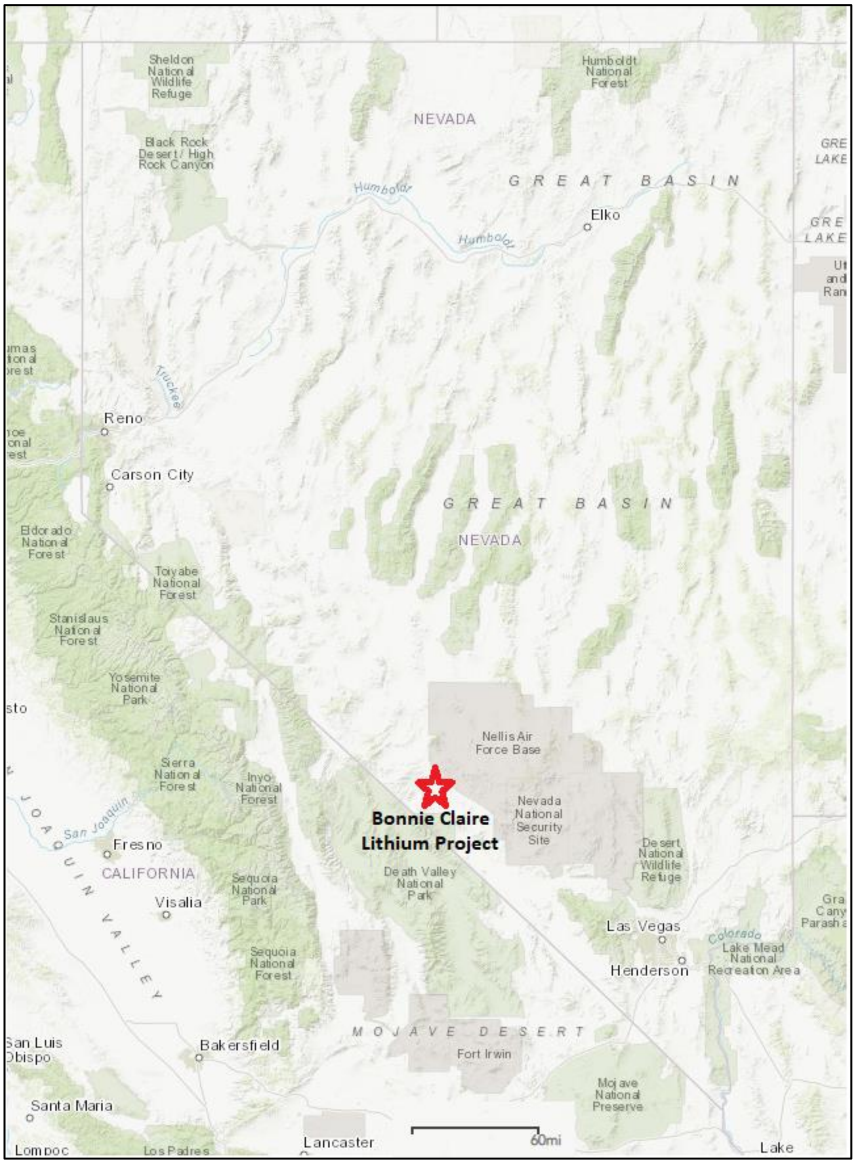
The authors are not experts in legal matters, such as the assessment of the legal validity of mining claims, private lands, mineral rights, and property agreements in the United States. The authors did not conduct any investigations of the environmental, permitting, or social-economic issues associated with the Project, and the authors are not experts with respect to these issues. The authors have relied fully on Nevada Lithium for information concerning the legal status of Nevada Lithium, as well as current legal title, material terms of all agreements, existence of all applicable royalty obligations, and material environmental and permitting information that pertain to the Project. This information was provided to GRE by Stephen Rentschler, CEO of Nevada Lithium, on September 24, 2024.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Project is centered near 497900 meters East, 4114900 meters North, Universal Transverse Mercator (UTM) WGS84, Zone 11 North datum, in Nye County, Nevada. The location is 354 kilometers (km) (220 miles) southeast of Reno, Nevada (Figure 4-1), and 201 km (125 miles) northwest of Las Vegas, Nevada. The town of Beatty is 40 km (25 miles) southeast of the Project. The Project is accessed from Las Vegas, Nevada, by traveling northwest on US-95 N, then NV-266 W and finally NV-774 S to Bonnie Claire in Nye County.

Figure 4-1: Project Location Map



The Project lies within T8S, R44E and R45E and T9S, R44E and R45E, Mt. Diablo Meridian. Topographic map was downloaded from United States Geological Survey (USGS) 7.5-minute quadrangles Bonnie Claire, Bonnie Claire NW, Springdale NW, Scotty's Junction, and Tolicha Peak SW. Topography is in UTM WGS84 (NAD83) metric coordinates.

4.2 Mineral Rights Disposition

The Project consists of 915 placer mining claims 100% by Nevada Lithium. The claims lie within portions of surveyed sections 8, 9, 10, 11, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, and 36 of T8S, R44E, within portions of surveyed sections 1, 2, 3, 4, 10, 11, 12, 13, 14, 15, 23, and 24 of T9S, R 44E, within portions of surveyed section 31 of T8S R45E, and within portions of surveyed sections 6, 7, 17, and 18 of T9S, R45E, in the southwestern portion of Nye County, Nevada.

The placer claims are each 20 acres and were staked as even divisions of a legal section, as required under placer mine claim regulations. The claims cover 18,300 acres and provide Nevada Lithium with the rights to lithium brines that may exist at the Project as well as the mining rights to the claystone-mudstone hosted lithium discovered to date. The claims require annual filing of Intent to Hold and cash payments to the Bureau of Land Management (BLM) and Nye County totaling $155 per 20 acres (i.e. $173,250 in U.S. dollars [USD]). Figure 4-2 shows the land status, Figure 4-3 shows claim area on satellite image, and Figure 4-4 shows the locations of the claims. A complete listing of the claims is provided in Appendix A.

Figure 4-2: Bonnie Claire Lithium Project Land Status

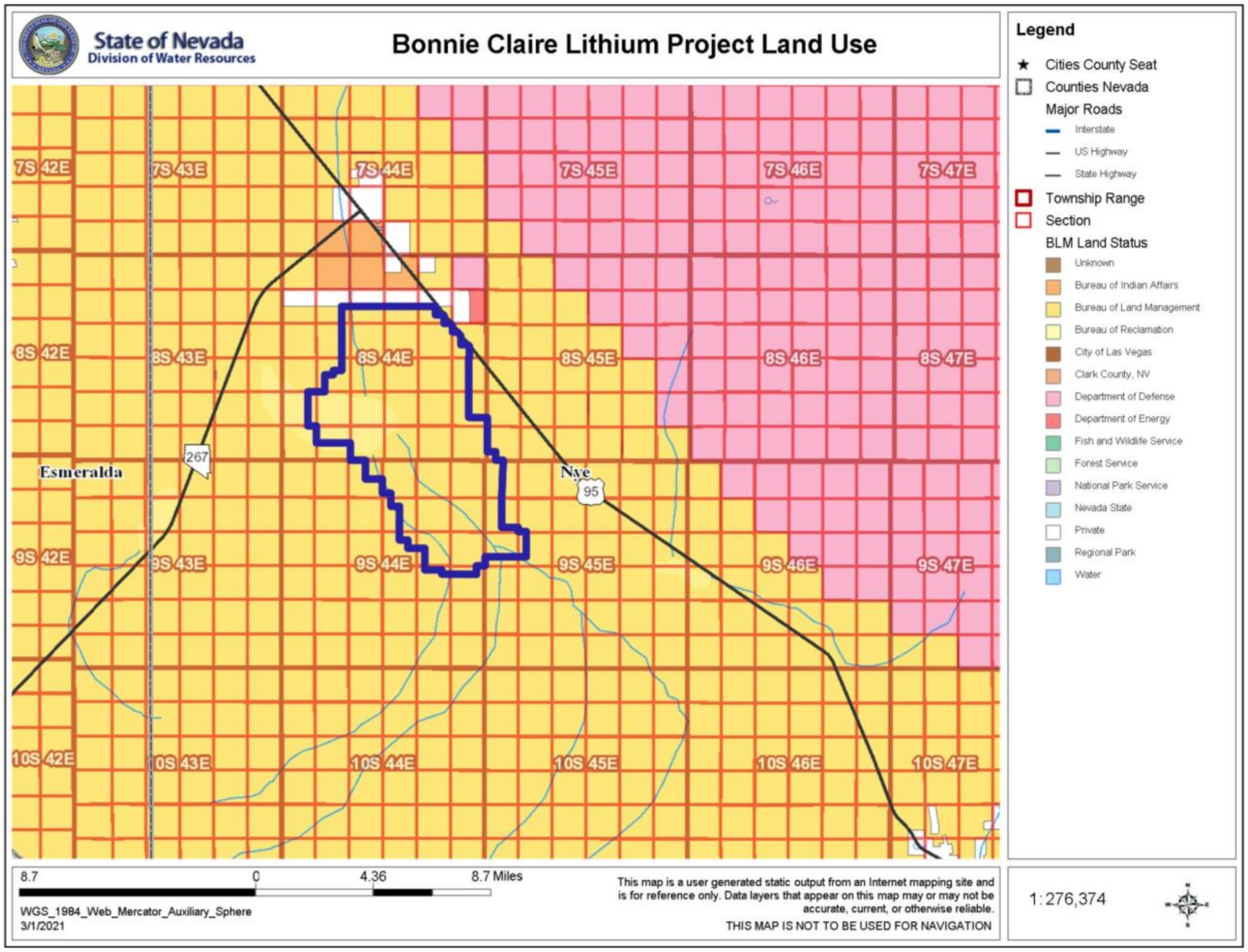


Figure 4-3: Bonnie Claire Lithium Project Satellite Image

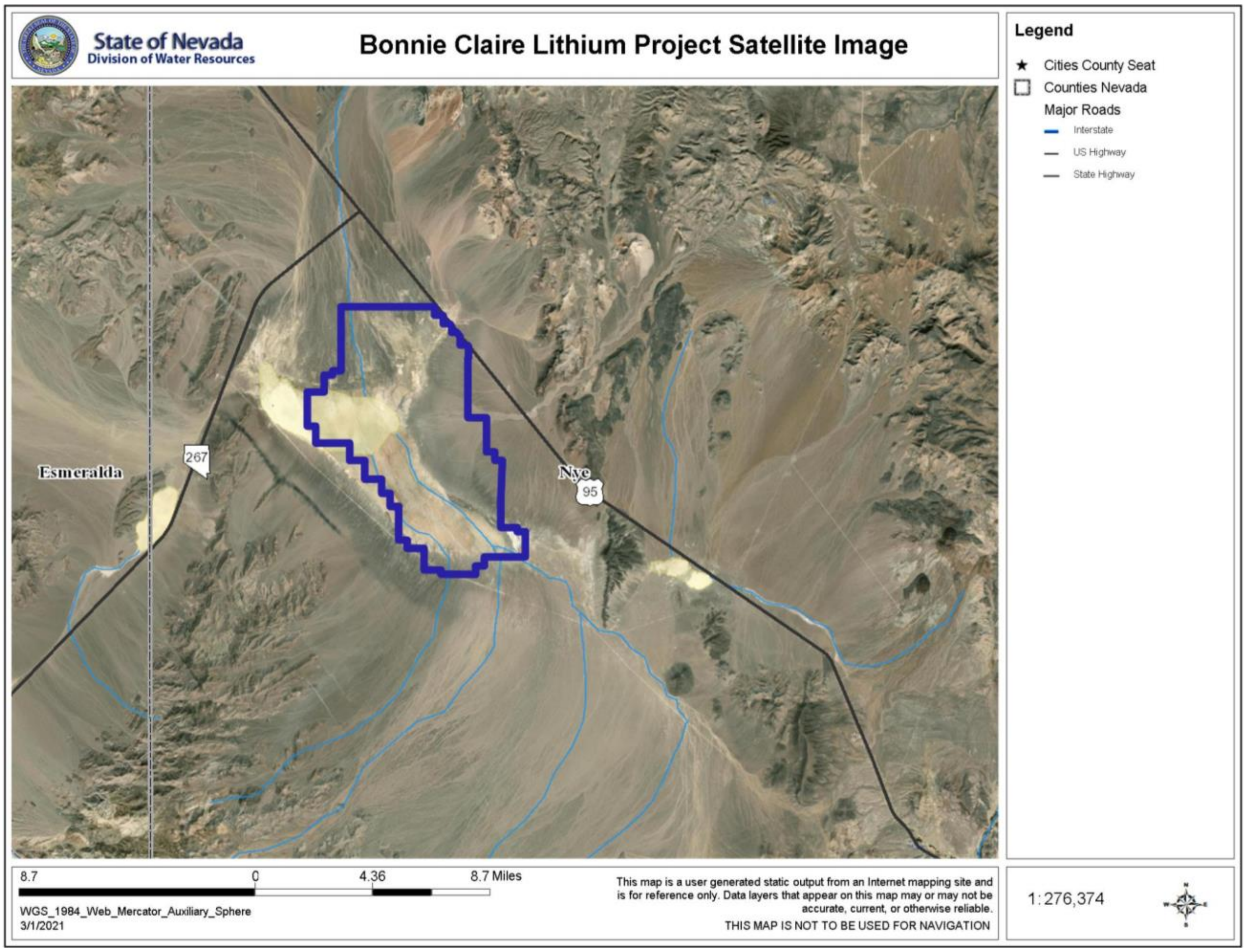
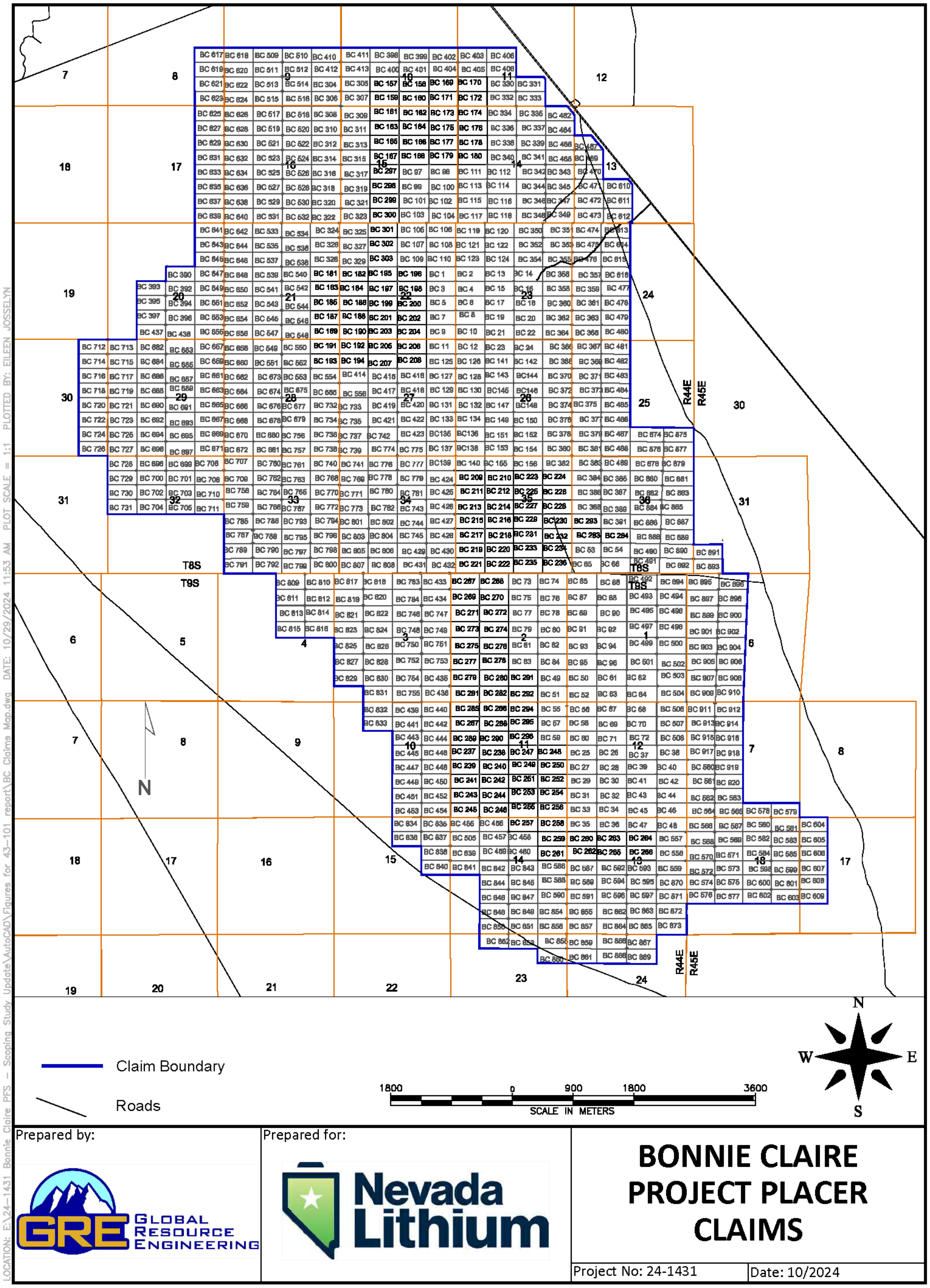


Figure 4-4: Bonnie Claire Lithium Project, Placer Claims



4.3 Tenure Rights

As of the issue date of this report, the Project claim group consists of 915 placer mining claims owned 100% by Nevada Lithium. The claims are all in good standing with the BLM and Nye County.

A Plan of Operations (PoO) was approved by the BLM on November 21, 2022. The PoO allows road building, drill pads and sumps construction, and drilling and use of laydown areas; construction of geotechnical test pits and/or trenches; geologic and geophysical mapping; installation and operation of groundwater monitoring wells and water production test wells; maintenance of the pre-1981 roads within the Project Area and the Project access roads; installation and operation of a meteorological station; and reclamation of Project-related surface disturbance. The total allows disturbance is 100 acres. A bond of US$247,373 was also required and paid to the BLM.

An expanded PoO application was filed in early 2023. Approval of the expanded area for exploration is expected in the fourth quarter of 2024.

On November 30th, 2020, and amended on December 14th and 30th, 2020 and May 3rd, 2021, the Company entered into an Option Agreement (the "Agreement") with Iconic to acquire a up to a 50% interest in the Project in exchange for funding $5,600,000 (USD) in exploration expenditure under the following terms and conditions:

- Acquire an initial 20% interest by funding $1,600,000 exploration expenditure on or before March 8th, 2021 (completed)
- Acquire an additional 15% interest by funding $2,000,000 in exploration expenditures on or before October 1st, 2021
- Acquire an additional 15% interest (for a collective 50% interest) by funding $2,000,000 in exploration expenditures on or before December 1st, 2021

Upon the exercise of the Option in full, Iconic and Nevada Lithium will form a joint venture for the development of the Property (the "Joint Venture"), with the initial Joint Venture interests of the parties being 50% as to Iconic and 50% as to Nevada Lithium. Iconic and Nevada Lithium will each fund approved Joint Venture work programs in proportion to their Joint Venture ownership percentage; provided that if a party contributes less than its proportionate interest to a work program, that party's interest in the Joint Venture will be reduced. If a party's interest is reduced to 10% or less, such party's ownership interest will automatically convert to a 0.5% net smelter returns ("NSR") royalty if the Phase II exploration expenditures have not been funded or a 1% NSR royalty if the Phase II exploration expenditures have been funded. The non-diluting party may repurchase at any time (i) the 0.5% NSR royalty for USD $1,000,000; or (ii) the 1% NSR royalty for USD $2,000,000, payable in cash.

As of the Issue date of this report, Nevada Lithium has funded the initial $5,000,000 and holds a 100% interest in the Project.

4.4 Legal Survey

The 915 placer claims are survey tied to brass caps of the existing federal land survey in the area. Numerous section corners and quarter corners are present in the field as brass caps.

4.5 Environmental Liabilities

There are no known environmental liabilities on the Property.

4.6 Other Significant Factors and Risks

To the authors’ knowledge, there are no other significant factors and risks that may affect access, title, or the right or ability to perform work on the Property.

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

5.1 Accessibility

The Project is accessed from Beatty, Nevada, by traveling 40 km (25 miles) north on US Highway 95, then 8 km (5 miles) southwest on Scotty's Castle Road, an asphalt road.

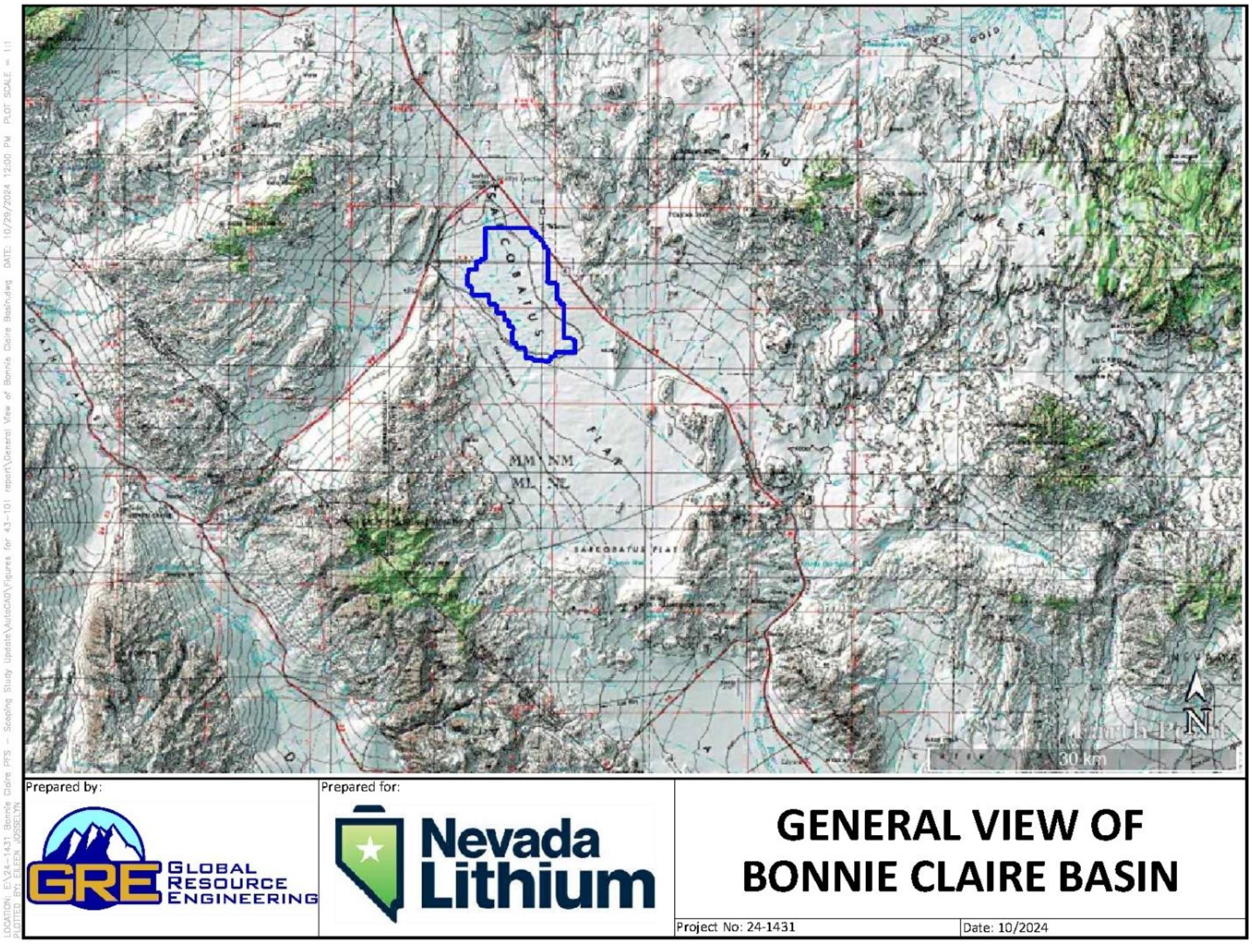
5.2 Climate

The climate of the Property is hot in summer, with average high temperatures around 100 °F (38 °C), and cool in the winter with average daily lows of 15 to 30 °F (-9 to -1 °C). Precipitation is dominantly in the form of thunderstorms in late summer. Snow cover in the winter is rare. Year-round low humidity aids in evaporation. Wind storms occur in the fall, winter, and spring. Mining operations can occur year-round.

5.3 Physiography

The Project is within the Walker Lane province of the western Great Basin physiographic region. The Project is a flat-bottomed salt basin that is surrounded by a complete pattern of mountain ranges. Broad, low passes lead into the basin from the north, south, east, and west (Figure 5-1).

Figure 5-1: General View of the Bonnie Claire Basin



The terrain within the Project is mainly covered by quaternary alluvial fan surrounding a central mud flat. The mud flat has a few very shallow northwest-southeast drainages. Access at the Project is excellent due to the overall lack of relief (see Figure 5-1, Photo 5-1, Photo 5-2, and Photo 5-3). The flat portion of the mud flat is likely flooded during wet periods in the spring, making travel across the mud flat nearly impossible.

Photo 5-1: Northern Half of Bonnie Claire Lithium Project Looking West

Photo 5-2: Bonnie Claire Lithium Project, Northwest-Southeast Drainage in Quaternary Mud Flat

Photo 5-3: Typical Exposure of Quaternary Mud Flat at Bonnie Claire Lithium Project

5.4 Local Resources and Infrastructure

The Project is in a region with no active extraction of lithium from brines or sediment or any other mining activity. The Project lies adjacent to asphalt roads, power lines, and regional towns that service the mining industry.

Lodging, supplies, and labor are available in either Beatty, which is 40 km (25 miles) from the Property, or Las Vegas, which is 145 miles from the Property. Surface rights sufficient for exploration, mining, waste disposal, and processing plant sites within the Property are available.

6.0 HISTORY

6.1 Project History

The Project area shows no signs of mineral exploration or prior geologic investigations. Geologic maps of southern Nevada from the Nevada Bureau of mines (Stewart, et al., 1977) are the only evidence of prior geologic work performed on site, and they show the area as a generalized salt flat with little distinctive geologic features or mapping detail.

The USGS has reportedly performed investigations of similar mudstones in the Bonnie Claire region, and limited sampling was completed as part of the USGS traverses. The majority of USGS work in the basin was focused on lithium brine investigations. Although no samples were taken from the Property in the USGS study, there are some assay results from auger hole sampling in the region:

- Gold field: 7 ppm lithium (Li) located 40 km (25 miles) northwest of the Project
- Stonewall Flat: 65 ppm Li located 45 km (28 miles) north of the Project
- Clayton Valley: 300 ppm Li located 72 km (45 miles) northwest of the Project

Figure 6-1 shows the locations of the USGS lithium sampling program.

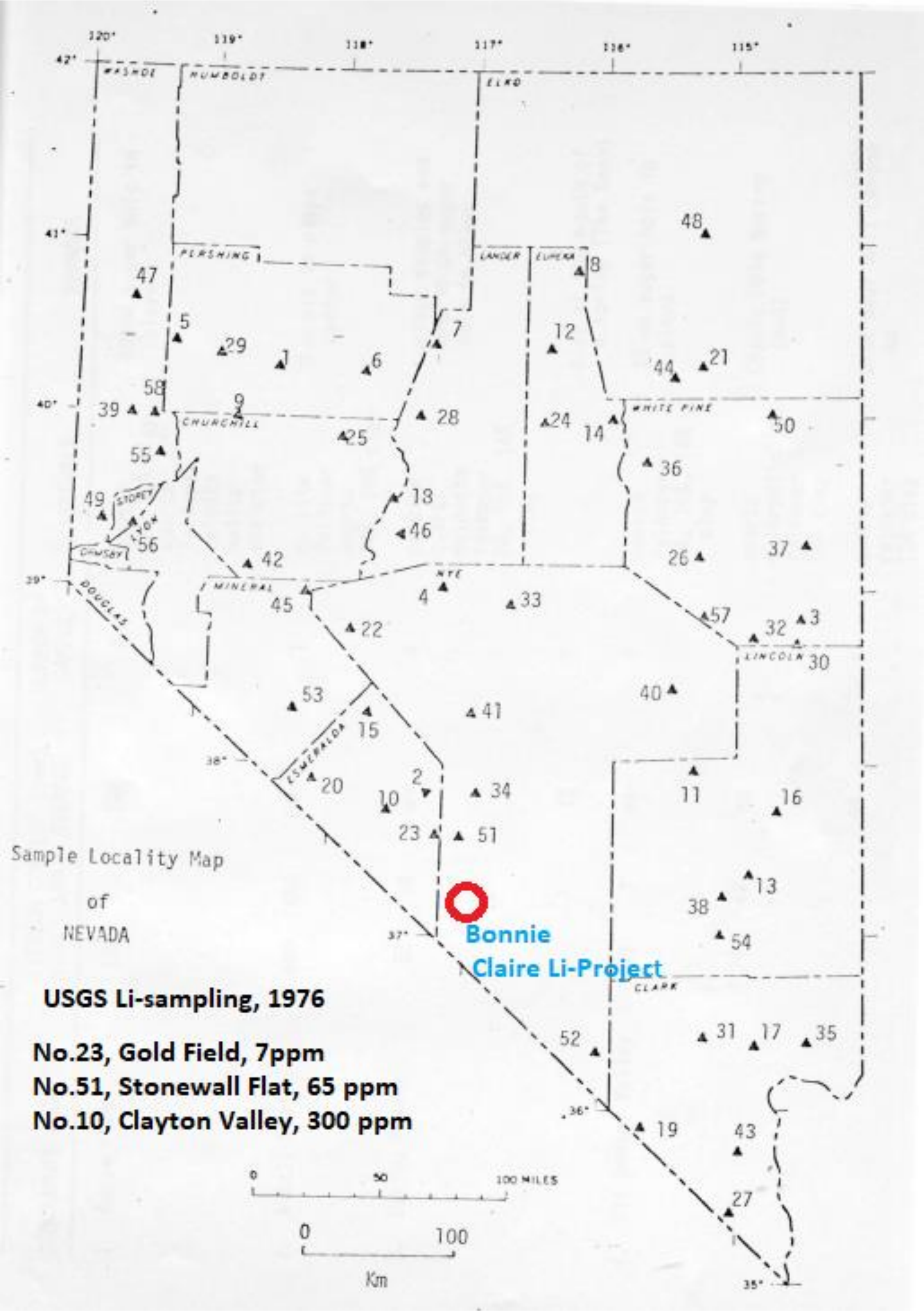
There is no indication or documentation of any drilling occurring on the Project prior to Iconic's efforts in 2016.

6.2 Compilation of Reports on Exploration Programs

The August 2018 Magneto Telluric Survey Interpretation was the first report to document exploration of the Project. Other descriptions of the mineralization at the Project are contained within Iconic press releases of 2016 to 2018 as well as within well-organized maps and other documents that are available on the Nevada Lithium website.

Numerous USGS reports are available detailing drill results and other activities in the adjacent salt playa.

Figure 6-1: Index Map of Lithium Sampling Project, Lithium in Sediments and Rocks in Nevada



Source: (Bohannon, et al., 1976)

7.0 GEOLOGIC SETTING AND MINERALIZATION

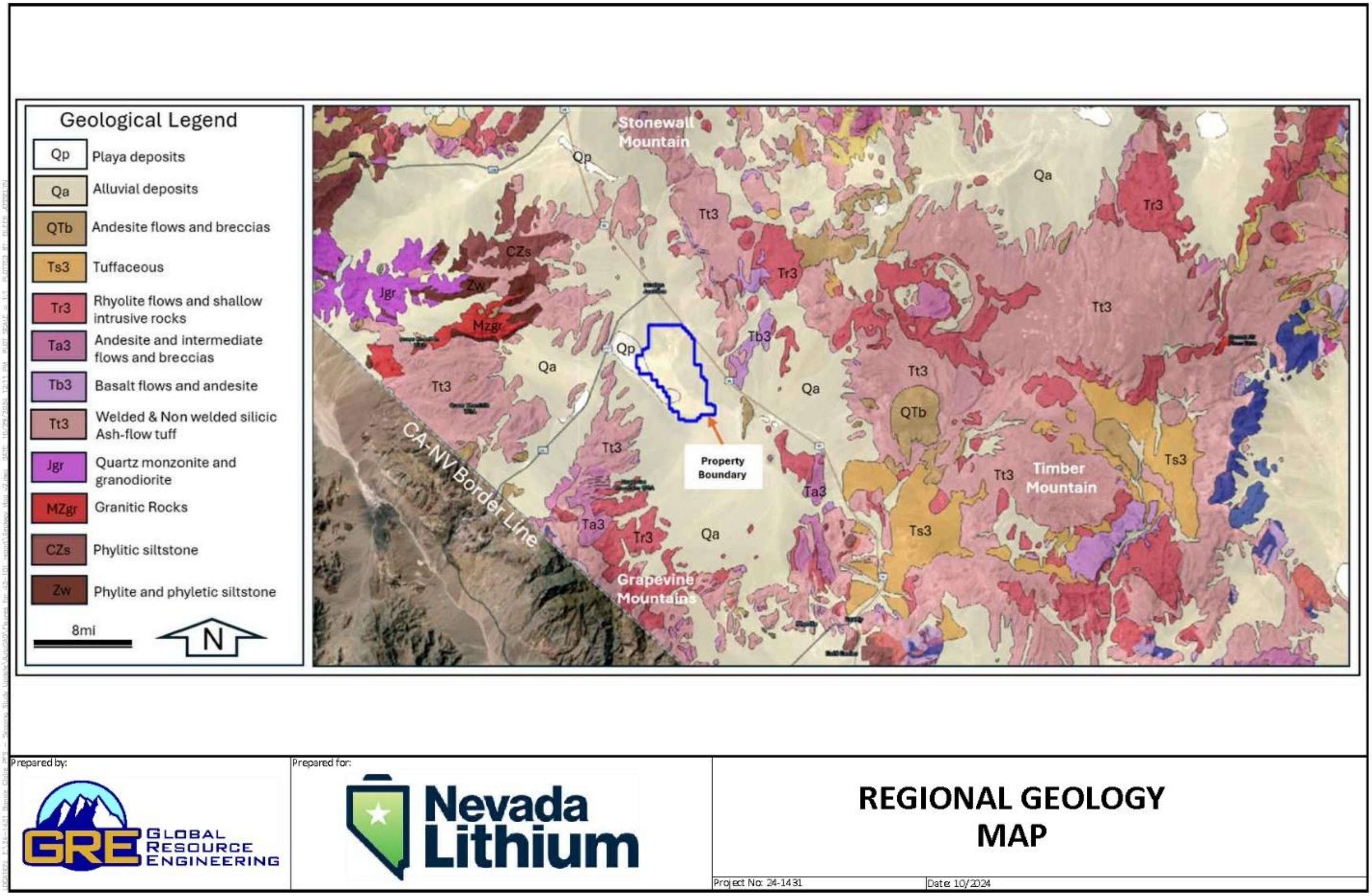
7.1 Regional Geology

The Project is part of a closed basin near the southwestern margin of the Basin and Range geo-physiographic province of western Nevada. Horst and graben normal faulting is a dominant structural element of the Basin and Range, and this faulting occurred in conjunction with deformation due to lateral shear stress, resulting in the disruption of large-scale topographic features. The Walker Lane basin, a zone of disrupted topography (Locke, et al., 1940) is possibly related to right-lateral shearing (Stewart, 1967), that occurred within a few kilometers of the western boundaries of Bonnie Claire (Faulds, et al., 2008). The Walker Lane district is not well defined in this area and may be disrupted by the east-trending Warm Springs lineament (Ekren, et al., 1976), which could be a left-lateral fault conjugate to the Walker lane (Shawe, 1965). To the west of Bonnie Claire, the Death Valley-Furnace Creek fault zone is a right-lateral fault zone that may die out against the Walker lane northwest of the valley. Northwest of Bonnie Claire (approximately 50 km), the arcuate form of the Palmetto Mountains is thought to represent tectonic “bending,” a mechanism taking up movement in shear zones at the end of major right lateral faults (Albers, 1967).

In the Nevada mountains, faults in Cenozoic rocks generally trend about N20° to N40°E. Near the margins of the playa surface, fault scarps having two distinct trends have been studied in detail (Davis, et al., 1979). At the northwestern and western margin of the Bonnie Claire basin, a set of moderately dissected scarps in Quaternary alluvial gravels strikes about N20°E to N40°E. If the modification of these fault scarps is similar to fault-scarp modification elsewhere in Nevada and Utah (Wallace, 1977; Bucknam, et al., 1979), the most recent movement on the N20°E set of scarps probably occurred less than 10,000 years ago, while the last movement on the N65°E set is probably closer to 20,000 years in age (Davis, et al., 1979). Although in the east and west portion of the Bonnie Claire basin, a more highly dissected set of scarps in alluvium and upper Cenozoic lacustrine sediments strikes about N320°W, the same as North Dead Valley Fault strike.

North, east, and west of Bonnie Claire, more than 400 square kilometers (km^2) of Cenozoic ash-flow tuff is deposited and is likely the source of the lithium. Locally, this tuff includes thin units of air-fall tuff and sedimentary rock that is exposed at Grapevine Mountains and Stonewall Mountain. These predominantly flat-lying, pumiceous rocks are interbedded with tuffaceous sediments between Grapevine and Stonewall Mountains. Southeast of Bonnie Claire, about 5 km^2 of Miocene to Quaternary basalt-flow as a single mound is exposed. Southwest of Bonnie Claire, more than 140 km^2 of Cenozoic rhyolitic-flow and shallow intrusive rocks are exposed. It appears that the source of these tuff sheets may have been a volcanic center to the north near Stonewall Mountain and to the east near Black Mountain (Figure 7-1).

Figure 7-1: Regional Geologic Map



Source: Stewart, J. H and Carlson, H., 1977

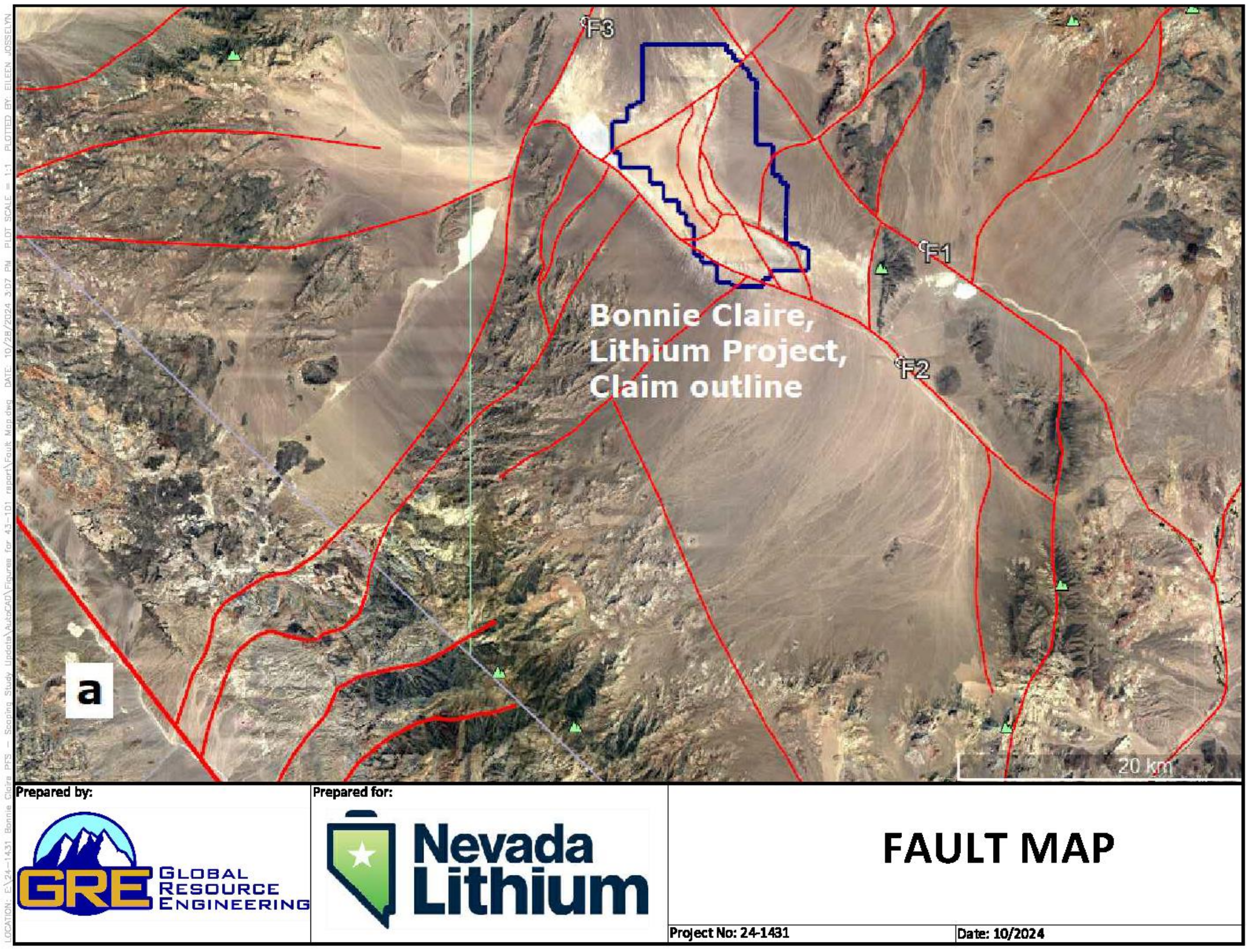
7.2 Local Geologic Setting

Bonnie Claire is the lowest in elevation of a series of intermediate-size playa-covered floodplains, with an area of about 85 km^2 that receives surface drainage from an area of more than 1,200 km^2. The plain and alluvial fans around it are fault-bounded on all sides, delineated by the Coba Mountain and Obsidian Butte to the east, Stonewall Mountain to the north, the Bullfrog Mountains and Sawtooth Mountains to the south, Grapevine to the southwest, and Mount Dunfee to the northwest.

A review of satellite images and field observations indicate that the Bonnie Claire playa area is surrounded by distinctive faults. The Bonnie Claire basin and two northern and eastern alluvial fans lie within an extensional graben system between two Quaternary northwest-southeast faults (referred to as F1 and F2 in this report) with both normal and strike-slip components (Figure 7-2). Near their northwest origins, these two faults are severed by another Quaternary northeast-southwest fault (referred to as F3 in this report).

The F1, F2, and F3 faults were effective in making the graben between the eastern and western mountain ranges of the area, and these faults have played a major role in controlling the playa extension.

Figure 7-2: Fault Map Around the Bonnie Claire Project



The general structure of the middle part of the Bonnie Claire basin (Claim area) is known from geophysical surveys to be a graben structure with its most down-dropped part on the east-northeast side of the basin along the extension of a few normal faults.

Multiple wetting and drying periods during the Pleistocene resulted in the formation of lacustrine deposits, salt beds, and lithium-bearing sediments in the Bonnie Claire basin. Extensive diagenetic alteration of vitric material to zeolites and clay minerals has taken place in the tuffaceous Tertiary volcanic rocks, and anomalously high lithium concentrations accompany the alteration.

7.3 Project Geology and Mineralization

The area surrounding the Project area is dominated by uplifted basement rocks that were mostly built from silicic ash-flow tuff (Figure 7-1 and Figure 7-3). The four RC borings drilled on the Project, with a maximum depth of 603.5 meters (1,980 feet) (BC-1602), did not encounter the bottom of the sediments.

Lithium mineralization comes from the evaporation of surface and groundwater. As a highly soluble salt, lithium mobility and deposition are driven by the movement of surface and groundwater rich in lithium into a closed basin and by the concentration of salts resulting from evaporation.

Significant lithium concentrations were encountered in the alluvial fans and playa within the Project area. Elevated lithium was encountered at ground surface and to depths of up to 603.5 meters (the deepest depth of RC-drilling so far). The lithium in the sediments at the Project occurs as lithium carbonate or lithium salts deposited in the fine grain clay, silt, and sand pore space. The lithium is not found within the clay crystal lattices as is common with most sediment hosted deposits. The overall mineralized sedimentary package is laterally and vertically extensive, containing roughly tabular zones of fine-grained sediments grading down to claystone.

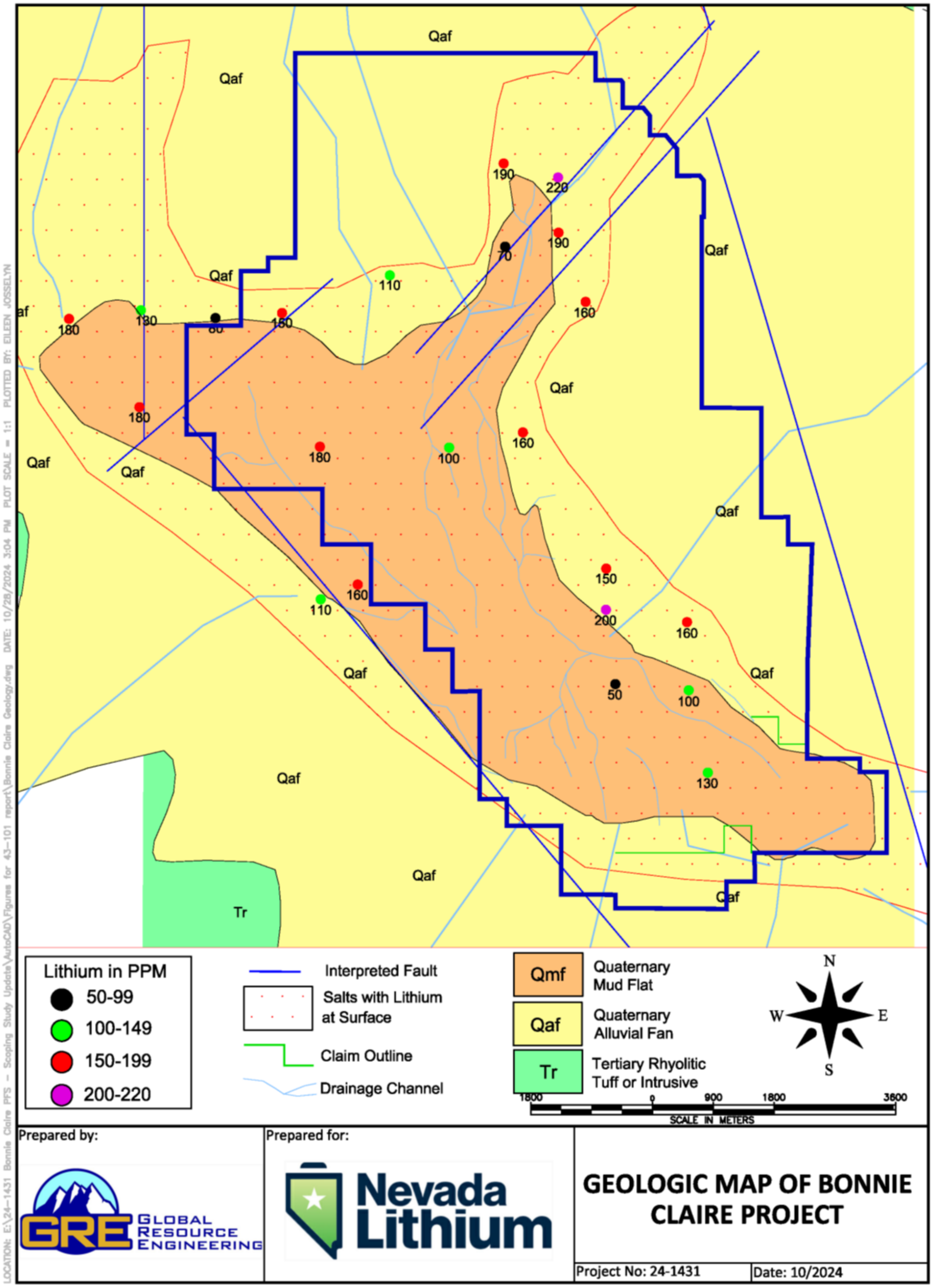
The average grade of lithium appears to depend on the sedimentary layers:

- Sand or sandstone appears to have the lowest grade, averaging about 30 ppm Li near the surface to 570 ppm Li at depth
- Silt or siltstone appears to have approximately 135 ppm Li near to the surface to 1,270 ppm Li at depth
- Clay, claystone, and mudstone appear to have 300 ppm Li near the surface to 2,550 ppm Li at depth.

It also appears that fine-grained materials trap and contain lithium and therefore form the highest-grade portions of the deposit.

The Quaternary sedimentary deposits are of primary interest to this study. They consist of clastic materials ranging in size from large boulders on the alluvial fans to fine-grained clay in the playa. The deposits are fluvial, lacustrine, or aeolian, depending on the location and the energy of the deposition environment. The fluvial deposits were deposited in alluvial fans, along stream channels, and in flood plains. Fine-grained lacustrine deposits were deposited in the bottom of ephemeral lakes. Aeolian deposits exist throughout the Project area.

Figure 7-3: Geologic Map of the Bonnie Claire Project



The fluvial quaternary sedimentary deposits have been subdivided into Older Alluvium and Younger Alluvium. Older Alluvium has been deformed and dissected in places, and parts of it are cemented into a firm fanglomerate. Younger Alluvium consists mostly of unconsolidated gravel, sand, silt, and clay which form recent fluvial and lacustrine deposits.

The quaternary sediments have created a flat landscape over most of the Project area. The alluvial fans located in the eastern portions of the Project area are commonly mantled with weathered remnants of rock washed down from the surrounding highlands. Alluvial fans are also covered with sporadic shrubs (Photo 7-1), which are the only vegetation in the region. The playas are completely covered by mud and salt and are commonly referred to as mud flats in this report (Photo 7-2).

Drilling logs show that within the Project area, the extensional sedimentary basin has been filled by sand, silt, and clay. From the available drilling, it appears the material grades from clay to sand in particle size and minor amounts of cementation. However, all sediments appear to contain between 5% and 10% clay (See Section 13, Table 13-2, and Table 13-3).

Photo 7-1: Quaternary Alluvium in the Eastern Portion of the Project

Photo 7-2: Quaternary Mud flat, Playa Deposits

8.0 DEPOSIT TYPE

Lithium is known to occur in potentially economic concentrations in three types of deposits: pegmatites, continental brines, and sediments (dominantly clays). Currently, lithium is produced from both pegmatites and continental brines; however, brines are the most important source of lithium worldwide. Bonnie Claire is interpreted to be a new type of deposit that has lithium compounds like lithium carbonate and lithium salts deposited within the fine grain clay, silt, and sand pore space. Although most of the sediment-hosted lithium in the literature occurs in clays, it does not at Bonnie Claire.

There are two geologic definitions of clay: one refers to grain size and the other refers to mineral composition (clay minerals are hydrous aluminum phyllosilicates). X-ray diffraction (XRD) data of Bonnie Claire samples demonstrates that even though the fine-grained portions of the sediment have particle sizes equivalent to that of clay, the sediment does not contain high percentages of typical clay minerals. Results show the sediments consist dominantly of quartz, calcite, feldspar, and mica and average less than ten percent zeolitic clay. Therefore, lithium must be occurring as carbonate or a chloride with no association to clay minerals.

In 2022, GRE's QP selected five samples from hole BC2201C for XRD studies. The results confirmed previous information about the mineral composition and percentage of clay minerals in sedimentary units (Table 8-1).

Table 8-1: XRD Results

Sample ID		**BC2201-0015**	**BC2201-0024**	**BC2201-0118**	**BC2201-0172**	**BC2201-0131**
Lithology		**green claystone**	**green claystone**	**sandstone**	**green claystone**	**green claystone**
Depth (ft) from-to		**116.5-125**	**246-251**	**998-1002**	**1117.5-1120.5**	**1414-1416**
Depth (m) from-to		**35.5-38.1**	**74.98-76.50**	**304.19-305.40**	**340.61-341.52**	**430.98-431.59**
Phase ID	Quartz	20.6	16.3	10.1	10.6	9.1
	K-feldspar	39.6	32.3	13.6	39.7	38.9
	Plagioclase	10.2	14.5	4.0	14.2	10.1
	Muscovite	22.9	25.8	nd	22.8	25.2
	Calcite	6.7	8.5	nd	6.9	5.6
	Analcime	Nd	2	nd	5.1	10.2
	Halite	Nd	<1	nd	<1	<1
	Zeolite	Nd	nd	44.1	nd	nd
	Heulandite	Nd	nd	26.8	nd	nd
	Phlogopite	Nd	nd	1.4	nd	nd

Note: Crystalline phases are normalized to 100%
nd = not detected

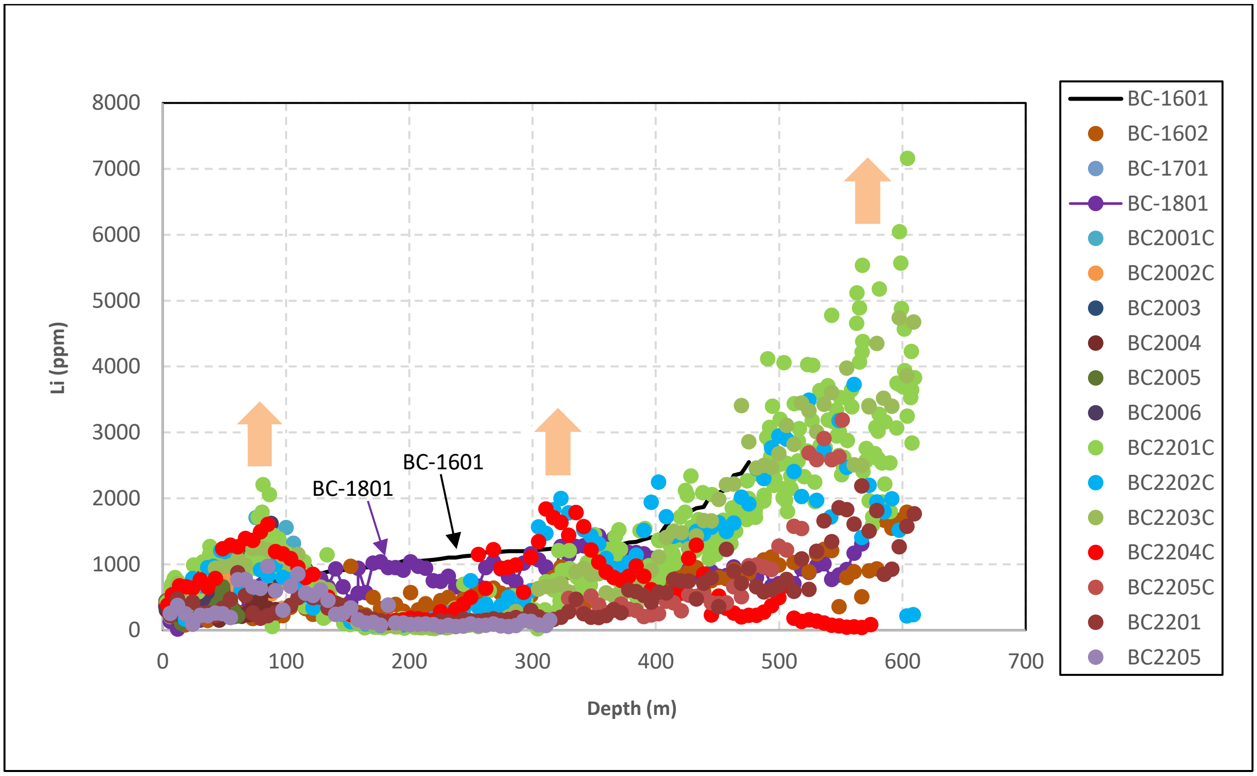
The lithium-bearing sediments of the deposit surround an oxidation/reduction horizon that is readily recognizable in chip samples. Based on drilling results to date, the higher lithium concentrations occur largely within oxidized zones. It seems that this distribution of mineralization results from oxidizing surface waters that penetrated more permeable facies of the sedimentary package to concentrate in less permeable clay layers.

Depositional cycling of sediments and groundwater flow also appear to control lithium deposition. Alluvial/lacustrine subsidence basins often have a depositional cycle that alternates between clay, sand,

and silt. This cycling may be influencing the concentration of lithium at depth. The result is an increase of lithium concentration in fine-grained sediments, particularly at depth.

The assay results of all holes from the 2016 to 2022 drilling campaigns confirm at least three main depositional cycles at Bonnie Claire (Figure 8-1).

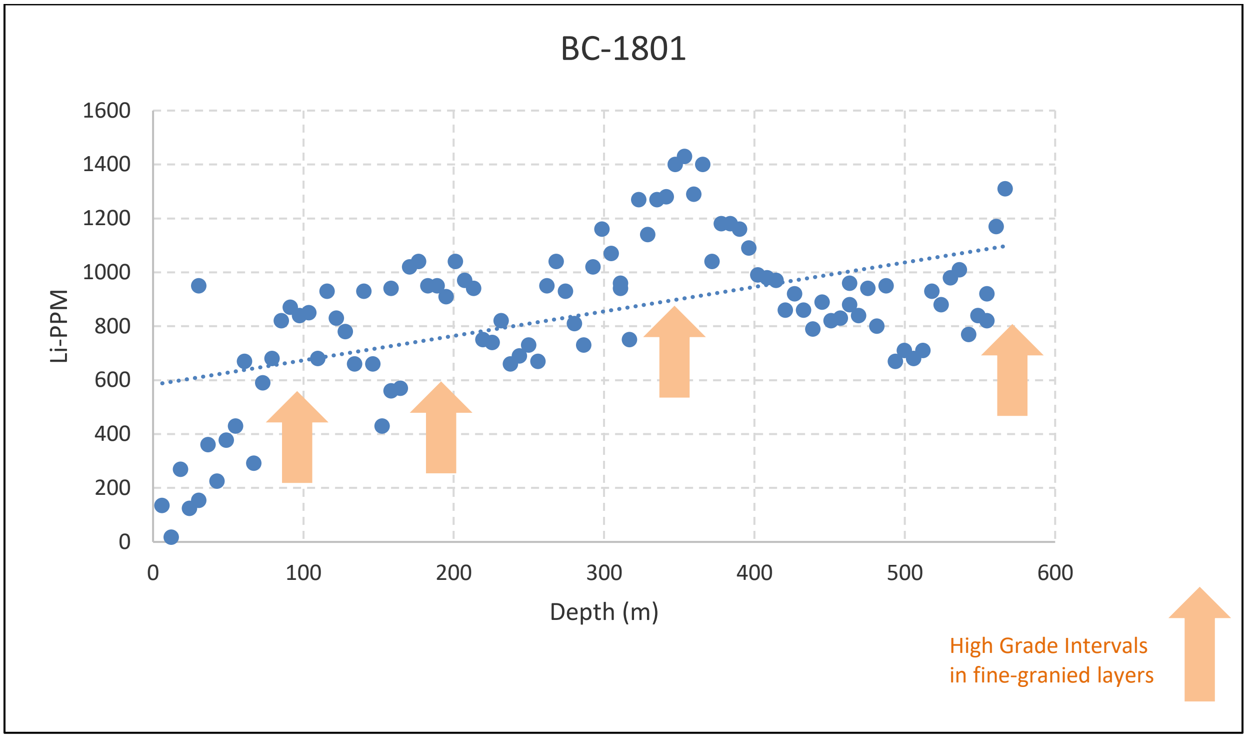
Figure 8-1: Lithium Distribution in All Drill Holes



As seen, assay data from hole BC-1601 shows a constant increase of lithium values up to a depth of 400 meters, and after that, with a boost, it correlates with the third cycle of fine-grained depositional. Unlike hole BC-1601, the assay data from hole BC-1801 shows four depositional cycles (Figure 8-2). These two examples and the distribution of lithium in other holes show that fine-grained layers in the Bonnie Claire basin are associated with higher amounts of lithium compared to coarse-grained sedimentary units.

Checking the lithology of intervals with a low amount of lithium shows that these intervals are associated with coarse-grained sedimentary layers such as siltstone and sandstone. For example, reviewing the log hole BC-2201C confirms that a low amount of lithium from a depth of 161 meters to 256 meters is correlated with materials that were logged as sandstone and partially siltstone.

Figure 8-2: Lithium Distribution in Drill Hole BC-1801



In summary, the presence of fine-grained materials and the presence of oxidization zones appear to be the two primary driving forces for enrichment of lithium within the Project.

9.0 EXPLORATION

Iconic began exploring the Project in mid-2015. In addition to drilling, which is discussed in detail in Section 10 of this report, exploration activities carried out by Iconic include detailed geologic mapping, surface sampling, and geophysical surveying. Early work by Iconic focused on discovery of lithium-bearing brines. Their efforts were successful in discovering brine at Bonnie Claire; however, the brine was found to have low lithium concentrations. Coincidentally, the exploration resulted in the discovery of lithium-bearing sediments at Bonnie Claire, which form the basis for this Mineral Resource Estimate. The following geophysical discussion is included for completeness of the exploration effort.

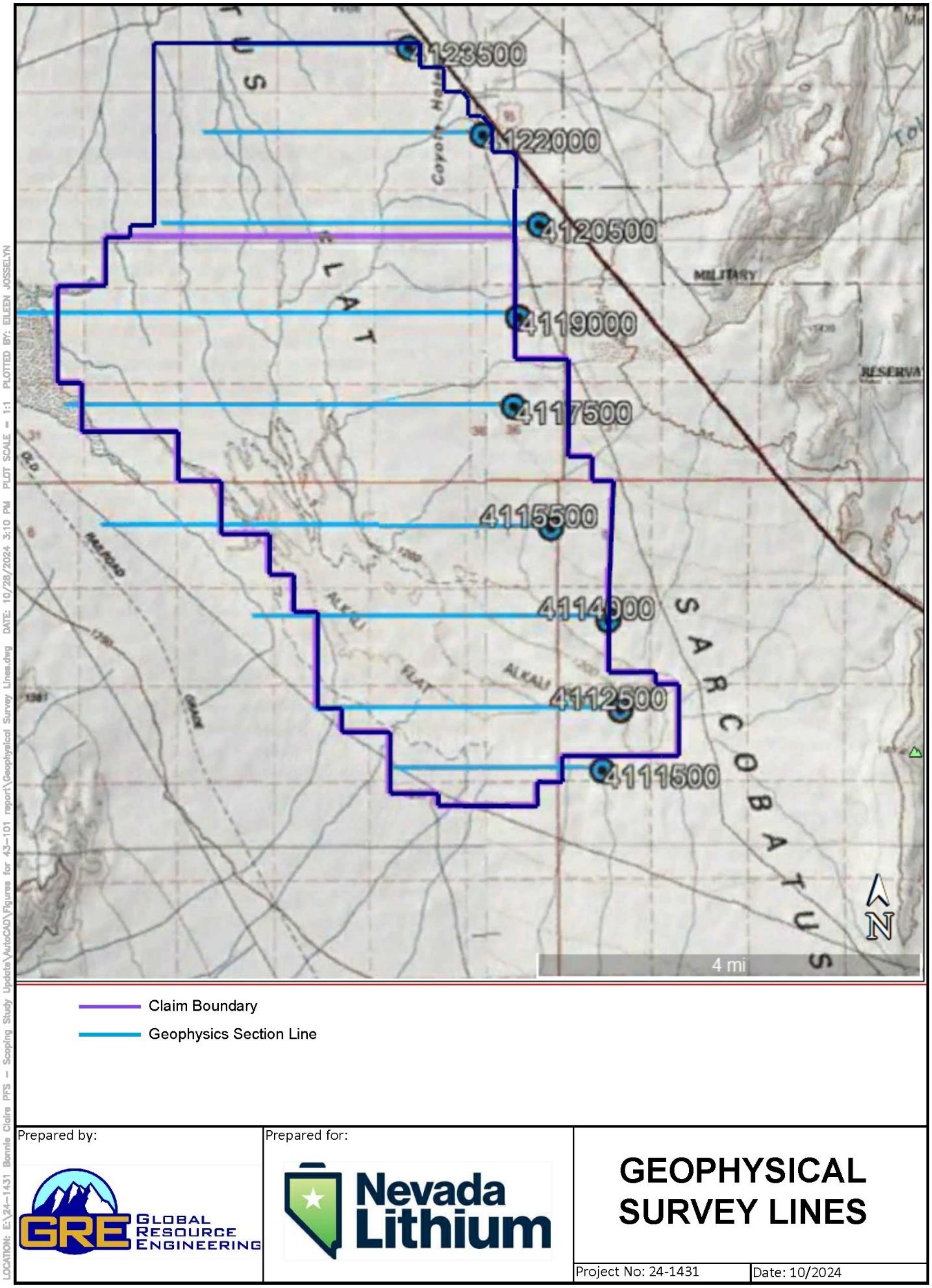
9.1 Geophysical Exploration (2016)

Fritz Geophysics conducted a ground geophysical campaign at the Project in July 2016. The geophysical study included the survey design, survey supervision, and the interpretation of two different geophysical methods: a Magneto Telluric (MT) survey and a gravitation survey. The focus of this work was to define the basin depth and geology, and to search for a lithium brine layer within the deposit. Due to the high salt content, lithium brines have very low resistivity, and often can be observed from an MT geophysical survey.

The MT data was collected by Zonge Engineering on nine East-West lines of various lengths. Figure 9-1 shows the location of the geophysical lines. A total of about 52.2 km of data was collected with consistent 200-meter receiver dipole spacing.

In addition to the MT survey, a gravity geophysical survey was performed to aid with the definition of the lithology and geometry of the basin.

Figure 9-1: Bonnie Claire Project Geophysical Survey Lines

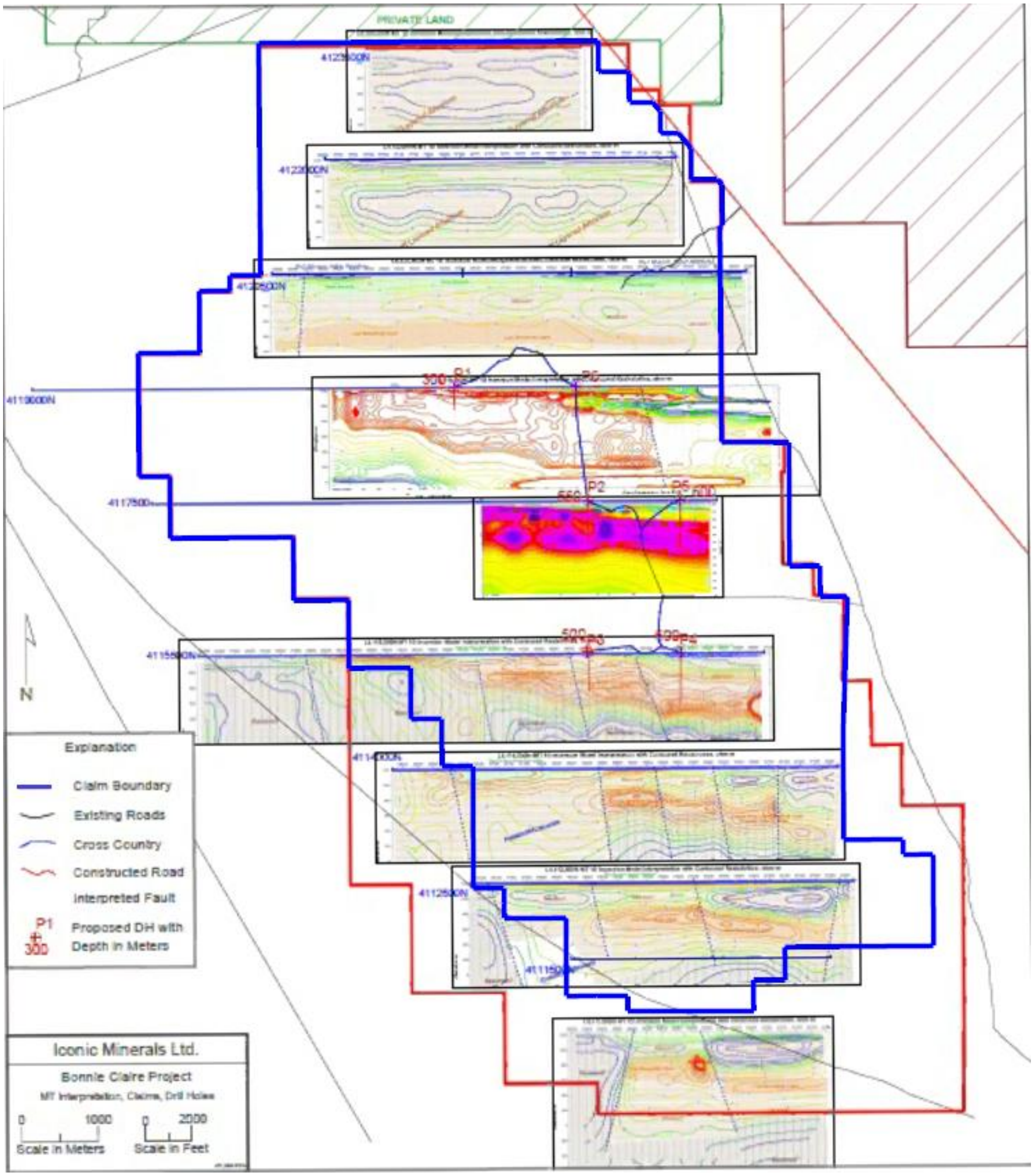


9.1.1 Geophysical Study Results, MT Survey

The MT data suggested that a well-developed, very low resistivity layer (VLRL) exists in the subsurface covering approximately 25 km^2 in the southern two-thirds of the Bonnie Claire basin. Based on the MT survey, this VLRL has the characteristics of a possible brine.

The stacked one-dimensional inversion sections are shown in Figure 9-2. The color contours show the inverted resistivities. Reds are very low resistivities of less than 1 ohm-meter (Ωm) up to blues at 40 to 50 Ωm. Individual line interpreted sections are shown next. Contoured plan view resistivity distributions are also included, as well as an interpreted distribution of the VLRL.

Figure 9-2 Bonnie Claire Project Geophysical Interpreted Sections



The geophysical survey data suggests that the basin is surrounded by volcanic rocks with a higher resistivity (in the 100s Ωm range). Typical alluvial-filled basins with groundwater have resistivities in the 20 to 50 Ωm range, but dry alluvium, sometimes seen near surface, will have a higher resistivity. A VLRL will have resistivity around 1 Ωm. As a result, the expected brine layer within the basin appears to have a resistivity significantly lower than the typical host alluvium, making the MT survey an effective tool in identifying potential brines, which may be lithium bearing, and in defining the potential resource model.

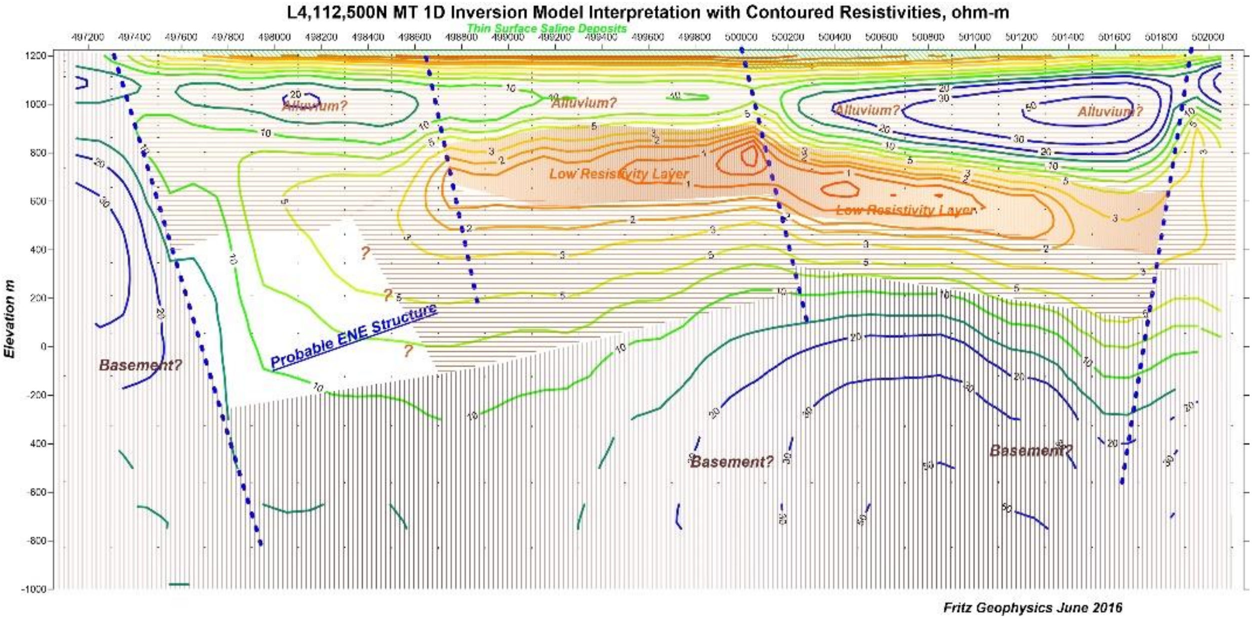
The nine sections are interpreted into different resistivity categories including: basement rocks, dry alluvium, wet alluvium, surface salt pans, and possible VLRL brines. These sections show that the northern third of the basin is separated from the southern two thirds by a probable east-northeast structure near Line 4,120,500N. This probable structure appears to have an impact on the location of VLRL zones.

North of this probable structure, the resistivities are in the 40 Ωm to 50 Ωm range, consistent with a typical alluvium-filled basin with no VLRL. In the north, the basement is poorly defined due to the very low resistivities encountered in general. The near surface, lower resistivities are probably surface salt pans.

The southern two-thirds of the basin shows a well-defined VLRL. It is present at approximately 200 to 300 meters depth on section L4,119,000N, and is over 600 meters deep to the east and south along section L4,120,500N. The VLRL is extensive and well-defined on seven sections: L4,120,500-L4,119,000N-L4,117,500N-L4,115,500N-L4,114,000N-L4,112,500N, and L4,111,500N.

For instance, the section of L4,112,500N is shown in Figure 9-3. The figure clearly shows the VLRL was detected by the MT method. Normal faults with predominant vertical offset affected the VLRL.

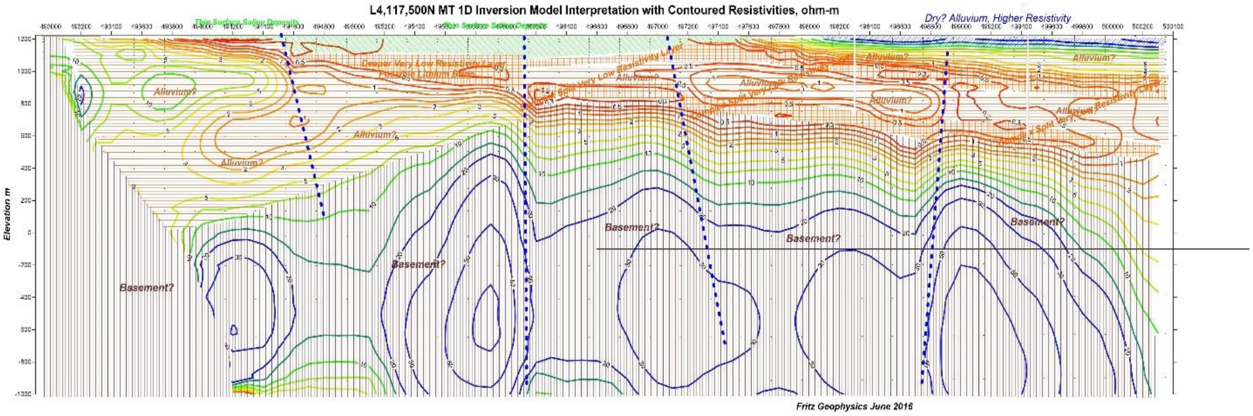
Figure 9-3 Bonnie Claire Project Geophysical Section, L4,112,500N



Fritz Geophysics June 2016

The VLRL appears to be two separate thinner layers with thin alluvium in between, as shown best on line 4,117,500N (Figure 9-4). The two separate layers possibly coalesce or cannot be separated with the available MT data on the lines to the south.

Figure 9-4 Bonnie Claire Project Geophysical Section, L4,117,500N



The MT lines are 1.5 to 2 km apart, but the resistivity results appear to be reasonably consistent between lines. The thickness of this VLRL is difficult to determine. This may be due to the possibility that two layers exist or the difficulty in determining the bottom of the VLRL. However, the data suggest a minimum thickness of 100 meters.

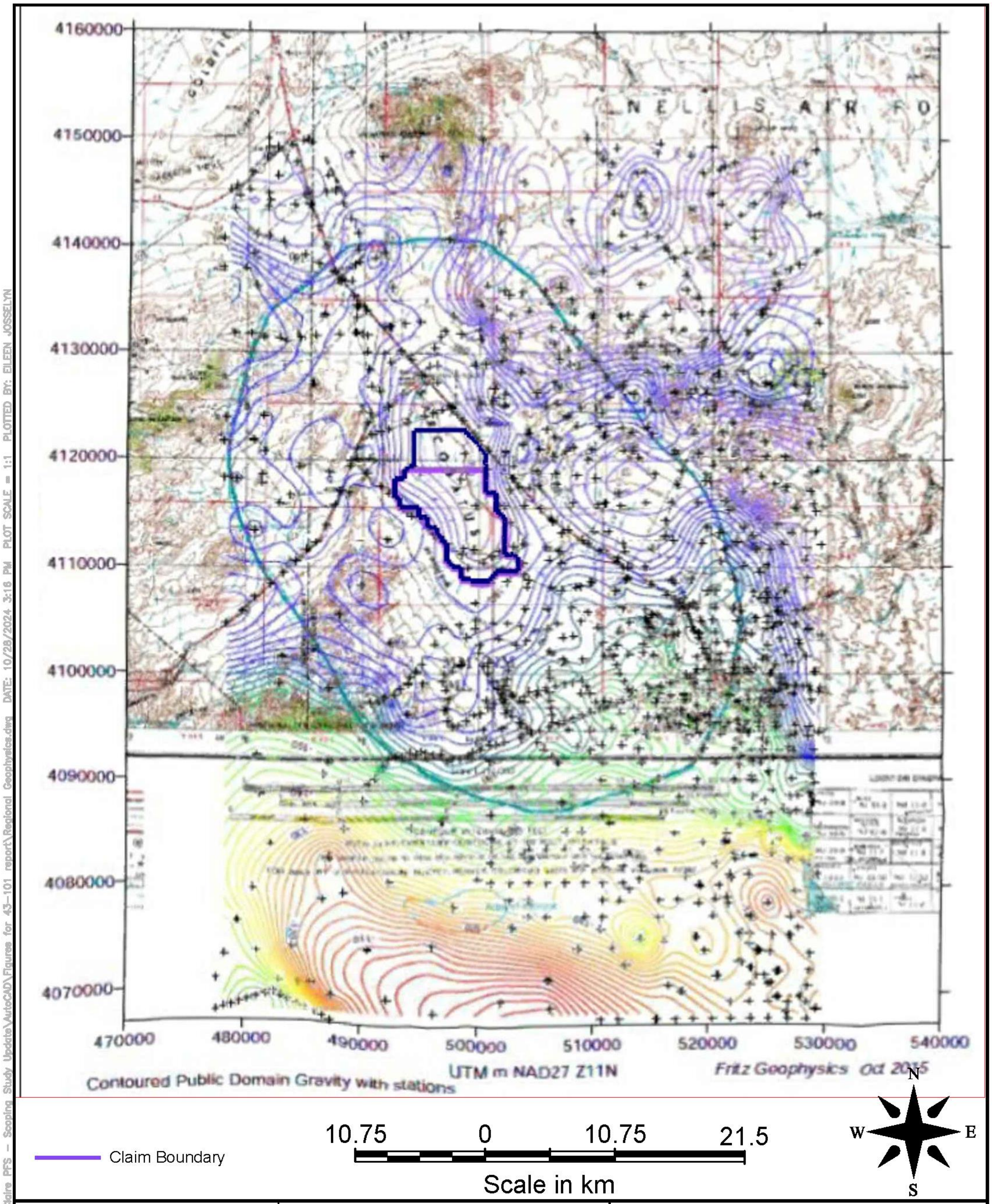
The several geophysical survey lines show northerly structures with a consistent down drop to the East in the VLRL. The interpreted VLRL distribution is shown in Figure 9-4. The several northerly structures drop this layer from about 200 meters deep to over 600 meters deep to the east and south.

The suggestion that the VLRL source may be two thinner very low resistivity layers separated by a more moderate possible alluvium layer complicates the interpretation. This three-layer interpretation only occurs in the shallower sections on lines 4,119,000N and 4,117,500N. With depth, the data density in the MT survey probably cannot define these thinner layers and only indicates the approximate boundaries of the set of three layers. However, there is little difference in the possibility that the three layers or one very low resistivity layer is a target for high-grade fine-grained zones.

9.1.2 Geophysical Study Results, Gravity Survey

The gravity geophysical survey data helped define the geometry of the basin. The data suggests the deepest part of the basin to be in the northern one-third of the total basin area (Figure 9-5 and Figure 9-6). In general, the basin depth is approximately 1,600 meters below ground surface. The eastern side appears to be defined by a sharp basin and range fault, while the western side appears to have several smaller offset faults, typically in a northerly direction. But the gravity data does not allow definition of specific faults. For example, easterly structures are suggested but not defined.

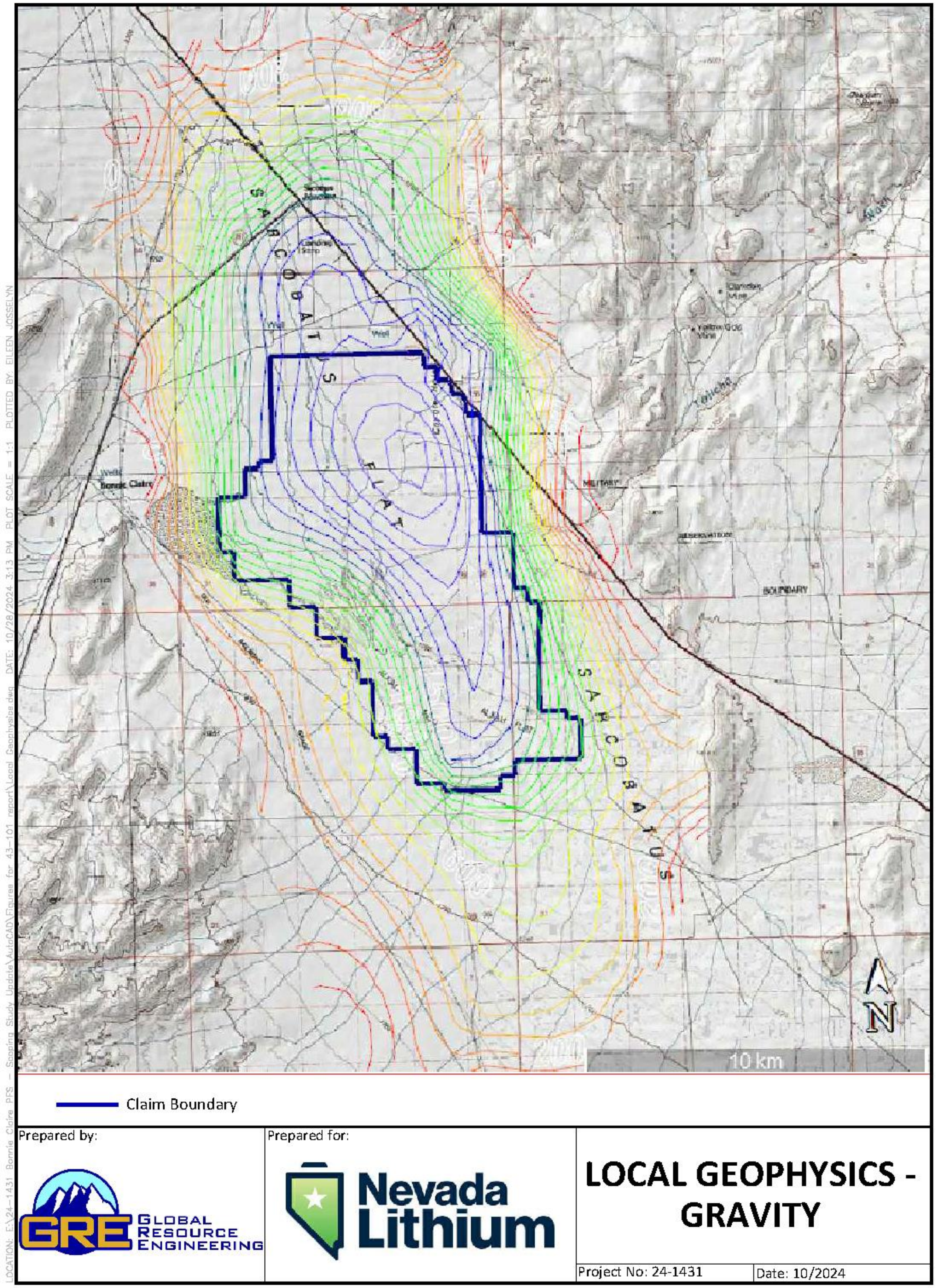
Figure 9-5: Bonnie Claire Project Regional Geophysics-Gravity



Prepared by:	Prepared for:	REGIONAL GEOPHYSICS - GRAVITY
GRE Global Resource Engineering	Nevada Lithium	Project No: 24-1431 Date: 10/2024

Source: Fritz Geophysics, October 2015

Figure 9-6: Bonnie Claire Project Local Geophysics-Gravity



Source: Modified by GRE, geophysics data taken from Fritz Geophysics, October 2015

9.2 Geophysical Exploration (2023)

9.2.1 Overview

From 16 to 28 October 2023, COLOG performed the geophysical logs in hole BC-2301C, including natural gamma, 3-arm caliper, fluid electrical conductivity (FEC) and temperature, normal resistivity with single-point resistance (SPR), microresistivity, and nuclear magnetic resonance (NMR). Wireline straddle-packer (WSP) testing and sampling were also performed at three intervals in hole BC-2301C. The hole was logged in multiple intervals due to hole instability, resulting in some logs being truncated at depths short of total depth (TD) or below the bottom of the casing set at approximately 232.9 meters (764 feet). Additionally, at multiple times during geophysical logging, various probes got hung up going down the hole or stuck on the way up the hole, also causing some difficulties merging data or creating minor data gaps in the logs.

Overall, the data indicates a nominal 96.52-millimeter (mm) (3.8-inch) open hole from 2,430 feet to TD, but with several large washed-out zones above 740.7 meters (2,430 feet) of relatively larger diameter. The large diameter anomalies and washouts above 740.7 meters (2,430 feet) prevented packer testing from being attempted above this depth, as the packers would have had trouble making a good seal in the hole. Similarly, the NMR data, particularly the mobile water porosity measurement, may be biased high in areas where the caliper registered a hole diameter of approximately 152.4 mm (6 inches) or greater. The NMR data indicated several areas of relatively higher mobile water which were selected as straddle-packer intervals to test. The NMR data also indicated the bedrock interface at approximately 902.2 meters (2,960 feet). Few anomalies were registered in the normal resistivity logs, with the exception of an anomaly between approximately 914.4 meters (3,000 feet) and 941.2 meters (3,088 feet) registering approximately 163 Ωm compared to a baseline measurement of approximately 5 Ωm. No other anomalies are observed in the normal resistivity logs. This is not unexpected as the saline hole fluids typically short-circuit the current coming from the electrode on the normal resistivity probe. The microresistivity probe is typically a better resistivity technique in saline environments. The microresistivity log, although measuring proper resistivity, was relatively featureless, with minor increases in observed resistivity at layers of potentially higher sand content. The ambient temperature log is relatively featureless, registering an increased temperature with depth, as expected. No major changes in the slope of the temperature log are observed; however, the hole was perturbed by moving the drill pipe and conducting other logs prior to the acquisition of the ambient fluid conductivity and temperature logs. Downhole straddle-packer testing and groundwater sampling were performed at three water-bearing zones identified from the geophysical data at 769.9 to 784 meters (2,525.9 to 2,572.1 feet), 844.1 to 858.2 meters (2,769.5 to 2,815.7 feet), and 839.9 to 944.9 meters (2,755.7 to 3,100 feet) (TD).

9.2.2 Geophysical Logging

9.2.2.1 Natural Gamma

On October 17th, 2023, natural gamma logging was performed in hole BC-2301C, in conjunction with the resistivity logs, from approximately 4.3 to 940.6 meters (14 to 3,086 feet). The log registers counts per second (CPS) readings of approximately 25 to 125 CPS throughout the hole except for a major anomaly at approximately 452.6 meters (1,485 feet) and a marked increase in CPS from 923.5 to 940.6 meters (3,030 to 3,086 feet). Minor fluctuations in natural gamma CPS are observed throughout the hole and expected due to heterogeneities in the lithology and/or changes in the water volume around the logging probe.

9.2.2.2 Three-Arm Caliper

Between October 16th and 24th, 2023, 3-arm caliper logging was performed multiple times over different intervals in BC-2301C to a depth of 3,088 feet. The caliper log registered a nominal 96.52-mm (3.8-inch) open hole from 740.7 meters (2,430 feet) to TD, but with several large washed-out zones above 740.7 meters (2,430 feet) of relatively larger diameter. The caliper log registers frequent deviations from the baseline diameter throughout. Particularly large anomalies are located between 288.0 to 371.9 meters (945 to 1,220 feet), 396.2 to 570 meters (1,300 to 1,870 feet), and 573 to 661.4 meters (1,880 to 2,170 feet).

9.2.2.3 Ambient Fluid Electrical Conductivity and Temperature

On October 17th, 2023, fluid electrical conductivity and temperature logging were performed in hole BC-2301C. After a calibration check of the FEC and temperature values, the open hole fluid column was logged for ambient FEC and temperature from approximately 6.1 to 934.2 meters (20 to 3,065 feet). The ambient FEC log registers multiple anomalies and changes in the slope of the log throughout the length of the open hole. The ambient FEC profile registered a minor slope change at approximately 232.9 meters (764 feet), suggesting the bottom of the casing. Additional minor slope changes were observed at approximately 292.6 meters (960 feet), 302.7 meters (993 feet), 384 meters (1,260 feet), 520.6 meters (1,708 feet), 585.8 meters (1,922 feet), and 588.3 meters (1,930 feet). The measured fluid conductivity has a minimum of approximately 22,100 microsiemens per centimeter (µS/cm) at approximately 585.8 meters (1,922 feet), while a maximum FEC of approximately 35,700 µS/cm is registered at approximately 302.7 meters (993 feet). Only one significant anomaly is present in the ambient FEC profile, which occurs at approximately 927.8 meters (3,044 feet); however, this is likely mud at the bottom of the hole. The ambient temperature log registers increasing temperature with depth, as expected. No significant changes in slope are observed in the ambient temperature profile, likely due to the lack of time the hole sat undisturbed prior to logging. A minimum ambient temperature of approximately 16.2° C is observed at roughly 7.6 meters (25 feet), and a maximum ambient temperature of approximately 23.0° C is seen at 934.2 meters (3,065 feet).

9.2.2.4 Nuclear Magnetic Resonance (NMR)

The NMR probe essentially measures bulk porosity and then calculates effective porosity and bound water based on electron-spin relaxation times measured by the probe. Due to the diameter of the open hole and the diameter of steel that the probe would have to travel through to get to the open hole, COLOG chose the 44.45-mm (1.75-inch) JPZ175E and the 60.45-mm (2.38-inch) diameter JPY238 probes. Both probes log in multiple frequencies, enabling multiple diameters of investigation. The two frequencies correspond to diameters of investigation of 228.6 mm (9 inches) and254 mm (10 inches) for the JPZ175E probe and 228.6 mm (9 inches) and 279.4 mm (11 inches) for the JPY238 probe. Because the measurement occurs at a finite radial distance from the probe, care must be taken to consider log results only when the open hole does not intersect the radial depth of investigation.

The NMR was processed using both shells (228.6 mm [9 inches] and either 254 mm or 279.4 mm [10 or 11 inches]), easily reaching into the formation past hole effects and drilling intrusion, increasing the accuracy of the porosity measurements, with the exception of the larger washouts. The NMR porosity measurement is less affected by formation changes or mud cake, as it only measures the hydrogen atoms in its shells of investigation. Where there are large hole washouts, the NMR can overestimate porosity and hydraulic conductivity. Unconsolidated calibration parameters were used to process NMR hydraulic conductivity logs presented in the composite logs.

On October 19th and 20th, 2023, NMR logging was performed in BC-2301C using the 44.45-mm (1.75-inch) diameter probe from approximately 237.7 meters (780 feet) to 747.1 meters (2,451 feet). Additional NMR logging using the 60.45-mm (2.38-inch) diameter probe was conducted on October 21st and 23rd, 2023, from approximately 747.1 meters (2,451 feet) to 934.5 meters (3,066 feet). Intervals where the caliper log exhibited a relatively large hole – large enough to affect the results of the NMR probe – are approximately:

- 264 to 267 meters (866 to 876 feet)
- 277.7 to 280.4 meters (911 to 920 feet)
- 306 to 356.6 meters (1,004 to 1,170 feet)
- 387.1 to 391.1 meters (1,270 to 1,283 feet)
- 400.8 to 518.8 meters (1,315 to 1,702 feet)
- 521.5 to 563.9 meters (1,711 to 1,850 feet)
- 580.9 to 595.6 meters (1,906 to 1,954 feet)
- several small intervals of 0.3 to 0.9 meters (one to three feet) between 601.4 and 739.4 meters (1,973 and 2,426 feet) are intervals where there is potential for bias in the porosity and hydraulic conductivity logs due to diameter enlargement.

There are numerous intervals in the NMR log that illustrate relatively higher mobile water porosity relative to the surrounding host rock and relative to the nominal low mobile water porosity exhibited by the clays of approximately 0.5 percent or less. The high mobile water anomalies do not correlate with low gamma anomalies, as would typically be expected. This may suggest homogeneity of lithology with respect to the clay/sand content. Intervals exhibiting relatively high mobile water porosity are approximately:

- 264.3 to 272.8 meters (867 to 895 feet)
- 279.2 to 281.9 meters (916 to 925 feet)
- 307.5 to 328.3 meters (1,009 to 1,077 feet)
- 706.2 to 714.5 meters (2,317 to 2,344 feet)
- 718.4 to 720.5 meters (2,357 to 2,364 feet)
- 728.2 to 740.4 meters (2,389 to 2,429 feet)
- 742.2 to 744.3 meters (2,435 to 2,442 feet)
- 751.3 to 761.1 meters (2,465 to 2,497 feet)
- 765.7 to 768.1 meters (2,512 to 2,520 feet)
- 768.7 to 775.7 meters (2,522 to 2,545 feet)
- 777.5 to 787 meters (2,551 to 2,582 feet)
- 844.9 to 847.3 meters (2,772 to 2,780 feet)
- 849.2 to 852.5 meters (2,786 to 2,797 feet)

- 833.4 to 855.9 meters (2,800 to 2,808 feet)

9.2.2.5 Microresistivity

All electrical logs require the presence of the hole fluid to carry the current from the probe to the formation, and therefore these devices do not work above fluid level. Electric resistivity probes also do not provide good electrical resistivity data in the presence of steel casing. Microresistivity tools utilize a motor-driven arm to press a flexible pad with concentric electrodes against the hole wall. The concentric electrodes emit a focused beam, allowing high-resolution measurements to differentiate thin beds. Microresistivity tools are useful in brackish environments and are primarily used to highlight porous, permeable strata.

Microresistivity logs are capable of detecting laminae less than 1 inch thick under proper mud conditions. Correlation with natural gamma is useful in characterizing lithology. Microresistivity tools provide more accurate data in saline environments and are less influenced by hole geometry and hole fluids as the pad is pressed directly against the hole wall. Microresistivity measurements in conjunction with natural gamma allow improved interpretation of bedding thicknesses and lithology.

On October 21, 2023, microresistivity logging was performed in hole BC-2301C from approximately 281 to 730.6 meters (922 to 2,397 feet) aside from a small gap from 333.5 to 334.4 meters (1,094 to 1,097 feet). The microresistivity measurements range from approximately 8 to 59 Ωm. Microresistivity measurements in the hole are somewhat consistent at 10 to 20 Ωm. Increases in resistivity beyond this baseline are seen at the following intervals:

- 281.6 to 297.5 meters (924 to 976 feet)
- 301.8 to 304.8 meters (990 to 1,000 feet)
- 364.2 to 367.6 meters (1,195 to 1,206 feet)
- 369.4 to 378.6 meters (1,212 to 1,242 feet)
- 381.3 to 383.4 meters (1,251 to 1,258 feet)
- 396.2 to 399.3 meters (1,300 to 1,310 feet)
- 400.8 to 402.3 meters (1,315 to 1,320 feet)
- 408.7 to 410.6 meters (1,341 to 1,347 feet)
- 417 to 418.5 meters (1,368 to 1,373 feet)
- 431.6 to 439.8 meters (1,416 to 1,443 feet)
- 440.4 to 442.3 meters (1,445 to 1,451 feet)
- 563.9 to 566 meters (1,850 to 1,857 feet)
- 569.7 to 572.4 meters (1,869 to 1,878 feet)
- 577.6 to 578.8 meters (1,895 to 1,899 feet)
- 604.4 to 605.3 meters (1,983 to 1,986 feet)
- 609.3 to 611.4 meters (1,999 to 2,006 feet)
- 614.2 to 615.4 meters (2,015 to 2,019 feet)

- 660.5 to 661.7 meters (2,167 to 2,171 feet)
- 699.2 to 703.5 meters (2,294 to 2,308 feet)
- 705.3 to 709 meters (2,314 to 2,326 feet)
- 711.4 to 715.1 meters (2,334 to 2,346 feet)
- 715.7 to 717.8 meters (2,348 to 2,355 feet)
- 721.5 to 724.8 meters (2,367 to 2,378 feet)
- 727.3 to 730.6 meters (2,386 to 2,397 feet)

9.2.2.6 Electrical Log

As mentioned previously, all electrical logs require the presence of the hole fluid to carry the current from the probe to the formation, and therefore these devices do not work above the fluid level. Quantitative formation of electrical resistivity, spontaneous potential, and qualitative single-point resistance can be measured with a combination tool. The operational features of each measurement are discussed under the measurement heading.

- **Long and Short Normal Resistivity**

  Formation resistivity is dependent on the fluid salinity, permeability, and connected fracture paths within the depth of investigation of the measurement. Measured resistivity is also controlled by particle surface conduction in clastic environments. The resistivity measurement decreases in larger diameter holes and areas in which the hole has been broken out and/or highly fractured. The above responses allow interpretation of lithologic types, correlation of beds, estimation of fluid quality, and possible fractured zones.

  On October 17, 2023, normal resistivity logging was performed from approximately 202.4 to 941.2 meters (664 feet to 3,088 feet). In BC-2301C, the long (162.6-centimeter [cm] [64-inch]) normal resistivity measurements range from approximately 1.2 to 85.2 Ωm, while the short (40.6-cm [16-inch]) normal resistivity measurements range from approximately 0.4 to 163.0 Ωm. Both the long and short normal resistivity logs are relatively featureless, with a baseline of approximately 2.5 to 5.0 Ωm, with the exception of a large anomaly in both logs between approximately 914.4 and 941.2 meters (3,000 and 3,088 feet). Calibration of the long and short normal resistivity measurements is performed in the shop with a known resistance box which tests a range of resistivity from 0.0 to 10,000 Ωm. Note that the normal resistivity values are significantly affected by hole diameter, fluid resistivity, and other factors that must be considered in order to assess true resistivity.

- **Single-Point Resistance (SPR)**

  On October 17, 2023, SPR logging was performed, in conjunction with the normal resistivity logs, from approximately 202.4 to 941.2 meters (664 to 3,088 feet). The SPR measurement is controlled by rock and fluid parameters in much the same way as resistivity logs. The measured resistance includes hole fluid, and the formation around the hole. The current density is higher near the hole electrode and surface electrode. Since the current density at the surface electrode is constant, formation variations close to the probe produce the resistance changes visible on the logs. Since there is a single downhole electrode, not an array, the log effectively shows a point measurement. This gives a very responsive, high vertical resolution measurement. Though the single-point resistance cannot be calibrated quantitatively, its instantaneous response is a good boundary indicator and does show a more defined response than the 40.6-cm (16-inch) or 162.6-cm (64-inch) normal resistivity measurements. The SPR measurement in BC-2301C tracks very similarly to the normal resistivity measurements, including the anomaly mentioned above, with low and high values ranging from approximately 0.2 to 38.4 ohms.

9.2.2.7 Wireline Straddle-Packer Testing

Between October 24 and 28, 2023, WSP testing and sampling were performed in BC-2301C at three intervals. The intervals tested are:

- 769.9 to 784 meters (2,525.9 to 2,572.1 feet)
- 844.1 to 858.2 meters (2,769.5 to 2,815.7 feet)
- 839.9 meters (2,755.7 feet) to TD (944.9 meters [3,100.0 feet])

WSP sampling was conducted at all three intervals to acquire interval-specific groundwater samples from fracture/inflow zones identified during geophysical logging investigations.

In addition to collecting representative groundwater samples from these intervals, development pumping was conducted to purge as much water from the sample intervals as reasonably possible. During pumping and sampling, pressures in the zone of interest were recorded to monitor the pumping process. Discussion of contaminant concentrations derived from the sampling results is not part of the scope of COLOG’s involvement.

WSP testing was also conducted to estimate permeability within the packer intervals chosen. Constant-Rate Extraction testing was chosen as the preferred testing technique due to the expected moderate to highyields of the intervals. For all testing, pressures within the interval of interest were recorded to estimate fracture-specific or interval-specific permeability for each interval tested using the Thiem equation method as well as the Hvorslev Slug Test Recovery method using the program AQTESOLV. The respective permeabilities estimated at each interval are summarized in Table 9-1.

Table 9-1: Wireline Straddle-Packer Testing Results in Hole BC-2301C

Interval No.	Top of Interval (ft)	Bottom of Interval (ft)	Length of Interval	Differential Pressure (psi)	Drawdown (ft)	Interval Specific Extraction or Recovery Rate: WSP Stress Test (gpm)	Interval Specific Hydraulic Conductivity (ft/day)
1	2525.9	2572.1	46.2	20.38	47.07	3.38	0.371
2	2769.5	2815.7	46.2	22.79	52.63	2.08	0.204
3	2755.7	3100.0	344.3	8.38	19.35	6.05	0.217

9.3 Surface Sampling

Surface samples were collected by Iconic geologists in two periods: samples BC 1 to BC 22 were collected in October 2015, and samples BG1 to BG318 were collected in May and June 2017. A map of the locations of BC 1 to BC 22 is shown in Figure 9-7. A map of the locations of BG1 to BG318 along with lithium average grade contours is shown in Figure 9-8.

In total, Iconic has submitted 330 soil samples for laboratory analysis by 33 element 4-acid ICP-AES. Analytical results indicate elevated lithium concentrations at ground surface over nearly the full extent of the area sampled. The highest-grade for the BC-1 through BC-22 sampling set came from the central portion of the Bonnie Claire Property, near the contact between the alluvial fans and the mud flat. The 2017 sample collection was conducted on systematic grid dimensions of 400 meters x 200 meters in the central and southern portions of the Project area. This surface sampling yielded an average lithium grade of 262 ppm Li.

Figure 9-7: Bonnie Claire Lithium Project Surface Sampling Locations (BC 1-22)

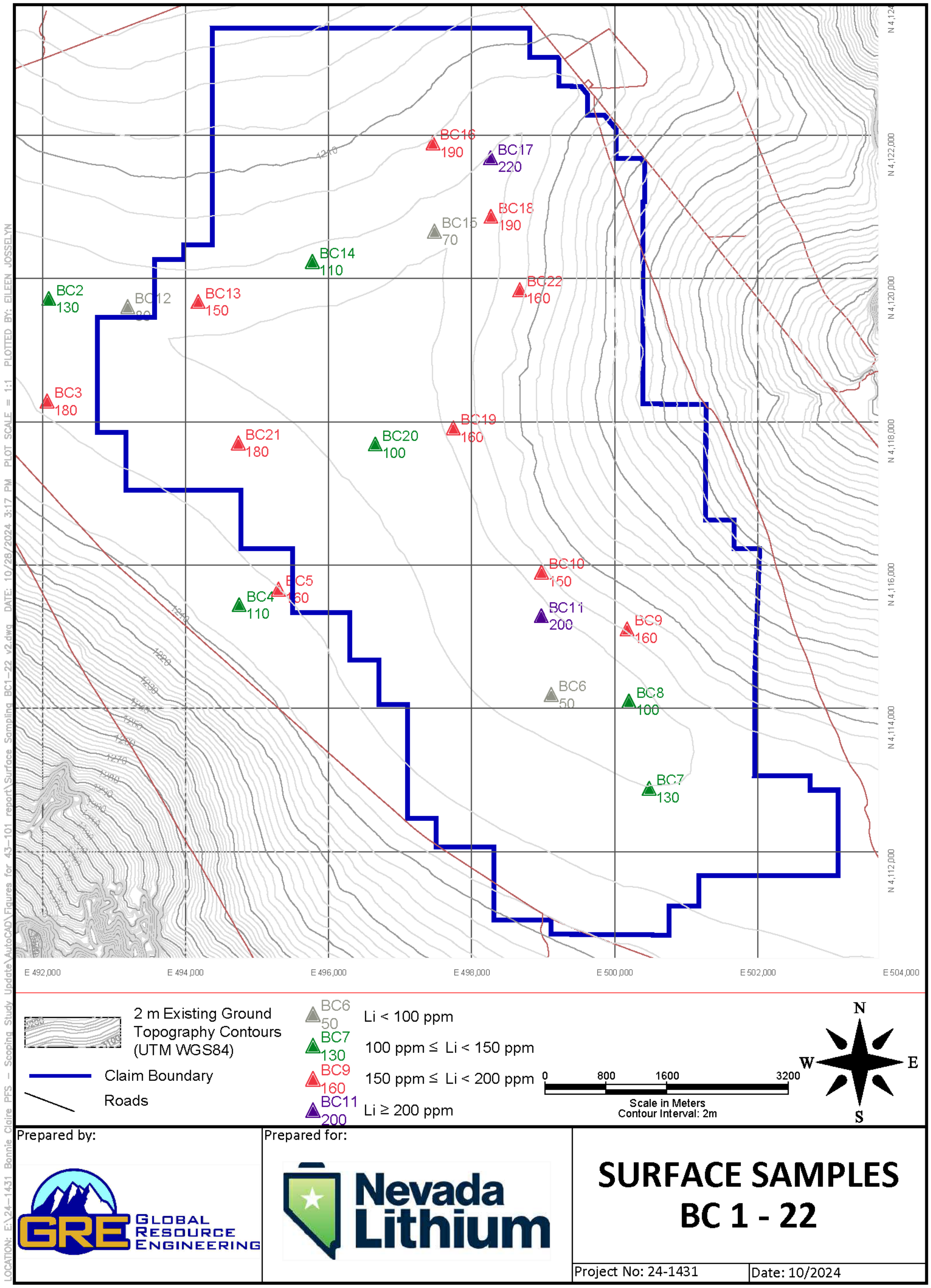
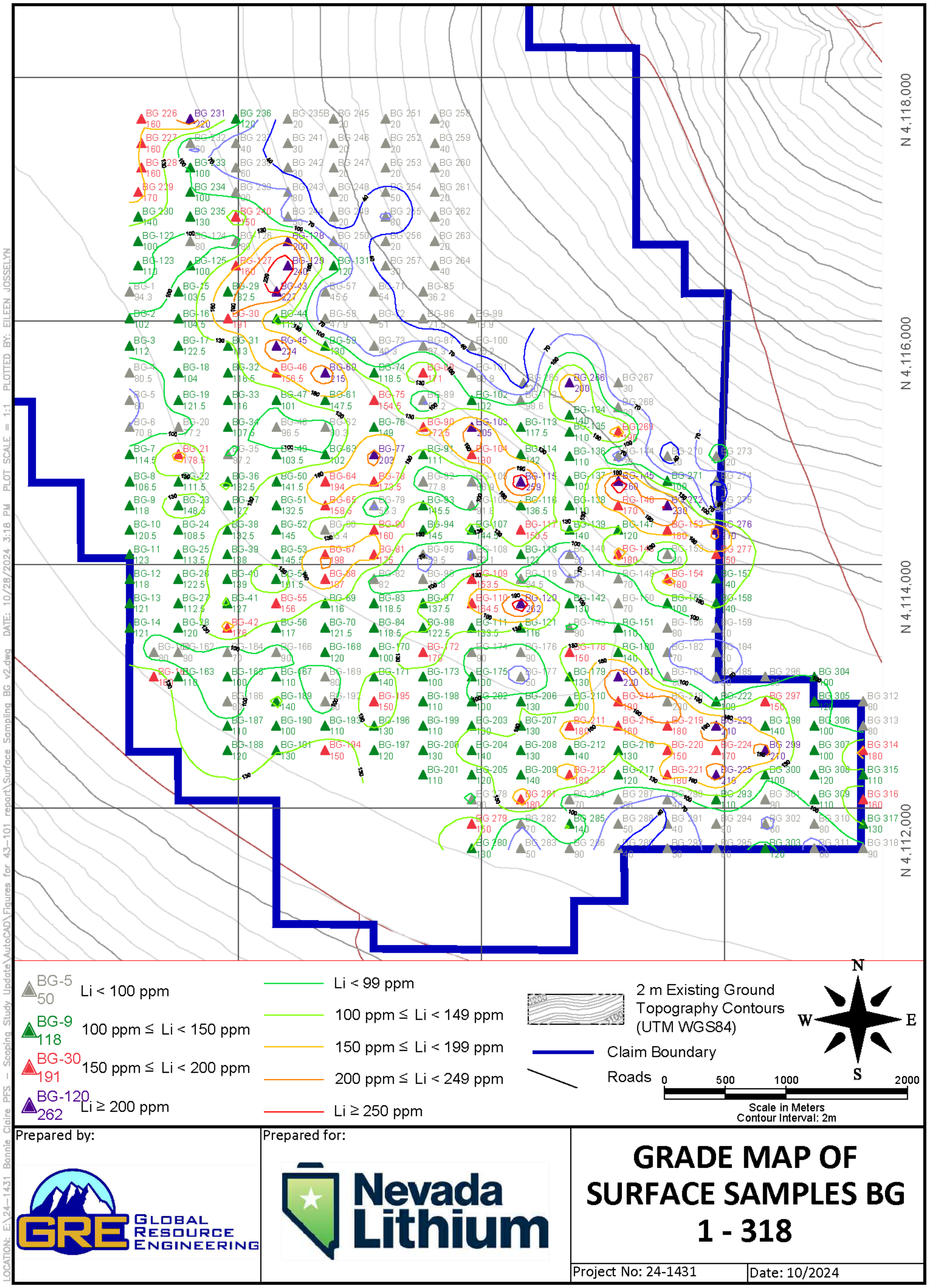


Figure 9-8: Bonnie Claire Lithium Project Surface Sampling Locations (BG 1-318)



9.4 Mapping

Iconic has conducted general geologic surface mapping over most of the Project area. The total mapped surface is roughly 235 km^2. The surficial geologic maps are used as a general guide for exploration planning in conjunction with soil sampling and drilling results.

10.0 DRILLING

10.1 Introduction

As of the effective date of this Technical Report, Iconic and Nevada Lithium has completed 23 holes, which include six vertical RC holes, 11 vertical DH holes (noted on Figure 10-1 with a "C" suffix), four vertical MH holes, and two vertical sonic holes (noted in Figure 10-1 with a "S" suffix), totaling 10,092.23 meters (33,111 feet) (see Figure 10-1 and Table 10-1).

Figure 10-1: Bonnie Claire Lithium Project Drill Hole Locations

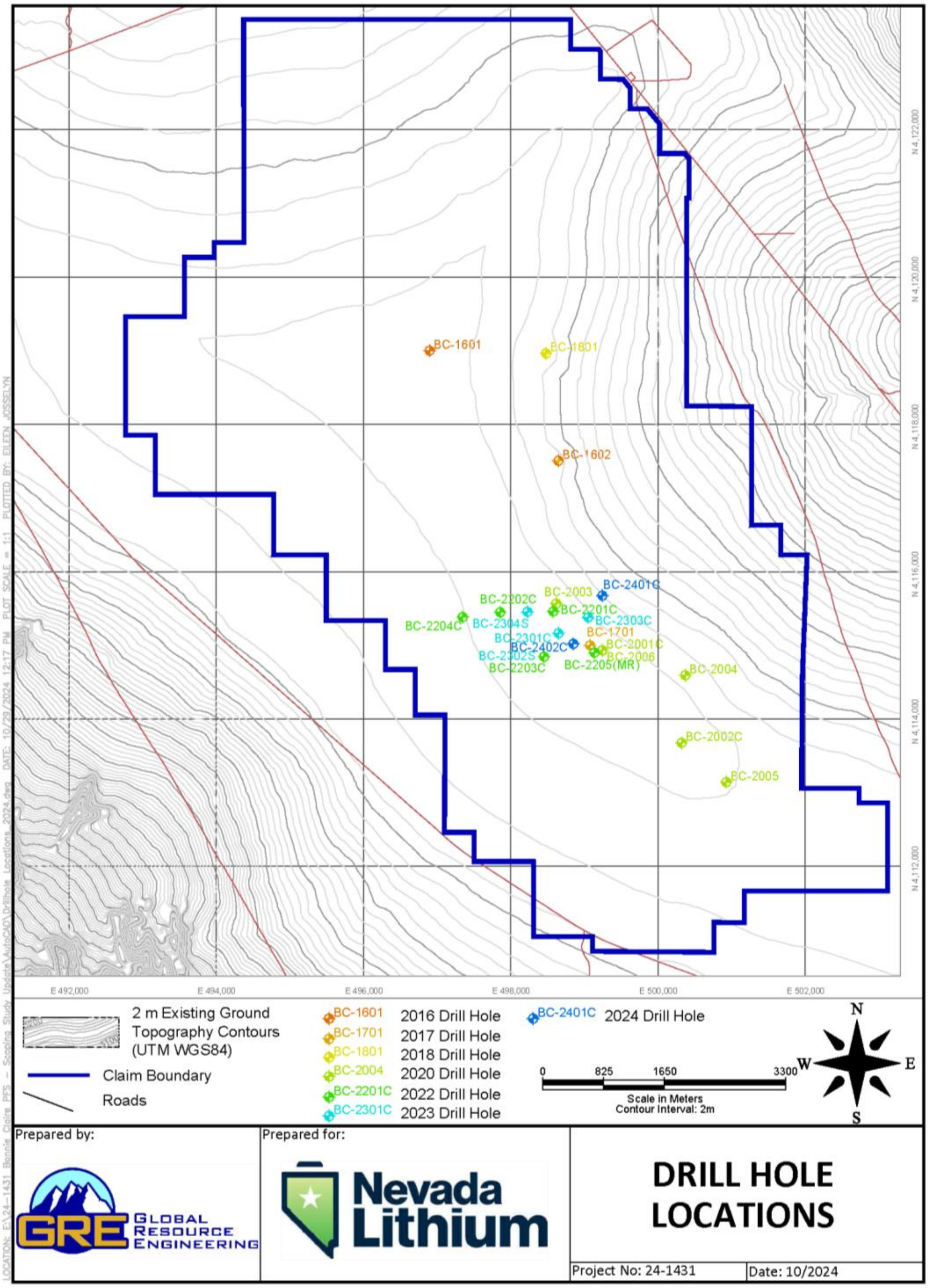


Table 10-1: Iconic / Nevada Lithium Drilling Summary

Campaign Year	Drill Method	Meters	Number of Holes
2016	MH	1,078.99	2
2017	RC	91.44	1
2018	RC	566.93	1
2020	RC	319.43	4
	DH	221.28	2
2022	DH	2,952.90	5
	MH	932.69	2
2023	DH	1,706.88	2
	SH	388.62	2
2024	DH	1,770.58	2
Total		**10,029.74**	**23**

10.2 Iconic (2016-2018)

Three drill programs were completed at the Project between 2016 and 2018. Iconic conducted drilling exploration at the Project in 2016, 2017, and 2018. A total of four vertical holes, including two mud holes and two RC holes were drilled, all by Harris Exploration Drilling & Associates Inc.

Drill hole locations are presented in Figure 10-1 and drill hole details are summarized in Table 10-2.

Table 10-2: Bonnie Claire Lithium Project Drill Hole Summary (2016-2018)

Campaign years	Drill Method	Drill hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth	Dip
2016	MH	BC-1601	496,904.00	4,118,949.00	1202.13	475.49	0	-90
		BC-1602	498,646.00	4,117,454.00	1207.01	603.50	0	-90
2017	RC	BC-1701	499,078.00	4,115,000.00	1202.13	91.44	0	-90
2018	RC	BC-1801	498,480.00	4,118,963.00	1206.40	566.93	0	-90

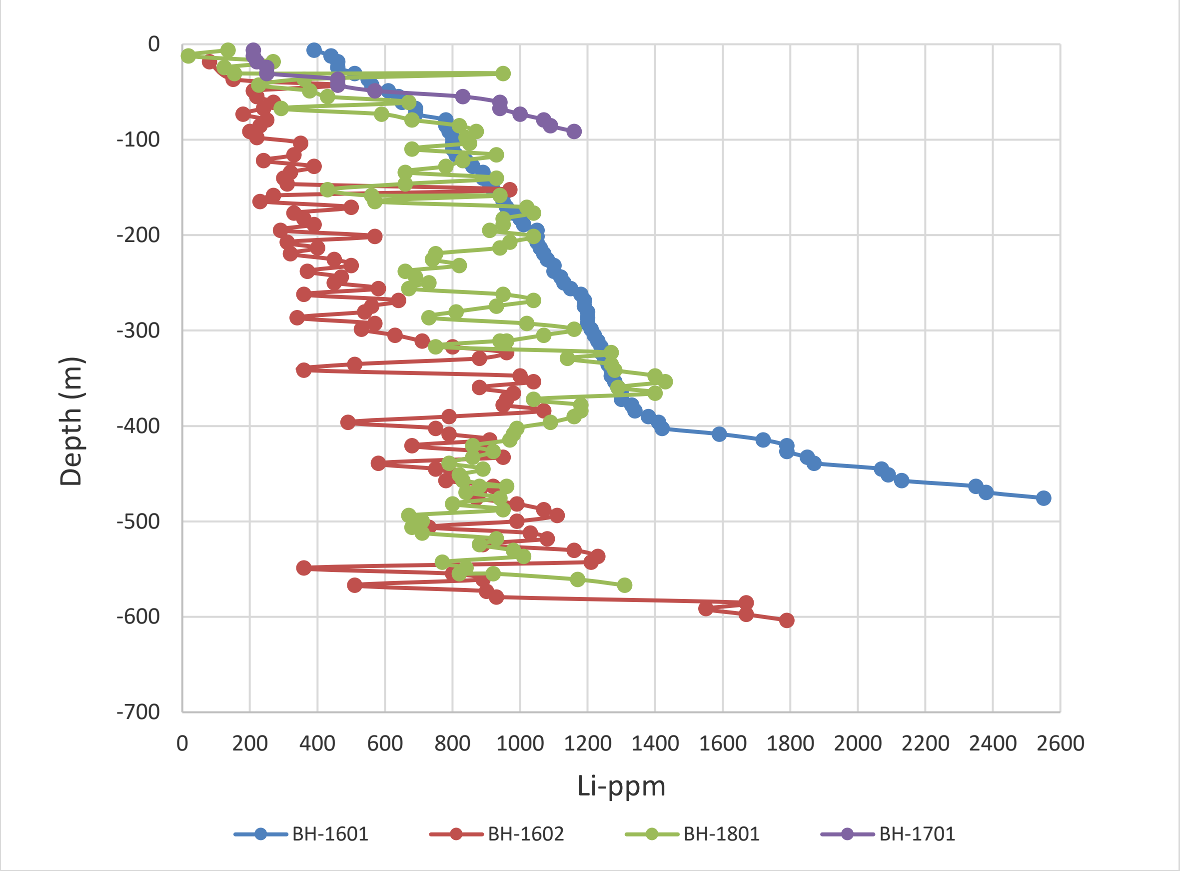
A total of 1,737.36 meters (5,700 feet) of drilling was performed from 2016 to 2018. The average sample interval length was 6.09 meters (20 feet). Because lithium deposited within the fine grain clay, silt, and sand pore space, the sample length has no direct relationship with the mineralization. Iconic used a 6.09-meter (20-foot) interval length to record a series of continuous samplings among these four holes to understand the mineralization concentration.

Based on drilling exploration campaigns from 2016 to 2018, the subsurface stratigraphy consists of variably interbedded lakebed deposits of sand, silt, clay, mudstone (both calcareous and ash-rich), and claystone. In addition, there are occasional tuffaceous sandstone lenses.

The drilling results generally indicate a particularly favorable deposit of ash-rich mudstones that extend to depths of up to 600 meters. Within this mudstone, there exists a tabular oxidation/reduction zonation. The color change in freshly-drilled samples is dramatic, with green to olive green mudstones and claystone changing to grey, grey-green, blue and black. The lithium content is often higher within the oxidized sediments, though any specific significance of the oxidation horizon regarding lithium mineralization is not yet well understood.

Although the drill holes are widely spaced, averaging 1,100 meters between holes, the lithium profile with depth is mostly consistent from hole to hole. Lithium content vs. depth is plotted on Figure 10-2. The average Li for all 434 samples assayed is 778 ppm, with an overall range of 18 to 2,550 ppm Li.

Figure 10-2: Lithium Grade Distribution with Depth in Four Holes (2016-2018)



The average lithium content for four holes drilled in 2016, 2017, and 2018 is presented in Table 10-3.

Table 10-3: Bonnie Claire, the Average Lithium Content for Four holes

Drill Hole ID	Depth (m)		Length (m)	Ave Li (ppm)
	From	To		
BC-1601	0	475.49	475.49	1,152.6
BC-1602	0	603.50	603.50	640.6
BC-1701	0	91.44	91.44	644.0
BC-1801	0	566.93	566.93	843.6

Iconic reports that sample recoveries are generally excellent, and this was verified by visual examination of the chip trays during the site visit.

10.3 Iconic (2020)

In 2020, Iconic conducted drilling exploration at the Project. Iconic used Harris Exploration Drilling & Associates Inc. to do this work. A total of four vertical RC and two vertical DH holes were drilled (Figure 10-1). Drill hole details of this drill program are provided in Table 10-4.

Table 10-4: Bonnie Claire Lithium Project Drill Hole Summary (2020)

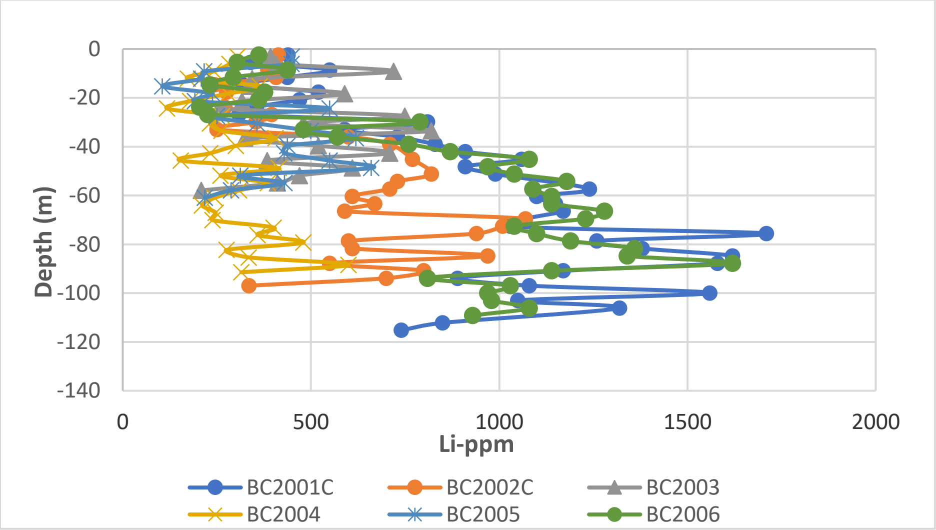
Campaign years	Drill Method	Drill hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth	Dip
2020	RC	BC2003	498,619.00	4,115,566.00	1204.00	57.91	0.0	-90.0
		BC2004	500,372.00	4,114,593.00	1204.78	91.44	0.0	-90.0
		BC2005	500,930.00	4,113,144.00	1204.00	60.96	0.0	-90.0
		BC2006	499,243.00	4,114,933.00	1202.54	109.12	0.0	-90.0
	DH	BC2001C	499,245.00	4,114,930.00	1202.55	121.31	0.0	-90.0
		BC2002C	500,321.00	4,113,676.00	1204.00	99.97	0.0	-90.0

A total of 540.71 meters (1,774 feet) of drilling was performed in 2020. For this campaign, the average sample interval length was 3.048 meters (10 feet) for both RC and DH drillings. In this drilling campaign, Iconic reduced the sample interval from 6.09 meters (20 feet) to 3.05 meters (10 feet) to confirm subsurface stratigraphy, as described in Section 7.

The result of drilling exploration in 2020 confirmed the same subsurface stratigraphy mentioned in previous drilling campaigns. The core samples BC2001C and BC2002C in 2020 showed that the subsurface stratigraphy consists of variable sedimentary deposits of sand, silt, clayey silt, silty clay, mudstone, and claystone with a wide color variety of green and brown.

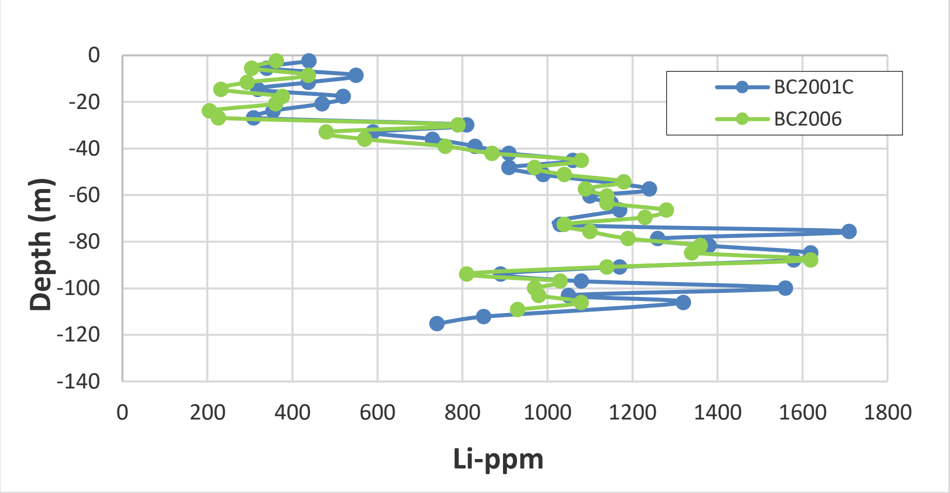
Figure 10-3 shows the lithium profile with depth for the six holes drilled in 2020. Lithium content averages 627.7 ppm Li for all 169 samples assayed, with an overall range from 105 to 1,710 ppm Li.

Figure 10-3: Lithium Grade Distribution with Depth in Six Holes Drilled in 2020



Core hole BC2001C and RC hole BC2006 are twinned. Average assay results from the core hole are approximately 7% higher than the average assay results from the RC hole, suggesting some of the lithium solubilizes during RC drilling (Figure 10-4). Although core hole drilling provides more reliable data, this difference shows that a resource estimation can rely on RC hole data. Additional twinning work using RC and core is needed to confirm that differences are not more and are in the above range.

Figure 10-4: Lithium Grade Distribution with Depth, Holes BC2001C & BC2006



10.4 Iconic (2022)

In 2022, Iconic conducted a drilling exploration at the Project. Iconic used two drilling companies to do this work, including American Drilling Corp, LLC. for Core holes (DH) and Harris Exploration Drilling & Associates Inc for Mud Rotary holes (MH). A total of five vertical DH and two vertical MH holes were drilled (Figure 10-1). Drill hole details of this drill program are provided in Table 10-5.

Table 10-5: Bonnie Claire Lithium Project Drill Hole Summary (2022)

Campaign years	Drill Method	Drill hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth	Dip
2022	DH	BC2201C	498,578.00	4115460	1204.00	609.90	0	-90
		BC2202C	497,857.00	4115448	1204.00	608.69	0	-90
		BC2203C	498,454.00	4114846	1202.98	608.99	0	-90
		BC2204C	497,348.00	4115383	1204.05	574.24	0	-90
		BC2205C	499,138.00	4114903	1202.39	551.08	0	-90
	MH	BC2201	498,578.00	4115460	1204.00	609.60	0	-90
		BC2205	499,138.00	4114903	1202.39	323.09	0	-90

Based on results from the previous deep holes that encountered favorable material at depth, as well as data from the Magneto Telluric survey (MT), an effective tool in identifying potential brines, which showed a very low resistivity layer (LVRL) which may be lithium-bearing, and in defining the potential resource model, drilling target for the 2022 campaign was designed to a maximum depth of 609.6 meters (2000 feet).

A total of 2,952.90 meters (9,688 feet) of DH drilling and 932.69 meters (3,060 feet) of MH drilling totaling 3,885.59 meters (12,748 feet) were performed in 2022. Drilling in hole BC2201C started with PQ core barrel, then reduced to HQ. For the rest of the core holes, drilling started with HQ core barrel and then reduced to NQ. For this campaign, the average sample interval length was 6.09 meters (20 feet) for both DH and MH drillings, except for BC2201C, which was less than 6.09 meters (20 feet) in general and less than 3.05 meters (10 feet) for most intervals. In this drilling campaign, Iconic designed six holes adjacent to previous holes, especially those in campaign 2020, including BC2003, BC2006, and BC2001C, with a maximum depth of 121.3 meters for BC2001C. In addition, hole BC-1701, with a maximum depth of 91.4 meters in campaign 2017, is located near holes BC2205C and BC2205 in campaign 2022. It is noteworthy to mention that hole BC2205 was drilled from the surface to a depth of 323.09 meters (1,060 feet) by mud hole drilling method and then from this depth to a depth of 551.07 meters (1,808 feet) by coring method, called BC2205C with a total depth of 874.17 meters (2,868 feet) (Table 10-5).

The sample interval of 3.05 meters (10 feet) in the 2020 campaign confirmed the subsurface stratigraphy described in Section 7. In the 2022 campaign, Iconic considered a sample interval of 3.04 meters (10 feet) for hole BC2201C to check the subsurface stratigraphy at deeper sections and because of sampling for geotechnical testing. Iconic considered a sample interval of 6.09 meters (20 feet) for the rest of the holes because Iconic wanted to discover and approve a high potential of lithium in deeper sections, such as those holes drilled in campaign 2016 (BC-1602) and 2018 (BC-1801) at the middle-northern part of the property.

The result of drilling exploration in 2022 confirmed the same subsurface stratigraphy mentioned in previous drilling campaigns. The core samples showed that the subsurface stratigraphy consists of a variety of sedimentary units of mudstone, claystone, sandstone, and siltstone with a wide color variety of green and brown.

Figure 10-5Figure 10-3 shows the lithium profile with depth for the five core and two mud holes drilled in 2022. For the five core holes, lithium content averaged 1,161.1 ppm for all 806 samples assayed, with an overall range from 25.1 to 7,160 ppm Li (Figure 10-6). For the two mud holes, lithium content averaged 452.9 ppm Li for all 152 samples assayed, with an overall range from 51.9 to 2,190 ppm Li (Figure 10-7).

Figure 10-5: Lithium Grade Distribution with Depth in all Seven Holes Drilled in 2022

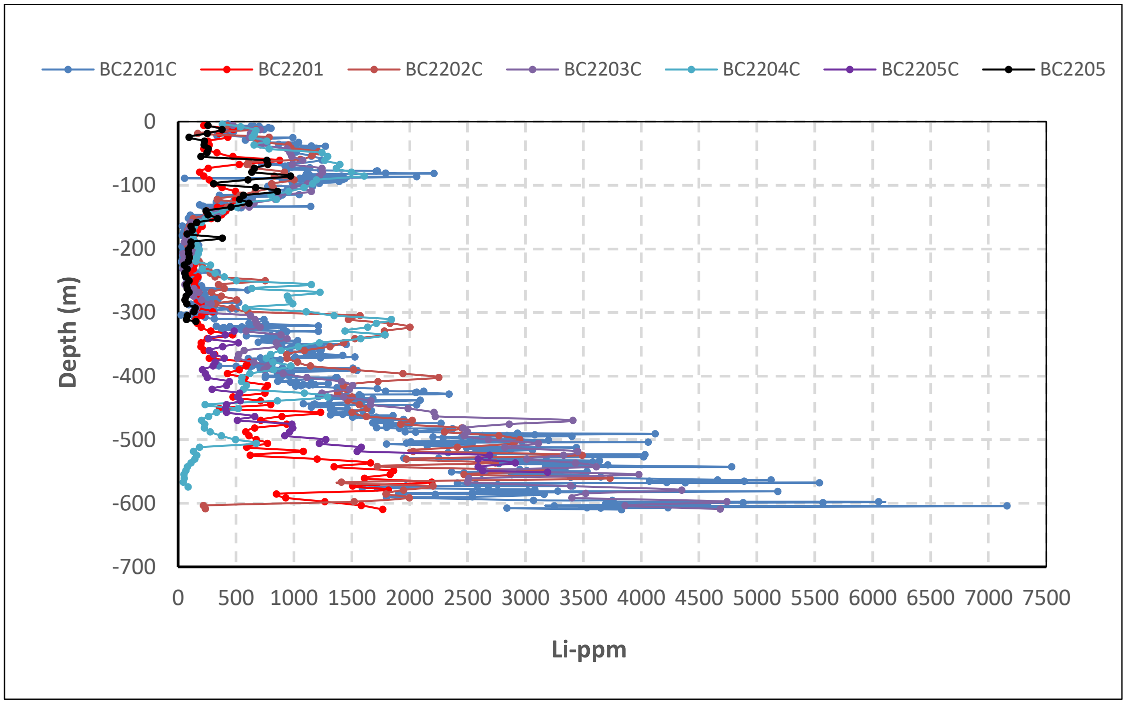


Figure 10-6: Lithium Grade Distribution with Depth in Five Core Holes Drilled in 2022

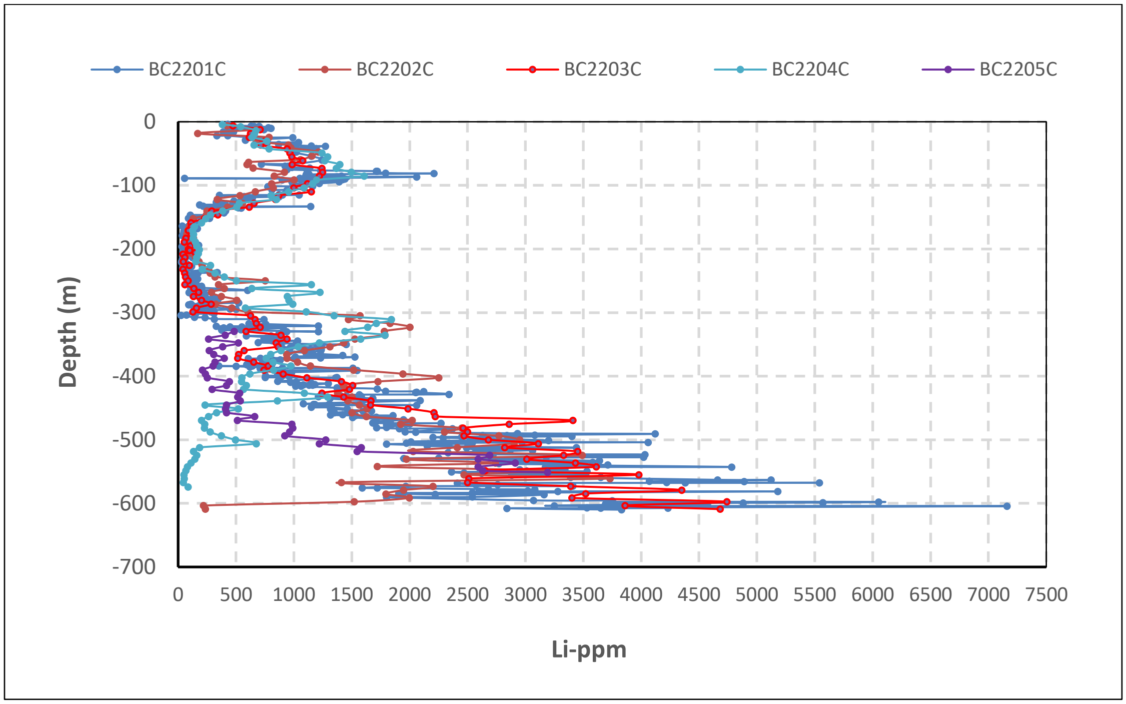
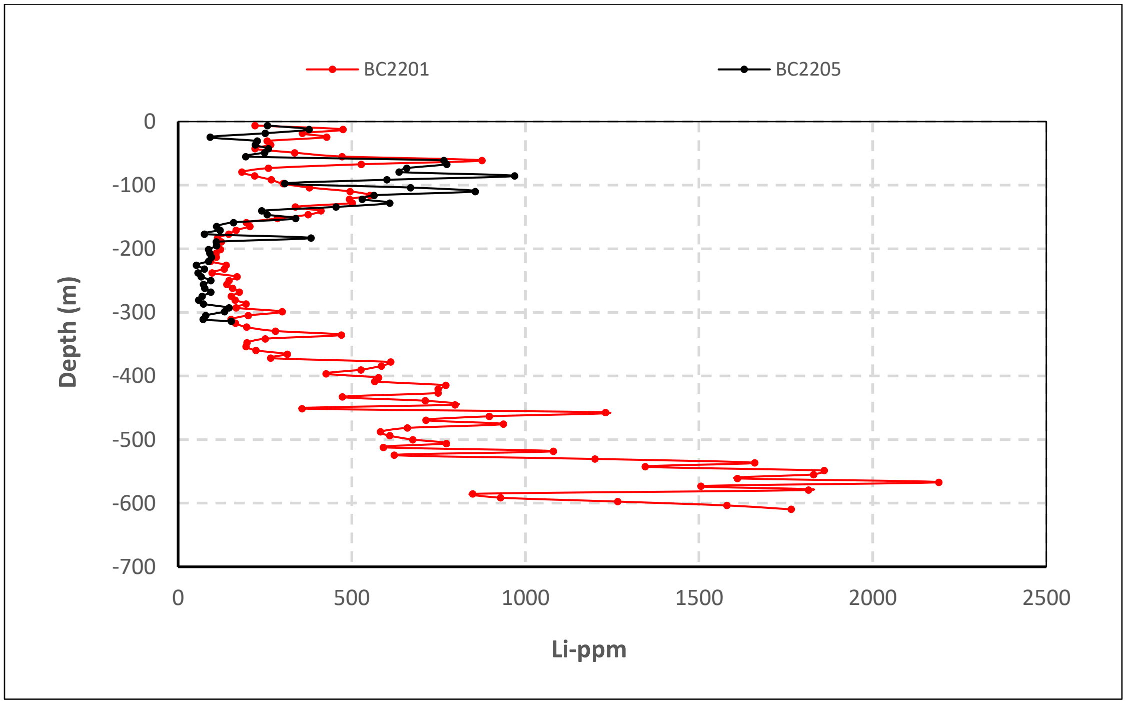


Figure 10-7: Lithium Grade Distribution with Depth in Two Mud Holes Drilled in 2022



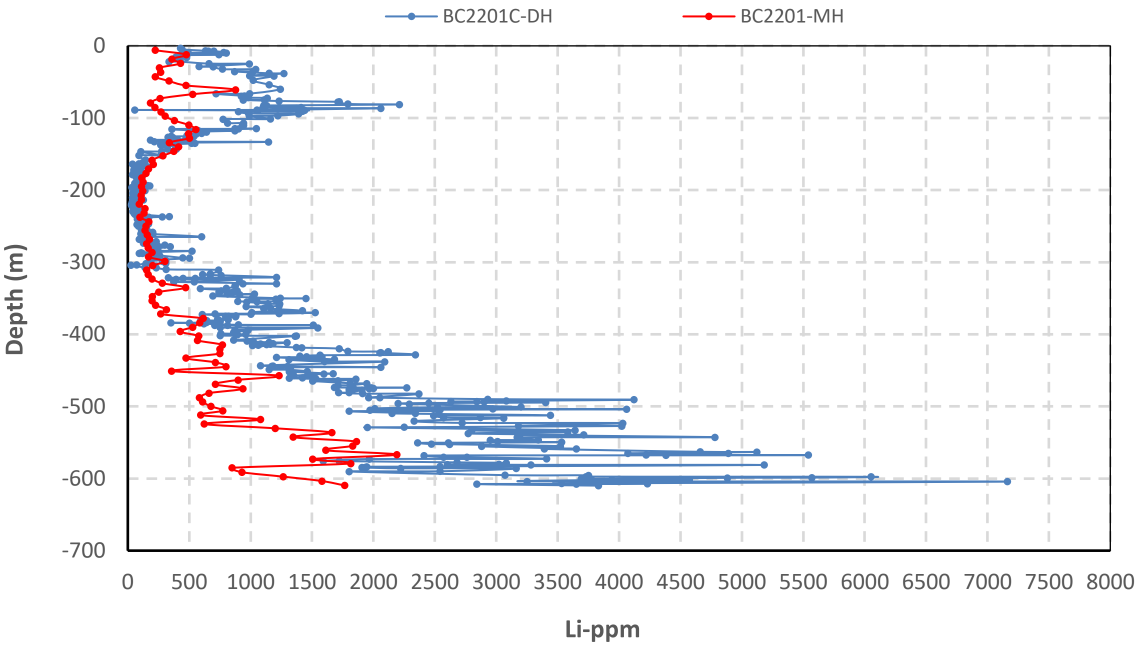
The results from the 2022 drilling campaign proved the shallow target explored in the previous drilling campaigns, located at a 35 to 115 meters depth with a maximum lithium content of 2,210 ppm at a depth of 81.38 meters, which is correlated with claystone layers. The data from the 2022 campaign also shows that at 160 to 220 meters depth, lithium content is less than 200 ppm, which is correlated with sandstone layers. After a depth of 220 meters, data from holes in the middle of the basin, such as core holes BC2201C, BC2202C, and BC2203C, show an increase in lithium content with a depth up to a maximum amount of

7,160 ppm lithium at a depth of 604.24 meters for hole BC2201C. As seen in Figure 10-6, data from holes BC2201C and BC2203 show that the increase trend of lithium content with depth might be continued to deeper levels. Since for the 2022 drilling campaign, most of the holes have been designed for a maximum depth of 609.9 meters; deeper drillings in the center of Bonnie Claire basin for the future exploration program is highly recommended.

Considering entire assays data and the location of holes from different drilling campaigns also reveal that deep holes with high grade intervals are located along the longitudinal axis in the middle of the Bonnie Claire basin, with the lowest elevation, a northwest trending, and in associated with claystone layers (see Figure 10-1 and Figure 10-5).

Core holes BC2201C and Mud hole BC2201 are twinned. A different percentage between average assay results from the core hole and mud hole is approximately 56.3%, which is based on core hole data, suggesting a considerable amount of lithium has been solubilized and leached during mud hole drilling (Figure 10-8). This result emphasizes that resource estimation should not rely on Mud hole data at all.

Figure 10-8: Lithium Grade Distribution with Depth in Twins DH and MH holes



When Iconic received the assay results from twinned holes BC2201C and BC2201 and found the difference between the results from the core and mud holes, Iconic stopped drilling in hole BC2205, which was designed as a mud hole. Iconic decided to terminate mud drilling in hole BC2205 at a depth of 323.09 meters (1060 feet) and to continue drilling in this hole by core method up to a depth of 609.9 meters (2000 feet). Therefore, this hole was separated into two sections of mud hole, BC2205, and core hole, BC2205C (see Table 10-5). Due to some issues with pipe string separation that happened when reaching core drilling to a depth of 551.08 meters (1,808 feet), which would have been too costly and time-consuming to resolve, drilling at this depth at hole BC2205C was ended.

10.5 Nevada Lithium (2023)

In 2023, Nevada Lithium conducted a drilling exploration at the Project. Nevada Lithium used Major Drilling for core drilling and Harris Drilling for sonic holes. A total of two vertical core holes (DH) and two vertical sonic holes (SH) were drilled (Figure 10-1). The drill hole details of this drill program are provided in Table 10-6.

Table 10-6: Bonnie Claire Lithium Project Drill Hole Summary (2023)

Campaign year	Drill Method	Drill hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth	Dip
2023	DH	BC2301C	498,648.00	4115164	1175.31	944.88	0	-90
		BC2303C	499,051.00	4115380	1178.36	762.00	0	-90
	SH	BC2302S	498,851.00	4115021	1179.58	175.26	0	-90
		BC2304S	498,227.00	4115454	1178.66	213.36	0	-90

A total of 1,706.88 meters (5,600 feet) of DH drilling and 388.62 meters (1,275 feet) of SH drilling, totaling 2,095.50 meters (6,875 feet), were performed in 2023. Hole BC2301C started as a PQ core hole and progressed to 152.4 meters (500 feet) depth, intending to use the PQ rod to stabilize the hole so HQ could be drilled deeper. BC2303C was drilled entirely with HQ. Sonic drilling for holes BC2302S and BC2304S produced a 4-inch diameter core immediately bagged on retrieval.

For this campaign, Iconic considered a sample interval of 6.09 meters (20 feet) for both DH and SH holes to check the subsurface stratigraphy between previous holes drilled in 2022, including BC2201C, BC2202C, BC2203C, and BC2205, and to discover and prove a high potential of lithium in deeper sections by core holes BC2301C and BC2303C compared with those drilled in the 2022 drilling program.

The result of drilling exploration in 2023 confirmed the same subsurface stratigraphy mentioned in previous drilling campaigns. The core samples showed that the high-grade lithium extended down at a depth of 835.15 meters (2,739.99 feet) with 2,050 ppm lithium for hole BC2301C and up to a depth of 762 meters (2,500 feet) with 4,540 ppm lithium for hole BC2303C.

Figure 10-9 shows the lithium profile with depth for the two core holes and two sonic holes drilled in 2023. Assay results from these four holes show an excellent correlation between core and sonic holes. Assay results from the 2023 drilling program also show excellent correlation with the results from the 2022 drilling program, confirming two high-grade horizons, one as a shallow zone at a depth of about 33 meters (108.27 feet) to about 118 meters (387.14 feet), with a maximum lithium content of 1,855 ppm and an average of 1,024 ppm, and the other one as a deep zone at a depth of about 521 meters (1,709.32 feet) to about 750 meters (2,460.63 feet), with a maximum lithium content of 5,840 ppm and an average of 3,816 ppm (Figure 10-10).

Figure 10-9: Lithium Grade Distribution with Depth in DH and SH Holes

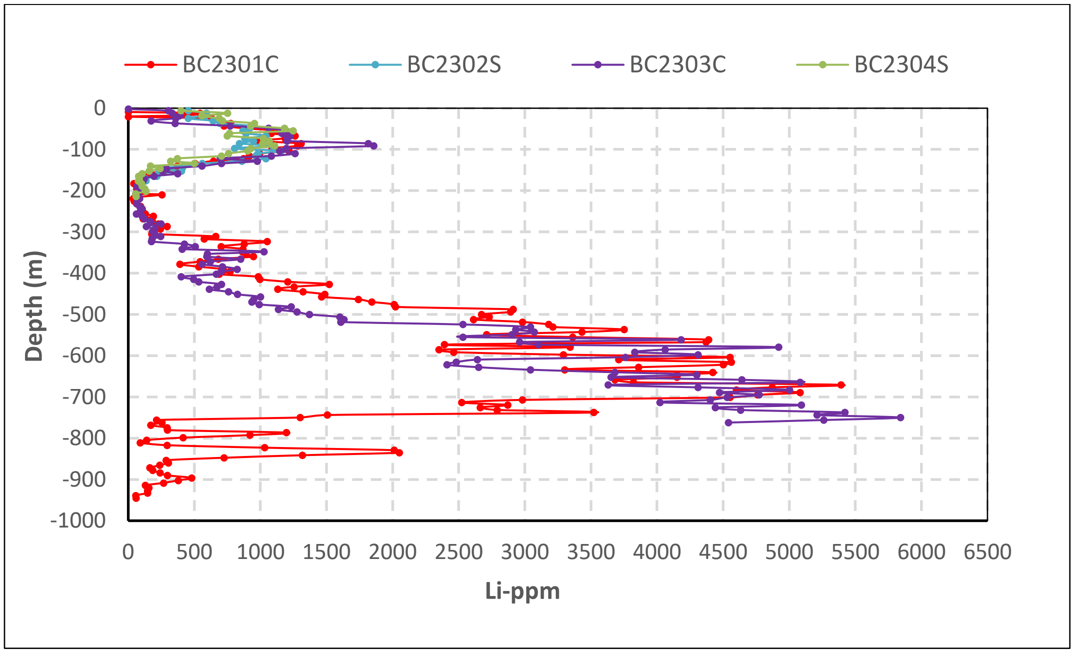
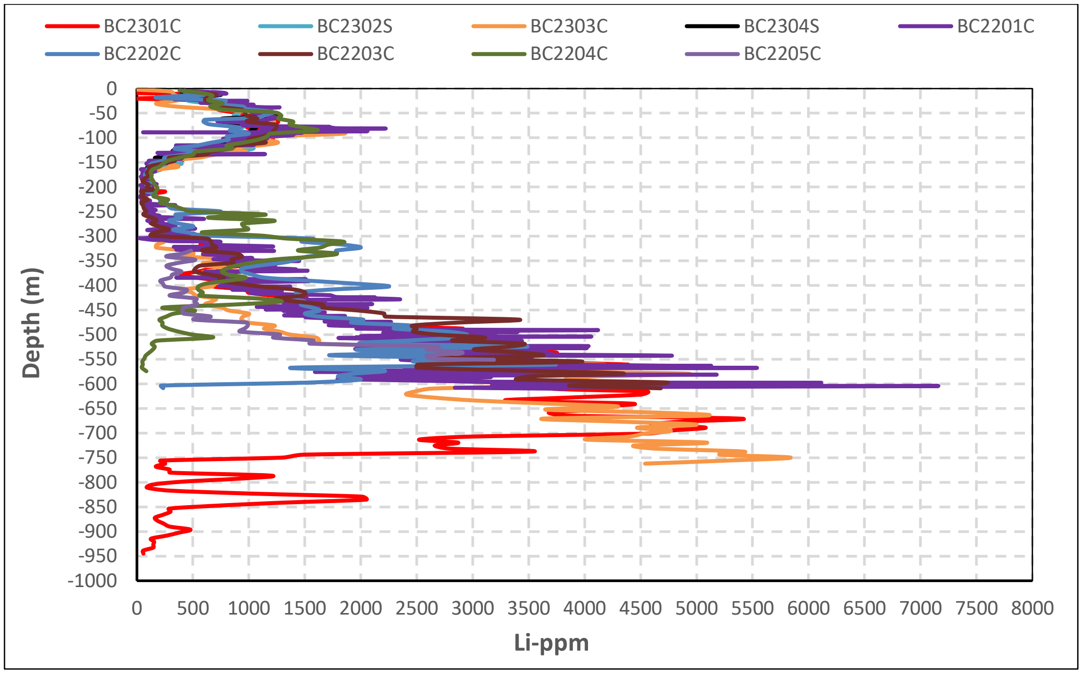


Figure 10-10: Lithium Grade Distribution with Depth for the 2022 and 2023 Drilled Holes



In the 2023 drilling program, lithium content averaged 1,545.92 ppm for two core holes for all 280 samples assayed, with an overall range from 35.4 to 5,840 ppm Li (Figure 10-11). For the two sonic holes, lithium content averaged 609.05 ppm Li for all 64 samples assayed, with an overall range from 54.2 to 1,245 ppm Li (Figure 10-12).

Figure 10-11: Lithium Grade Distribution with Depth in the 2023 DH Holes

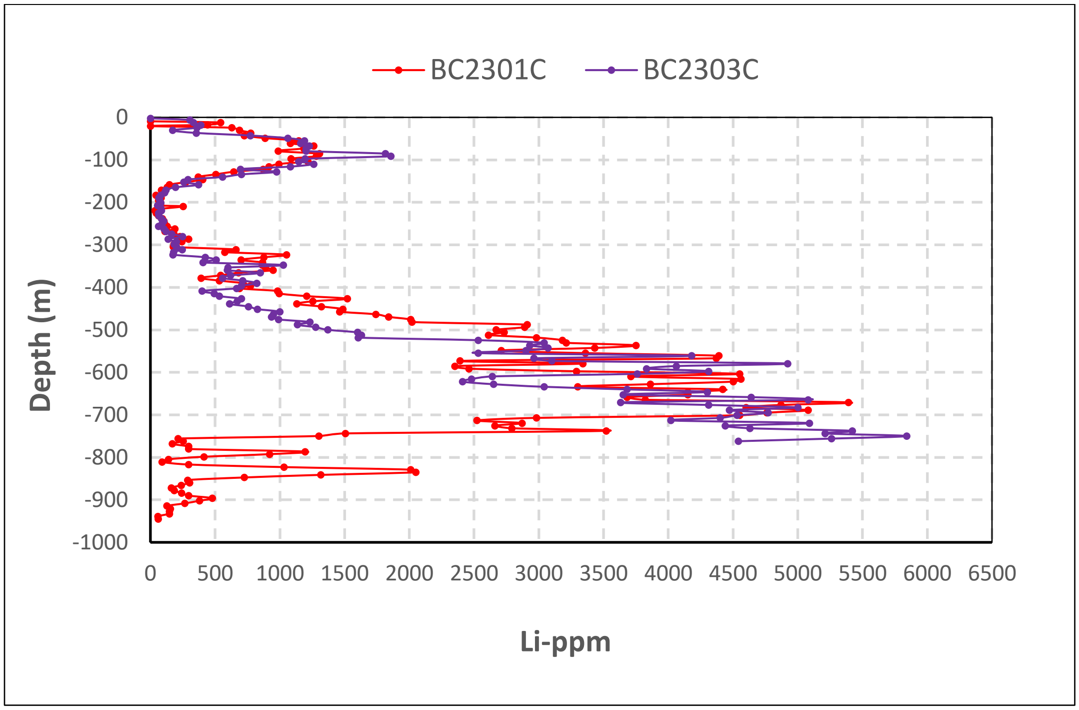
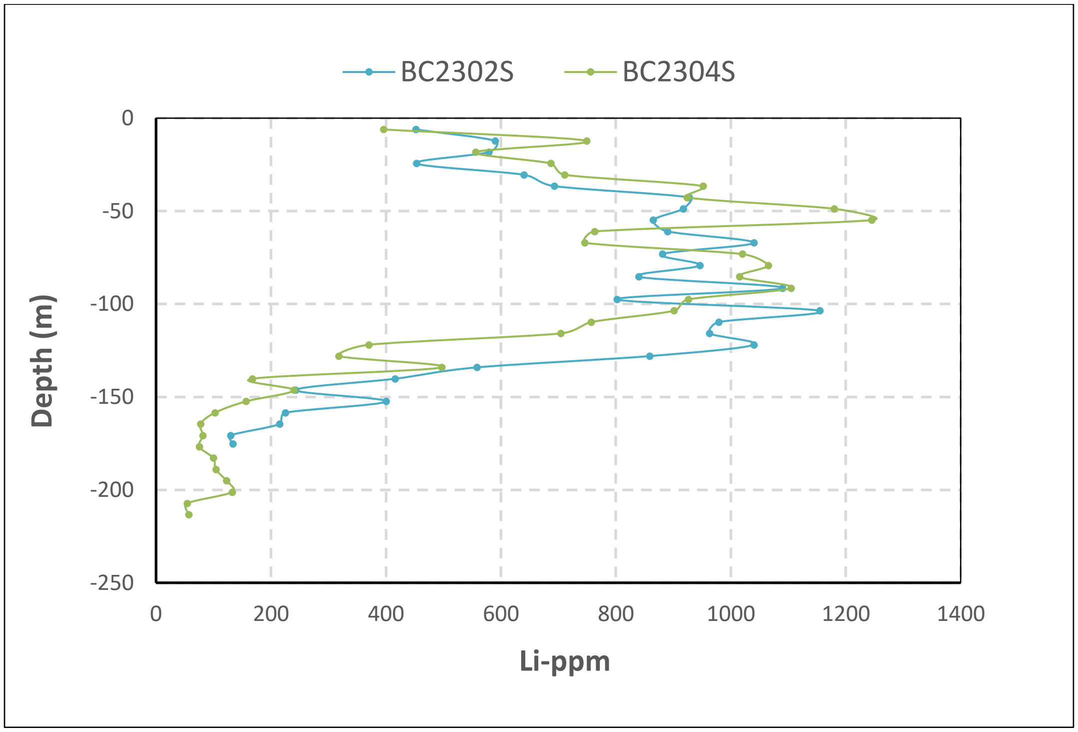


Figure 10-12: Lithium Grade Distribution with Depth in the 2023 SH Holes



A significant result from the 2023 drilling program is that the results from this drilling program adjusted a little the depth of the shallow zone and extended the lower boundary of the deeper zone from 600 meters (1,968.50 feet) in the 2022 drilling program to about 762 meters (2,500 feet) (Figure 10-10).

10.6 Nevada Lithium (2024)

In 2024, Nevada Lithium conducted additional drilling exploration at the Project. Nevada Lithium used Major Drilling for this core drilling. In this program, two vertical core holes (DH) were drilled. The drill hole details of this drill program are provided in Table 10-7. Hole BC2401C is located at the northeast of hole BC2303C, and hole BC2402C is twinned with the sonic hole BC2302S, drilled in 2023.

In 2024, 1,770.58 meters (5,809 feet) of DH drilling were performed. Holes BC2401C and BC2402C were drilled entirely with HQ.

Table 10-7: Bonnie Claire Lithium Project Drill Hole Summary (2024)

Campaign year	Drill Method	Drill hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth	Dip
2024	DH	BC2401C	499245	4115675	1189.33	855.57	0	-90
		BC2402C	498851	4115019	1180.49	915.01	0	-90

For this campaign, like the 2023 drilling program, Nevada Lithium considered a sample interval of 6.09 meters (20 feet) for DH holes to check the subsurface stratigraphy between previous holes drilled in 2023 and to prove a high potential of lithium in deeper sections by core holes BC2401C and BC2402C compared with those drilled in the 2023 drilling program.

The result of drilling exploration in 2024 confirmed the same subsurface stratigraphy mentioned in previous drilling campaigns. The core samples showed that the high-grade lithium extended down at a depth of 843.38 meters (2,767 feet) with 3,200 ppm lithium for hole BC2401C and up to a depth of 867.76 meters (2,846.98 feet) with 2,220 ppm lithium for hole BC2402C.

Figure 10-13 shows the lithium profile with depth for the two core holes drilled in 2024. Assay results from the 2024 drilling program also correlate well with those from the 2022 and 2023 drilling programs and extend the lower boundary of the deep zone. This program also shows two high-grade horizons, one as a shallow zone at a depth of about 49 meters (160.76 feet) to about 130 meters (426.51 feet), with a maximum lithium content of 1,610 ppm and an average of 1,073 ppm, and the other one as a deep zone at a depth of about 517 meters (1,696.19 feet) to about 788 meters (2,585.30 feet), with a maximum lithium content of 6,880 ppm and an average of 4,032 (Figure 10-13 and Figure 10-14).

Figure 10-13: Lithium Grade Distribution with Depth in the 2024 DH Holes.

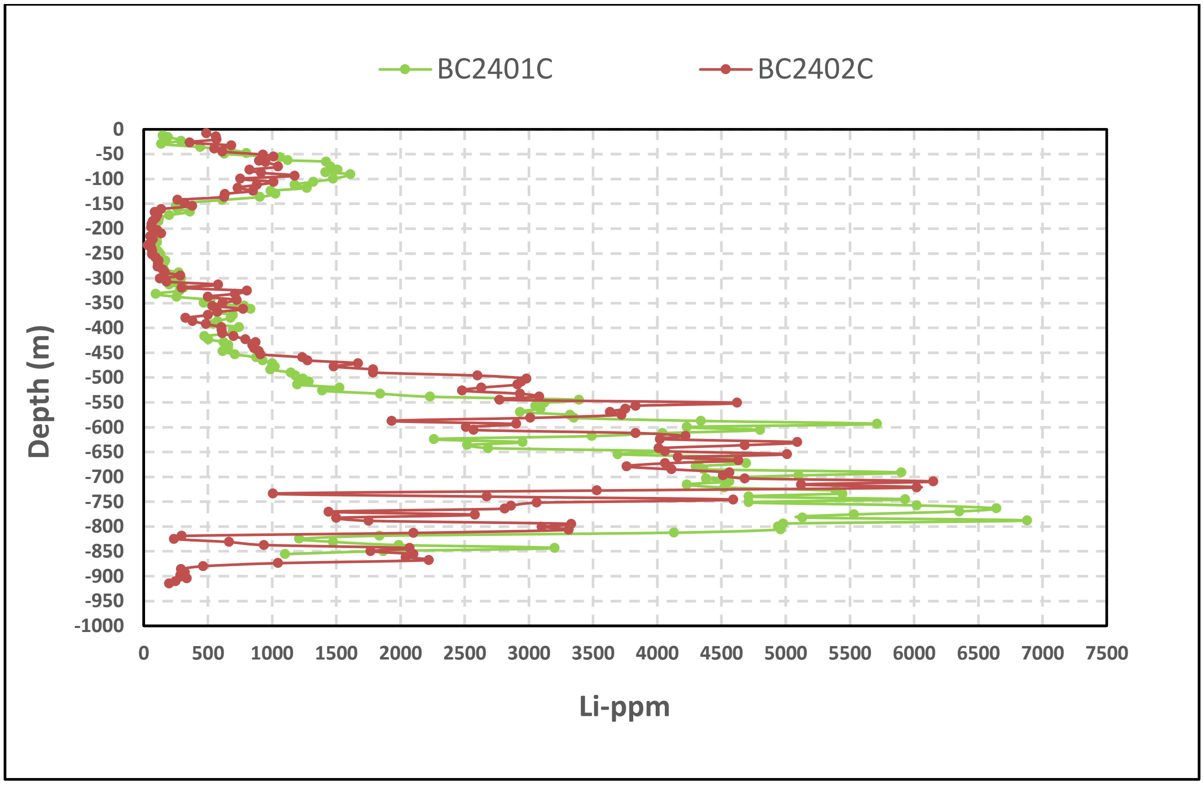
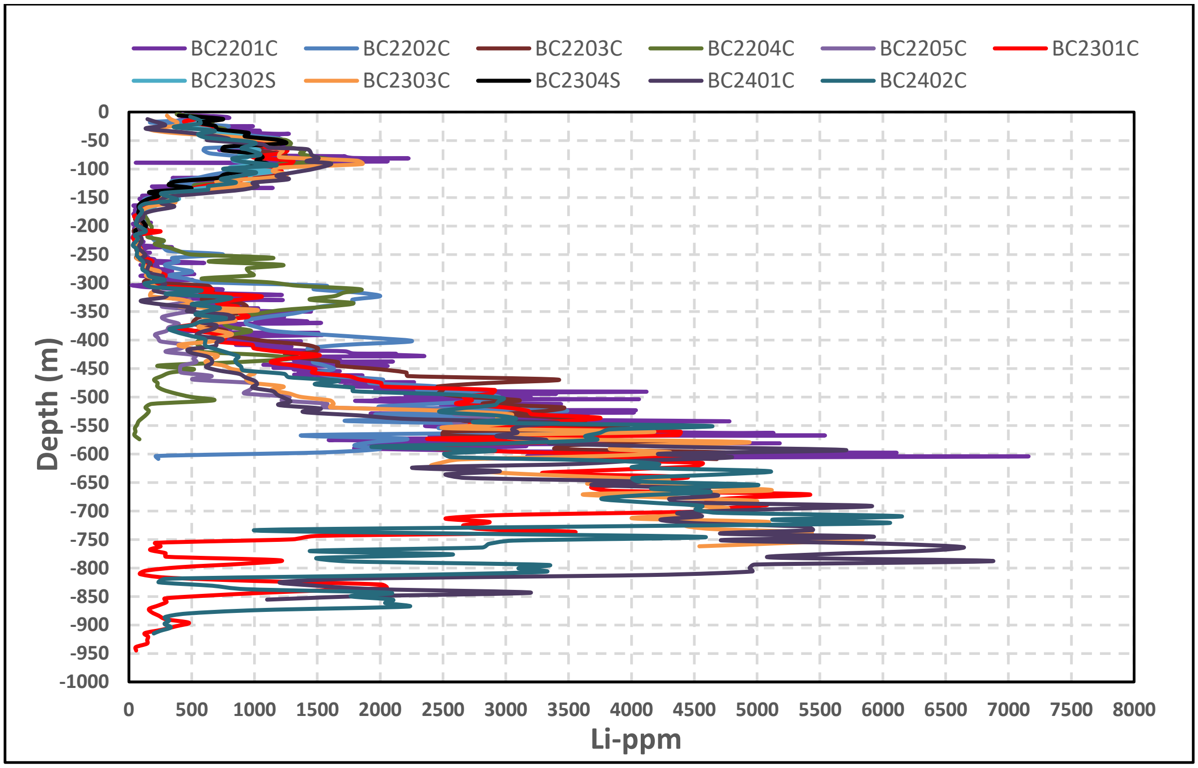


Figure 10-14: Lithium Grade Distribution with Depth for the 2022, 2023, and 2024 Drilled Holes



In the 2024 drilling program, lithium content averaged 1,924.31 ppm for core hole BC2401C for all 140 samples assayed, with an overall range from 63.4 to 6,880 ppm Li. For hole BC2402C, lithium content averaged 1,632.81 ppm for all 150 samples assayed, with an overall range from 31.21 to 6,150 ppm Li. (Figure 10-13).

10.7 Boron Distribution

Reviewing the database shows only 12 out of 23 holes have assay data for Boron (B). Figure 10-15 shows the distribution of Boron within these ten holes with depth. Figure 10-15 shows that most intervals show a high grade of Boron, greater than 1000 ppm, and also shows two distinct peaks of Boron, one as a shallow zone associated with the upper claystone, with a depth of about 25 meters (82.02 feet) to 42 meters (137.80 feet) with a maximum boron content of 8,900 ppm, the other one as a deeper zone associated with the lower claystone, with a depth of about 500 meters (1640.42 feet) to 850 meters (2,788.71 feet) with a maximum boron content of 21,500 ppm.

Figure 10-15: Boron Grade Distribution with Depth

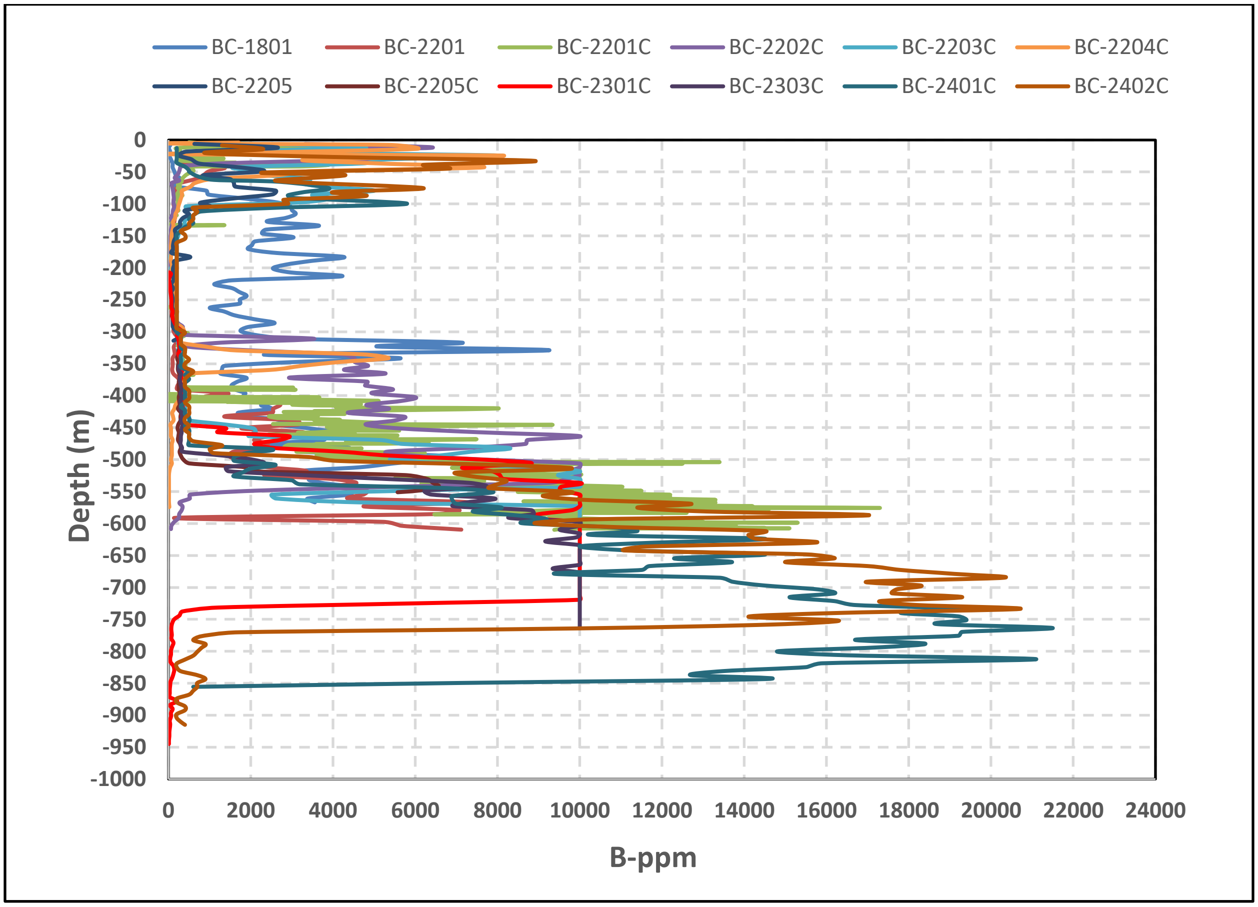
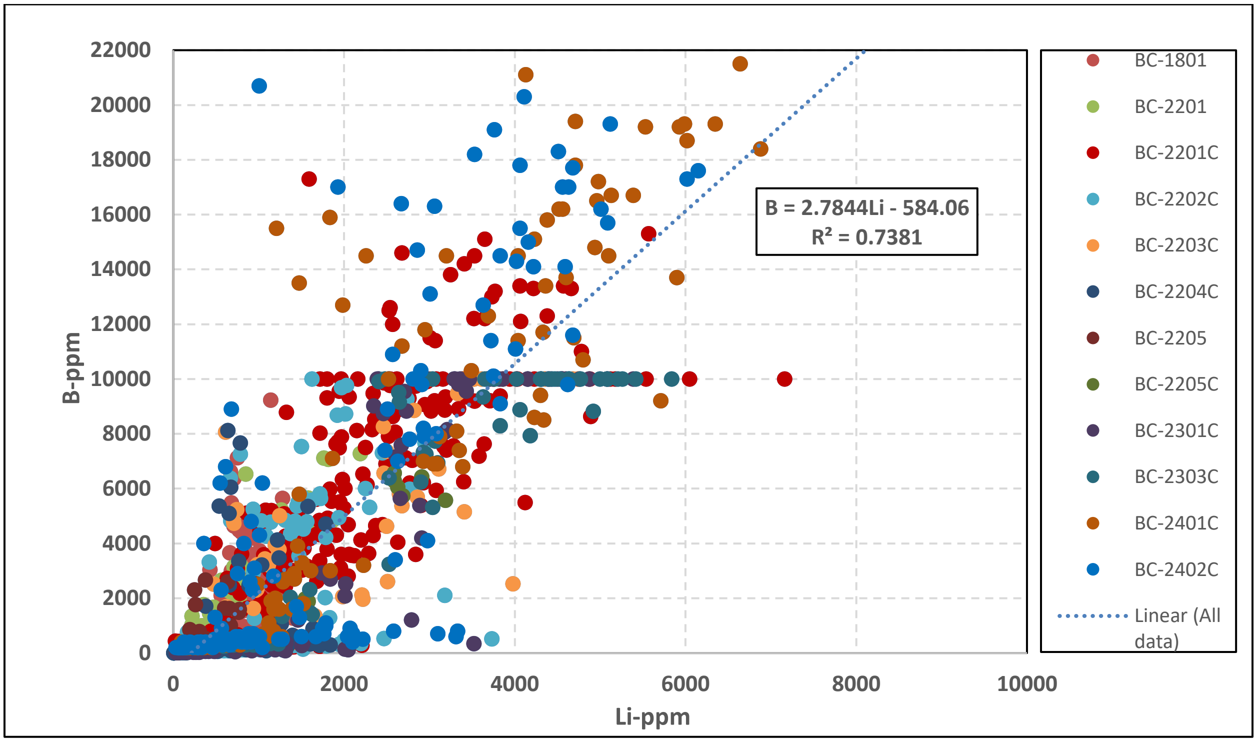


Figure 10-16 shows the correlation between Lithium and Boron for the ten holes. The graph shows a relatively good correlation between Li and B. As seen in the graph, the assay data for boron equals 10,000 ppm for some holes. In the database, these intervals are recorded as greater than 10,000 ppm for B (>10,000 ppm), and it seems this is an upper limit of Boron detection for a specific lab because some data show assay results of Boron with more than 10,000 ppm. Thus, they were considered to have 10,000 ppm of boron for this study.

Figure 10-16: Correlation between Boron and Lithium



With the chemical formula $NaBSi_2O_5(OH)_2$, Searlesite is the primary source of boron, which is rare and uncommon. It is typically found in fine-grained lacustrine strata. However, it has not yet been proved for the Bonnie Claire Project. GRE’s QP believes that further studies, such as XRD, are necessary to locate the source of boron in the Bonnie Claire project.

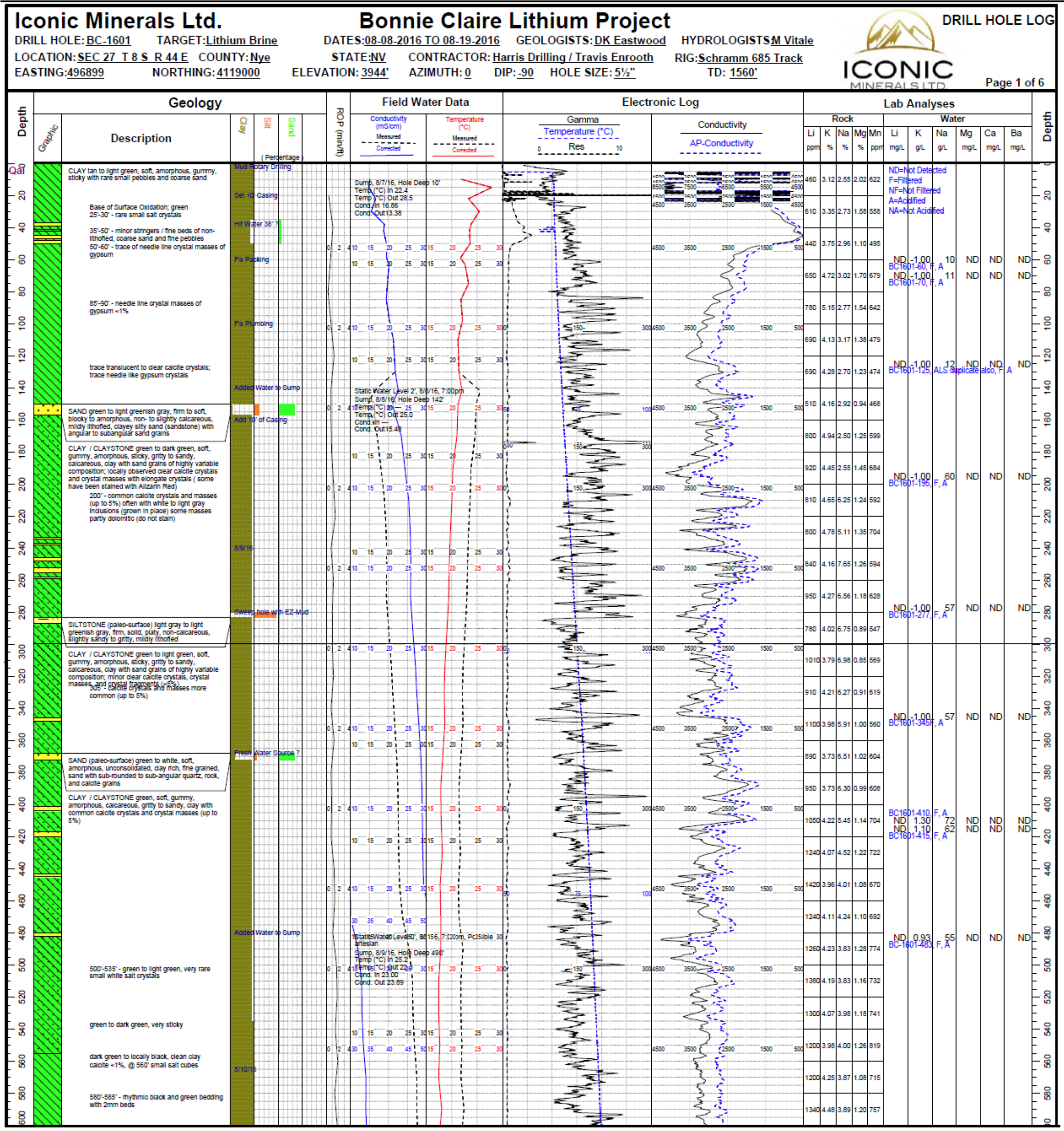
11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Sample Preparation (2016-2018)

From 2016 to 2018, sampling at Bonnie Claire has consisted of both surface samples and drilled materials from reverse circulation drilling. Drill material samples were collected in a fine mesh screen from the outflow of the mud rotary hole, accounting for flow rate of the recovery. All samples taken at Bonnie Claire were placed into sample bags at the sample location, labeled, sealed, and subsequently delivered to ALS Chemex in Reno, Nevada. While in transport, the samples never left the custody of the site geologist or geologic technician. The mud rotary chip samples with a typical 20-foot sample interval. The sample interval was split into two samples: one was removed daily, securely stored, and shipped to the geochemistry lab, and one backup was taken to secure storage for later re-checks and metallurgical testing. In addition, RC chips were collected for geologic logging (see Photo 11-1 and Figure 11-1).

Photo 11-1: Samples from BC 16-01 (First 600 Feet)

Figure 11-1 Drill Hole Log for BC 16-01 (First 600 Feet)



Surface samples consisting of salt-pan sediments were collected by Iconic geologists using standard hand tools. These samples typically consisted of roughly 5 kilograms (kg) of soil, which was placed directly into a cloth sample bag and marked with a blind sample number.

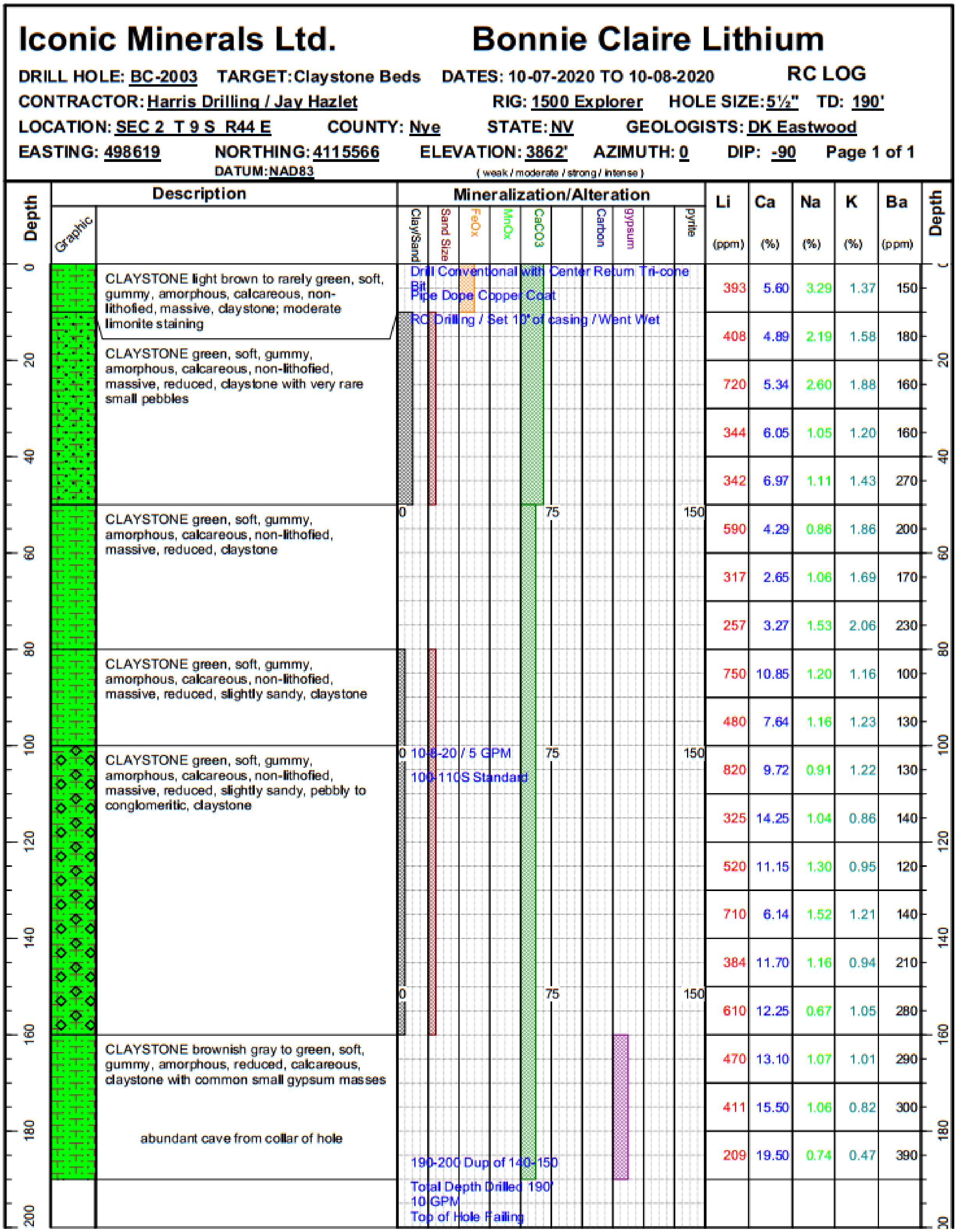
11.2 Sample Preparation (2020)

In 2020, sampling at Bonnie Claire has consisted of drilled materials from RC and vertical DH holes.

11.2.1 Percussion Drill Chip Sampling

First, one large and one small cloth sample bag were labeled with hole number and depth information before each 10-foot segment of drill pipe was added. Aluminum tags with the hole number and footage were also added to the bags in case mud made the labels written on the bags unreadable. While the RC drill was running and chips were being generated, said chips were deposited into a large cloth sample bag beneath the cyclone (the cyclone was not run during the drill program, but it was the outlet for cuttings). The air was kept on for a while longer at the end of each rod to ensure all material from that drilled segment had time to travel up the pipe string and into the sample bag. The material in the large sample bag would then be manually agitated to provide a greater degree of sample homogeneity before a smaller, less than ten-pound sample was retrieved from the larger sample. The large and small bags would then be tied securely shut by the site field technician, with the larger bag becoming the sample reject and the smaller bag the sample which would be assayed. Before the next sample was taken, a new ten-foot drill rod would be added, and the hole would be circulated with air. This cleaning of the hole would often push some volume of water from the hole as well, which was sampled every twenty feet if present. The process would then repeat until the total depth of the hole was reached. The only hole to deviate from this procedure was BC2006, which had a starting sample interval of eight feet to match the sample lengths from BC2001C, because the holes are in the same location. Figure 11-2 to Figure 11-5 show RC logs of the drilling program in 2020.

Figure 11-2: RC Log for Drill Hole BC-2003



Iconic Minerals Ltd. **Bonnie Claire Lithium**

RC LOG

DRILL HOLE: BC-2003 **TARGET:** Claystone Beds **DATES:** 10-07-2020 TO 10-08-2020
CONTRACTOR: Harris Drilling / Jay Hazlet **RIG:** 1500 Explorer **HOLE SIZE:** 5½" **TD:** 190'
LOCATION: SEC 2 T 9 S R44 E **COUNTY:** Nye **STATE:** NV **GEOLOGISTS:** DK Eastwood
EASTING: 498619 **NORTHING:** 4115566 **ELEVATION:** 3862' **AZIMUTH:** 0 **DIP:** -90 **Page 1 of 1**
DATUM: NAD83

Description

CLAYSTONE light brown to rarely green, soft, gummy, amorphous, calcareous, non-lithofied, massive, claystone; moderate limonite staining

CLAYSTONE green, soft, gummy, amorphous, calcareous, non-lithofied, massive, reduced, claystone with very rare small pebbles

CLAYSTONE green, soft, gummy, amorphous, calcareous, non-lithofied, massive, reduced, claystone

CLAYSTONE green, soft, gummy, amorphous, calcareous, non-lithofied, massive, reduced, slightly sandy, claystone

CLAYSTONE green, soft, gummy, amorphous, calcareous, non-lithofied, massive, reduced, slightly sandy, pebbly to conglomeritic, claystone

CLAYSTONE brownish gray to green, soft, gummy, amorphous, reduced, calcareous, claystone with common small gypsum masses

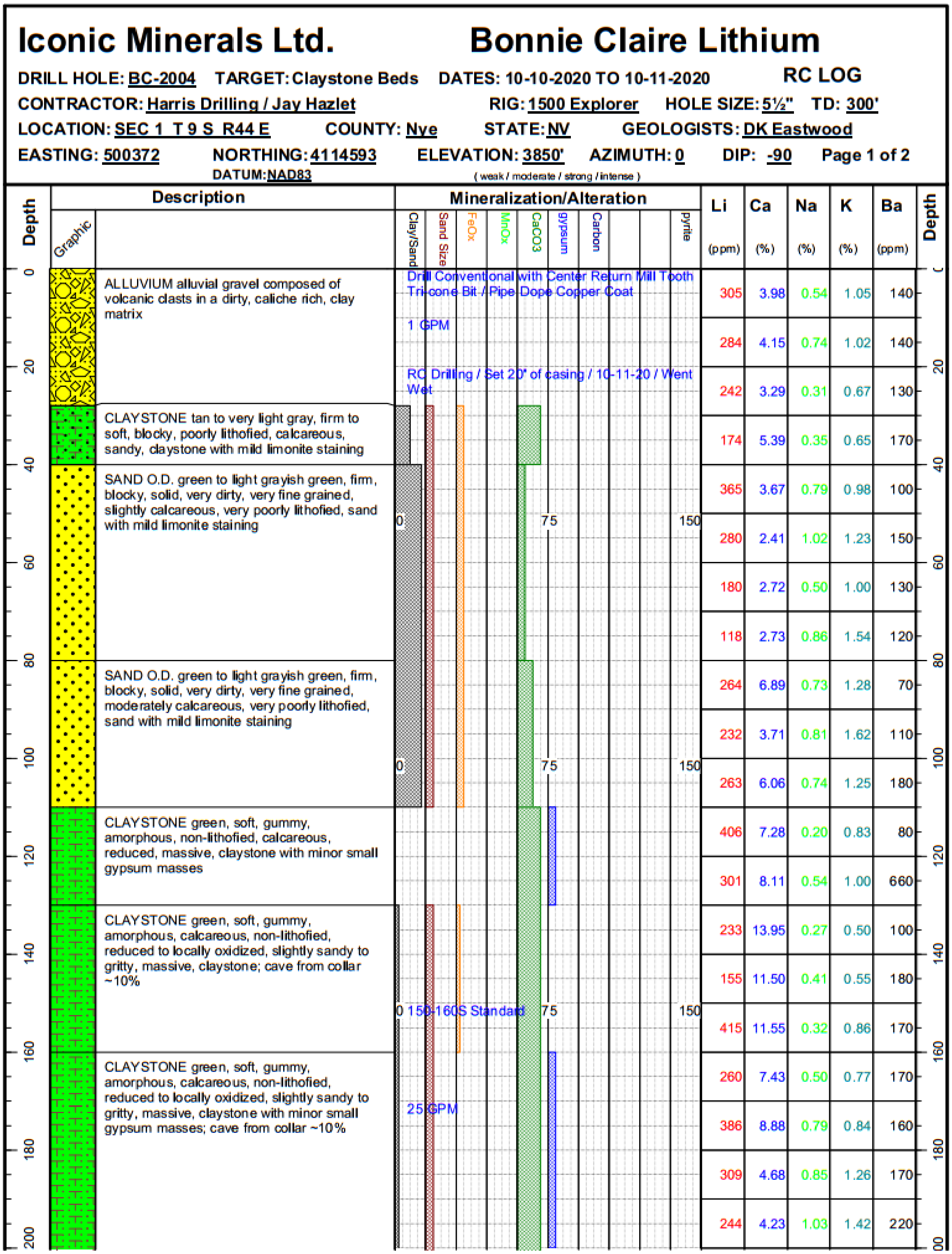
abundant cave from collar of hole

Mineralization/Alteration

Drill Conventional with Center Return Tri-cone Bit
Pipe Dope Copper Coat
RC Drilling / Set 10' of casing / Went Wet
10-8-20 / 5 GPM
100-110S Standard
190-200 Dup of 140-150
Total Depth Drilled 190'
10 GPM
Top of Hole Failing

Li (ppm)	Ca (%)	Na (%)	K (%)	Ba (ppm)
393	5.60	3.29	1.37	150
408	4.89	2.19	1.58	180
720	5.34	2.60	1.88	160
344	6.05	1.05	1.20	160
342	6.97	1.11	1.43	270
590	4.29	0.86	1.86	200
317	2.65	1.06	1.69	170
257	3.27	1.53	2.06	230
750	10.85	1.20	1.16	100
480	7.64	1.16	1.23	130
820	9.72	0.91	1.22	130
325	14.25	1.04	0.86	140
520	11.15	1.30	0.95	120
710	6.14	1.52	1.21	140
384	11.70	1.16	0.94	210
610	12.25	0.67	1.05	280
470	13.10	1.07	1.01	290
411	15.50	1.06	0.82	300
209	19.50	0.74	0.47	390

Figure 11-3: RC Log for Drill Hole BC-2004



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2004 **TARGET:** Claystone Beds **DATES:** 10-10-2020 TO 10-11-2020 **RC LOG**
CONTRACTOR: Harris Drilling / Jay Hazlet **RIG:** 1500 Explorer **HOLE SIZE:** 5½" **TD:** 300'
LOCATION: SEC 1 T 9 S R44 E **COUNTY:** Nye **STATE:** NV **GEOLOGISTS:** DK Eastwood
EASTING: 500372 **NORTHING:** 4114593 **ELEVATION:** 3850' **AZIMUTH:** 0 **DIP:** -90 **Page 1 of 2**
DATUM: NAD83

(weak / moderate / strong / intense)

Description

ALLUVIUM alluvial gravel composed of volcanic clasts in a dirty, caliche rich, clay matrix

CLAYSTONE tan to very light gray, firm to soft, blocky, poorly lithofied, calcareous, sandy, claystone with mild limonite staining

SAND O.D. green to light grayish green, firm, blocky, solid, very dirty, very fine grained, slightly calcareous, very poorly lithofied, sand with mild limonite staining

SAND O.D. green to light grayish green, firm, blocky, solid, very dirty, very fine grained, moderately calcareous, very poorly lithofied, sand with mild limonite staining

CLAYSTONE green, soft, gummy, amorphous, non-lithofied, calcareous, reduced, massive, claystone with minor small gypsum masses

CLAYSTONE green, soft, gummy, amorphous, calcareous, non-lithofied, reduced to locally oxidized, slightly sandy to gritty, massive, claystone; cave from collar ~10%

CLAYSTONE green, soft, gummy, amorphous, calcareous, non-lithofied, reduced to locally oxidized, slightly sandy to gritty, massive, claystone with minor small gypsum masses; cave from collar ~10%

Mineralization/Alteration

Drill Conventional with Center Return Mill Tooth Tri-cone Bit / Pipe Dope Copper Coat

1 GPM

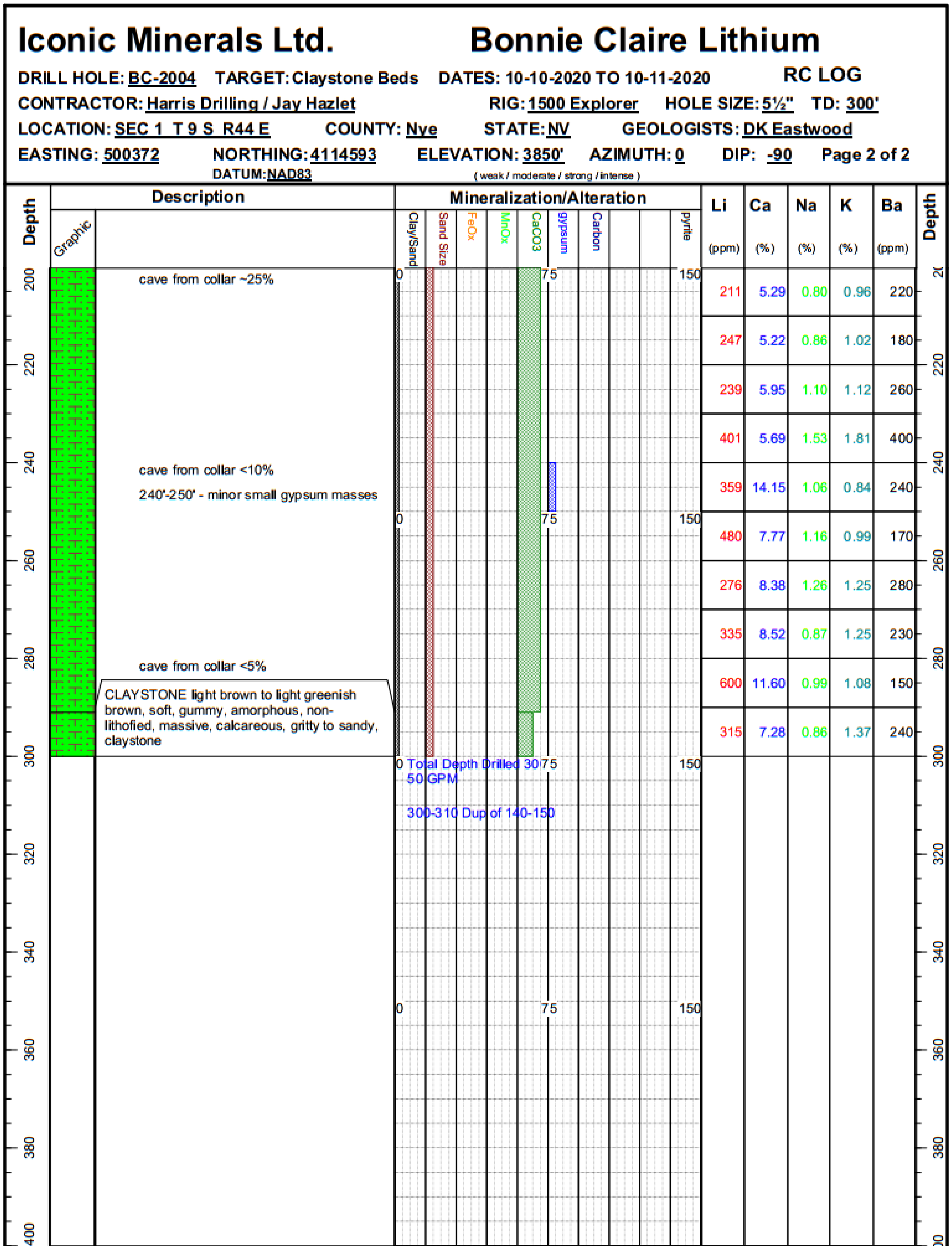
RC Drilling / Set 20' of casing / 10-11-20 / Went Wet

150-160S Standard

25 GPM

Li (ppm)	Ca (%)	Na (%)	K (%)	Ba (ppm)
305	3.98	0.54	1.05	140
284	4.15	0.74	1.02	140
242	3.29	0.31	0.67	130
174	5.39	0.35	0.65	170
365	3.67	0.79	0.98	100
280	2.41	1.02	1.23	150
180	2.72	0.50	1.00	130
118	2.73	0.86	1.54	120
264	6.89	0.73	1.28	70
232	3.71	0.81	1.62	110
263	6.06	0.74	1.25	180
406	7.28	0.20	0.83	80
301	8.11	0.54	1.00	660
233	13.95	0.27	0.50	100
155	11.50	0.41	0.55	180
415	11.55	0.32	0.86	170
260	7.43	0.50	0.77	170
386	8.88	0.79	0.84	160
309	4.68	0.85	1.26	170
244	4.23	1.03	1.42	220

Figure 11-3 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

RC LOG

DRILL HOLE: BC-2004 TARGET: Claystone Beds DATES: 10-10-2020 TO 10-11-2020
CONTRACTOR: Harris Drilling / Jay Hazlet RIG: 1500 Explorer HOLE SIZE: 5½" TD: 300'
LOCATION: SEC 1 T 9 S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 500372 NORTHING: 4114593 ELEVATION: 3850' AZIMUTH: 0 DIP: -90 Page 2 of 2
DATUM: NAD83
(weak / moderate / strong / intense)

Description:

cave from collar ~25%

cave from collar <10%

240'-250' - minor small gypsum masses

cave from collar <5%

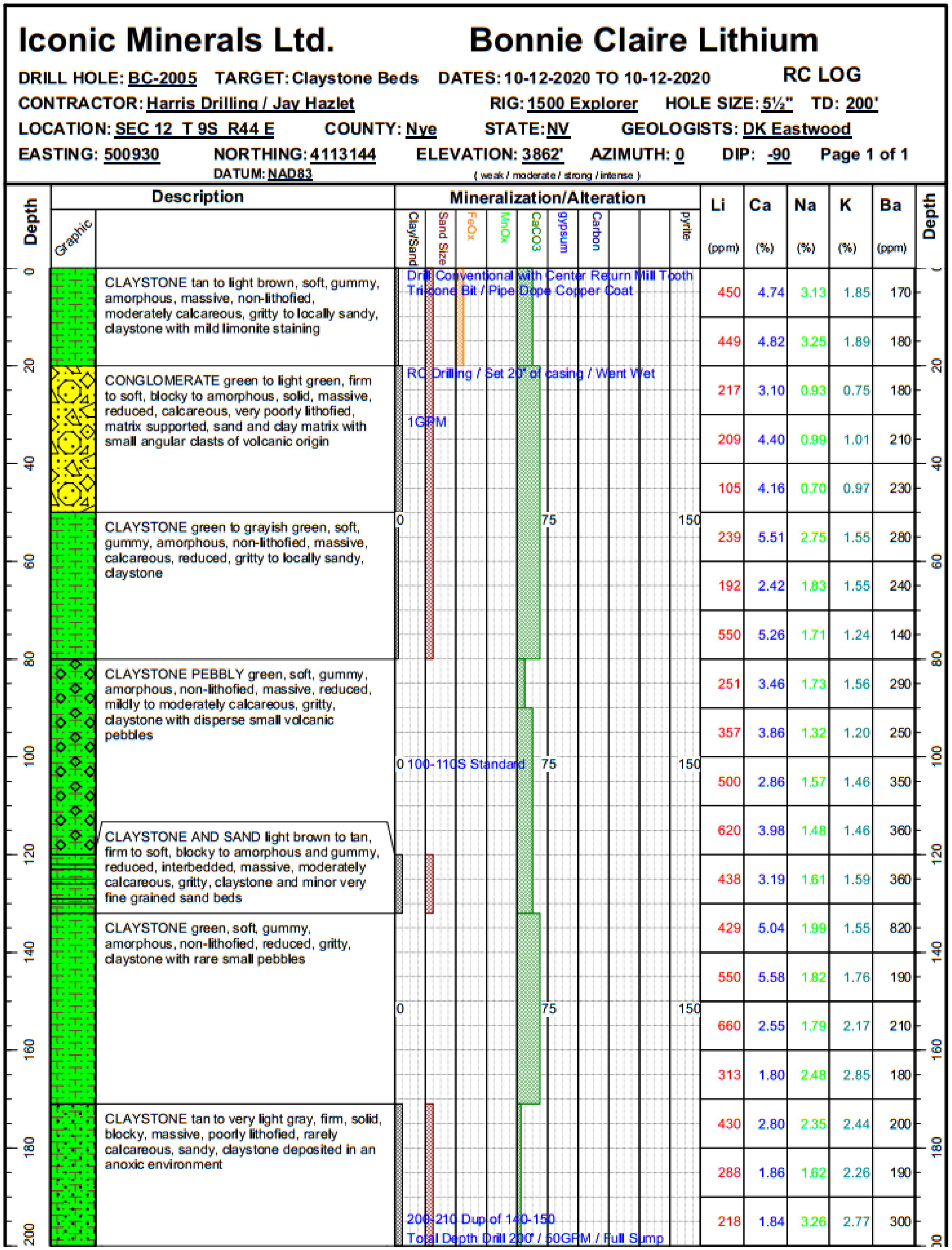
CLAYSTONE light brown to light greenish brown, soft, gummy, amorphous, non-lithofied, massive, calcareous, gritty to sandy, claystone

Total Depth Drilled 300
50 GPM

300-310 Dup of 140-150

Li	Ca	Na	K	Ba
(ppm)	(%)	(%)	(%)	(ppm)
211	5.29	0.80	0.96	220
247	5.22	0.86	1.02	180
239	5.95	1.10	1.12	260
401	5.69	1.53	1.81	400
359	14.15	1.06	0.84	240
480	7.77	1.16	0.99	170
276	8.38	1.26	1.25	280
335	8.52	0.87	1.25	230
600	11.60	0.99	1.08	150
315	7.28	0.86	1.37	240

Figure 11-4: RC Log for Drill Hole BC-2005



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2005 TARGET: Claystone Beds DATES: 10-12-2020 TO 10-12-2020 RC LOG
CONTRACTOR: Harris Drilling / Jay Hazlet RIG: 1500 Explorer HOLE SIZE: 5½" TD: 200'
LOCATION: SEC 12 T 9S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 500930 NORTHING: 4113144 ELEVATION: 3862' AZIMUTH: 0 DIP: -90 Page 1 of 1
DATUM: NAD83
(weak / moderate / strong / intense)

Description

CLAYSTONE tan to light brown, soft, gummy, amorphous, massive, non-lithofied, moderately calcareous, gritty to locally sandy, claystone with mild limonite staining

CONGLOMERATE green to light green, firm to soft, blocky to amorphous, solid, massive, reduced, calcareous, very poorly lithofied, matrix supported, sand and clay matrix with small angular clasts of volcanic origin

CLAYSTONE green to grayish green, soft, gummy, amorphous, non-lithofied, massive, calcareous, reduced, gritty to locally sandy, claystone

CLAYSTONE PEBBLY green, soft, gummy, amorphous, non-lithofied, massive, reduced, mildly to moderately calcareous, gritty, claystone with disperse small volcanic pebbles

CLAYSTONE AND SAND light brown to tan, firm to soft, blocky to amorphous and gummy, reduced, interbedded, massive, moderately calcareous, gritty, claystone and minor very fine grained sand beds

CLAYSTONE green, soft, gummy, amorphous, non-lithofied, reduced, gritty, claystone with rare small pebbles

CLAYSTONE tan to very light gray, firm, solid, blocky, massive, poorly lithofied, rarely calcareous, sandy, claystone deposited in an anoxic environment

Mineralization/Alteration

Drill Conventional with Center Return Mill Tooth Tri-cone Bit / Pipe Dope Copper Coat

RC Drilling / Set 20' of casing / Went Wet

1GPM

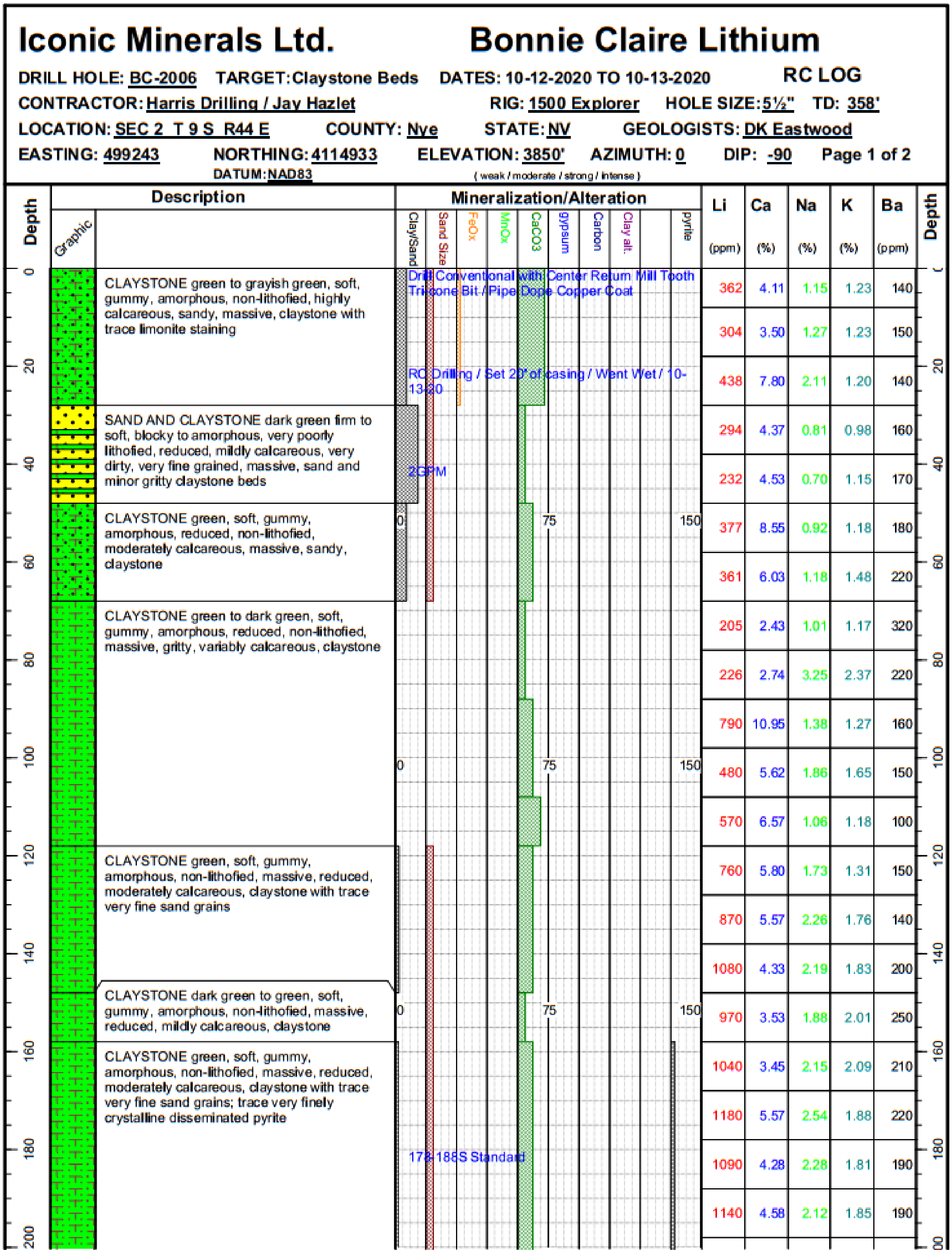
100-110S Standard

200-210 Dup of 140-150

Total Depth Drill 200' / 50GPM / Full Sump

Li (ppm)	Ca (%)	Na (%)	K (%)	Ba (ppm)
450	4.74	3.13	1.85	170
449	4.82	3.25	1.89	180
217	3.10	0.93	0.75	180
209	4.40	0.99	1.01	210
105	4.16	0.70	0.97	230
239	5.51	2.75	1.55	280
192	2.42	1.83	1.55	240
550	5.26	1.71	1.24	140
251	3.46	1.73	1.56	290
357	3.86	1.32	1.20	250
500	2.86	1.57	1.46	350
620	3.98	1.48	1.46	360
438	3.19	1.61	1.59	360
429	5.04	1.99	1.55	820
550	5.58	1.82	1.76	190
660	2.55	1.79	2.17	210
313	1.80	2.48	2.85	180
430	2.80	2.35	2.44	200
288	1.86	1.62	2.26	190
218	1.84	3.26	2.77	300

Figure 11-5: RC Log for Drill Hole BC-2006



Iconic Minerals Ltd. **Bonnie Claire Lithium**

RC LOG

DRILL HOLE: BC-2006 **TARGET:** Claystone Beds **DATES:** 10-12-2020 TO 10-13-2020
CONTRACTOR: Harris Drilling / Jay Hazlet **RIG:** 1500 Explorer **HOLE SIZE:** 5½" **TD:** 358'
LOCATION: SEC 2 T 9 S R44 E **COUNTY:** Nye **STATE:** NV **GEOLOGISTS:** DK Eastwood
EASTING: 499243 **NORTHING:** 4114933 **ELEVATION:** 3850' **AZIMUTH:** 0 **DIP:** -90 **Page 1 of 2**
DATUM: NAD83

Description

CLAYSTONE green to grayish green, soft, gummy, amorphous, non-lithofied, highly calcareous, sandy, massive, claystone with trace limonite staining

SAND AND CLAYSTONE dark green firm to soft, blocky to amorphous, very poorly lithofied, reduced, mildly calcareous, very dirty, very fine grained, massive, sand and minor gritty claystone beds

CLAYSTONE green, soft, gummy, amorphous, reduced, non-lithofied, moderately calcareous, massive, sandy, claystone

CLAYSTONE green to dark green, soft, gummy, amorphous, reduced, non-lithofied, massive, gritty, variably calcareous, claystone

CLAYSTONE green, soft, gummy, amorphous, non-lithofied, massive, reduced, moderately calcareous, claystone with trace very fine sand grains

CLAYSTONE dark green to green, soft, gummy, amorphous, non-lithofied, massive, reduced, mildly calcareous, claystone

CLAYSTONE green, soft, gummy, amorphous, non-lithofied, massive, reduced, moderately calcareous, claystone with trace very fine sand grains; trace very finely crystalline disseminated pyrite

Mineralization/Alteration

(weak / moderate / strong / intense)

Drill Conventional with Center Return Mill Tooth Tri-cone Bit / Pipe Dope Copper Coat

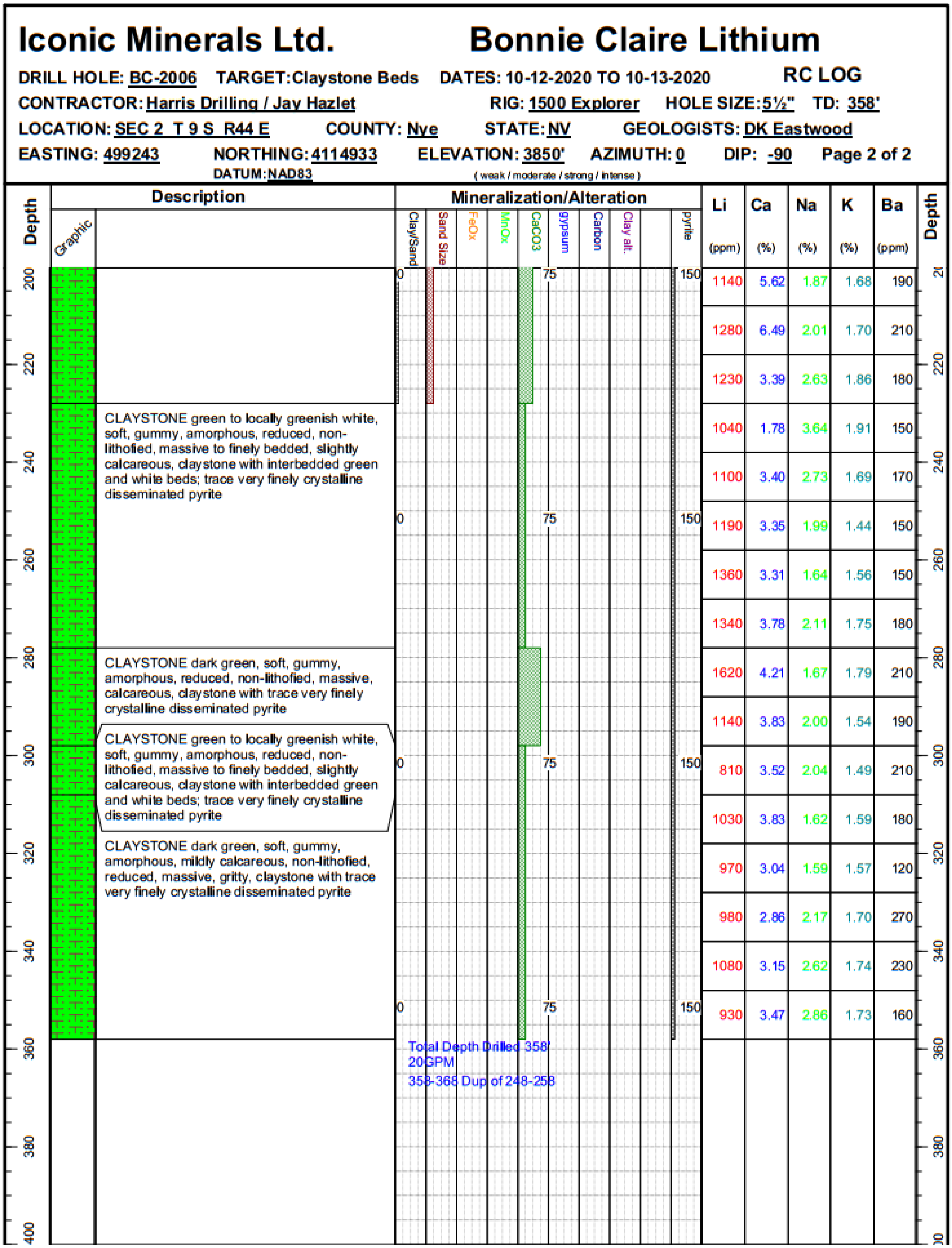
RC Drilling / Set 20' of casing / Went Wet / 10-13-20

2GPM

178-188S Standard

Li (ppm)	Ca (%)	Na (%)	K (%)	Ba (ppm)
362	4.11	1.15	1.23	140
304	3.50	1.27	1.23	150
438	7.80	2.11	1.20	140
294	4.37	0.81	0.98	160
232	4.53	0.70	1.15	170
377	8.55	0.92	1.18	180
361	6.03	1.18	1.48	220
205	2.43	1.01	1.17	320
226	2.74	3.25	2.37	220
790	10.95	1.38	1.27	160
480	5.62	1.86	1.65	150
570	6.57	1.06	1.18	100
760	5.80	1.73	1.31	150
870	5.57	2.26	1.76	140
1080	4.33	2.19	1.83	200
970	3.53	1.88	2.01	250
1040	3.45	2.15	2.09	210
1180	5.57	2.54	1.88	220
1090	4.28	2.28	1.81	190
1140	4.58	2.12	1.85	190

Figure 11-5 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2006 TARGET: Claystone Beds DATES: 10-12-2020 TO 10-13-2020 RC LOG
CONTRACTOR: Harris Drilling / Jay Hazlet RIG: 1500 Explorer HOLE SIZE: 5½" TD: 358'
LOCATION: SEC 2 T 9 S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 499243 NORTHING: 4114933 ELEVATION: 3850' AZIMUTH: 0 DIP: -90 Page 2 of 2
DATUM: NAD83

CLAYSTONE green to locally greenish white, soft, gummy, amorphous, reduced, non-lithofied, massive to finely bedded, slightly calcareous, claystone with interbedded green and white beds; trace very finely crystalline disseminated pyrite

CLAYSTONE dark green, soft, gummy, amorphous, reduced, non-lithofied, massive, calcareous, claystone with trace very finely crystalline disseminated pyrite

CLAYSTONE green to locally greenish white, soft, gummy, amorphous, reduced, non-lithofied, massive to finely bedded, slightly calcareous, claystone with interbedded green and white beds; trace very finely crystalline disseminated pyrite

CLAYSTONE dark green, soft, gummy, amorphous, mildly calcareous, non-lithofied, reduced, massive, gritty, claystone with trace very finely crystalline disseminated pyrite

Total Depth Drilled 358'
20GPM
358-368 Dup of 248-258

Li (ppm)	Ca (%)	Na (%)	K (%)	Ba (ppm)
1140	5.62	1.87	1.68	190
1280	6.49	2.01	1.70	210
1230	3.39	2.63	1.86	180
1040	1.78	3.64	1.91	150
1100	3.40	2.73	1.69	170
1190	3.35	1.99	1.44	150
1360	3.31	1.64	1.56	150
1340	3.78	2.11	1.75	180
1620	4.21	1.67	1.79	210
1140	3.83	2.00	1.54	190
810	3.52	2.04	1.49	210
1030	3.83	1.62	1.59	180
970	3.04	1.59	1.57	120
980	2.86	2.17	1.70	270
1080	3.15	2.62	1.74	230
930	3.47	2.86	1.73	160

11.2.2 Diamond Drill Core Sampling

For core sampling, at first a cardboard core box was labeled with hole location and name information. At the end of each 3.05-meter (10-foot) drill section, core was extracted from the core barrel and pushed into the hands of a driller's helper, who would then place the core directly into the sample box. Recovery was not always perfect, so the amount of footage in a box varied and would need to be written on the box by the site field technician at the end of every rod. Wooden blocks with footage markers were also added to aid in footage identification and mark the start and end of sample lengths (see Photo 11-2). In diamond drilling, the core was first transported north to Tonopah, where the site geologist and field technician sawed the core into one half and two quarters and logged the cores. Figure 11-6 and Figure 11-7 show DH logs of the drilling program in 2020. Some of the remaining half and quarter core samples were later used for metallurgical work.

Photo 11-2: Core Box Labeling (upper photos), Core Sample from BC2001C (lower right) and from BC2002C (lower left)

11.3 Sample Preparation (2022)

In 2022, sampling at Bonnie Claire consisted of drilled materials from vertical DH and MH holes.

11.3.1 Diamond Drill Core Sampling

For the 2022 core sampling campaign, Iconic prepared wooden core boxes, each with two rows, with a total length of 3.05 meters (10 feet). At first, a two-row wooden core box was labeled with hole location and name information. At the end of each 6.09-meter (20-foot) drill section, the core was extracted from the core barrel and pushed into the hands of a driller's helper, who would wrap the core into the plastic bag and then place the core directly into the sample wooden box. Recovery was not always perfect, so the amount of footage in a box varied and would need to be written on the box by the site field technician at the end of every rod. Wooden blocks with footage markers were also added to aid in footage identification and mark the start and end of sample lengths. It is noteworthy to mention that from hole BC2201C, two types of sampling, one for assaying and the other one for geotechnical testing, were taken simultaneously. To avoid any mistake, a piece of polyethylene foam cylinder was inserted into the core box instead of a geotechnical sample (Photo 11-3). After geotechnical testing, all the samples were subjected to assay analysis. In diamond drilling, the core was transported by the drillers who boxed the core from the drill site to the locked storage facility after every shift. The locked storage facility at the Spicer Ranch is accessed from Beatty, Nevada, by traveling 11.3 km (7.0 miles) north on US Highway 95, then 680 meters (0.42 miles) east on a dirt road. The aerial distance from the locked storage facility to the drilling site, the 2022 drilling campaign, is about 32 km.

Photo 11-3: Wooden Core Boxes in the Locked Storage facility (upper photos), Core Sample from BC2201C (lower photos)

The cores were then transported to another building on the same property as the secure core cutting building for cutting by a field technician under the supervision of the site geologist. One core box (6.09 meters [20 feet]) was transported at a time to the cutting area. Water was continuously supplied, and the saw surface was cleaned between cuts to avoid contamination. The technician sawed the core into one-half and two quarters. The cut core was split between bags for assay and the original core boxes at the saw, immediately after cutting (Photo 11-4). The cut core boxes and bags were then transported back to the locked storage building, and the next batch for cutting was picked up. The geologist logged the core at the locked storage building and prepared the standards, blanks, duplicates, and submittal paperwork there. Disposable tools were used to transfer standards and blanks into paper sample sleeves to avoid contamination. The cut core samples for assay, along with the standards and blanks, would then be transported directly from the locked storage facility to ALS in Reno for sample preparation. Figure 11-6 shows the core log of hole BC-2202C, an example of core logs from the 2022 drilling program.

Photo 11-4: Process of Cutting Core in the Secure Core Cutting Building

measuring the length of the core

taking out the first 5 ft core from the core box and putting the core into a PVC pipe cut in half

cutting by the saw

splitting the core

1/4 core into a sample bag for assaying and half core plus 1/4 core return to the core box

washing the table saw for the next batch for cutting

Figure 11-6: Core Log of Hole BC-2202C

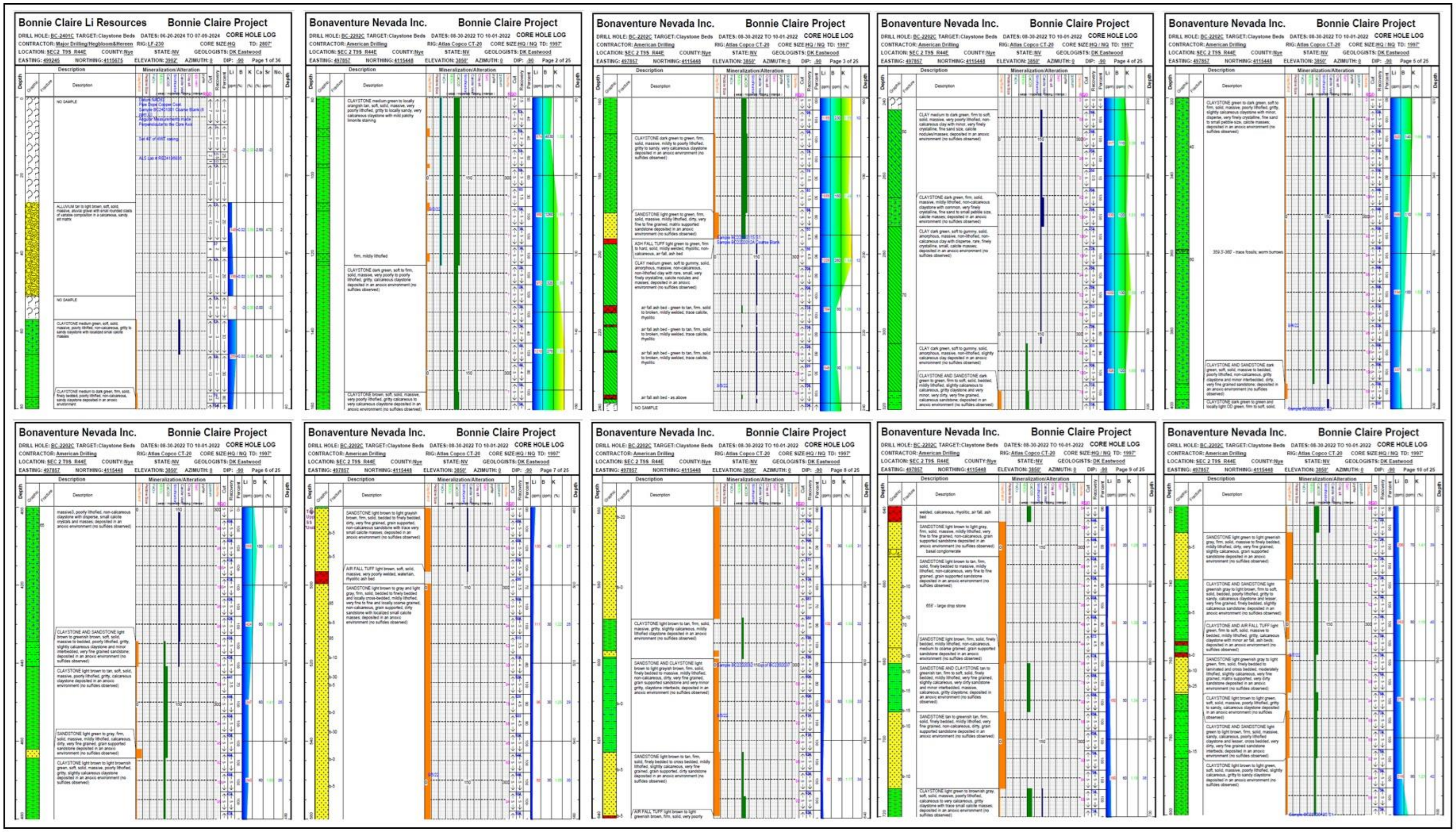


Figure 11-6 (continued)

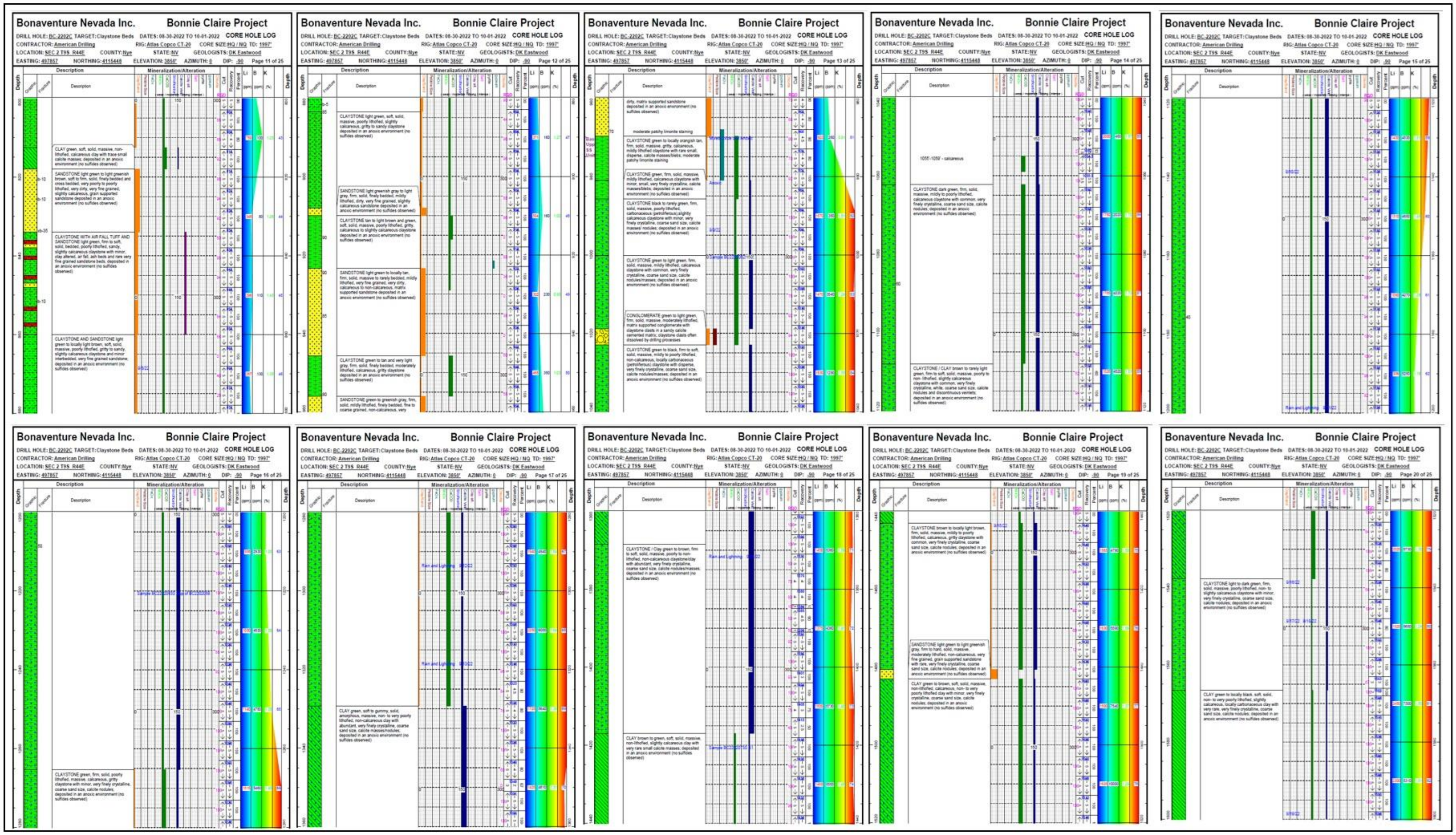
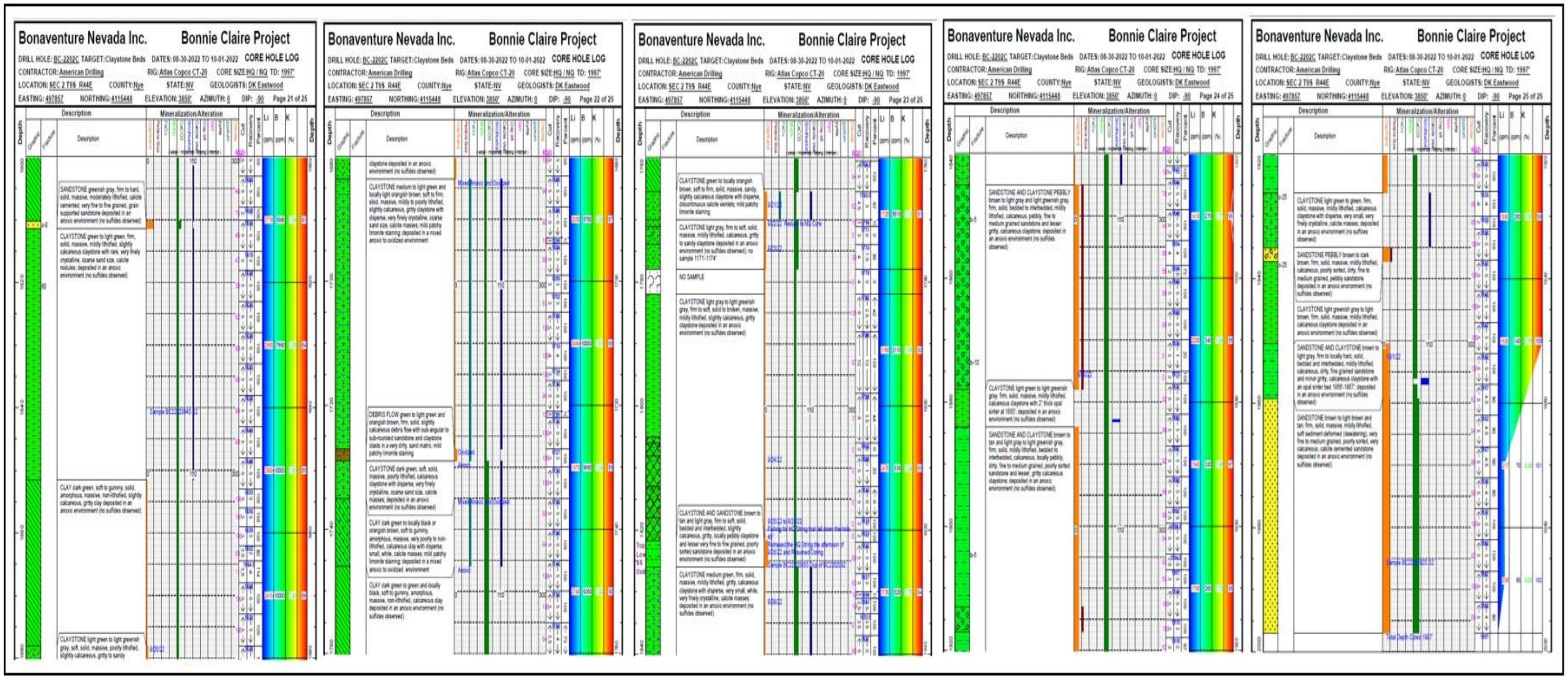


Figure 11-6 (continued)



Bonaventure Nevada Inc. Bonnie Claire Project

DRILL HOLE: BC-2202C TARGET: Claystone Beds DATES: 08-30-2022 TO 10-01-2022 CORE HOLE LOG
CONTRACTOR: American Drilling RIG: Atlas Copco CT-20 CORE SIZE: HQ / NQ TD: 1997'
LOCATION: SEC 2 T9S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 497857 NORTHING: 4115448 ELEVATION: 3850' AZIMUTH: 0 DIP: -90 Page 21 of 25

SANDSTONE greenish gray, firm to hard, solid, massive, moderately lithofied, calcite cemented, very fine to fine grained, grain supported sandstone deposited in an anoxic environment (no sulfides observed).

CLAYSTONE green to light green, firm, solid, massive, mildly lithofied, slightly calcareous claystone with rare, very finely crystalline, coarse sand size, calcite nodules; deposited in an anoxic environment (no sulfides observed).

CLAY dark green, soft to gummy, solid, amorphous, massive, non-lithofied, slightly calcareous, gritty clay deposited in an anoxic environment (no sulfides observed).

CLAYSTONE light green to light greenish gray, soft, solid, massive, poorly lithofied, slightly calcareous, gritty to sandy

Bonaventure Nevada Inc. Bonnie Claire Project

DRILL HOLE: BC-2202C TARGET: Claystone Beds DATES: 08-30-2022 TO 10-01-2022 CORE HOLE LOG
CONTRACTOR: American Drilling RIG: Atlas Copco CT-20 CORE SIZE: HQ / NQ TD: 1997'
LOCATION: SEC 2 T9S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 497857 NORTHING: 4115448 ELEVATION: 3850' AZIMUTH: 0 DIP: -90 Page 22 of 25

claystone deposited in an anoxic environment (no sulfides observed).

CLAYSTONE medium to light green and locally light orangish brown, soft to firm, solid, massive, mildly to poorly lithofied, slightly calcareous, gritty claystone with disperse, very finely crystalline, coarse sand size, calcite masses; mild patchy limonite staining; deposited in a mixed anoxic to oxidized environment.

DEBRIS FLOW green to light green and orangish brown, firm, solid, slightly calcareous debris flow with sub-angular to sub-rounded sandstone and claystone clasts in a very dirty, sand matrix; mild patchy limonite staining.

CLAYSTONE dark green, soft, solid, massive, poorly lithofied, calcareous claystone with disperse, very finely crystalline, coarse sand size, calcite masses, deposited in an anoxic environment (no sulfides observed).

CLAY dark green to locally black or orangish brown, soft to gummy, amorphous, massive, very poorly to non-lithofied, calcareous clay with disperse, small, white, calcite masses; mild patchy limonite staining; deposited in a mixed anoxic to oxidized environment.

CLAY dark green to green and locally black, soft to gummy, amorphous, massive, non-lithofied, calcareous clay deposited in an anoxic environment (no sulfides observed).

Bonaventure Nevada Inc. Bonnie Claire Project

DRILL HOLE: BC-2202C TARGET: Claystone Beds DATES: 08-30-2022 TO 10-01-2022 CORE HOLE LOG
CONTRACTOR: American Drilling RIG: Atlas Copco CT-20 CORE SIZE: HQ / NQ TD: 1997'
LOCATION: SEC 2 T9S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 497857 NORTHING: 4115448 ELEVATION: 3850' AZIMUTH: 0 DIP: -90 Page 23 of 25

CLAYSTONE green to locally orangish brown, soft to firm, solid, massive, sandy, slightly calcareous claystone with disperse, discontinuous calcite veinlets; mild patchy limonite staining.

CLAYSTONE light gray, firm to soft, solid, massive, mildly lithofied, calcareous, gritty to sandy claystone deposited in an anoxic environment (no sulfides observed); no sample 1171-1174'.

NO SAMPLE

CLAYSTONE light gray to light greenish gray, firm to soft, solid to broken, massive, mildly lithofied, slightly calcareous, gritty claystone deposited in an anoxic environment (no sulfides observed).

CLAYSTONE AND SANDSTONE brown to tan and light gray, firm to soft, solid, bedded and interbedded, slightly calcareous, gritty, locally pebbly claystone and lesser very fine to fine grained, poorly sorted sandstone deposited in an anoxic environment (no sulfides observed).

CLAYSTONE medium green, firm, solid, massive, mildly lithofied, gritty, calcareous claystone with disperse, very small, white, very finely crystalline, calcite masses; deposited in an anoxic environment (no sulfides observed).

Bonaventure Nevada Inc. Bonnie Claire Project

DRILL HOLE: BC-2202C TARGET: Claystone Beds DATES: 08-30-2022 TO 10-01-2022 CORE HOLE LOG
CONTRACTOR: American Drilling RIG: Atlas Copco CT-20 CORE SIZE: HQ / NQ TD: 1997'
LOCATION: SEC 2 T9S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 497857 NORTHING: 4115448 ELEVATION: 3850' AZIMUTH: 0 DIP: -90 Page 24 of 25

SANDSTONE AND CLAYSTONE PEBBLY brown to light gray and light greenish gray, firm, solid, bedded to interbedded, mildly lithofied, calcareous, pebbly, fine to medium grained sandstone and lesser gritty, calcareous claystone; deposited in an anoxic environment (no sulfides observed).

CLAYSTONE light green to light greenish gray, firm, solid, massive, mildly lithofied, calcareous claystone with 2" thick opal sinter at 1883'; deposited in an anoxic environment (no sulfides observed).

SANDSTONE AND CLAYSTONE brown to tan and light gray to light greenish gray, firm, solid, mildly lithofied, bedded to interbedded, calcareous, locally pebbly, dirty, fine to medium grained, poorly sorted sandstone and lesser, gritty calcareous claystone; deposited in an anoxic environment (no sulfides observed).

Bonaventure Nevada Inc. Bonnie Claire Project

DRILL HOLE: BC-2202C TARGET: Claystone Beds DATES: 08-30-2022 TO 10-01-2022 CORE HOLE LOG
CONTRACTOR: American Drilling RIG: Atlas Copco CT-20 CORE SIZE: HQ / NQ TD: 1997'
LOCATION: SEC 2 T9S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 497857 NORTHING: 4115448 ELEVATION: 3850' AZIMUTH: 0 DIP: -90 Page 25 of 25

CLAYSTONE light green to green, firm, solid, massive, mildly lithofied, calcareous claystone with disperse, very small, very finely crystalline, calcite masses; deposited in an anoxic environment (no sulfides observed).

SANDSTONE PEBBLY brown to dark brown, firm, solid, massive, mildly lithofied, calcareous, poorly sorted, dirty, fine to medium grained, pebbly sandstone deposited in an anoxic environment (no sulfides observed).

CLAYSTONE light greenish gray to light brown, firm, solid, massive, mildly lithofied, calcareous claystone deposited in an anoxic environment (no sulfides observed).

SANDSTONE AND CLAYSTONE brown to light gray, firm to locally hard, solid, bedded and interbedded, mildly lithofied, calcareous, dirty, fine grained sandstone and minor gritty, calcareous claystone with an opal sinter bed 1956'-1957'; deposited in an anoxic environment (no sulfides observed).

SANDSTONE brown to light brown and tan, firm, solid, massive, mildly lithofied, soft sediment deformed (dewatering), very fine to medium grained, poorly sorted, very calcareous, calcite cemented sandstone deposited in an anoxic environment (no sulfides observed).

11.3.2 Mud Rotary Drill Sampling

In the 2022 drilling campaign, two mud holes, BC2201 and BC2205, were drilled. The mud hole sampling procedure was as follows:

During drilling, large buckets or vats were used to collect sample material over the course of a drill interval. This ensured both coarse and fine materials were recovered in the sample. The recovery buckets and tubs were rinsed with water between runs to prevent cross-contamination. The recovered material from a run was mixed and then split by a site technician into a larger and smaller sample, with the smaller sample for assay and the larger sample kept for storage. Both small and large samples were labeled with the same sample code, decided by the site geologist. The samples were transported at the end of every drilling shift to the secure, locked storage site on the Spicer Ranch, 7.0 miles north of Beatty, Nevada. There, standards and duplicates were prepared and added to the samples by the site geologist. The samples for the assay were then transported to ALS in Reno by the geologist or trusted site technician.

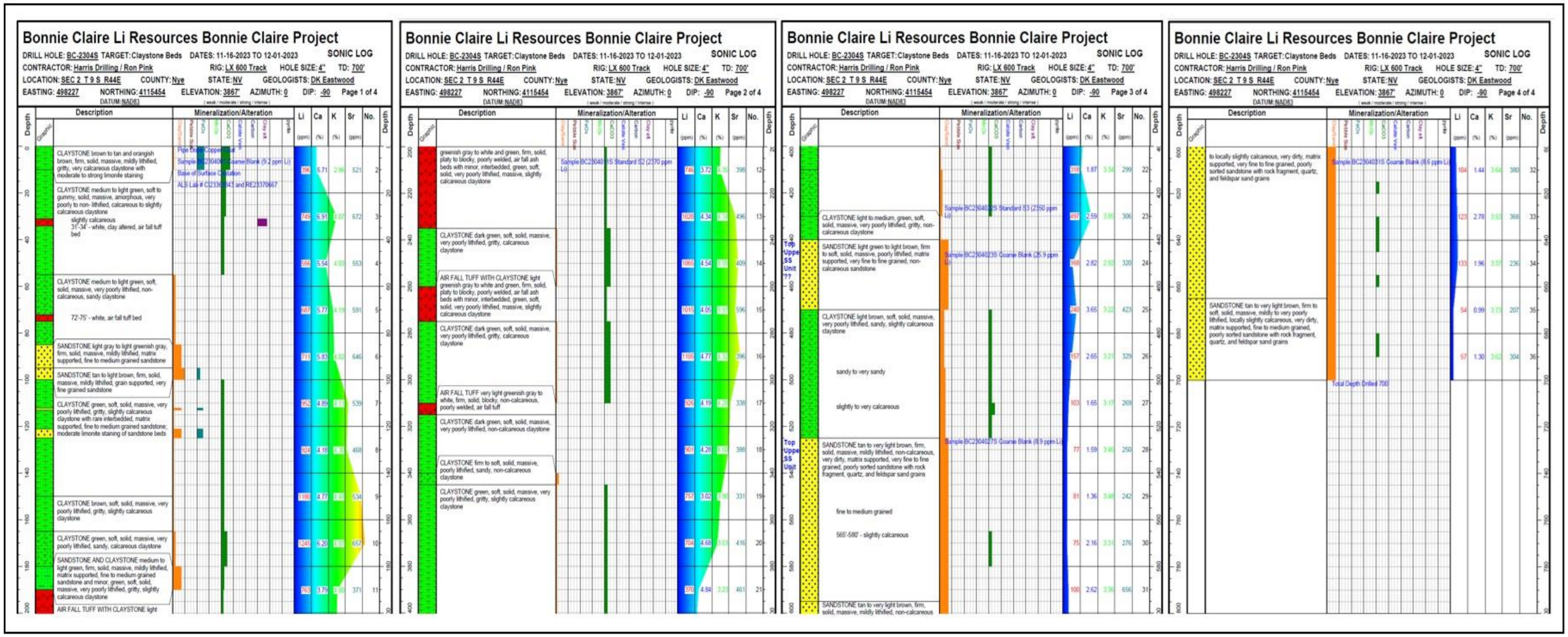
11.4 Sample Preparation (2023)

Sample preparation for core holes in the 2023 drilling program was conducted the same as the 2022 drilling program. Samples were immediately boxed, and the boxes labeled at the drill site. Upon change of shift, the drill crew would drop off any core obtained by that shift at the storage facility and the secure core cutting site on their way into Beatty. The shed would be locked after the crew completed delivering the core. Core samples were first cut into two quarter cores, and one-half core. One quarter of the core was immediately bagged after cutting and labeled, with the rest of the core returned to the core box. Cut core was used for logging, at it provided more surface area and a cleaner look into the core. Water was always available to the site geologist to aid in washing core for logging. Duplicates, standards, and blanks were prepared after the core samples were already bagged. After a batch of samples was ready for transport, they would be taken directly from the core storage facility to ALS in Reno, Nevada, for geochemical analysis by Nevada Lithium's site technician.

Nevada Lithium's site technician would travel to the drill site to retrieve the sonic cores after each shift, transporting it to the storage facility and secure core cutting site north of Beatty, NV. Sonic core samples were first cut into two quarter cores, and one-half core. One quarter of the core was immediately bagged after cutting and labeled, with the remainder being placed in a labeled PQ core box instead of the original plastic bag. Cut sonic core was used for logging, as it provided more surface area and a cleaner look into the sonic core. Water was always available to the site geologist to aid in washing core for logging. Duplicates, standards, and blanks were prepared after the sonic core samples were already bagged. After a batch of samples was ready for transport, they would be taken directly from the core storage facility to ALS in Reno, Nevada, for analysis by Nevada Lithium's site technician.

Each morning, the site geologist (David Eastwood) and site technician (Sean McCormic) would arrive at the secure core storage site. Mr. Sean McCormic would cut PQ, HQ, and sonic core into two quarters and one half, bagging one quarter for later analysis. Sonic core was transferred from its original plastic bags into labeled PQ core boxes after cutting. The boxes of cut core were then transferred to Mr. Dave Eastwood for geologic logging. Figure 11-7 shows the core log of hole BC-2304S, an example of Sonic logs from the 2023 drilling program.

Figure 11-7: Core Log of Hole BC-2304S



Bonnie Claire Li Resources Bonnie Claire Project

DRILL HOLE: BC-2304S TARGET: Claystone Beds DATES: 11-16-2023 TO 12-01-2023 SONIC LOG
CONTRACTOR: Harris Drilling / Ron Pink RIG: LX 600 Track HOLE SIZE: 4" TD: 700'
LOCATION: SEC 2 T 9 S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 498227 NORTHING: 4115454 ELEVATION: 3867' AZIMUTH: 0 DIP: -90 Page 1 of 4
DATUM: NAD83

CLAYSTONE brown to tan and orangish brown, firm, solid, massive, mildly lithified, gritty, very calcareous claystone with moderate to strong limonite staining

CLAYSTONE medium to light green, soft to gummy, solid, massive, amorphous, very poorly to non- lithified, calcareous to slightly calcareous claystone
slightly calcareous
31'-34' - white, clay altered, air fall tuff bed

CLAYSTONE medium to light green, soft, solid, massive, very poorly lithified, non-calcareous, sandy claystone
72'-75' - white, air fall tuff bed

SANDSTONE light gray to light greenish gray, firm, solid, massive, mildly lithified, matrix supported, fine to medium grained sandstone

SANDSTONE tan to light brown, firm, solid, massive, mildly lithified, grain supported, very fine grained sandstone

CLAYSTONE green, soft, solid, massive, very poorly lithified, gritty, slightly calcareous claystone with rare interbedded, matrix supported, fine to medium grained sandstone; moderate limonite staining of sandstone beds

CLAYSTONE brown, soft, solid, massive, very poorly lithified, gritty, slightly calcareous claystone

CLAYSTONE green, soft, solid, massive, very poorly lithified, sandy, calcareous claystone

SANDSTONE AND CLAYSTONE medium to light green, firm, solid, massive, mildly lithified, matrix supported, fine to medium grained sandstone and minor, green, soft, solid, massive, very poorly lithified, gritty, slightly calcareous claystone

AIR FALL TUFF WITH CLAYSTONE light

Pipe Down Copper Post
Sample BC230400[illegible] Coarse Blank (9.2 ppm Li)
Base of Surface Oxidation
ALS Lab # CI23363843 and RE23370667

Li (ppm)	Ca (%)	K (%)	Sr (ppm)	No.
396	5.71	2.96	521	2
749	6.91	3.07	672	3
566	5.54	4.03	553	4
687	5.77	4.19	591	5
711	5.83	4.02	646	6
952	4.89	[illegible]	539	7
924	4.18	[illegible]	468	8
1180	4.77	[illegible]	534	9
1246	6.20	[illegible]	657	10
763	3.79	[illegible]	371	11

Bonnie Claire Li Resources Bonnie Claire Project

DRILL HOLE: BC-2304S TARGET: Claystone Beds DATES: 11-16-2023 TO 12-01-2023 SONIC LOG
CONTRACTOR: Harris Drilling / Ron Pink RIG: LX 600 Track HOLE SIZE: 4" TD: 700'
LOCATION: SEC 2 T 9 S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 498227 NORTHING: 4115454 ELEVATION: 3867' AZIMUTH: 0 DIP: -90 Page 2 of 4
DATUM: NAD83

greenish gray to white and green, firm, solid, platy to blocky, poorly welded, air fall ash beds with minor, interbedded, green, soft, solid, very poorly lithified, massive, slightly calcareous claystone

CLAYSTONE dark green, soft, solid, massive, very poorly lithified, gritty, calcareous claystone

AIR FALL TUFF WITH CLAYSTONE light greenish gray to white and green, firm, solid, platy to blocky, poorly welded, air fall ash beds with minor, interbedded, green, soft, solid, very poorly lithified, massive, slightly calcareous claystone

CLAYSTONE dark green, soft, solid, massive, very poorly lithified, gritty, calcareous claystone

AIR FALL TUFF very light greenish gray to white, firm, solid, blocky, non-calcareous, poorly welded, air fall tuff

CLAYSTONE dark green, soft, solid, massive, very poorly lithified, non-calcareous claystone

CLAYSTONE firm to soft, solid, massive, poorly lithified, sandy, non-calcareous claystone

CLAYSTONE green, soft, solid, massive, very poorly lithified, gritty, slightly calcareous claystone

Sample BC230401[illegible]S Standard S2 (2370 ppm Li)

Li (ppm)	Ca (%)	K (%)	Sr (ppm)	No.
746	3.72	[illegible]	398	12
1020	4.34	[illegible]	496	13
1066	4.54	[illegible]	409	14
1015	4.05	[illegible]	596	15
1105	4.77	[illegible]	396	16
926	4.19	[illegible]	338	17
901	4.28	[illegible]	388	18
757	3.02	[illegible]	331	19
704	4.68	[illegible]	416	20
370	4.84	3.20	461	21

Bonnie Claire Li Resources Bonnie Claire Project

DRILL HOLE: BC-2304S TARGET: Claystone Beds DATES: 11-16-2023 TO 12-01-2023 SONIC LOG
CONTRACTOR: Harris Drilling / Ron Pink RIG: LX 600 Track HOLE SIZE: 4" TD: 700'
LOCATION: SEC 2 T 9 S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 498227 NORTHING: 4115454 ELEVATION: 3867' AZIMUTH: 0 DIP: -90 Page 3 of 4
DATUM: NAD83

CLAYSTONE light to medium, green, soft, solid, massive, very poorly lithified, gritty, non-calcareous claystone

Top Uppe SS Unit ??

SANDSTONE light green to light brown, firm to soft, solid, massive, poorly lithified, matrix supported, very fine to fine grained, non-calcareous sandstone

CLAYSTONE light brown, soft, solid, massive, very poorly lithified, sandy, slightly calcareous claystone
sandy to very sandy
slightly to very calcareous

Top Uppe SS Unit

SANDSTONE tan to very light brown, firm, solid, massive, mildly lithified, non-calcareous, very dirty, matrix supported, very fine to fine grained, poorly sorted sandstone with rock fragment, quartz, and feldspar sand grains
fine to medium grained
565'-580' - slightly calcareous

SANDSTONE tan to very light brown, firm, solid, massive, mildly lithified, non-calcareous

Sample BC230402[illegible]S Standard S3 (2350 ppm Li)
Sample BC2304023S Coarse Blank (25.9 ppm Li)
Sample BC2304027S Coarse Blank (8.9 ppm Li)

Li (ppm)	Ca (%)	K (%)	Sr (ppm)	No.
318	1.87	3.34	299	22
497	2.59	3.85	306	23
168	2.82	[illegible]	320	24
240	3.65	3.22	423	25
157	2.65	3.21	329	26
103	1.65	3.17	268	27
77	1.59	3.46	250	28
81	1.36	3.48	242	29
75	2.16	3.31	276	30
100	2.62	3.36	656	31

Bonnie Claire Li Resources Bonnie Claire Project

DRILL HOLE: BC-2304S TARGET: Claystone Beds DATES: 11-16-2023 TO 12-01-2023 SONIC LOG
CONTRACTOR: Harris Drilling / Ron Pink RIG: LX 600 Track HOLE SIZE: 4" TD: 700'
LOCATION: SEC 2 T 9 S R44E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 498227 NORTHING: 4115454 ELEVATION: 3867' AZIMUTH: 0 DIP: -90 Page 4 of 4
DATUM: NAD83

to locally slightly calcareous, very dirty, matrix supported, very fine to fine grained, poorly sorted sandstone with rock fragment, quartz, and feldspar sand grains

SANDSTONE tan to very light brown, firm to soft, solid, massive, mildly to very poorly lithified, locally slightly calcareous, very dirty, matrix supported, fine to medium grained, poorly sorted sandstone with rock fragment, quartz, and feldspar sand grains

Sample BC2304031S Coarse Blank (8.6 ppm Li)
Total Depth Drilled 700

Li (ppm)	Ca (%)	K (%)	Sr (ppm)	No.
104	1.44	3.64	380	32
123	2.78	3.53	368	33
133	1.96	3.37	236	34
54	0.99	3.73	207	35
57	1.30	3.62	304	36

11.5 Sample Preparation (2024)

Sample preparation for core holes in the 2024 drilling program was conducted the same as the 2022 and 2023 drilling programs. Samples were immediately boxed, and the boxes labeled at the drill site. Upon change of shift, the drill crew would drop off any core obtained by that shift at the storage facility and the secure core cutting site on their way into Beatty. Core samples were first cut into two quarter cores, and one-half core. One quarter of the core was immediately bagged after cutting and labeled, with the rest of the core returned to the core box. Cut core was used for logging, at it provided more surface area and a cleaner look into the core. Duplicates, standards, and blanks were prepared after the core samples were already bagged. After a batch of samples was ready for transport, they would be taken directly from the core storage facility to ALS in Reno, NV, for geochemical analysis by Nevada Lithium's site technician.

HQ Cores was cut by the project technician, Mr. Sean McCormic, into two quarters and one half, bagging one quarter for later analysis. The boxes of cut core were then transferred to the site geologist, Mr. Dave Eastwood, for geologic logging. Figure 11-8 shows the core log of hole BC-2401C, an example of core logs from the 2024 drilling program.

Figure 11-8: Core Log of Hole BC-2401C

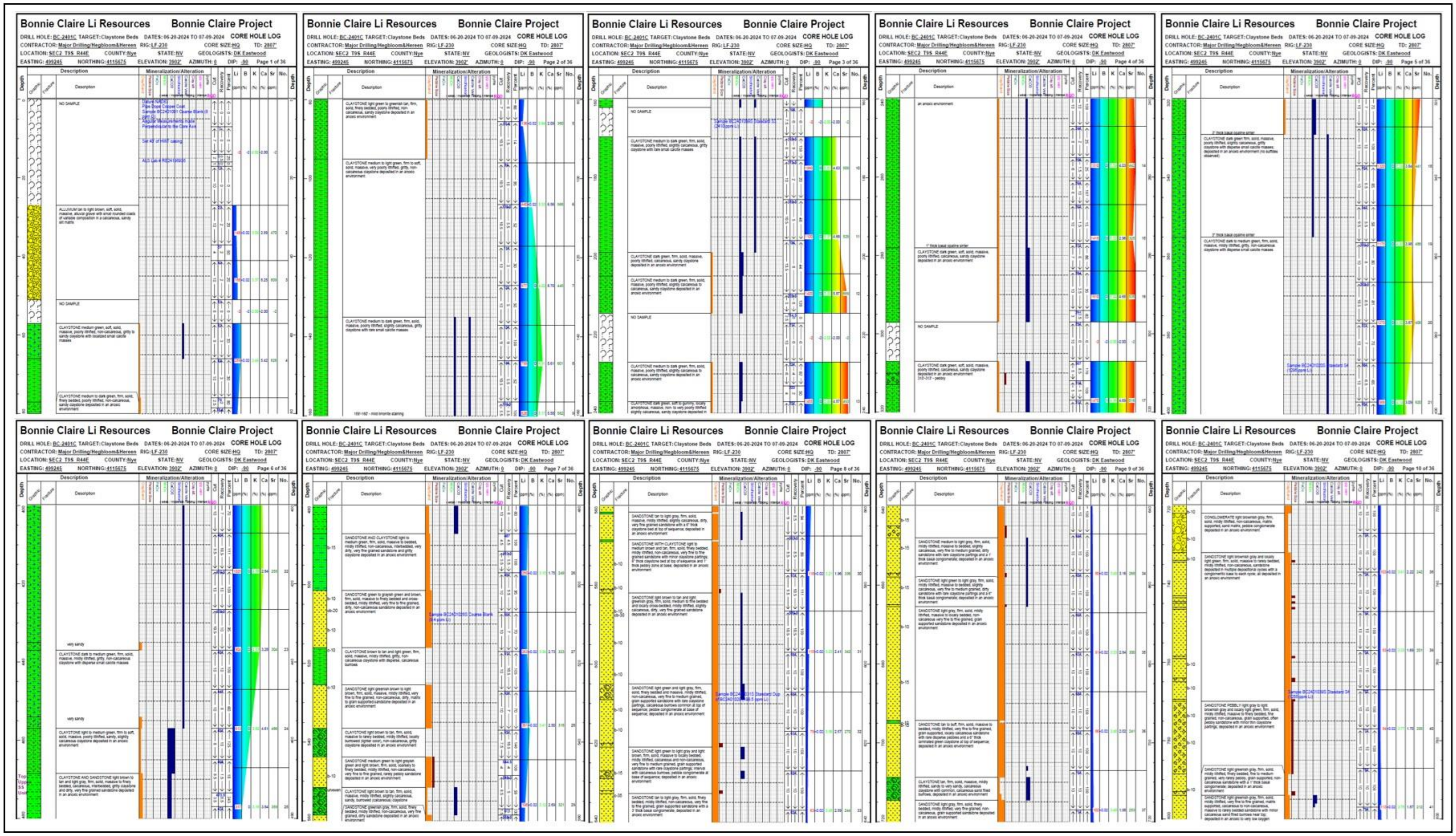


Figure 11-8 (continued)

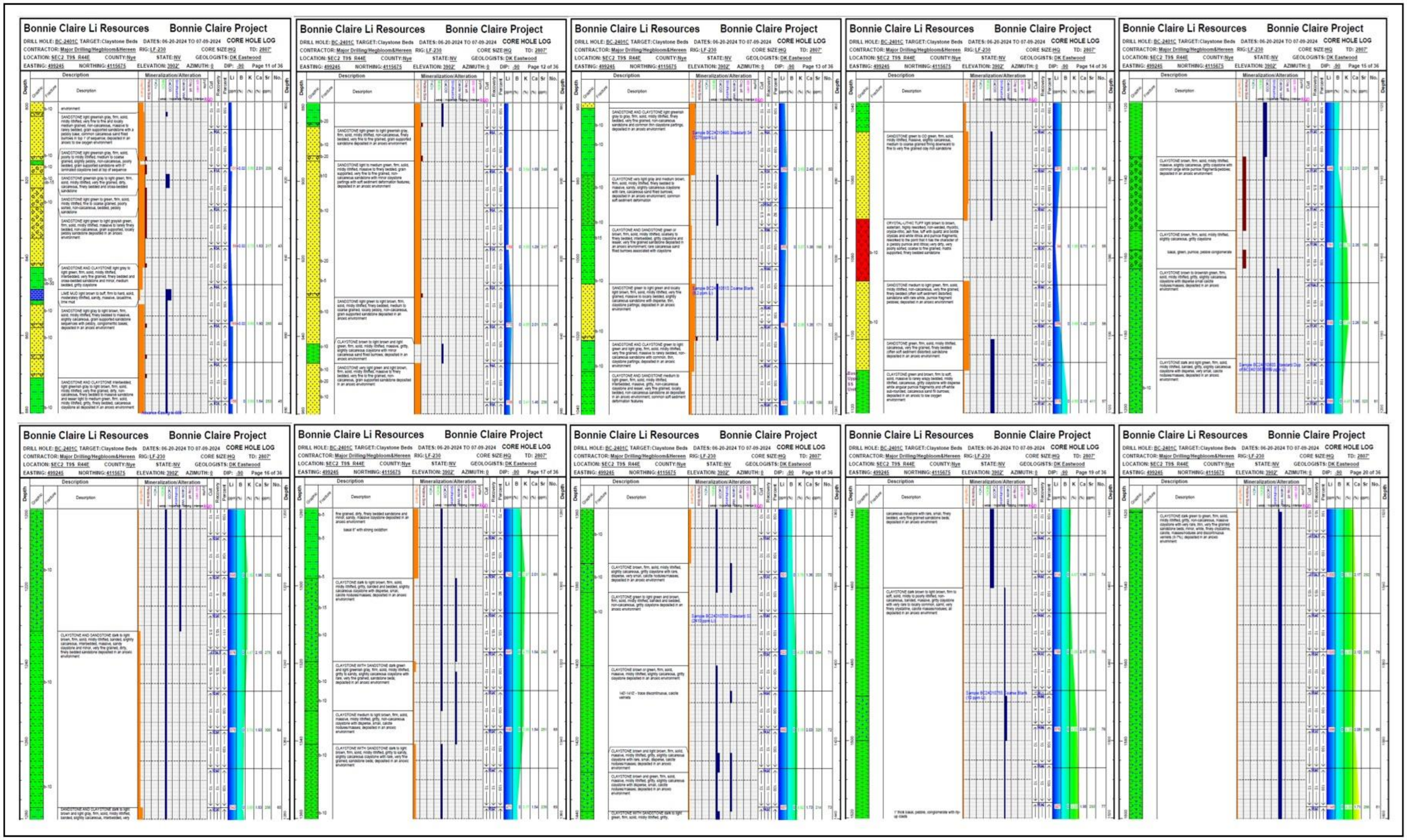


Figure 11-8 (continued)

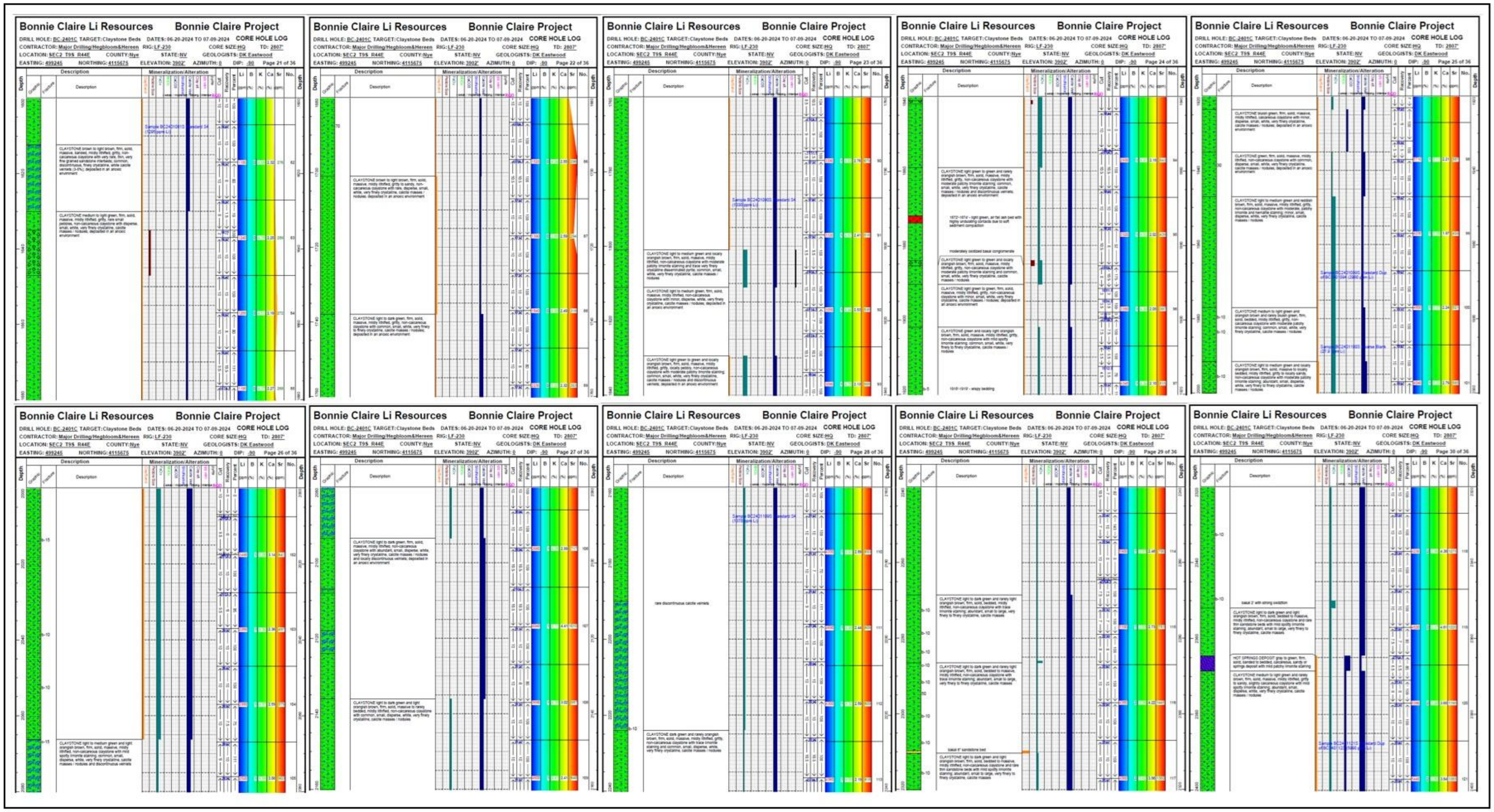
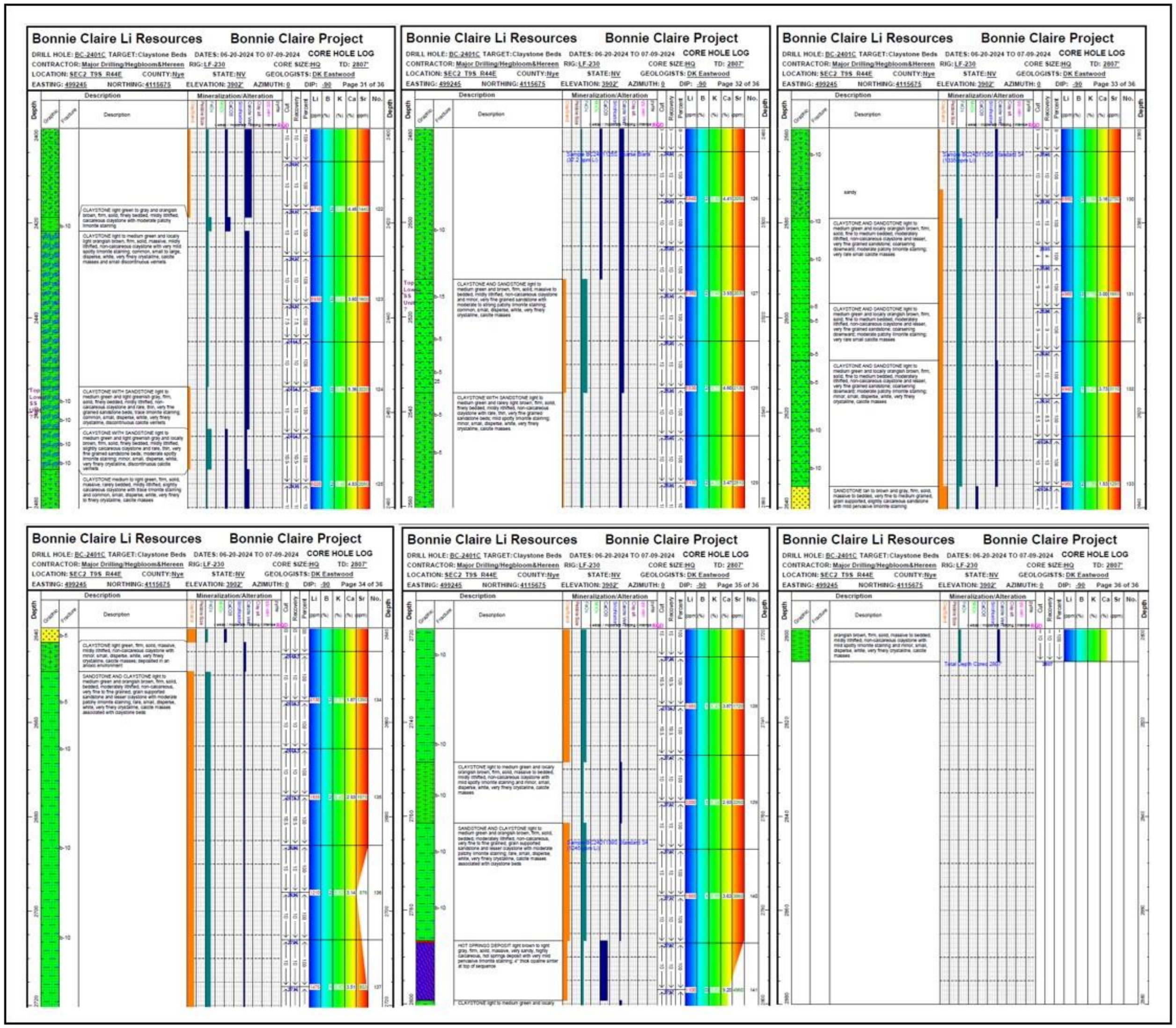


Figure 11-8 (continued)



11.6 Analytical Procedures

11.6.1 Analytical Procedures (2016-2018)

The samples to be analyzed were transported by the site geologist or geologic technician to ALS Chemex, Reno, Nevada. The samples for BC-1601 and BC-1602 were dried, crushed, then had 250-gram splits pulverized to 85% less than 75 microns (µm) at the lab. The samples were then subjected to 33-element 4-acid ICP-AES multi-element analysis. The samples for BC-1801 were treated with the same preparation at the lab, and then subjected to aqua regia digestion followed by inductively coupled plasma mass spectrometry and ICP-AES multi-element analysis.

11.6.2 Analytical Procedures (2020)

For this campaign, the samples were also transported by the site geologist to ALS, Reno, Nevada. The samples for BC-2001C, BC-2002C, and BC-2003, BC-2004, BC-2005, and BC-2006 were all subjected to the same previous process of analytical procedure (2016 to 2018) at ALS Chemex. The samples were initially weighed, dried (if needed), crushed to 70% <2 millimeters, then pulverized to 85% <75 µm and split using a riffle splitter. The samples were then packed and shipped to another ALS Chemex lab, where they were digested using aqua regia. The sample was then subjected to ALS's ME-MS-41 method, which is an ICP-Mass Spectrometry (MS) and ICP-AES analysis of a digested 0.5-gram samples. ALS notes the method has a precision of 10% for samples containing between 10 ppm and 1% lithium.

11.6.3 Analytical Procedures (2022)

The core and mud hole samples to be analyzed were transported by the site geologist to ALS Chemex in Reno, Nevada. The samples were initially weighed, dried, crushed to 70% <2 millimeters, then pulverized to 85% <75 µm and split using a riffle splitter. The pulverized samples were then packed and shipped to another ALS Chemex lab in Vancouver, BC, Canada. At the ALS Chemex Vancouver lab, samples were digested using aqua regia, ALS's GEO-AR01 method, then they were subjected to ALS's MS-MS41L method, which is an ICP-MS analysis of a digested 0.5-gram samples.

11.6.4 Analytical Procedures (2023)

For the 2023 drilling campaign, the samples from core and sonic holes were also transported by the site technician to ALS Chemex, Reno, Nevada. After arriving at ALS Chemex, the submitted samples from Nevada Lithium followed this procedure:

- Samples were labeled and then weighed
- Samples were crushed, often in two stages that consisted of a coarse followed by fine crushing (crushed to 70% better than -2mm)
- Crushed material was split using a Boyd Rotary Splitter
- Representative 250 splits from crushing were then pulverized (85% passing minus 75 µm)
- Pulverized samples were sent to other ALS Chemex labs for analysis
- Samples received by lab and a 0.25-gram portion of each sample was digested with "four acid" (HF-HNO3-HCL04)
- Sample analysis was performed on digested material using ICP-AES and ICP-MS

11.6.5 Analytical Procedures (2024)

The analytical procedure for the 2024 drilling campaign was conducted the same as the 2023 drilling program. The samples from core holes were also transported by the site technician to ALS Chemex, Reno, Nevada.

For this program samples were digested by “four acid” and analyzed using ICP-AES and ICP-MS.

11.7 Sample Security

From 2016 to 2018, Iconic maintained formal chain-of-custody procedures during all segments of sample transport. Samples prepared for transport to the laboratory were bagged and labeled in a manner that prevented tampering, and samples remained in Iconic’s control until released to the laboratory. Upon receipt by the laboratory, samples were tracked by a blind sample number assigned and recorded by Iconic. Retained chip and soil samples were securely stored in the core storage facility in Reno and Beatty, while the rejects and pulps were returned to Iconic for potential future check analysis. They are held in a secure storage facility.

In the 2020 campaign, Iconic maintained the same chain-of- custody procedure that was carried out during the 2016 to 2018 drilling campaigns. In this program, the RC samples never left the custody of the drill site field technician who took said samples. After one week of drilling, the samples were transported to Reno, Nevada. There, duplicates were made of a sample from each hole and were added to the run before submittal to ALS Chemex for assay. The creation of duplicates was done under supervision of the site geologist, and no bags other than those used to create duplicates were opened. In the 2020 campaign, no blanks or standards were inserted into the sample stream. The larger reject samples remained in storage in Reno, Nevada. In diamond drilling, core samples were placed directly into the cardboard core boxes. Upon completion of the drill program, the core was first transported north to Tonopah, where the site geologist and field technician sawed the core into one half and two quarters. One of the quarter core lengths was then divided up and placed into cloth bags to create 3.05-meter (10-foot) samples for assay. These bags were externally labeled with hole number and footage information. Due to poor recovery, the starting sample footage of both 2020 core holes was 2.4 meters (eight feet), while the rest of the samples were all 3.05 meters (10 feet). All sample material was then transported to Reno, Nevada. The cloth bagged samples were immediately submitted to ALS Chemex for assay, while the remainder of the quarter and half core was placed in storage in Reno, Nevada. Chain of custody was documented throughout the entire transportation process.

In the 2022 campaign, Iconic maintained formal chain-of- custody procedure during all segments of sample transportation as done for previous drilling campaigns.

In diamond drilling, core samples were placed directly into the wooden core boxes. Upon completion of the drill program at every shift, the core was first transported to the locked storage facility to be stored, then to the secure core cutting building beside the locked storage facility, where the site geologist and field technician sawed the core into one half and two quarters. One of the quarter core lengths was then divided up and placed into cloth bags to create 6.09-meer (20-foot) samples (Holes BC2202C, BC2203C, BC2204C) and less than 3.05-meter (10-foot) sample (hole BC2201C) for assay.

In mud drilling, holes BC2201 and BC2205, large buckets or vats were used to collect sample material over the course of a drill interval. This ensured both coarse and fine material were recovered in the sample. The recovered material from a run, 6.09-meter (20-foot) sample, was mixed and then split by a site technician into a larger and smaller sample, with the smaller sample for assay and larger sample kept for storage. Both small and large samples were labeled with the same sample code, decided by the site geologist, and transported to the locked storage facility to be stored at every shift.

Samples prepared for transport to the laboratory were bagged and labeled in a manner that prevented tampering, and samples remained in Iconic's locked storage facility until released to the ALS Laboratory in Reno, Nevada. Samples at the ALS in Reno were crushed and pulverized, then were packed, and shipped to ALS Chemex in Vancouver for assaying. These bags were externally labeled with hole number and footage information. There, duplicates were made of a sample from each hole and were added to the run before submittal to ALS Chemex for sample preparation. The creation of duplicates was done under supervision of the site geologist for both core and mud hole sample streams, and no bags other than those used to create duplicates were opened. In the 2022 campaign, blanks and standards were inserted into the sample stream for diamond drilling and for mud hole drilling. Upon receipt by the laboratory, samples were tracked by a blind sample number assigned and recorded by Iconic. Retained core samples were securely stored in the locked storage facility, located 7.0 miles north of Beatty, Nevada. The rejects and pulps were returned to Iconic for potential future check analysis and are held in the locked storage facility. For the 2022 drilling campaign chain of custody was also documented throughout the entire transportation process.

In the 2023 campaign, Nevada Lithium maintained formal chain-of- custody procedure for all segments of sample transportation as done for the 2022 drilling campaigns.

Core samples were delivered to the secure storage site by the Major drill crew that drilled them after each 12-hour shift. Sonic samples were picked up from the drill site by the Nevada Lithium site technician and transported to the core cutting and storage facility. Only the Major drill crew, Nevada Lithium site technician, and Nevada Lithium site geologist had access to this locked facility, and it remained locked when no authorized personnel were on site. After delivery, only the site technician or site geologist were in contact with the samples, and they were also the ones who transported them to ALS Chemex for analysis.

In the 2024 campaign, Nevada Lithium maintained formal chain-of-custody procedure for all segments of sample transportation as done for the 2022 and 2023 drilling campaigns.

Core samples were delivered to the secure storage site by the Major drill crew that drilled them after each 12-hour shift. Only the Major drill crew, Nevada Lithium site technician, and Nevada Lithium site geologist had access to this locked facility, and it remained locked when no authorized personnel were on site. After delivery, only the site technician or site geologist were in contact with the samples, and they were also the ones who transported them to ALS Chemex for analysis.

11.8 Quality Assurance and Quality Control

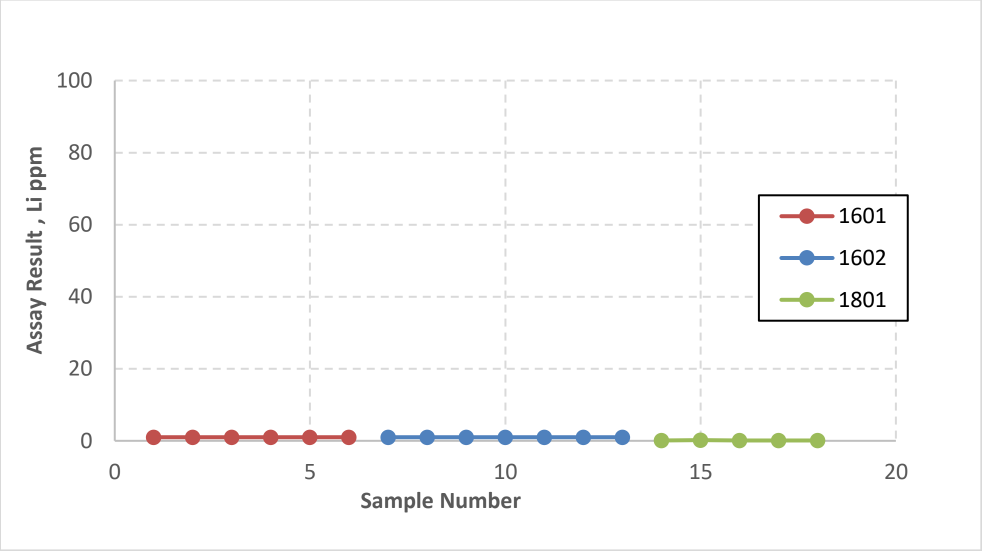
11.8.1 2016-2018 Campaign

Iconic's in-house Quality Assurance and Quality Control (QA/QC) procedures in 2016 to 2018 were limited to insertion of a certified standard reference sample at a rate of one standard sample per eight drill hole samples. These standards are purchased in durable, pre-sealed aluminum packets. The standard sample assay results are routinely reviewed by Iconic geologists. During the 2016 and 2018 campaigns, Iconic submitted at least eight pulp duplicates to the laboratory as check samples, 18 blank samples, and 35 Certified Reference Materials (CRMs). To date, these results fall within the anticipated range of variability as described by the manufacturer of the standards. As a result, the assay results have no indication of systematic errors that might be due to sample collection or assay procedures.

11.8.1.1 Blanks Analysis

Blank samples were inserted into the sample stream at a rate of six blank samples for Hole 1601, seven blank samples for hole 1602, and five blank samples for hole 1801, totaling 18 blank samples. Figure 11-9 shows the assay results of the blanks by ALS Chemex used in the QA/QC program in the 2016 and 2018 RC drilling programs. A total of 18 blanks returned only 12 excursion values, with a maximum value of 10 ppm Li; the remaining five blanks returned values less than 0.1 ppm Li.

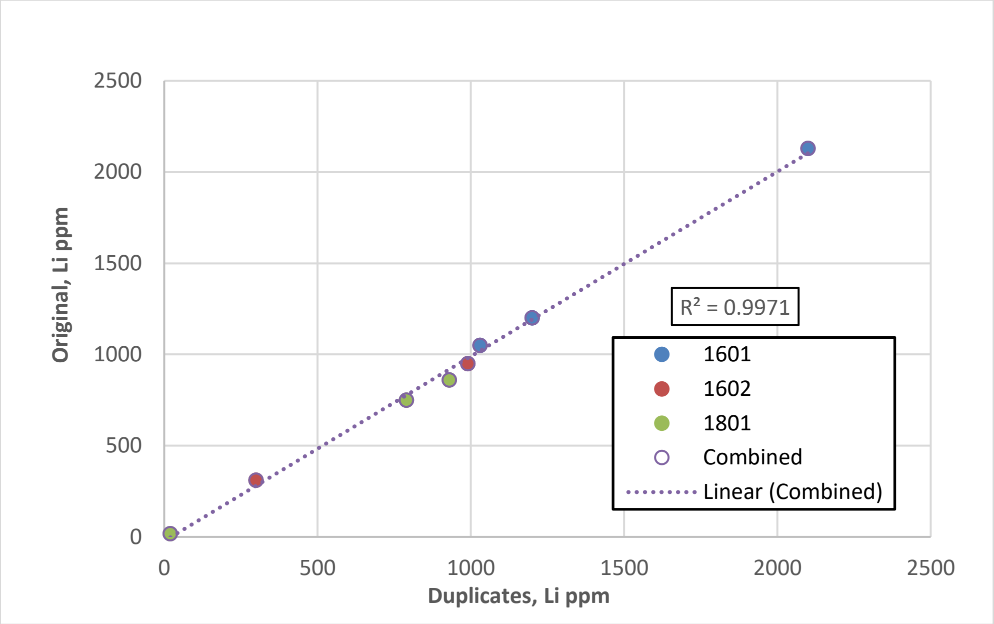
Figure 11-9: Assay Results, Blank Samples, Drilling Program (2016 & 2018)



11.8.1.2 Duplicate Analysis

Based on Iconic's in-house QA/QC procedure, duplicate samples were inserted into the sample stream at a rate of three duplicates for hole BC-1601, two duplicates for hole BC-1602, and three duplicates for hole BC-1801. Duplicate samples were prepared in the same manner as all samples, with the duplicate split produced from the pulverized material. Figure 11-10 shows a comparison graph of the ALS Chemex laboratory duplicates.

Figure 11-10: Laboratory Duplicate Comparison (2016 & 2018)



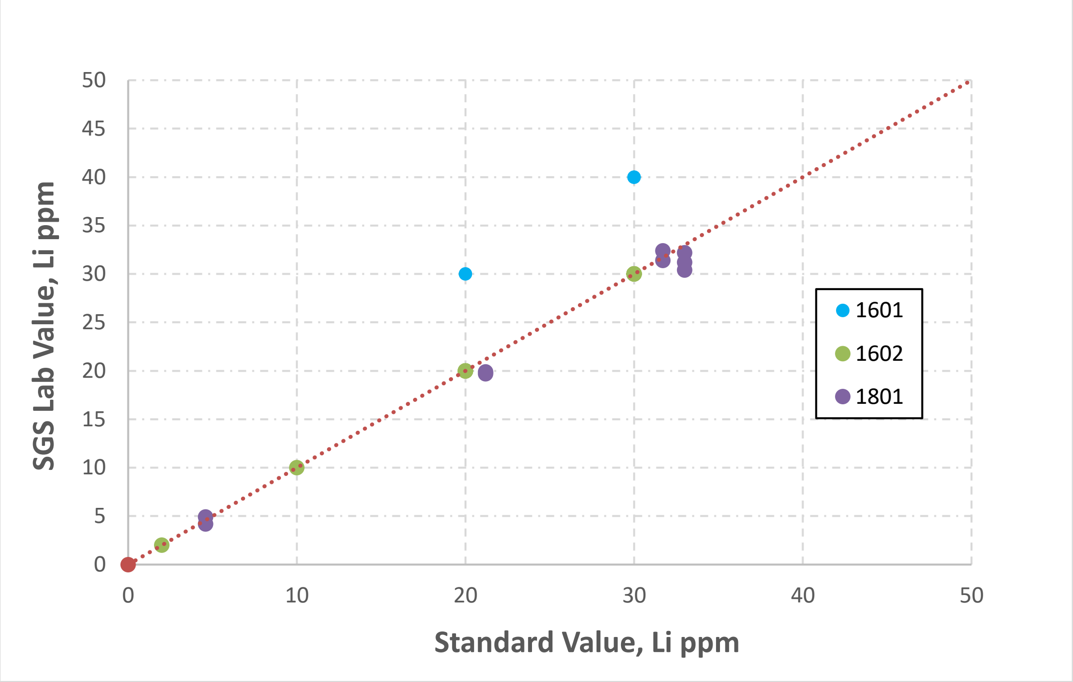
The Q-Q plots effectively indicate no scatter in the data, with R^2 values of 0.997 for the RC drilling program.

11.8.1.3 Certified Reference Materials (CRM)

Commercially prepared CRMs were inserted into the sample stream at a rate of 12 CRMs for hole BC-1601, 14 CRMS for hole BC-1602, and nine CRMs for hole BC-1801. Four CRMs of MRGeo08 (30 ppm Li), OGGeo08 (30 ppm Li), OREAS 602 (20 ppm Li), and OREAS-45b (10 ppm Li), each with a unique and specific certified assay value, were used. The CRMs are in pulp form, each contained within small individual sample bags. These bags were placed within the Iconic sample bags with company tags inserted along with the CRMs. Although sample standards are readily identifiable as standards, the assay values are unknown to the analyzing laboratory.

Figure 11-11 shows a scatter plot of the certified value for each assay standard compared to the value obtained by ALS Chemex for the RC drilling program. The laboratory's analytical results generally correlate well with the standard values, with no outliers. A 45-degree line represents an excellent correlation between the standard assay certified value and actual assay results. This line passes through all of the sample sets, with the majority of the points directly adjacent to the line, indicating acceptable accuracy performance for the standards. Larger scatter is seen only for hole BC-1601, with a maximum 10 ppm difference between standard values and ALS Chemex lab. values, which for lithium is acceptable, but again this scatter is within an acceptable range in the opinion of the QP.

Figure 11-11: Assay Standard Results RC Program (2016-2018)

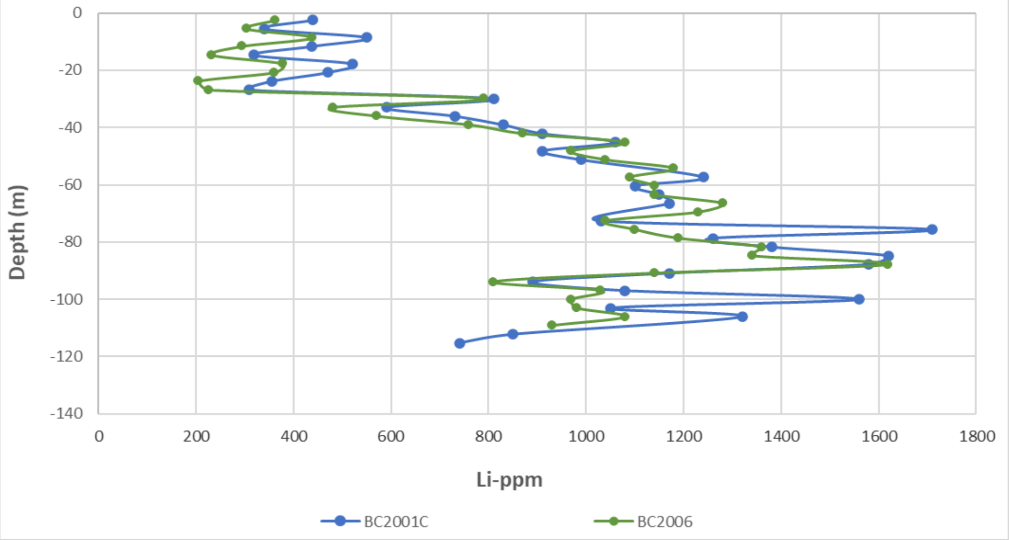


11.8.2 2020 Campaign

In the 2020 drilling program, there were no blank or standard samples submitted with the core or RC samples. Only six duplicate samples were submitted with the core samples.

The diamond hole BC-2001C was twinned with the RC hole BC-2006 to increase confidence. As seen in Figure 11-12, the assay results from DHs hole BC-2001C are higher than RC hole BC-2006 by 11.83%, with an R^2 of 0.9. Results suggest that the RC is underreporting the Li grade, a factor that should be considered in future exploration and resource estimation (See Figure 11-12).

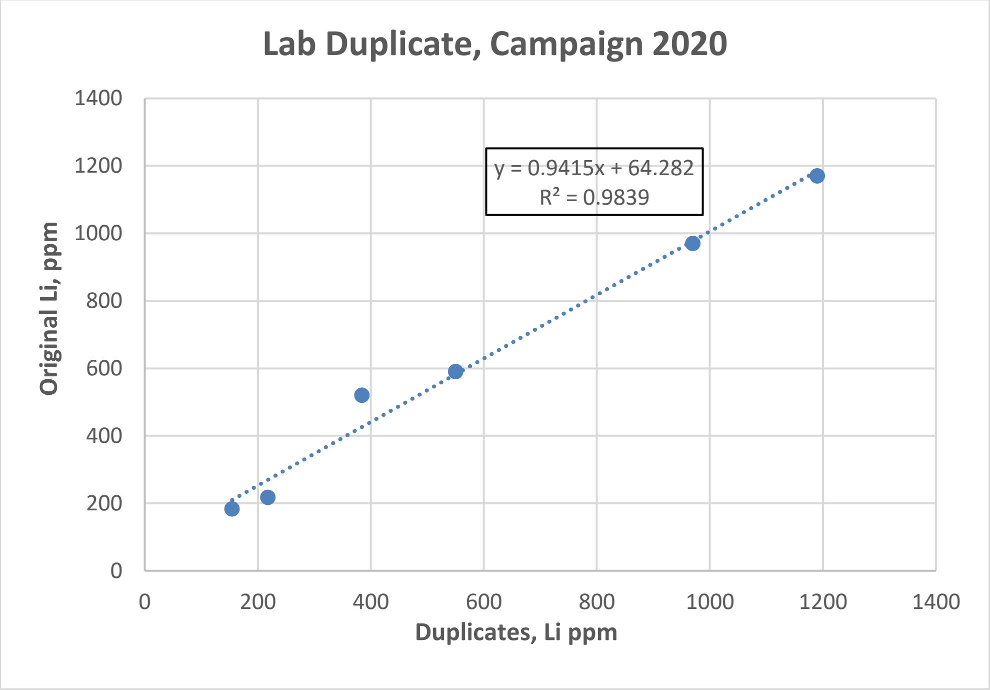
Figure 11-12: Lithium Grade Distribution with Depth for Holes BC-2001C and BC2006



11.8.2.1 Duplicate Analysis

Based on Iconic's in-house QA/QC procedures, duplicate samples were inserted into the sample stream at a rate of one for BC-2002C, one for BC-2003, one for BC-2004, two for BC-2005, and one for BC-2006. Duplicate samples were prepared in the same manner as all samples, with the duplicate split produced from the pulverized material. Figure 11-13 shows a comparison graph of the ALS Chemex laboratory duplicates. The Q-Q plots effectively indicate no scatter in the data, with R^2 values of 0.984 for 2020 drilling program.

Figure 11-13: Laboratory Duplicate Comparison, 2020



11.8.3 2022 Campaign

Iconic's in-house QA/QC procedures in 2022 was limited to insertion of a certified standard reference sample at a rate of one standard sample per 25 drill hole samples, totaling 38 samples. These standards are purchased in durable, pre-sealed aluminum packets. The standard sample assay results are routinely reviewed by Iconic geologists. During the 2022 campaign, Iconic submitted at least 19 quarter duplicates to the laboratory as check samples, 45 blank samples, and 38 CRMs for all 958 sample intervals of core and mud holes.

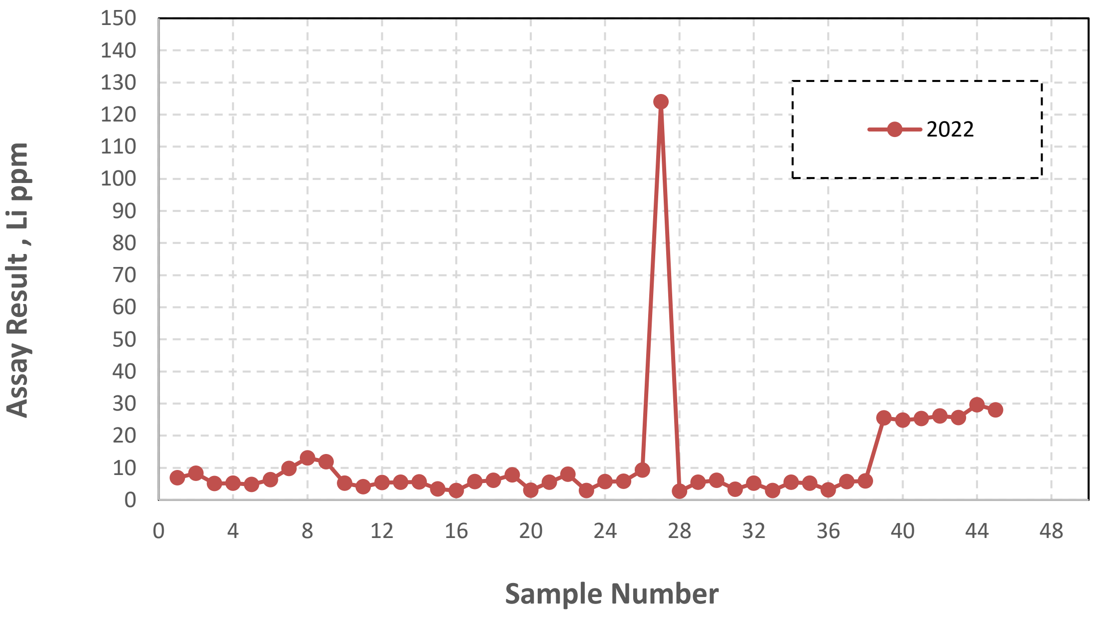
11.8.3.1 Blanks Analysis

Blank samples were inserted into the sample stream at a rate of one blank sample per 21 sample intervals. In the 2022 drilling campaign, three types of blanks were used; first: coarse blanks, which were created in-house by Iconic from ground-up cinder blocks; second: S2, which is a reference material from CDN Resource Laboratories Ltd. In Canada, reference number CDN-BL-10 was prepared using a blank granite material; third: S4, another reference material from CDN Resource Laboratories Ltd. In Canada, with reference number CDN-ME-1312, prepared from massive to semi-massive sulfides from the Izok Lake orebody, an archean-aged VMS deposit in the Slave structural province of Canada.

Figure 11-14 shows the assay results of the blanks by the ALS Chemex lab in Vancouver for seven holes. The result of blank samples evaluation is shown; most coarse blanks and CDN (S2) show lithium content of less than 13 ppm, with the exception of one coarse blank sample, which shows 124 ppm Li. It is noteworthy to mention that all CDNs (S2) show lithium content of less than 10 ppm. The results also show all CDNs (S4), samples 39 to 45, have less than 30 ppm and more than 20 ppm lithium content. Considering Lithium content averages 1,161.1 ppm for core sample intervals, suggesting no contamination during the lab analysis.

GRE's QP suggests using industrial blank samples such as CDN-BL-10 (S2) for the future drilling program instead of in-house coarse blanks created from ground-up cinder blocks.

Figure 11-14: Assay Results, Blank Samples, Drilling Program (2022)

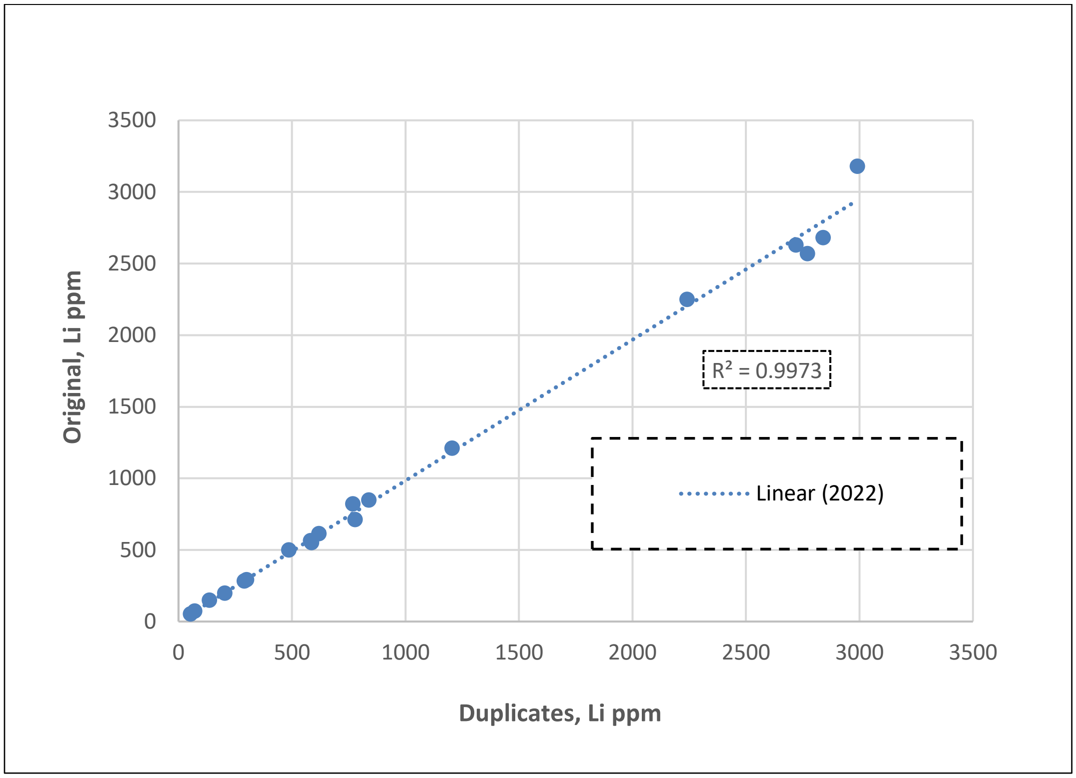


11.8.3.2 Duplicate Analysis

Based on Iconic's in-house QA/QC procedure, duplicate samples were inserted into the sample stream at a rate of one duplicate sample per every 50 sample intervals for all holes. All duplicates of a given footage of a hole were taken from the same sample footage and material. Core duplicates were prepared using the same footage of quarter core as the corresponding footage. Duplicates for mud rotary samples were produced from the same bag of material as the footage listed. Figure 11-15 shows a comparison graph of the field duplicates.

The Q-Q plot effectively indicates no scatter in the data, with an R^2 value of 0.99 for both core and mud holes. Just one scatter occurs at the upper-grade values but is still within acceptable range in the opinion of the QP.

Figure 11-15: Duplicate Comparison, 2022



11.8.3.3 Standards Analysis

Commercially prepared standard samples were inserted into the sample stream at a rate of one standard per 25 samples for all 958 rock samples for entre holes. Iconic's in-house QA/QC procedure in 2022 was first limited to the insertion of a Certified Reference Material (CRM) of OREAS 173 with a lithium content of 1,181 ppm (1SD=65). OREAS 173 has been prepared from manganese ores sourced from the Glosam Mine situated within Postmasburg Manganese Field located in the Northern Cape Province of South Africa. A small quantity of barren oxidized siliciclastic material was added to achieve the desired Mn grade. The ores are composed mainly of braunite group minerals including braunite ($3Mn_2O_3$.MnSiO3), partridgeite (Mn_2O_3), and bixbyite ($(Mn,Fe)_2O_3$). This CRM was subjected to 4-acid digestion for full suite elements package by Inductively coupled plasma-optical emission spectroscopy (ICP-OES) and MS finish. Iconic inserted 31 OREAS 173 into the sample stream.

The ALS assay results on CRMs show a minimum amount of 680 ppm and a maximum of 928 ppm for lithium. CRMs OREAS173 were subjected to 2-acid digestion at the ALS Chemex lab.

As seen in Table 11-1, except for a sample with a lithium amount of 928 ppm, the maximum amount of lithium is recorded as 790 ppm, which is far below the 1,181 ppm provided in the certificate of OREAS 173 by ORE Research and Exploration.

Table 11-1: Assay results from ALS on CRMs (OREAS 173)

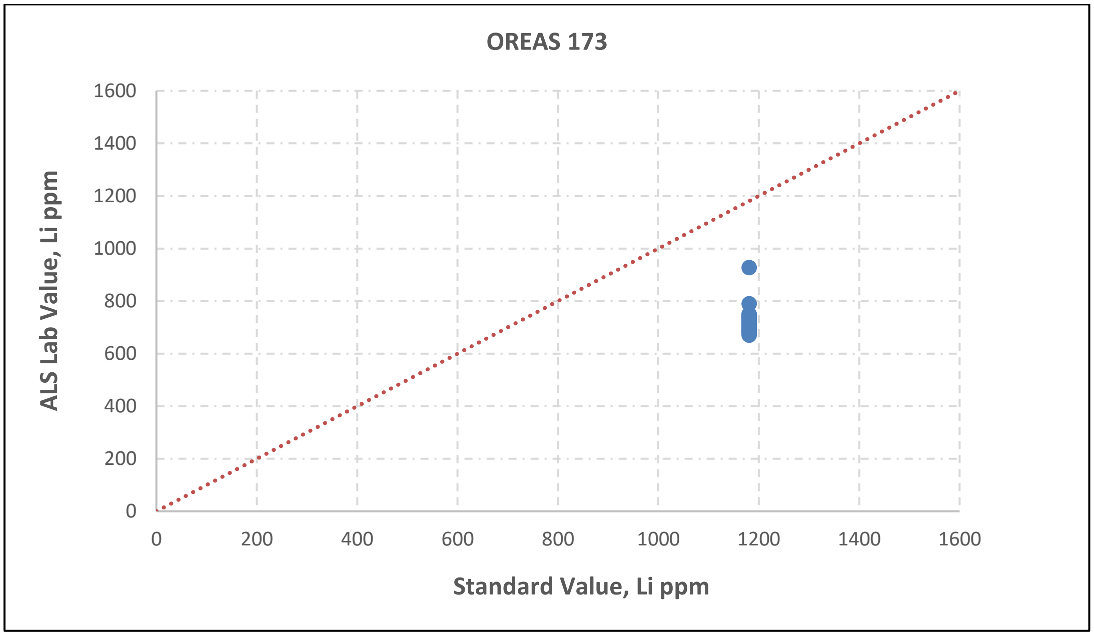
No.	Hole No.	No of CRM	OREAS 173Li (ppm)		
			Min	Max	Average
1	BC2201C	16	680	790	714.3

No.	Hole No.	No of CRM	OREAS 173Li (ppm)		
			Min	Max	Average
2	BC2201	3	738	928	803.6
3	BC2202C	3	688	710	696
4	BC2203C	4	683	732	708
5	BC2204C	4	695	732	717.5
6	BC2205	1	696	696	696

Figure 11-16 shows a scatter plot of the certified value for each assay CRM OREAS 173 compared to the value obtained by ALS Chemex for the 2022 drilling program. A 45-degree line represents an excellent correlation between the CRM value and assay results. However, this line does not pass through any of the sample results; all points are located far from the line, indicating unacceptable accuracy performance for the CRMs.

The total average of lithium recorded by ALS is 39.03 % less than that recorded by OREAS for OREAS173.

Figure 11-16: Assay Standard Results of the 2022 Program, OREAS 173



It is noteworthy to mention that due to the results of OREAS 173, Iconic decided to use another standard for the rest of the samples that were not assayed, including some intervals of core hole BC2201C and all core hole BC2205C. For these intervals, seven CRMs of OREAS 750 were inserted into the sample stream (Table 11-2). OREAS 750, which is from a pegmatite Li ore, has been prepared from Byone Pegmatite Filed in Australia, barren granodiorite and quartz, with a lithium content of 2,320 ppm (1SD=60). This CRM was subjected to 4-acid digestion by ORE Research and Exploration. At the ALS Chemex lab, this CRM was subjected to 2-acid digestion.

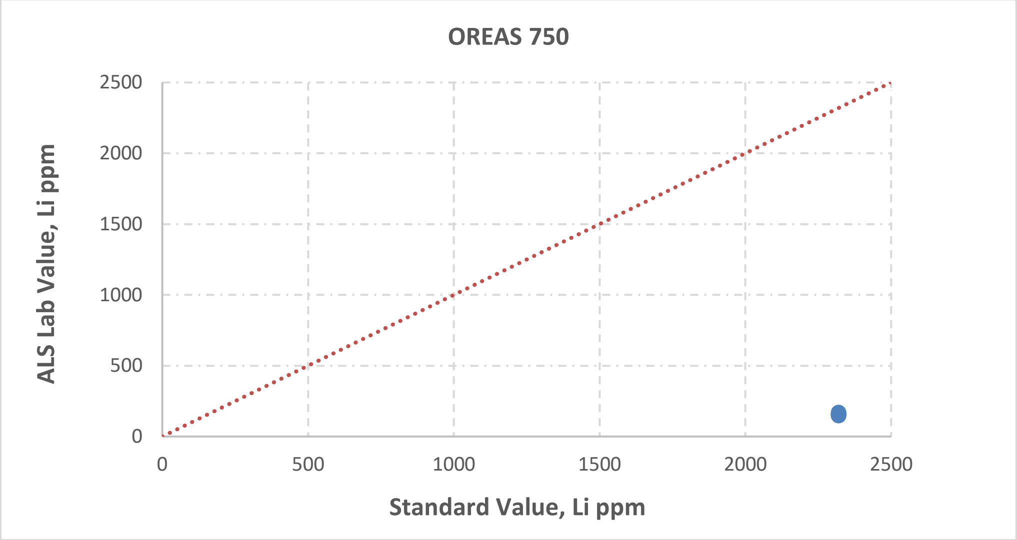
Table 11-2: Assay results from ALS on CRMs (OREAS 750)

No.	Hole No.	No of CRM	OREAS 750Li (ppm)		
			Min	Max	Average
1	BC2201C	6	150.5	169	158

No.	Hole No.	No of CRM	OREAS 750Li (ppm)		
			Min	Max	Average
2	BC2205C	1	147	147	147

Figure 11-17 shows a scatter plot of the certified value for each assay CRM compared to the value obtained by ALS for the 2022 drilling program.

Figure 11-17: Assay Standard Results of the 2022 Program, OREAS 750



The total average of lithium recorded by ALS is 93.25 % less than that recorded by OREAS for OREAS 750.

GRE's QP Dr. Samari selected an additional control chart to monitor the analytical performance of an individual CRMs in 2022. Control lines are also plotted on the chart for the expected value of the CRMs, two standard deviations above and below the expected value, and three standard deviations above and below the expected value. CRMs assay results are plotted in order of analysis. Figure 11-18and Figure 11-19 show control charts for the 2022 campaign for the OREAS 173 and OREAS 750 respectively.

Figure 11-18: CRM OREAS 173 (2022)

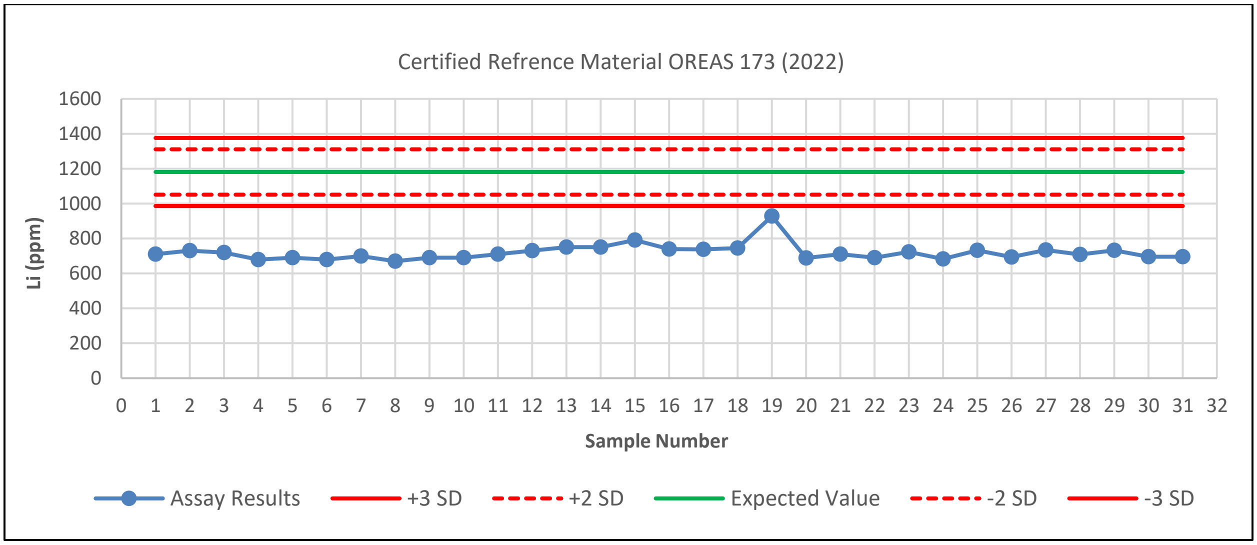
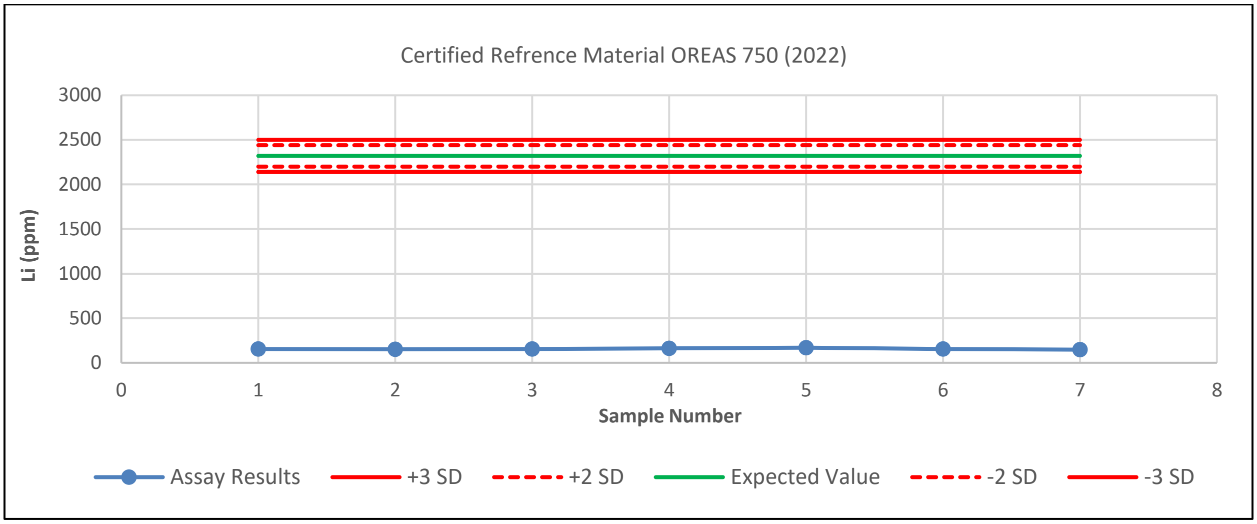


Figure 11-19: CRM OREAS 750 (2022)



As seen, the CRMs OREAS 173 and OREAS 750 do not show reasonable analytical accuracy, in which all amounts are plotted under minus three standard deviation (-3SD), way far from expected values.

Considering these differences, Iconic sent a few rock samples plus one CRM (OREAS 173) to American Lab for assaying, using two preparation methods, including 2-acid and 4-acid digestions. Assay results for the CRM by different laboratory and digestion methods are shown in Table 11-3.

Table 11-3: Assay Result on OREAS 173 from Different Labs

Spec.	ORE Research & Exploration	ALS	American	American
preparation method (digestion)	4-acid	2-acid	4-acid	2-acid
Sample No.	BC2201 0091	BC2201 0091	BC2201 0091	BC2201 0091
Li ppm	1,181	700	1,096	691.4

As seen, the results from the ALS Chemex and American laboratories using 2-acid digestion are in the same range and below the amount of Li recorded by ORE Research and Exploration. The result from the American Lab. using 4-acid digestion is near to the original amount of lithium recorded by the ORE Research and Exploration. Since OREAS 173 is a CRM for Manganese (Mn), which includes oxides and silicate of Mn, GRE's QP believes Aqua Regia (2-acid digestion) could not digest all lithium content of the OREAS 173 and the assay results recorded below the expected value.

As seen in Figure 11-19, this issue became more apparent when CRM OREAS 750, which is from a pegmatite Li ore, was used. To understand the main reason for these differences, GRE's QP requested three CRMs OREAS 173 and two CRMs OREAS 750 among the hole samples for check assay. Samples were submitted to the Hazen Lab in Golden, Colorado by GRE's QP. For a proper comparison, QP requested Hazen for three different preparation methods, including Aqua Regia (2-acid digestion), 4-acid digestion, and Fusion, be performed on the CRMs and their lithium contents assayed and recorded separately (Table 11-4 and Figure 11-20). Assay results on CRMs are given in Table 11-5.

Table 11-4: Selected CRMs for Re-Assay at Hazen Laboratory

No.	Drilling Type	Sample Number	Pulp Sample	Request Lab analysis by Hazen, three types of sample preparation		
				2-acid	4-acid	Fusion
1	CRM, OREAS 173	S1	✓	✓	✓	✓
2		BC-2201 1000-1020s (S1)	✓	✓	✓	✓
3		BC 2201 C0233s (S1)	✓	✓	✓	✓
4	CRM	OREAS750-1 (S3)	✓	✓	✓	✓
5		OREAS750-2 (S3)	✓	✓	✓	✓
Total				5	5	5

Figure 11-20: Selected CRMs for Re-Assay at Hazen Laboratory

Table 11-5: Assay Results on CRMs by ORE, ALS, and Hazen

No.	Drilling Type	Sample Number	ORE Research & Exploration, Li (ppm)	ALS Assay Results, Li (ppm)	Hazen Assay Results, using different preparation methods, Li (ppm)		
			4-acid	2-acid	2-acid	4-acid	Fusion
1	CRM, OREAS 173	S1	1,181	720	1,790	1,650	1,700
2		BC-2201 1000-1020s (S1)	1,181	745	1,790	1,670	1,800
3		BC 2201 C0233s (S1)	1,181	740	1,790	1,640	1,700
4	CRM	OREAS750-1 (S3)	2,320	156	86.7	2,620	1,886
5		OREAS750-2 (S3)	2,320	156	1,160	2,360	2,500

Figure 11-21, Figure 11-22, and Figure 11-23 compare the original values of certified reference material, OREAS 173, with the results from Hazen using 2-acid, 4-acid, and fusion.

Figure 11-21: Comparison between Certified Values and Hazen Lab results (2-acid) on OREAS 173

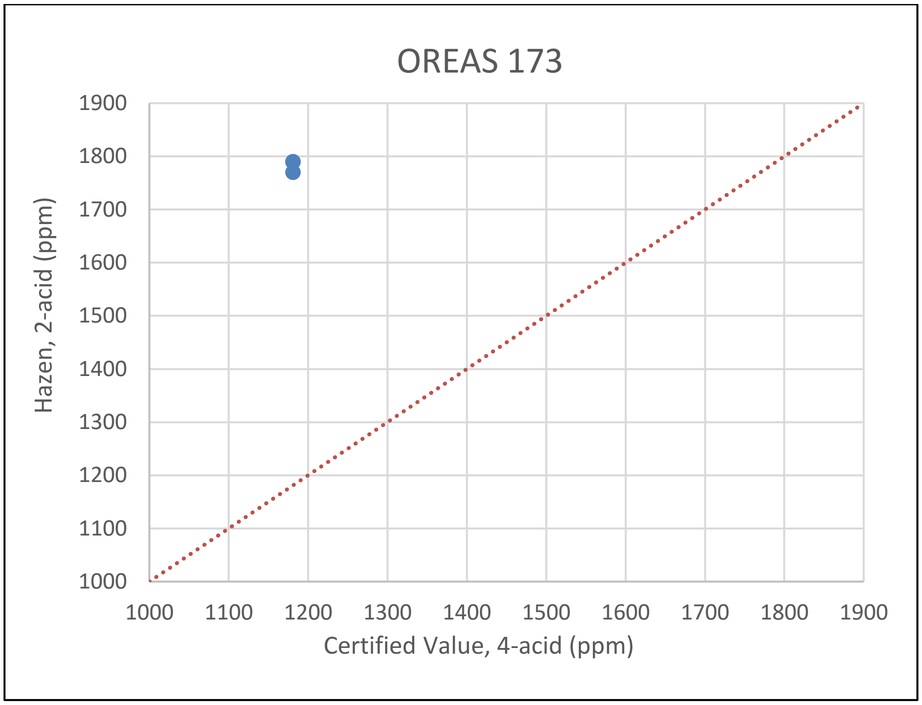


Figure 11-22: Comparison between Certified Values and Hazen Lab results (4-acid) on OREAS 173

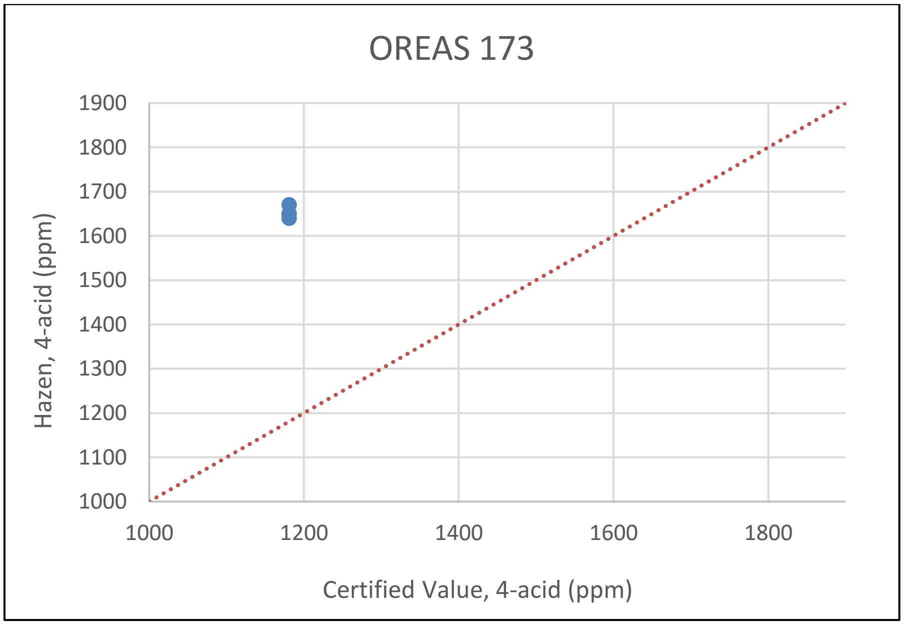
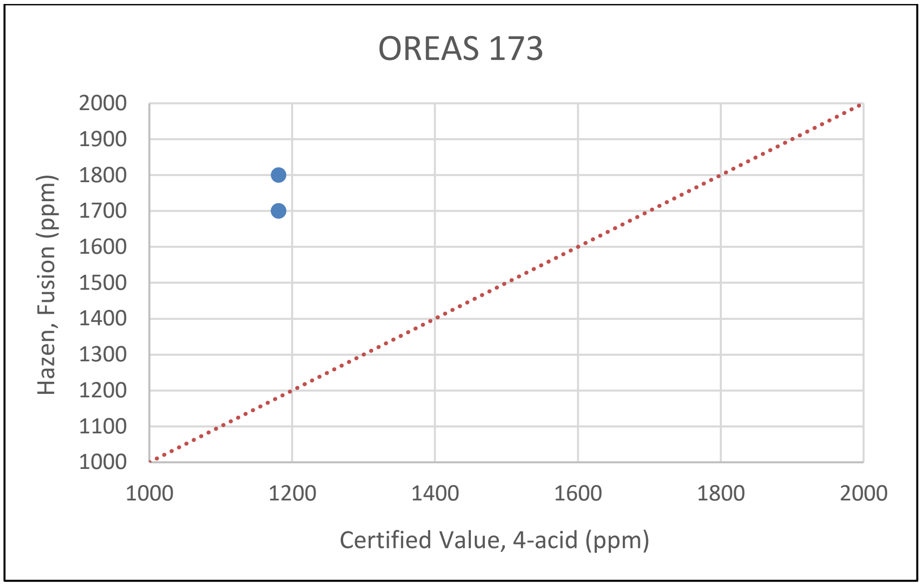


Figure 11-23: Comparison between Certified Values and Hazen Lab results (Fusion) on OREAS 173



As seen, none of the three methods of digestion give acceptable results compared to the original value of OREAS 173, which means in the future drilling campaign, this CRM, which is prepared from a manganese ore, should not be used.

Figure 11-24, Figure 11-25, and Figure 11-26 show a comparison between certified values of certified reference material, OREAS 750, with the results from Hazen using 2-acid, 4-acid, and fusion.

Figure 11-24: Comparison between Certified Values and Hazen Lab results (2-acid) on OREAS 750

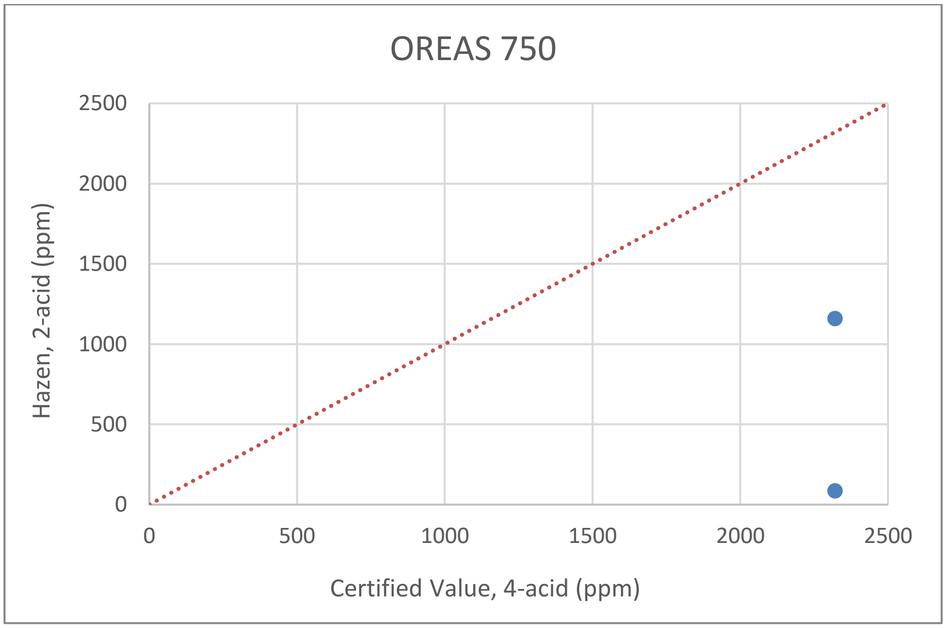


Figure 11-25: Comparison between Certified Values and Hazen Lab results (4-acid) on OREAS 750

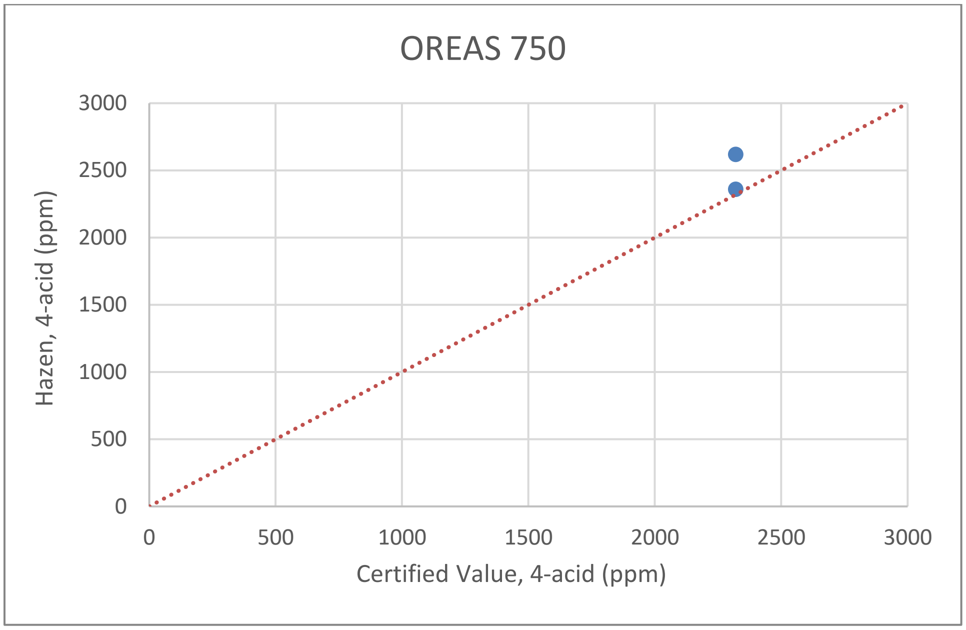
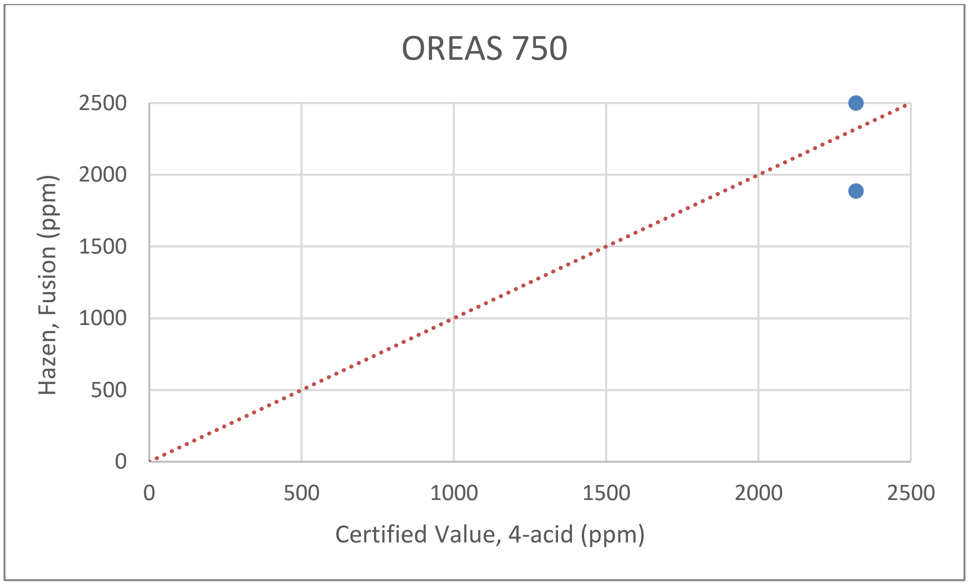


Figure 11-26: Comparison between Certified Values and Hazen Lab results (fusion) on OREAS 750



A comparison between the certified values on OREAS 750 and results from Hazen shows a high consistency between values obtained from 4-acid digestion by the two labs. The results from Hazen, Fusion method, on this CRM, OREAS 750, are also acceptable, but the results from 2-acid from Hazen do not show any consistency with the certified values. That means the 2-acid digestion method cannot liberate all lithium from the pegmatite ore, and only some of the lithium can be solved by this method. The results show that only 4-acid or fusion methods can give the correct results on certified reference materials made from pegmatite ores.

Since the assay results on CRMs from ALS Chemex for the 2022 drilling campaign did not show acceptable results compared with their original values, GRE's QP, Dr. Hamid Samari, asked the client for a few more check samples from different holes to check their lithium content and ensure that all lithium values in the database from the 2022 drilling program were analyzed and recorded correctly. The result of this review is provided in section 12 of this technical report.

11.8.4 2023 Campaign

Nevada Lithium's in-house QA/QC procedures in 2023 were limited to submitting 22 quarter duplicates to the laboratory as check samples, 32 blank samples, and 24 CRMs for all 347 sample intervals of core and sonic holes.

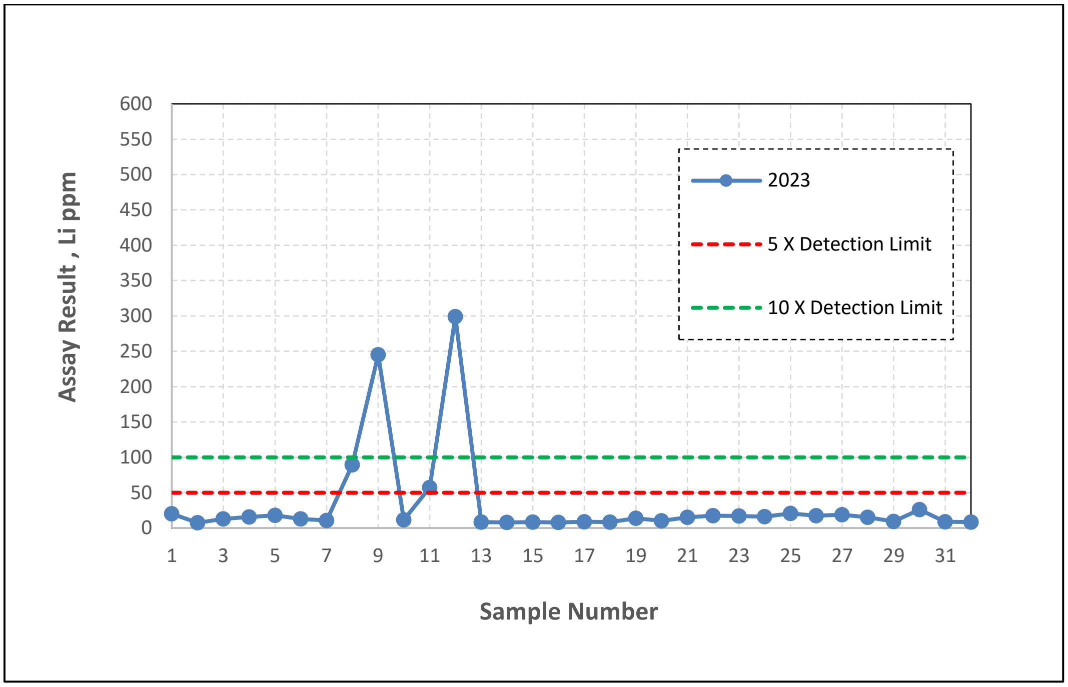
11.8.4.1 Blanks Analysis

Blank samples were inserted into the sample stream at a rate of one blank sample per 11 sample intervals. In the 2023 drilling campaign, only one type of blank was used, which was created in-house by Nevada Lithium from ground-up cinder blocks.

Figure 11-27 shows the assay results of the blanks by the ALS Chemex for four holes. The result of blank samples evaluation shows that most coarse blanks show lithium content of less than 20 ppm. There are two blanks with lithium content between 50 to 100 ppm. The only exception is for two coarse blank samples showing 245 and 299 ppm Li. It is noteworthy to mention that these two blanks belong to hole BC2303C and were inserted after two high-grade intervals. Considering Lithium content averages 1,684 ppm and a maximum Lithium value of 5,840 for this hole, suggesting no contamination during the lab analysis.

GRE's QP again suggests using industrial blank samples such as CDN-BL-10 (S2), which was used in the 2022 drilling campaign, for the future drilling program instead of in-house coarse blanks created from ground-up cinder blocks. If Nevada Lithium wants to continue using in-house coarse blanks, they should be stored away from drilling samples and CRMs to help prevent cross-contamination until they are ready to bag and send to the lab.

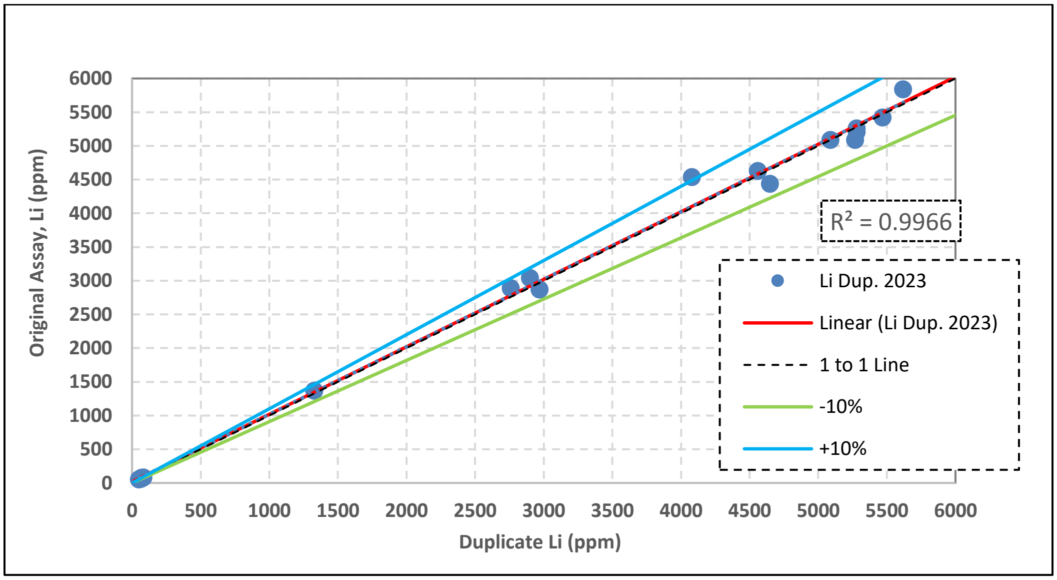
Figure 11-27: Assay Results, Blank Samples, Drilling Program (2023)



11.8.4.2 Duplicate Analysis

Based on Nevada Lithium's in-house QA/QC procedure, duplicate samples were inserted into the sample stream at a rate of one duplicate sample per every 15 sample intervals for all holes. All duplicates of a given footage of a hole were taken from the same sample footage and material. Core duplicates were prepared using the same footage of the quarter core as the corresponding footage. Duplicates for Sonic samples were produced from the same bag of material as the footage listed. Figure 11-28 shows a comparison graph of the field duplicates. The Q-Q plot effectively indicates no scatter in the data, with an R^2 value of 0.9966 for both core and sonic holes.

Figure 11-28: Duplicate Comparison, 2023



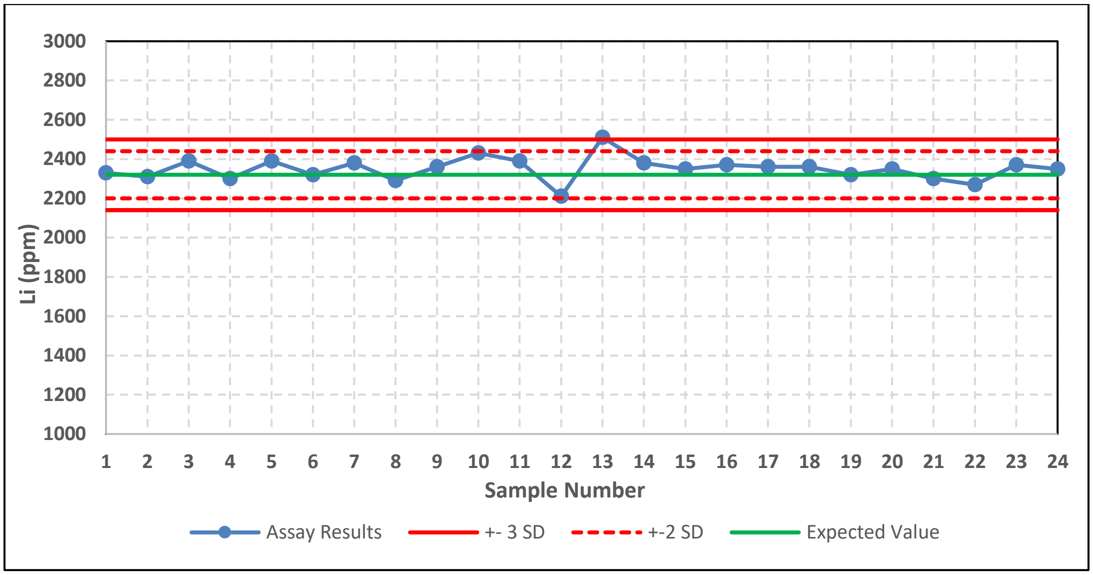
11.8.4.3 Standards Analysis

Commercially prepared standard samples were inserted into the sample stream at a rate of one standard per 14 samples for all 347 rock samples for entre holes. Nevada Lithium's in-house QA/QC procedure in 2023 was limited to the insertion of only a CRM of OREAS 750 with a lithium content of 2,320 ppm (1SD=60).

24 CRMs of OREAS 750 were inserted into the sample stream. This CRM was subjected to 4-acid digestion by ORE Research and Exploration. At the ALS lab this CRM was also subjected to 4-acid digestion.

Figure 11-29 show a control chart for the OREAS 750. The QP finds the results show reasonable analytical accuracy.

Figure 11-29: CRM OREAS 750 (2023)



11.8.5 2024 Campaign

In 2024, Nevada Lithium's in-house QA/QC procedures were limited to submitting eight quarter duplicates to the laboratory as check samples, 12 blank samples, and 20 CRMs for all 290 sample intervals of core holes.

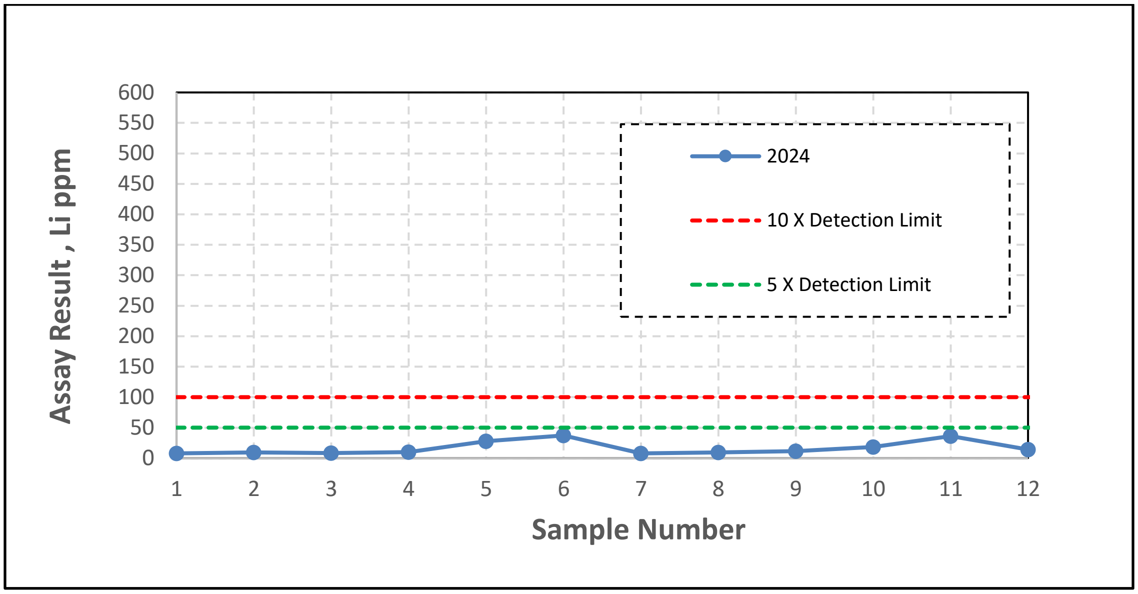
11.8.5.1 Blanks Analysis

Blank samples were inserted into the sample stream at a rate of one blank sample per about 16 sample intervals. In the 2024 drilling campaign, only one type of blank was used, which was created in-house by Nevada Lithium from ground-up cinder blocks.

Nevada Lithium used the same coarse blank derived from crushed cinder blocks as it did in the previous drill program. This yielded consistent results in the past, so the process continued. The cinder block material was stored away from standards and core to help prevent cross-contamination until it was ready to bag and send to the lab. Nevada Lithium asked ALS to wash a crusher after using it for each sample. The crusher wash successfully isolated each sample during processing, producing good blank and standard performance even in very high-grade zones.

Figure 11-27 shows the assay results of the blanks by the ALS Chemex lab in Reno for two holes. The result of the evaluation of the blank samples shows that most coarse blanks have a lithium content of less than 37 ppm, suggesting no contamination during the lab analysis.

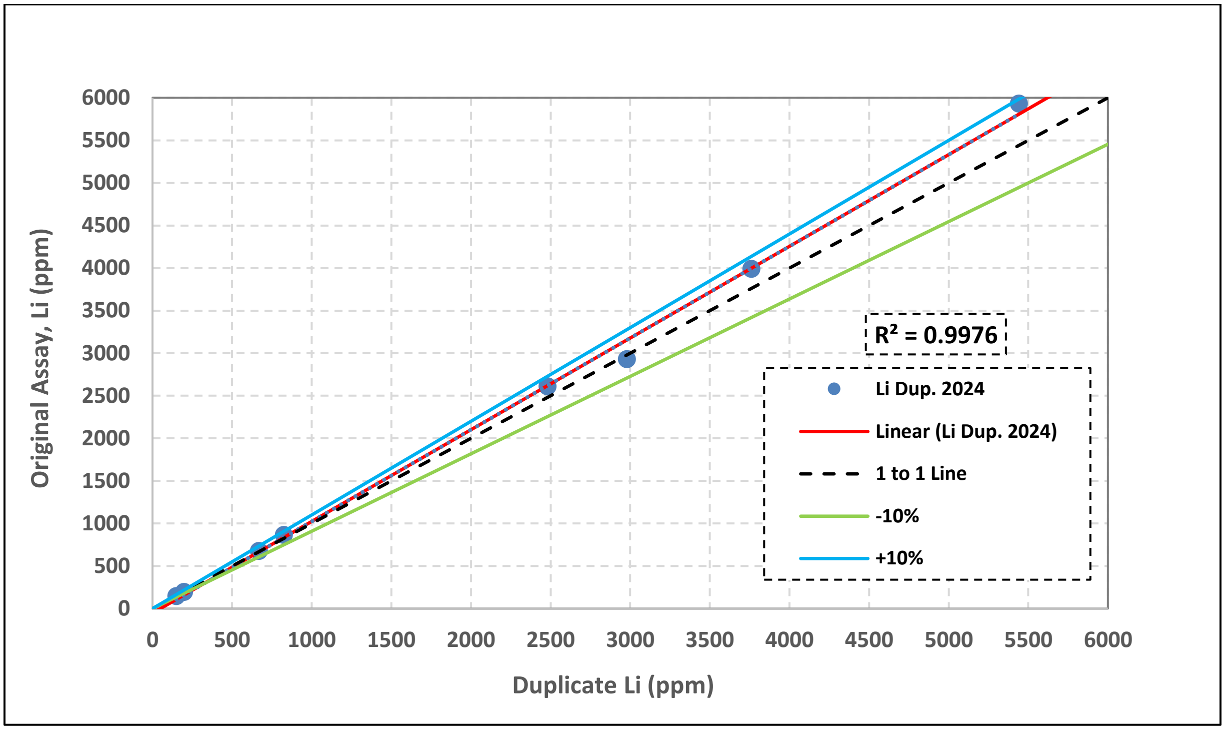
Figure 11-30: Assay Results, Blank Samples, Drilling Program (2024)



11.8.5.2 Duplicate Analysis

Based on Nevada Lithium's in-house QA/QC procedure, duplicate samples were inserted into the sample stream at a rate of one duplicate sample per every 23 sample intervals for all holes. All duplicates of a given footage of a hole were taken from the same sample footage and material. Core duplicates were prepared using the same footage of the quarter core as the corresponding footage. shows a comparison graph of the field duplicates. The Q-Q plot effectively indicates no scatter in the data, with an R^2 value of 0.9976 for both core and sonic holes (Figure 11-31).

Figure 11-31: Duplicate Comparison, 2024



11.8.5.3 Standards Analysis

Commercially prepared standard samples were inserted into the sample stream at a rate of one standard per 10 samples for all 290 rock samples for entre holes. Nevada Lithium's in-house QA/QC procedure in 2024 was limited to the insertion of two CRMs of OREAS 750 with a lithium content of 2,320 ppm (SD=60) and MEG-Li.10.12 with a lithium content of 1,1850 ppm (SD=157.2).

Four CRMs of OREAS 750 were inserted into the sample stream. ORE Research and Exploration subjected this CRM to 4-acid digestion, and it was also subjected to 4-acid digestion at the ALS lab.

Figure 11-32 show a control chart for the OREAS 750. The QP finds the results show reasonable analytical accuracy. The QP finds the results show reasonable analytical accuracy.

16 CRMs of MEG-Li.10.12 were inserted into the sample stream. MEG LABS subjected this CRM to 4-acid digestion, and it was also subjected to 4-acid digestion at the ALS lab.

Figure 11-33 Show a control chart for the MEG-Li.10.12, presenting reasonable analytical accuracy.

Figure 11-32: CRM OREAS 750 (2024)

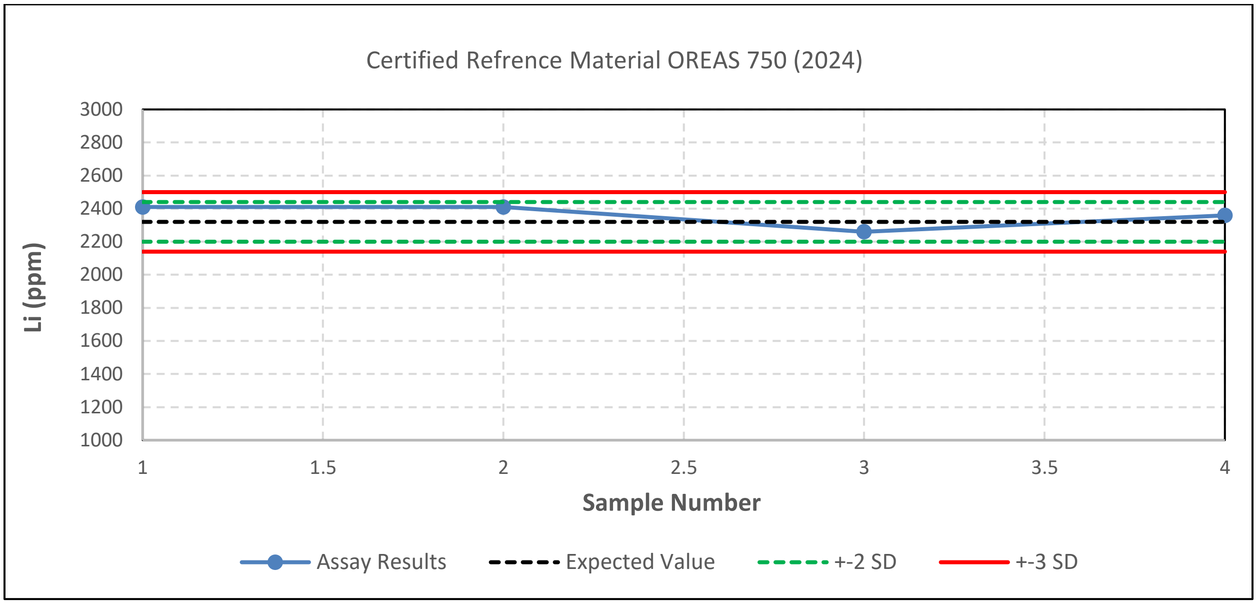
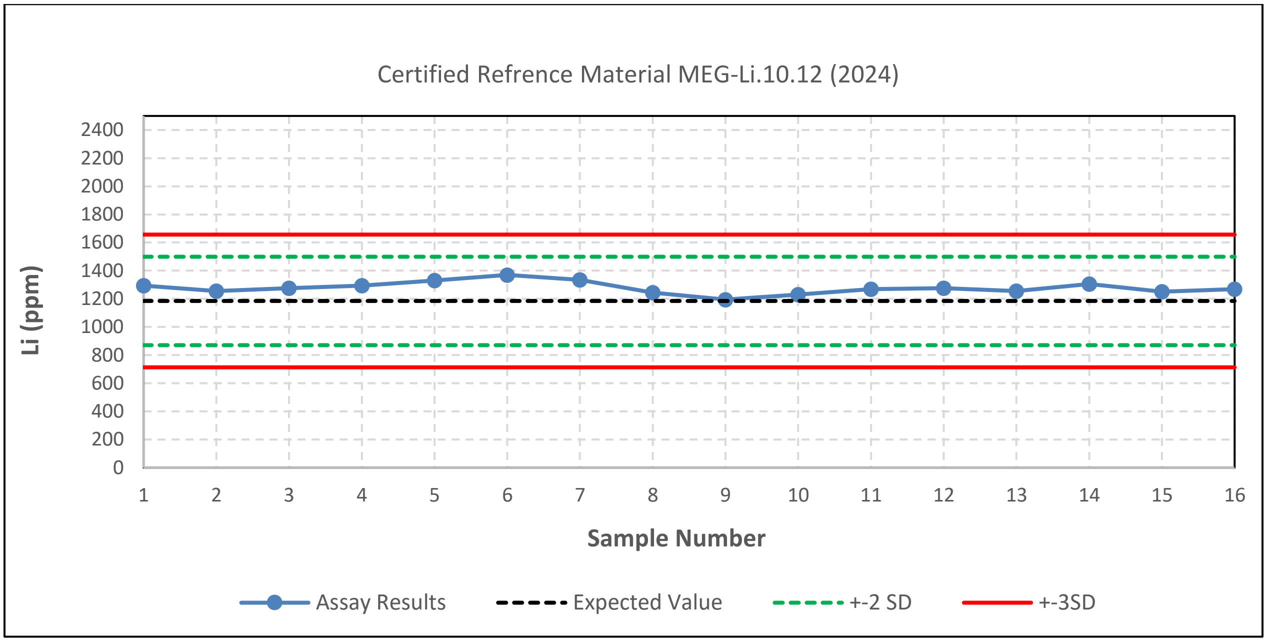


Figure 11-33: CRM MEG-Li.10.12 (2024)



11.9 QA/QC QP Opinion on Adequacy

Dr. Samari finds the sample preparation, analytical procedures, and security measures employed by Iconic and Nevada Lithium to be reasonable and adequate to ensure the validity and integrity of the data derived from Iconic’s sampling programs to date.

During the drilling programs 2016, 2017, 2018, 2020, and 2022, the insertion of blanks, CRMs, and duplicate samples did not follow industry standards, but in the 2023 drilling campaign, Nevada Lithium followed industry standards. In the 2023 drilling program, Iconic inserted into the sample stream one blank for every 11, one duplicate for every 15, and one CRM for every 14 sample intervals for all 347 rock samples.

Based on the average lithium content of 778 ppm Li for all 434 samples assayed during the 2016, 2017, and 2018 drilling campaigns and the average lithium content of 627 ppm Li for all 169 samples assayed in the 2020 drilling campaign, GRE's QP recommended preparing standard samples with a higher lithium content for future drilling campaigns. In the 2020 drilling program, Iconic did not use any CRMs, but in the 2022 drilling campaigns, Iconic used CRMs OREAS 750 (2300 ppm Li) and OREAS 173 (1181 ppm Li). Reviewing and considering the assay results on the CRMs and sample intervals by GRE's QP on the 2022 drilling program showed that the CRM OREAS 750 and using 4-acid digestion at Lab would be the best CRM and digestion method for the future drilling program. In the 2023 drilling program, Nevada Lithium used only CRM OREAS 750, using 4-acid digestion for all blanks, duplicates, CRMs, and rock samples, and the results were acceptable for the entire drilling program. In the 2023 drilling program, Nevada Lithium used two CRMs, OREAS 750 and MEG-Li.10.12, using 4-acid digestion for all blanks, duplicates, CRMs, and rock samples, and the results were acceptable for the entire drilling program.

Based on observations and conversations with Nevada Lithium personnel during the QP site visits in 2020, 2022, and 2023, in conjunction with the results of GRE's QP's review and evaluation of Iconic's and Nevada Lithium's QA/QC program, Dr. Samari makes the following recommendations:

- Formal, written data collection and handling procedures should be developed and made available to Nevada Lithium field personnel. These should include procedures and protocols for fieldwork, logging, database construction, sample chain of custody, and documentation trail. These procedures should also include detailed and specific QA/QC procedures for analytical work, including acceptance/rejection criteria for batches of samples.
- A detailed review of field practices and sample collection procedures should be performed on a regular basis to ensure that the correct procedures and protocols are being followed.
- Laboratory work should be reviewed and evaluated on an ongoing basis, including occasional visits to the laboratories involved.
- Standards, blanks, and duplicates, including one standard, one duplicate, and one blank sample, should be inserted every 20 interval samples, as is common within industry standards. This standard procedure was considered during the 2023 and 2024 drilling programs and should be continued for future drilling programs.
- The Lab results from Hazen on CRMs suggest that the 4-acid digestion and fusion method can give the correct results on CRM of OREA 750. Considering the results and the price of these two lab methods, 4-acid digestion is highly recommended for future drilling campaigns for all CRMs and rock samples.
- Nevada Lithium's in-house QA/QC procedure in 2024 completely followed the industry standards, and no issue was found in this program. GRE's QP is of the opinion that this standard procedure should be continued for future drilling programs.
- It would be good to use standards with a Li grade close to the resource head grade for the future drilling program.

- Since Nevada Lithium has not used any certified reference materials for boron, it's highly recommended that CRMs for boron be used for the next drilling programs.

12.0 DATA VERIFICATION

Data verification efforts with no limitations on or failure to conduct verification included: an on-site inspection of the Project site and core, RC and chip tray storage facilities, check sampling, geologic maps and reports, and manual auditing of the Project drill hole database. GRE's QPs have been involved with the project since 2018. They visited the site in 2018 after drilling, during drilling in 2020 and 2022. The results from the site inspection, visual sample inspection and check sampling for each drilling campaign are given below.

12.1 Site Inspection (2018)

GRE representative and QP Dr. H. Samari conducted an on-site inspection of the Project on August 24, 2018, accompanied by Iconic CEO Richard R. Kern and Iconic geologist Richard S. Kern. While on site, Dr. Samari conducted general geologic field reconnaissance, including the inspection of surficial geologic features and ground-truthing of reported drill collar and soil sample locations. Good site access and rapid transport using an All-Terrain Vehicle made it possible to complete the site inspection in one day.

Field observations confirmed that the geological mapping and interpretation of the Project area was accurate. The site lithology and structural understanding are all consistent with descriptions provided in existing Project reports (as described in Section 7 of this report).

Geographic coordinates for all four existing drill hole collar locations were recorded in the field using a hand-held GPS unit. The average variance between field collar coordinates and collar coordinates contained in the Project database is roughly 41 meters, which is well outside of the expected margin of error. The drill hole collars are not well-marked in the field, and some have no marker at all. The QP recommends that Iconic clearly identify all existing drill holes in the field by installing semi-permanent markers, such as labeled and grouted-in lathe, at each collar location. The existing drill collars should then be professionally surveyed and tied into the digital topographic surface used for geologic and resource modeling. Future drill holes can be located using survey-grade GPS instrumentation, provided that the GPS coordinates are reasonably similar to those reported for the same locations within the digital topographic surface.

12.2 Site Inspection (2020)

GRE's QP Dr. Hamid Samari conducted a second on-site inspection of the Project on October 9, 2020, accompanied by field geologist at the site and Iconic CEO Richard R. Kern and Iconic geologist Richard S. Kern at the storage facility in Reno, Nevada. While on-site, the QPs conducted a general geological inspection, checking the RC rig, drill collars, and RC samples of the hole of BC2003, which was drilled at the time of the field visit (Photo 12-1).

Photo 12-1: Site Inspection

The QPs also visited the Iconic core facility in Tonopah, Reno, where HQ cores first were logged and then cut longitudinally into one half and two quarters (Photo 11-2).

Photo 12-2: Iconic Core Facility in Tonopah for Logging and Cutting the Cores

12.3 Site Inspection (2022)

GRE's QP, Dr. Hamid Samari, conducted a third onsite inspection of the Project from the 28 to 29 June 2022, accompanied by field technician on the site and Iconic CEO Richard R. Kern at the locked storage facility on the Spicer Ranch, 11.3 km (7.0 miles) north of Beatty, Nevada. The QP conducted this field visit mainly to check the 2022 exploration programs, including checking the DH rig, the validation and accuracy of collar coordinates, geological logging, and inspection of core samples from the hole BC2201C, which was being drilled at the time of the field visit (Photo 12-3).

Photo 12-3: Site Inspection

GRE used a handheld GPS, model Garmin 64st, to check the coordinates at each drill location. Geographic coordinates for all drilled holes in the 2022 drilling campaign were recorded in the field using a hand-held GPS unit. The average variance between field collar coordinates and collar coordinates contained in the project database for the six holes is roughly 3.43 meters, which is within the expected margin of error

(Table 12-1). The average variance between field collar elevation and holes contained in the project database is 32.44 meters, which is not acceptable.

Table 12-1: Collar Coordinate Inspections, the 2022 Drilling Campaign

General Hole Information			Coordinates from Iconic Database (UTM WGS84)			Coordinates from Hand-held GPS (UTM WGS84)			Distance Difference (m)	Elevation Difference (m)
No.	Hole ID	Depth (m)	Easting	Northing	Elevation (m)	Easting	Northing	Elevation (m)		
1	BC2201C	609.9	498578.00	4115460.00	1174.09	498581.80	4115461.58	1207.00	4.12	32.91
2	BC2202C	608.68	497857.00	4115448.00	1173.48	497855.66	4115448.98	1207.00	1.66	33.52
3	BC2203C	608.99	498454.00	4114846.00	1174.39	498450.77	4114843.24	1205.00	4.25	30.61
4	BC2204C	574.24	497348.00	4115383.00	1174.39	497342.52	4115381.67	1206.00	5.64	31.61
5	BC2201	609.6	498578.00	4115460.00	1174.09	498581.80	4115461.58	1207.00	4.12	32.91
6	BC2205	323.08	499138.00	4114903.00	1170.73	499136.94	4114903.60	1205.00	1.22	34.27
								Maximum Difference	5.64	34.27
								Minimum Difference	1.22	30.61
								Average Difference	3.43	32.44

Using the existing site topographic map, the GRE QP Dr. Samari adjusted the elevation of the six holes. Table 12-2 shows the modified elevations for all holes, which are suitable to use for mineral resource estimation and are recommended.

Table 12-2: Collar Coordinate Elevation Changes, the 2022 Drilling Campaign

General Hole Information			Coordinates from Iconic Database (UTM WGS84)		Modified Elevation based on Topography	Coordinates from Hand-held GPS (UTM WGS84)			Elevation Difference (m)
No.	Hole ID	Depth (m)	Easting	Northing	Elevation (m)	Easting	Northing	Elevation (m)	
1	BC2201C	609.9	498578.00	4115460.00	1204.00	498581.80	4115461.58	1207.00	3.00
2	BC2202C	608.68	497857.00	4115448.00	1204.00	497855.66	4115448.98	1207.00	3.00
3	BC2203C	608.99	498454.00	4114846.00	1202.98	498450.77	4114843.24	1205.00	2.02
4	BC2204C	574.24	497348.00	4115383.00	1204.05	497342.52	4115381.67	1206.00	1.95
5	BC2201	609.6	498578.00	4115460.00	1204.00	498581.80	4115461.58	1207.00	3.00
6	BC2205	323.08	499138.00	4114903.00	1202.39	499136.94	4114903.60	1205.00	2.61
							Maximum Difference	3.00	
							Minimum Difference	1.95	
							Average Difference	2.48	

The QPs also visited the Iconic core facilities, including the locked storage facility and the secure core cutting building, both on the Spicer Ranch, where cores first were checked, then cut longitudinally into one half and two quarters by the technician under the supervision of field geologist, and then were logged by field geologist. Then cores randomly recheck by Iconic CEO Richard R. Kern, a professional geologist.

12.4 Site Inspection (2024)

GRE's QP, Dr. Hamid Samari, conducted a fourth onsite inspection of the Project from 12 to 13 January 2024, accompanied by a field technician, Sean McCormic, and the Nevada Lithium geologist, Rich Kern, on the site and at the locked storage facility on the Spicer Ranch. The QP conducted this field visit mainly to check the 2023 exploration programs, including validation and accuracy of collar coordinates, geological logging, and inspection of core samples from core and sonic holes (Photo 12-4).

Photo 12-4: Site Inspection in 2023

GRE used a handheld GPS, model Garmin 64st, to check the coordinates at each drill location. Geographic coordinates for all drilled holes in the 2023 drilling campaign were recorded in the field using a hand-held GPS unit. The average variance between field collar coordinates and collar coordinates contained in the project database for the four holes is roughly 3.75 meters, which is within the expected margin of error (Table 12-3). The average variance between field collar elevation and holes contained in the project database is 25.02 meters, which is not acceptable.

Table 12-3: Collar Coordinate Inspections, the 2023 Drilling Campaign

General Hole Information			Taken from the Core Hole Log, Nevada Lithium Database (UTM WGS8$)			Taken from the Hand-held GPS (UTM WGS 84) by GRE's QP			Difference Distance (m)	Difference Elevation (m)
No.	Hole ID	Depth (m)	Easting	Northing	Elevation (m)	Easting	Northing	Elevation (m)		
1	BC2301C	944.88	498648.00	4115164.00	1175.31	498647.00	4115158.00	1204.00	6.08	28.69
2	BC2303C	762	499051.00	4115380.00	1178.36	499051.00	4115383.00	1205.00	3.00	26.64
3	BC2302S	175.26	498851.00	4115021.00	1179.58	498852.00	4115019.00	1205.00	2.24	25.42
4	BC2304S	213.36	498227.00	4115454.00	1178.66	498226.00	4115453.00	1200.00	1.41	21.34
Maximum Difference									6.08	28.69
Minimum Difference									1.41	21.34
Average Difference									3.75	25.02

Using the existing site topographic map, the GRE QP Dr. Samari adjusted the elevation of the four holes. Table 12-4 shows the modified elevations for all holes, which are suitable to use for mineral resource estimation and are recommended.

Table 12-4: Collar Coordinate Elevation Changes, the 2023 Drilling Campaign

General holes information			Taken from the Core Hole Log, Nevada Lithium Database (UTM WGS 84)			Modified Elevation based on Topo Map (m)	Taken from the Hand-held GPS in Field (UTM WGS 84) by GRE's QP			Difference Elevation (m) between Revised and Field Data
No.	Hole ID	Depth (m)	Easting	Northing	Elevation (m)		Easting	Northing	Elevation (m)	
1	BC2301C	944.88	498648.00	4115164.00	1175.31	1203.3	498647.00	4115158.00	1204	0.72
2	BC2303C	762.00	499051.00	4115380.00	1178.36	1202.6	499051.00	4115383.00	1205	2.41
3	BC2302S	175.26	498851.00	4115021.00	1179.58	1203.6	498852.00	4115019.00	1205	1.37
4	BC2304S	213.36	498227.00	4115454.00	1178.66	1204.0	498226.00	4115453.00	1200	4.00
Maximum Difference										4.00
Minimum Difference										0.72
Average Difference										2.36

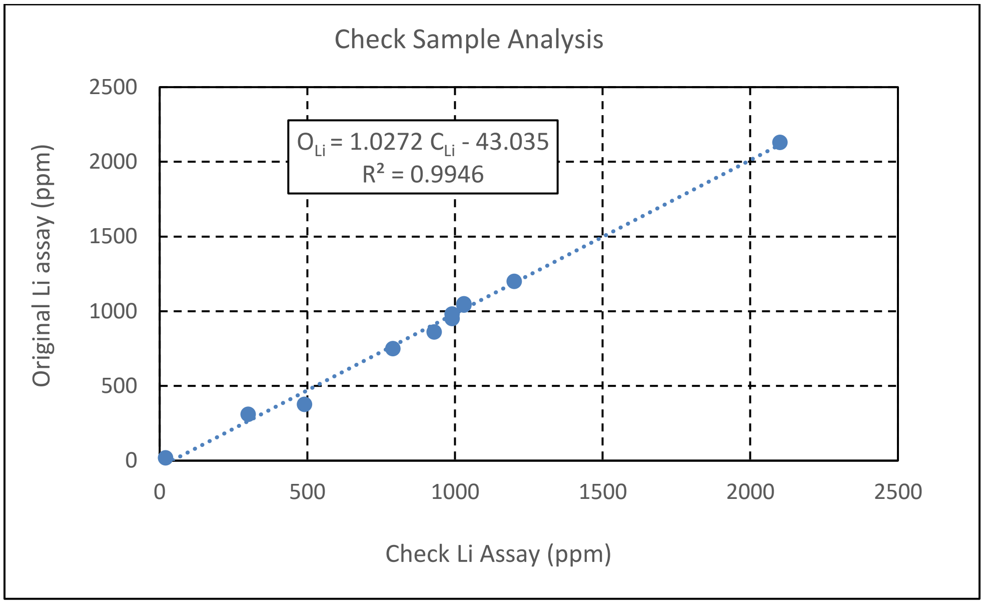
12.5 Visual Sample Inspection and Check Sampling

12.5.1 2018

During the site visit on August 24, 2018, 98 chip sample intervals from three separate drill holes of the 2016 to 2018 drilling program were selected for visual inspection based on a review of the drill hole logs. Without exception, the samples inspected accurately reflect the lithologies and sample descriptions recorded on the associated drill hole logs and within the Project database. On October 10, 2020, all core sample intervals were inspected visually, and all intervals reflected the lithology presented in log sheets, using the Logplot software by Iconic geologist.

In 2018, to verify the assay results, Dr. Samari collected a total of 11 check samples (from three separate drill holes from the 2016 to 2018 drilling campaigns) that were delivered to ALS Chemex (Reno) for analysis using the same sample preparation and analytical procedures as were used for the original samples. A comparison of the original versus check assay values for all of the 11 samples shows good correlation between the results, with an R^2 of 0.9946 (Figure 12-1).

Figure 12-1: Check Sample Analysis (2018 check sample program)



12.5.2 2020

In 2020, a visual sample inspection and check assay program was started by the QPs when they were onsite from October 9 through October 10, 2020. Because all diamond holes were drilled at the time of the field visit, on October 10, 2020, all core boxes of holes BC2001C and BC2002C were inspected visually by Dr. Samari at the Iconic storage facility in Reno, Nevada. All intervals reflected the lithology presented in log sheets, using the Logplot software by Iconic geologist.

After checking all core sample intervals from two drill holes (BC2001C and BC2002C) and samples from RC hole BC2003, 17 check samples were selected. All sample intervals selected by the QPs for check assay were selected from two diamond holes by taking ¼ splits of the remaining cores in the core boxes (at core storage in Reno) and roughly ¼ of the remining RC samples (at the Project site). All samples were bagged and labeled by the QPs. A total of 17 check samples including 11 core sample intervals and six RC samples were selected, packed, and delivered by the QPs to Hazen Research Inc. (Hazen) in Golden, Colorado, USA, for analysis using the same sample preparation and analytical procedures as were used for the original samples (Photo 12-5). Samples were transported by UPS in a secure manner from Reno to Golden, Colorado, USA.

Photo 12-5: Selected, and Packed Check Samples

As shown in Table 12-5, 11 samples were taken from two holes (BC2001C and BC2002C). These intervals contain a half and a quarter core remaining, and after taking a sample, a half core for that interval would still remain.

On November 5, 2020, GRE's QP Hamid Samari received Hazen's analytical report on the 17 selected samples by ICP method for 33 elements. The result of analysis from Hazen is shown in Table 12-6; Dr. Samari selected 35% of the check samples as duplicate samples.

Table 12-5: Check Samples Submitted to Hazen Labs (2020 check sample program)

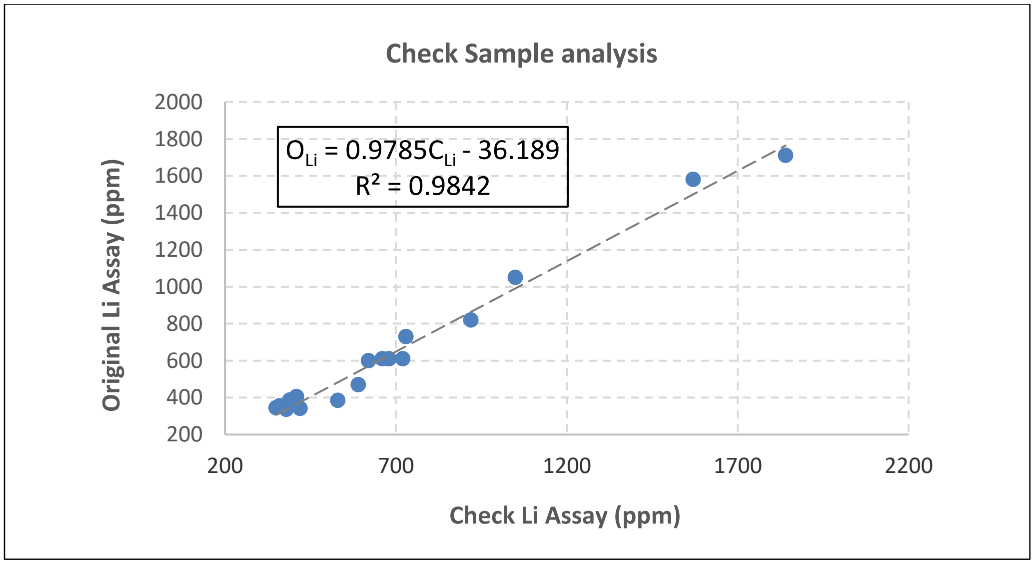
Sample No.	Hole No.	From (ft)	To (ft)	Int#	Type of Sample		Request Analysis	
					¼ RC	¼ Core	ICP Scan with emphasis on Lithium	Duplicate
1	2003	30	40	1	✓		✓	✓
2	2003	40	50	1	✓		✓	
3	2003	100	110	1	✓		✓	
4	2003	140	150	1	✓		✓	
5	2003	150	160	1	✓		✓	✓
6	2003	160	170	1	✓		✓	
7	BH2001C	68	78	1		✓	✓	
8	BH2001C	108	118	1		✓	✓	✓
9	BH2001C	238	248	1		✓	✓	
10	BH2001C	278	288	1		✓	✓	
11	BH2001C	328	338	1		✓	✓	✓
12	BH2002C	8	18	1		✓	✓	
13	BH2002C	18	28	1		✓	✓	
14	BH2002C	108	118	1		✓	✓	✓
15	BH2002C	188	198	1		✓	✓	✓
16	BH2002C	258	268	1		✓	✓	
17	BH2002C	308	318	1		✓	✓	

Table 12-6: Summary Table of Hazen Results with Original Assays (2020 check sample program)

Sample No.	Hole No.	From (ft)	To (ft)	Int#	Request Analysis		Original Li (ppm)	Hazen Li (ppm)	Hazen Duplicate Li (ppm)
					ICP Scan with emphasis on Lithium	Duplicate			
1	2003	30	40	1	✓	✓	344	350	350
2	2003	40	50	1	✓		342	420	
3	2003	100	110	1	✓		820	920	
4	2003	140	150	1	✓		384	530	
5	2003	150	160	1	✓	✓	610	720	700
6	2003	160	170	1	✓		470	590	
7	BH2001C	68	78	1	✓		355	360	
8	BH2001C	108	118	1	✓	✓	730	730	740
9	BH2001C	238	248	1	✓		1710	1840	
10	BH2001C	278	288	1	✓		1580	1570	
11	BH2001C	328	338	1	✓	✓	1050	1050	1050
12	BH2002C	8	18	1	✓		405	410	
13	BH2002C	18	28	1	✓		386	390	
14	BH2002C	108	118	1	✓	✓	600	620	630
15	BH2002C	188	198	1	✓	✓	610	680	670
16	BH2002C	258	268	1	✓		610	660	
17	BH2002C	308	318	1	✓		336	380	

A comparison of the original versus check assay values for all 17 samples shows good correlation between the results, with an R^2 of 0.9842 (Figure 12-2). Standard t-Test statistical analysis was completed to look for any significant difference between the original and check assay population means. The results of the t-Test showed no statistically significant difference between the means of the two trials (original versus check assay).

Figure 12-2: Sample Correlation Plot (2020 Check Samples Program)



12.5.3 2022

At the time of the field visit, drilling on the first diamond hole BC2201C was being done, thus GRE's QP could inspect visually only existing core samples from this hole to a depth of 436.5 meters (1,432 feet). GRE's QP on the 29 June 2022 visit allocated his time to inspect existing core samples, all process of logging, and core cutting at the locked storage facility and secure core cutting building. The core samples inspected accurately reflect the lithologies and sample descriptions recorded on the associated drill hole logs.

While checking the core samples of hole BC2201C on June 29, 2022, the GRE QP also took seven quarter-core samples from hole BC2201C for checking their assay. Selected check samples were packed and delivered by the QP to Hazen Research Inc. (Hazen) in Golden, Colorado, USA, for analysis using 4-acid digestion and then they were subjected to an ICP-MS analysis of a digested 0.5 g samples. At ALS Chemex, samples were digested using aqua regia, then they were subjected to ALS's MS-MS41L method, which is an ICP-MS analysis of a digested 0.5 g samples.

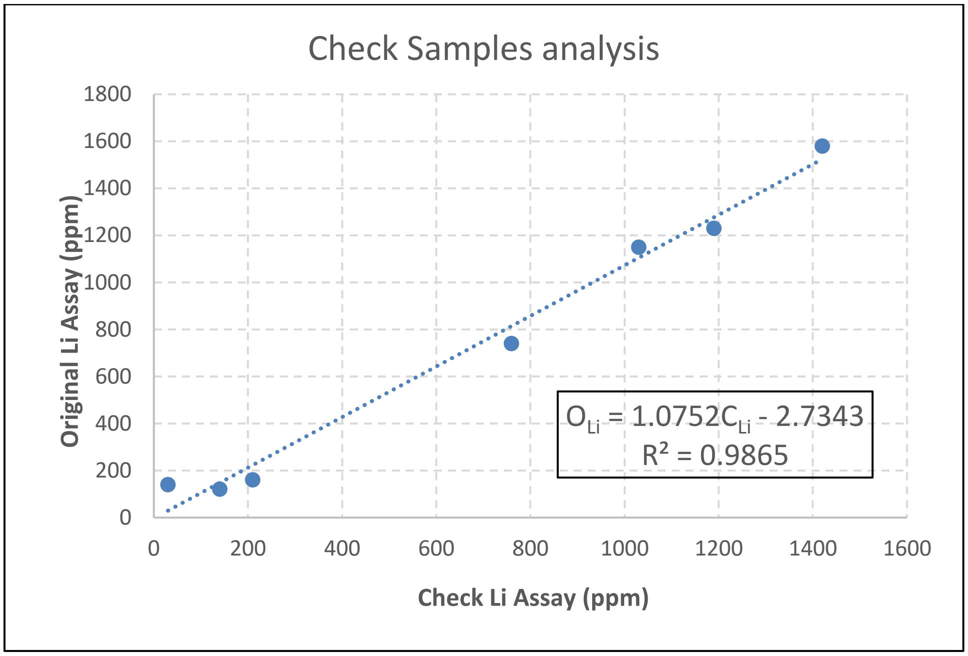
On August 18, 2022, GRE's QP Hamid Samari received Hazen's analytical report on the seven selected samples by ICP method for 33 elements. The result of analysis from Hazen is shown in Table 12-7.

Table 12-7: Summary Table of Hazen Results with Original Assays (2022 check sample program, 1st set)

No.	Hole No.	Sample Number	from- ft	to- ft	Type of Sample 1/4 Core	Assay (ppm)	
						Original	Hazen
1	BC2201C	BC2201-0015	116.5	125	✓	1150	1030
2	BC2201C	BC2201-0024	246	251	✓	1230	1190
3	BC2201C	BC2201-0070	632	636	✓	160	210
4	BC2201C	BC2201-0094	809.5	812	✓	121	140
5	BC2201C	BC2201-0118	998	1002	✓	139.5	30
6	BC2201C	BC2201-0172	1117.5	1120.5	✓	740	760
7	BC2201C	BC2201-0131	1414	1416	✓	1580	1420

A comparison of the original versus check assay values for all seven samples shows a good correlation between the results, with an R^2 of 0.9865 (Figure 12-3).

Figure 12-3: Sample Correlation Plot (2022 Check Samples Program, 1st set)



After the site visit, when drilling was completed, the GRE QP reviewed assay data and logs of all holes and requested 27 pulp reject samples from the client as check samples. These samples were selected from core holes BC2201C, BC2202C, BC2203, BC2205, and mud hole BC2201 (Figure 12-4 and Table 12-8).

Figure 12-4: Check Samples Submitted to Hazen Labs

Table 12-8: List of Check Samples Submitted to Hazen Labs (2022 check sample program, 2nd set)

No.	Drilling Type	Hole No.	Sample Number	from- ft	to- ft	Type of Sample Pulp	Request Lab analysis by Hazen, three types of preparation		
							2-acid	4-acid	Fusion
1	Core Hole	BC2201C	BC2201C0007	35.25	40.50	✓	✓	✓	✓
2			BC2201C 0045	412.00	415.00	✓	✓		
3			BC2201C0118	997.92	1008.40	✓	✓	✓	✓
4			BC2201C0146	1232.50	1243.92	✓	✓		
5			BC2201C0195	1610.07	1615.17	✓	✓	✓	✓
6			BC2201C0211	1736.00	1748.90	✓	✓	✓	✓
7			BC2201C0221	1834.08	1847.00	✓	✓	✓	✓
8			BC2201C0236	1953.93	1959.70	✓	✓	✓	✓
9			BC2201C0238	1965.50	1970.50	✓	✓	✓	✓
10			BC2201C0241	1982.42	1991.00	✓	✓	✓	✓
11	Core Hole	BC2202C	BC2202017	280.00	300.00	✓	✓		
12			BC2202063	1200.00	1220.00	✓	✓	✓	✓
13			BC2202088	1700.00	1720.00	✓	✓	✓	✓
14			BC2202096	1860.00	1880.00	✓	✓	✓	✓
15	Mud Hole	BC2201	BC-2201 1080-1100	1080.00	1100.00	✓	✓		
16			BC-2201 1480-1500	1480.00	1500.00	✓	✓	✓	✓
17			BC-2201 1840-1860	1840.00	1860.00	✓	✓	✓	✓
18	Core Hole	BC2203C	BC2203006	80.00	100.00	✓	✓		
19			BC2203013	220.00	240.00	✓	✓	✓	✓
20			BC2203021	380.00	400.00	✓	✓		
21			BC2203040	720.00	740.00	✓	✓		
22			BC2203059	1100.00	1120.00	✓	✓	✓	✓
23			BC2203080	1520.00	1540.00	✓	✓	✓	✓
24			BC2203102	1940.00	1960.00	✓	✓	✓	✓
25	Core Hole	BC2205C	BC2205026	1540.00	1560.00	✓	✓		
26			BC2205034	1700.00	1720.00	✓	✓	✓	✓
27			BC2205036	1750.00	1760.00	✓	✓	✓	✓

GRE received the 27 pulp samples on April 10, 2023. After checking the check samples by QP, they were delivered and submitted by QP to Hazen in Golden, Colorado, USA , for analysis using the same sample preparation and analytical procedures as were used for the original samples by ALS Chemex in Reno, Nevada, USA and in Vancouver, BC, Canada, which were digested using aqua regia, then they were subjected to ICP-MS analysis of a digested 0.5-gram samples. As mentioned earlier, the assay results on CRMs from ALS using 2-acid digestion did not have consistency with the original values. Thus, for this check sample program, second set, GRE selected additional sample preparation of 4-acid digestion and fusion on 19 samples (75% of whole check samples) to check the results of three different sample preparations. The additional sample preparations of 4-acid and fusion were asked from Hazen to let GRE's QP check the accuracy of assay results on 958 interval samples, which were assayed using 2-acid digestion by ALS.

On June 13, 2022, GRE's QP received Hazen's analytical report, including 27 assays using 2-acid digestion, 19 assays using 4-acid digestion, and 19 assays using fusion, totaling 65 assay results on 27 samples. The result of the analysis from Hazen is shown in Table 12-9.

Table 12-9: Summary Table of Hazen Results with Original Assays (2022 check sample program)

No.	Sample Number	ALS assay (ppm)	Hazen Assay Results (ppm)		
		2-acid	2-acid	4-acid	Fusion
1	BC2201C0007	740	772	1000	800
2	BC2201C 0045	327	395	NR	NR
3	BC2201C0118	139.5	180	200	200
4	BC2201C0146	730	798	NR	NR
5	BC2201C0195	3080	3070	3380	3300
6	BC2201C0211	3640	3690	3770	3900
7	BC2201C0221	4660	4540	4580	4800
8	BC2201C0236	3730	3590	3890	4000
9	BC2201C0238	3770	3980	3770	3900
10	BC2201C0241	3530	2970	3700	3800
11	BC2202017	1000	1070	NR	NR
12	BC2202063	938	1060	1030	1100
13	BC2202088	3490	3560	3780	4000
14	BC2202096	2200	2070	2260	2300
15	BC-2201 1080-1100	470	512	NR	NR
16	BC-2201 1480-1500	1230	912	1610	1300
17	BC-2201 1840-1860	2190	899	2640	2400
18	BC2203006	745	723	NR	NR
19	BC2203013	1240	1100	1400	1400
20	BC2203021	841	737	NR	NR
21	BC2203040	96.3	153	NR	NR
22	BC2203059	939	573	1190	1000
23	BC2203080	3410	2180	3610	3700
24	BC2203102	4740	4760	4960	5100
25	BC2205026	982	1030	NR	NR
26	BC2205034	2690	2670	3040	3000
27	BC2205036	2910	1690	3040	3200

Figure 12-5, Figure 12-6, and Figure 12-7 show comparison between assay results using three different methods of digestion by Hazen.

Figure 12-5: Comparison between 2-acid and 4-acid results from Hazen

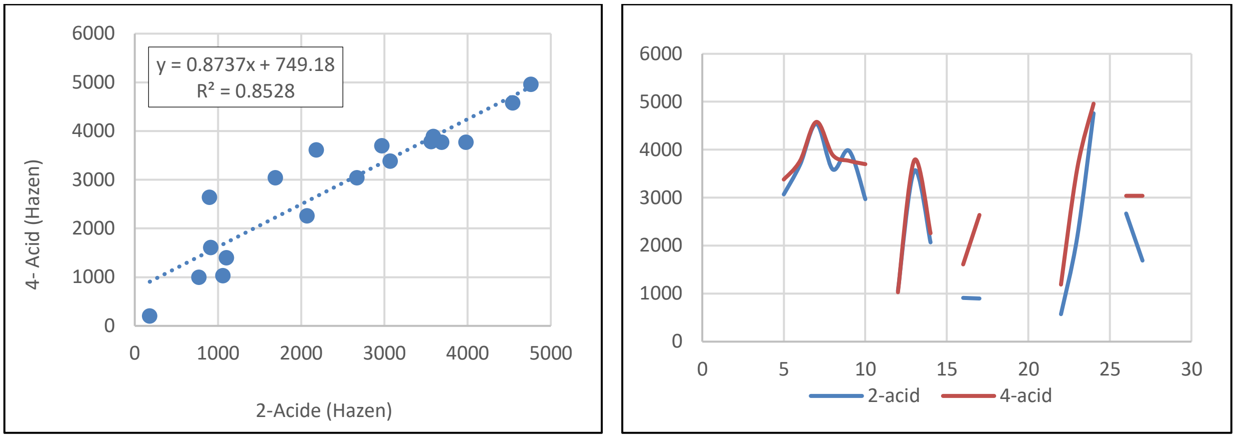


Figure 12-6: Comparison between 2-acid and Fusion results from Hazen

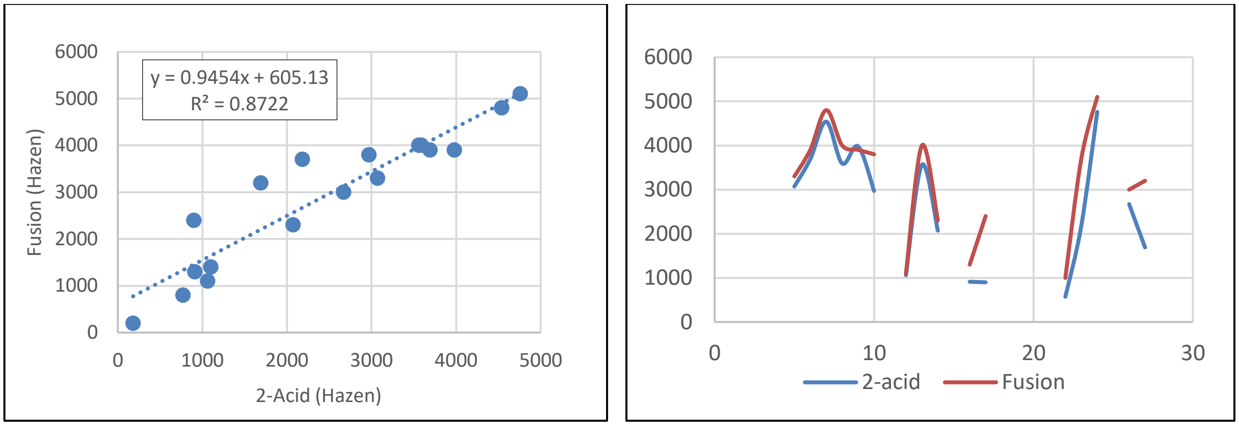
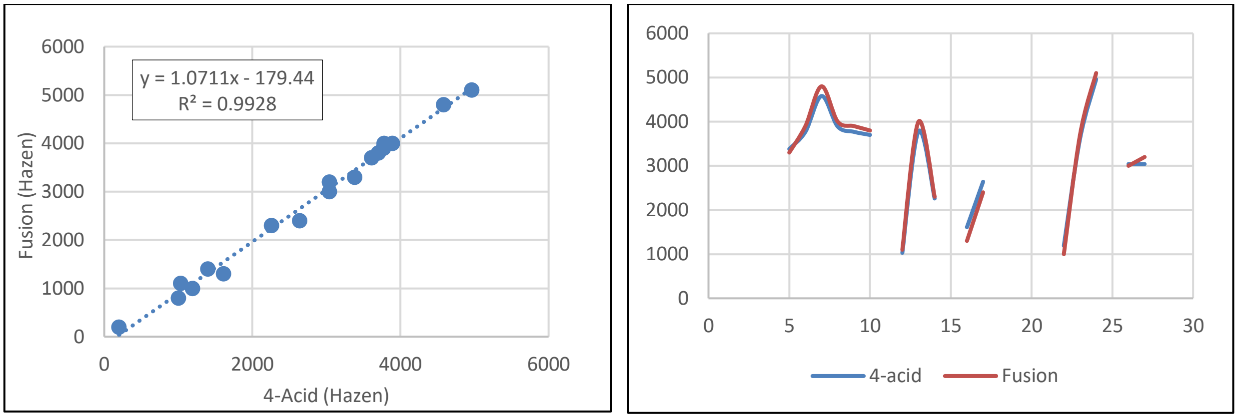


Figure 12-7: Comparison between 4-acid and Fusion results from Hazen



As seen, the results show a great consistency and correlation between Hazen assay results using 4-acid digestion and fusion (Figure 12-7).

Figure 12-8, Figure 12-9, and Figure 12-10 also show comparison between assay results from ALS Chemex (2-acid digestion) with three methods of 2-acid, 4-acid, and fusion from Hazen.

Figure 12-8: Comparison between Assays results from ALS (2-acid) and Hazen results (2-acid)

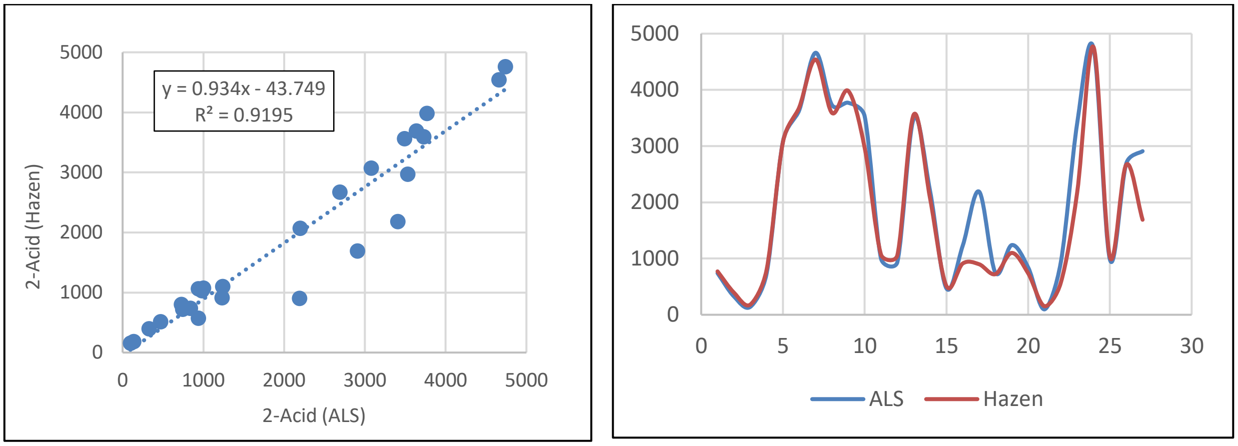


Figure 12-9: Comparison between Assays results from ALS (2-acid) and Hazen results (4-acid)

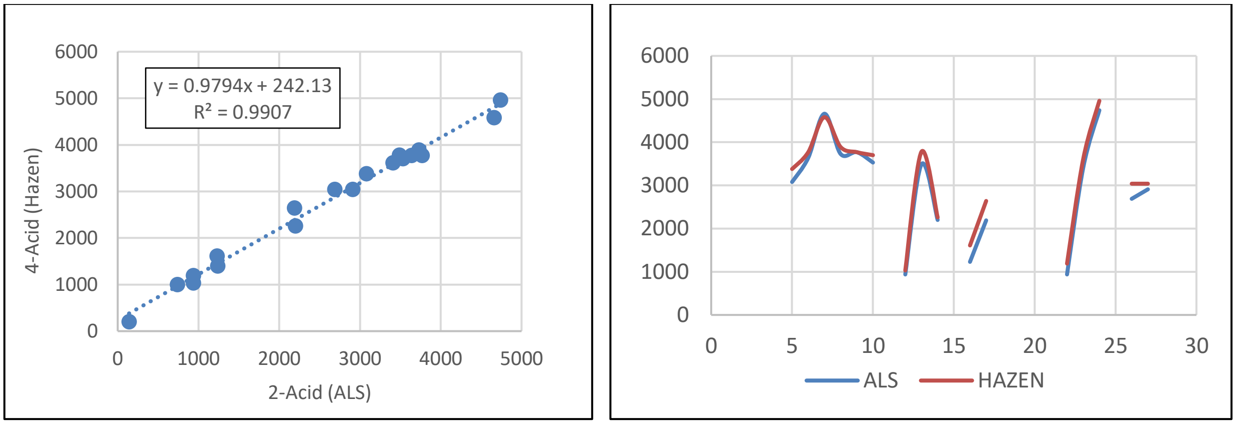
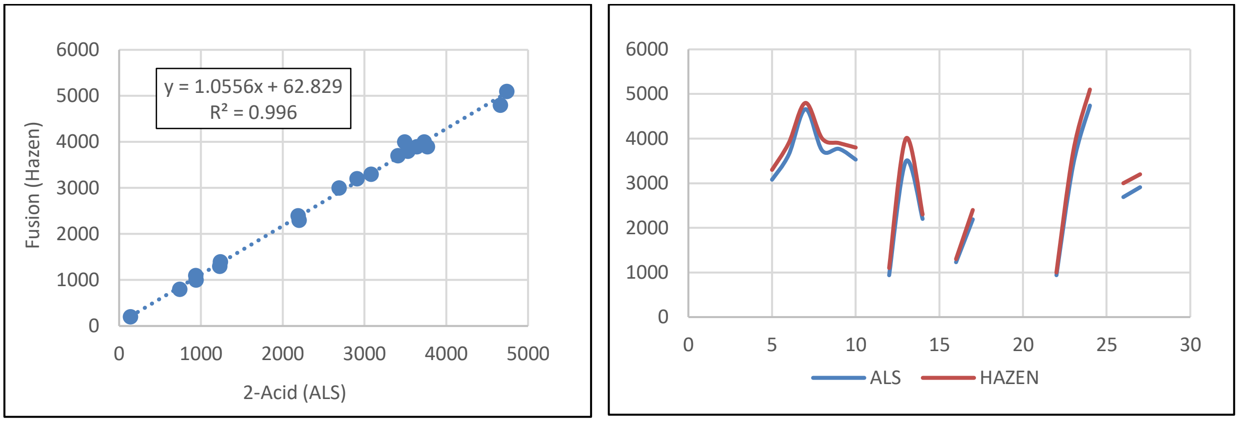


Figure 12-10: Comparison between Assays results from ALS (2-acid) and Hazen results (Fusion)



The comparison between ALS Chemex (2-acid digestion) and three different methods of sample preparation by Hazen confirms the accuracy of all assay results from ALS Chemex on 958 sample intervals. These comparisons also show and emphasize that the assay results from ALS Chemex on 958 sample intervals are consistent with the Hazen results using 4-acid digestion and fusion, which means the assay results from the 2022 drilling campaign are accurate. This data could be used for updating the resource estimation.

Since there are no assay results from ALS Chemex using 4-acid digestion on the one hand, and on the other hand, there is an excellent consistency between the assay results between 4-acid and fusion from Hazen, also reviewing the assays results from different types of sample preparation on sample intervals, and also assay results of CRMs shows that from now on, the 4-acid digestion is the best method of digestion that is highly recommended for the future drilling campaigns. Using this method will eliminate doubt in the assay results of drilling samples and will cause more accurate CRM results.

12.5.4 2023

In 2023, a visual sample inspection and check assay program was completed by the QPs from January 12 through January 13, 2024. Because all diamond and sonic holes were drilled at the time of the field visit on January 12, 2024, most of the core boxes of holes BC2301C, BC2302S, BC2303C, and BC2304S were inspected visually by Dr. Samari at the locked storage facility and secure core cutting building (Photo 12-6). All intervals reflected the lithology presented in log sheets, using the Logplot software by Nevada Lithium geologist (Photo 12-7).

Photo 12-6: Diamond and Sonic Core Boxes in the Secure Core Cutting Building and Storage Facility at the Spicer Ranch, Beatty, Nevada

After checking all core sample intervals from four drill holes BC2301C, BC2302S, BC2303C, and BC2304S, 17 check samples were selected (Table 12-10). All sample intervals selected by the QPs for check assay were selected from two diamond holes and two sonic holes by taking ¼ splits of the remaining cores in the core boxes (Photo 12-8). All samples were bagged and labeled by the QPs. A total of 17 check samples, including 14 core sample intervals, two standard samples, and one blank sample, were selected, packed, and delivered by the QPs to Hazen in Golden, Colorado, USA, for analysis using 4-acid digestion and then they were subjected to an ICP-MS analysis of a digested 0.5-gram samples. UPS transported samples in a secure manner from Beatty in Nevada to Golden, Colorado, USA.

Photo 12-7: Visual Sample Inspection, Sampling, and Packing by GRE's QP in the Storage Facility

Photo 12-8: Some of the Intervals that were Selected as Check Samples by GRE's QP

On February 16, 2024, GRE's QP Hamid Samari received Hazen's analytical report on the 17 selected samples. The result of the analysis from Hazen is shown in Table 12-11.

Table 12-10: List of Check Samples Submitted to Hazen Labs, the 2023 Drilling Program

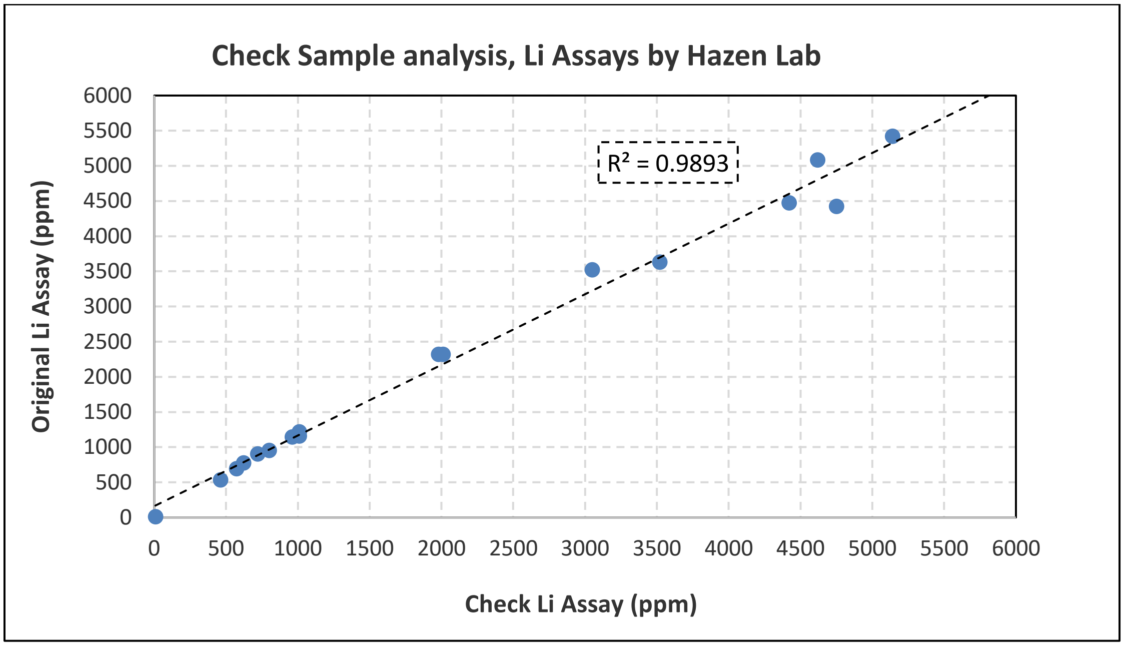
No.	Drilling Type	Hole No.	Sample ID	GRE Sample ID	From (ft)	To (ft)	Type of Sample			Request Analysis for Li, using 4-acid digestion
							1/4 core sample	Pulp	Gravel Size	
1	Core Hole	BC2301C	BC2301006	BC-GRE-01	100	120	☑			☑
2			BC2301017	BC-GRE-02	320	340	☑			☑
3			BC2301111	BC-GRE-03	2180	2200	☑			☑
4			BC2301114	BC-GRE-04	2240	2260	☑			☑
5			BC2301122	BC-GRE-05	2400	2420	☑			☑
6		BC2303C	BC2303007	BC-GRE-06	100	120	☑			☑
7			BC2303018	BC-GRE-07	320	340	☑			☑
8			BC2303111	BC-GRE-08	2180	2200	☑			☑
9			BC2303114	BC-GRE-09	2240	2260	☑			☑
10			BC2303122	BC-GRE-10	2400	2420	☑			☑
11	Sonic Hole	BC2302S	BC2302007	BC-GRE-11	100	120	☑			☑
12			BC2302018	BC-GRE-12	320	340	☑			☑
13		BC2304S	BC2304007	BC-GRE-13	100	120	☑			☑
14			BC2304018	BC-GRE-14	320	340	☑			☑
15	Certified Reference Materials (CRMs)		OREAS-750	BC-GRE-S1	CRMs			☑		☑
16			OREAS-750	BC-GRE-S2				☑		☑
17	Blank		……..	BC-GRE-B01	Blk				☑	

Table 12-11: Summary Table of Hazen Results with Original Assays (2022 check sample program)

No.	Drilling Type	Hole No.	Sample ID	From (ft)	To (ft)	Original Result, Li (ppm), 4-acid digestion	Hazen Results, Li (ppm), 4-acid digestion
1	Core Hole	BC2301C	BC2301006	100	120	773	621
2			BC2301017	320	340	1215	1010
3			BC2301111	2180	2200	4420	4750
4			BC2301114	2240	2260	5080	4620
5			BC2301122	2400	2420	3520	3050
6		BC2303C	BC2303007	100	120	535	461
7			BC2303018	320	340	1145	961
8			BC2303111	2180	2200	3630	3520
9			BC2303114	2240	2260	4470	4420
10			BC2303122	2400	2420	5420	5140
11	Sonic Hole	BC2302S	BC2302007	100	120	693	572
12			BC2302018	320	340	1155	1010
13		BC2304S	BC2304007	100	120	952	800
14			BC2304018	320	340	901	720
15	Certified Reference Materials (CRMs)		OREAS 750	CRMs		2320	1980
16			OREAS 750			2320	2010
17	Blank		N/A	Blk		<10	8

A comparison of the original versus check assay values for all 17 samples shows a good correlation between the results, with an R^2 of 0.9893 (Figure 12-11).

Figure 12-11: Sample Correlation Plot (2023 Check Samples Program)



12.6 Database Audit

A manual audit of the digital Project database was completed. Most of the original assay certificates for the 2022, 2023, and 2024 drilling campaigns were checked with the database for accuracy and any clerical errors. Most of the drill hole logs for entire drilling campaigns were checked individually and compared with corresponding information contained in the database. The manual audit revealed no discrepancies between the hard-copy information and the digital database.

12.7 Verification by Dr. Hamid Samari, Geological Data Adequacy

Based on the results of GRE's QP check of the sampling practices, verification of drill hole collars in the field, results of the check assay analysis, visual examination of selected core intervals, and the results of both manual and mechanical database audit efforts, Dr. Samari considers the collar, lithology, and assay data contained in the project database to be reasonably accurate and suitable for use in estimating mineral resources.

12.8 Verification by Terre Lane, Mineral Resource Estimate

Ms. Lane conducted an independent review of the drill hole database.

The data verification of the drilling campaigns shows that data from the rotary mud drilling was suspect and not used in the resource estimate.

Borehole mining costs were developed by Kinley Exploration LLC with coordination with GRE. All costs used to determine reasonable prospects for economic extraction were verified and reviewed by Ms. Lane and were assessed to be current and appropriate for use.

12.9 Verification by Dr. Todd Harvey – Metallurgy QP

Metallurgical testing was completed for the Bonnie Claire project by a well-known commercial metallurgical laboratory. Dr. Harvey reviewed all available metallurgical reports. Dr. Harvey reviewed the sample selection and compositing used in the metallurgical test work and found that the selection of samples was representative for a major portion of this deposit. Dr. Harvey reviewed the grades of the various samples selected for testing and verified the grade of material tested represents a spread of grades that is typical for the grades found in the Bonnie Claire deposit. Dr. Harvey also reviewed the process for preparing sample composites and found the selection of fresh core to be suitable for this level of study. Dr. Harvey verified the metallurgical test work and samples to be representative spatially for this deposit as well. Dr. Harvey while performing his data analysis performed several mathematical tests to validate the metallurgical balances presented in the test work and he found the data presented in the metallurgical reports to be consistent with practices performed by reputable independent test laboratories. Dr. Harvey confirmed that the mineralization found at the Bonnie Claire Project is similar to another project where Dr. Harvey has performed other consulting work and finds that the test work for Bonnie Claire shows that the material behaves in a similar manner, specifically in lithium extraction and recovery and reagent consumption. Given the similarities of the Bonnie Claire material to other similar projects, this provides a good basis for benchmarking the metallurgical test. His complete discussion of the test work is provided in Section 13.0. The work appears to be professionally completed and is well documented and is suitable for estimation of lithium extraction and recovery calculations in this Mineral Resource Estimate.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

Lithium can occur in a wide variety of potentially economic geological settings, including brines, pegmatites, and sediments (dominantly clays). The pegmatite deposits host the lithium-bearing mineral spodumene, while the lithium in clay deposits may be contained in the minerals illite, smectite, hectorite, and lepidolite. The optimum extraction method depends heavily on the lithium mineral associations.

The Bonnie Claire deposit has been effectively separated into two zones:

- Upper Deposit: characterized by lower lithium and boron grades with higher calcite grades
- Lower Deposit: characterized by higher lithium and boron grades with lower calcite grades

The upper zone samples showed variability in iron grades and although the initial sulfuric acid leach tests were promising, the downstream iron removal stage presented issues. The precipitation of the iron by pH adjustment resulted in significant coprecipitation of lithium in the samples. Acid leaching was abandoned for this material and thermal treatment was evaluated.

Test work has demonstrated that upper deposit material is amenable to a calcination with a hot water leach followed by solution purification to produce a high-grade final lithium product. The selection of the final product pathway is dependent on the intended market, with lithium carbonate and lithium hydroxide being the two most common product classes, with lithium carbonate typically being the easiest to produce.

In May of 2020, Iconic though its Reno, Nevada subsidiary Bonaventure Nevada Inc. contracted Hazen to conduct a preliminary metallurgical assessment of the deposit materials with the aim of developing a process flowsheet. In April of 2024 a second program was undertaken to examine the deeper material. The Hazen test work (Hazen, 2021; Hazen, 2023; Hazen, 2024a; Hazen, 2024b) has been used as the sole source of metallurgical data for this report. The two lithium extraction pathways considered in the work were acid leaching and thermal processing. The reports summarize the bench-scale and bulk test activities performed with the three Bonnie Claire deposit samples. Previous work by St-Georges Eco-Mining had provided indications of the amenability of the Bonnie Claire material to various acid leaching regimes (St-Georges Eco-Mining, 2019).

The samples used for the Project were provided by Iconic from the Project located in Nye County, Nevada. Hazen analyzed the samples, and results indicated the average lithium concentrations for the samples tested were 930 ppm Li (BC 1701), 1,190 ppm Li (BC 2001C), and 4,680 ppm Li (BC2303). The corresponding boron assays were 0.253% B (BC 1701), 0.048% B (BC 2001C), and 1.97% B (BC2303).

The initial test work focused on the more conventional direct acid leaching route, where the deposit materials are combined with water and sulfuric acid and leached at elevated temperatures and ambient pressures. The resulting slurry is filtered and subjected to stagewise purification to produce a final lithium product. The deposit materials under investigation contain significant concentrations of calcite (concentrations of 14% for the BC 1701 material, 8% for the BC 2001C material, and 6.3% for the BC 2303 material), which is a major acid consumer. A fractional analysis of the upper samples indicated that the majority of the lithium occurred in the fine fraction of the material and the calcite in the coarsest portions. At a cut size of 45 microns (µm), approximately 90% of the calcite can be eliminated while rejecting less than 2% of the lithium. Unfortunately, the lower samples did not exhibit the same trend. At a cut size of 45 microns (µm), approximately 69% of the calcite can be eliminated but rejecting 25% of the lithium and 46% of the boron.

In the 1970s and 1980s, the US Bureau of Mines conducted extensive research using lithium-bearing montmorillonite clays from the McDermitt deposit located on the Nevada–Oregon border. Investigators evaluated lithium extraction using two primary methods: acid leaching and roasting. Over 80% of the lithium was extracted by pugging the clay with sulfuric acid (H_2SO_4) followed by water leaching. However, the acid requirement was on the order of 500 kg H_2SO_4/t of clay and deemed uneconomical. In addition, acid indiscriminately attacks the clay matrix, bringing other elements such as iron, aluminum, and magnesium into solution.

Extensive purification techniques are then required to remove these contaminants before precipitating lithium as lithium carbonate (Li_2CO_3). The more-promising approaches appeared to be by thermal routes, using either a roast chlorination of the clay using limestone and hydrochloric acid (HCl), forming lithium chloride (LiCl), or roasting the clay with gypsum–limestone, forming lithium sulfate (Li_2SO_4). In both procedures, the major contaminating elements of iron, aluminum, and magnesium are not converted into water-soluble compounds. This greatly simplifies the downstream solution purification. The gypsum calcination system has since been advanced by Bacanora Lithium as part of a Feasibility Study for its Sonora Lithium Project, Mexico, and appears poised for commercialization.

The thermal route can also have very high reagent consumptions depending in the mineralogy. The concentrations of gypsum of sodium sulfate can be in the order 20 to 30% by weight to the ore during calcination. Some of this can be alleviated by recycling the sodium sulfate. Further, low melting point minerals can interfere with the process causing sintering of the calcine. Acid leaching is robust but has the downside of potentially high reagent consumption and the solubilization of the mineral matrix.

Upper Deposit

The minus 45 µm BC 1701 (Hazen HRI 55330) material was acid leached at 80°C with H_2SO_4 at a nominal acid/solids ratio of 500 kilograms per tonne (kg/t) of minus 45 µm feed and 30% solids. Kinetic data indicated a leaching time of 240 minutes was required to extract greater than 90% of the lithium contained in the minus 45 µm material. Acid consumption was found to be 210 kg/t of 45 µm feed or equivalent to 151.2 kg/t of whole material feed. At the same conditions, the minus 45 µm BC 2001C (Hazen HRI 55398) material achieved an 89% Li extraction after 240 minutes and 90% after 360 minutes, with an acid consumption of 216 kg/t of 45 µm feed or equivalent to 180.6 kg/t of whole material feed. Extractions for magnesium (82%), iron (75%), and aluminum (23%) were similar for both samples. The lithium concentration in the leach liquors ranged between 550 and 613 ppm. Lower free acid levels resulted in substantially reduced lithium extraction. Countercurrent leaching was shown to have merit in optimizing the acid consumption and lithium solution grades.

The solution purification system employed for the lithium-containing acid liquor was based on commercially accepted pathways utilizing a stage-wise series of base additions to raise the pH and sequentially precipitate the impurities. Unfortunately, the acid liquor was not amenable to this purification method. During the first stage primary purification, designed to remove iron and magnesium, a large portion of the lithium co-precipitated, resulting in a loss of 54% and 74% for the two primary purification tests. The exact reasons for this co-precipitation are not fully understood, but the Bonnie Claire materials are relatively high in iron, resulting in a substantial precipitation mass. The removal of iron and other impurities in the primary impurity removal (PIR) stage needs further optimization. Ioneer's Rhyolite Ridge project, which has similar mineralogy, overcame these issues with a modified impurity removal system employing higher temperatures during precipitation. Additional test work is required to evaluate the co-precipitation mechanisms if direct acid leaching is to be employed with conventional solution purification.

As a result of the purification system shortfalls associated with the acid leach solutions, an alternative processing route was investigated. The process examined involved the calcination of the materials with a sulfur donor reagent such as gypsum or sodium sulfate. The calcination converts the lithium to a water-soluble sulfate that is subsequently recovered in a downstream hot water leach. The best results achieved a lithium extraction of 80.4% after calcination and water leaching. The process variables included a calcination at 850°C for one hour with the addition of 26% sodium sulfate. The excess sodium sulfate was subsequently recovered in the downstream solution purification steps. Approximately 80% of the sodium sulfate (Glauber's Salt) was recycled back to the head of the circuit from the solution purification train.

The calcination system has the advantage of not solubilizing the iron and aluminum minerals during the leach phase, thus making the downstream purification system much simpler. Purification testing indicates that approximately 96% of the lithium is recovered in the purification stage. An overall mass balance for the calcine process indicates a final lithium recovery of 74.8% considering all solution losses.

A second program was undertaken to evaluate the production of battery grade lithium products, both lithium carbonate and lithium hydroxide production was examined employing the thermal processing route. A lithium carbonate (Li_2CO_3) product was produced that met the Livent battery-grade specifications. The production of battery grade lithium hydroxide monohydrate ($LiOH \cdot H2O$) was successful but it did not completely meet the Livent specification. Meeting the alkali metal specifications was the most problematic (specifically sodium and potassium). Test work indicated that the failure to meet the specifications were most likely the result of reagent purity issues.

Lower Deposit

In April 2024, Nevada Lithium authorized Hazen Research, Inc. to conduct a production run consisting of sample preparation, calcination, and water leaching of the calcined material. Approximately 50 kg of claystone material was received (BC2303). Initial testing was conducted using the thermal process route developed for the upper deposit. About half of the material was mixed with sodium sulfate (80:20), blended, and split into 2.5-kg samples for the production run. The other half of the material was reserved for future work.

The initial calcination run had an unexpected outcome. At the calcining temperature of 850°C, the material completely fused on the wall of the glass kiln. The cause of the failure was likely due to the extraordinarily high searlesite content within the claystone material (38%). This report covers the experimental work to develop a process to handle the high searlesite claystone, a sodium borosilicate mineral ($NaBSi_2O_5(OH)_2$). During continuous calcination, agglomeration occurred in the heated section of the kiln, but the material could be processed. Lithium extraction was lower (62%) with this material and thought to be related to the agglomeration phenomenon. Upon heating, searlesite dehydroxylates to form B-jadeite ($NaBSi_2O_6$). Research by others has shown that B-jadeite does not crystallize from a melt upon cooling but remains as an amorphous phase (i.e., glass).

The focus of the project shifted to dilute acid leaching experiments to remove searlesite following the Rhyolite Ridge flowsheet. Experimental results showed 95% of the searlesite was removed using sulfuric acid at 160 kg acid/t solid. Acid leach residue was then calcined without sulfate additives, with sodium sulfate (Na_2SO_4) at 850°C, and with gypsum at 850 and 900°C. Without a sulfate additive the lithium extraction was only 3.5%, with Na_2SO_4 the lithium extraction was 58%. Lithium extractions using gypsum were 38 and 40%, respectively. Results indicated boron removal by dilute acid leaching was not sufficient to overcome the fusing issue during calcination.

Two high acid leaching experiments were conducted at acid additions of 500 and 600 kg acid/t solid. Lithium extractions at 500 and 600 kg acid/t were 78 and 97%, respectively, indicating a high acid/solids ratio is needed for efficient leaching. For the 600 kg acid/t experiment, the leach liquor free acid concentration was high at 11 weight percent (wt%) H_2SO_4. The acid consumption was 352 kg H_2SO_4/t, indicating about 40% of the acid was not utilized in a single stage leach. Two-stage countercurrent leaching would be an option to improve acid utilization as well as increase the lithium tenor of the leach liquor.

Based on the work, a two-stage leaching approach was explored. The concept was a dilute acid leach at 160 kg acid/t solid for the recovery of boron as the first stage, followed by leaching the first stage leach residue at 500 kg acid/t solid for extraction of lithium. Mass balances showed 95% of the boron and 5% of the lithium was extracted in the first stage and 97% of the lithium was leached in the second stage. The free acid concentration in the second stage leach liquor was 11 wt% H_2SO_4.

Two-stage leaching may provide better acid utilization and potentially simplified boron recovery, but it also requires multiple solid/liquid separation stages. Given the particle size distribution of the material, additional solid/liquid separation stages could result in high capital costs. Two-stage leaching is not necessary as the boron can be recovered from the lithium leach liquor without impacting the recovery of either. The dilute acid leach liquor from one of the experiments was processed through ion exchange, evaporation, and cooling crystallization to recover boron as boric acid. Chemical and XRD analyses confirmed high purity boric acid can be produced from the leach liquor.

13.2 Samples

The initial work was performed with material received in May 2020 from drill hole BC 1701 (see Figure 10-1), specifically between 160 and 300 feet below the collar. An additional sample was provided in October 2020 from drill hole BC 2001C (see Figure 10-1) taken at depths between 288 and 348 feet, minus the 308 to 318-foot interval. Both holes are located in the southern portion of the Property, with the BC 2001C hole being about 180 meters southeast of BC 1701. Hazen analyzed the samples, and results indicated the average lithium concentrations were 930 ppm for the BC 1701 sample and 1,190 ppm for the BC 2001C sample.

On April 23, 2024, Hazen received six samples in cloth bags with a total weight of approximately 50 kg. The samples were from bore hole BC-2303 (see Figure 10-1) taken at depths between 719.3 and 762 meters (2,360 and 2,500 feet). This hole is located in the southern portion of the Property. Hazen analyzed the samples, and results indicated the average lithium and boron concentrations were 4,680 ppm Li and 1.97% B.

Between May 2020 and May 2021, Hazen conducted thermal and hydrometallurgical laboratory work with 50 kg of mineralized samples from the Bonnie Claire Lithium Deposit with the objective of recovering lithium to produce lithium carbonate. Upon receipt, each sample was assigned an internal tracking number (HRI). Hereafter, the BC 1701 sample is referred to as HRI 55330 and the BC 2001C sample is referred to as HRI 55398.

Between April 2024 and September 2024, Hazen conducted thermal and hydrometallurgical laboratory work with 50 kg of mineralized samples from the Bonnie Claire Lithium Deposit with the objective of recovering lithium to produce lithium carbonate. Upon receipt, each sample was assigned an internal tracking number (HRI). Hereafter, the BC 2302 sample is referred to as HRI 56069.

13.3 Test Work – Upper Deposit

The Bonnie Claire Deposit material contains significant calcite at concentrations of 14% by weight for the BC 1701 material and 8% by weight for the BC 2001C material. The distributions of lithium and carbonate in the samples are discrete, with 96% of the lithium occurring in the minus 10 µm fraction and the majority of the carbonate occurring in the coarser fractions for both samples. At a particle cut size of 45 µm, about 90% of the calcite in the oversize can be eliminated while rejecting less than 2% of the lithium.

For the current work, two lithium extraction methods were pursued: acid leaching of the minus 45 µm materials and thermal processing of the as-received samples with various additives. The objective of the work was to determine the processing conditions to maximize lithium recovery.

13.3.1 Chemical Analysis and Mineralogy

The head assay split samples of each sample type were analyzed and Table 13-1 summarizes the head sample analyses.

Table 13-1: Chemical Analysis of As-Received Claystone Samples

Analyte	Assay, wt%	
	HRI 55330	HRI 55398
Li	0.093	0.119
B	0.253	0.048
C^{tot}	2.08	1.23
F	0.507	0.443
Na	3.30	2.02
Mg	1.15	1.39
Al	5.7	6.43
Si	23.2	26.9
S^{tot}	0.091	0.039
Cl^{tot}	1.52	0.585

Analyte	Assay, wt%	
	HRI 55330	**HRI 55398**
K	4.79	5.36
Ca	5.82	4.03
Mn	0.072	0.078
Fe	2.04	2.48
Sr	0.048	0.050

For sample HRI 55330, the major phase consisted of K-feldspar with subordinate phases of quartz, plagioclase, muscovite-illite, and calcite. A minor amount of searlesite (boron mineral) and trace amounts of kaolinite, halite, and biotite also were detected. No smectite was detected. In the absence of smectite, lithium may be associated with muscovite-illite, a clay-like version of illite, or with chlorite. It is known that regular muscovite can contain up to 3.5% lithium oxide (Li_2O), and chlorite can contain up to 3% Li_2O. The HRI 55398 sample had major phases of K-feldspar and muscovite with quartz and plagioclase as subordinate phases. Calcite occurs as a minor phase with trace amounts of kaolinite, heulandite-clinoptilolite, analcime, mordenite, halite, and biotite. The chemical analysis found low levels of boron; however, the XRD analysis did not detect boron compounds. Table 13-2 and Table 13-3 provide details of the XRD analysis.

Table 13-2: Mineral Distribution as Function of Size Fraction Using X-Ray Diffraction (HRI 55330)

ID	55330-01	Plus 150 µm	150 x 75 µm	75 x 38 µm	38 x 25 µm	25 x 10 µm	Minus 10 µm
Phase ID	**Weight %**						
Quartz	10	1.4	1.3	1.1	0.3	0.7	5.9
K-feldspar	36	2.2	1.9	1.4	0.4	1.2	29
Plagioclase	10	1.8	1.8	1.5	0.4	1.0	5.3
Muscovite–illite	20	0.1	0.1	0.2	0.1	0.5	19
Calcite	13	7.8	3.0	1.2	0.3	0.6	0.7
Kaolinite	1	0.1	0.1	0.1	0.02	0.04	1.3
Searlesite	6	0.4	0.1	0.1	0.02	0.04	2.0
Actinolite	nd	nd	0.1	0.1	0.03	0.04	nd
Chlorite	nd	nd	nd	nd	0.03	0.08	nd
Halite	3	nd	nd	nd	nd	nd	nd
Biotite	2	nd	nd	nd	0.02	0.08	3.3

nd – not detected

Table 13-3: Mineral Distribution as Function of Size Fraction Using X-Ray Diffraction (HRI 55398)

ID	55398-01	Plus 150 µm	150 x 75 µm	75 x 38 µm	38 x 25 µm	25 x 10 µm	Minus 10 µm
Phase ID	**Weight %**						
Quartz	14	8.1	16	22	20	18	13
K-feldspar	30	5.9	23	27	27	26	35
Plagioclase	12	8.7	24	30	29	25	12
Muscovite	25	1.8	2.5	7.4	5.6	9.8	23
Calcite	7	70.1	30	8.6	6.2	5.5	nd
Kaolinite	1	1.3	0.8	0.7	1.3	1.8	1.4
Heulandite-	3	4.1	3.7	3.1	4.4	3.6	2.5

ID	55398-01	Plus 150 µm	150 x 75 µm	75 x 38 µm	38 x 25 µm	25 x 10 µm	Minus 10 µm
Phase ID	**Weight %**						
clinoptilolite							
Analcime	2	nd	nd	0.7	nd	0.7	3.0
Mordenite	2	nd	nd	nd	nd	nd	3.0
Actinolite	nd	nd	nd	0.6	1.9	0.5	nd
Chlorite	nd	nd	nd	nd	2.3	4.2	3.1
Halite	1	nd	nd	nd	nd	nd	nd
Biotite	2	nd	nd	0.5	1.7	4.9	4.7

nd – not detected

The individual screen fractions were analyzed for boron, lithium, and carbon (as carbonate) using ICP-OES to determine the distribution of these elements. Table 13-4 shows the mass distributions, assays, and elemental distributions for HRI 55330. Approximately 93% of the calcite occurred in size fractions greater than 38 µm. The chemical analyses showed lithium and boron were concentrated in the minus 10 µm fraction. Based on these results, a cut size of 45 µm was determined to be most beneficial for eliminating carbonate species (calcite) while minimizing the lithium rejection to less than 2%. Overall, approximately 28% of the weight was rejected at a cut size of 45 µm.

Table 13-4 Assays and Elemental Distribution as Function of Size Fraction (HRI 55330)

Size Fraction	Weight %						
	Mass Distribution	**Assay**			**Distribution**		
		Boron	**Carbonate**	**Lithium**	**Boron**	**Carbonate**	**Lithium**
Plus 150 µm	13.9	0.122	34.1	0.0079	12.1	59.2	1.01
150 x 75 µm	8.4	0.023	23.1	0.0087	1.35	24.2	0.67
75 x 38 µm	5.7	0.051	14.0	0.0125	2.06	9.95	0.66
38 x 25 µm	1.7	0.067	12.5	0.0175	0.80	2.65	0.27
25 x 10 µm	4.2	0.083	0.045	0.0239	2.48	0.02	0.93
Minus 10 µm	66.1	0.173	0.476	0.158	81.3	3.93	96.5

Table 13-5 shows the mass distributions, assays, and elemental distributions for HRI 55398. Approximately 90% of the calcite occurred in size fractions greater than 38 µm. Both lithium and boron were concentrated in the minus 10 µm fraction. Similar to the other sample, a cut size of 45 µm would eliminate the majority of the carbonate species (calcite) while minimizing the lithium rejection to less than 2%. Overall, approximately 16% of the weight was rejected at a cut size of 45 µm.

Table 13-5 Assays and Elemental Distribution as Function of Size Fraction (HRI 55398)

Size Fraction	Weight %						
	Mass Distribution	**Assay**			**Distribution**		
		Boron	**Carbonate**	**Lithium**	**Boron**	**Carbonate**	**Lithium**
Plus 150 µm	8.7	0.006	39.8	0.011	1.49	73.1	0.91
150 x 75 µm	3.4	0.007	16.2	0.011	0.64	11.7	0.34
75 x 38 µm	4.3	0.009	5.27	0.012	1.05	4.78	0.49
38 x 25 µm	4.2	0.010	4.06	0.016	1.21	3.57	0.62
25 x 10 µm	4.9	0.014	3.28	0.024	1.91	3.36	1.11
Minus 10 µm	74.5	0.045	0.22	0.137	93.7	3.45	96.5

Thermogravimetric analysis with differential scanning calorimetry (TGA-DSC) was employed to examine the structural change of the HRI 55330 sample at elevated temperatures. In this work, the sample was heated to 1,000°C at a rate of 20°C/minute. The TGA-DSC scan exhibited a sharp endotherm with a weight loss of 1.4% as the sample was heated to 150°C. The weight loss was likely due to the loss of free water associated with the sample. An exothermic reaction was noted between 150 and 375°C with very little weight change; this reaction could be a phase change in some of the minerals. At approximately 375°C, an endothermic change, corresponding to a 1.9% weight loss, was observed. A stronger endotherm started at 425°C with the trough at 760°C: weight loss of 8.2%. The losses may be attributed to the dehydroxylation of searlesite, kaolinite, and muscovite; the decomposition of calcite occurs between 700 and 750°C in the presence of alkali salts. No TGA-DSC work was performed on HRI 55398.

13.3.2 Lithium Extraction – Thermal Treatment

Two extraction methods were investigated. The first approach was a thermal treatment of the as-received material with additives followed by water leaching of the calcined material. For the second approach, as-received and minus 45 µm materials were acid leached. Parameters investigated were acid type (H_2SO_4 and nitric acid [HNO_3]), leaching temperature, and time, pulp density, and acid concentration. Pressure leaching of the minus 45 µm material was also investigated in a single experiment.

The experimental equipment and procedures used and the data generated are presented in this section. Parametric studies were performed in a high temperature furnace to assess the effects of various additives and temperature on the leachability of lithium. Larger quantities of calcine were produced in a rotary batch kiln to generate sufficient materials for the purification work.

The parametric study examined temperature (800 to 1,000°C) and various proportions of additives with the as-received samples. The additives and as-received sample were co-ground in a rod mill for three minutes. All experiments were conducted for 60 minutes at the target temperature. The study was conducted in batches using a 30-kilowatt Harper box furnace preheated to the target temperature.

Temperatures of the furnace interior and at least one of the samples were monitored. For each target temperature, a series of Mullite boats were loaded with approximately 200 grams of the as-received sample and additive mixture and inserted into the furnace. After 60 minutes at temperature, the boats were removed from the furnace to cool.

The batch kiln work was performed in a 4-inch-diameter by 14-inch-long quartz glass kiln. The kiln had numerous raised dimples located inside the 4-inch-diameter section to aid in mixing and tumbling the feed. A mass flow controller was used to meter the sweep gas into the kiln system at approximately three standard liters per minute. Process gas exited the kiln into a set of chilled condensers to remove any moisture evolved from the mixture. A slipstream of the purge gas was taken after the second condenser and analyzed for oxygen, carbon dioxide (CO_2), carbon monoxide, and sulfur dioxide using continuous monitoring gas analyzers. After the condensers, the gas passed through a caustic bubbler to remove a portion of the acidic gases generated in the process and to provide back pressure to the kiln system. An electrostatic precipitator was placed downstream of the bubbler to remove aerosol (such as sulfur trioxide) in the gas stream.

The calcining parameters were evaluated by water leaching the calcines to determine the lithium extraction. The water leaching setup consisted of a one liter resin kettle equipped with baffles, an overhead mixer, pH probe, temperature controller and heating mantle, thermocouple, and water-cooled condenser.

The calcined solids were contacted with deionized water at approximately 30 weight% pulp density and leached at 70°C for 120 minutes. At the end of the leach, the contents of the kettle were vacuum filtered. The solids were washed with three displacements of deionized water, dried, and prepared for analysis. The calcines, water leach primary filtrates, final wash liquors, and water leach residues were analyzed for the following:

- Lithium
- Magnesium
- Potassium
- Aluminum
- Sodium
- Sulfur
- Calcium
- Silicon

Overall metallurgical balances were prepared to determine the lithium extraction and the extent of other metals dissolution.

Table 13-6 summarizes the operational conditions and water leach extractions for the batch kiln experiments. The table is divided in two sections showing results for HRI 55330 and HRI 55398. Thermal treatment conditions investigated included calcining temperature (800 to 1,000°C); proportions of the limestone, gypsum, and Na_2SO_4 additives; using nitrogen or air as the sweep gas; and the effect of co-grinding of as-received sample with additives. In Experiment BK6, minus 45 µm material was co-ground with gypsum and calcined at 800°C for 1 hour using air as the sweep gas. The elemental extractions were determined by water leaching the calcined materials and are presented on a calculated head basis. In general, the elemental mass balances for the water leach experiments had closures of 100 ± 5%.

13.3.2.1 Thermal Treatment Results for HRI 55330

The initial experiment (BK1) was conducted at 1,000°C and resulted in significant agglomeration. No lithium was extracted, likely because the solids were encapsulated. Subsequent experiments were conducted at 800°C. Hand mixing limestone and gypsum with as-received material (Experiment BK2) resulted in a poor lithium extraction of 19%; when only gypsum was added (Experiment BK3), the lithium extraction increased to 61%. Extractions were the same using nitrogen or air as the sweep gas.

Experiment BK5 investigated the effect of co-grinding as-received ore with gypsum. A particle size analysis of the co-ground material indicated the material was minus 34 µm with an 80% passing size (P_{80}) of 14 µm. This experiment had the highest lithium extraction of 76% and demonstrated co-grinding as-received ore with gypsum was beneficial. The conditions were 27% gypsum and 73% as-received sample calcined at 800°C for 60 minutes; increasing the gypsum amount to 35% with 65% as-received sample resulted in similar lithium extractions of 77%.

Table 13-6: Summary of Batch Kiln Thermal Experiments Using Claystone Samples with Selected Additives

Experiment Number	BK1	BK2	BK3	BK4	BK5	BK6	BK11	BK7	BK8	BK9	BK10	BK12	BK13
Conditions													
Sample type, HRI	55330	55330	55330	55330	55330	55330	55330	55398	55398	55398	55398	55398	55398
Target temperature, °C	1,000	800	800	800	800	800	800	950	950	950	850	800	850
Time at temperature, h	1	1	1	1	1	1	1	1	1	1	1	1	1
Sweep gas at 3 sL/min	Nitrogen	Nitrogen	Nitrogen	Air	Air	Air	Air	Air	Air	Air	Air	Air	Air
Feed grinding in rod mill, min	na	na	na	na	3	3	3	3	3	3	3	3	3
Feed Composition													
As-received ore mass, g	504.2	259.9	363.1	363.1	353.0	334.2	256.4	331.5	325.9	320.3	298.2	234.0	327.5
Limestone mass, g	0.0	101.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0.0	0.0
Gypsum mass, g	0.0	135.8	136.1	136.2	132.4	125.4	138.2	123.9	93.8	63.0	119.6	125.9	0.0
Na_2SO_4, g	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.2	57.3	0.0	0.0	115.1
Total, g	504.2	497.6	499.2	499.3	485.4	459.6	394.6	455.4	448.9	440.6	437.9	359.9	442.6
Products													
Residue, g	438.6	391.3	426.9	429.2	419.0	416.7	336.7	384.5	382.1	385.4	366.9	303.0	398.2
Condensate, g	13.1	33.7	36.2	37.5	35.3	37.0	31.1	47.9	49.7	38.2	43.9	39.8	26.5
Electrostatic precipitator, g	10.6	0.8	1.3	0.0	0.0	0.0	0.0	0.74	4.66	1.6	0.0	0.0	0.0
SO_2, g	0.81	0.16	0.99	0.00	0.00	1.28	ns	0.66	0.57	0.31	ns	ns	ns
CO_2, g	27.6	52.8	21.2	22.9	21.1	1.50	13.8	11.35	11.6	8.05	16.5	8.0	12.6
Total, g	490.7	478.8	486.6	489.6	475.3	456.5	381.6	445.7	448.6	433.6	427.3	350.8	437.3
Batch kiln mass closure, %	97	96	97	98	98	100	97	98	100	98	98	98	99
Weight loss, %	13	21	15	14	14	9.3	6.8	4.9	2.8	3.5	6.2	4.8	4.0
Water Leach Extraction[a] (calculated head basis), %													
Li	0.0	18.9	61.0	60.5	76.4	22.0	77.1	33.0	67.7	73.5	49.4	24.2	79.1
Na	2.3	25.4	41.1	41.6	48.4	4.1	48.8	12.7	53.5	64.7	21.5	11.7	72.8
Mg	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.1	0.2	0.6	0.0	0.0	0.2
K	0.5	7.5	13.0	15.5	14.9	0.4	15.5	0.9	0.0	0.0	0.0	2.1	31.1
Ca	8.1	1.3	1.0	1.7	1.5	1.8	1.2	1.4	2.1	3.0	1.5	1.3	18.3
Fe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5
Al	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Si	0.1	0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

BK = batch kiln, HRI = internal tracking number, na = not applicable, ns = not sampled; SO_2 analyzer offline

[a] Calcined solids were leached with deionized water at 30 wt% pulp density and 70°C for 120 minutes

Table 13-7 Summary of Harper Furnace Thermal Experiments Using Claystone Samples with Selected Additives

Experiment Number	**HF1**	**HF2**	**HF3**	**HF4**	**HF5**	**HF6**	**HF7**	**HF8**	**HF9**	**HF10**	**HF11**	**HF12**	**HF13**	**HF14**	**HF15**
Conditions															
Sample type, HRI	55398	55398	55398	55398	55398	55398	55398	55398	55398	55398	55398	55398	55398	55398	55330
Target temperature, °C	800	800	800	800	800	800	800	800	800	800	800	800	850	850	850
Time at temperature, h	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Feed Composition															
As-received ore mass, g	105.28	109.73	98.47	110.50	127.30	127.52	128.61	122.32	89.40	115.88	115.01	114.82	155.76	141.78	142.38
Limestone mass, g	0.00	43.99	59.21	88.60	0.00	11.40	16.10	5.27	35.76	0.00	8.59	0.00	0.00	0.00	0.00
Gypsum mass, g	126.62	85.56	59.21	44.30	25.04	25.08	16.10	25.10	35.76	0.00	0.00	0.00	0.00	0.00	0.00
Na_2SO_4, g	0.00	0.00	0.00	0.00	22.76	11.40	16.10	22.82	17.88	17.32	8.59	7.98	38.94	49.82	50.02
Total, g	231.90	241.70	216.90	243.40	175.10	175.40	176.90	175.50	178.80	133.20	132.20	122.80	194.70	191.60	192.40
Products															
Residue, g	193.45	196.55	176.5	199.85	155.8	153.8	153.3	154.8	143.6	118.5	114.6	108.4	177.8	170.3	173.6
Weight loss, %	17	19	19	18	11	12	13	12	20	11	13	12	8.7	11	9.8
Water Leach Extraction[a] (calculated head basis), %															
Li	18.4	12.0	9.0	1.7	39.2	28.6	65.6	30.4	69.5	64.1	40.8	46.8	79.0	80.4	57.8
Na	8.0	22.6	19.4	6.6	64.5	56.8	60.7	73.1	67.3	59.6	44.5	44.2	68.3	71.8	67.1
Mg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
K	1.3	9.1	5.6	2.1	10.5	8.9	18.8	13.9	51.9	17.4	12.4	5.2	16.8	23.2	27.6
Ca	1.2	1.4	1.3	1.7	3.4	1.9	1.8	2.6	0.8	6.4	3.0	4.9	6.8	6.8	2.0
Fe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Al	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Si	0.1	0.0	0.0	0.0	nc	nc	nc	Nc	nc	nc	nc	nc	nc	nc	nc

HF = Harper furnace, HRI = internal tracking number, nc = not calculated

[a] Calcined solids were leached using deionized water at 30 wt% pulp density and 70°C for 120 min.

In Experiment BK6, minus 45 µm as-received material was co-ground with gypsum and calcined. The lithium extraction was 22%. The removal of the majority of the calcite reduced the lithium extraction, changing the cut size or adding back limestone would likely be beneficial.

The high degree of agglomeration observed at 1,000°C in Experiment BK1 resulted in a majority of the material adhering to the wall of the kiln, making it difficult to recover the calcine. Both halite and searlesite are suspected to play a role in the agglomeration process. Halite, with a melting temperature of 801°C, and searlesite, which undergoes phase transition starting at 350°C, could form melts that fused the material. At 800°C, the degree of agglomeration was minimal and the calcines were easily removed from the kiln.

13.3.2.2 Thermal Treatment Results for HRI 55398

Two muffle furnace experiments were performed on HR1 55398 to determine if the material was susceptible to fusing. Samples were heated to 850 and 950°C and no fusing was observed at either temperature. Subsequently, three batch kiln experiments (Experiments BK7 through BK9) were conducted at 950°C using various proportions of gypsum and Na_2SO_4; no limestone was added. As shown in Table 13-6, the baseline case (Experiment BK7) with 27% gypsum and no limestone had a poor lithium extraction at 33%. Including Na_2SO_4 improved the lithium extraction. At 21% gypsum and 6.5% Na_2SO_4, the lithium extraction was 68%; at 14% gypsum and 13% Na_2SO_4, the lithium extraction was 74%.

A series of batch experiments were then conducted to investigate the effects of each additive and temperature on lithium extraction. The Harper furnace was used for the experiments. This allowed for the testing of multiple batches with various additive proportions simultaneously. Table 13-7 shows the experimental results. A multiple linear regression model was constructed to equate lithium extraction data with the additive proportions and calcining temperature. The modeling results indicated that limestone and gypsum had negative impacts on lithium extraction, while higher temperatures and the use of sodium sulfate increased the lithium extraction.

Higher lithium extractions were observed in HF13 and HF14 with conditions at 850°C for 60 minutes with Na_2SO_4 proportions of 20 and 26%, respectively, with lithium extractions of 79 and 80%, respectively. The same experimental conditions of HF14 were applied to HRI 55330 in BK15 but resulted in a lower lithium extraction of 58%.

A confirmatory batch kiln experiment then was performed with HRI 55398 using the HF14 test conditions. The lithium extraction for BK13 was 80%. The water leach solution from this work was used to demonstrate evaporation and cooling crystallization of sodium sulfate and the precipitation of crude lithium carbonate (Li2CO3). The details of these tests are reported in the subsequent Hydrometallurgical Treatment section.

13.3.3 Lithium Extraction - Hydrometallurgical Treatment

Direct acid leach testing was conducted on HRI 55330 and HRI 55398 samples to define the best operating conditions. The majority of the parametric study was conducted using HRI 55330. The process variables investigated included as-received sample, minus 45 µm screen undersize, acid type (HNO_3 or H_2SO_4), pulp density, acid/solids ratio, leaching time, and temperature. Experimental work using the minus 45 µm fraction of HRI 55398 material included leaching at high (500 kg/t of 45 µm feed) and low (238 kg/t of 45 µm feed) acid additions and a two-stage countercurrent leaching study.

13.3.3.1 Batch Acid Leaching

Bench-scale experiments were conducted with equipment similar to the water leaching discussed previously. The kinetics of the leaching process were monitored by taking slurry samples from the reactor at selected times. The kinetic samples were vacuum filtered to generate filtrates and solids for analysis. At the termination of the experiment, the contents of the reactor were filtered and the solids were washed with three displacements of deionized water. The solids were dried and prepared for analysis. The feed material, kinetic filtrates and solids, primary filtrate, and leach residue were analyzed using ICP-OES for the following:

- Lithium
- Magnesium
- Potassium
- Aluminum
- Sodium
- Sulfur
- Calcium
- Silicon

Final metallurgical balances were prepared to determine the lithium extraction and the extent of dissolution of other metals. The free acid concentration of the final filtrate was also measured to calculate the acid consumption.

Table 13-8 lists the conditions and results. The elemental extractions are presented on a calculated head basis. In general, the elemental mass balances had closures of 100 ± 5%.

Experiments 4022-68 and -70 evaluated acid leaching of HRI 55330 as-received material with H_2SO_4 and HNO_3 at ambient temperature to determine the appropriate acid for subsequent leaching work. Nitric acid did not perform as well as H_2SO_4 with respect to lithium extraction (17% versus 23%) and also exhibited a much higher acid consumption (586 versus 151 kg acid/t of 45 um feed reported as H_2SO_4). Extractions of sodium, magnesium, potassium, iron, aluminum, and silicon were similar for both acids. However, there was a substantial difference in the calcium extractions: 95% extraction with HNO_3 and 4% extraction with H_2SO_4. This variance is due to the solubility of calcium in the two regimes. Calcium is very soluble as a nitrate, but calcium concentration is limited by the solubility of gypsum in the sulfate system. A decision was made to utilize H_2SO_4 for the remaining work.

Table 13-8: Summary of Acid Leaching Parametric Study

Experiment ID	4022-68	4022-70	4022-103	4022-83	4022-101	4022-102	4022-108	4022-110[b]	4022-152	4022-140
Conditions										
Sample type, HRI	55330	55330	55330	55330	55330	55330	55330	55330	55398	55398
Feed material	As-received	As-received	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm
Acid type	H2SO4	HNO3	H2SO4	H2SO4	H2SO4	H2SO4	H2SO4	H2SO4	H2SO4	H2SO4
Acid/solids, kg/t of feed	493	500	580	491	495	484	497	497	238	500
Pulp density, wt%	23.1	23.1	24.8	27.4	13.6	24.9	30.3	30.1	30.0	30.0
Temperature, °C	Ambient	Ambient	Ambient	70	80	80	80	120	80	80
Retention time, min	120	120	120	120	120	120	360	120	360	360
Extraction (calculated head basis), %										
Li	23	17	20	67	60	62	90	92	50	89
Na	75	79	27	32	30	22	30	30	69	55
Mg	16	11	17	63	55	55	82	86	50	82
K	6.7	6.5	3.4	15	12	12	23	23	12	25
Ca	4.2	94	30	37	38	30	41	47	30	60
Fe	12	9.2	12	58	43	46	77	81	38	72
Al	2.7	2.6	5.4	14	18	nc	21	24	nc	25
Si	0.2	0.2	0.3	0.1	1.0	nc	0.05	0.1	nc	0.1
Final free acid, wt% H_2SO_4	10.2	0.04	14.5	11.3	5.73	10.3	11.9	7.31	3.75	11.5
Acid consumption, kg/t[a]	151	587	56	105	129	202	210	325	73	216

HRI = internal tracking number, nc = not calculated

[a] Acid consumption reported on H_2SO_4 basis in relation to the test feed tonnage

[b] Pressure leach experiment at 40 pounds per square inch gauge (psig)

In subsequent experiments, the minus 45 µm material was leached with 500 kg H_2SO_4/t of 45 µm feed over a range of temperatures (ambient to 80°C) for up to 6 hours. The best leaching results at atmospheric pressure were observed in Experiment 4022-108 with a 90% Li extraction based on the lithium contained in the minus 45 µm material. Slurry samples were taken at 2, 3, 4, 5, and 6 hours.

Figure 13-1 shows the lithium extraction versus time. The lithium extraction was 89% after 3 hours, 91% after 4 hours, and 93% after 6 hours. After 6 hours, 86% of the magnesium and 82% of the iron were also extracted. The acid consumption was 210 kg H_2SO_4/t of 45 µm feed solids (151.2 kg/t of whole material feed) with a free acid concentration of 11.9% by weight. Table 13-9 shows the leach liquor assays. The results suggest that acid leaching for 3 to 4 hours should be sufficient to achieve a 90% Li extraction at 80C.

Figure 13-1: Lithium Extraction as Function of Leaching Time (500 kg H_2SO_2/t 45 µm feed, 80°C)

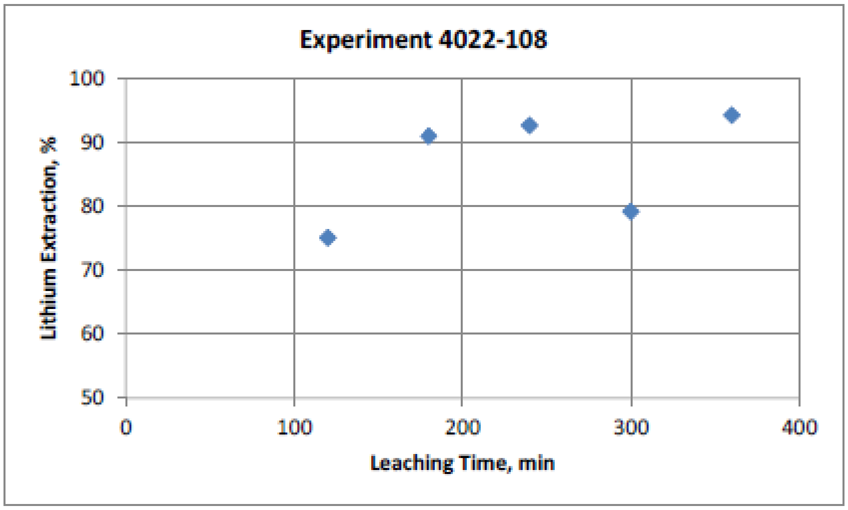


Table 13-9: HRI 55330 Analysis of Experiment 4022-108 Acid Leach Liquor

Leaching Time, min	120	180	240	300	360
Analyte	**Assays, wt%**				
Li	0.059	0.060	0.065	0.065	0.061
Na	0.122	0.120	0.130	0.130	0.119
Mg	0.654	0.661	0.730	0.723	0.685
K	0.709	0.733	0.820	0.838	0.790
Ca	0.045	0.037	0.048	0.039	0.048
Fe	0.987	1.02	1.14	1.15	1.09
Al	0.610	0.660	0.760	0.780	0.760
Si	0.004	0.004	0.005	0.004	0.004

Note: Minus 45 µm fraction of HRI 55330, 500 kg H_2SO_4/t, 80°C, and 30 wt% solids

Experiment 4022-110 examined pressure leaching of the minus 45 µm material at 40 psig and 120°C for 2 hours. Although a 92% Li extraction was achieved in 2 hours, the acid consumption was greater than the atmospheric experiments. Comparing results from Experiments 4022-110 and 4022-102 (pressure versus atmospheric leaching), the pressure leaching had an acid consumption approximately 60% greater than atmospheric leaching for 2 hours. The metal extractions were significantly higher using pressure leaching, indicating the mineral matrix is broken down to a greater extent and is likely related to the higher acid consumption.

The minus 45 µm fraction of the additional sample, HRI 55398, was tested in two acid leaching experiments. The conditions were 30 weight% pulp density at 80°C for 6 hours with acid additions of 238 and 500 kg/t of 45 µm feed. At 238 kg acid/t, only 50% of the lithium was extracted; at 500 kg/t, the lithium extraction was 89%. Acid consumptions were 73 and 216 kg/t of 45 um feed (61.0 and 180.6 kg/t of whole material feed), respectively, with final free acid concentrations of 3.75 and 11.5% by weight, respectively. These results indicate that high acid concentrations are required to achieve high lithium extractions.

Based on the data from the parametric study, the preferred acid leaching conditions to achieve the maximum lithium extraction are as follows:

- Pulp density: 30 wt%
- Acid addition: 500 kg/t of feed
- Temperature: 80°C
- Retention time: 180–240 min

13.3.3.2 Countercurrent Acid Leaching

Two-stage countercurrent leaching was evaluated on the minus 45 µm fraction of HRI 55398 to address the high acid consumption. The solution from the second stage leach is recycled to the first stage of leaching while the leach residue from the first stage is utilized in the second stage leaching. Fresh acid is added only to the second stage. This not only helps reduce the acid consumption, it also improves the overall lithium tenor.

Conditions for both stages were a pulp density of 20% by weight, temperature of 80°C, and retention time of 180 min. Samples were taken during the Stage 1 and 2 experiments for leach kinetics. Table 13-10 summarizes the results for the countercurrent leaching tests. As shown, the Stage 1 filtrate free acid concentration decreased from 6.64 weight% H_2SO_4 in the first cycle to 3.85 weight% H_2SO_4 in the third cycle.

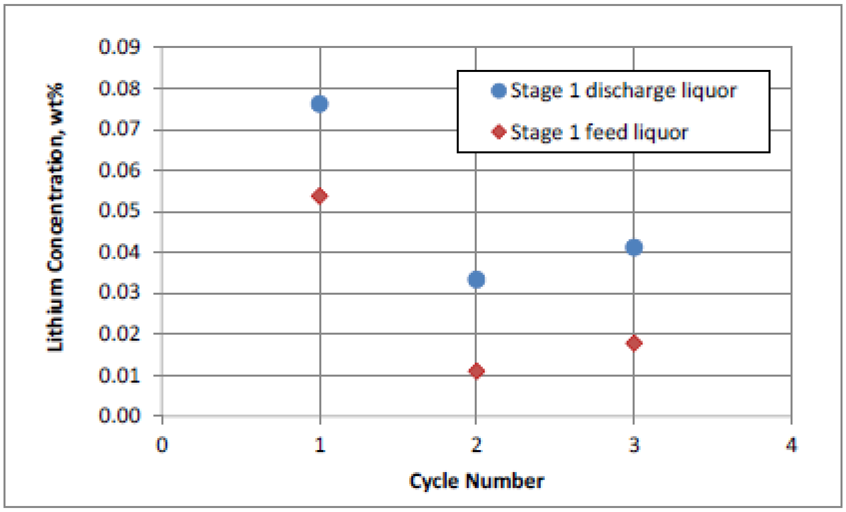
To assess the acid consumption and metal extractions for the two-stage process, a mass balance model was constructed assuming no kinetic sampling occurred and that the Stage 1 discharge solids entered Stage 2 with no mass loss. Acid consumptions for the combined stages were 201 kg/t of 45 µm feed for the first cycle and 257 kg/t for the second cycle (equivalent to 168.0 and 214.8 kg/t of whole material feed). Lithium extractions for the individual stages were calculated based on the feed and discharge solid assays. The combined lithium extractions for the first and second cycles were 88 and 91%, respectively. Both acid consumption and lithium extractions were in agreement with the batch leaching data.

Table 13-10 Feeds, Conditions, and Results for Two-Stage Acid Leaching

	Weight, g				
	Cycle 1		Cycle 2		Cycle 3
Component	**Stage 1**	**Stage 2**	**Stage 1**	**Stage 2**	**Stage 1**
Temperature, °C	80	80	80	80	80
Reaction time, min	360	180	180	180	180
Stage 1 feed, g					
Minus 45 µm HRI 55398	152.72		82.00		52.30
Stage 2 acid leach filtrate	597.37		320.48		204.81
Water	526.01		37.08		30.97
Total	1,276.10		439.56		288.08
Stage 2 feed, g					
Stage 1 leached solids		114.30		122.45	
H_2SO_4 (96.5%)		58.03		39.01	
Water		387.27		215.14	
Wash water		486.94		336.77	
Total		1,046.54		713.37	
Products, g					
Kinetic samples	114.82	46.73	57.55	53.47	51.91
Filtrate	404.89	337.58	222.16	221.70	135.81
Wash	471.29	456.98	0	327.46	0
Solids	216.12	166.42	130.28	100.54	80.66
Losses	1.09	0.62	12.79	0.46	2.59
Total	1,208.21	1,008.33	422.78	703.63	270.97
Liquor assays, wt%					
Li	0.076	0.011	0.033	0.018	0.041
Mg	0.816	0.097	0.337	0.180	0.439
Fe	1.27	0.221	0.559	0.367	0.742
Extraction, %					
Li	58	71	43	84	44
Mg	54	49	40	36	40
Fe	40	45	28	36	30
Combined extraction, %					
Li	88		91		44
Mg	76		80		
Fe	67		73		
Final free acid, wt% H_2SO_4	6.64	11.0	7.21	6.45	3.85
Acid consumption, kg/t of 45 um feed	143	73	153	253	105
Combined acid consumption, kg/t of 45 µm feed	201		257		

Figure 13-2 shows the lithium concentrations for the Stage 1 feed and discharge liquors for the three cycles. As shown, the system did not achieve steady-state conditions, a total of six cycles may be needed to stabilize the lithium concentrations. Other metals showed similar trending.

Figure 13-2: Stage 1 Liquor Lithium Concentrations



Note: Minus 45 µm fraction of HRI 55398, 20% pulp density, 500 kg/t H2SO4 acid, 80°C, and 6 h

13.3.4 Lithium Recovery and Purification – Acid Leach

Purification steps are required to remove impurities from the leach liquor prior to precipitating the lithium carbonate final product. In a typical system, three purification steps are employed. In Stage 1 or the Primary Impurity Removal (PIR), free acid is neutralized and iron and aluminum are precipitated using limestone ($CaCO_3$) or hydrated lime ($Ca(OH)_2$). In Stage 2 or Secondary Impurity Removal (SIR), magnesium is precipitated by raising the solution pH further to 10 to 10.5 using sodium hydroxide (NaOH) or hydrated lime. In Stage 3, which is part of the SIR, soda ash is added to precipitate calcium.

Only one experiment for each of the PIR and SIR steps was performed using acid leach liquor derived from HRI 55330. The purpose of these experiments was to establish preliminary purification conditions for bulk operations. A second series of PIR experiments was conducted with acid leach liquor derived from HRI 55398. In separate experiments, purification was performed using hydrated lime, limestone, and ammonium hydroxide.

13.3.4.1 PIR Bench-Scale Work

In the first purification step, a base reagent (hydrated lime, limestone, or ammonium hydroxide) is added to neutralize free acid in the leach liquor and to precipitate aluminum as aluminum hydroxide and iron as iron hydroxide or goethite, depending on temperature.

For each experiment, approximately 500 grams of HRI 55330-derived acid leach filtrate or approximately 300 grams of HRI 55398-derived acid leach filtrate were added to the reactor and heated to 80°C. Lime was slurried with deionized water to a pulp density of 20 weight% in a beaker. The beaker was placed on a hotplate to heat the slurry to the target temperature. The slurry was agitated continuously. During the experiment, aliquots of the reagent slurry were added stepwise to the reactor. The slurry pH was monitored thereafter. Lime additions continued until a target pH of 6 was attained. At the end of the experiment, the final slurry was filtered and the filter cake was washed with deionized water. The filtrate and wash samples were analyzed for the following using ICP-OES:

- Lithium
- Magnesium
- Potassium
- Aluminum
- Iron
- Sodium
- Sulfur
- Calcium
- Silicon

Solids were not analyzed for this experiment.

Acid leach liquors from the HRI 55330 acid leaching experiments and water leaches from the HRI 55330 calcining experiments were combined to generate sufficient material for the purification studies.

Approximately 2 liters of combined filtrate were available. Stoichiometric dosages were calculated and utilized based on the H_2SO_4, iron, and aluminum concentrations. The acid leach solution derived from HRI 55330 had a free acid content of 4.1 weight% H_2SO_4 with 0.21 weight% iron and 0.13 weight% aluminum. Based on these solution grades, the stoichiometric amount of lime for neutralization and metals precipitation was calculated to be 0.58 mol $Ca(OH)_2$ per liter of solution. Experimentally, 0.63 mol $Ca(OH)_2$ per liter of solution was needed to reach the target pH of 6. The final pH was 6.35, slightly higher than the target.

The stoichiometric factor expressed as mol of $Ca(OH)_2$/mol of H_2SO_4, iron, and aluminum was 1.1 for the experiment. The primary filtrate assays indicate both iron and aluminum were less than the detection limit of 10 ppm. Silicon was reduced from 0.006 weight% in the feed to 0.001 weight% in the primary filtrate. Unfortunately, when the test reached the target pH for the PIR process, approximately 54% of the initial lithium in solution was co-precipitated with the solids; the final filtrate lithium concentration was 0.011 weight%. Table 13-11 summarizes the liquor assays.

Table 13-11 Summary of PIR Solution Assays

Description	Analyte Concentration, weight%								
	Li	Na	Mg	S	K	Ca	Fe	Al	Si
Feed solution	0.019	0.255	0.134	2.17	0.219	0.0355	0.205	0.131	0.006
Final filtrate	0.011	0.240	0.128	0.420	0.205	0.045	< 0.001	< 0.001	0.001

Note: Feed solution from HRI 55330 acid leaching and calcine water leaching, 20 wt% $Ca(OH)_2$, and 80°C

The acid leaching liquor used for the second series of experiments was derived from HRI 55398. The liquor had a free acid content of 10.4 weight% H_2SO_4 with 0.9 weight% iron and 0.81 weight% aluminum. These concentrations were higher compared with the liquor used in the previous experiments, in particular the free acid concentration. In this work, purification was performed using hydrated lime at 70 and 90°C. Additional experiments evaluated the use of reagents limestone and ammonium hydroxide at 70°C. In all experiments, aluminum was reduced to less than 10 ppm at pH 5. A higher pH of 6.5 was required to reduce the iron concentration to less than 10 ppm. The higher pH required to remove iron suggests a portion of iron may be present as Fe(II). In theory ferric iron precipitation should be complete at pH 3.5. Aerating the liquor will be needed to oxidize Fe(II) to Fe(III) to reduce the pH requirements.

During the PIR tests, at pH 4, approximately 10% of the lithium was lost to the solids. At the final PIR target pH, the lithium losses were high, ranging from 73 to 74% using hydrated lime at temperatures of 70 and 90°C, respectively, 88% using ammonium hydroxide, and 92% using limestone.

Two mechanisms were examined in an attempt to explain the high lithium losses: (1) inadequate washing of the filter cake material, resulting in entrained neutralized liquor with the solids and (2) the incorporation of lithium with the precipitated solids.

In examining the entrained wash liquor theory, in all cases, the amount of lithium potentially held in the entrained liquid was insufficient to account for the lithium losses, indicating the filter cakes were sufficiently washed. This finding suggests that lithium may be incorporated into the precipitated solids. One possible mechanism for incorporating lithium is through the formation of lithium ferrite. The literature states lithium can react with precipitated ferric hydroxide but requires a high pH (approximately 13) and a lithium concentration on the order of 1M Li. Conditions in these experiments were much different, with an initial lithium molarity of 0.1M and final pH of 6.5. A full explanation for how lithium is associated with the precipitated solids has not been identified.

At this stage of evaluation, the net result of these purification investigations is that the current PIR process is not suitable for the leach liquors derived from the direct acid leaching of the deposit material. This finding is what prompted the investigation of alternative process routes resulting in the use of thermal treatment. Rhyolite Ridge has similar mineralogy and has found a solution to this issue by elevating the PIR temperature.

13.3.4.2 Secondary Impurity Removal (SIR) Bench-Scale Work

The SIR step begins with adjusting the pH of the PIR solution with NaOH to pH 10 to precipitate magnesium as Mg(OH)2. In the second stage of the SIR, soda ash is added to precipitate calcium from solution as $CaCO_3$.

The bench-scale experiment used the same equipment as that of the PIR. Approximately 500 grams of PIR filtrate were added to the reactor and heated to 70°C. Sodium hydroxide was added as a 50 weight% solution for the primary pH adjustment and finished with 1 N NaOH. During the experiment, aliquots of the reagents were added stepwise to the reactor. The slurry pH was monitored thereafter. Sodium hydroxide additions continued until a target pH of 11.3 was attained. The slurry was stirred for 1 hour before sodium carbonate (Na_2CO_3) was added. The sodium carbonate solution was prepared by dissolving reagent grade Na_2CO_3 in deionized water to a concentration of 22 weight%. The Na_2CO_3 solution was added until the slurry pH was 11.6. At this point, a slurry sample was taken for analysis. The experiment was allowed to continue to observe the change in pH with further Na_2CO_3 additions. The final slurry was filtered and the filter cake was washed with deionized water.

The filtrate and wash samples were analyzed for the following using ICP-OES:

- Lithium
- Magnesium
- Potassium
- Aluminum
- Iron
- Sodium
- Sulfur
- Calcium
- Silicon

Solids were not analyzed for this experiment.

Table 13-11 summarizes the SIR results. This experiment used PIR filtrate generated from HRI 55330 acid leach liquor. Starting with 500 grams of PIR filtrate, approximately 4.4 grams of 50% NaOH and 3.38 grams of 1 Normality (N) NaOH were added to attain a pH of 11.3. Based on the magnesium concentration of the feed solution, the stoichiometric amount of NaOH added was 2.2 (mol NaOH/mol Mg); 10% excess compared with the theoretical stoichiometry. Approximately 9.5 grams of 22 weight% Na_2CO_3 solution was added to adjust the slurry pH to 11.6. The calculated stoichiometry amount of sodium carbonate was 3.5 (mol Na_2CO_3/mol Ca). Although the sodium carbonate stoichiometry amount was higher than the 1:1 theoretical ratio, there was only a small change in the lithium concentration. The magnesium and calcium concentrations were less than 5 ppm and less than 10 ppm, respectively. An additional 97 grams of Na_2CO_3 solution resulted in a final pH of 11.6 and a 29% Li loss.

Table 13-12: Summary of Purification 2 Assays Using NaOH and Na_2CO_3 at 70°C

Description	Analyte Concentration, wt%								
	Li	Na	Mg	S	K	Ca	Fe	Al	Si
Feed solution	0.011	0.24	0.128	0.42	0.205	0.045	< 0.001	< 0.001	0.001
Filtrate at pH 11.3	0.010	0.79	< 0.0005	0.39	0.185	< 0.001	< 0.001	< 0.001	0.001
Final filtrate pH 11.6	0.008	2.62	< 0.0005	0.32	0.155	< 0.001	< 0.001	< 0.001	0.003

Notes: Feed solution was HRI 55330-derived PIR filtrate, pH adjusted to 11.3 using 50% and 1 N NaOH, pH adjusted to 11.6 using 22 wt% Na_2CO_3 slurry

This stage of test work was mostly redundant as the lithium losses during the PIR stage were prohibitive. A further 29% lithium loss during the SIR is not significant given the high lithium losses exhibited in the PIR stage.

13.3.5 Lithium Recovery and Purification – Calcine Leach

Calcine experiments were conducted in parallel with the acid leach test work once it was determined that the purification system was not effective for the acid liquor. The effects of additives gypsum, limestone, and sodium sulfate and temperature were examined for both sample types (HRI 55330 and HRI 55398).

For the HRI 55398 sample, Experiment BK13 was the most successful thermal run. The liquor from water leaching the calcine contained 0.026% Li, 3.19% sodium, 0.001% magnesium, 0.467% potassium, and 0.06% calcium. Iron, aluminum, and silicon concentrations were below the analytical detection limit (less than 10 ppm). The water leach liquor had significant concentrations of sodium and potassium; however, the typical species found in the acid leaching liquor, iron, aluminum, and silicon, were below the detection limit, thereby simplifying liquor purification.

The calcine water leach liquor was purified in two steps: adding soda ash to remove calcium as $CaCO_3$, and evaporation and cooling crystallization to remove sodium as Glauber's salt. Approximately 740 grams of water leach liquor were available for the work.

For the calcium removal step, 737 grams of water leach liquor were transferred to a reactor and heated to 70°C. Approximately 13 grams of 20 weight% Na_2CO_3 were added, equivalent to a 2.2 stoichiometric factor. The mixture was agitated for 1 hour and then was filtered to remove the precipitate. No lithium precipitated in the process.

Following the initial purification, 700 grams of filtrate were transferred to a rotary vacuum evaporator and evaporated at 30°C under sufficient vacuum to induce boiling. Approximately 500 grams of water was evaporated; no precipitate was observed.

The evaporated liquid was then cooled to 5°C. In cooling crystallization, 102 grams of wet precipitate and 68 grams of filtrate were recovered. The wet precipitate was air dried, yielding a final weight of 61 grams. The solids were identified by XRD as anhydrous sodium sulfate (Na_2SO_4). Table 13-13 shows the assays for the various liquors and the crystallized solids. The uncorrected assays for the crystallized solids represent solids with entrained cooling crystallization liquor, and the corrected assays represent the crystallized solids without entrained liquor. The lithium concentration in the cooling crystallization liquor was 1,860 ppm. In a commercial process, the Na_2SO_4 solids would be recycled back to the calcination step. Any lithium entrained in the solids also would be recycled to the head of the circuit and does not represent a loss.

Table 13-13 SIR Assays of Water Leach Liquor

Description	Weight, %							
	Li	Na	Mg	K	Ca	Fe	Al	Si
Water leach liquor	0.026	3.19	0.001	0.467	0.06	bdl	bdl	bdl
Postcalcium removal liquor	0.025	3.35	bdl	0.469	bdl	bdl	bdl	bdl
Evaporated liquor	0.093	12.2	0.001	1.74	0.002	bdl	bdl	0.004
Cooling crystallization liquor	0.186	7.52	0.002	3.0	0.004	bdl	bdl	0.008
Uncorrected crystallized solids	0.053	30.9	bdl	1.56	0.032	bdl	bdl	bdl
Corrected crystallized solids	0.0	33.3	0.0	0.0	0.039	0.0	0.0	0.0

Notes: Detection limit less than 10 ppm, Calcium removal using 20 wt% Na_2CO_3 slurry at 70°C, Evaporation at 30°C and cooling crystallization at 5°C , Lithium precipitation using Na_2CO_3 at 90°C, bdl = below detection limit

The cooling crystallization filtrate was treated with soda ash and heated to 90°C to precipitate the initial crude lithium carbonate product (Li_2CO_3). The recovered solids were analyzed using XRD, which showed patterns for Li_2CO_3 and burkeite. The test work indicate that the inclusion of a lithium bicarbonate route may be required to ensure a high final product purity.

13.3.6 Sodium Chloride Leaching

To investigate the potential to use in situ leaching for this deposit and to evaluate alternative lixiviants, sodium chloride was tested in the leaching system. Ambient water leaching of the HRI 55330 as-received material for 2 hours extracted only 2% of the lithium.

The HRI 55330 as-received sample contained about 3 weight% halite. In a water leach, NaCl dissolves and generates a NaCl solution (approximately 13 grams per liter [g/L] for this experiment). Experiments were conducted to determine if a higher NaCl concentration and a longer contact time could improve lithium extraction.

Three chloride leaching experiments were conducted using varying amounts of NaCl. The NaCl concentrations evaluated were 15, 30, and 50 g/L. For a given experiment, HRI 55330 as-received sample and NaCl solution were added in a 1 liter polyethylene bottle and set on a drum roller rotating at a slow speed to mildly agitate the mixture. Samples at each of the three NaCl levels were removed after 24, 72, and 168 hours. The slurries were filtered, and the filtrates were analyzed. The lithium results for all experiments were reported to be less than 0.005 g/L. These results suggest that lithium is not extracted to any extent at the NaCl levels evaluated.

13.3.7 Bulk Testing

Iconic requested generating technical grade Li_2CO_3 from the as-received sample. For this work, approximately 5 kg of the HRI 55330 as-received material was processed through the acid leaching flowsheet. Additionally, solid-liquid separation work was performed on two slurries produced in the flowsheet: the minus 45 µm slurry from the wet screening operation and the acid leach slurry.

13.3.7.1 Wet Screening Operation

Approximately 5 kg of as-received ore were wet screened through a 325 mesh screen to generate the minus 45 µm material for the acid leaching step. The work was performed in three batches: one 3-kg batch and two 1-kg batches. Screening at 45 µm, 27.7% of the material was plus 45 µm, and 72.3% was minus 45 µm. The resulting underflow slurry (water and minus 45 µm material) weighed 63.8 kg containing 5.67 weight% solids. The specific gravity of the slurry was calculated to be 1.036 grams per milliliter.

The solids did not settle by gravity. The solid-liquid separation work showed that an inorganic additive such as calcium sulfate ($CaSO_4$) or alum produced strong flocculation and rapid settling. The solids were flocculated by adding 243 grams of alum (4 g/L slurry) and 1,824 mL of 1 g/L Hychem NF 301 (0.03 g/L slurry) followed by vacuum filtration. The filter cake had an average moisture content of 60 weight% and contained 2,743 grams of dry solids.

13.3.7.2 Acid Leaching

The filter cake was acid leached in a 15-liter reactor. The leaching conditions were 30 weight% solids, 500 kg acid/t of solids, 80°C, and 4 hours leaching time. The leach residue was filtered and washed with deionized water to reclaim entrained filtrate. The lithium extraction was significantly less than the 90% observed in the bench-scale experiment. Mass balance calculations indicate that only 60% of the lithium was extracted. The low lithium extraction was attributed to insufficient washing of the solids. An analysis of the filtrate showed a free acid content of 11.4 weight% for an acid consumption of 260 kg/t of 45 um feed (187.2 kg/t of whole material feed).

No attempt at quantifying the low lithium recovery was attempted in this phase since the focus was on final product production.

13.3.7.3 Purification

The equipment for purification was the same as that used for the acid leaching. The PIR step was conducted at 80°C, similar to the bench-scale experiment. The acid leach filtrate and wash were combined for the purification work; the weight of filtrate and wash was 8.75 kg. To this liquid, 2.65 kg of 20 weight% $Ca(OH)_2$ were added until the final slurry reached pH 5.46. The time to complete the reaction was 290 minutes. The slurry was filtered to recover filtrate for the SIR stage, and the precipitate was washed with deionized water. The filtrate and wash analyses indicated that 48% of the lithium leached from the feed solids was lost to the precipitate; iron and aluminum concentrations were reduced to 20 ppm and less than 10 ppm, respectively. Although the iron speciation was not determined, some Fe(II) was suspected to be in the PIR filtrate. The high lithium losses in this test were consistent with those seen in the bench-scale tests.

The experimental setup for the SIR stage was the same as all previous systems and was conducted at 70°C. In this step, 8.63 kg of PIR filtrate were treated with 1.4 kg of 50 weight% NaOH to precipitate magnesium and 0.27 kg of 20 weight% Na_2CO_3 solution to precipitate calcium. The final pH was 11.3·

The analytical results of the filtrate indicated the magnesium was less than 5 ppm and the calcium concentration was reduced to 20 ppm. Iron and aluminum were both less than 10 ppm. The lithium concentration in the filtrate was 100 ppm. Approximately 4% of the lithium in the PIR filtrate was lost with the solids. The precipitate was washed with deionized water, dried, and analyzed using XRD, which showed patterns for brucite, calcium carbonate, and calcium hydroxide. After sitting overnight, post-precipitation occurred in the wash. Based on the XRD analysis, the solids produced were calcium carbonate and silicon dioxide.

13.3.7.4 Evaporation

The SIR stage produced approximately 9 liters of filtrate with a lithium concentration of 100 ppm. Evaporation was conducted in a rotary vacuum evaporator at 60°C under sufficient vacuum to induce boiling. A target lithium concentration of 2 g/L after evaporation was selected. About 8.5 liters of water was evaporated to meet the target lithium concentration.

After evaporating 4.5 liters of water, a white crystalline precipitate formed. The precipitate was identified as burkeite ($2Na_2SO_4 \cdot Na_2CO_3$). The evaporation continued to a volume of 0.6 liters. The solution had a milky appearance. Upon cooling, a solid mass resulted. No direct analysis of the mass was performed, but it was suspected to be a mixture of hydrated sodium sulfate salts (i.e., Glauber's salt) and NaOH. The solids were stored in a stainless-steel pan that showed signs of corrosion. The solid mass was melted by warming in a water bath at 45°C. Glauber's salt has a melting point of 32.4°C. As a result of the precipitation events, the goal of producing Li_2CO_3 was not achieved.

13.3.8 Solid-Liquid Separation

Flocculant scoping experiments and Kynch-type settling trials were conducted on two slurry samples: the minus 45 µm slurry (4022-114-3) and the acid leached minus 45 µm slurry (4022-115-3). Both samples were derived from the HRI 55330 sample. The Kynch trials were performed to provide data for estimating the thickener unit area requirements. The trials used a small volume of each slurry produced in bulk batch work. Table 13-14 presents the results of the settling experiments.

The solid-liquid separation work conducted on minus 45 µm unleached solids showed that an inorganic additive such as $CaSO_4$ or alum may be necessary to enable strong flocculation and rapid settling. A nonionic flocculant was effective, albeit in large doses (565 and 824 milligrams [mg] flocculant/kg of dry solids, respectively) in flocculating the treated slurry. Unit area requirements of less than 0.1 square meters per tonnes per day [$m^2/(t/d)$] may be expected with careful attention to additive and flocculant dosing. Conversely, no additive was needed for the acid leached slurry, but the flocculant dose was similar

Table 13-14 Summary of Kynch Settling Data

Hazen ID	Feed Slurry ID	Flocculant		Additive		Feed Slurry, % Solids	Initial Settling Rate, m/h	Terminal Pulp, % Solids	Unit Area Requirement	
		ID	Dosage, mg/kg[a]	ID	Dosage, g/L				% Solids	$m^2/(t/d)$
3284-41	4022-114-3; minus 45 µm slurry	Hychem NF 301[b]	565	$CaSO_4$	5	4.4	1.8	20.7	14.2	0.407
3284-42	4022-114-3; minus 45 µm slurry	Hychem NF 301[b]	824	$CaSO_4$	5	4.1	28	16.5	12.9	0.076
3284-43	4022-114-3; minus 45 µm slurry	Hychem NF 301[b]	715	Alum	2	4.0	2.6	14.2	9.9	0.356
3284-44	4022-115-3; H_2SO_4 leached	Hychem NF 301[b]	750	None	--	8.0	2.5	17.1	14.7	0.157

[a] Dry (100%) flocculant and dry solids basis

[b] Nonionic polyacrylamide

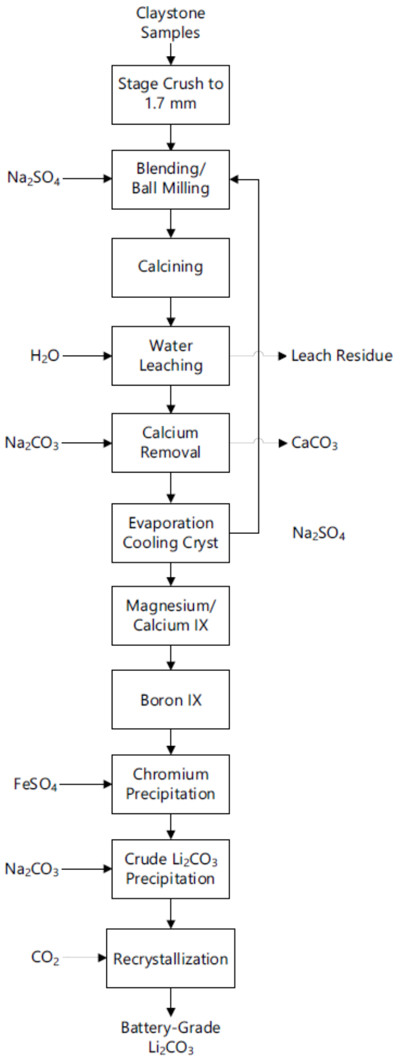
(750 mg/kg of dry solids). To mitigate hindered settling and to achieve unit area values less than $0.1 m^2/(t/d)$, diluting the thickener feed slurry to 4 to 5% solids may be necessary.

Formal filtration testing was not conducted because of the very slow filtration rates exhibited during vacuum filtration of the settled solids. Filtration times often exceeded 1 hour for well-flocculated slurries. More detailed analysis will be required to assess the filtration characteristics of the materials.

13.3.9 Benchtop Lithium Carbonate Production

In late 2022, a bench-scale run-through study was conducted using thermal processing to produce battery-grade lithium carbonate. The process followed the flowsheet in Figure 13-3, using the optimized thermal processing conditions developed from the previous test work. A composite of four samples of claystone material from borehole BC 2001C (HRI 55732-1 through 4) was stage crushed to 1.7 mm, blended with Na_2SO_4 at an 80:20 weight ratio, and ball milled for 5 min. The mixture was then calcined at 850°C for 1 h, followed by water leaching at 70°C. Approximately 70% of the lithium was extracted from the claystone composite.

Figure 13-3: Battery-Grade Lithium Carbonate Flowsheet



This extraction was about 10 percentage points lower compared to the extraction previously reported. A possible reason for the lower lithium extraction result may be scale-up, and the blending of claystone and Na_2SO_4 materials for the calcining operations, in particular. The water leach filtrate was treated with soda ash to remove calcium in solution, followed by evaporation and cooling crystallization to recover Na_2SO_4. Approximately 89% of the Na_2SO_4 in solution was recovered. In a commercial process, the recovered Na_2SO_4 would be recycled and blended with fresh claystone material for calcination. Impurities in the crystallization liquor, following the cooling crystallization step, included 20 ppm Mg, 30 ppm Ca, 60 ppm B and 40 ppm Cr. Magnesium and calcium were removed by ion exchange (IX) using Amberlite 747 resin, and boron was removed by IX using Purolite S108 resin. Chromium was precipitated from solution using ferrous sulfate as the reductant and precipitation agent.

The purified solution was then treated with soda ash at 95°C to precipitate crude Li_2CO_3. However, during the bench-scale run-through study, no precipitation occurred after adding 2.2 times the stoichiometric requirement of soda ash. The solution was carbonated at ambient temperature with 80 psig CO_2 in a 2 L stainless steel autoclave for 2 h. Solids formed in the process were separated by vacuum filtration. The filtrate was then boiled to expel CO_2 and to precipitate Li_2CO_3. Approximately 6 g of Li_2CO_3 was produced meeting the Livent battery-grade Li_2CO_3 specification. Assay results for the material are in Table 13-15. Lithium carbonate purity was 99.9%, calculated as 100 minus the summation of the weight percentages of the impurities measured. Based on the limited amount of Li_2CO_3 produced, the production of lithium hydroxide and battery-grade lithium hydroxide monohydrate was not pursued for this sample.

Table 13-15 Battery-Grade Lithium Carbonate Specifications and Assays for Lithium Carbonate Sample 4063-119-3

	Concentration									
Description	**Li_2C0_3, wt%**	**Na, wt%**	**Ca, wt%**	**Fe, ppm**	**Al, ppm**	**Cu, ppm**	**Ni, ppm**	**Zn, ppm**	**SO_4^{2-}, wt%**	**Cl-, wt%**
Livent battery specification	99.5	0.05	0.04	5	10	5	6	5	0.1	0.01
Li_2C0_3 solids, sample ID 4063-119-3	99.9	0.048	0.004	<0.1	<0.1	<0.1	<0.1	<0.1	0.004	0.002

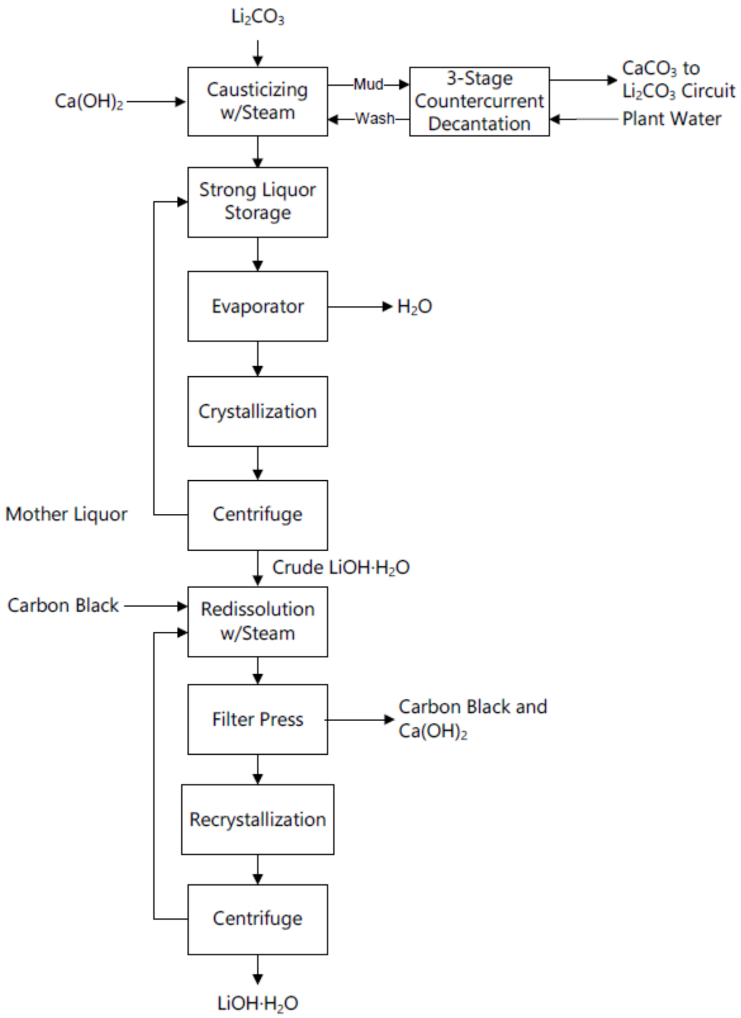
ppm = parts per million, i.e., mg/kg

Photo 13-1: Photograph of Battery-Grade Lithium Carbonate Sample (4063-119-3), Sample Spread over Approximately 1 in. Diameter

13.3.10 Benchtop Lithium Hydroxide Production

In May 2023, a 300 kg claystone run-through study was conducted using a combination of thermal and hydrometallurgical processes to produce a leachable lithium sulfate solution for the production of battery-grade lithium carbonate and lithium hydroxide monohydrate. The lithium carbonate process followed the flowsheet in Figure 13-3 using the optimized process conditions similar to previous test work. Lithium hydroxide was produced using the flowsheet shown in Figure 13-4. A composite of four claystone materials from bore holes BC2202C, BC2203C, BC2204C, and BC2205C was stage crushed and blended. The composite material, identified as HRI 55943, had a lithium grade of 2,030 mg/kg.

Figure 13-4: Battery-Grade Lithium Hydroxide Flowsheet



The composite was blended with anhydrous sodium sulfate and ball milled. The mixture was then calcined in a continuous rotary kiln followed by continuous water leaching. The resulting lithium extraction was 61% which was lower than the 71% extraction seen in the 30 kg run-through.

The water leach filtrate was treated with soda ash to remove calcium in solution followed by evaporation and cooling crystallization to recover sodium sulfate. Approximately 40% of the sodium sulfate in solution was recovered in the process. Boron in the liquor was removed by ion exchange (IX) and chromium was precipitated using ferrous sulfate. Additional cooling crystallization and evaporation was required to decrease the sodium tenor and increase the lithium tenor of the purified brine for the lithium carbonate precipitation step. After the second cooling crystallization, a total of about 75% of the sodium sulfate added for the calcining step was recovered.

The purified solution was then treated with soda ash to precipitate crude lithium carbonate, followed by the bicarbonate process to produce battery-grade lithium carbonate. The material met the Livent specification for battery-grade lithium carbonate. Production of lithium hydroxide monohydrate consisted of three steps: conversion of lithium carbonate to lithium hydroxide using reagent grade or high purity calcium hydroxide, evaporation and crystallization of lithium hydroxide monohydrate, and recrystallization of lithium hydroxide monohydrate to improve purity. The lithium hydroxide process was attempted four times. Due to contamination issues, none of the attempts passed the Livent lithium hydroxide specifications, as shown in Table 13-16.

Table 13-16:Lithium Hydroxide Product Assays and Livent Specifications

Analytes	Livent Specification	Sample ID					
		4114-12-1	4114-13-1	4114-14-1	4114-15-1	4114-16-1	4114-17-1
LiOH, min wt%[a]	56.5	na	na	na	na	na	na
CO2, wt%	0.35	na	na	na	na	na	na
Cl, wt%	0.002	na	na	na	na	na	na
SO4, wt%	0.010	0.06	0.009	0.105	0.006	0.006	<0.003
Ca, ppm	15	<4.5	<4.5	<4.5	<4.5	46	993
Fe, ppm	5	<6	<6	<6	<6	65	230
Na, ppm	20	260	420	21,700	1570	360	410
Al, ppm	10	52	48	47	47	72	4,940
Cr, ppm	5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Cu, ppm	5	<2.5	<2.5	3.0	<2.5	5	5
K, ppm	10	910	1,050	1,250	1,060	160	80
Ni, ppm	10	21	9	6	4	<3.5	9
Si, ppm	30	na	na	na	na	na	na
Zn, ppm	10	16	12	49	14	4	1,040
Pb, ppm	10	<3	<3	<3	<3	<3	11
Acid insoluble, wt%	0.010	na	na	na	na	na	na

[a] Calculated as 100 minus impurity concentrations
ppm = weight parts per million, i.e., mg/kg
na = not analyzed

13.4 Test Work – Lower Deposit

13.4.1 Chemical And Mineralogical Analyses

The head assay split samples were analyzed using inductive coupled plasma–optical emission spectroscopy (ICP–OES) and total carbon and sulfur by LECO analysis. A summary of the head sample analyses is shown in Table 13-17. The HRI 56069 material was also analyzed using XRD, results are summarized in Table 13-18. The sample had major phases of searlesite, K-feldspar, and muscovite with plagioclase, analcime, and calcite as subordinate phases. The most prominent mineral was searlesite at about 38%.

13.4.2 Size By Size Analysis

A 400 g sample of the as-received material was submitted for size-by-size analysis to access the particle size and mineral distributions (Table 13-19). On a mass basis, 55% of the material reported to the minus 10 µm fraction and 30% to the plus 150µm fraction. Approximately 90% of the minus 10 µm fraction is less than 5.7 µm in size, with 50% less than 2.7 µm. Overall, the sample exhibits an extremely fine PSD, with a D_{70} of 3.7 µm and a D_{40} of 2.2 µm. Searlesite is seen in all size fractions ranging between 20 and 45%, indicating searlesite cannot be effectively removed by screening.

Table 13-17 Chemical Analysis of HRI 56069 Claystone Sample

Analyte	Assay, wt%
Al	3.73
B	1.97
Ba	0.027
Ca	2.38
Fe	1.25
K	3.47
Li	0.468
Mg	1.16
Mn	0.032
Na	6.55
P	0.012
Sr	0.168
Ti	0.125
V	0.005
Zn	0.005
Zr	0.006
Total S	0.21
Total C	0.954

Table 13-18. Mineral Distributions for HRI 56069 Sample

Phase ID	Approximate Chemical Formula	Mass%
		Head
Quartz	SiO_2	trace
K-feldspar (Sanidine)	$(K,Na)(Si,Al)_4O_8$	23.2
Plagioclase (Albite)	$NaAlSi_3O_8$	5.1
Mica (Muscovite)	$KAl_2(Si_3Al)O_{10}(OH,F)_2$	20.3
Analcime	$NaAlSi_2O_6 \bullet (H_2O)$	6.8
Amphibole (Hornblende)	$Ca_2[Mg_4(Al,Fe)]Si_7AlO_{22}(OH)_2$	0.1
Searlesite	$NaBSi_2O_5(OH)_2$	38.2
Calcite	$CaCO_3$	6.3

Note: All mineral constituents are normalized to 100%
Trace = identified by not quantifiable.

Table 13-19: Quantitative XRD Results of the HRI 56069 Head and Size Fractions

Phase ID	Approximate Mineral Composition	Mass%							
		Head (Meas.)	Head (Calc.)	Plus 150	150 x 75	75 x 38	38 x 25	25 x 10	Minus 10
		µm							
	Mass%	100.0	100.0	29.7	4.5	4.1	1.7	4.4	55.6
Quartz	SiO_2	Trace	Trace	Trace	Trace	Trace	0.1	Trace	Trace
K-feldspar (Microcline/Sanidine)	$KAlSi_3O_8/(K,Na)AlSi_3O_8$	21.8	24.9	15.2	17.5	22.7	22.7	31.3	30.3
Plagioclase (Albite)	$NaAlSi_3O_8$	5.1	4.8	1.9	4.2	8.2	12.8	12.0	5.4
Mica (Muscovite)	$KAl_2(Si_3Al)O_{10}(OH,F)_2$	17.1	13.8	8.2	7.4	7.9	10.2	7.3	18.3
Analcime	$NaAlSi_2O_6\cdot(H_2O)$	6.7	6.7	7.1	6.5	7.5	12.0	21.3	5.2
Amphibole (Hornblende)	$Ca_2[Mg_4(Al,Fe)]Si_7AlO_{22}(OH)_2$	Trace	0.1	Trace	0.2	0.9	1.2	0.4	Trace
Searlesite	$Na(H_2BSi_2O_7)$	41.9	41.0	45.5	45.3	41.2	33.1	20.4	40.2
Calcite	$CaCO_3$	7.4	8.7	22.1	18.9	11.6	7.9	7.4	0.7
	Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Crystalline phases are normalized to 100%.

Note: nd means not detected. Trace means identified by not quantifiable.

Elemental analysis of the size fractions was performed using x-ray fluorescence (XRF) for most elements, ICP–OES for boron and lithium, and Carbon-Hydrogen-Nitrogen analysis for carbon. Assays and elemental distributions are in Table 13-20. The plus 150 μm and minus 10 μm size fractions are the more interesting for discussion. The distribution results show approximately 70% of the calcium and carbon, mainly as $CaCO_3$, concentrate in the plus 150 μm fraction. Lithium, iron, potassium, and magnesium have similar distributions with approximately 18-21% in the plus 150 μm fraction and 69-73% in the minus 10 μm fraction. Specifically, 73% of the lithium was in the minus 10 μm fraction. Boron distribution shows 36% in the plus 150 μm fraction and 50% in the minus 10 μm fraction.

Table 13-20: Assays and Elemental Distribution by Size Fraction

Size Fractions, μm	+150	-150/75	-75/38	-38/25	-25/10	-10
Mass %	29.7	4.5	4.1	1.7	4.4	55.6
Element	Assays, wt%					
Al	2.65	3.02	4.29	4.97	6.72	4.29
B	2.52	2.56	2.33	1.99	1.20	1.91
C	2.97	2.52	1.57	1.40	1.29	0.27
Ca	9.43	8.15	5.15	4.36	3.72	0.500
Fe	0.909	0.839	0.979	1.05	1.05	1.68
K	2.32	2.41	3.15	3.49	4.15	4.65
Li	0.034	0.025	0.023	0.023	0.013	0.064
Mg	0.663	0.543	0.663	0.663	0.543	1.39
Na	4.82	5.19	5.27	5.05	4.75	4.45
S	0.120	0.120	0.120	0.120	0.080	0.120
Si	19.6	21.3	23.8	24.1	24.4	25.9
Element	Distribution, %					
Al	20.4	3.52	4.55	2.19	7.66	61.7
B	35.5	5.47	4.53	1.61	2.51	50.4
C	68.4	8.79	4.99	1.84	4.40	11.6
Ca	71.9	9.41	5.42	1.90	4.20	7.14
Fe	20.1	2.81	2.98	1.33	3.43	69.4
K	18.4	2.89	3.44	1.58	4.86	68.8
Li	20.7	2.31	1.94	0.80	1.17	73.0
Mg	18.7	2.32	2.58	1.07	2.26	73.1
Na	30.8	5.02	4.64	1.84	4.49	53.2
S	30.1	4.57	4.16	1.73	2.98	56.4
Si	24.6	4.05	4.12	1.73	4.55	61.0

13.4.3 Calcining And Water Leaching

The proposed work was mimic the conditions utilized on the original samples; blend the claystone material with Na_2SO_4 at an 80:20 weight ratio and calcine the material at 850°C. The calcined material would then be water leached to determine lithium extraction. Descriptions of the equipment and procedures are provided below.

13.4.4 Calcination Equipment And Procedure

The calcining work is performed in a 177.8-mm (7-inch) diameter by 749.3-mm (29.5-inch) long quartz glass kiln. The inlet arm is 304.8 mm (12 inches) long and 50 mm in diameter, with a 75/50-mm ball joint on the end. The outlet arm is 381 mm (15 inches) long and 50 mm in diameter, with a 75/50 mm ball joint on the end. The overall length is about 1,625.6 mm (64 inches). Four rows of lifters are pressed into the sidewall to aid in mixing and tumbling the feed. A direct current (DC) motor and sprocket assembly are used to rotate the kiln, and a DC motor controller is used to control the rotational speed. The kiln is supported at each end by a bearing block assembly, and the rotary joints are made with glass-to-quartz ball-and-socket fittings.

The quartz kiln is housed within an Applied Test Systems (ATS) Series 3210 split-shell furnace rated for 1,050°C service. The furnace heating elements are divided into three independently controlled zones: inlet, middle, and outlet. The furnace temperatures are controlled by an ATS Series 2404 three-zone programmable temperature control system. The furnace has Type K control thermocouples that are located just outside the wall of the heating elements. Another Type K thermocouple is inserted into the kiln (through the inlet end), to measure the burden temperature. A data acquisition system continuously records the temperature data.

A mass flow controller is used to meter the sweep gas (air) into the kiln system at approximately 5 standard L/min. Process gas from the kiln is directed to a set of chilled condensers to remove any moisture evolved from the mixture (as shown). Continuous emissions monitors measure the concentrations of oxygen, CO_2, carbon monoxide, sulfur dioxide, nitrogen oxides, and total hydrocarbon in the process gases. Selected data are continuously recorded by a data acquisition system. After the condensers, the gas passes through a caustic bubbler to remove a portion of the acidic gases generated in the process and to provide back pressure to the kiln system. An electrostatic precipitator is placed downstream of the bubbler to remove aerosol (such as sulfur trioxide) in the gas stream. A photograph of a typical configuration is in Figure 13-5. Figure 13-6 shows the process flow diagram of the batch kiln system.

Figure 13-5: Batch Rotary Kiln System (7 in.)

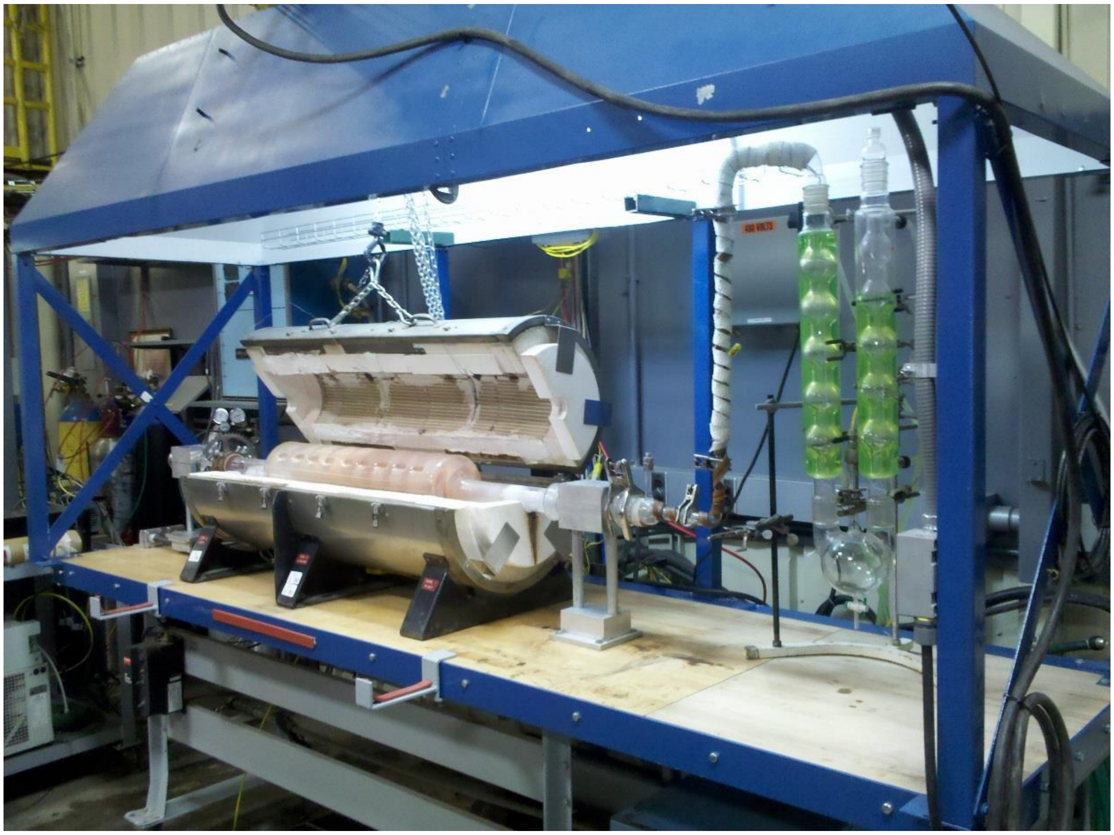
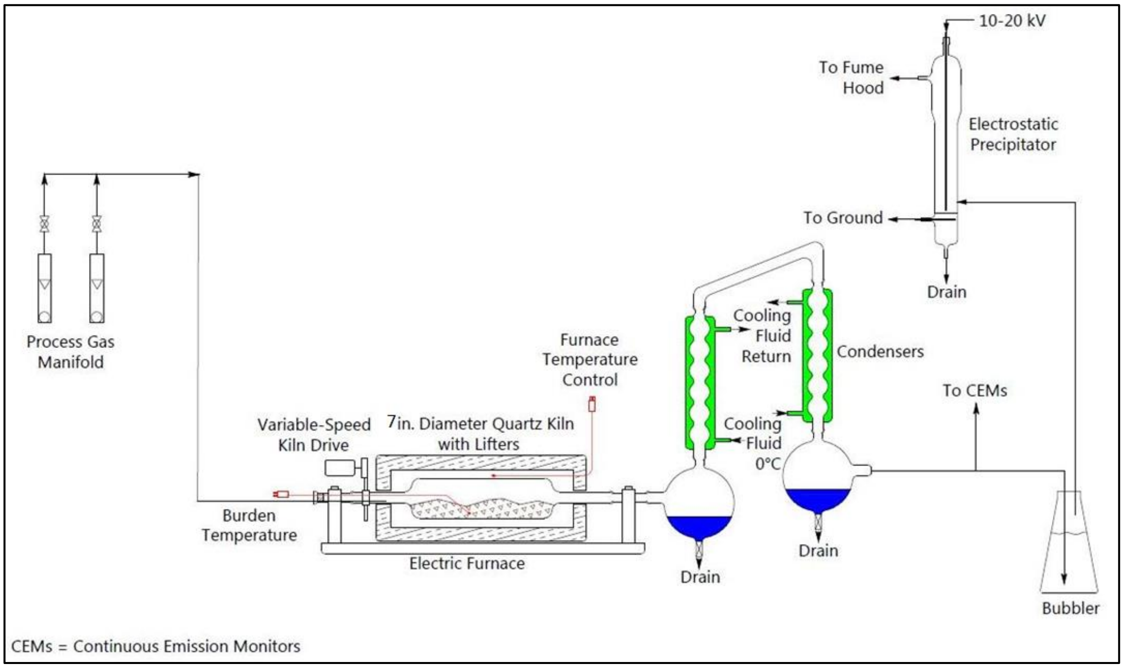


Figure 13-6: Batch Kiln System Process Flow Diagram



The calcining work is initiated by charging the kiln with approximately 1 kg of claystone/Na_2SO_4 mixture and weighing the kiln and contents. The kiln is then placed in the furnace and heated to 850°C with air sweep gas. When the bed temperature is within 5°C of target, the 2 h retention time would be started. At the end of the experiment, the kiln contents are cooled and weighed. Weight of the condensed water collected in the vapor recovery system is reported for mass balance purposes.

13.4.5 Water Leaching Equipment and Procedure

The equipment setup for water leaching is depicted in Figure 13-4. The equipment consists of a 15-gallon polyethylene tank equipped with baffles, an overhead mixer, temperature controller, steam coil, and thermocouple. Although water leaching was not performed, it was intended to contact the calcined solids with deionized water at approximately 30% pulp density and leached at 70°C for 120 min. At the end of the leach, the contents of the tank would then be vacuum filtered, and solids washed with three displacements of deionized water, dried, and prepared for analysis. The calcine head sample, water leach primary filtrate, wash liquors, and leach residue would be analyzed for the following:

- Lithium
- Potassium
- Manganese
- Sodium
- Calcium
- Iron
- Magnesium
- Strontium
- Aluminum

Figure 13-7: Water Leaching Setup

13.4.6 Batch Calcination

It was intended to calcine the claystone/Na_2SO_4 mixture in 16 batches using a 7 in. diameter batch rotary quartz kiln. This equipment and procedure have been used on previous Bonnie Claire materials without issues. However, in the initial run, the claystone/Na_2SO_4 mixture fused to the wall of the kiln. Upon cooling, the kiln severely cracked and collapsed as shown in Figure 13-8. The fused material was extremely hard with a top layer having a glassy appearance.

Figure 13-8: Photograph of Batch Kiln after Calcination

13.4.7 Thermogravimetric Analysis

Thermogravimetric analysis with differential scanning calorimetry (TGA–DSC) was used to examine the structural change of the HRI 56069 sample at elevated temperatures. The sample was heated to 850°C at a rate of 5°C/min. A sharp endotherm with a small weight loss as the sample was heated to 100°C. The weight loss was likely due to the loss of free water associated with the sample. A noticeable exothermic reaction is noted between 150 and 320°C with very little weight change; this reaction could be a phase change in some of the minerals. At approximately 320°C, an endothermic change with corresponding weight loss was observed. The trough of the change occurred at about 400°C. The US Geological Survey performed differential thermal analysis on selected borate mineral, which included searlesite (Robert, 1957). Data for searlesite showed an initial endothermic temperature of 350°C with a trough temperature of 450°C. A comparison of these data suggests that the endotherm seen is related to the loss of hydroxyl groups with searlesite. A stronger endotherm with weight loss starts at 400°C with the trough at 683°C. The weight loss may be attributed to the dehydroxylation of muscovite and analcime, and the decomposition of calcite which can occur between 700 and 750°C in the presence of alkali salts (Chattaraj, et al., 1973).

Dehydroxylation of searlesite yields B-jadeite by Reaction 1. B-jadeite is a sodium borosilicate along with milinkoite ($NaBSiO_4$) and reedmergnerite ($NaBSi_3O_8$).

$$NaBSi_2O_5(OH)_2 = NaBSi_2O_6 + H_2O \qquad \text{Reaction 1}$$

Marciala and McCloy studied the crystallization of silicate glasses, one group of glasses was sodium borosilicates (2019). They found none of these sodium borosilicate phases crystallized upon cooling from melts but remained amorphous.

13.4.8 Muffle Furnace Experiment

An experiment was conducted to observe the melting temperature of the as-received claystone material. A sample of claystone was charged to a ceramic boat and heated to temperatures of 600, 650, 680, 700, 750, 800, and 820°C for 30 min. The claystone charge originally had a conical shape in the boat and had a grey coloration. At a temperature of 650°C, the material began to slump and took on a brownish coloration. Globules were seen at the edges of the pile at 750°C. Many more globules were seen throughout the pile at 800°C and the material had a glossy appearance. Selected photographs of the material are shown in Figure 13-9. After heating to 820°C, the boat was removed from the furnace to cool. The material solidified and could not be removed from the boat.

Figure 13-9. Photographs of Heated As-Received Claystone

Temperature 600°C

Temperature 750°C

Temperature 800°C

13.4.9 Bench Calcining and Water Leaching Of As-Received Material

Calcining of an 80:20 blend of as-received material with Na_2SO_4 was investigated at bench scale. From the previous muffle furnace experiments, the maximum temperature before severe fusing occurs is about 700°C. The lithium extraction was determined in experiments conducted at calcining temperatures of 680 and 700°C. Water leaching results showed 12% lithium extraction at 680°C and 13% at 700°C. The leach residue from the 700°C experiment was pulverized for 30 s in a ring and puck and leached a second time. Additional lithium extraction was only 1%, indicating that particle size or encapsulation was not a significant factor to explain the low lithium extraction.

13.4.10 Dilute Acid Leaching and Boric Acid Production

Methods for removing searlesite from the claystone material were discussed with the technical group. The lower zone of the Bonnie Claire property is similar to the Rhyolite Ridge Lithium-Boron project in Esmeralda County, Nevada. The Rhyolite Ridge deposit contains both lithium and boron due to the presence of both lithium-containing smectite-illite clays and extremely fine searlesite crystals. In the Rhyolite Ridge flowsheet, the ore is blended, crushed, and leached with dilute sulfuric acid at 60°C (Iyer, et al., 2023). The pregnant leach solution (PLS) saturated with boron is cooled to 15°C to crystallize boric acid. This approach was investigated in bench scale experiments with the Bonnie Claire claystone material.

13.4.11 Dilute Acid Leaching Experiments

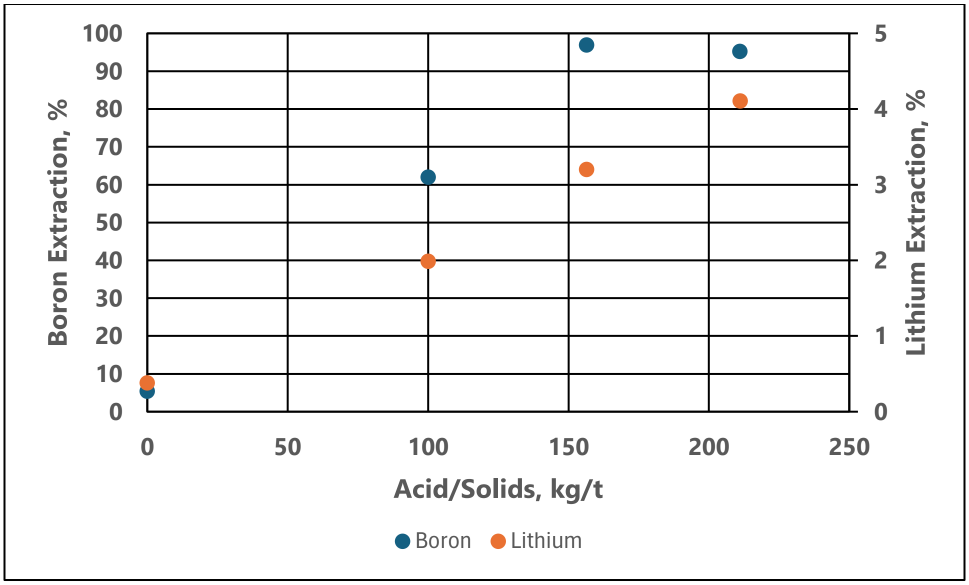
A water leach and two dilute acid experiments were conducted to leach searlesite from the as-received claystone material. Note: Experiment 4114-24 was done with two acid doses. The set up for an experiment consisted of a 2 L resin kettle equipped with an agitator and motor, thermocouple, heating mantle and controller, water cooled condenser, and pH probe. Either water or a prepared sulfuric acid solution was charged to the resin kettle and heated to the target temperature. The claystone material was then added to the kettle at the prescribed pulp density and allowed to react; 120 minutes (min) for water leaching and 60 min for acid leaching. At the end of the experiments, the final slurry was filtered, and the solids washed with deionized water. Filtrates, washes, and solids were analyzed using ICP–OES. The conditions and results of the experiments are summarized in Table 13-21. Figure 13-10 shows the lithium and boron extractions as a function of sulfuric acid addition. The data showed dilute acid leaching is effective for boron leaching with minimal leaching of lithium. Boron extractions at acid/solid ratios of 156 and 211 kg/t were 97% and 95%, respectively. In addition, the 211 kg acid/t leaching conditions had higher levels of iron and aluminum in solution.

Table 13-21. Water and Dilute Acid Leaching Conditions and Results

Experiment ID	Acid/Solids, kg/t	Initial Pulp Density, %	Temp, °C	Final pH	Extraction[a], %			
					Li	B	Fe	Al
4114-20	0	10.1	70	9.02	0.38	5.39	0.28	0.09
4114-22	100	8.9	50	5.43	1.99	62.0	0.0	0.0
4114-24a	156	9.0	50	2.08	3.20	96.9	17.2	2.48
4114-24b	211	9.0	50	1.57	4.10	95.2	19.6	5.41

[a] Extractions on a calculated head basis

Figure 13-10. Lithium and Boron Extractions with Dilute Sulfuric Acid



The 4114-24 acid leached residue was analyzed using XRD to determine whether searlesite survived acid leaching. The composition of the residue is in Table 13-22. Analysis of the head sample is included for comparison. Searlesite was not identified in the leach residue, the only boron species detected was sodium boron sulfate ($Na_5B(SO_4)_4$).

Table 13-22. Dilute Acid Leach Residue XRD Results

Phase ID	Approximate Chemical Formula	Mass%	
		Head	Leach Residue
K-feldspar (Sanidine)	$(K,Na)AlSi_3O_8$	23.2	33.5
Plagioclase (Albite)	$NaAlSi_3O_8$	5.1	17.4
Mica (Muscovite)	$KAl_2(Si_3Al)O_{10}(OH,F)_2$	20.3	6.4
Analcime	$NaAlSi_2O_6\cdot(H_2O)$	6.8	4.7
Amphibole (Hornblende)	$Ca_2[Mg_4(Al,Fe)]Si_7AlO_{22}(OH)_2$	0.1	0.6
Searlesite	$NaBSi_2O_5(OH)_2$	38.2	nd
Calcite	$CaCO_3$	6.3	4.9
Bassanite	$2CaSO_4\cdot(H_2O)$	nd	5.0

Phase ID	Approximate Chemical Formula	Mass%	
		Head	Leach Residue
Gypsum	$CaSO_4 \cdot 2(H_2O)$	nd	0.1
Sodium Boron Sulfate	$Na_5B(SO4)_4$	nd	11.6
Calcium Aluminum Oxide Sulfate	$Ca_4Al_6O_{12}(SO_4)$	nd	15.8

Note: All mineral constitutes are normalized to 100%.
nd = not detected

13.4.12 Dilute Acid Leach Residue Calcination

Calcining temperature plays a beneficial role in kinetics but can be detrimental with regards to melting and fusing of mineral species. The optimal temperature would yield high lithium extraction while minimizing melting and fusing of the material. Two sulfate reagents have been used in previous work with Nevada Lithium: sodium sulfate and gypsum. The calcining temperature is limited to about 850°C using Na_2SO_4 as its melting point is 884°C. Although waters of hydration with gypsum are removed at 170°C, the melting point for $CaSO_4$ is sustainable higher at 1,460°C. Experiments were conducted using Na_2SO_4 and gypsum as sulfate additives.

13.4.13 Calcination Using Sodium Sulfate Additive (Experiment 4114-27)

The leach residue from Experiment 4114-24 was used in thermal experiments to determine if the material could withstand high temperature without agglomeration. Approximately 160 g of leach residue was generated in the experiment. As shown in Table 13-21, the leach residue contains four sulfate species: bassanite, gypsum, sodium boron sulfate, and calcium aluminum oxide sulfate. It was thought these species may serve as sulfate sources for the calcining process. To test the idea, 45 g of leach residue was calcined at 850°C for 1 h and water leached. At the same time, another 45 g of leach residue was mixed with Na_2SO_4 at the 80:20 ratio, calcined at 850°C for 1 h, and water leached. Experiments were done in a muffle furnace. Both calcines were friable and easy to remove from the calcining boats. Calcining the leach residue without Na_2SO_4 only had a lithium extraction of 3.5%, hence the sulfate species in the leach residue were not sufficient for the calcining process. Mixing Na_2SO_4 with the leach residue had a beneficial effect and had a lithium extraction of 58%.

13.4.14 Calcination Using Gypsum Additive (Experiment 4114-36)

Experiment 4114-31 produced 1,250 g of acid leach residue for addition test work. For Experiment 4114-36, the residue was split and mixed with gypsum at the weight ratio 73:27. Calcining experiments were conducted at 850 and 900°C for 1 h, and water leached. Both calcines were friable and easy to remove from the calcining boats. The lithium extractions were 38% at 850°C and 40% at 900°C. Residual boron with the leach residue limited the calcination temperature to 900°C as some degree of fusing was noted. Fusing may have contributed to the low extraction by encapsulating the particles and limiting the effectiveness of the calcining and water leaching processes.

13.4.15 Boric Acid Production (Experiment 4114-30)

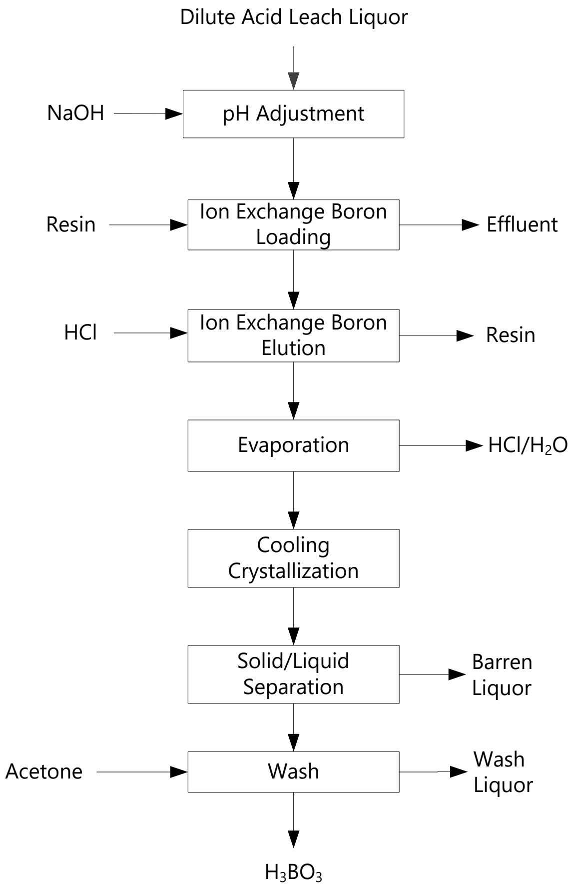
The PLS from Experiment 4114-24 was used to determine the feasibility of making boric acid as a secondary product. The process is described by the following steps:

- Adjusting the PLS to pH 4.7 with NaOH

- Adsorbing boron from the PLS onto Purolite ion exchange resin S108
- Eluting the loaded boron from the resin with 4 wt% HCl
- Evaporating the eluate to boron saturation
- Cooling the evaporated eluate to crystallize boric acid
- Washing the boric acid crystals with acetone.

The process flowsheet for preparation of boric acid is in Figure 13-11. Samples of the boric acid were analyzed using XRD and chemical analysis for boron using ICP–OES. The chemical analysis showed a boron concentration of 17.5%, which is the theoretical boron concentration of boric acid. X-ray diffraction confirmed the crystals were boric acid.

Figure 13-11. Boric Acid Flowsheet



13.4.16 High Acid Leaching

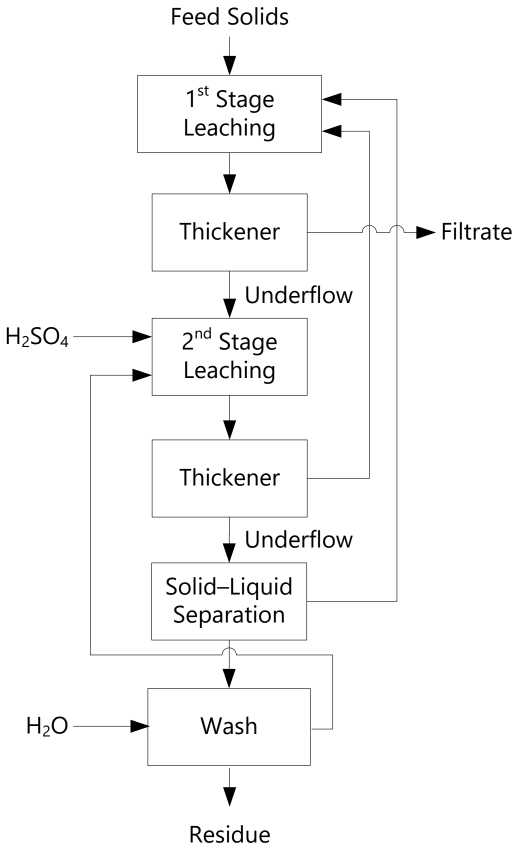
The low lithium extractions using the dilute acid leaching approach spawned interest in leaching at higher acid concentrations. Experiments were carried out at 500 and 600 kg acid/t solids ratios. Leaching conditions and results are summarized in Table 13-23. Lithium extractions using 500 and 600 kg acid/t were 78 and 97%, respectively, indicating a high acid/solid ratio is needed for efficient leaching.

Table 13-23. High Acid Leaching Conditions and Results

Conditions	Experiment ID	
	4114-28	**4114-38**
Acid/solids ratio, kg/t	500	600
Pulp density, %	30	30.5
Temperature, °C	80	70
Leaching time, min	240	303
Extractions, %		
Lithium	78	97
Sodium	95	94
Magnesium	81	91
Potassium	34	40
Calcium	5	5
Iron	74	85
Aluminum	39	44
Boron	95	93
Free acid, as H_2SO_4	na	11
Acid consumption, kg/t	nc	352

The acid consumption for Experiment 4114-38 was 352 kg H_2SO_4/t, meaning about 40% of the acid was not utilized in a single stage leach. Similar results were seen in previous work (Hazen project 12756). Two-stage countercurrent leaching would be an option to reduce the free acid concentration as well as increase the lithium tenor of the leach liquor. An example of a countercurrent leaching flowsheet is in Figure 13-12. In the circuit, feed solids are contacted with Stage 2 leach liquor to utilize the free acid. The Stage 1 slurry is thickened to recover the product filtrate. The thickener underflow proceeds to Stage 2 leaching where fresh sulfuric acid is added. The Stage 2 slurry is then thickened to recover the filtrate for recycling to Stage 1. The thickener underflow is pressure filtered to reclaim additional liquor for recycling to Stage 1. The Stage 2 solids are washed to recover entrained liquor, the wash is recycled to Stage 2 leaching.

Figure 13-12: Countercurrent Leaching Flowsheet



13.4.17 Two-Stage Acid Leaching

The dilute acid leaching work showed promise for boron leaching, however the boron remaining with the leach residue still caused fusing issues during calcination. In discussions with the technical team, it was decided the thermal treatment of the lower zone material may not be the appropriate route for lithium extraction. A set of experiments was undertaken to investigate a two-stage leaching process. The first stage is a dilute acid leaching process whereby the high boron leach liquor is processed to recover boric acid. The dilute acid leach residue is then leached at a higher acid/solid ratio for extraction of lithium.

13.4.18 Operations And Results

The conditions for the first stage acid leaching (Experiment 4114-31) were taken from Experiment 4114-24 where minus 10 mesh as-received material was leached with sulfuric acid at acid/solid ratios of 156 and 211 kg/t. For the current work, the first stage used an acid/solid ratio of 160 kg/t to leach minus 10 mesh as-received material at 20% pulp density for 60 min and 50°C. Following solid/liquid separation, the leach residue was washed and advanced to the second stage. Conditions for the second stage leach (Experiment 4114-37) were a pulp density of 30%, an acid/solid ratio of 500 kg/t, 270 min leaching time at 70°C. Analytical data and mass balances for the experiments are in Appendix G of Hazen 2024b. Table 13-24 summarizes the leaching conditions and mass balance results.

The first stage leached 95% of the boron and 49% of the remaining boron was leached in the second stage. The overall boron extraction was 98%. The final leach residue had a boron concentration of 0.096 wt%. Approximately 5% of the lithium was leached in the first stage, with the majority being leached in the second stage. Overall, the lithium extraction was 97%. The second stage filtrate had a lithium concentration of 0.201 wt% (2.4 g/L SG 1.200). The free acid concentration of the second stage filtrate was high at 10.5% (as H_2SO_4) and suggests that countercurrent leaching may be needed for better acid utilization.

There may not be a benefit to a two-stage leach unless boron recovery from solution in the presence of high lithium is an issue. A single stage leach has the advantage of requiring less solid/liquid separation stages.

Table 13-24: Two-Stage Acid Leaching Conditions and Mass Balance Results

Experiment ID	4114-31	4114-37	Combined
Leaching conditions			
Batch IDs	Stage 1	Stage 2	
Target temperature, °C	50	70	
Acid/solid ratio, kg/t	160	500	
Percent Solids, wt%	20	30	
Feeds, g			
Feed solids	751.33	628.28	
Deionized water	2875.37	1140.11	
Sulfuric acid	124.37	325.79	
Wash water	1651.74	1519.10	
Feed Solids Analysis, wt%			
Li	0.442	0.495	
Na	5.79	0.945	
Mg	1.08	1.23	
S	0.210	0.7	
K	3.23	3.74	
Ca	3.42	3.79	
Fe	1.17	1.14	
Al	3.40	3.91	
Si	na	na	
B	2.38	0.138	
Products, g			
Slurry	3736.72	2081.24	
Filtrate	2641.58	941.76	
Wash	1628.33	1576.38	
Wet solids	972.76	964.18	
Dry solids	628.28	536.89	
Moisture, %	35.41	44.32	
Filtrate Analysis, wt%			
Li	0.005	0.201	
Na	1.31	0.271	
Mg	0.007	0.476	
S	1.20	5.95	

Experiment ID	4114-31	4114-37	Combined
K	0.007	0.657	
Ca	0.050	0.035	
Fe	0.056	0.401	
Al	0.029	0.722	
Si	0.018	0.004	
B	0.498	0.032	
Density, g/mL	1.049	1.200	
Solution pH/free acid	1.78	10.5	
Solids Analysis, wt%			
Li	0.495	0.014	
Na	0.945	0.409	
Mg	1.23	0.114	
S	0.7	3.54	
K	3.74	2.68	
Ca	3.79	4.16	
Fe	1.14	0.205	
Al	3.91	2.68	
Si	na	na	
B	0.138	0.096	
Distribution to Liquids, %			
Li	5	98	97
Na	87	64	96
Mg	3	92	91
S	89	82	84
K	1	41	42
Ca	8	4	12
Fe	18	85	87
Al	3	42	45
Si	nc	nc	nc
B	95	49	98
Mass and Elemental Balances (out/in), %			
Mass	97	96	97
Li	98	99	97
Na	106	104	106
Mg	98	99	97
S	100	100	100
K	98	103	101
Ca	100	98	99
Fe	99	100	99
Al	99	102	101
Si	nc	nc	nc
B	93	116	94

na = not analyzed
nc = not calculated

13.5 Alternative Lithium Recovery Processes

Recently, a significant interest has been directed towards the use of membranes to enhance the recovery of lithium from acid leach solutions. Membranes are designed to allow the selective passage of elements across the membrane surface to enrich the permeate or the retentate, depending on the system. Membranes have yet to be commercially applied for the lithium industry, but there may be significant upside in terms of solution enrichment and reduced solution losses.

At this stage, no investigation has been undertaken into alternative purification systems. The basic flowsheet involves the following unit operations:

- Ultrafiltration (0.04 µm) – All fine particulate (0.04 µm and coarser) are removed and returned to leach.
- Nanofiltration (0.0008 µm) – A lithium/sulfuric acid permeate is formed. The retentate contains Ca, Mg, and rare earth elements among others.
- Acid Reverse Osmosis (0.0005 µm) – A clean sulfuric acid permeate is formed that is recycled to leach along with the majority of the water. Approximately 60% to 70% of the available free sulfuric acid is recovered. A high -grade lithium retentate solution is produced for downstream lithium recovery.
- Ion Exchange – A divalent ion exchange is completed to remove all residual divalent ions (calcium, magnesium, strontium). The ion exchange strip solution is returned to leach for water and lithium recycle. The final process solution becomes the feed to lithium precipitation.
- Precipitation – Lithium precipitation is completed using sodium carbonate to create a battery grade lithium carbonate. All solutions are recycled back through an evaporator and ion exchange to optimize lithium recovery.
- Rare Earth and Magnesium Recovery – The nanofiltration retentate can be further processed for REE recovery and recovery of Mg. No rare earth analysis has been conducted on the Bonnie Claire materials.

13.6 Sodium and Potassium Recovery

No test work has been completed on additional product recovery from the leach solution for sodium and potassium. Glauber’s Salt recovery was tested and shown to be effective, but Glasserite (potassium sulfate) and other products have not been fully investigated.

13.7 Conclusions and Interpretation

The following are conclusions and interpretations of the metallurgical work:

- The final selection of the processing route will depend heavily on the ultimate mine plan. The upper and lower deposits have differing mineralogy specifically related to the boron concentration. Thermal treatment was successfully exploited for the upper deposit which has a lower concentration of searlesite (boron). Acid leaching was successful for both the upper and lower deposits in terms of lithium extraction but has the drawback of higher impurity loads for downstream removal. The upper material also the advantage of size segregation allowing a large portion of the acid consuming calcite to be rejected.

- Thermal treatment includes calcination of the material with the addition of sodium sulfate followed by hot water leaching. High lithium extractions (up to 80%) were achieved from the upper deposit. Significant optimization potential exists through additional test work.
- The thermal leach liquors are easier to treat (compared to the acid treatment approach) in the solution purification system because less deleterious impurities are solubilized. The lithium can be readily recovered from the leach solutions using conventional commercial processes.
- The single-stage acid leach demonstrated that the lithium and boron in the sediments is readily soluble in a strong sulfuric acid solution, achieving extractions of up to 97% and 95% respectively at 350 kg/t of sulfuric acid consumption. Two-stage acid treatment, allowing the boron to be extracted first, achieved 93% boron extraction and a combined 97% lithium extraction using acid additions of 160 kg/t and 500 kg/t respectively.
- Conventional downstream primary purification of the acid leach liquor was shown to be ineffective (upper deposit) as tested, resulting in high lithium losses (up to 74%). Downstream purification of the leach solutions from the lower deposit has not been completed. As a result of the lithium losses associated with the downstream recovery process further test work is required to develop a modified/alternative purification system for these solutions. The Rhyolite Ridge project, with similar mineralogy, has managed to overcome these limitations.
- Battery grade lithium carbonate was successfully produced.
- The production of battery grade lithium hydroxide monohydrate was not successful due to alkali metal contamination. Further test work is required to further refine the process variables.
- Membrane technologies are currently being explored for lithium processing and may provide an alternative purification path.
- No secondary products production has been investigated; however, the Bonnie Claire material does contain significant sodium and potassium.

13.8 Recommendations

Based on the information available at the date of this Technical Report, the following recommendations are made:

- The process selection will depend heavily on the ultimate mine plan. The lower deposit has a higher lithium grade but also contains significant boron rendering the thermal treatment ineffective. The mine plan needs to be further evaluated before a definitive process route can be defined.
- The acid leaching system works for both the upper and lower deposit but has the disadvantage of high acid consumptions and downstream purification constraints. Further work to optimize the acid consumption and downstream purification circuit is necessary. Vendors should be contacted to provide support; cost will be dependent on vendor requirements, estimated at $250,000 with duration of 12 to 18 months.

- Thermal processing of the lower deposit was not successful in its initial application. However, only a preliminary evaluation was conducted. More definitive testing should be conducted to further define the process variables and to optimize the process including options such as fluidized bed calcination. Estimated cost $150,000 with a duration of three to four months.
- Variability testing for lithium extraction and recovery by deposit area should be undertaken for each process. This is dependent on additional drill holes being made available for testing. Estimated cost $50,000 with a duration of three to four months.
- Alternative purification processes should continue to be investigated such as membrane separation and ion exchange. Known issues should be investigated to ensure that process risks are well understood, including fouling, maintenance, and power consumption. This is related to the above item and would be part of this scope.
- Benchtop locked cycle test work should be conducted to optimize the selected process parameters. Estimated cost $300,000 with a duration of four to six months.
- The potential for recovery of additional valuable minerals/elements should be investigated, including potassium sulfate. Initial investigation would start with assay analysis and advance to specific testing if warranted. Process development for additional products would likely be additive to a program defined above. Estimated additional cost $100,000 with a duration of four to six months for laboratory scale analysis.

14.0 MINERAL RESOURCE ESTIMATE

The Mineral Resource Estimate for the Project was completed under the direction of Terre Lane, Principal of GRE and a NI 43-101 Qualified Person. The Mineral Resource Estimate was completed using Leapfrog® Geo and Leapfrog® Edge software. The Mineral Resources were estimated using the 2019 CIM Best Practice Guidelines and reported using the 2014 CIM Definition Standards.

Mineral Resources for both lithium and boron were estimated for this Technical Report.

14.1 Data Used for the Estimation

14.1.1 Topography

QP Lane downloaded USGS topographic data for four 7.5-minute quadrangles: Bonnie Claire, Bonnie Claire NW, Scottys Junction, and Springdale NW. In addition, QP Lane digitized a small portion of topographic data for the Tolicha Peak SW quadrangle because current topographic data for it was unavailable for download.

14.1.2 Drill Hole Data

The mineral resource estimate incorporates geologic and assay results from drilling of 21 drill holes on the Project (Figure 10-1). Data from drill holes BC-2201 and BC-2205 were not used because the drilling method (mud rotary) resulted in inaccurate sample results.

Data provided by Iconic and verified by Dr. Samari included drill hole data for all drill holes, collar coordinates, drill hole direction (vertical), lithology, sampling, and assay data. This study uses 21 drill holes, totaling 9,097.06 meters (29,846 feet), with an average depth of 433.19 meters (1,421.24 feet) per hole. Drilling was limited to the sedimentary areas.

Drill hole collar elevations for all drill holes from 2020 to the present did not match topography and were, on average, 27 meters below the average of the 2016 to 2018 collar elevations. QP Lane recommends LiDAR surveying so that accurate topographic measurements and collar elevations can be ascertained. To correct for the discrepancy, QP Lane adjusted the collar elevations within Leapfrog to match the topography. QP Lane believes it is highly likely the drill hole surveys for the 2020 to present drill holes were inaccurate and that relying on drill hole collar elevations consistent with the known or estimated surface elevation is accurate enough to not materially affect the Mineral Resource estimation. The resulting collar elevations are shown in Table 14-1.

Table 14-1: Bonnie Claire Project Adjusted Drill Hole Collar Elevations

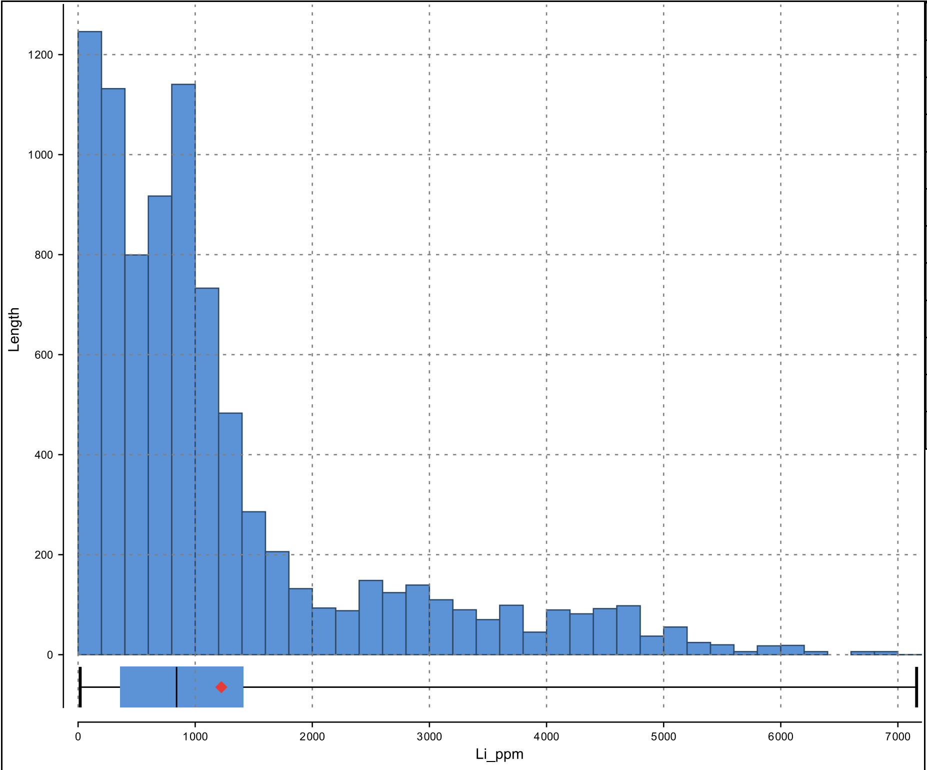
HoleID	Original Elevation (m)	Adjusted Elevation (m)
BC-1601	1202.131	1202.1312
BC-1602	1207.008	1207.008
BC-1701	1202.131	1202.1312
BC-1801	1206.398	1206.3984
BC-2001C	1179.271	1202.5486
BC-2002C	1181.405	1204
BC-2003	1177.138	1204

HoleID	Original Elevation (m)	Adjusted Elevation (m)
BC-2004	1173.48	1204.7832
BC-2005	1177.138	1204
BC-2006	1173.48	1202.5402
BC-2201C	1174.09	1204
BC-2202C	1173.48	1204
BC-2203C	1174.394	1202.981
BC-2204C	1174.394	1204.0548
BC-2205C	1170.737	1202.3945
BC-2301C	1175.309	1203.2821
BC-2302S	1179.576	1202.5895
BC-2303C	1178.357	1203.6258
BC-2304S	1178.662	1204
BC-2401C	1189.33	1205.9618
BC-2402C	1180.49	1202.585

14.1.3 Lithium Assay Data

Statistics for the Li assay data are illustrated in Figure 14-1.

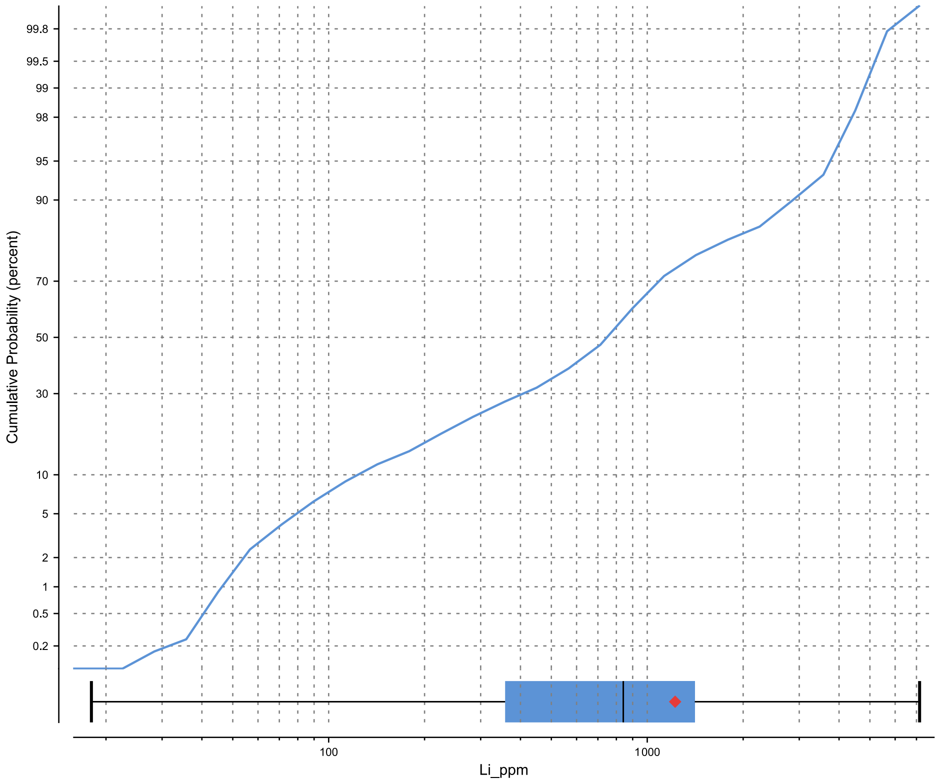
Figure 14-1: Bonnie Claire Project Histogram of Assay Lithium Grades



	Weighted Value
Count	1,887
Length	8,640.1
Mean	1,223.243
SD	1,266.32
CV	1.03522
Variance	1,603,559.07
Minimum	18.0
Q1	358.0
Q2	841.0
Q3	1410.0
Maximum	7160.0

A cumulative probability plot of assay values did not exhibit a grade break that would indicate the presence of outlier data, so the data were not capped or clipped. (Figure 14-8).

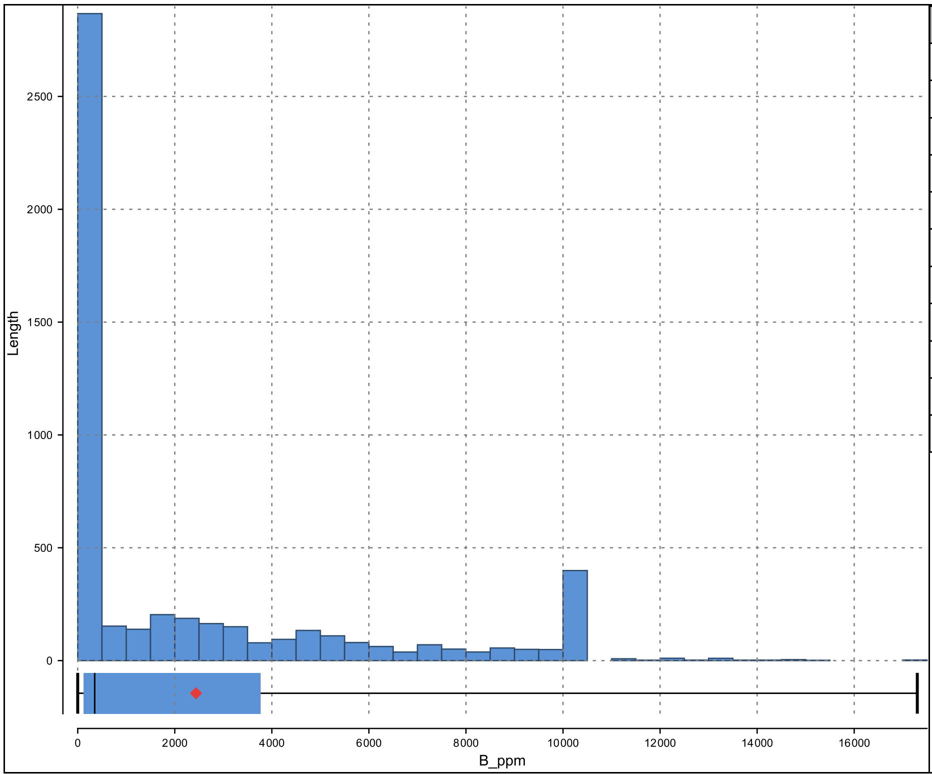
Figure 14-2: Bonnie Claire Project Cumulative Probability of Assay Lithium Grades



14.1.4 Boron Assay Data

Statistics for the boron (B) assay data are illustrated in Figure 14-3.

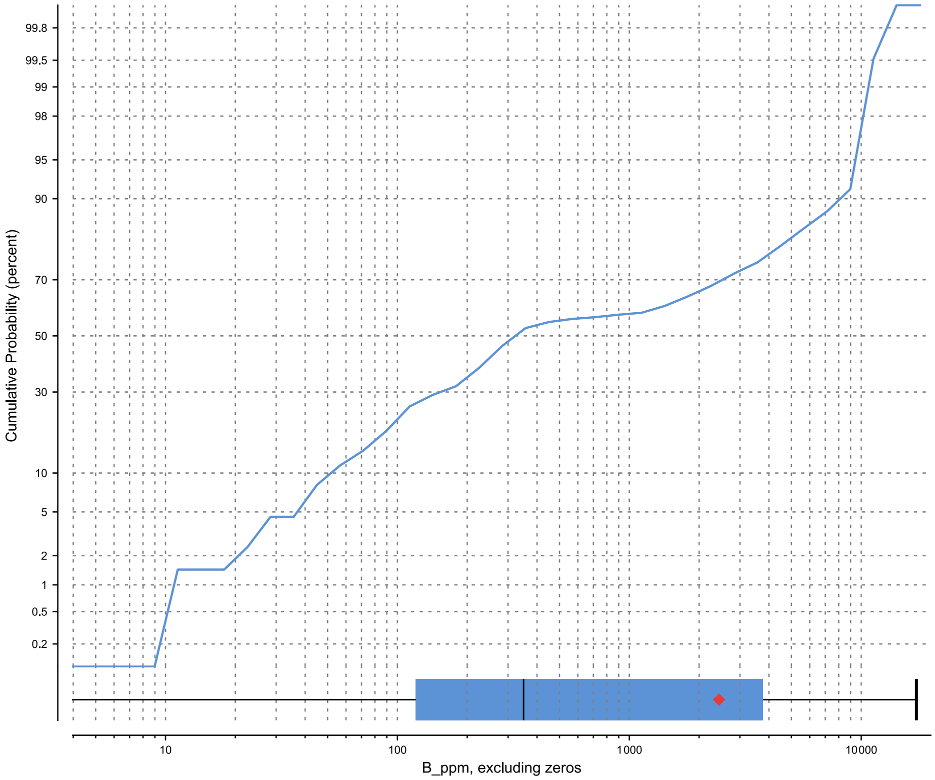
Figure 14-3: Bonnie Claire Project Histogram of Assay Boron Grades



	Weighted Value
Count	1,239
Length	5,220.1
Mean	2,438.5
SD	3,380.41
CV	1.38627
Variance	11,427,204.63
Minimum	0
Q1	120
Q2	350
Q3	3,770
Maximum	17,300

A cumulative probability plot of assay values did not exhibit a grade break that would indicate the presence of outlier data, so the data were not capped or clipped. (Figure 14-8).

Figure 14-4: Bonnie Claire Project Cumulative Probability of Assay Boron Grades



14.1.5 Specific Gravity

QP Lane used a specific gravity (SG) of 1.7 grams per cubic centimeter (g/cm^3) for all lithological units. This SG is comparable to other similar lithium deposits. GRE's QP recommends additional test work to determine the Project SG.

14.2 Resource Estimation

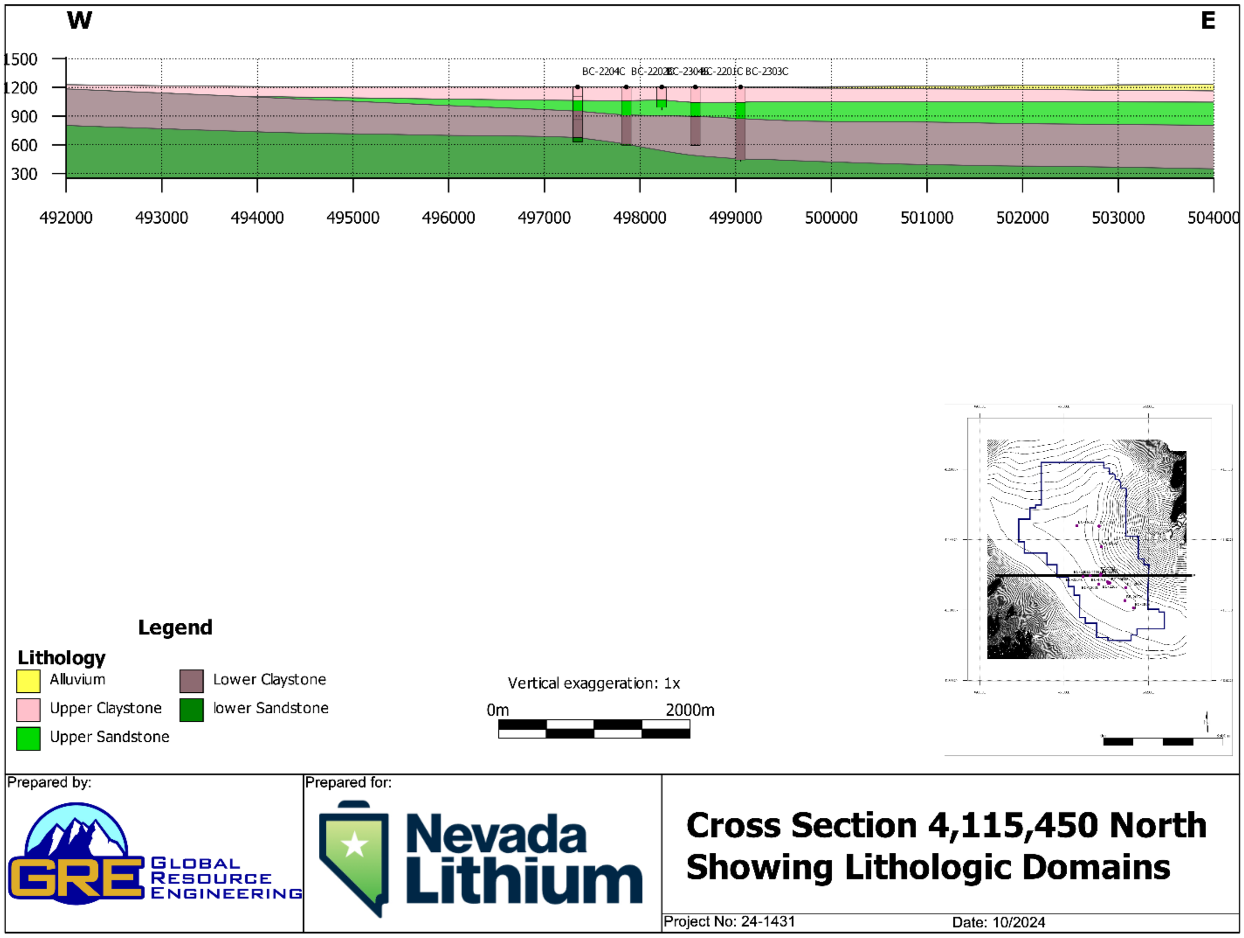
14.2.1 Geologic Model

A geologic model was developed for the project based on the geologic interpretation in Section 7 and lithologic intercepts in the drill holes. The resulting geologic model included five lithologic domains:

- Alluvium
- Upper Claystone
- Upper Sandstone
- Lower Claystone
- Lower Sandstone

A cross-section showing the modeled geology is provided in Figure 14-5.

Figure 14-5: Bonnie Claire Project Geologic Model Cross-Section



Box plots of the Li and B grades within each domain are illustrated in Figure 14-6 and Figure 14-7, respectively. Mineralization is present primarily in the Lower Claystone and Upper Claystone domains.

Figure 14-6: Bonnie Claire Project Assay Lithium Grade Box Plots

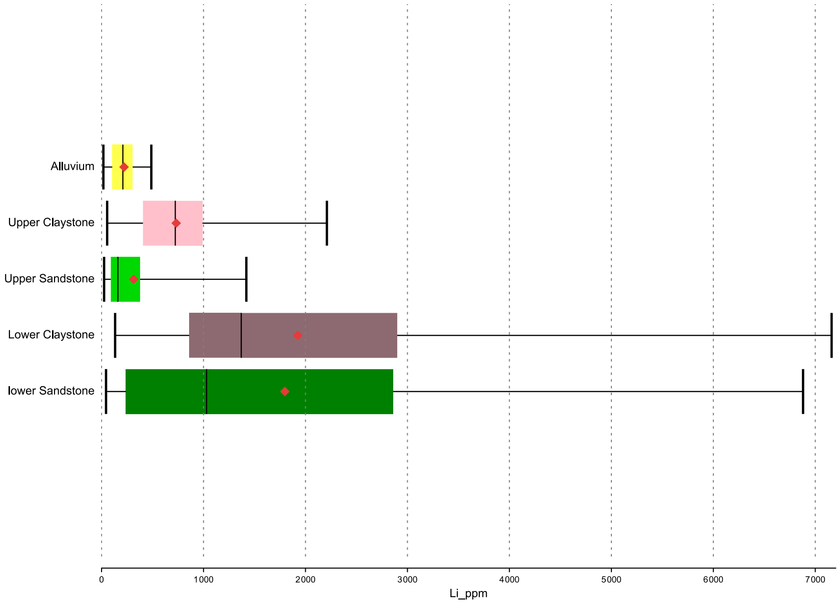
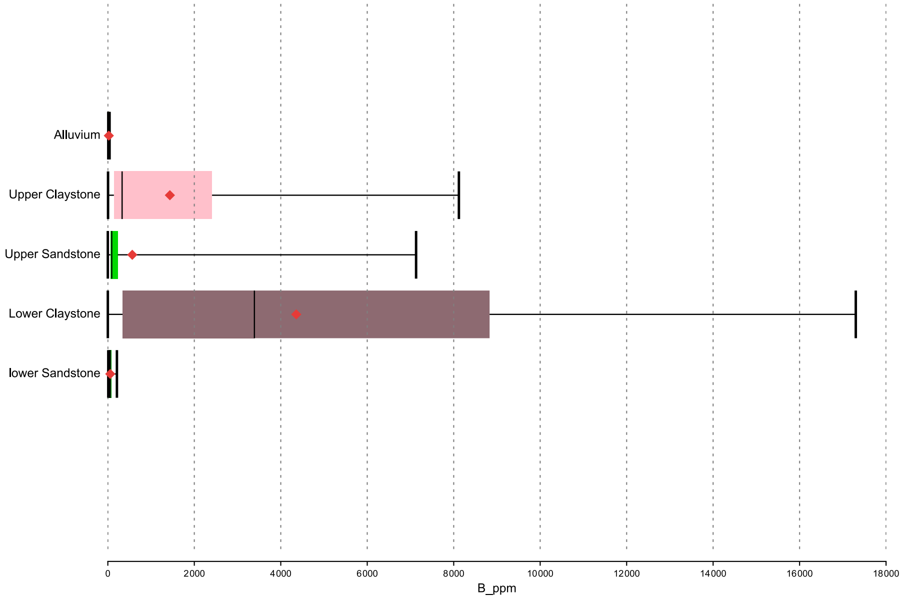


Figure 14-7: Bonnie Claire Project Assay Boron Grade Box Plots

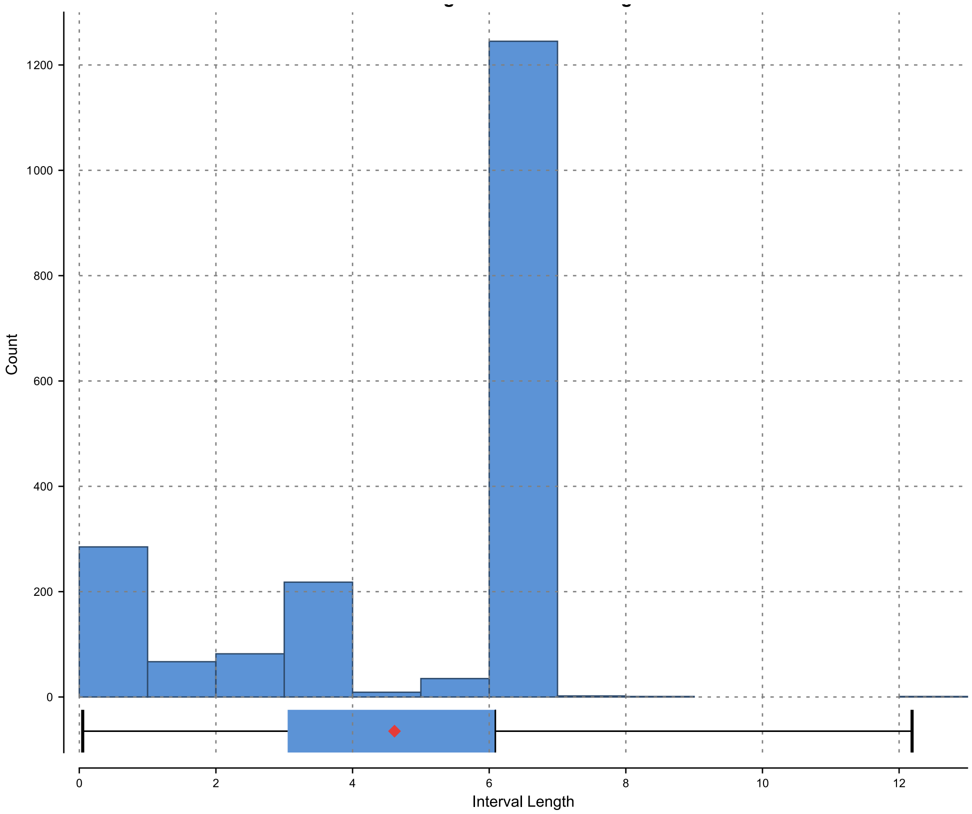


14.2.2 Compositing

Drill hole assay values were composited to intervals of equal length to ensure that the samples used in statistical analysis and estimations were equally weighted. The change of support, or correction for volume variance, affects the spread and symmetry of the grade distribution, but should not result in drastic changes to the mean value. The majority of samples were collected at 6.096-meter (20-foot) intervals, as shown in Figure 14-8, with some samples collected at other intervals up to a maximum of 12.192 meters (40 feet).

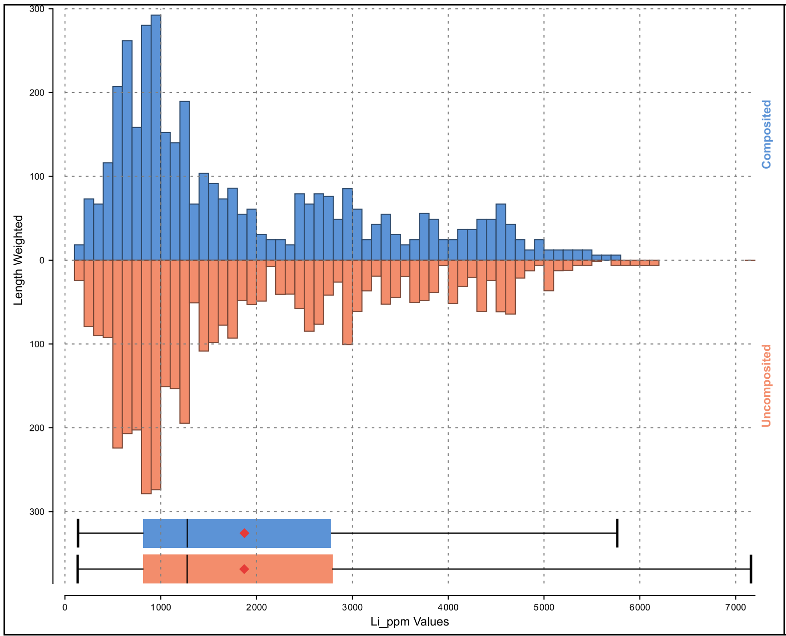
Down-the-hole composites were created from the Li and B assays within the Upper Claystone, Lower Claystone, and Upper Sandstone mineralized domains, with the following specifications: 6.096-meter (20-foot) intervals, with anything less than 3.048 meters (10 feet) added to the previous interval. This resulted in 1,313 Li composite intervals with Li grades from 40.37 ppm to 5,764.48 ppm and 857 B composite intervals with B grades from 10 ppm to 14,658.8 ppm.

Figure 14-8: Bonnie Claire Project Assay Data Interval Length Histogram



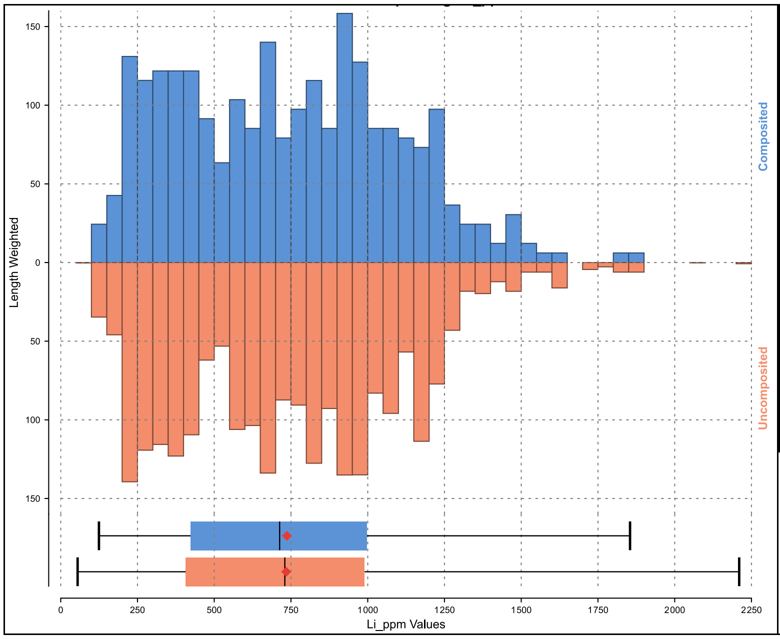
A comparison of the before and after compositing statistics for Li by domain is shown in Figure 14-9, Figure 14-10, and Figure 14-11. A comparison of the before and after compositing statistics for B by domain is shown in

Figure 14-9: Bonnie Claire Project Before and After Compositing Statistics – Lithium in Lower Claystone Domain



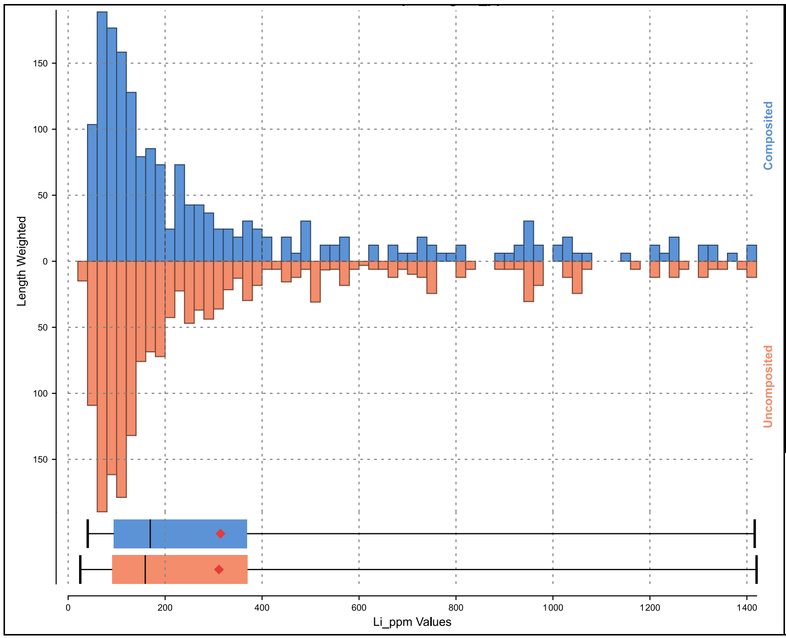
	Composited	Uncomposited
Count	632	831
Length	3,854.40	3,863.5
Mean	1,873.95	1,871.38
SD	1,367.59	1,383.08
CV	0.730	0.739
Variance	1,870,302	1,912,913
Minimum	137.27	133.0
Q1	820.02	820.0
Q2	1,276.21	1,275.0
Q3	2,778.31	2,790.0
Maximum	5,764.48	7,160.0

Figure 14-10: Bonnie Claire Project Before and After Compositing Statistics – Lithium in Upper Claystone Domain



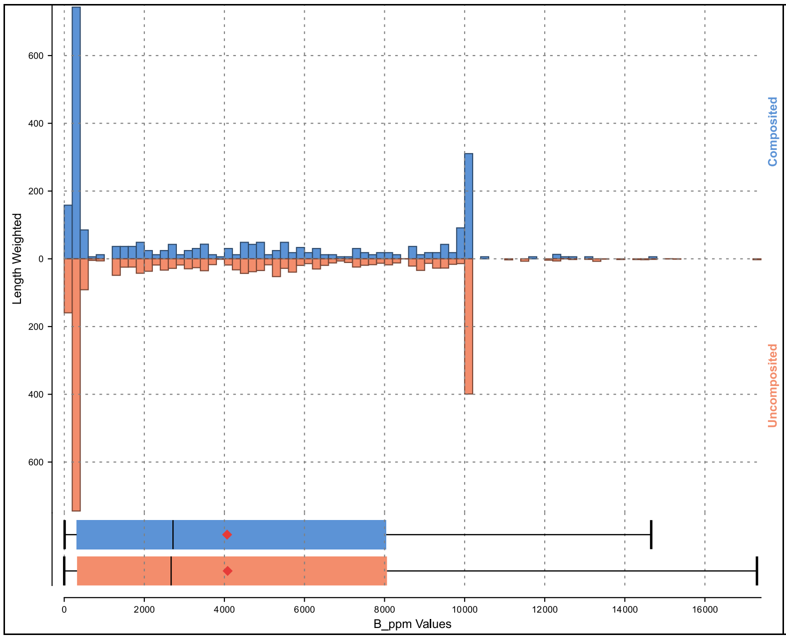
	Composited	Uncomposited
Count	396	560
Length	2,410.90	2,401.70
Mean	736.96	734.42
SD	357.38	363.48
CV	0.485	0.595
Variance	127,722	132,119
Minimum	124.48	55.0
Q1	423.0	407.0
Q2	713.04	730.0
Q3	997.77	990.0
Maximum	1,854.47	2,210.0

Figure 14-11: Bonnie Claire Project Before and After Compositing Statistics – Lithium in Upper Sandstone Domain



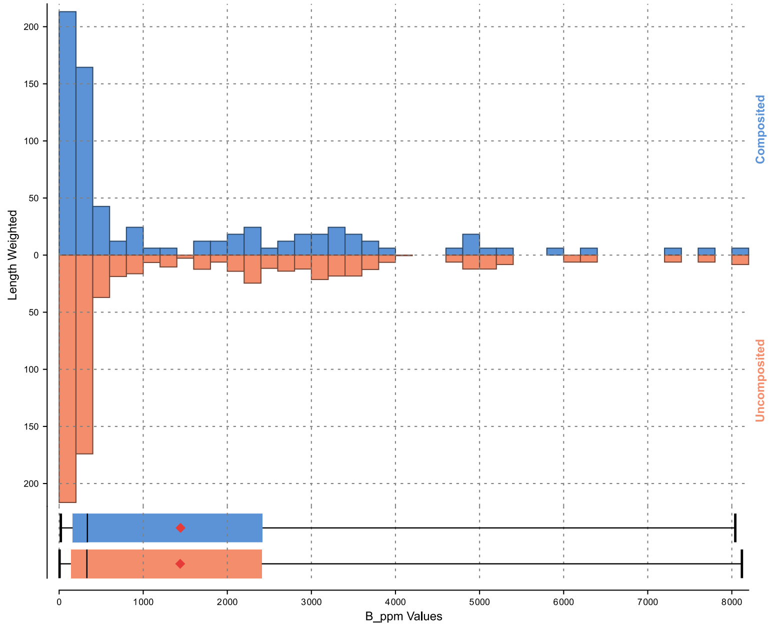
	Composited	Uncomposited
Count	285	381
Length	1,735.7	1,715.2
Mean	314.34	311.08
SD	335.32	334.92
CV	1.07	1.08
Variance	112,438	112,172
Minimum	40.37	25
Q1	94.33	90.9
Q2	169.34	159
Q3	369.03	370
Maximum	1,416.16	1,420

Figure 14-12: Bonnie Claire Project Before and After Compositing Statistics – Boron in Lower Claystone Domain



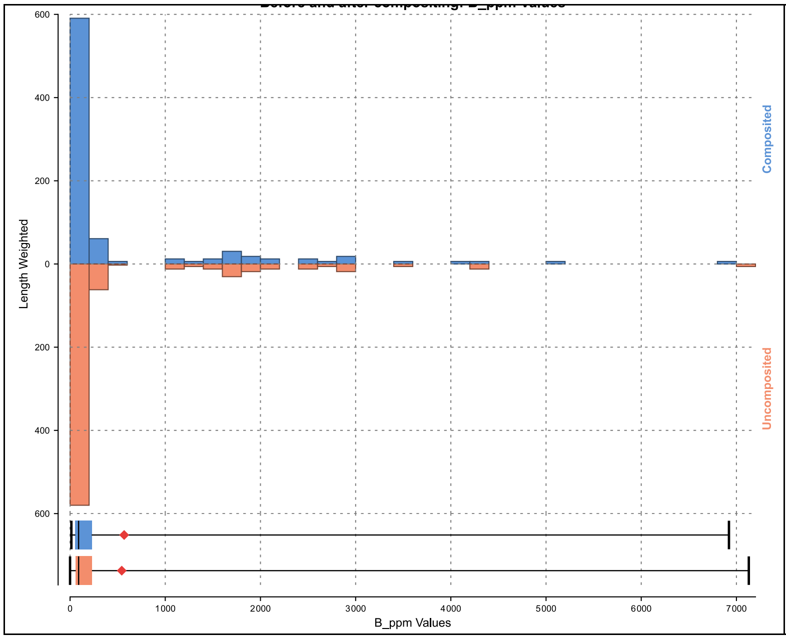
	Composited	Uncomposited
Count	411	1,145
Length	2,507.4	2,511.1
Mean	4,067.86	4,080.98
SD	3,971.81	3,997.98
CV	0.98	0.98
Variance	15,775,272	15,983,877
Minimum	10	0
Q1	311.28	320
Q2	2,716.62	2,670
Q3	8,041.94	8,060
Maximum	14,658.8	17,300

Figure 14-13: Bonnie Claire Project Before and After Compositing Statistics – Boron in Upper Claystone Domain



	Composited	Uncomposited
Count	118	381
Length	718.6	725.9
Mean	1,443.38	1,439.86
SD	1,867.38	1,911.02
CV	1.29	1.33
Variance	3,486,553	3,652,012
Minimum	20.06	5
Q1	160.19	140
Q2	335.79	330
Q3	2,418.67	2,410
Maximum	8,041.17	8,120

Figure 14-14: Bonnie Claire Project Before and After Compositing Statistics – Boron in Upper Sandstone Domain



	Composited	Uncomposited
Count	134	441
Length	816.1	796.9
Mean	568.26	543.03
SD	1,129.08	1,078.5
CV	1.99	1.99
Variance	1,274,831	1,163,159
Minimum	13.86	0
Q1	55.67	60
Q2	89.63	90
Q3	226.83	230
Maximum	6,921.48	7,130

14.3 Variography

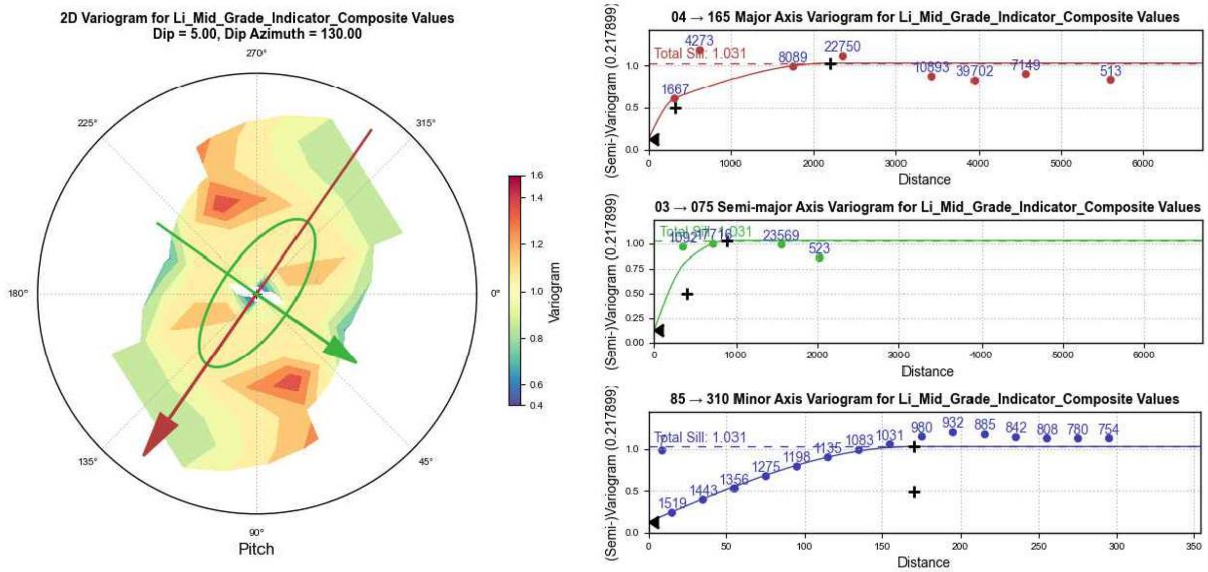
The limited data within each domain gave potentially unreliable variogram results. Additional data via closer-spaced drilling is needed to generate robust, meaningful variograms.

To generate variograms, QP Lane created an indicator model for the project as follows: the Li assay values were composited into 6.09-meter downhole intervals. Two calculated fields were then added to the composite table: High Grade Indicator Composite and Mid-Grade Indicator Composite. The indicator fields were given the following values:

- Li High-Grade Indicator Composite field: all composite intervals with Li grade greater than or equal to 1,500 ppm were assigned a value of 1; all other composite intervals were given a value of 0
- Li Mid-Grade Indicator Composite field: all composite intervals with grade greater than or equal to 500 ppm were assigned a value of 1; all other composite intervals were given a value of 0

Because the indicator method uses all usable data, without applying lithologic domains, there was just enough data to prepare variograms, but additional data is recommended to generate more robust variograms. QP Lane used the apparent direction of continuity of data as a starting point for determining the variogram orientation, maintaining an approximately 5° slope in the northwest-southeast direction. The results of the variography for the mid-grade Li and high-grade Li indicators are shown in Figure 14-15 and Figure 14-16, respectively.

Figure 14-15: Bonnie Claire Lithium Mid-Grade Indicator Variography



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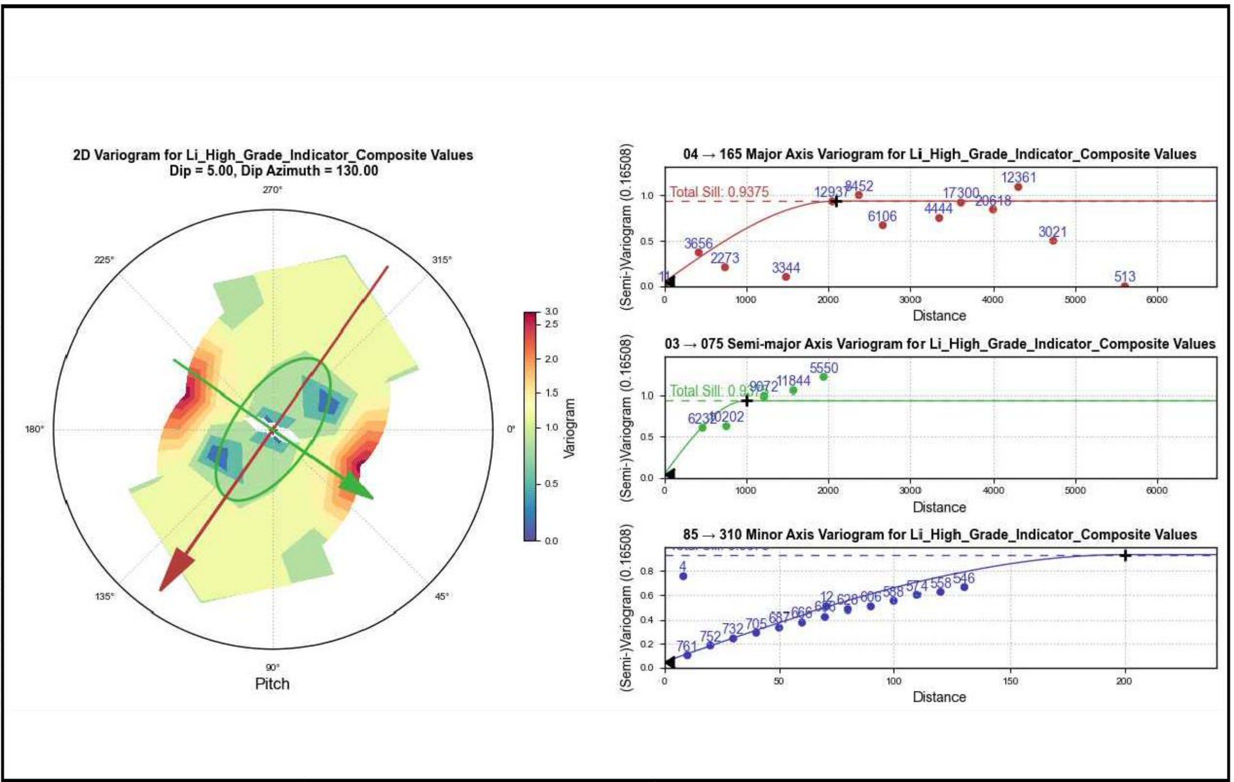
BONNIE CLAIRE LITHIUM MID-GRADE
INDICATOR VARIOGRAMS

LOCATION: E:\24-1431 Bonnie Claire PFS – Scoping Study Update\AutoCAD\Figures for 43-101 report\Mid-Grade Li Indicator Variograms v3.dwg DATE: 10/28/2024 3:14 PM PLOT SCALE – 1:1

Figure 14-16: Bonnie Claire Lithium High-Grade Indicator Variography



BONNIE CLAIRE LITHIUM HIGH-GRADE INDICATOR VARIOGRAMS

The variogram parameters are shown in Table 14-2.

Table 14-2: Bonnie Claire Lithium Variography Parameters

Domain	Ellipsoid Direction			Variogram Model						
								Ellipsoid Ranges		
	Dip	Dip Azimuth	Pitch	No. of Structures	Structure Type	Nugget	Total Sill	Major	Semi-Major	Minor
High-Grade	5	130	125	1	Spherical	0.05	0.85	2,100	1,000	200
Mid-Grade	5	130	125	2	Spherical	0.13	0.3	330	400	170
					Spherical		1.03	2,200	900	170

14.4 Estimation Methods

QP Lane estimated Li and B grades into the block model using inverse distance to the second power (ID2) and the ranges shown in Table 14-3.

Table 14-3: Bonnie Claire Inverse Distance Squared Search Ellipsoid Parameters

	Ellipsoid Parameters						Search Parameters		
Domain	Dip	Dip Azimuth	Pitch	Major Axis Range (m)	Semi-major Axis Range (m)	Minor Axis Range (m)	Minimum No. of Samples	Maximum No. of Samples	Maximum No. of Samples per Drill Hole
All	5	130	125	2,100	900	150	4	12	3

For each method, a single pass was conducted at the ellipsoid ranges (1,600 meters x 900 meters x 150 meters). All blocks with modeled grade were coded as Inferred resources.

The search was restricted to a minimum of four samples and a maximum of 12 samples per block and a maximum of three samples per drill hole, thereby requiring data from a minimum of two drill holes to populate a block.

14.5 Block Model

The Bonnie Claire Deposit block model parameters are shown in Table 14-4.

Table 14-4: Bonnie Claire Project Block Model Parameters

Direction	Block Size (meters)	Start	End	Number
Easting	50	492,760	503,250	211
Northing	50	4,110,700	4,123,550	257
Elevation (AMSL)	5	1300	300	200

14.6 Block Model Validation

14.6.1 Statistical Comparison

Nearest Neighbor (NN) and Ordinary Kriging (OK) models were run to serve as comparisons with the estimated results from the ID2 method. Descriptive statistics for the ID2 method along with those for the NN and OK estimates as well as drill hole composites are shown by domain in Table 14-5. The estimate means for the global population as well as the means for the estimation domains are similar, suggesting the ID2 estimate is not biased or overestimating the grades. The reduction in mean, CV, and maximum from composites to the ID2 estimate shows an appropriate amount of smoothing.

Table 14-5: Bonnie Claire Project Model Comparison Descriptive Statistics by Domain

Domain	Estimate	Count	Mean	Std. Dev.	CV	Minimum	Maximum
Lithium							
Lower Claystone	Composite	635	1,873.95	1,367.59	0.73	137.27	7,160
	NN	632,472	1.528.21	1.198.16	0.78	137.27	5,764.48
	OK	384,849	1,787.94	1,166.69	0.65	143.94	5,539.20
	ID2	384,849	1,811.19	1,186.91	0.66	156.84	5,541.27
Upper Claystone	Composite	396	736.96	357.38	0.49	124.48	1,854.47
	NN	333,269	586.43	328.41	0.56	124.48	1,854.47
	OK	195,296	584.79	267.24	0.46	377.44	1,659.72
	ID2	195,296	592.29	270.38	0.46	157.93	1,722.09

Domain	Estimate	Count	Mean	Std. Dev.	CV	Minimum	Maximum
Upper Sandstone	Composite	285	314.34	335.32	1.07	40.37	1,416.16
	NN	269,558	518.84	414.77	0.80	40.37	1,416.16
	OK	170,128	345.87	257.2	0.74	48.79	1,302.16
	ID2	170,128	335.03	264.51	0.79	47.37	1,331.22
Boron							
Lower Claystone	Composite	411	4,067.86	3,971.81	0.98	10	14,658.8
	NN	494,952	3,769.88	3,790.87	1.01	10	14,658.8
	OK	279,455	4,277.88	3,621.34	0.85	-253.31	13,764.7
	ID2	279,455	4,330.66	3,731.84	0.86	13.17	13,442.8
Upper Claystone	Composite	118	1,443.38	1,867.38	1.29	20.06	8,041.17
	NN	175,226	1,711.07	2,015.52	1.18	20.06	8,041.17
	OK	75,673	1,711.61	1,684.81	0.98	-146.37	6,305.89
	ID2	75,673	1,687.25	1,635.83	0.98	50.92	6,570.76
Upper Sandstone	Composite	134	568.26	1,129.08	1.99	13.86	6,921.48
	NN	187,056	1,014.45	1,430.6	1.41	13.86	6,921.48
	OK	90,099	115.37	113.25	0.98	55.57	1,882.04
	ID2	90,099	116.22	120.08	1.03	23.11	2,683.00

14.6.2 Swath Plots

Swath plots were generated to compare average estimated lithium and boron grades from the ID method to the NN and OK validation models. On a local scale, the NN model does not provide a reliable estimate of grade, but on a much larger scale, it represents an unbiased estimation of the grade distribution based on the total data set. Therefore, if the ID2 model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the distribution of grade from the NN.

Figure 14-17 through Figure 14-23 show the lithium swath plot sets and Figure 14-20 through Figure 14-26 show the boron swath plot sets. Each set contains a swath plot along the X axis of the block model (upper left corner), the Y axis of the block model (upper right corner), and the Z axis of the block model (lower center).

Correlation between the grade models is generally good, though deviations occur. Areas where these deviations occur are the result of low sample density. The boron swath plots in the Upper Sandstone (Figure 14-22) show unusual NN results compared with the ID2 and OK results. This is the result of a single drill hole with boron data in the northern part of the deposit (BC-1801), which populates blocks around it with NN but not with ID2 or OK due to the requirement for a minimum of two drill holes for those estimation techniques.

14.6.3 Section Inspection

Visual comparison of composites versus block model values by section and plan show good correlation, as shown inFigure 14-23 through Figure 14-25 for Li and in Figure 14-26 through Figure 14-28 for B.

QP Lane evaluated the statistics of the ID2 modeled grades compared with the composited data statistics, as shown in Table 14-5. The ID2 method closely matches the composite values.

Figure 14-17: Bonnie Claire Project Lithium in Lower Claystone Swath Plots

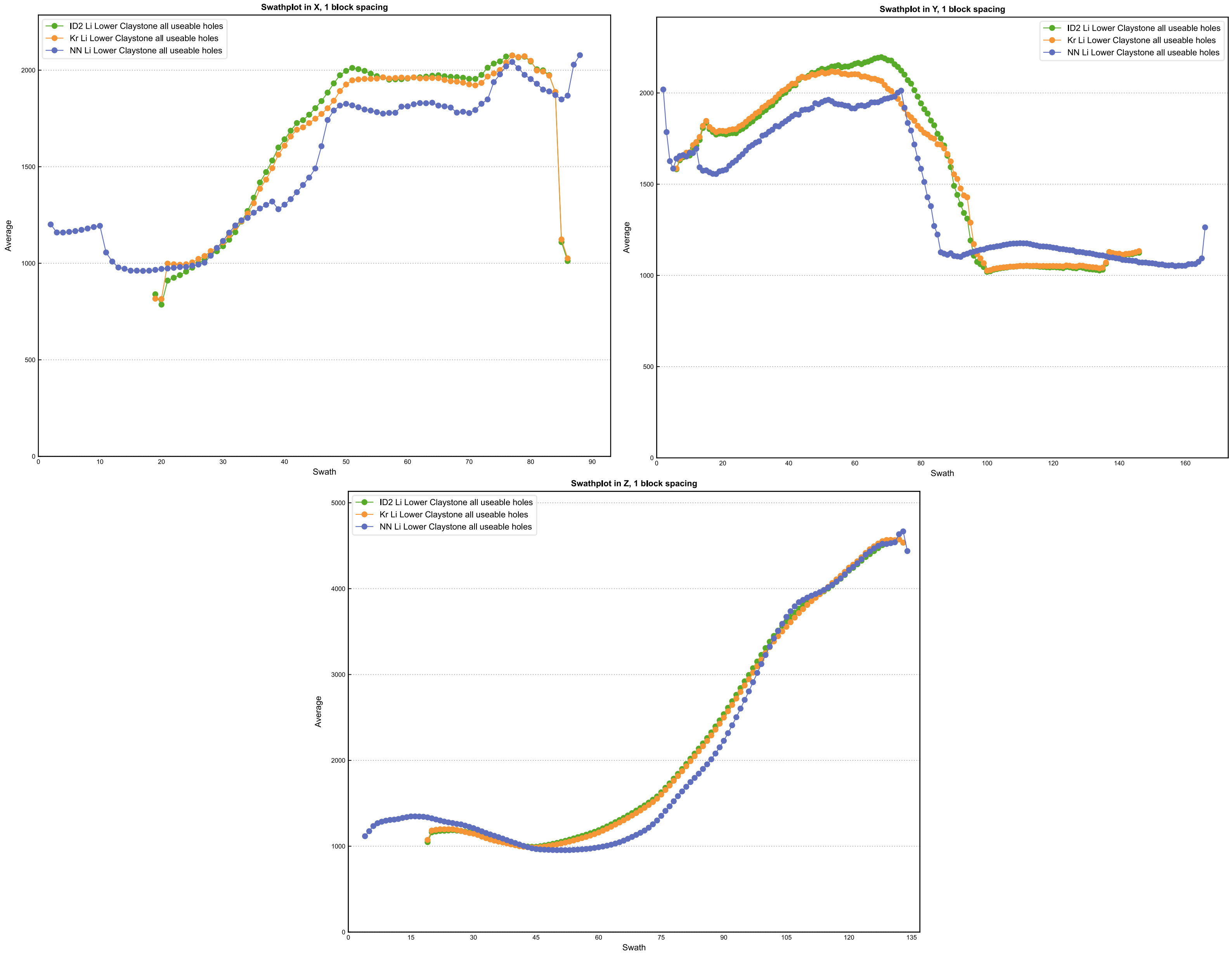


Figure 14-18: Bonnie Claire Project Lithium in Upper Claystone Swath Plots

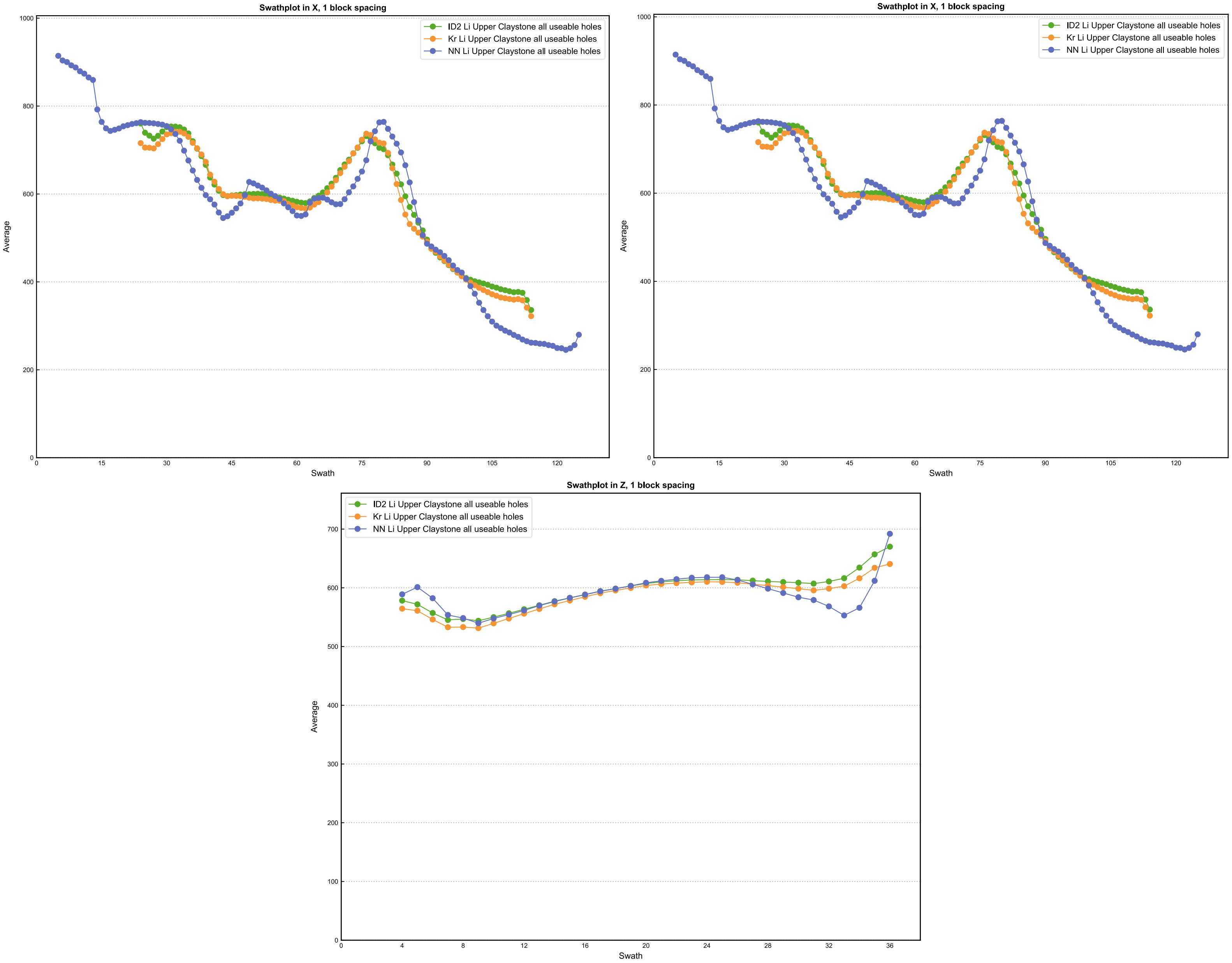


Figure 14-19: Bonnie Claire Project Lithium in Upper Sandstone Swath Plots

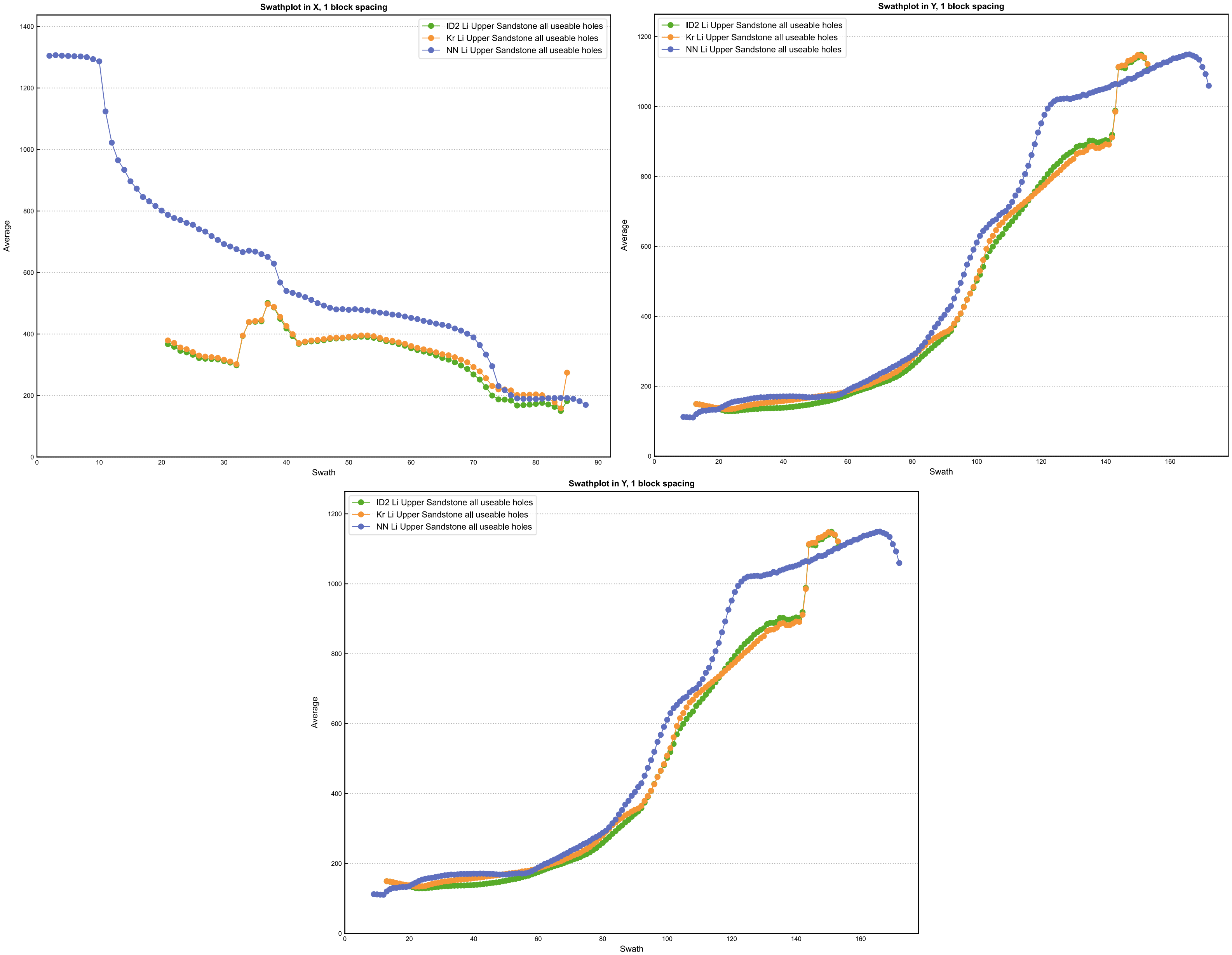


Figure 14-20: Bonnie Claire Project Boron in Lower Claystone Swath Plots

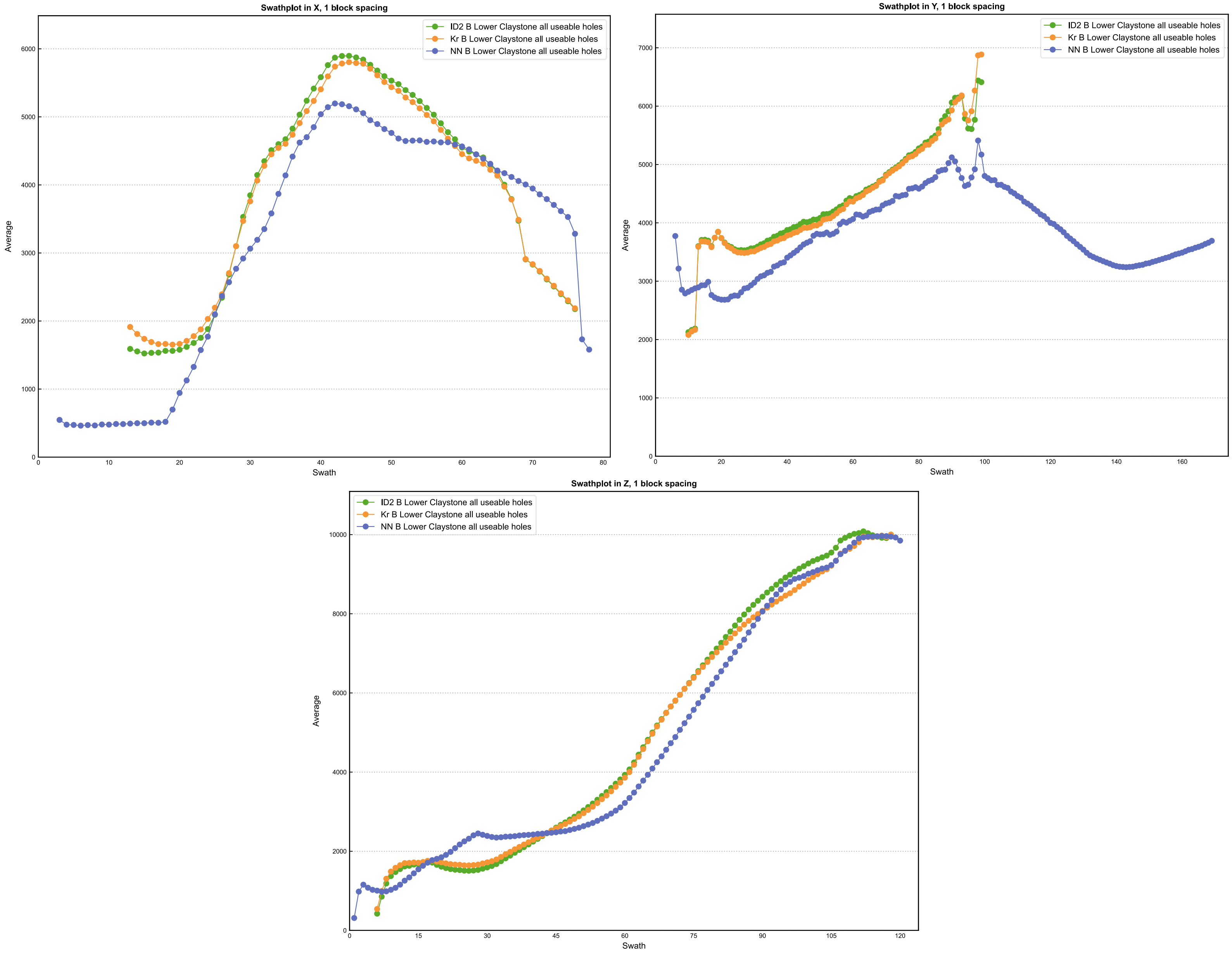


Figure 14-21: Bonnie Claire Project Boron in Upper Claystone Swath Plots

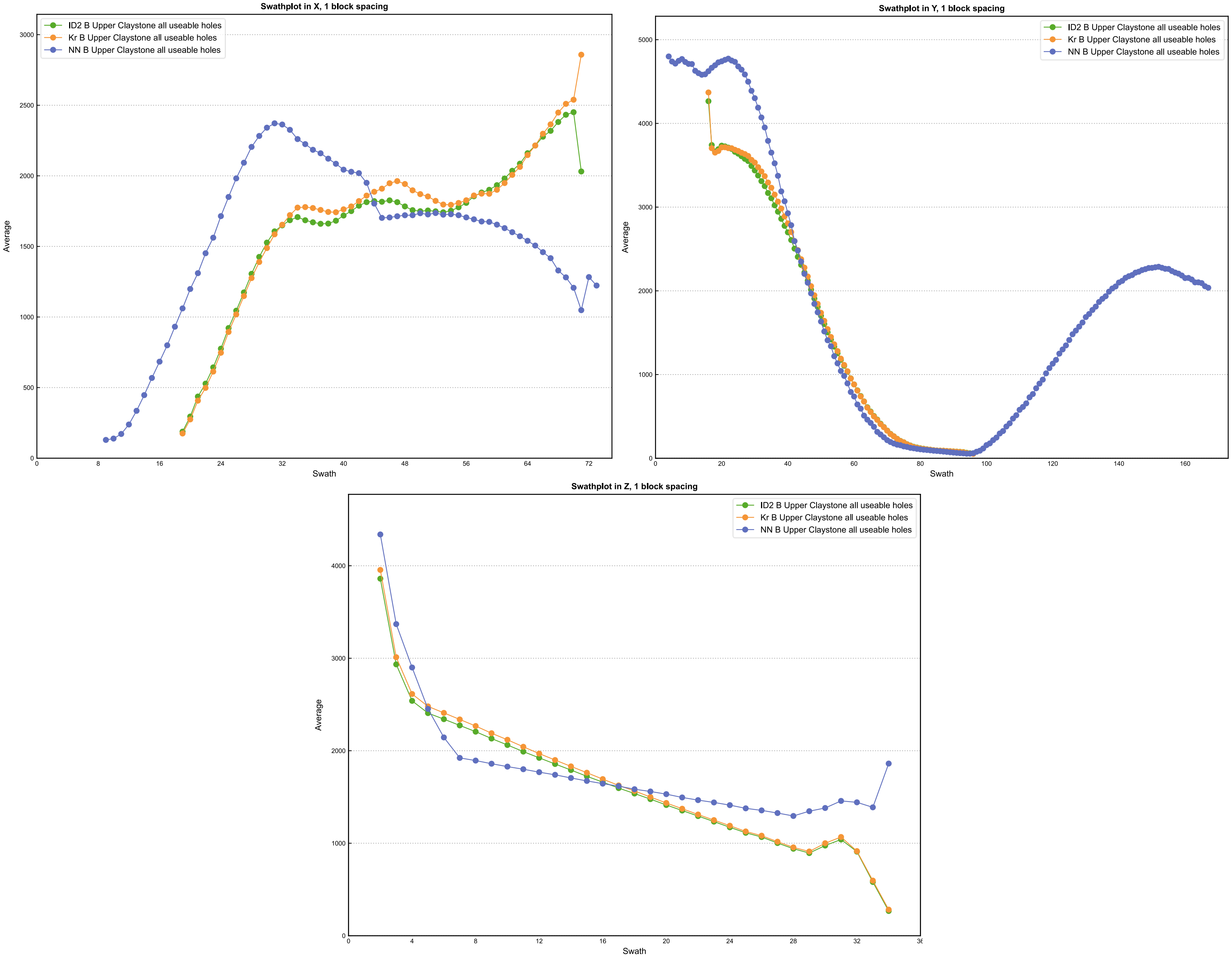


Figure 14-22: Bonnie Claire Project Boron in Upper Sandstone Swath Plots

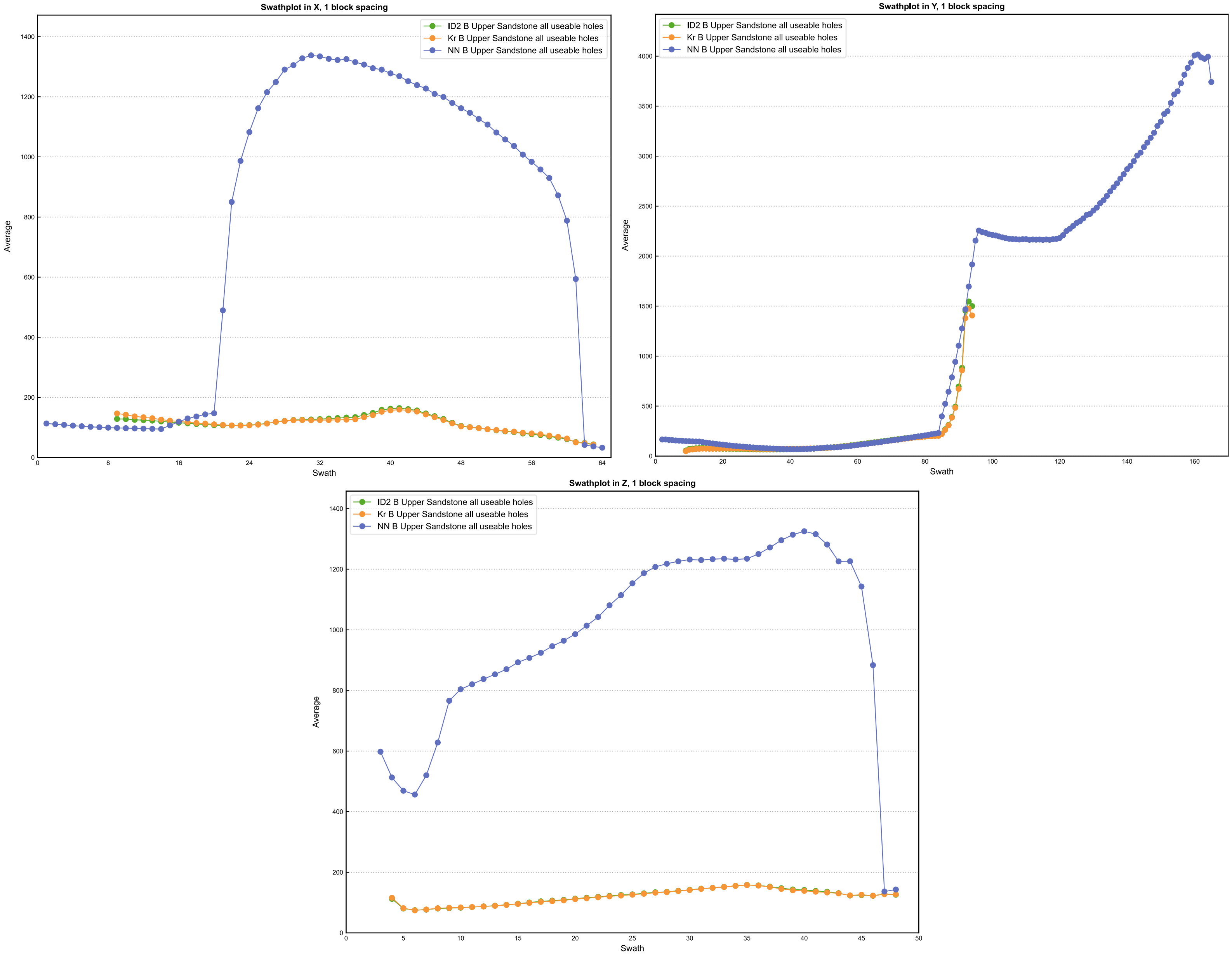
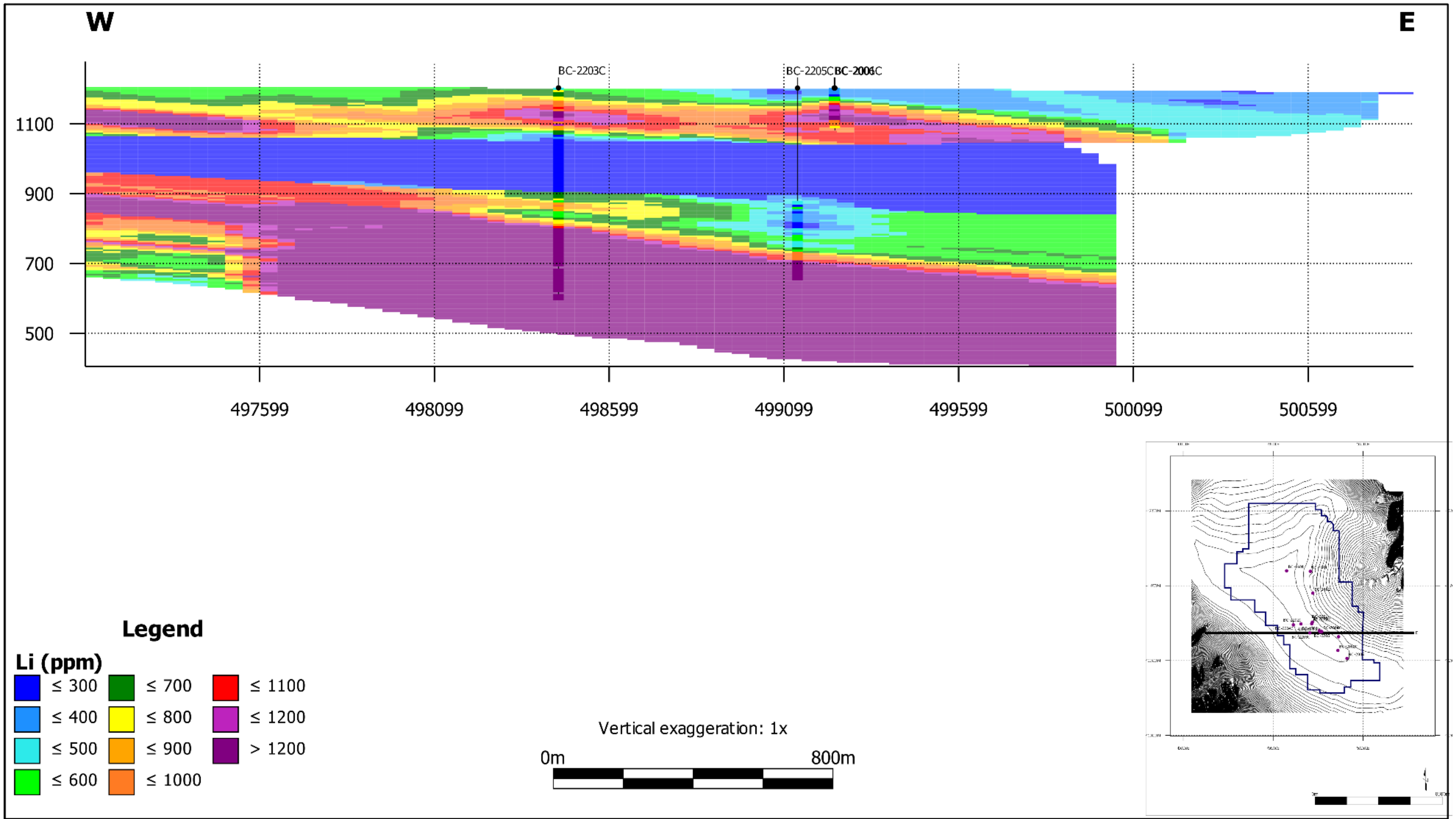


Figure 14-23: Bonnie Claire Project Comparison of Block Model and Composite Lithium Grades Section View 1



Prepared by:

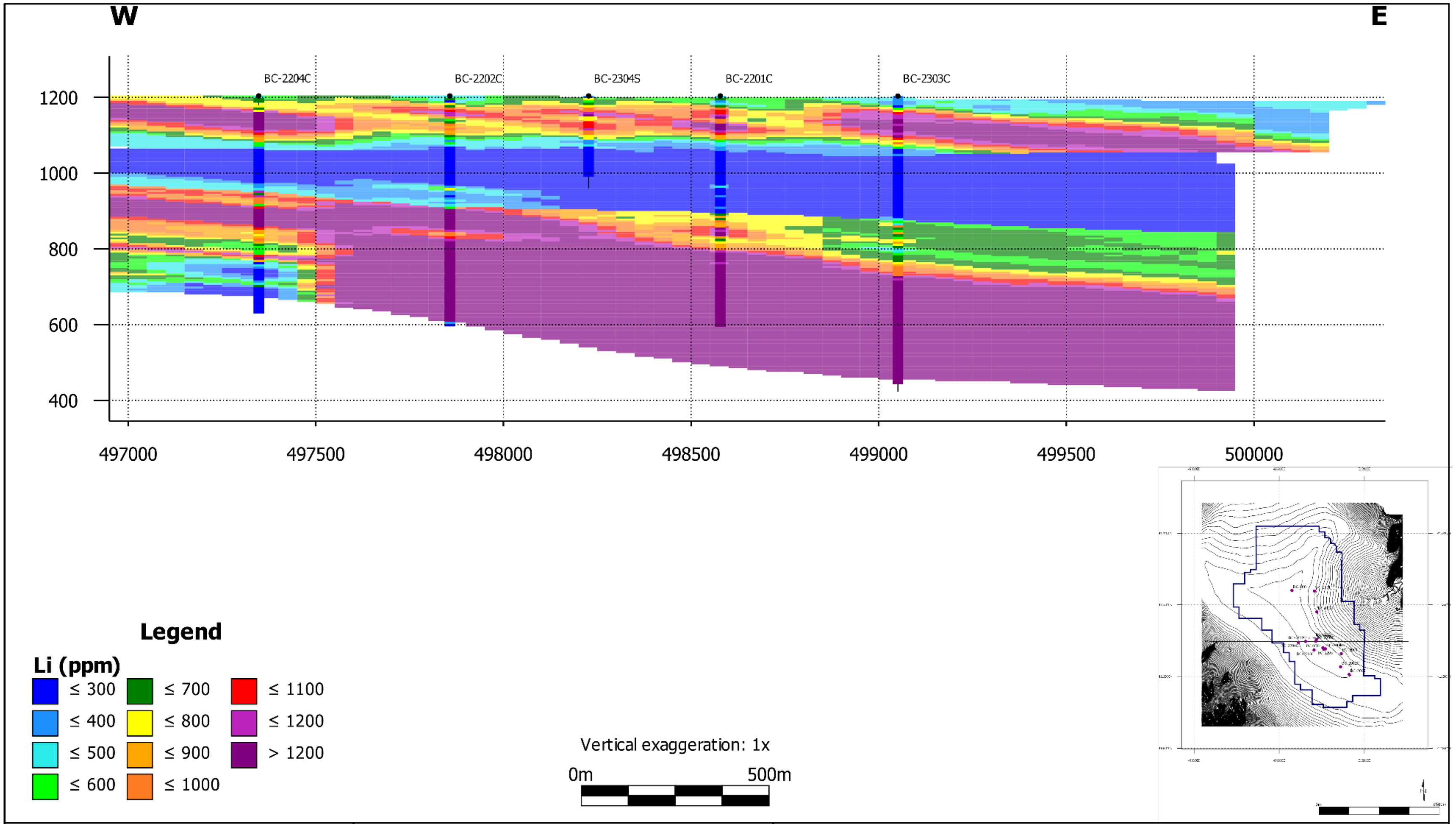
Prepared for:

Cross Section 4,114,850 North with Block Model Lithium Grades and Drill Hole Lithium 6-Meter Composites

Project No: 24-1431

Date: 10/2024

Figure 14-24: Bonnie Claire Project Comparison of Block Model and Composite Lithium Grades Section View 2



Prepared by:

GRE Global Resource Engineering

Prepared for:

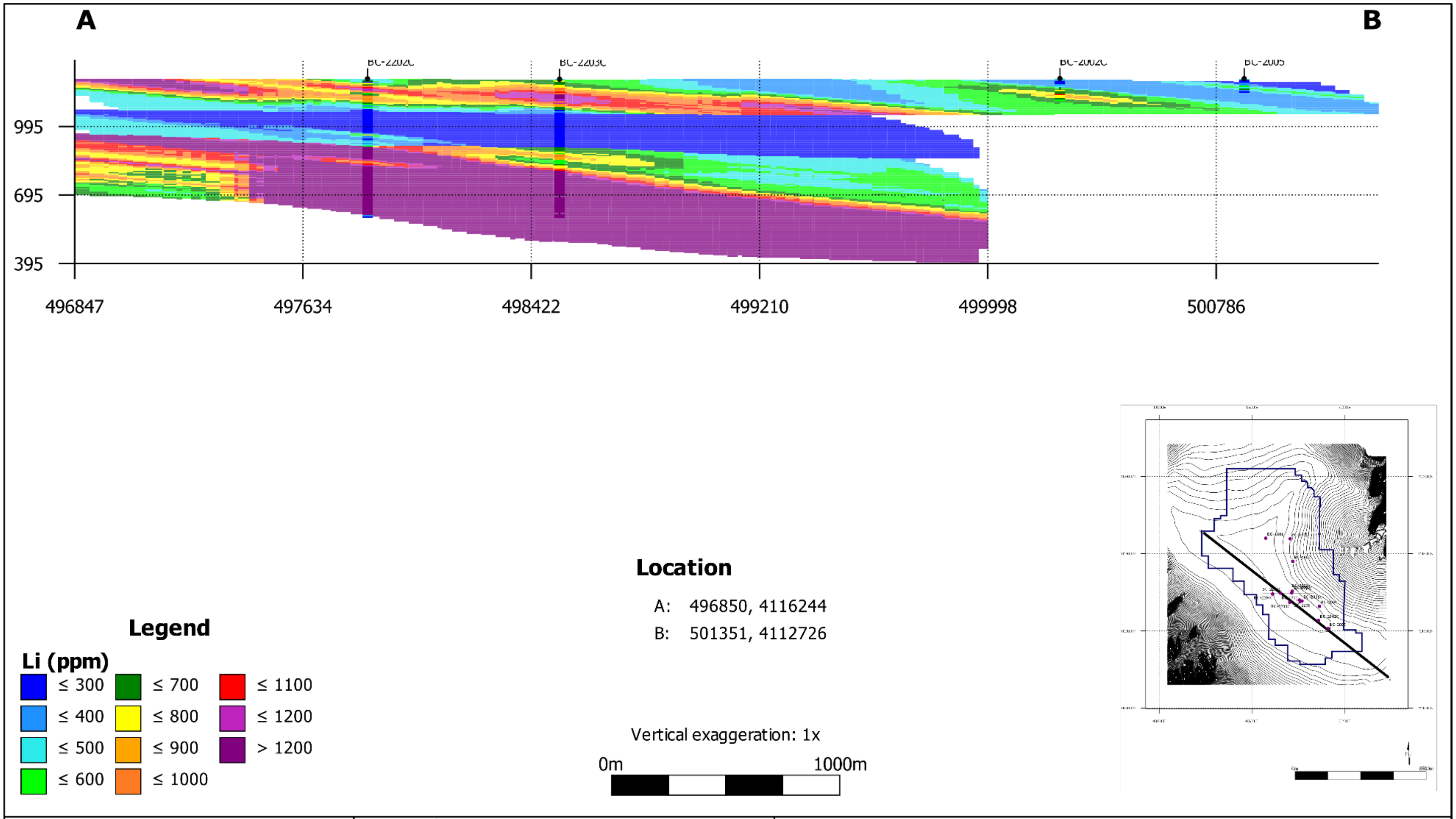
Nevada Lithium

Cross Section 4,115,450 North with Block Model Lithium Grades and Drill Hole 6-Meter Lithium Composites

Project No: 24-1431

Date: 10/2024

Figure 14-25: Bonnie Claire Project Comparison of Block Model and Lithium Composite Grades Section View 3



Prepared by:

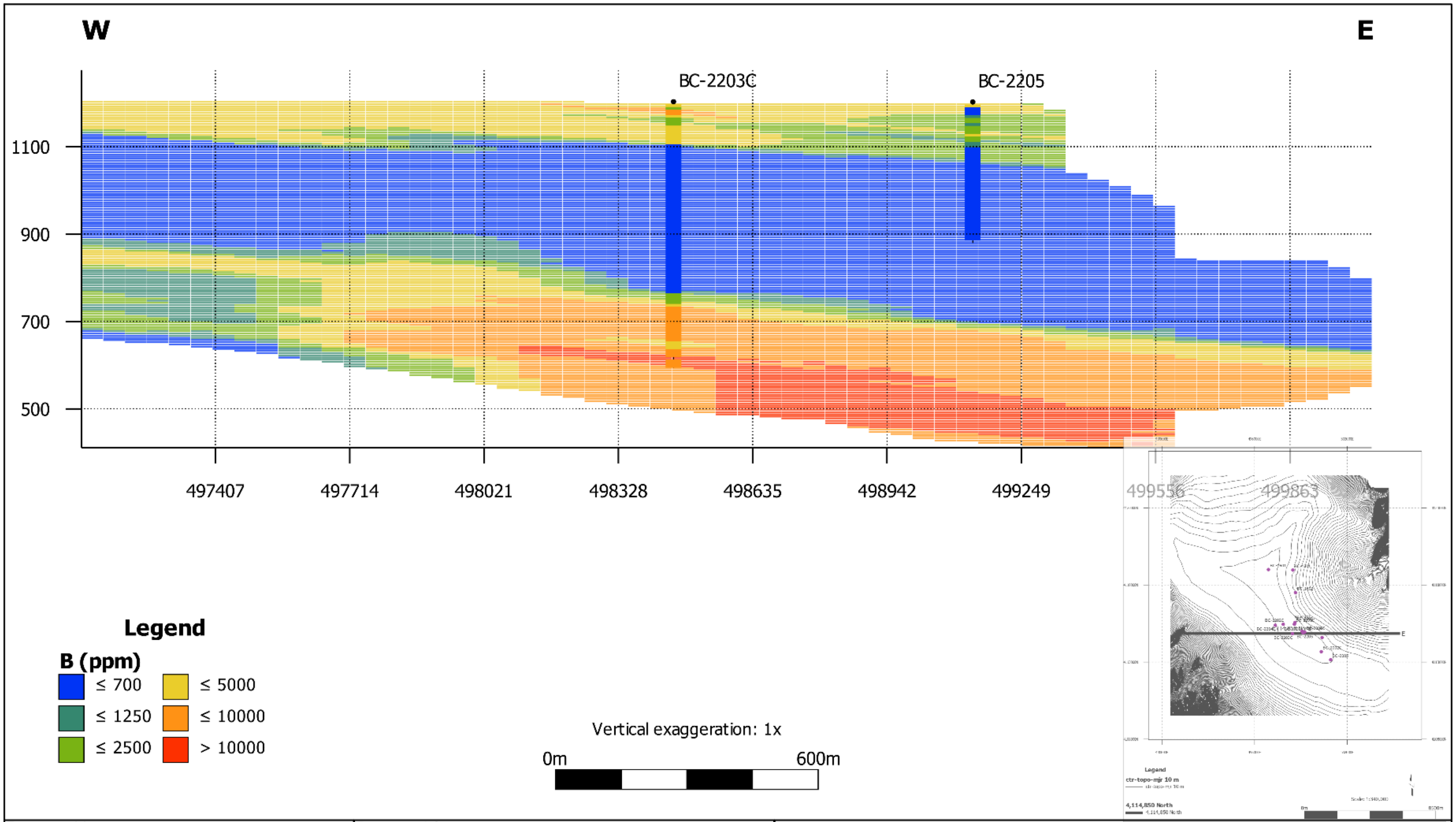
Prepared for:

Cross Section Diagonal with Block Model Lithium Grades and Drill Hole 6-Meter Lithium Composites

Project No: 24-1431

Date: 10/2024

Figure 14-26: Bonnie Claire Project Comparison of Block Model and Composite Boron Grades Section View 1



Prepared by:

GLOBAL RESOURCE ENGINEERING

Prepared for:

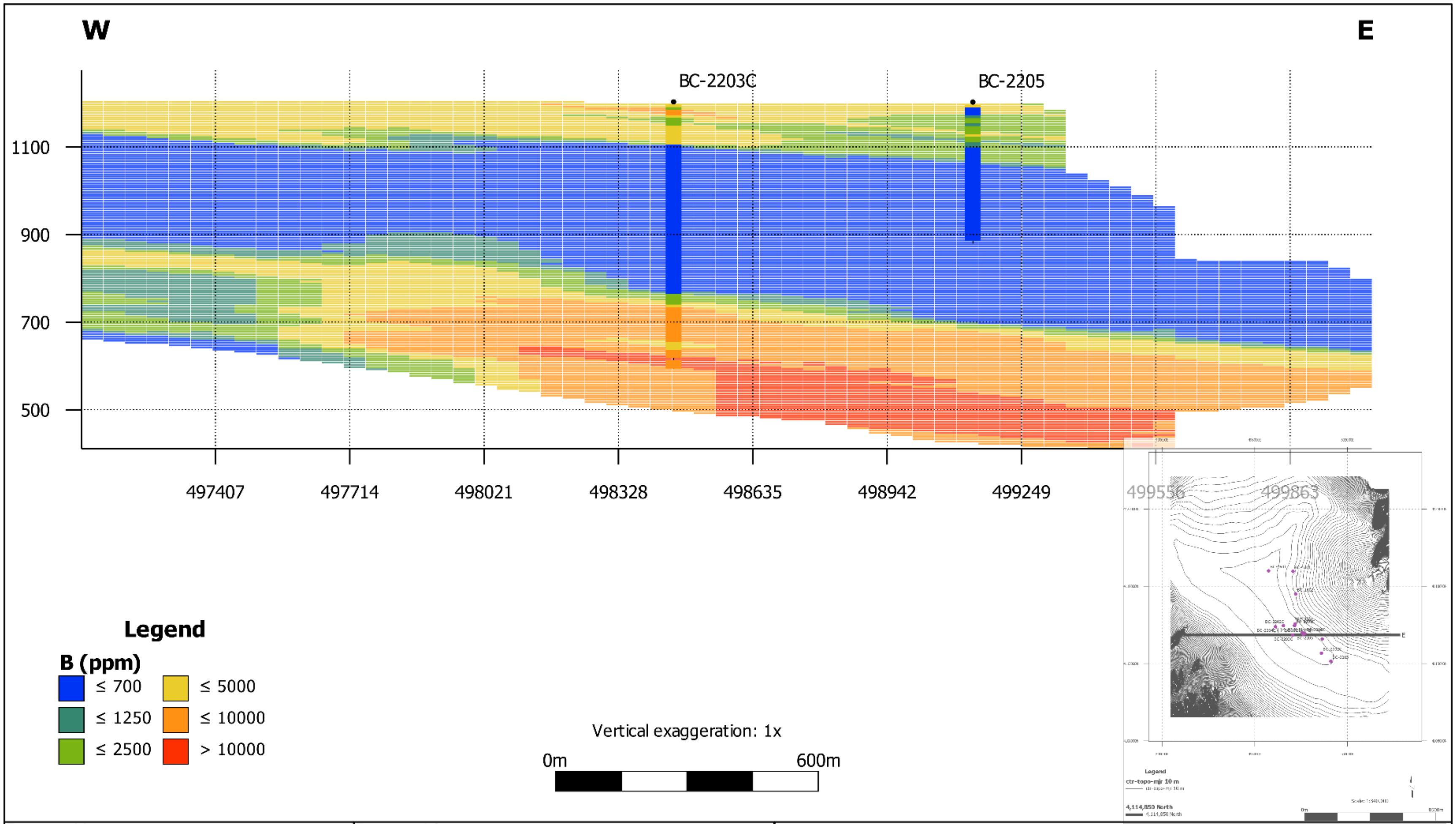
Nevada Lithium

Cross Section 4,114,850 North with Block Model Boron Grades and Drill Hole Boron 6-Meter Composites

Project No: 24-1431

Date: 10/2024

Figure 14-27: Bonnie Claire Project Comparison of Block Model and Composite Boron Grades Section View 2



Prepared by:

Global Resource Engineering

Prepared for:

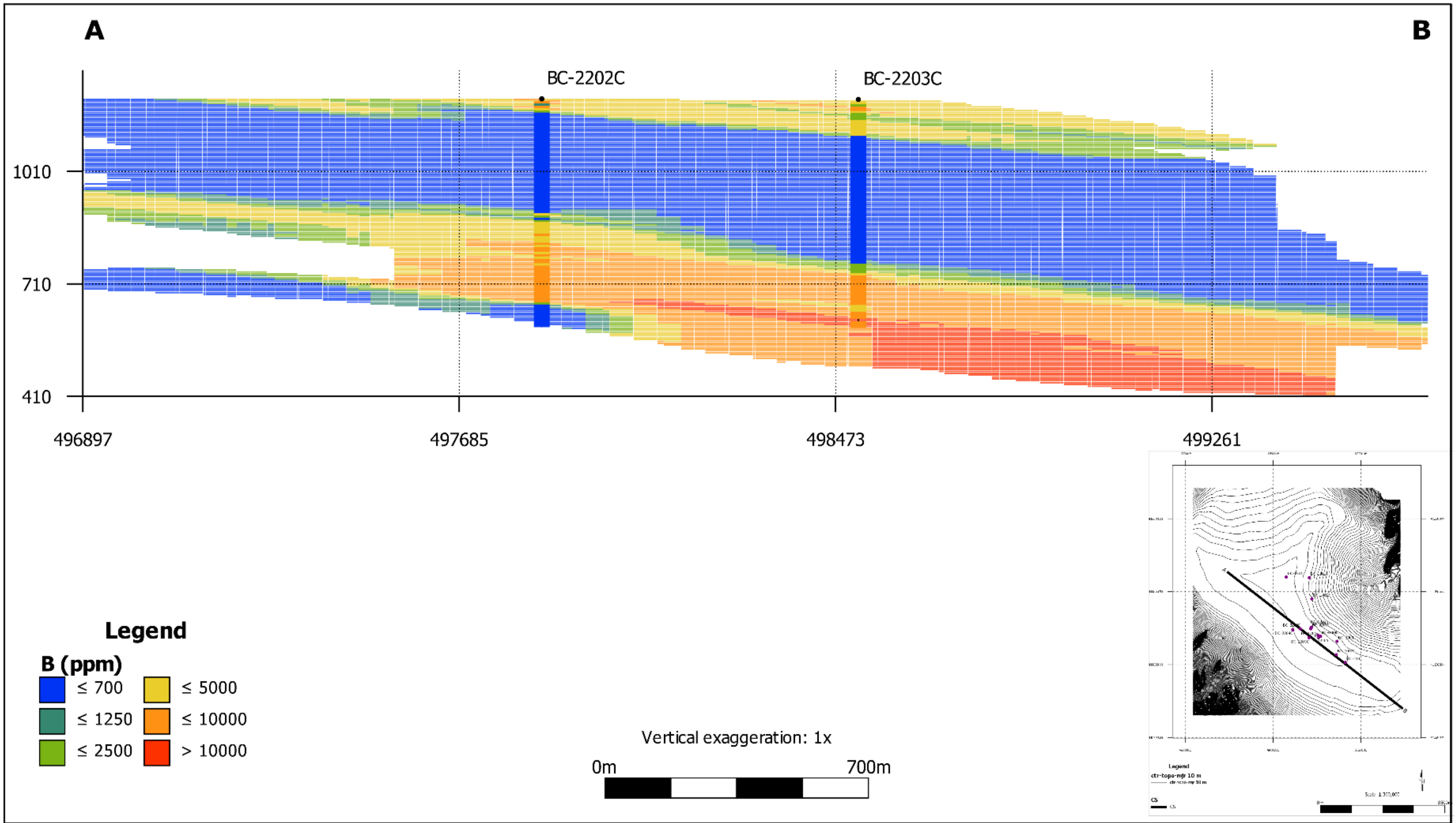
Nevada Lithium

Cross Section 4,114,850 North with Block Model Boron Grades and Drill Hole Boron 6-Meter Composites

Project No: 24-1431

Date: 10/2024

Figure 14-28: Bonnie Claire Project Comparison of Block Model and Boron Composite Grades Section View 3



Prepared by:

Prepared for:

Cross Section Diagonal with Block Model Boron Grades and Drill Hole 6-Meter Boron Composites

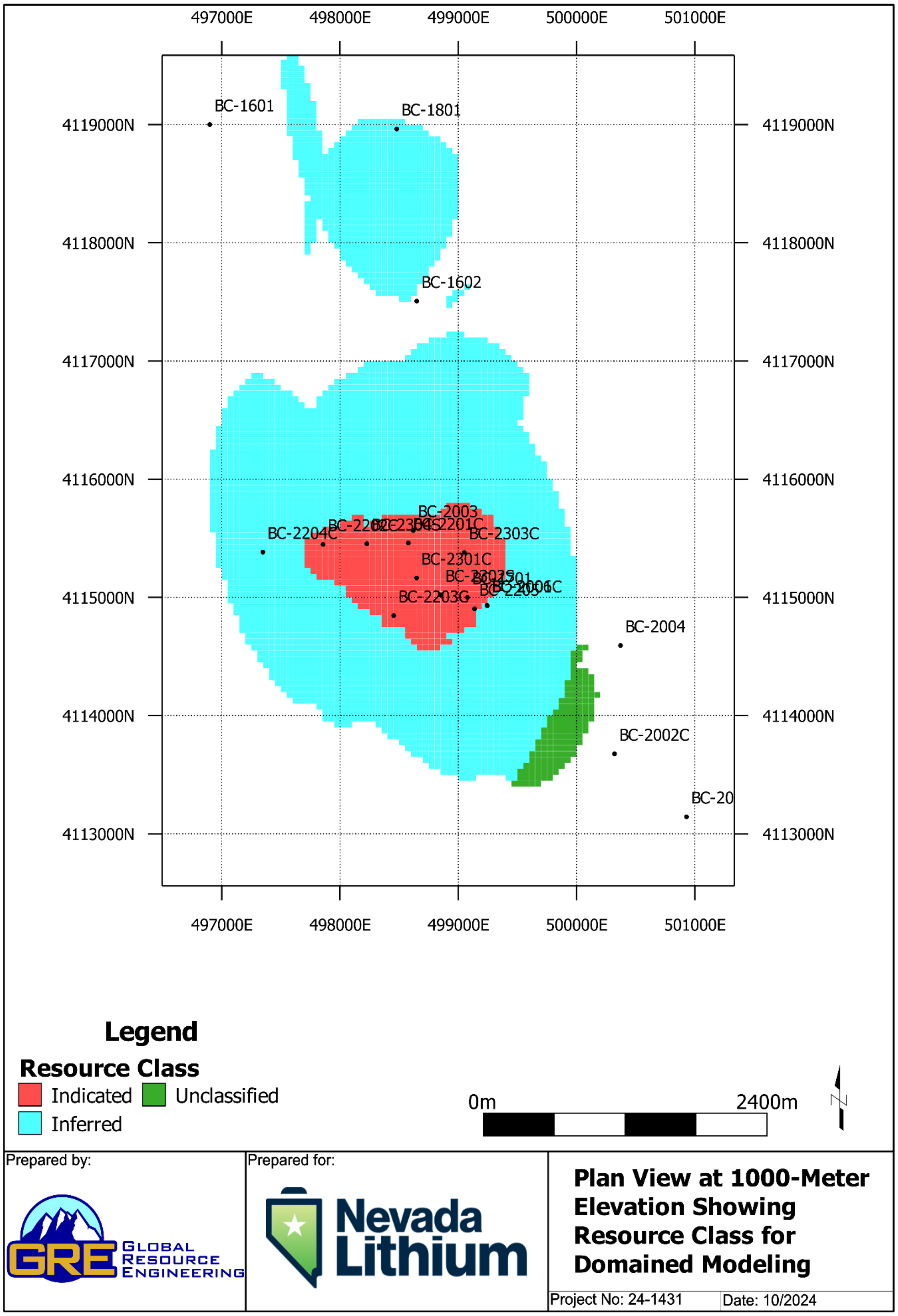
Project No: 24-1431

Date: 10/2024

14.7 Resource Classification

Blocks that used the maximum number of samples (12 and were within an average distance of 500 meters of a drill hole were classified as Indicated. All other blocks were classified as Inferred as shown on Figure 14-29.

Figure 14-29: Bonnie Claire Project Resource Classifications



14.8 Resource Report

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource Estimates.

Resources for the deposit have been separated into two categories: shallow (i.e., mineralization occurring in the upper claystone unit) and deep (i.e., mineralization occurring in the lower claystone and lower sandstone units).

14.8.1 Shallow Mineralization

Assuming open pit mining for the shallow mineralization, the calculated economic cutoff grade for the shallow mineralization is:

Mining	\$3.52/tonne
Process and General & Administrative (G&A)	\$26.84/tonne
Total	\$30.36/tonne

At 75% recovery, the cost is \$40.48/tonne, and with production of 5.323 kg $LiCO_3$ per kg of Li contained and a price of \$20,000/tonne Li_2CO_3, the calculated cutoff grade is:

$$\frac{\$40.48}{\text{tonne Li}} \times \frac{1\text{ kg Li}}{5.323\text{ kg Li2CO3}} \times \frac{\text{tonne Li2CO3}}{\$20{,}000} = \text{380 ppm or approximately 400 ppm.}$$

Although the economic cutoff is calculated to be approximately 400 ppm, the mineral resources are stated at a cutoff grade of 900 ppm.

14.8.1.1 Constraining Pit Shell for the Shallow Mineralization

CIM Definition Standards for Mineral Resources and Mineral Reserves (2014) defines a mineral resource as: “a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.” The mineral resources may be impacted by further infill and exploration drilling that may result in increases or decreases in future resource evaluations. The mineral resources may also be affected by subsequent assessment of mining, environmental, processing, permitting, taxation, socio-economic, and other factors. Mineral resources are not mineral reserves and do not have demonstrated economic viability. Mineral reserves can only be estimated based on the results of an economic evaluation as part of a Preliminary Feasibility Study or Feasibility Study. As a result, no mineral reserves have been estimated as part of this study. There is no certainty that all or any part of the mineral resources will be converted into a mineral reserve.

The requirement, “reasonable prospects for eventual economic extraction,” generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at a cutoff grade considering appropriate extraction scenarios and processing recoveries. To meet this requirement, QP Lane considered that major portions of the shallow mineralization at the Bonnie Claire deposit are amenable for open pit extraction.

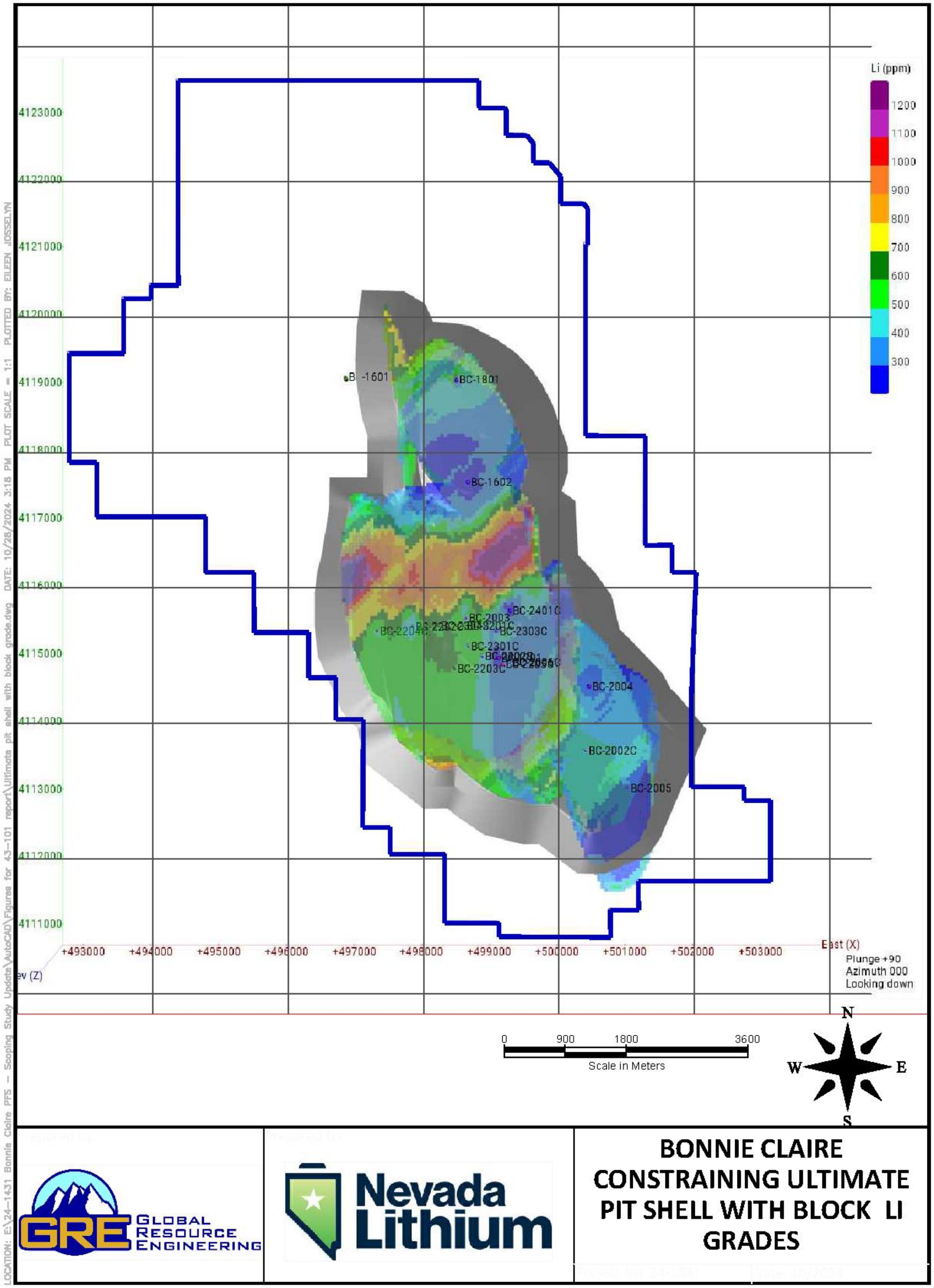
To determine the quantities of material offering “reasonable prospects for eventual economic extraction” by an open pit, QP Lane constructed open pit scenarios developed from the resource block model estimate using Whittle’s Lerchs-Grossman miner “Pit Optimizer” software. Reasonable mining assumptions were applied to evaluate the portions of the block model (Indicated and Inferred blocks) that could be “reasonably expected” to be mined from an open pit. The optimization parameters presented in Table 14-6 were selected based on experience and benchmarking against similar projects. The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cutoff grade. In addition, QP Lane determined it unlikely, given the soil characteristics on the Property, that open pit mining could extend to the depths of the Lower Claystone domain and therefore cut off open pit mining at the bottom of the Upper Claystone domain. QP Lane considered that the blocks located within the resulting conceptual pit envelope show “reasonable prospects for economic extraction” and can be reported as a mineral resource.

Table 14-6: Bonnie Claire Parameters for Open Pit Optimization

Parameter	Items	Unit	Value
Costs	Mining Cost (waste/mineralized material)	$/tonne mined	3.52
	Process and G&A	$/tonne mineralized material treated	26.84
Recovery		%	75
Net revenue gold	Lithium Carbonate Price	$/tonne	20,000
	Lithium Price	$/tonne	20,000*5.323 = 106,460
	Selling costs	$/tonne	100
Royalty	Total royalty (simplified)	%	0
Slope angle		degrees	18

The resulting pit shell is shown in Figure 14-30.

Figure 14-30: Bonnie Claire Project Constraining Ultimate Pit Shell



14.8.1.2 Statement of Mineral Resource for the Shallow Mineralization

Table 14-7 presents the Mineral Resource estimate for shallow mineralization at the Project by confidence category assuming open pit mining methods and reported in accordance with CIM Definition Standards (2014).

Due to the large ratio of deposit size to block size and method of grade estimation, the grade model is fully diluted, and the resource is 100% recoverable as estimated.

Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Table 14-7: Bonnie Claire Mineral Resource Estimate Within a Constraining Pit Shell with Consideration of Shallow Mineralization Only

Class	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes)	B Grade (ppm)	B (Million Tonnes)
Indicated	188.08	1,074	0.202	1.075	152.11	1,519	0.231
Inferred	451.10	1,106	0.499	2.655	270.53	1,505	0.407

1. The effective date of the Mineral Resource is September 24, 2024.
2. The Qualified Person for the estimate is Terre Lane of GRE.
3. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Mineral Resources are reported at a 900 ppm Li cutoff, an assumed lithium carbonate (Li_2CO_3) price of $20,000/tonne, 5.323 tonnes of Li_2CO_3 per tonne Li, 75% recovery, a slope angle of 18 degrees, no royalty, processing and G&A cost of $26.52/tonne, mining cost of $3.52/tonne, and selling costs of $100/tonne Li_2CO_3.
5. Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

Table 14-8 shows the sensitivity of the shallow mineral resource to cutoff grade.

Table 14-8: Bonnie Claire Resource Estimate Sensitivity to Cutoff Grade Within a Constraining Pit Shell with Consideration of Shallow Mineralization Only

Cutoff Grade (ppm)	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes	B Grade (ppm)	B (million Tonnes)
Indicated							
400	393.27	859	0.338	1.799	339.24	1,576	0.535
600	317.20	944	0.300	1.595	271.49	1,556	0.422
900	**188.08**	**1,074**	**0.202**	**1.075**	**152.11**	**1,519**	**0.231**
1200	25.54	1,314	0.034	0.179	12.24	1,665	0.020
1500	1.17	1,561	0.0018	0.0097	1.11	1,547	0.0017
Inferred							
400	2,466.72	681	1.681	8.945	1,007.76	2,041	2.057
600	1,260.72	865	1.090	5.804	666.80	1,960	1.307
900	**451.10**	**1,106**	**0.499**	**2.655**	**270.53**	**1,505**	**0.407**
1200	126.06	1,300	0.164	0.872	58.78	812	0.0048

Cutoff Grade (ppm)	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes	B Grade (ppm)	B (million Tonnes)
1500	0.70	1,530	0.0000011	0.0000057	0.06	337	0.00000002

14.8.2 Deep Mineralization

Assuming borehole mining for the deep mineralization, the calculated economic cutoff grade for the deep mineralization is:

Mining	\$16.74/tonne
Process and G&A	\$26.84/tonne
Total	\$43.58/tonne

At 75% recovery, the cost is \$58.11/tonne, and with production of 5.323 kg $LiCO_3$ per kg of Li contained and a price of \$20,000/tonne Li_2CO_3, the calculated cutoff grade is:

$$\frac{\$58.11}{\text{tonne Li}} \times \frac{1\text{ kg Li}}{5.323\text{ kg Li2CO3}} \times \frac{\text{tonne Li2CO3}}{\$20{,}000} = \text{546 ppm or approximately 600 ppm.}$$

Although the calculated economic cutoff is approximately 600 ppm, the mineral resources are stated at a cutoff grade of 1,800 ppm.

14.8.2.1 Mineral Resource that May be Potentially Borehole Mineable (i.e., Not Open Pit or Underground Mineable)

The mineral resource that may be "potentially borehole mineable" is the estimated mineral resource at the Project that could be extracted using borehole mining techniques (i.e., not open pit mining or underground mining techniques). The mineral resources that may be potentially borehole mineable assume a 60% mining recovery, but do not include mining dilution, plant recovery, refining penalties, or pit constraints. Ms. Lane has had prior experience with borehole mining and it is her opinion that it may be a viable option for Bonnie Claire. In addition, Nevada Lithium has retained the services of Kinley Exploration (Kinley), an expert and world leader in Hydraulic Borehole Mining (HBHM). Kinley owns, develops, and practices proprietary mining technology with multiple patents and operational intellectual property methods specific to HBHM. Kinley has provided a preliminary evaluation of HBHM at Bonnie Claire. The method uses a high-pressure water jet to disaggregate the mineralized material and then evacuate the slurried mineralized material back to surface via a hydraulic airlift method (Kinley, 2024).

Kinley evaluated a range of potential mining strategies and geometries HBHM of the Bonnie Claire deposit. Kinley reviewed the overall site conditions and the current geotechnical analysis of the cores and considered the make up of the mineralization, the hydraulic conditions, and the anticipated plasticity and flowability of the mineralized material body - all describe optimal conditions for HBHM technology. The water circulation method of first mobilizing with a high volume - high pressure jet flow and then slurrification of the mineralized material with high volume water is an ideal application of the jetting and lifting technologies contemplated by Kinley for this project (Hazen, 2023).

Hydraulic Airlift pumping is commonly used in drilling industrial large diameter wells up to 5,000 feet, undersea mining and in dredging applications allows the mineralized material to be feasibly lifted from the 1,500 to 2,500-foot zone considered in the model. It should be noted that with the most recent drilling information, that considering airlift from up to 3,000 feet which may be an eventual mining depth is considered quite achievable within this mining strategy. The combination of these known methods of pumping and the well proven effectiveness of high-pressure water jetting as modeled is highly attainable, and in Kinley's opinion, can be finitely modeled with a full pilot test (Kinley, 2024).

The mineral resources that are potentially borehole mineable are important for Bonnie Claire because some of the resource mineralization may be recovered using in situ leaching or other borehole extraction methods. These methods have not been demonstrated at Bonnie Claire. Ms. Lane recommends conducting tests for these types of methods to ascertain their viability at Bonnie Claire.

The reader is cautioned that the results for the mineral resources that may be potentially borehole mineable do not represent an attempt to estimate mineral reserves. There are presently no mineral reserves on the project.

14.8.2.2 Statement of Mineral Resource for the Deep Mineralization

Table 14-9 presents the Mineral Resource estimate for the deep mineralization at the Project by confidence category assuming borehole mining methods and reported in accordance with CIM Definition Standards (2014).

Due to the large ratio of deposit size to block size and method of grade estimation, the grade model is fully diluted, and the resource is 100% recoverable as estimated.

Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Table 14-9: Bonnie Claire Mineral Resource Estimate With 60% Borehole Mining Recovery with Consideration of Deep Mineralization Only

Class	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes	B Grade (ppm)	B (million Tonnes)
Indicated	275.85	3,519	0.971	5.167	275.85	8,404	2.318
Inferred	1,561.06	3,085	4.816	25.634	0.00	0	0.00

1. The effective date of the Mineral Resource is September 24, 2024.
2. The Qualified Person for the estimate is Terre Lane of GRE.
3. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Mineral Resources are reported at a 1,800 ppm Li cutoff, an assumed lithium carbonate (Li_2CO_3) price of $20,000/tonne, 5.323 tonnes of Li_2CO_3 per tonne Li.
5. Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

Table 14-10 shows the sensitivity of the deep mineral resource to cutoff grade.

Table 14-10: Bonnie Claire Resource Estimate Sensitivity to Cutoff Grade With 60% Borehole Mining Recovery with Consideration of Deep Mineralization Only

Cutoff Grade (ppm)	Lithium				Boron		
	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million Tonnes)	Li Carbonate Equivalent (Million Tonnes)	Mass (Million Tonnes	B Grade (ppm)	B (million Tonnes)
Indicated							
900	344.52	3,074	1.059	5.637	344.52	7,031	2.422
1200	316.39	3,255	1.030	5.482	316.39	7,588	2.401
1500	292.14	3,414	0.997	5.309	292.14	8,086	2.362
1800	**275.85**	**3,519**	**0.9716**	**5.167**	**275.85**	**8,404**	**2.318**
2100	262.84	3,597	0.945	5.032	262.84	8,635	2.270
2400	249.11	3,671	0.915	4.868	249.11	8,847	2.204
2700	229.37	3,766	0.864	4.598	229.37	9,092	2.085
Inferred							
900	3,504.76	2,043	7.161	38.116	0.00	0	0.00
1200	2,367.38	2,527	5.982	31.843	0.00	0	0.00
1500	1,859.91	2,852	5.304	28.234	0.00	0	0.00
1800	**1,561.06**	**3,085**	**4.816**	**25.634**	**0.00**	**0**	**0.00**
2100	1,346.94	3,267	4.400	23.423	0.00	0	0.00
2400	1,175.89	3,415	4.016	21.378	0.00	0	0.00
2700	997.06	3,571	3.560	18.952	0.00	0	0.00

14.9 Factors that Could Affect Mineral Resources

To the best of the QP’s knowledge, there are no known legal, political, environmental, permitting, title, taxation, socio-economic, marketing, mining, metallurgical, or other factors that would further materially affect the Mineral Resources reported herein.

There are no known significant factors or risks that may affect property access, title, or the right to perform work on the Property. The Property comprises unpatented U.S. Federal claims administered by the BLM and the claims come with the right to access and conduct mineral exploration and mining under the guidelines and rules set forth in the General Mining Act of 1872, 30 U.S.C. §§ 22-42.

The Mineral Resource Estimate could be materially affected negatively by low market prices for lithium and by difficulties in material handling and processing that would affect the recovery and production of salable lithium product. Changes in the estimated materials and supply costs, and in labor availability and rates are other factors that could materially affect the Mineral Resource Estimate. The taxation and political environment for mining in Nevada is relatively stable. The Project requires infrastructure development, including the acquisition or rights to water supply.

15.0 MINERAL RESERVE ESTIMATES

There are no Mineral Reserves in this Technical Report.

16.0 MINING METHODS

This Section is provided for context for readers not familiar with the proposed mining techniques.

16.1 Open Pit Mining of Shallow Mineralization

Open pit mining of the shallow Bonnie Claire mineralization would likely use conventional mining equipment of hydraulic shovels and mining haul trucks but could possibly use scrapers. The soil is extremely soft and typically saturated. As a result, pit wall slopes would need to be relatively shallow; for the Lerchs-Grossman pit exercise in Section 14, the GRE QP used 18 degree side wall slopes. Additional geotechnical testing would need to be completed to determine stable side wall slope angles, bench heights, and catch bench widths. Dewatering portions of the pit, freezing, or other forms of stabilizing pit slopes and bottom may be required.

16.2 Hydraulic Borehole Mining of Deep Mineralization

As stated in Section 14, Nevada Lithium contracted Kinley Exploration to provide a preliminary evaluation of HBHM for the Project.

Kinley was asked to establish a reasonable and economic mining strategy utilizing HBHM within Bonnie Claire lithium resource deposit to extract lithium in a continuous, efficient, cost effective and safe manner in the targeted higher grade zone from 450 meters to 900 meters deep.

Kinley's analysis took into consideration that the mineralization is highly plastic and with the assistance of jetting and pumping would likely flow. With this information, coupled with the significant cost of backfilling and then the consideration of subsidence, Kinley evaluated HBHM without backfilling and using directionally drilling from a stable position.

The Kinley model assumed the highly mobile mineralization within the target section would behave plastically and flow in a fluid state or caving condition to the mining system intake. This relies on flow of the mobilized mineralization, accelerated by high pressure jetting to a centralized well, then pumped back to surface.

16.2.1 Application of HBHM

Kinley's HBHM technology is a surface-based mining method that uses a high-pressure water jet to disaggregate the mineralization and then evacuate the slurrified material back to surface, in this case via a hydraulic airlift method. A specific challenge to this mining strategy is the geometry of the ore body with the increasing grade at depth and plastic-like consistency (potentially flowing) properties. The mineralization has both increased pressure gradient and hydraulic challenges.

Kinley focused on the effective and economic volumetrics, lateral reach (diameter of cavern) from a single set up of the primary Production Mining Rig and multiple locations for the Jetting Rig and the energy expended for maximum reach. In addition to the reach laterally, several different scenarios were considered to balance the energy and efficiency of lifting the material to surface.

16.2.2 Bonnie Claire HBHM Layout

The current mining application considered would be to directionally drill a single large diameter Production Well centered under the targeted resource section to be mined (Figure 16-1). The well would be drilled with an 85-meter offset from center of the target mine section.

Construction of the Production Well would be to case the well to within six to 18 meters of the projected bottom of the resource to be mined. The bottom section would then be mined out to open an initial cavity. This directionally drilled well would be primarily vertical and turned under the center of the resource.

Next a series of “Jet” Wells would be drilled and cased to 450 meters in a mining pattern with engineered spacing to maximize the plastic flowing condition of the mineralized material between the wells. These would be centered and patterned above the Production Well. These wells would be drilled vertically in a 85-meters-diameter section. The Jet Wells would be pilot drilled to total depth, then jetted to action and excite the resource to initiate caving into the Production Well for pumping to surface. A continuous hydraulic cutter, mounted on the intake of the Production Well, would assist in slurrifying the ore for pumping to surface.

16.2.3 Lifting Ore to Surface

Kinley determined that the most economic lifting method for the target mining depth would be hydraulic airlift. This low energy method lifts by reverse flood pumping as slurry is lifted to surface with two-phase pumping. Air is injected in the internal slurry stream reducing the density of the fluid, and the weight of the annular fluid causes flow down the annulus and creates a vacuum at the intake of the Production Well. The air injected in tiny bubbles at the submergence point (injection point) in the slurry line to first reduce the density as noted above and then next, with the tiny bubbles injected at depth, these continuously grow in size as they travel to surface, increasing the flow and lifting the slurry.

16.2.4 Jetting Wells and Flow

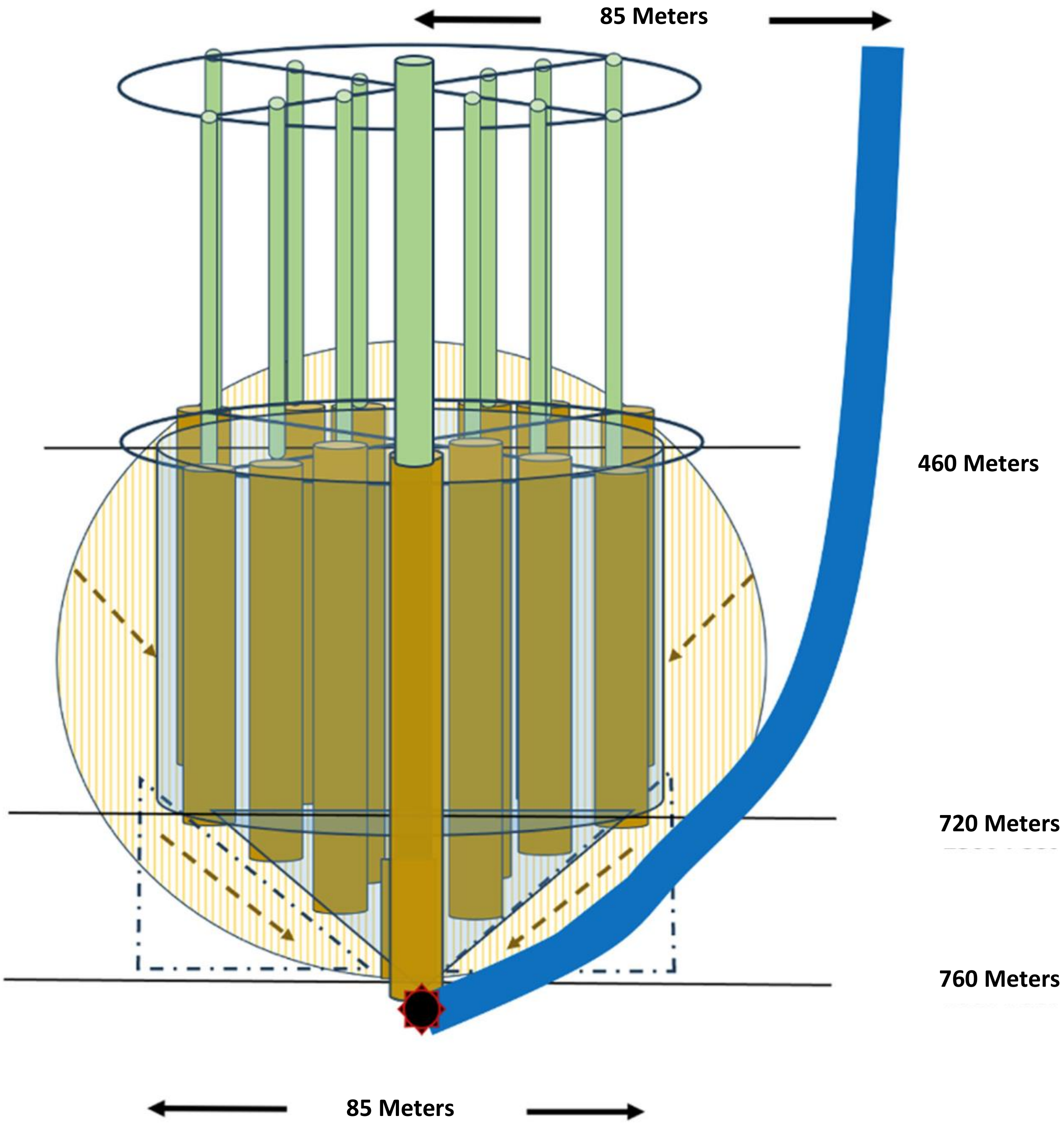
Kinley modeled 32 Jet Wells; this number may potentially be decreased once the rate of the flow of the mineralized material to the intake has been determined based on velocity and caving characteristics. Currently, as modeled, mining out the entre cavity takes approximately 4.25 years of continuous mining at a rate of 100 tonnes per hour. This work is completed without the requirement to move the Production Rig to a new operating platform location.

This mining strategy and method assumes that the cavity will not stay open long term and will not require backfill. Caving or flow of mineralized material to the intake would lead to increased production; hence, potentially not as much material would need to actually be jetted. This approach is based on using proven technologies of airlift, directional drilling, Kinley’s multiple wall mining pipe, and engineered high-pressure jetting.

16.2.5 Disclaimer

Although Kinley believes the expectations expressed in their evaluations are based on reasonable assumptions, such statements are not guarantees of performance, and actual results may differ materially from those estimated. Factors that could cause the actual results to differ materially from those estimates include, but are not limited to, drilling and geotechnical conditions, geology, jet testing and cutting, and general mining conditions.

Figure 16-1: Bonnie Claire Proposed Hydraulic Borehole Mining Setup



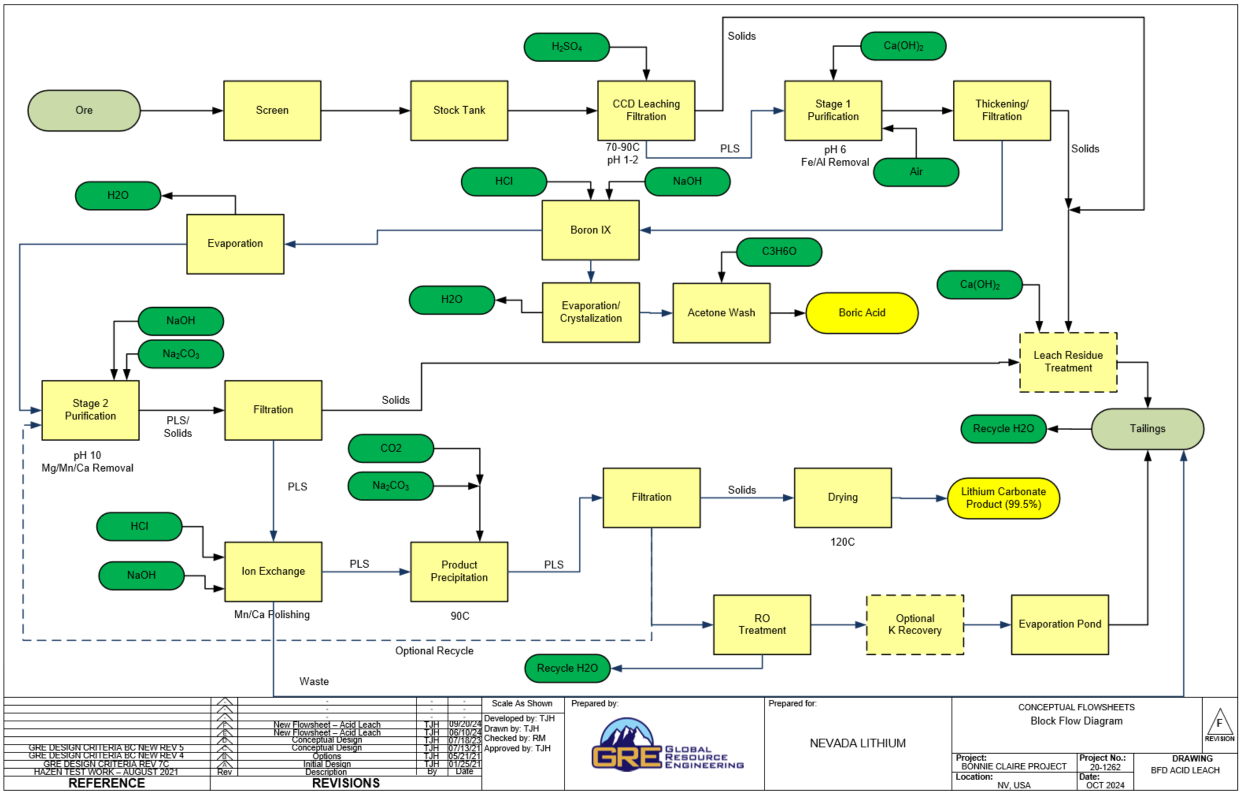
17.0 RECOVERY METHODS

A significant amount of flowsheet development has been undertaken for the Bonnie Claire deposit, the supporting test work is found in Section 13. Two flowsheets were advanced and vary because of the boron mineral concentration. The original process flowsheet involved the use of calcination with sodium sulfate additions followed by a water leach to release the lithium. The updated flowsheet reverted to a sulfuric acid leach to release the lithium and boron. This flowsheet is similar to Ioneer’s Rhyolite Ridge project.

The calcination flowsheet was not successful in handling materials with high boron concentrations (searlesite minerals). The searlesite has a low melting point causing fusing in the calcination stage. However, for the low boron grade material the calcination system provides the benefits of reduced iron and aluminum concentrations in the leach solution. The acid leach is not impacted by the presence of boron and the boron can be recovered as a by-product. However, the downstream purification is more complex due to the higher impurity concentrations.

At this stage of process development, the sulfuric acid leach flowsheet is being advanced as the primary flowsheet because of its flexibility. Figure 17-1 shows the block flow diagram of the proposes process.

Figure 17-1: Bonnie Claire Project Preliminary Flowsheet



A MetSim® model of the process has also been developed to allow for the analysis of various process options, forecast metal recoveries and reagent consumptions. The model incorporates the details of the laboratory testing for each unit operations. Some assumptions have been made where the process variables are not fully optimized. The preliminary model outputs based on the high-grade lithium and boron feed (lower deposit) indicate that a lithium recovery (as lithium carbonate) is 82 to 85% and that the boron recovery (as boric acid) is 70 to 75%. These recoveries are consistent with the extrapolated laboratory results.

18.0 PROJECT INFRASTRUCTURE

18.1 General Arrangement

Project infrastructure currently consists of the state and county road system. No power or water are present at the Project currently.

The Project is accessible by way of US-95 N. The area where the Project boundary is adjacent to US-95 N was identified as a tentative plant and administrative facility location. The ground in this area is somewhat higher in elevation than the basin and appears to be stable. Further investigation will be needed to confirm that this is a suitable plant and administrative facility location.

18.1.1 Access Roads

Primary access to the operation will be via a road developed southwest from US-95 N to the proposed plant and administrative facility site. This road will be adequate for semi-truck traffic. Additional access roads will be constructed to allow heavy equipment traffic between the mine and internally within the plant site.

18.1.2 Buildings & Yards

Structures and facilities to be installed on-site include administration, laboratory, warehouse, crushing, leaching and lithium recovery areas, mine shop, and fuel and reagent storage areas. The processing areas and other site access points will be fenced and gated.

Administration will be housed in a building sized to accommodate supervision, accounting, safety and technical personnel. The site will be connected to communications using local phone and internet services.

The laboratory will house sample preparation and analytical equipment to handle the daily requirements of the mine and processing plant.

The mill workshop and warehouse building will be located adjacent to the processing plant and will include dry storage areas for parts, reagents, and supplies. Contained tankage will be provided for acid, recycled water, and liquid chemicals.

The crushing, leaching, and filtration areas will be open-air contained enclosures. The process building will house the lithium recovery and product manufacturing equipment and work areas.

The building will include offices, overhead cranes, HVAC, and fire protection systems. The building will include drying and bagging equipment and area to allow for indoor storage and loading of final product.

The mine shop will allow for two service bays and include offices, an overhead crane, compressed air, tool rooms, lubrication availability, and storage for conveyor and other repair parts.

Fuel and lube storage will be in a contained open-air area that will service the mine and plant mobile equipment. Diesel fuel will be delivered in tanker trucks and stored in tanks.

18.2 Tailings Facility

Tailings would be conveyed from the filtration plant to a facility within the northern portion of the Property. The tailings would be placed via a stacking conveyor. Dozers would be used for final spreading and contouring. Tailings would be allowed to dry and be compacted as necessary to a target 90% of the standard Proctor density, which would minimize any possibility of solution migration.

18.3 Power Supply

Power will be provided by connection to the regional grid which runs along US-95.

Power on-site will be distributed from a main substation located adjacent to the plant. Line feed to areas of the plant and mine will be via overhead and buried lines as required and stepped down to appropriate voltages.

18.4 Water Supply

The Company has not yet evaluated options for securing makeup water.

The Project will have a dedicated water system to provide fire protection to all areas of the processing plant.

18.5 Waste Management

Other than treated effluent from the site septic systems, the Project will have no water discharge to the environment. Lavatory and wash facilities will be located throughout the Project site. Sanitary waste from the lavatories will flow by gravity to multiple septic systems for treatment and disposal.

Solid waste will be placed in dumpsters or other appropriate containers for transport off-site.

Hazardous waste will be placed in appropriate containers to be transported offsite by a licensed contractor.

18.6 Storm Water Handling

Storm water in and around the plant area will be diverted to settling ponds. Storm water within containment areas will be treated accordingly prior to discharge. This water may be suitable to offset fresh water usage.

19.0 MARKET STUDIES AND CONTRACTS

Section 19 applies to advanced projects only and has not been addressed in this report.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

The following subsections summarize the environmental permitting requirements. Although the site has active permits for exploration, a full-scale permitting effort including an Environmental Impact Statement (EIS) will be required for operations. The time to complete an EIS following a Prefeasibility Study or Feasibility Study study is expected to be two to three years.

20.1 NEPA

The National Environmental Policy Act (NEPA) is the largest single permitting hurdle that the Project can be expected to face. This is usually in the form of an EIS. An EIS is a slow and complicated process involving:

- A large database of baseline data (prior to the anticipated mining impact)
- A detailed PoO describing the mining plan in detail
- An assessment of the environmental impacts
- A discussion of mitigation measures
- An Evaluation of the effectiveness of mitigation measures
- A wide variety of supporting and supplementary reports, including
    - Wildlife, threatened and endangered species (biology)
    - Archeology
    - Sound, noise, and vibration
    - Water quantity
    - Water quality
    - Pit lake
    - Geochemistry
    - Air quality
    - Cultural resources
    - Social impact
    - Vegetation impacts, etc.

The EIS is prepared by a third party hired by the BLM (not the mining company, and not the consultants who prepare the supplemental environmental reports). It is submitted to the BLM, where it is given a public comment period. After a process that often takes multiple years from the commencement of baseline data collection, the BLM provides a Record of Decision, which acts as the permit.

20.2 Baseline Reports

The site needs several baseline reports for the State Permits and for the EIS. These will likely be:

- Air quality
- Biological
- Surface Water

- Groundwater
- Geochemistry
- Archeological and cultural resources.

21.0 CAPITAL AND OPERATING COSTS

GRE has not estimated capital and operating costs for the Project.

22.0 ECONOMIC ANALYSIS

GRE has not performed an economic analysis for the Project.

23.0 ADJACENT PROPERTIES

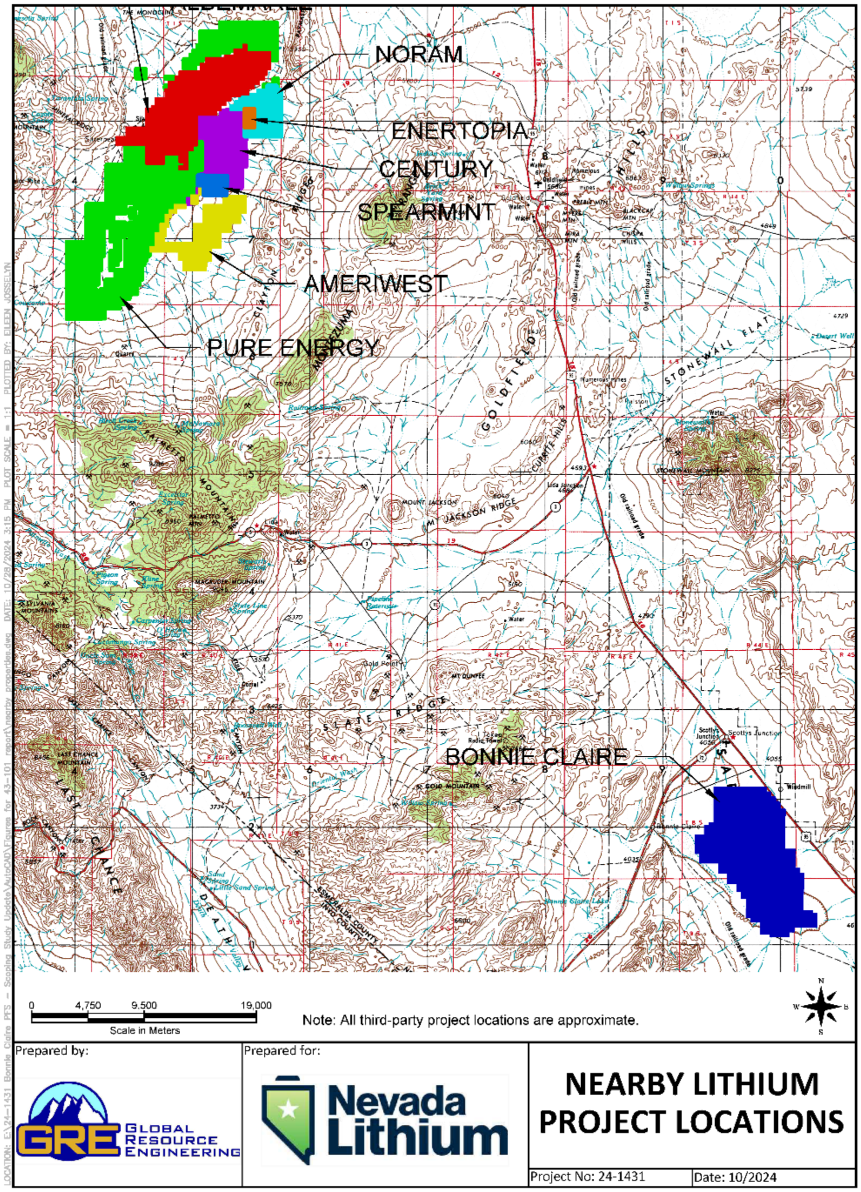
The Project is surrounded by BLM land in all directions. In addition, the Timbi-Sha Shoshone Reservation is near the northernmost claim boundary.

Nearby, approximately 70 km (43 miles) to the north in the Clayton Valley, valid mining claims for lithium deposits are held by several exploration and mineral production companies, including patent private lands owned by Albemarle Corp., who is processing lithium brines (see Figure 23-1).

Pure Energy Resources, Ameriwest Lithium Inc., Century Lithium Corp., Noram Ventures, and Spearmint Resources Inc. have produced NI 43-101 compliant reports of nearby properties.

The author has not verified the information provided in the above technical reports, and the information is not necessarily indicative of the mineralization that is found at Bonnie Claire.

Figure 23-1: Nearby Properties



24.0 OTHER RELEVANT DATA AND INFORMATION

Section 27, References, provides a list of documents that were consulted in support of the Resource Estimate. No further data or information is necessary, in the opinion of the authors, to make the Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

25.1 Conclusions

Bonnie Claire is a large lithium carbonate/salt-bearing sediment Deposit, where the lithium is present within the pore space of the rock units and not contained in mineral crystal latices. The estimated mineral resources in this report are open to depth and laterally in all directions.

To move the Project forward, additional drilling and assaying should be conducted. Additional drilling and assaying will enable reclassification of Mineral Resources from the Indicated category to Measured and from the Inferred category to the Indicated category.

The following are conclusions and interpretations of the metallurgical work:

- Pre-concentration of the lithium and rejection of calcite through size separation was shown to be effective. At a cut size of 45 µm, the coarse fraction contained approximately 90% of the calcite and less than 2% of the lithium. The mass rejection was approximately 25%.
- To date, two lithium extraction systems have been advanced: acid treatment and thermal treatment.
- Thermal treatment includes calcination of the material with the addition of sodium sulfate followed by hot water leaching. High lithium extractions (up to 80%) were achieved. Significant optimization potential exists through additional test work.
- The thermal leach liquors are easier to treat (compared to the acid treatment approach) in the solution purification system because minimal deleterious minerals are solubilized. The lithium can be readily recovered from the leach solutions using conventional commercial processes.
- The acid treatment demonstrated that the lithium in the sediments is readily soluble in a strong sulfuric acid solution, achieving extractions of approximately 90%. However, conventional downstream purification of the acid liquor was shown to be ineffective, resulting in high lithium losses (up to 74%). Acid consumptions were also high due to the high calcite content of the materials, emphasizing the benefits of pre-concentration methods.
- As a result of the lithium losses associated with the downstream recovery process, acid treatment is not considered a viable process at this stage. Further test work is required to develop an alternative purification system for these solutions.
- Testing indicated that secondary lithium product purification may be necessary using the bicarbonate process.
- Membrane technologies are currently being explored for lithium processing and may provide an alternative purification path.
- No secondary products production has been investigated; however, the Bonnie Claire material does contain significant sodium and potassium.

The shallow mineralization within the Upper Claystone domain is amenable to open pit mining, while deeper mineralization (Lower Claystone and Lower Sandstone) is likely not accessible via open pit mining due to the nature of the soils at the Property.

The Project also has the potential for incorporating solar power into its development due to its location in Nevada, US.

25.2 Risks and Uncertainties

Additional geotechnical testwork is needed to confirm shallow open pit parameters. Although very shallow pit slopes (18 degrees) were used for the Mineral Resource estimation, it is possible that final pit slopes could vary from this and alter the shallow mineralization estimation.

Additional work is needed to determine if hydraulic borehole mining is feasible and practicable for the deeper mineralization. Proofing of the borehole recovery concepts must be conducted. The QP recommends conducting field pilot testing to determine efficacy and design parameters.

Four to five years of continued exploration, Project development, and permitting are expected to determine the viability of the Project.

25.3 Conclusions of the Qualified Person

The QP is of the opinion that the Bonnie Claire Lithium Project has the potential for economic lithium extraction and could be a long-lived asset and major supplier of lithium products in the world. Additional work is warranted to advance the project, fill data gaps, and explore the project’s potential.

26.0 RECOMMENDATIONS

The QP's recommend the following activities be conducted in two phases for the Bonnie Claire Lithium Project:

Phase 1 – Estimated Cost $400,000

- Review the existing process design documentation
- Set-up, establish, and coordinate test works campaign with a third-party laboratory
- Sample characterization, beneficiation, leach, leach+ partial neutralization, acid recycle, Fe/Al precipitation
- Reassess current flowsheet configuration based on the feedback obtained from the test works campaign
- Develop preliminary BFDs
- Develop a preliminary mass balance
- Prepare a preliminary equipment list including equipment sizing
- Evaluate the required footprint of the plant to support the site selection
- Prepare a Class 5 AACE-compliant cost estimate for CAPEX and OPEX, compared with benchmarks of similar operations
- Identify trade-offs to evaluate in a next phase.

This work would be completed over two to three years. The estimated costs to complete the proposed recommended actions are shown in Table 26-1

Table 26-1: Breakdown of Estimated Costs to Complete the Phase 1 Program

Activity	Estimated Cost
Review the existing process design documentation	$25,000
Set-up, establishment, and coordination of test works campaign with a third-party laboratory	$30,000
Sample characterization, beneficiation, leach, leach+ partial neutralization, acid recycle, Fe/Al precipitation	$95,000
Reassessment current flowsheet configuration based on the feedback obtained from the test works campaign	$30,000
Develop preliminary BFDs	$25,000
Develop a preliminary mass balance	$25,000
Prepare a preliminary equipment list including equipment sizing	$20,000
Evaluate the required footprint of the plant to support the site selection	$20,000
Prepare a Class 5 AACE-compliant cost estimates for CAPEX and OPEX, compared with benchmarks of similar operations	$100,000
Identify trade offs to evaluate in a next phase	$30,000
Total	**$400,000**

Phase 2 – Estimated Cost $16,000,000

- Infill drilling to increase confidence in the resource estimate from Inferred to Indicated or Measured
- Twinned rotary, RC, and core holes should be planned to test the improvement in grade as seen in the existing core and RC twin holes
- Additional drilling around drill holes BC-1601 and BC-2001C should be planned to identify shallow mineralization
- Field pilot testing of borehole mining methodology to determine efficacy and design parameters
- Pump testing to determine if clays can be dewatered prior to mining
- Metallurgical test work to identify and optimize operating conditions for Li extraction and producing final lithium products
- Market analysis to determine production impacts and product prices, including reagent pricing
- Evaluation of potential by-product recovery
- Prefeasibility Study, including determination of infrastructure requirements, such as sources of power, water, reagents, and natural gas
- Phase I environmental permitting and baseline data collection
- Hydrogeology study
- Geotechnical test work should be performed in the next drilling campaign

This work would be completed over two to three years. The estimated costs to complete the proposed Phase 2 recommended actions are shown in Table 26-2.

Table 26-2: Breakdown of Estimated Costs to Complete the Phase 2 Proposed Program

Activity	Estimated Cost
Drilling, Surface Sampling, and geochemistry Down-Hole Surveys	$3,000,000
Borehole Mining Testing	$10,000,000
Metallurgical Test Work	$700,000
Market Analysis	$50,000
43-101 Technical Reports	$450,000
Phase I Environmental Permitting	$400,000
Hydrogeology Study	$900,000
Geotechnical Test work	$500,000
Totals	$16,000,000

Ms. Lane expects that phase 2 work will require two to three years of exploration and engineering work are needed and that the Phase I Environmental Permitting and baseline data collection could take two to three years to complete.

Based on observations and conversation with Nevada Lithium personnel during the QP site visit, and in conjunction with the results of QPs Hamid Samari and Terre Lane review and evaluation of Iconic's and Nevada Lithium's QA/QC program, those QPs make the following recommendations for improving the QA/QC program for core drilling in the next stage of exploration:

- Formal, written procedures for data collection and handling should be developed and made available to Nevada Lithium field personnel. These should include procedures and protocols for field work, geological mapping and logging, database construction, sample chain of custody, and documentation trail. These procedures should also include detailed and specific QA/QC procedures for analytical work, including acceptance/rejection criteria for batches of samples.
- A detailed review of field practices and sample collection procedures should be performed on a regular basis to ensure that the correct procedures and protocols are being followed.
- Nevada Lithium' existing QA/QC program should be expanded to include a higher percentage of standards, blanks, and duplicates. All QA/QC control samples sent for analysis should be blind, meaning that the laboratory should not be able to differentiate a check sample from the regular sample stream. The minimum control unit with regard to check sample insertion rate should be the batch of samples originally sent to the laboratory. Samples should be controlled on a batch by batch basis, and rejection criteria should be enforced. Ideally, assuming a 40-sample batch, the following control samples should be sent to the primary laboratory:
    - Two blanks (5% of the total number of samples). Of these, one coarse blank should be inserted for every 4th blank inserted (25% of the total number of blanks inserted)
    - Two pulp duplicates (5% of the total number of samples)
    - Two coarse duplicates (5% of the total number of samples)
    - Two standards appropriate to the expected grade of the batch of samples (5% of the total number of samples).
- For drill hole samples, the control samples sent to a second (check) laboratory should be from pulp duplicates in all cases and should include one blank, one duplicate, and one standard for every 40-sample batch.
- The purpose of the coarse duplicates is to quantify the variances introduced into the assay grade by errors at different sample preparation stages. Coarse duplicates are inserted into the primary sample stream to provide an estimate of the sum of the assay variance plus the sample preparation variance, up to the primary crushing stage. An alternative to the coarse duplicate is the field duplicate, which in the case of core samples, is a duplicate from the core box (i.e., a quarter core or the other half core). Because sample preparation was carried out by the laboratory (and not by Nevada Lithium), if coarse duplicates are preferred (to preserve drill sample), the coarse duplicates should be sent for preparation and assaying by the second laboratory.
- QA/QC analysis should be conducted on an on-going basis and should include consistent acceptance/rejection tests. Each round of QA/QC analysis should be documented, and reports should include a discussion of the results and any corrective actions taken.
- In general, atomic absorption spectroscopy should provide better accuracy for Li analysis than ICP-AES, and comparisons should occasionally be performed.

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CERTIFICATE OF QUALIFIED PERSON

I, Hamid Samari, PhD, of 17301W Colfax Ave, Suite 400, Golden, Colorado, 80401, the co-author of the report entitled “Mineral Resource Estimate NI 43-101 Technical Report, Bonnie Claire Lithium Project, Nye County, Nevada, USA” with an effective date of September 24, 2024, and an issue date of December 16, 2024 (the “Technical Report”), DO HEREBY CERTIFY THAT:

1. I am a MMSA Qualified Professional in Geology, #01519QP.
2. I hold a degree of PhD of Science (2000) in geology (Tectonics – Structural Geology) from Tehran Azad University (Sciences & Research Branch).
3. I have practiced my profession since 1994 in capacities from expert of geology to senior geologist and project manager positions for geology, seismic hazard assessment and mining exploration.
4. I have practiced area of geology, mining, and civil industry for over 20 years. I have worked for Azad University, Mahallat branch as assistant professor and head of geology department for 19 years, for Tamavan consulting engineers as senior geologist for 12 years, and for Global Resource Engineering, Ltd. for nearly four years. I have worked on geologic reports and resource statements for silver and gold deposits in the United States and Latin America. This includes epithermal silver deposits in Peru, gold deposits in Nevada and Utah, and mixed precious metals deposits elsewhere in the Western Hemisphere. I have worked on the Clayton Valley lithium Project, which has the same mineralization type as the Bonnie Claire Lithium Project (the “Project”). I have also worked on several similar sedimentary and sediment hosted deposits.
5. I have been involved with many studies including scoping studies, prefeasibility studies, and feasibility studies.
6. I have read the definition of “Qualified Person” set out in National Instrument 43-101 – *Standards of Disclosure in Mineral Projects* (“NI 43-101”) and certify that by reason of my education, affiliation with a professional organization (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
7. I visited the Project on August 24, 2018, October 9 and 10, 2020, June 28 and 29, 2022, and January 12 and 13, 2024.
8. I am responsible for Sections 1.3, 1.4, 1.5, 1.6, 1.7, 6, 7, 8, 9, 10, 11, 12, part of 25 and part 26 of the Technical Report.
9. I am independent of Nevada Lithium Resources Inc. as described in section 1.5 by NI 43-101.
10. I was a “Qualified Person” for a previous Mineral Resource Estimate Technical Report with an effective date of September 15,2018 and of the Revised and Amended Mineral Resource Estimate Technical Report with an effective date of July 1, 2021 with respect to the Project.
11. I have read NI 43-101 and Form 43-101F1 thereto. The Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1 thereto.
12. As of the effective date of the Technical Report, 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.

Hamid Samari, PhD
“Hamid Samari“
Geologist
Global Resource Engineering, Ltd.
Denver, Colorado
Date of Signing: December 16, 2024

CERTIFICATE OF QUALIFIED PERSON

I, Jeffrey Todd Harvey, PhD, of 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled “Mineral Resource Estimate NI 43-101 Technical Report, Bonnie Claire Lithium Project, Nye County, Nevada, USA” with an effective date of September 24, 2024, and an issue date of December 16, 2024 (the “Technical Report”), DO HEREBY CERTIFY THAT:

1. I am a Society of Mining Engineers (SME) Registered Member Qualified Professional in Mining/Metallurgy/Mineral Processing, #04144120.
2. I hold a degree of Doctor of Philosophy (PhD) (1994) in Mining and Mineral Process Engineering from Queen’s University at Kingston. As well as an MSc (1990) and BSc (1988) in Mining and Mineral Process Engineering from Queen’s University at Kingston.
3. I have practiced my profession since 1988 in capacities from metallurgical engineer to senior management positions for production, engineering, mill design and construction, research and development, and mining companies. My relevant experience for the purpose of the Technical Report is as the test work reviewer, process designer, process cost estimator, and economic modeler with 25 or more years of experience in each area.
4. I have taken classes in mineral processing, mill design, cost estimation and mineral economics in university, and have taken several short courses in process development subsequently.
5. I have worked in mineral processing, managed production and worked in process optimization, and I have been involved in or conducted the test work analysis and flowsheet design for many projects at locations in North America, South America, Africa, Australia, India, Russia and Europe for a wide variety of minerals and processes.
6. I have supervised and analyzed test work, developed flowsheets and estimated costs for many projects including International Gold Resources Bibiani Mine, Aur Resources Quebrada Blanca Mine, Mineracao Caraiba S/A, Avocet Mining Taror Mine, Mina Punta del Cobre Pucobre Mine, and others, and have overseen the design and cost estimation of many other similar projects.
7. I have worked or overseen the development or optimization of mineral processing flowsheets for close to one hundred projects and operating mines, including copper flotation and acid heap leach solvent extraction and electrowinning processes.
8. I have been involved in or managed many studies including scoping studies, prefeasibility studies, and feasibility studies.
9. I have been involved with the mine development, construction, startup, and operation of several mines.
10. I have read the definition of “Qualified Person” set out in National Instrument 43-101 – *Standards of Disclosure in Mineral Projects* (“NI 43-101”) and certify that by reason of my education, affiliation with a professional organization (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
11. I have not visited the Bonnie Claire Lithium Project (the “Project”).
12. I am responsible for Sections 1.8, 13, and 17 of the Technical Report.
13. I am independent of Nevada Lithium Resources Inc. as described in section 1.5 by NI 43-101.
14. I was a “Qualified Person” for the previous Mineral Resource Estimate Technical Report with an effective date of September 15,2018 and of the Revised and Amended Mineral Resource Estimate Technical Report with an effective date of July 1, 2021 with respect to the Project.
15. I have read NI 43-101 and Form 43-101F1 thereto. The Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1 thereto.

16. As of the effective date of the Technical Report, 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.

Jeffrey Todd Harvey, PhD
"Todd Harvey"
Director of Process Engineering
Global Resource Engineering, Ltd.
Denver, Colorado
Date of Signing: December 16, 2024

CERTIFICATE OF QUALIFIED PERSON

I, Terre A. Lane, of 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled "Mineral Resource Estimate NI 43-101 Technical Report, Bonnie Claire Lithium Project, Nye County, Nevada, USA" with an effective date of September 24, 2024 and an issue date of December 16, 2024 (the "Technical Report"), DO HEREBY CERTIFY THAT:

1. I am a MMSA Qualified Professional in Ore Reserves and Mining, #01407QP and a Registered member of SME - 4053005.
2. I hold a degree of Bachelor of Science (1982) in Mining Engineering from Michigan Technological University.
3. I have practiced my profession since 1982 in capacities from mining engineer to senior management positions for engineering, mine development, exploration, and mining companies. My relevant experience for the purpose of this Technical Report is as the resource estimator with 25 or more years of experience in the area. I have experience estimating resources for two Lithium Salar's in Chile, the Clayton Valley Project in Nevada, and many sedimentary and sediment hosted deposits.
4. I have created or overseen the development of mine plans for several hundred open pit and underground projects and operating mines. I also have experience with bore hole mining.
5. I have been involved in or managed several hundred studies including scoping studies, prefeasibility studies, and feasibility studies.
6. I have been involved with the mine development, construction, startup, and operation of several mines.
7. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – *Standards of Disclosure in Mineral Projects* ("NI 43-101") and certify that by reason of my education, affiliation with a professional organization (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
8. I have not visited the Bonnie Claire Lithium Project (the "Project").
9. I am responsible for Sections 1.1, 1.2, 1.9, 1.10, 2, 3, 4, 5, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 27 of the Technical Report.
10. I am independent of Nevada Lithium Resources Inc. as described in section 1.5 by NI 43-101.
11. I was a "Qualified Person" for the previous Mineral Resource Estimate Technical Report with an effective date of September 15,2018 and of the Revised and Amended Mineral Resource Estimate Technical Report with an effective date of July 1, 2021 with respect to the Project.
12. I have read NI 43-101 and Form 43-101F1 thereto. The Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1 thereto.
13. As of the effective date of the Technical Report, 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.

Terre A. Lane
"Terre A. Lane"
Mining Engineer
Global Resource Engineering, Ltd.
Denver, Colorado
Date of Signing: December 16, 2024

APPENDIX A - CLAIMS LIST

Table A-1: Bonnie Claire Lithium Project Placer Claims

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 3	1118744	20	$12.00	Great Basin Oil LLC
BC 4	1118745	20	$12.00	Great Basin Oil LLC
BC 5	1118746	20	$12.00	Great Basin Oil LLC
BC 6	1118747	20	$12.00	Great Basin Oil LLC
BC 7	1118748	20	$12.00	Great Basin Oil LLC
BC 8	1118749	20	$12.00	Great Basin Oil LLC
BC 9	1118750	20	$12.00	Great Basin Oil LLC
BC 10	1118751	20	$12.00	Great Basin Oil LLC
BC 11	1118752	20	$12.00	Great Basin Oil LLC
BC 12	1118753	20	$12.00	Great Basin Oil LLC
BC 15	1118756	20	$12.00	Great Basin Oil LLC
BC 16	1118757	20	$12.00	Great Basin Oil LLC
BC 17	1118758	20	$12.00	Great Basin Oil LLC
BC 18	1118759	20	$12.00	Great Basin Oil LLC
BC 19	1118760	20	$12.00	Great Basin Oil LLC
BC 20	1118761	20	$12.00	Great Basin Oil LLC
BC 21	1118762	20	$12.00	Great Basin Oil LLC
BC 22	1118763	20	$12.00	Great Basin Oil LLC
BC 23	1118764	20	$12.00	Great Basin Oil LLC
BC 24	1118765	20	$12.00	Great Basin Oil LLC
BC 25	1118766	20	$12.00	Great Basin Oil LLC
BC 26	1118767	20	$12.00	Great Basin Oil LLC
BC 27	1118768	20	$12.00	Great Basin Oil LLC
BC 28	1118769	20	$12.00	Great Basin Oil LLC
BC 29	1118770	20	$12.00	Great Basin Oil LLC
BC 30	1118771	20	$12.00	Great Basin Oil LLC
BC 31	1118772	20	$12.00	Great Basin Oil LLC
BC 32	1118773	20	$12.00	Great Basin Oil LLC
BC 33	1118774	20	$12.00	Great Basin Oil LLC
BC 34	1118775	20	$12.00	Great Basin Oil LLC
BC 35	1118776	20	$12.00	Great Basin Oil LLC
BC 36	1118777	20	$12.00	Great Basin Oil LLC
BC 37	1118778	20	$12.00	Great Basin Oil LLC
BC 38	1118779	20	$12.00	Great Basin Oil LLC
BC 39	1118780	20	$12.00	Great Basin Oil LLC
BC 40	1118781	20	$12.00	Great Basin Oil LLC
BC 41	1118782	20	$12.00	Great Basin Oil LLC
BC 42	1118783	20	$12.00	Great Basin Oil LLC
BC 43	1118784	20	$12.00	Great Basin Oil LLC
BC 44	1118785	20	$12.00	Great Basin Oil LLC
BC 45	1118786	20	$12.00	Great Basin Oil LLC
BC 46	1118787	20	$12.00	Great Basin Oil LLC
BC 47	1118788	20	$12.00	Great Basin Oil LLC
BC 48	1118789	20	$12.00	Great Basin Oil LLC
BC 49	1118790	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 50	1118791	20	$12.00	Great Basin Oil LLC
BC 51	1118792	20	$12.00	Great Basin Oil LLC
BC 52	1118793	20	$12.00	Great Basin Oil LLC
BC 53	1118794	20	$12.00	Great Basin Oil LLC
BC 54	1118795	20	$12.00	Great Basin Oil LLC
BC 55	1118796	20	$12.00	Great Basin Oil LLC
BC 56	1118797	20	$12.00	Great Basin Oil LLC
BC 57	1118798	20	$12.00	Great Basin Oil LLC
BC 58	1118799	20	$12.00	Great Basin Oil LLC
BC 59	1118800	20	$12.00	Great Basin Oil LLC
BC 60	1118801	20	$12.00	Great Basin Oil LLC
BC 61	1118802	20	$12.00	Great Basin Oil LLC
BC 62	1118803	20	$12.00	Great Basin Oil LLC
BC 63	1118804	20	$12.00	Great Basin Oil LLC
BC 64	1118805	20	$12.00	Great Basin Oil LLC
BC 65	1118806	20	$12.00	Great Basin Oil LLC
BC 66	1118807	20	$12.00	Great Basin Oil LLC
BC 67	1118808	20	$12.00	Great Basin Oil LLC
BC 68	1118809	20	$12.00	Great Basin Oil LLC
BC 69	1118810	20	$12.00	Great Basin Oil LLC
BC 70	1118811	20	$12.00	Great Basin Oil LLC
BC 71	1118812	20	$12.00	Great Basin Oil LLC
BC 72	1118813	20	$12.00	Great Basin Oil LLC
BC 73	1118814	20	$12.00	Great Basin Oil LLC
BC 74	1118815	20	$12.00	Great Basin Oil LLC
BC 75	1118816	20	$12.00	Great Basin Oil LLC
BC 76	1118817	20	$12.00	Great Basin Oil LLC
BC 77	1118818	20	$12.00	Great Basin Oil LLC
BC 78	1118819	20	$12.00	Great Basin Oil LLC
BC 79	1118820	20	$12.00	Great Basin Oil LLC
BC 80	1118821	20	$12.00	Great Basin Oil LLC
BC 81	1118822	20	$12.00	Great Basin Oil LLC
BC 82	1118823	20	$12.00	Great Basin Oil LLC
BC 83	1118824	20	$12.00	Great Basin Oil LLC
BC 84	1118825	20	$12.00	Great Basin Oil LLC
BC 85	1118826	20	$12.00	Great Basin Oil LLC
BC 86	1118827	20	$12.00	Great Basin Oil LLC
BC 87	1118828	20	$12.00	Great Basin Oil LLC
BC 88	1118829	20	$12.00	Great Basin Oil LLC
BC 89	1118830	20	$12.00	Great Basin Oil LLC
BC 90	1118831	20	$12.00	Great Basin Oil LLC
BC 91	1118832	20	$12.00	Great Basin Oil LLC
BC 92	1118833	20	$12.00	Great Basin Oil LLC
BC 93	1118834	20	$12.00	Great Basin Oil LLC
BC 94	1118835	20	$12.00	Great Basin Oil LLC
BC 95	1118836	20	$12.00	Great Basin Oil LLC
BC 96	1118837	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 125	1118866	20	$12.00	Great Basin Oil LLC
BC 126	1118867	20	$12.00	Great Basin Oil LLC
BC 127	1118868	20	$12.00	Great Basin Oil LLC
BC 128	1118869	20	$12.00	Great Basin Oil LLC
BC 129	1118870	20	$12.00	Great Basin Oil LLC
BC 130	1118871	20	$12.00	Great Basin Oil LLC
BC 131	1118872	20	$12.00	Great Basin Oil LLC
BC 132	1118873	20	$12.00	Great Basin Oil LLC
BC 133	1118874	20	$12.00	Great Basin Oil LLC
BC 134	1118875	20	$12.00	Great Basin Oil LLC
BC 135	1118876	20	$12.00	Great Basin Oil LLC
BC 136	1118877	20	$12.00	Great Basin Oil LLC
BC 137	1118878	20	$12.00	Great Basin Oil LLC
BC 138	1118879	20	$12.00	Great Basin Oil LLC
BC 139	1118880	20	$12.00	Great Basin Oil LLC
BC 140	1118881	20	$12.00	Great Basin Oil LLC
BC 141	1118882	20	$12.00	Great Basin Oil LLC
BC 142	1118883	20	$12.00	Great Basin Oil LLC
BC 143	1118884	20	$12.00	Great Basin Oil LLC
BC 144	1118885	20	$12.00	Great Basin Oil LLC
BC 145	1118886	20	$12.00	Great Basin Oil LLC
BC 146	1118887	20	$12.00	Great Basin Oil LLC
BC 147	1118888	20	$12.00	Great Basin Oil LLC
BC 148	1118889	20	$12.00	Great Basin Oil LLC
BC 149	1118890	20	$12.00	Great Basin Oil LLC
BC 150	1118891	20	$12.00	Great Basin Oil LLC
BC 151	1118892	20	$12.00	Great Basin Oil LLC
BC 152	1118893	20	$12.00	Great Basin Oil LLC
BC 153	1118894	20	$12.00	Great Basin Oil LLC
BC 154	1118895	20	$12.00	Great Basin Oil LLC
BC 155	1118896	20	$12.00	Great Basin Oil LLC
BC 156	1118897	20	$12.00	Great Basin Oil LLC
BC 183	1118924	20	$12.00	Great Basin Oil LLC
BC 184	1118925	20	$12.00	Great Basin Oil LLC
BC 185	1118926	20	$12.00	Great Basin Oil LLC
BC 186	1118927	20	$12.00	Great Basin Oil LLC
BC 187	1118928	20	$12.00	Great Basin Oil LLC
BC 188	1118929	20	$12.00	Great Basin Oil LLC
BC 189	1118930	20	$12.00	Great Basin Oil LLC
BC 190	1118931	20	$12.00	Great Basin Oil LLC
BC 191	1118932	20	$12.00	Great Basin Oil LLC
BC 192	1118933	20	$12.00	Great Basin Oil LLC
BC 193	1118934	20	$12.00	Great Basin Oil LLC
BC 194	1118935	20	$12.00	Great Basin Oil LLC
BC 197	1118938	20	$12.00	Great Basin Oil LLC
BC 198	1118939	20	$12.00	Great Basin Oil LLC
BC 199	1118940	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 200	1118941	20	$12.00	Great Basin Oil LLC
BC 201	1118942	20	$12.00	Great Basin Oil LLC
BC 202	1118943	20	$12.00	Great Basin Oil LLC
BC 203	1118944	20	$12.00	Great Basin Oil LLC
BC 204	1118945	20	$12.00	Great Basin Oil LLC
BC 205	1118946	20	$12.00	Great Basin Oil LLC
BC 206	1118947	20	$12.00	Great Basin Oil LLC
BC 207	1118948	20	$12.00	Great Basin Oil LLC
BC 208	1118949	20	$12.00	Great Basin Oil LLC
BC 209	1118950	20	$12.00	Great Basin Oil LLC
BC 210	1118951	20	$12.00	Great Basin Oil LLC
BC 211	1118952	20	$12.00	Great Basin Oil LLC
BC 212	1118953	20	$12.00	Great Basin Oil LLC
BC 213	1118954	20	$12.00	Great Basin Oil LLC
BC 214	1118955	20	$12.00	Great Basin Oil LLC
BC 215	1118956	20	$12.00	Great Basin Oil LLC
BC 216	1118957	20	$12.00	Great Basin Oil LLC
BC 217	1118958	20	$12.00	Great Basin Oil LLC
BC 218	1118959	20	$12.00	Great Basin Oil LLC
BC 219	1118960	20	$12.00	Great Basin Oil LLC
BC 220	1118961	20	$12.00	Great Basin Oil LLC
BC 221	1118962	20	$12.00	Great Basin Oil LLC
BC 222	1118963	20	$12.00	Great Basin Oil LLC
BC 223	1118964	20	$12.00	Great Basin Oil LLC
BC 224	1118965	20	$12.00	Great Basin Oil LLC
BC 225	1118966	20	$12.00	Great Basin Oil LLC
BC 226	1118967	20	$12.00	Great Basin Oil LLC
BC 227	1118968	20	$12.00	Great Basin Oil LLC
BC 228	1118969	20	$12.00	Great Basin Oil LLC
BC 229	1118970	20	$12.00	Great Basin Oil LLC
BC 230	1118971	20	$12.00	Great Basin Oil LLC
BC 231	1118972	20	$12.00	Great Basin Oil LLC
BC 232	1118973	20	$12.00	Great Basin Oil LLC
BC 233	1118974	20	$12.00	Great Basin Oil LLC
BC 234	1118975	20	$12.00	Great Basin Oil LLC
BC 235	1118976	20	$12.00	Great Basin Oil LLC
BC 236	1118977	20	$12.00	Great Basin Oil LLC
BC 237	1118978	20	$12.00	Great Basin Oil LLC
BC 238	1118979	20	$12.00	Great Basin Oil LLC
BC 239	1118980	20	$12.00	Great Basin Oil LLC
BC 240	1118981	20	$12.00	Great Basin Oil LLC
BC 241	1118982	20	$12.00	Great Basin Oil LLC
BC 242	1118983	20	$12.00	Great Basin Oil LLC
BC 243	1118984	20	$12.00	Great Basin Oil LLC
BC 244	1118985	20	$12.00	Great Basin Oil LLC
BC 245	1118986	20	$12.00	Great Basin Oil LLC
BC 246	1118987	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 247	1118988	20	$12.00	Great Basin Oil LLC
BC 248	1118989	20	$12.00	Great Basin Oil LLC
BC 249	1118990	20	$12.00	Great Basin Oil LLC
BC 250	1118991	20	$12.00	Great Basin Oil LLC
BC 251	1118992	20	$12.00	Great Basin Oil LLC
BC 252	1118993	20	$12.00	Great Basin Oil LLC
BC 253	1118994	20	$12.00	Great Basin Oil LLC
BC 254	1118995	20	$12.00	Great Basin Oil LLC
BC 255	1118996	20	$12.00	Great Basin Oil LLC
BC 256	1118997	20	$12.00	Great Basin Oil LLC
BC 257	1118998	20	$12.00	Great Basin Oil LLC
BC 258	1118999	20	$12.00	Great Basin Oil LLC
BC 259	1119000	20	$12.00	Great Basin Oil LLC
BC 260	1119001	20	$12.00	Great Basin Oil LLC
BC 261	1119002	20	$12.00	Great Basin Oil LLC
BC 262	1119003	20	$12.00	Great Basin Oil LLC
BC 263	1119004	20	$12.00	Great Basin Oil LLC
BC 264	1119005	20	$12.00	Great Basin Oil LLC
BC 265	1119006	20	$12.00	Great Basin Oil LLC
BC 266	1119007	20	$12.00	Great Basin Oil LLC
BC 267	1119008	20	$12.00	Great Basin Oil LLC
BC 268	1119009	20	$12.00	Great Basin Oil LLC
BC 269	1119010	20	$12.00	Great Basin Oil LLC
BC 270	1119011	20	$12.00	Great Basin Oil LLC
BC 271	1119012	20	$12.00	Great Basin Oil LLC
BC 272	1119013	20	$12.00	Great Basin Oil LLC
BC 273	1119014	20	$12.00	Great Basin Oil LLC
BC 274	1119015	20	$12.00	Great Basin Oil LLC
BC 275	1119016	20	$12.00	Great Basin Oil LLC
BC 276	1119017	20	$12.00	Great Basin Oil LLC
BC 277	1119018	20	$12.00	Great Basin Oil LLC
BC 278	1119019	20	$12.00	Great Basin Oil LLC
BC 279	1119020	20	$12.00	Great Basin Oil LLC
BC 280	1119021	20	$12.00	Great Basin Oil LLC
BC 281	1119022	20	$12.00	Great Basin Oil LLC
BC 282	1119023	20	$12.00	Great Basin Oil LLC
BC 283	1119024	20	$12.00	Great Basin Oil LLC
BC 284	1119025	20	$12.00	Great Basin Oil LLC
BC 285	1119026	20	$12.00	Great Basin Oil LLC
BC 286	1119027	20	$12.00	Great Basin Oil LLC
BC 287	1119028	20	$12.00	Great Basin Oil LLC
BC 288	1119029	20	$12.00	Great Basin Oil LLC
BC 289	1119030	20	$12.00	Great Basin Oil LLC
BC 290	1119031	20	$12.00	Great Basin Oil LLC
BC 291	1119032	20	$12.00	Great Basin Oil LLC
BC 292	1119033	20	$12.00	Great Basin Oil LLC
BC 293	1119034	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 294	1119035	20	$12.00	Great Basin Oil LLC
BC 295	1119036	20	$12.00	Great Basin Oil LLC
BC 296	1119037	20	$12.00	Great Basin Oil LLC
BC 358	1122146	20	$12.00	Great Basin Oil LLC
BC 359	1122147	20	$12.00	Great Basin Oil LLC
BC 360	1122148	20	$12.00	Great Basin Oil LLC
BC 361	1122149	20	$12.00	Great Basin Oil LLC
BC 362	1122150	20	$12.00	Great Basin Oil LLC
BC 363	1122151	20	$12.00	Great Basin Oil LLC
BC 364	1122152	20	$12.00	Great Basin Oil LLC
BC 365	1122153	20	$12.00	Great Basin Oil LLC
BC 366	1122154	20	$12.00	Great Basin Oil LLC
BC 367	1122155	20	$12.00	Great Basin Oil LLC
BC 368	1122156	20	$12.00	Great Basin Oil LLC
BC 369	1122157	20	$12.00	Great Basin Oil LLC
BC 370	1122158	20	$12.00	Great Basin Oil LLC
BC 371	1122159	20	$12.00	Great Basin Oil LLC
BC 372	1122160	20	$12.00	Great Basin Oil LLC
BC 373	1122161	20	$12.00	Great Basin Oil LLC
BC 374	1122162	20	$12.00	Great Basin Oil LLC
BC 375	1122163	20	$12.00	Great Basin Oil LLC
BC 376	1122164	20	$12.00	Great Basin Oil LLC
BC 377	1122165	20	$12.00	Great Basin Oil LLC
BC 378	1122166	20	$12.00	Great Basin Oil LLC
BC 379	1122167	20	$12.00	Great Basin Oil LLC
BC 380	1122168	20	$12.00	Great Basin Oil LLC
BC 381	1122169	20	$12.00	Great Basin Oil LLC
BC 382	1122170	20	$12.00	Great Basin Oil LLC
BC 383	1122171	20	$12.00	Great Basin Oil LLC
BC 384	1122172	20	$12.00	Great Basin Oil LLC
BC 385	1122173	20	$12.00	Great Basin Oil LLC
BC 386	1122174	20	$12.00	Great Basin Oil LLC
BC 387	1122175	20	$12.00	Great Basin Oil LLC
BC 388	1122176	20	$12.00	Great Basin Oil LLC
BC 389	1122177	20	$12.00	Great Basin Oil LLC
BC 391	1122179	20	$12.00	Great Basin Oil LLC
BC 392	1122180	20	$12.00	Great Basin Oil LLC
BC 393	1122181	20	$12.00	Great Basin Oil LLC
BC 394	1122182	20	$12.00	Great Basin Oil LLC
BC 395	1122183	20	$12.00	Great Basin Oil LLC
BC 396	1122184	20	$12.00	Great Basin Oil LLC
BC 397	1122185	20	$12.00	Great Basin Oil LLC
BC 414	1122202	20	$12.00	Great Basin Oil LLC
BC 415	1122203	20	$12.00	Great Basin Oil LLC
BC 416	1122204	20	$12.00	Great Basin Oil LLC
BC 417	1122205	20	$12.00	Great Basin Oil LLC
BC 418	1122206	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 419	1122207	20	$12.00	Great Basin Oil LLC
BC 420	1122208	20	$12.00	Great Basin Oil LLC
BC 421	1122209	20	$12.00	Great Basin Oil LLC
BC 422	1122210	20	$12.00	Great Basin Oil LLC
BC 423	1122211	20	$12.00	Great Basin Oil LLC
BC 424	1122212	20	$12.00	Great Basin Oil LLC
BC 425	1122213	20	$12.00	Great Basin Oil LLC
BC 426	1122214	20	$12.00	Great Basin Oil LLC
BC 427	1122215	20	$12.00	Great Basin Oil LLC
BC 428	1122216	20	$12.00	Great Basin Oil LLC
BC 429	1122217	20	$12.00	Great Basin Oil LLC
BC 430	1122218	20	$12.00	Great Basin Oil LLC
BC 431	1122219	20	$12.00	Great Basin Oil LLC
BC 432	1122220	20	$12.00	Great Basin Oil LLC
BC 433	1122221	20	$12.00	Great Basin Oil LLC
BC 434	1122222	20	$12.00	Great Basin Oil LLC
BC 435	1122223	20	$12.00	Great Basin Oil LLC
BC 436	1122224	20	$12.00	Great Basin Oil LLC
BC 437	1122225	20	$12.00	Great Basin Oil LLC
BC 438	1122226	20	$12.00	Great Basin Oil LLC
BC 439	1122227	20	$12.00	Great Basin Oil LLC
BC 440	1122228	20	$12.00	Great Basin Oil LLC
BC 441	1122229	20	$12.00	Great Basin Oil LLC
BC 442	1122230	20	$12.00	Great Basin Oil LLC
BC 443	1122231	20	$12.00	Great Basin Oil LLC
BC 444	1122232	20	$12.00	Great Basin Oil LLC
BC 445	1122233	20	$12.00	Great Basin Oil LLC
BC 446	1122234	20	$12.00	Great Basin Oil LLC
BC 447	1122235	20	$12.00	Great Basin Oil LLC
BC 448	1122236	20	$12.00	Great Basin Oil LLC
BC 449	1122237	20	$12.00	Great Basin Oil LLC
BC 450	1122238	20	$12.00	Great Basin Oil LLC
BC 451	1122239	20	$12.00	Great Basin Oil LLC
BC 452	1122240	20	$12.00	Great Basin Oil LLC
BC 453	1122241	20	$12.00	Great Basin Oil LLC
BC 454	1122242	20	$12.00	Great Basin Oil LLC
BC 455	1122243	20	$12.00	Great Basin Oil LLC
BC 456	1122244	20	$12.00	Great Basin Oil LLC
BC 457	1122245	20	$12.00	Great Basin Oil LLC
BC 458	1122246	20	$12.00	Great Basin Oil LLC
BC 459	1122247	20	$12.00	Great Basin Oil LLC
BC 460	1122248	20	$12.00	Great Basin Oil LLC
BC 477	1122265	20	$12.00	Great Basin Oil LLC
BC 478	1122266	20	$12.00	Great Basin Oil LLC
BC 479	1122267	20	$12.00	Great Basin Oil LLC
BC 480	1122268	20	$12.00	Great Basin Oil LLC
BC 481	1122269	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 482	1122270	20	$12.00	Great Basin Oil LLC
BC 483	1122271	20	$12.00	Great Basin Oil LLC
BC 484	1122272	20	$12.00	Great Basin Oil LLC
BC 485	1122273	20	$12.00	Great Basin Oil LLC
BC 486	1122274	20	$12.00	Great Basin Oil LLC
BC 487	1122275	20	$12.00	Great Basin Oil LLC
BC 488	1122276	20	$12.00	Great Basin Oil LLC
BC 489	1122277	20	$12.00	Great Basin Oil LLC
BC 490	1122278	20	$12.00	Great Basin Oil LLC
BC 491	1122279	20	$12.00	Great Basin Oil LLC
BC 492	1122280	20	$12.00	Great Basin Oil LLC
BC 493	1122281	20	$12.00	Great Basin Oil LLC
BC 494	1122282	20	$12.00	Great Basin Oil LLC
BC 495	1122283	20	$12.00	Great Basin Oil LLC
BC 496	1122284	20	$12.00	Great Basin Oil LLC
BC 497	1122285	20	$12.00	Great Basin Oil LLC
BC 498	1122286	20	$12.00	Great Basin Oil LLC
BC 499	1122287	20	$12.00	Great Basin Oil LLC
BC 500	1122288	20	$12.00	Great Basin Oil LLC
BC 501	1122289	20	$12.00	Great Basin Oil LLC
BC 502	1122290	20	$12.00	Great Basin Oil LLC
BC 503	1122291	20	$12.00	Great Basin Oil LLC
BC 504	1122292	20	$12.00	Great Basin Oil LLC
BC 505	1124734	20	$12.00	Great Basin Oil LLC
BC 506	1122293	20	$12.00	Great Basin Oil LLC
BC 507	1122294	20	$12.00	Great Basin Oil LLC
BC 508	1122295	20	$12.00	Great Basin Oil LLC
BC 541	1122328	20	$12.00	Great Basin Oil LLC
BC 542	1122329	20	$12.00	Great Basin Oil LLC
BC 543	1122330	20	$12.00	Great Basin Oil LLC
BC 544	1122331	20	$12.00	Great Basin Oil LLC
BC 545	1122332	20	$12.00	Great Basin Oil LLC
BC 546	1122333	20	$12.00	Great Basin Oil LLC
BC 547	1122334	20	$12.00	Great Basin Oil LLC
BC 548	1122335	20	$12.00	Great Basin Oil LLC
BC 549	1122336	20	$12.00	Great Basin Oil LLC
BC 550	1122337	20	$12.00	Great Basin Oil LLC
BC 551	1122338	20	$12.00	Great Basin Oil LLC
BC 552	1122339	20	$12.00	Great Basin Oil LLC
BC 553	1122340	20	$12.00	Great Basin Oil LLC
BC 554	1122341	20	$12.00	Great Basin Oil LLC
BC 555	1122342	20	$12.00	Great Basin Oil LLC
BC 556	1122343	20	$12.00	Great Basin Oil LLC
BC 557	1122344	20	$12.00	Great Basin Oil LLC
BC 558	1122345	20	$12.00	Great Basin Oil LLC
BC 559	1122346	20	$12.00	Great Basin Oil LLC
BC 560	1122347	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 561	1122348	20	$12.00	Great Basin Oil LLC
BC 562	1122349	20	$12.00	Great Basin Oil LLC
BC 563	1122350	20	$12.00	Great Basin Oil LLC
BC 564	1122351	20	$12.00	Great Basin Oil LLC
BC 565	1122352	20	$12.00	Great Basin Oil LLC
BC 566	1122353	20	$12.00	Great Basin Oil LLC
BC 567	1122354	20	$12.00	Great Basin Oil LLC
BC 568	1122355	20	$12.00	Great Basin Oil LLC
BC 569	1122356	20	$12.00	Great Basin Oil LLC
BC 570	1122357	20	$12.00	Great Basin Oil LLC
BC 571	1122358	20	$12.00	Great Basin Oil LLC
BC 572	1122359	20	$12.00	Great Basin Oil LLC
BC 573	1122360	20	$12.00	Great Basin Oil LLC
BC 574	1122361	20	$12.00	Great Basin Oil LLC
BC 575	1122362	20	$12.00	Great Basin Oil LLC
BC 576	1122363	20	$12.00	Great Basin Oil LLC
BC 577	1122364	20	$12.00	Great Basin Oil LLC
BC 578	1122365	20	$12.00	Great Basin Oil LLC
BC 579	1122366	20	$12.00	Great Basin Oil LLC
BC 580	1122367	20	$12.00	Great Basin Oil LLC
BC 581	1122368	20	$12.00	Great Basin Oil LLC
BC 582	1122369	20	$12.00	Great Basin Oil LLC
BC 583	1122370	20	$12.00	Great Basin Oil LLC
BC 584	1122371	20	$12.00	Great Basin Oil LLC
BC 585	1122372	20	$12.00	Great Basin Oil LLC
BC 586	1122373	20	$12.00	Great Basin Oil LLC
BC 587	1122374	20	$12.00	Great Basin Oil LLC
BC 588	1122375	20	$12.00	Great Basin Oil LLC
BC 589	1122376	20	$12.00	Great Basin Oil LLC
BC 590	1122377	20	$12.00	Great Basin Oil LLC
BC 591	1122378	20	$12.00	Great Basin Oil LLC
BC 592	1122379	20	$12.00	Great Basin Oil LLC
BC 593	1122380	20	$12.00	Great Basin Oil LLC
BC 594	1122381	20	$12.00	Great Basin Oil LLC
BC 595	1122382	20	$12.00	Great Basin Oil LLC
BC 596	1122383	20	$12.00	Great Basin Oil LLC
BC 597	1122384	20	$12.00	Great Basin Oil LLC
BC 598	1122385	20	$12.00	Great Basin Oil LLC
BC 599	1122386	20	$12.00	Great Basin Oil LLC
BC 600	1122387	20	$12.00	Great Basin Oil LLC
BC 601	1122388	20	$12.00	Great Basin Oil LLC
BC 602	1122389	20	$12.00	Great Basin Oil LLC
BC 603	1122390	20	$12.00	Great Basin Oil LLC
BC 604	1122391	20	$12.00	Great Basin Oil LLC
BC 605	1122392	20	$12.00	Great Basin Oil LLC
BC 606	1122393	20	$12.00	Great Basin Oil LLC
BC 607	1122394	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 608	1122395	20	$12.00	Great Basin Oil LLC
BC 609	1122396	20	$12.00	Great Basin Oil LLC
BC 649	1122994	20	$12.00	Great Basin Oil LLC
BC 650	1122995	20	$12.00	Great Basin Oil LLC
BC 651	1122996	20	$12.00	Great Basin Oil LLC
BC 652	1122997	20	$12.00	Great Basin Oil LLC
BC 653	1122998	20	$12.00	Great Basin Oil LLC
BC 654	1122999	20	$12.00	Great Basin Oil LLC
BC 655	1123000	20	$12.00	Great Basin Oil LLC
BC 656	1123001	20	$12.00	Great Basin Oil LLC
BC 657	1123002	20	$12.00	Great Basin Oil LLC
BC 658	1123003	20	$12.00	Great Basin Oil LLC
BC 659	1123004	20	$12.00	Great Basin Oil LLC
BC 660	1123005	20	$12.00	Great Basin Oil LLC
BC 661	1123006	20	$12.00	Great Basin Oil LLC
BC 662	1123007	20	$12.00	Great Basin Oil LLC
BC 663	1123008	20	$12.00	Great Basin Oil LLC
BC 664	1123009	20	$12.00	Great Basin Oil LLC
BC 665	1123010	20	$12.00	Great Basin Oil LLC
BC 666	1123011	20	$12.00	Great Basin Oil LLC
BC 667	1123012	20	$12.00	Great Basin Oil LLC
BC 668	1123013	20	$12.00	Great Basin Oil LLC
BC 669	1123014	20	$12.00	Great Basin Oil LLC
BC 670	1123015	20	$12.00	Great Basin Oil LLC
BC 671	1123016	20	$12.00	Great Basin Oil LLC
BC 672	1123017	20	$12.00	Great Basin Oil LLC
BC 673	1123018	20	$12.00	Great Basin Oil LLC
BC 674	1123019	20	$12.00	Great Basin Oil LLC
BC 675	1123020	20	$12.00	Great Basin Oil LLC
BC 676	1123021	20	$12.00	Great Basin Oil LLC
BC 677	1123022	20	$12.00	Great Basin Oil LLC
BC 678	1123023	20	$12.00	Great Basin Oil LLC
BC 679	1123024	20	$12.00	Great Basin Oil LLC
BC 680	1123025	20	$12.00	Great Basin Oil LLC
BC 681	1123026	20	$12.00	Great Basin Oil LLC
BC 682	1123027	20	$12.00	Great Basin Oil LLC
BC 683	1123028	20	$12.00	Great Basin Oil LLC
BC 684	1123029	20	$12.00	Great Basin Oil LLC
BC 685	1123030	20	$12.00	Great Basin Oil LLC
BC 686	1123031	20	$12.00	Great Basin Oil LLC
BC 687	1123032	20	$12.00	Great Basin Oil LLC
BC 688	1123033	20	$12.00	Great Basin Oil LLC
BC 689	1123034	20	$12.00	Great Basin Oil LLC
BC 690	1123035	20	$12.00	Great Basin Oil LLC
BC 691	1123036	20	$12.00	Great Basin Oil LLC
BC 692	1123037	20	$12.00	Great Basin Oil LLC
BC 693	1123038	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 694	1123039	20	$12.00	Great Basin Oil LLC
BC 695	1123040	20	$12.00	Great Basin Oil LLC
BC 696	1123041	20	$12.00	Great Basin Oil LLC
BC 697	1123042	20	$12.00	Great Basin Oil LLC
BC 698	1123043	20	$12.00	Great Basin Oil LLC
BC 699	1123044	20	$12.00	Great Basin Oil LLC
BC 700	1123045	20	$12.00	Great Basin Oil LLC
BC 701	1123046	20	$12.00	Great Basin Oil LLC
BC 702	1123047	20	$12.00	Great Basin Oil LLC
BC 703	1123048	20	$12.00	Great Basin Oil LLC
BC 704	1123049	20	$12.00	Great Basin Oil LLC
BC 705	1123050	20	$12.00	Great Basin Oil LLC
BC 706	1123051	20	$12.00	Great Basin Oil LLC
BC 707	1123052	20	$12.00	Great Basin Oil LLC
BC 708	1123053	20	$12.00	Great Basin Oil LLC
BC 709	1123054	20	$12.00	Great Basin Oil LLC
BC 710	1123055	20	$12.00	Great Basin Oil LLC
BC 711	1123056	20	$12.00	Great Basin Oil LLC
BC 712	1123057	20	$12.00	Great Basin Oil LLC
BC 713	1123058	20	$12.00	Great Basin Oil LLC
BC 714	1123059	20	$12.00	Great Basin Oil LLC
BC 715	1123060	20	$12.00	Great Basin Oil LLC
BC 716	1123061	20	$12.00	Great Basin Oil LLC
BC 717	1123062	20	$12.00	Great Basin Oil LLC
BC 718	1123063	20	$12.00	Great Basin Oil LLC
BC 719	1123064	20	$12.00	Great Basin Oil LLC
BC 720	1123065	20	$12.00	Great Basin Oil LLC
BC 721	1123066	20	$12.00	Great Basin Oil LLC
BC 722	1123067	20	$12.00	Great Basin Oil LLC
BC 723	1123068	20	$12.00	Great Basin Oil LLC
BC 724	1123069	20	$12.00	Great Basin Oil LLC
BC 725	1123070	20	$12.00	Great Basin Oil LLC
BC 726	1123071	20	$12.00	Great Basin Oil LLC
BC 727	1123072	20	$12.00	Great Basin Oil LLC
BC 728	1123073	20	$12.00	Great Basin Oil LLC
BC 729	1123074	20	$12.00	Great Basin Oil LLC
BC 730	1123075	20	$12.00	Great Basin Oil LLC
BC 731	1123076	20	$12.00	Great Basin Oil LLC
BC 732	1123077	20	$12.00	Great Basin Oil LLC
BC 733	1123078	20	$12.00	Great Basin Oil LLC
BC 734	1123079	20	$12.00	Great Basin Oil LLC
BC 735	1123080	20	$12.00	Great Basin Oil LLC
BC 736	1123081	20	$12.00	Great Basin Oil LLC
BC 737	1123082	20	$12.00	Great Basin Oil LLC
BC 738	1123083	20	$12.00	Great Basin Oil LLC
BC 739	1123084	20	$12.00	Great Basin Oil LLC
BC 740	1123085	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 741	1123086	20	$12.00	Great Basin Oil LLC
BC 742	1123087	20	$12.00	Great Basin Oil LLC
BC 743	1123088	20	$12.00	Great Basin Oil LLC
BC 744	1123089	20	$12.00	Great Basin Oil LLC
BC 745	1123090	20	$12.00	Great Basin Oil LLC
BC 746	1123091	20	$12.00	Great Basin Oil LLC
BC 747	1123092	20	$12.00	Great Basin Oil LLC
BC 748	1123093	20	$12.00	Great Basin Oil LLC
BC 749	1123094	20	$12.00	Great Basin Oil LLC
BC 750	1123095	20	$12.00	Great Basin Oil LLC
BC 751	1123096	20	$12.00	Great Basin Oil LLC
BC 752	1123097	20	$12.00	Great Basin Oil LLC
BC 753	1123098	20	$12.00	Great Basin Oil LLC
BC 754	1123099	20	$12.00	Great Basin Oil LLC
BC 755	1123100	20	$12.00	Great Basin Oil LLC
BC 756	1123101	20	$12.00	Great Basin Oil LLC
BC 757	1123102	20	$12.00	Great Basin Oil LLC
BC 758	1123103	20	$12.00	Great Basin Oil LLC
BC 759	1123104	20	$12.00	Great Basin Oil LLC
BC 760	1123105	20	$12.00	Great Basin Oil LLC
BC 761	1123106	20	$12.00	Great Basin Oil LLC
BC 762	1123107	20	$12.00	Great Basin Oil LLC
BC 763	1123108	20	$12.00	Great Basin Oil LLC
BC 764	1123109	20	$12.00	Great Basin Oil LLC
BC 765	1123110	20	$12.00	Great Basin Oil LLC
BC 766	1123111	20	$12.00	Great Basin Oil LLC
BC 767	1123112	20	$12.00	Great Basin Oil LLC
BC 768	1123113	20	$12.00	Great Basin Oil LLC
BC 769	1123114	20	$12.00	Great Basin Oil LLC
BC 770	1123115	20	$12.00	Great Basin Oil LLC
BC 771	1123116	20	$12.00	Great Basin Oil LLC
BC 772	1123117	20	$12.00	Great Basin Oil LLC
BC 773	1123118	20	$12.00	Great Basin Oil LLC
BC 774	1123119	20	$12.00	Great Basin Oil LLC
BC 775	1123120	20	$12.00	Great Basin Oil LLC
BC 776	1123121	20	$12.00	Great Basin Oil LLC
BC 777	1123122	20	$12.00	Great Basin Oil LLC
BC 778	1123123	20	$12.00	Great Basin Oil LLC
BC 779	1123124	20	$12.00	Great Basin Oil LLC
BC 780	1123125	20	$12.00	Great Basin Oil LLC
BC 781	1123126	20	$12.00	Great Basin Oil LLC
BC 782	1123127	20	$12.00	Great Basin Oil LLC
BC 783	1123128	20	$12.00	Great Basin Oil LLC
BC 784	1123129	20	$12.00	Great Basin Oil LLC
BC 785	1124735	20	$12.00	Great Basin Oil LLC
BC 786	1124736	20	$12.00	Great Basin Oil LLC
BC 787	1124737	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 788	1124738	20	$12.00	Great Basin Oil LLC
BC 789	1124739	20	$12.00	Great Basin Oil LLC
BC 790	1124740	20	$12.00	Great Basin Oil LLC
BC 791	1124741	20	$12.00	Great Basin Oil LLC
BC 792	1124742	20	$12.00	Great Basin Oil LLC
BC 793	1124743	20	$12.00	Great Basin Oil LLC
BC 794	1124744	20	$12.00	Great Basin Oil LLC
BC 795	1124745	20	$12.00	Great Basin Oil LLC
BC 796	1124746	20	$12.00	Great Basin Oil LLC
BC 797	1124747	20	$12.00	Great Basin Oil LLC
BC 798	1124748	20	$12.00	Great Basin Oil LLC
BC 799	1124749	20	$12.00	Great Basin Oil LLC
BC 800	1124750	20	$12.00	Great Basin Oil LLC
BC 801	1124751	20	$12.00	Great Basin Oil LLC
BC 802	1124752	20	$12.00	Great Basin Oil LLC
BC 803	1124753	20	$12.00	Great Basin Oil LLC
BC 804	1124754	20	$12.00	Great Basin Oil LLC
BC 805	1124755	20	$12.00	Great Basin Oil LLC
BC 806	1124756	20	$12.00	Great Basin Oil LLC
BC 807	1124757	20	$12.00	Great Basin Oil LLC
BC 808	1124758	20	$12.00	Great Basin Oil LLC
BC 809	1124759	20	$12.00	Great Basin Oil LLC
BC 810	1124760	20	$12.00	Great Basin Oil LLC
BC 811	1124761	20	$12.00	Great Basin Oil LLC
BC 812	1124762	20	$12.00	Great Basin Oil LLC
BC 813	1124763	20	$12.00	Great Basin Oil LLC
BC 814	1124764	20	$12.00	Great Basin Oil LLC
BC 815	1124765	20	$12.00	Great Basin Oil LLC
BC 816	1124766	20	$12.00	Great Basin Oil LLC
BC 817	1124767	20	$12.00	Great Basin Oil LLC
BC 818	1124768	20	$12.00	Great Basin Oil LLC
BC 819	1124769	20	$12.00	Great Basin Oil LLC
BC 820	1124770	20	$12.00	Great Basin Oil LLC
BC 821	1124771	20	$12.00	Great Basin Oil LLC
BC 822	1124772	20	$12.00	Great Basin Oil LLC
BC 823	1124773	20	$12.00	Great Basin Oil LLC
BC 824	1124774	20	$12.00	Great Basin Oil LLC
BC 825	1124775	20	$12.00	Great Basin Oil LLC
BC 826	1124776	20	$12.00	Great Basin Oil LLC
BC 827	1124777	20	$12.00	Great Basin Oil LLC
BC 828	1124778	20	$12.00	Great Basin Oil LLC
BC 829	1124779	20	$12.00	Great Basin Oil LLC
BC 830	1124780	20	$12.00	Great Basin Oil LLC
BC 831	1124781	20	$12.00	Great Basin Oil LLC
BC 832	1124782	20	$12.00	Great Basin Oil LLC
BC 833	1124783	20	$12.00	Great Basin Oil LLC
BC 834	1124784	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 835	1124785	20	$12.00	Great Basin Oil LLC
BC 836	1124786	20	$12.00	Great Basin Oil LLC
BC 837	1124787	20	$12.00	Great Basin Oil LLC
BC 838	1124788	20	$12.00	Great Basin Oil LLC
BC 839	1124789	20	$12.00	Great Basin Oil LLC
BC 840	1124790	20	$12.00	Great Basin Oil LLC
BC 841	1124791	20	$12.00	Great Basin Oil LLC
BC 842	1124792	20	$12.00	Great Basin Oil LLC
BC 843	1124793	20	$12.00	Great Basin Oil LLC
BC 844	1124794	20	$12.00	Great Basin Oil LLC
BC 845	1124795	20	$12.00	Great Basin Oil LLC
BC 846	1124796	20	$12.00	Great Basin Oil LLC
BC 847	1124797	20	$12.00	Great Basin Oil LLC
BC 848	1124798	20	$12.00	Great Basin Oil LLC
BC 849	1124799	20	$12.00	Great Basin Oil LLC
BC 850	1124800	20	$12.00	Great Basin Oil LLC
BC 851	1124801	20	$12.00	Great Basin Oil LLC
BC 852	1124802	20	$12.00	Great Basin Oil LLC
BC 853	1124803	20	$12.00	Great Basin Oil LLC
BC 854	1124804	20	$12.00	Great Basin Oil LLC
BC 855	1124805	20	$12.00	Great Basin Oil LLC
BC 856	1124806	20	$12.00	Great Basin Oil LLC
BC 857	1124807	20	$12.00	Great Basin Oil LLC
BC 858	1124808	20	$12.00	Great Basin Oil LLC
BC 859	1124809	20	$12.00	Great Basin Oil LLC
BC 860	1124810	20	$12.00	Great Basin Oil LLC
BC 861	1124811	20	$12.00	Great Basin Oil LLC
BC 862	1124812	20	$12.00	Great Basin Oil LLC
BC 863	1124813	20	$12.00	Great Basin Oil LLC
BC 864	1124814	20	$12.00	Great Basin Oil LLC
BC 865	1124815	20	$12.00	Great Basin Oil LLC
BC 866	1124816	20	$12.00	Great Basin Oil LLC
BC 867	1124817	20	$12.00	Great Basin Oil LLC
BC 868	1124818	20	$12.00	Great Basin Oil LLC
BC 869	1124819	20	$12.00	Great Basin Oil LLC
BC 870	1124820	20	$12.00	Great Basin Oil LLC
BC 871	1124821	20	$12.00	Great Basin Oil LLC
BC 872	1124822	20	$12.00	Great Basin Oil LLC
BC 873	1124823	20	$12.00	Great Basin Oil LLC
BC 874	1124824	20	$12.00	Great Basin Oil LLC
BC 875	1124825	20	$12.00	Great Basin Oil LLC
BC 876	1124826	20	$12.00	Great Basin Oil LLC
BC 877	1124827	20	$12.00	Great Basin Oil LLC
BC 878	1124828	20	$12.00	Great Basin Oil LLC
BC 879	1124829	20	$12.00	Great Basin Oil LLC
BC 880	1124830	20	$12.00	Great Basin Oil LLC
BC 881	1124831	20	$12.00	Great Basin Oil LLC

Claim Name	NMC Number	Acres In Claim	Payment Due Nye County	Claimant's Name
BC 882	1124832	20	$12.00	Great Basin Oil LLC
BC 883	1124833	20	$12.00	Great Basin Oil LLC
BC 884	1124834	20	$12.00	Great Basin Oil LLC
BC 885	1124835	20	$12.00	Great Basin Oil LLC
BC 886	1124836	20	$12.00	Great Basin Oil LLC
BC 887	1124837	20	$12.00	Great Basin Oil LLC
BC 888	1124838	20	$12.00	Great Basin Oil LLC
BC 889	1124839	20	$12.00	Great Basin Oil LLC
BC 890	1124840	20	$12.00	Great Basin Oil LLC
BC 891	1124841	20	$12.00	Great Basin Oil LLC
BC 892	1124842	20	$12.00	Great Basin Oil LLC
BC 893	1124843	20	$12.00	Great Basin Oil LLC
BC 894	1124844	20	$12.00	Great Basin Oil LLC
BC 895	1124845	20	$12.00	Great Basin Oil LLC
BC 896	1124846	20	$12.00	Great Basin Oil LLC
BC 897	1124847	20	$12.00	Great Basin Oil LLC
BC 898	1124848	20	$12.00	Great Basin Oil LLC
BC 899	1124849	20	$12.00	Great Basin Oil LLC
BC 900	1124850	20	$12.00	Great Basin Oil LLC
BC 901	1124851	20	$12.00	Great Basin Oil LLC
BC 902	1124852	20	$12.00	Great Basin Oil LLC
BC 903	1124853	20	$12.00	Great Basin Oil LLC
BC 904	1124854	20	$12.00	Great Basin Oil LLC
BC 905	1124855	20	$12.00	Great Basin Oil LLC
BC 906	1124856	20	$12.00	Great Basin Oil LLC
BC 907	1124857	20	$12.00	Great Basin Oil LLC
BC 908	1124858	20	$12.00	Great Basin Oil LLC
BC 909	1124859	20	$12.00	Great Basin Oil LLC
BC 910	1124860	20	$12.00	Great Basin Oil LLC
BC 911	1124861	20	$12.00	Great Basin Oil LLC
BC 912	1124862	20	$12.00	Great Basin Oil LLC
BC 913	1124863	20	$12.00	Great Basin Oil LLC
BC 914	1124864	20	$12.00	Great Basin Oil LLC
BC 915	1124865	20	$12.00	Great Basin Oil LLC
BC 916	1124866	20	$12.00	Great Basin Oil LLC
BC 917	1124867	20	$12.00	Great Basin Oil LLC
BC 918	1124868	20	$12.00	Great Basin Oil LLC
BC 919	1124869	20	$12.00	Great Basin Oil LLC
BC 920	1124870	20	$12.00	Great Basin Oil LLC