Preliminary Economic Assessment NI 43-101 Technical Report
Bonnie Claire Lithium Project
Nye County, Nevada

Effective Date: August 20, 2021
Issue Date: September 23, 2021

Prepared for:

Iconic Minerals Ltd. and Nevada Lithium Resources Inc.

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Date and Signature Page

This Technical Report on the Bonnie Claire Lithium Project is submitted to Iconic Minerals Ltd. and Nevada Lithium Resources Inc. and is effective August 20, 2021, issued September 23, 2021.

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DISCLAIMER

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ABBREVIATIONS AND ACRONYMS

µm	micron
Ωm	ohm-meter
ALS	ALS Chemex (Reno)
AR	as-received
BHM	borehole mining
BLM	Bureau of Land Management
BK	batch kiln
Bonaventure	Bonaventure Nevada Inc.
$CaCO_3$	limestone
$Ca(OH)_2$	hydrated lime
CaSO4	calcium sulfate
CCD	counter-current decantation
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
Cypress	Cypress Development Corp
DH	diamond hole
EIS	Environmental Impact Statement
G&A	General & Administrative
g/cm^3	grams per cubic centimeter
g/L	grams per liter
gpm	gallons per minute
GRE	Global Resource Engineering Ltd.
H_2SO_4	sulfuric acid

HCL	hydrochloric acid
HF	Harper furnace
HNO_3	nitric acid
Hazen	Hazen Research Inc.
HDPE	high density polyethylene
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
IRR	Internal Rate of Return
kg	kilogram
kg/t	kilograms per tonne
km	kilometer
km^2	square kilometers
Kr	ordinary Kriging
LCE	lithium carbonate equivalent
Li	lithium
LiCl	lithium chloride
Li_2CO_3	lithium carbonate
Li_2O	lithium oxide
Li_2SO_4	lithium sulfate
m^2	square meter
mg	milligram
MMSA	Mining and Metallurgical Society of America
MT	MagnetoTelluric
na	not applicable
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
NI	National Instrument
NN	nearest neighbor
Noram	Noram Ventures
NPV	Net Present Value
NSR	net smelter return
PEA	Preliminary Economic Assessment
PIR	Primary Impurity Removal
PLS	pregnant leach solution

PoO	Plan of Operations
ppm	parts per million
psig	pounds per square inch gauge
QA/QC	quality assurance/quality control
QP	qualified person
RC	reverse circulation
RO	reverse osmosis
ROD	Record of Decision
sf	square feet
SG	specific gravity
SIR	Secondary Impurity Removal
SME	Society of Mining, Metallurgy & Exploration
tpd	tonnes per day
TGA-DSG	thermogravimetric analysis with differential scanning calorimetry
TSF	tailings storage facility
USD	U.S. dollar
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VLRL	very low resistivity layer
XRD	x-ray diffraction

1.0 SUMMARY

Global Resource Engineering Ltd. (GRE) was retained by Iconic Minerals Ltd. (Iconic) and Nevada Lithium Resources Inc. ("the Companies") to prepare, in accordance with National Instrument (NI) 43-101 Standards of Disclosure for Mineral Projects, a Preliminary Economic Assessment (PEA) Technical Report for the Bonnie Claire Lithium Project, Nevada.

The Bonnie Claire Deposit 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 Bonnie Claire Lithium Project (the "Project" or "Property") 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 Bonnie Claire 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 80% by Iconic and 20% by Nevada. Nevada Lithium holds an Option to acquire up to a 50% interest in the Project by funding a total $5.6M (USD) in exploration expenditures on or before December 1st, 2021, of which $1.6M (USD) has been spent. 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 Iconic and Nevada 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'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 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 Bonnie Claire 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, and 2020. Eight vertical reverse circulation (RC) holes and two vertical diamond holes (DH) were drilled, by Harris Exploration Drilling & Associates Inc. Drill hole depths ranged from 91.4 to 603.5 meters (300 to 1,980 feet), totaling 2,278.0 meters (7,473.75 feet) drilled. Accompanying the drilling, downhole geophysical surveys were conducted on three holes: BC-1601, BC-1602, and BC-1801.

Although the drill holes are widely spaced, averaging 1,100 meters between holes, the lithium profile with depth is consistent from hole to hole. The unweighted lithium content averages 778 ppm for all 435 samples assayed, with an overall range of 18 to 2,250 ppm. The average sample interval length is 6.09 meters (20 feet).

1.8 Mineral Processing and Metallurgical Testing

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 microns (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. Of these two methods, thermal treatment is favored and presented as the base case for the PEA, having demonstrated better overall lithium extraction and recovery performance.

- 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.

1.9 Mineral Resource Estimate

A Revised and Amended Mineral Resource Estimate has been completed with an Effective Date of May 3rd, 2021, and Issue Date of July 28, 2021 (GRE, 2021). This PEA incorporates the Mineral Resource Estimate modeling, Effective Date July 28, 2021 but updates the Mineral Resource statement to include only borehole mined resources at a cutoff grade of 700 ppm Li to be consistent with the mining method presented in Section 16.

The 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:

- 10 exploration drill holes , including eight RC holes and two DH holes
- 2,278.1 meters of drilling in exploration drill holes
- 434 assay intervals in exploration drill holes
- Minimum grade of 18 ppm Li in exploration drill holes
- Maximum grade of 2,550 ppm Li in exploration drill holes

The Mineral Resource Estimate for the Bonnie Claire Lithium Project is presented in Table 1-1.

__Cautionary Statements Regarding Mineral Resource Estimates__:

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: Bonnie Claire Statement of Mineral Resource

Class	Extraction Method Applied for Constraint	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million kg)	Li Carbonate Equivalent (Million kg)
Inferred	Borehole	3,407.3	1,013.0	3,451.5	18,372.3

1. Cutoff grade of 700 ppm Li
2. The effective date of the Mineral Resource is August 20, 2021.
3. The Qualified Person for the estimate is Terre Lane of GRE.
4. Resources are not Mineral Reserves and do not have demonstrated economic viability.
5. Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.
6. Assumes 68% recovery by borehole

1.10 Mining Methods

The QP evaluated both open pit mining and borehole mining (BHM) and a combination of both for the Bonnie Claire Lithium Project. Both are potentially viable options; however, the prevalence of relatively lower grade material near surface results in high stripping ratios early in the mine life for open pit mining. The use of BHM eliminates this by targeting high-grade mineralization at depth as well as offering other Project benefits, including reduced surface disturbance (i.e., no open-pit) and reduced tailings at surface due to tailings backfilling underground. The soft nature of clay should make it ideally suited to water jet cutting. For these reasons, the QP selected BHM as the more viable method at this stage of the Project. Test work and test borehole mining are required to support this mining method. If future drilling and assaying programs identify higher grade, shallow mineralization, the mining method could change.

As outlined above, the QP has used a base case of borehole mining (BHM) using jetting and pumping for this study. The borehole recovery using jetted drilling and pumping would pump high-pressure water through drill holes into the formation while simultaneously pumping the resulting loosened material out, creating a void that could be backfilled with suitable material to prevent caving from the surface. It is anticipated that naturally occurring brackish waters from the basin may be used and that no fresh water will be required. This water may also be recovered and re-used in the mining process.

Proofing of the borehole recovery concepts for sediment-hosted lithium must be conducted; however, the technology has been demonstrated in the mining industry. The QP recommends conducting field pilot testing to determine efficacy and design parameters.

For the Bonnie Claire Lithium Project economic analysis, QP Ms. Lane limited borehole mining to materials with a lithium grade of 1,200 ppm or higher to increase capital recovery and reduce the Project payback period and risk. To facilitate use of the 1,200 ppm Li cutoff grade, Ms. Lane created a 1,200 ppm Li grade shell and reported all mineralized material within that grade shell for extraction via BHM.

Ms. Lane made the following assumptions for the BHM:

- Mining jet radius = 9.1 meters (30 feet)
- Minimum borehole spacing along green lines (see Figure 16-3) = 31.7 meters (104 feet)
- Design borehole spacing along green lines (see Figure 16-3) = 36.6 meters (120 feet)

These assumptions result in a borehole spacing area (each green triangle on Figure 16-3) of 579.3 square meters (m^2) (6,235 square feet [sf]), a single borehole extraction area of 262.7 m^2 (2,827 sf), and a recovery area of 1.5 times the borehole extraction area (because there is one complete borehole and three 1/6 boreholes within each green triangular area) (394 m^2 [4,241 sf]). The boreholes would be arranged in a triangular/honeycomb pattern, as illustrated in Figure 16-3. Spacing between the outer limits of each borehole area of influence would be 2.8 meters (9.28 feet). This borehole pattern and spacing would result in recovery of 68% of the mineralized material.

In addition, QP Ms. Lane assumed a slurry extraction rate of 1,000 gallons per minute (gpm), with 30% solids. The resulting solids removal rate would be 1,390 tonnes per day (tpd) per borehole. The nominal BHM mining rate was set to 15,000 tpd, requiring a minimum of 13 boreholes operating simultaneously. Production would ramp up initially by extracting from a single borehole, resulting in 14% of design extraction, for the first three months then by extracting from three boreholes, resulting in 43% of design extraction, for the next three months, then by extracting from 13 boreholes for the remainder of the Project.

Ms. Lane applied a dilution factor of 5% to account for extraction of unmineralized material (including backfill) outside the defined Zone boundaries.

Each jetted volume and borehole annulus would be backfilled with waste or tailings material from the processing plant mixed with 5% cement.

1.11 Capital and Operating Costs

Capital and operating costs were estimated for the Project assuming a processing rate of 15,000 tpd. Project costs were estimated from Infomine (2020) and experience of senior staff. The estimate assumes that the Project will be operated by the owner.

Estimated capital and operating costs are summarized in Table 1-2 and Table 1-3, respectively.

Table 1-2: Bonnie Claire Lithium Project Capital Cost Summary

Item	1000s $
Mine Capital	
Support Equipment	$6,631
Borehole Mining Production Equipment	$44,169
Mine Consumables First Fills	$2,028
Total Mine Capital	**$52,827**
Infrastructure Capital	
Access Roads	$460
Facilities	$4,875
Security	$250

Item	1000s $
Utilities	$6,937
Freight and Tax	$1,068
Total Infrastructure Capital	**$13,590**
G&A Capital	
Owner's Costs	$13,800
Bonding	$4,000
Feasibility Study	$25,000
Pilot Plant	$3,000
Test Mining	$3,000
Permitting	$2,500
Total G&A Capital	**$51,300**
Laboratory Capital	
Equipment	$502
Freight and Tax	$53
Total Laboratory Capital	**$555**
Process Capital	
Equipment	$107,805
Building	$24,543
Field Indirects	$138,845
First Fills and Spares	$15,000
Engineering	$20,428
Total Process Capital	**$306,621**
Working Capital	$31,881
Sustaining Capital	$70,437
Contingency	$127,468
Total Capital Costs	**$654,680**

Table 1-3: Bonnie Claire Lithium Project Operating Cost Summary

Area	Average Annual (1000s $)	Plant Feed ($/tonne)
Mine	$46,277	$8.88
Processing	$119,953	$23.03
G&A	$7,138	$1.37
Contingency	$17,337	$3.33
Total Operating Costs	**$190,704**	**$36.61**

1.12 Economics

Ms. Lane of GRE performed an economic analysis of the Project by building an economic model based on the following assumptions:

- Federal corporate income tax rate of 21%
- Nevada taxes:
    - Proceeds of Minerals Tax – variable, with a maximum of 5% of Net Proceeds
    - Property tax – 3.4409%

- Sales and use taxes - 7.6%
- Equipment depreciated over a straight 7 or 15 years and has no salvage value at the end of mine life
- Loss carried forward
- Depletion allowance, lesser of 15% of net revenue or 50% of operating costs
- Lithium carbonate price of $13,400 per tonne
- Lithium recovery of 74.7%
- 0% royalties

Results for the Project are:

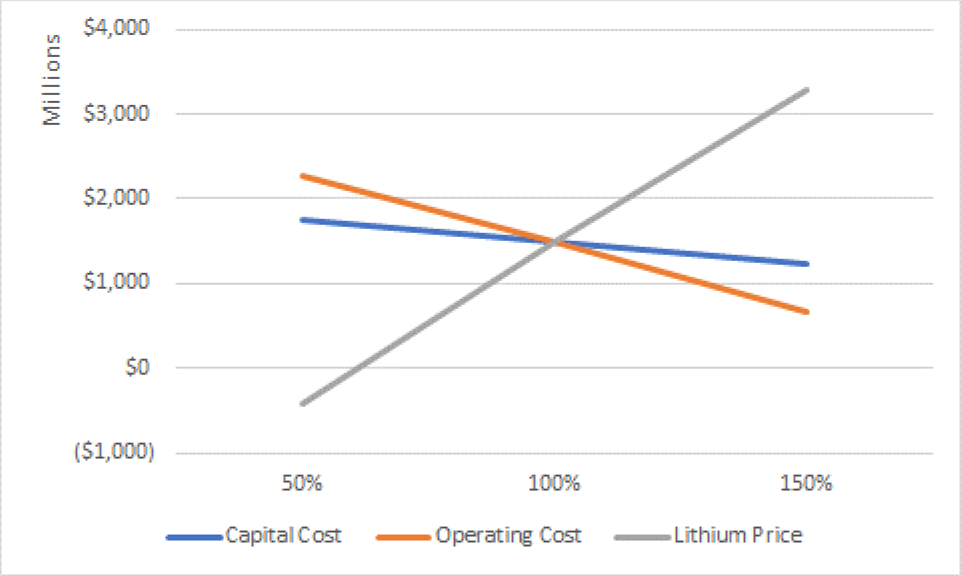
- Average annual production of 32.3 million kilograms (kg) (or 32,300 tonnes) of lithium carbonate equivalent (LCE)
- Cash operating cost of $5,974/tonne LCE
- All-in sustaining cost of $6,057/tonne LCE
- A $1.5 billion after-tax Net Present Value (NPV) at an 8% discount rate
- A 23.8% after-tax Internal Rate of Return (IRR)
- Payback period of 6.7 years
- Break-even price (0% IRR) of $6,545/tonne LCE

This Preliminary Economic Assessment ("PEA") is preliminary in nature and is based on numerous assumptions, and some Inferred mineral resources are used in the economic analysis. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. No mineral reserves have been estimated. There is no guarantee that Inferred resources can be converted to Indicated or Measured resources and, as such, there is no guarantee that the Project economics described herein will be achieved.

1.12.1 Sensitivity Analyses

Ms. Lane of GRE evaluated the after-tax NPV@8% sensitivity to changes in lithium carbonate price, capital costs, and operating costs. The results indicate that the after-tax NPV@8% is most sensitive to lithium carbonate price, moderately sensitive to operating cost, and least sensitive to capital cost (see Figure 1-1).

Figure 1-1: Bonnie Claire Lithium Project NPV@8% Sensitivity to Varying Lithium Carbonate Price, Capital Costs, and Operating Costs



1.12.2 Conclusions of Economic Model

The Project economics shown in the PEA are favorable, providing positive NPV values at varying lithium carbonate prices, capital costs, and operating costs.

1.13 Recommendations

The geotechnical and rheological characteristics of the sediments are ideally suited to borehole mining methods, which is discussed in detail in this PEA. GRE Qualified Persons (QPs) recommend investigating borehole extraction methods to recover higher grade mineralization early in the Project life. GRE QPs recommend additional drilling, geotechnical testwork, and mining method testing to determine the feasibility of recovery of the deeper, higher grade material using borehole mining methods.

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

- 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 BHM 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 1-4.

Table 1-4: Estimated Costs to Complete the Proposed Program

Activity	Estimated Cost
Drilling, Surface Sampling, and geochemistry Down-Hole Surveys	$3,000,000
Borehole Mining Testing	$3,000,000
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	$9,000,000

Based on observations and conversation with Iconic personnel during the QP site visit, and in conjunction with the results of GRE QP's review and evaluation of Iconic'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 Iconic Minerals Ltd and Nevada Lithium Resources Inc. (“the Companies”), Global Resource Engineering Ltd (GRE) has prepared, in accordance with National Instrument (NI) 43-101 Standards of Disclosure for Mineral Projects, a Preliminary Economic Assessment (PEA) 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 Companies 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, Rick Moritz, J. Todd Harvey, PhD, and Terre A. Lane, all of GRE.

2.1 Scope of Work

The scope of work undertaken by GRE was to prepare a Preliminary Economic Assessment (PEA) for the Bonnie Claire Lithium Project (the “Project”) and prepare recommendations on further work required to advance the Project to the Prefeasibility stage.

2.2 Qualified Persons

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

- Hamid Samari, PhD, QP, Mining and Metallurgical Society of America (MMSA) #01519QP
- Rick Moritz, QP, MMSA #01256QP
- J. Todd Harvey, PhD, QP, Member SME Registered Member 4144120, Director of Process Engineering, GRE
- Terre A. Lane, MMSA 01407QP, Society for Mining, Metallurgy & Exploration (SME) Registered Member 4053005, Principal Mining Engineer, GRE

Practices consistent with Canadian Institute of Mining, Metallurgy and Petroleum (CIM) (2010) were applied to the generation of this PEA.

Dr. Samari, Mr. Moritz, Dr. Harvey, and Ms. Lane are collectively referred to as the “authors” of this PEA. Dr. Samari visited the Project on August 24, 2018 and again on October 9 and 10, 2020. Mr. Moritz visited the site on October 9 and 10, 2020. Dr. Harvey and Ms. Lane have 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	Rick Moritz
3	Reliance on Other Experts	Terre Lane
4	Property Description and Location	Rick Moritz
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	Rick Moritz
24	Other Relevant Data and Information	Terre Lane
25	Interpretation and Conclusions	Terre Lane
26	Recommendations	Terre Lane
27	References	Rick Moritz

2.3 Sources of Information

Information provided by Iconic 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.

2.4 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.

2.5 Inspection on the Property by QPs

2.5.1 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.

2.5.2 Site Inspection (2020)

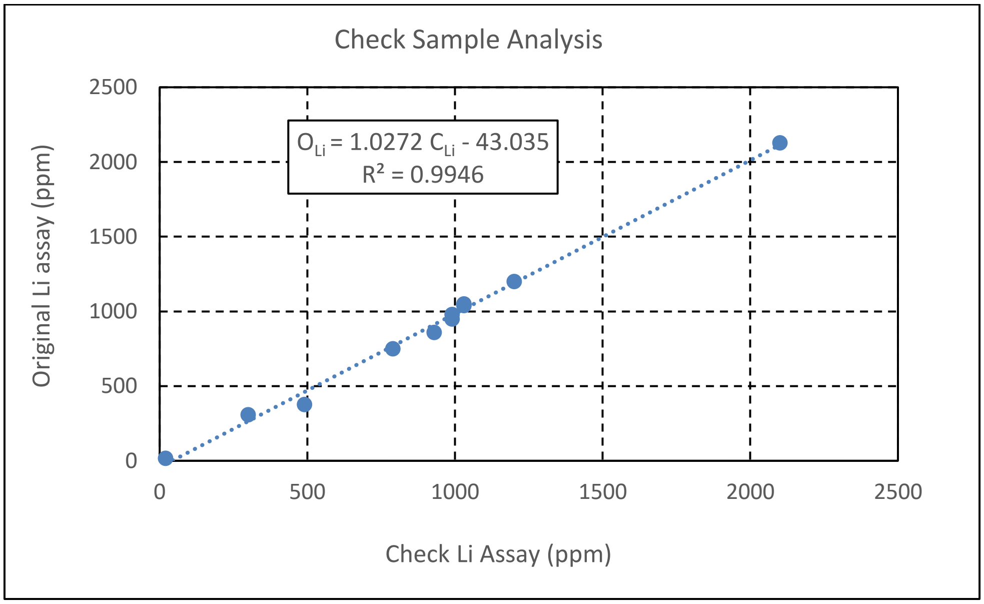
GRE's QPs Rick Mortiz and Dr. Hamid Samari conducted a second on-site inspection of the Project on October 9, 2020, accompanied by field geologist at the site and Iconic CEO Richard R. Kern and Iconic geologist Richard S. Kern at the storage facility in Reno, Nevada. While on-site, the QPs conducted a general geological inspection, checking the reverse circulation (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.

2.5.3 Visual Sample Inspection and Check Sampling

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) (ALS) 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 2-1).

Figure 2-1: Check Sample Analysis (2018 check sample program)



In 2020, a check assay program was started by the QPs when they were onsite from October 9 through October 10, 2020. 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 2-3). Samples were transported by UPS in a secure manner from Reno to Golden, Colorado, USA.

Photo 2-3: Selected, and Packed Check Samples

As shown in Table 12-1, 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 QP Todd Harvey received Hazen's analytical report on the 17 selected samples by Inductively Coupled Plasma (ICP) method for 33 elements. The certificate of analysis from Hazen is shown in Table 2-2; Mr. Harvey selected 35% of the check samples as duplicate samples.

Table 2-2: Check Samples Submitted to Hazen Labs

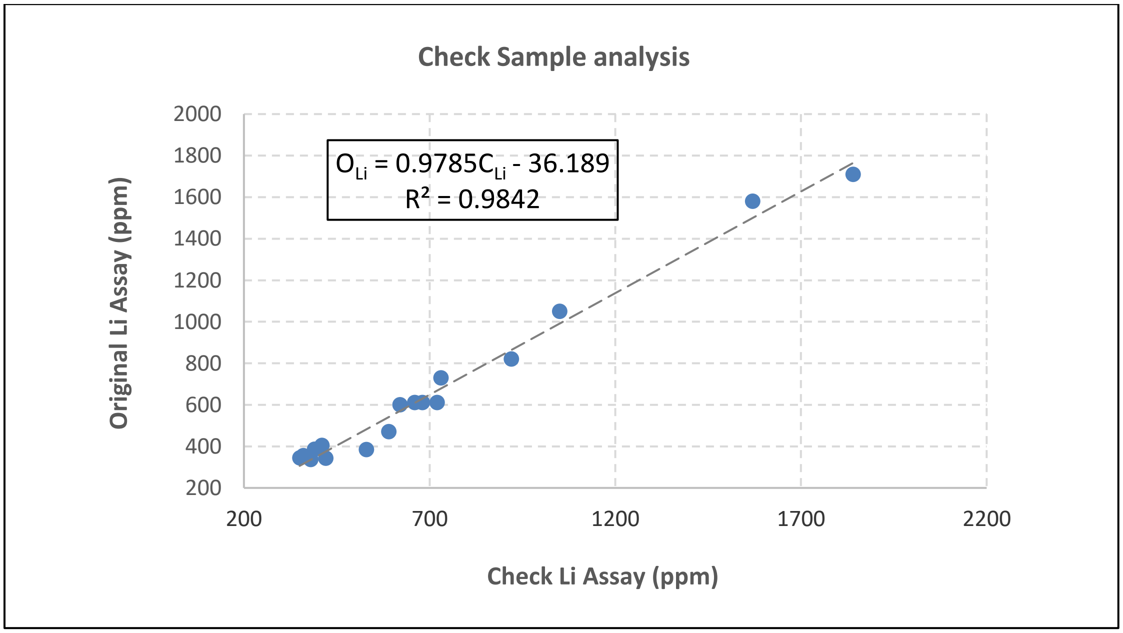
Sample No.	Hole No.	From (ft)	To (ft)	Int#	Type of Sample		Request Analysis	
					¼ RC	¼ Core	ICP Scan with emphasis on Lithium	Duplicate
1	2003	30	40	1	✓		✓	✓
2	2003	40	50	1	✓		✓	
3	2003	100	110	1	✓		✓	
4	2003	140	150	1	✓		✓	
5	2003	150	160	1	✓		✓	✓
6	2003	160	170	1	✓		✓	
7	BH2001C	68	78	1		✓	✓	
8	BH2001C	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 2-3: Summary Table of Hazen Results with Original Assays

Sample No.	Hole No.	From (ft)	To (ft)	Int#	Request Analysis: ICP Scan with emphasis on Lithium	Request Analysis: Duplicate	Original Li (ppm)	Hazen Li (ppm)	Hazen Duplicate Li (ppm)
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 2-2). 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 2-2: Sample Correlation Plot (2020 Check Samples Program)



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 Bonnie Claire Project, and the authors are not experts with respect to these issues. The authors have relied fully on Iconic for information concerning the legal status of Iconic and related companies, 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 Bonnie Claire Project.

Section 4.0 is based on information provided by Iconic. This information consisted of maps and other documents received from Mr. Kern via email during November 2020 and March 2021.

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 80% owned by Iconic and 20% by Nevada. 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 Iconic 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

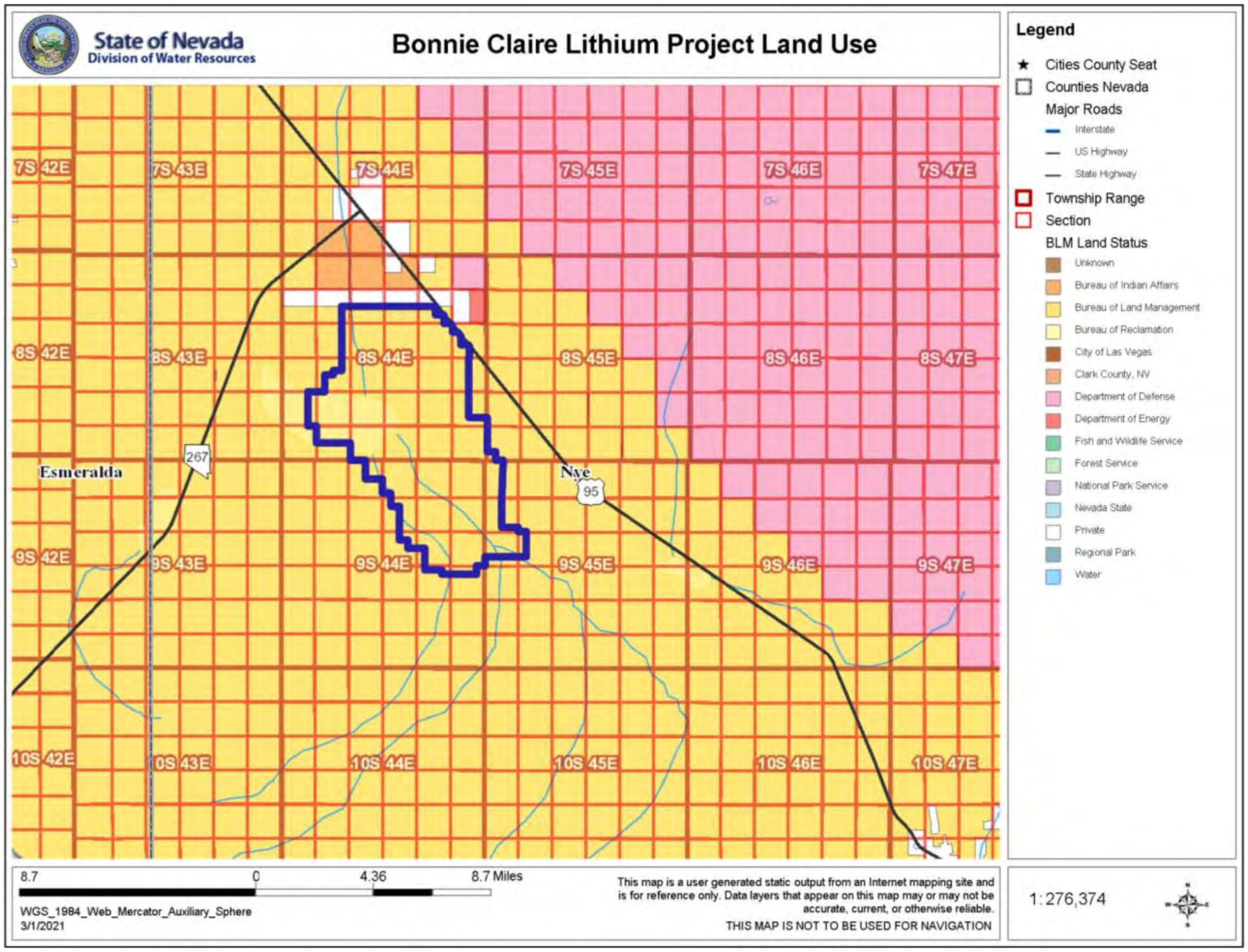


Figure 4-3: Bonnie Claire Lithium Project Satellite Image

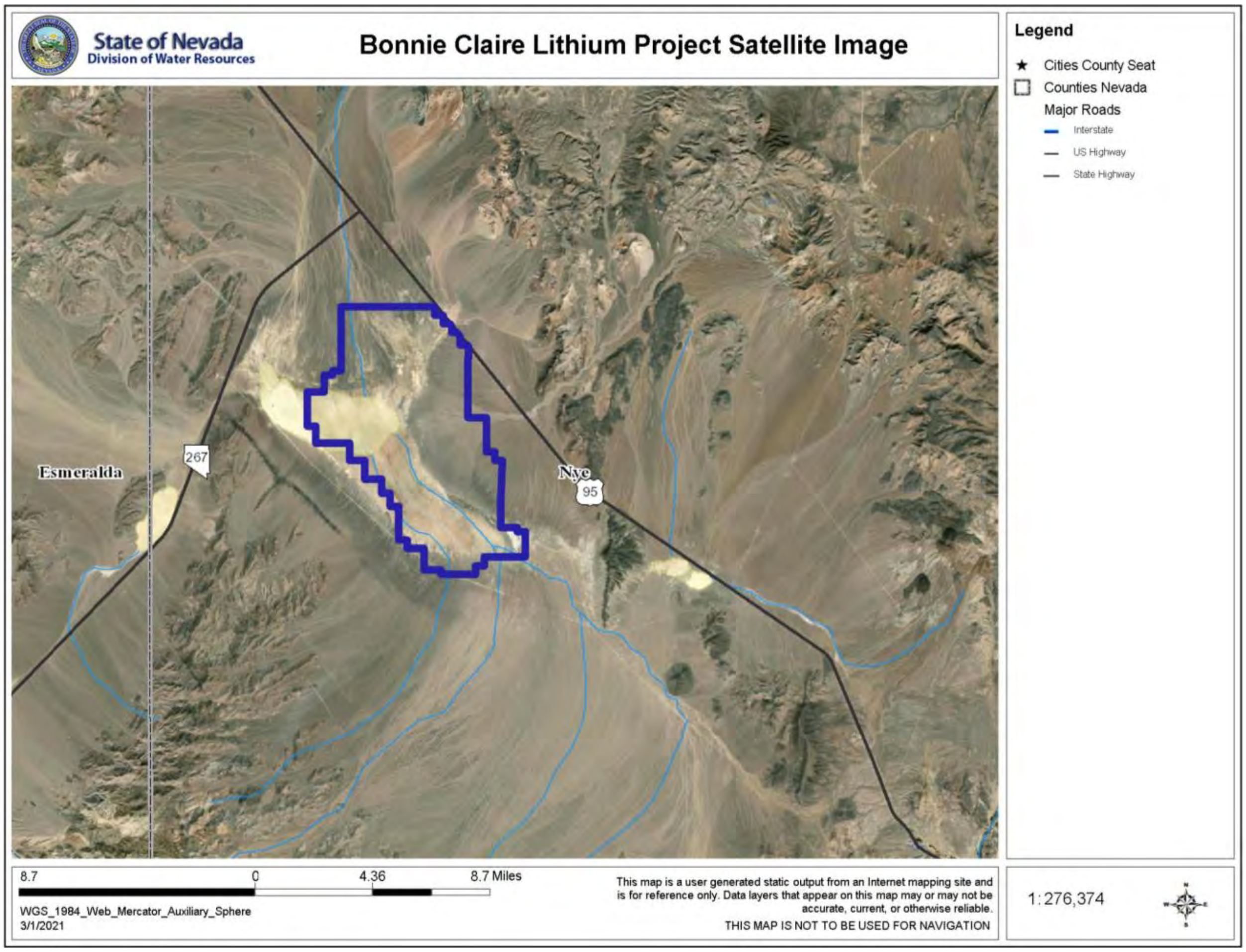
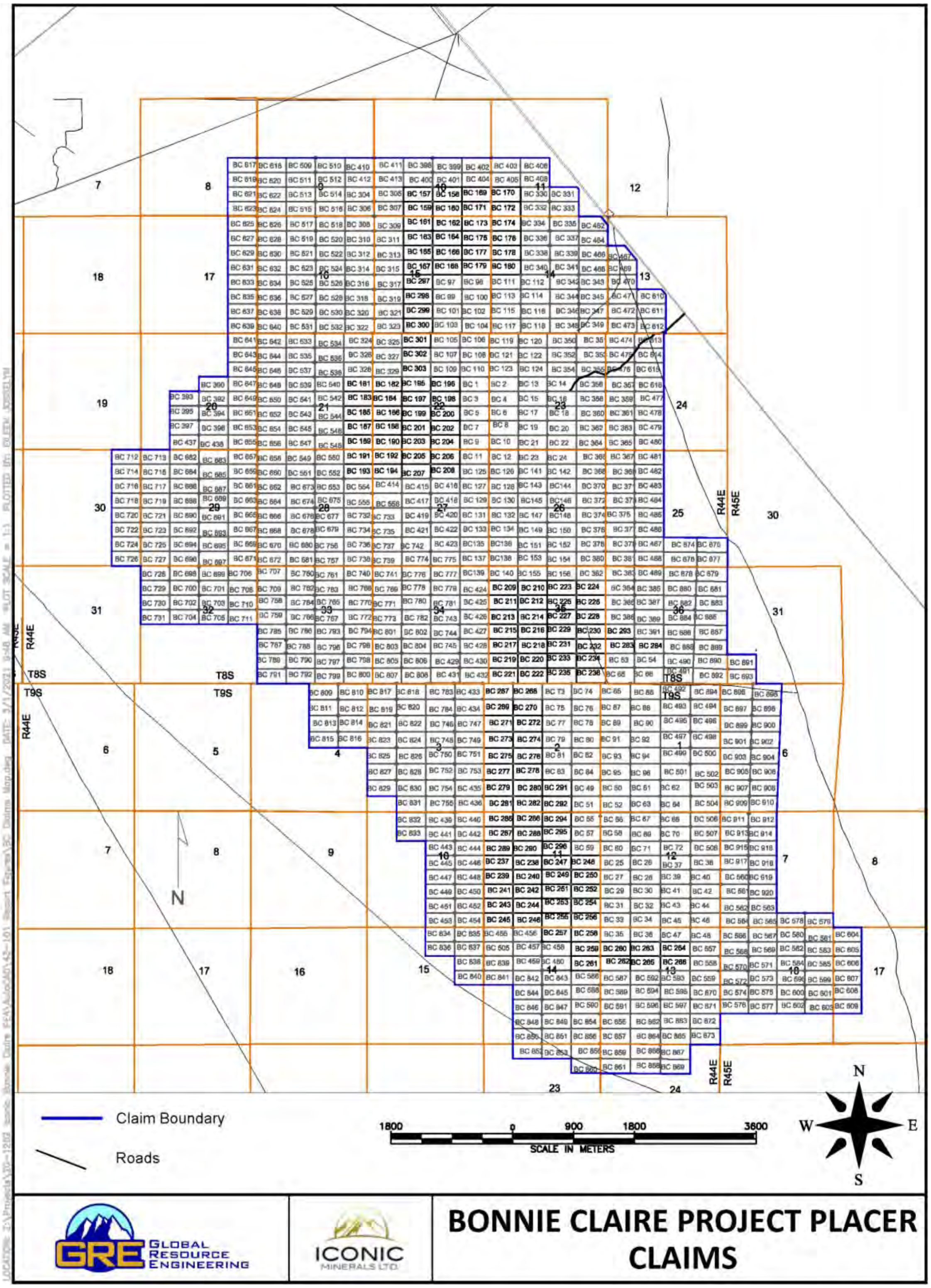


Figure 4-4: Bonnie Claire Lithium Project, Placer Claims



4.3 Tenure Rights

As of the Issue date of this report, the Project claim group consists of 915 placer mining claims owned 80% by Iconic and 20% by Nevada. The claims are all in good standing with the BLM and Nye County.

On November 30th, 2020, and amended on December 14th and 30th, 2020 and May 3rd, 2021, Nevada Lithium Resources Inc. entered into an Option Agreement (the “Agreement”) with Iconic Minerals to acquire a up to a 50% interest in the Bonnie Claire 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, the Company and Nevada Lithium will form a joint venture for the development of the Bonnie Claire Property (the "Joint Venture"), with the initial Joint Venture interests of the parties being 50% as to the Company and 50% as to Nevada Lithium. The Company 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.

If Nevada Lithium fails to fund the Phase I exploration expenditures before the applicable exercise date, the Option Agreement will terminate and Nevada Lithium will not acquire any interest in the Bonnie Claire Property. If Nevada Lithium fails to fund the Phase II or Phase III expenditures before the applicable exercise dates, Nevada Lithium will retain any interest in the Bonnie Claire Property already acquired pursuant to the Option Agreement and the each of the parties will each fund approved work programs in proportion to their ownership interest in the Bonnie Claire Property; provided that if a party contributes less than its proportionate interest to a work program, that party’s interest in the Bonnie Claire Property will become subject to dilution and conversion into an NSR royalty, as set out above.

As of the Issue date of this report, Nevada has funded the initial $1,600,000 and holds a 20% interest in the Project. Iconic is currently the Operator of 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.

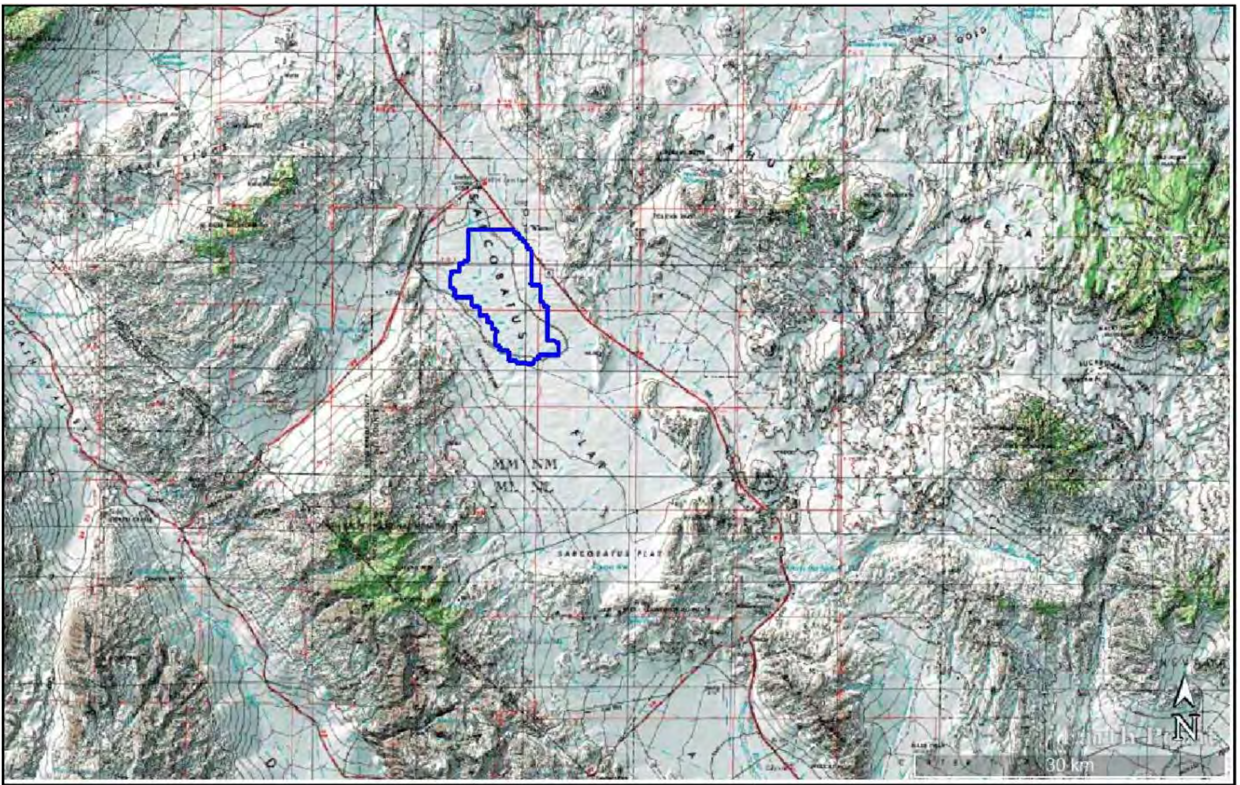
5.2 Climate

The climate of the Bonnie Claire 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 Bonnie Claire 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



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GENERAL VIEW OF 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 United States Geological Survey (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 Bonnie Claire 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.

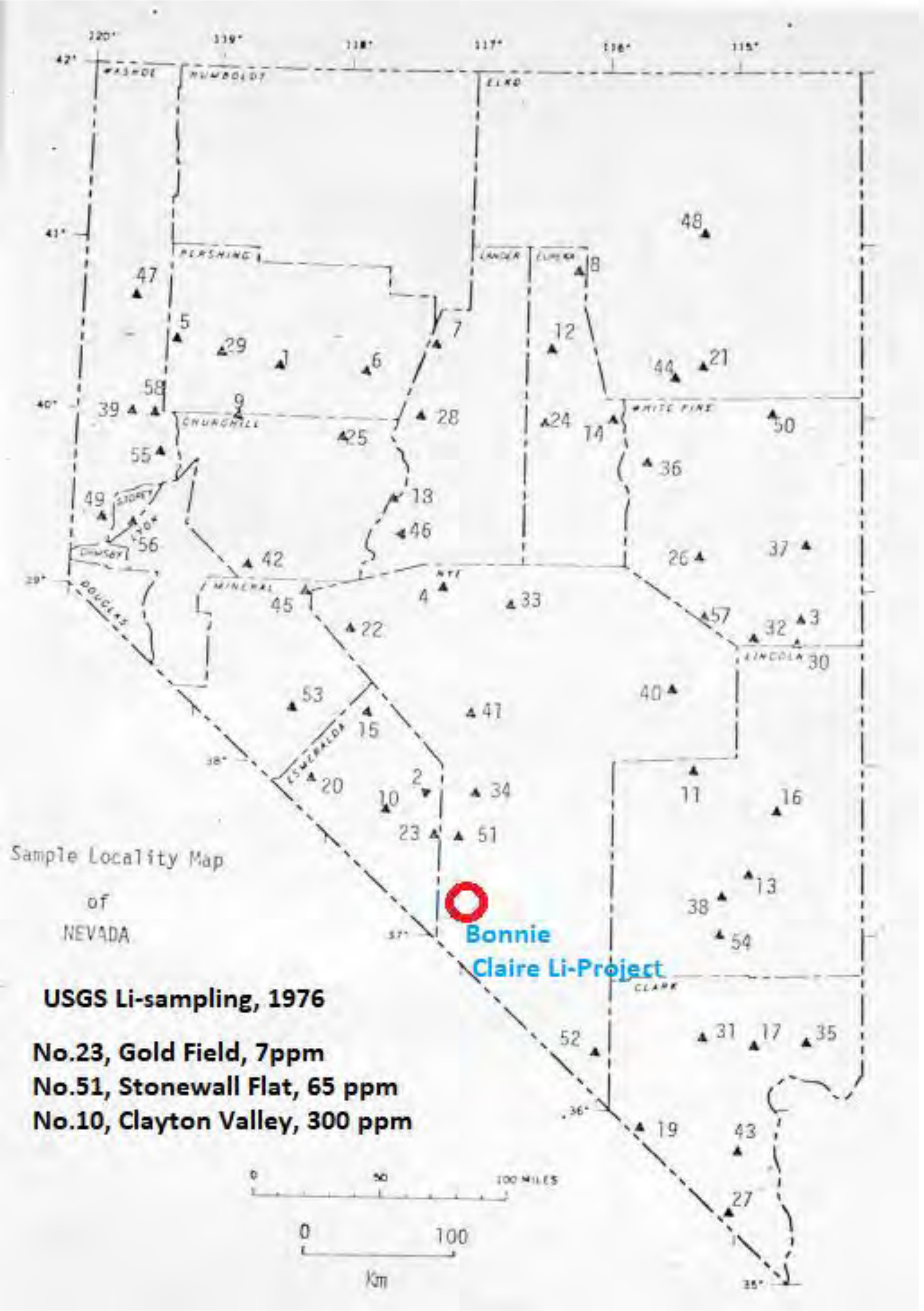
There is no indication or documentation of any drilling occurring on the Project prior to Iconic's efforts in 2016.

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 Iconic 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



USGS Li-sampling, 1976

No.23, Gold Field, 7ppm
No.51, Stonewall Flat, 65 ppm
No.10, Clayton Valley, 300 ppm

Source: (Bohannon, et al., 1976)

7.0 GEOLOGIC SETTING AND MINERALIZATION

The following descriptions of the regional and local geologic setting of the Bonnie Claire Lithium Project are largely based on work completed by Davis and Vine (1979), Davis et. al (1986), Crafford (2007), Munk (2011), and Bradley et. al (2013), and much of the following text is modified and/or excerpted from these reports. The Authors have reviewed this information and available supporting documentation in detail and finds the discussion and interpretations presented herein to be reasonable and suitable for use in this report.

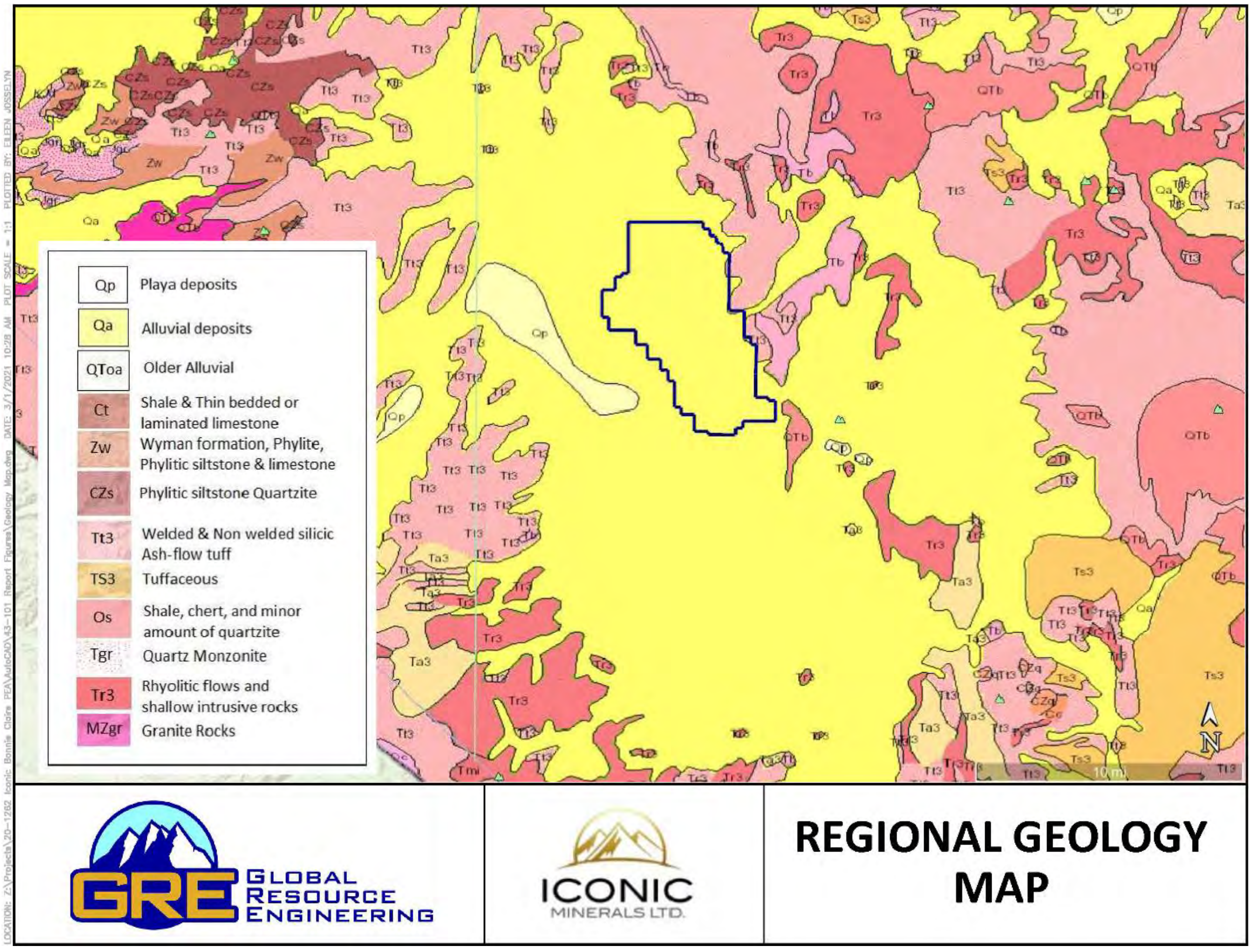
7.1 Regional Geology

The Bonnie Claire Lithium 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 (NDVF) 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

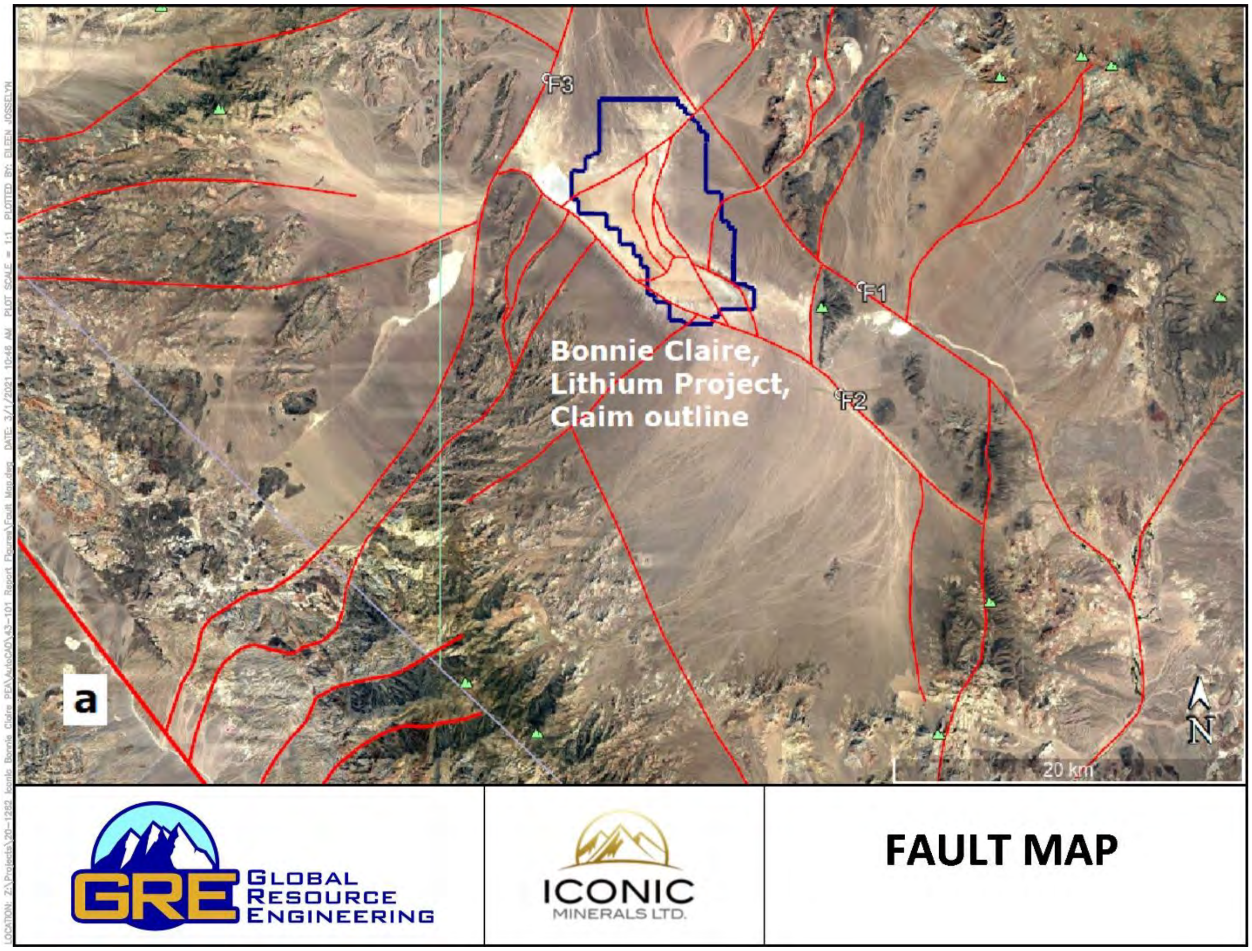
7.2 Local Geologic Setting

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.

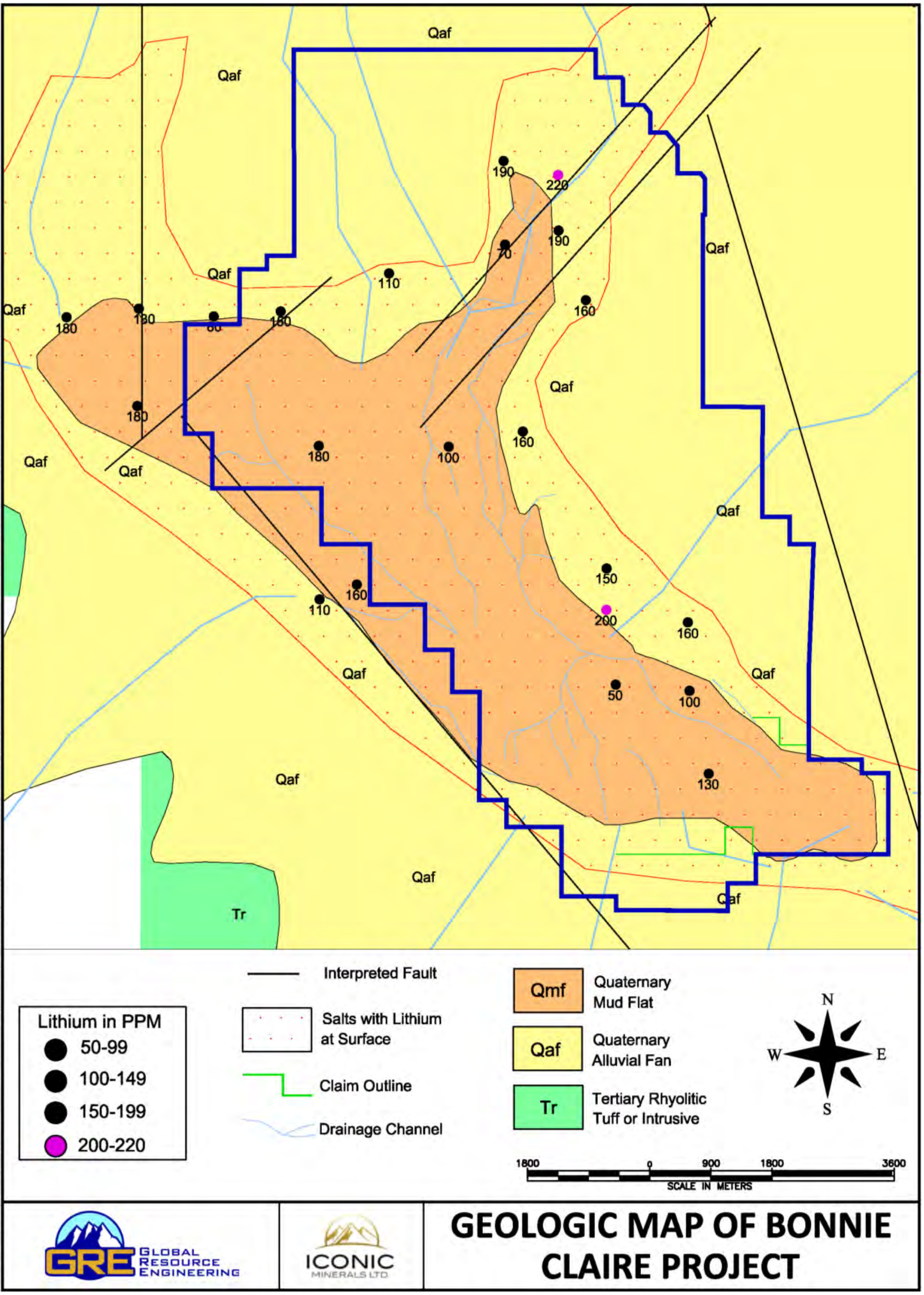
Multiple wetting and drying periods during the Pleistocene resulted in the formation of lacustrine deposits, salt beds, and lithium-bearing sediments in the Bonnie Claire basin. Extensive diagenetic alteration of vitric material to zeolites and clay minerals has taken place in the tuffaceous Tertiary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

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



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.

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

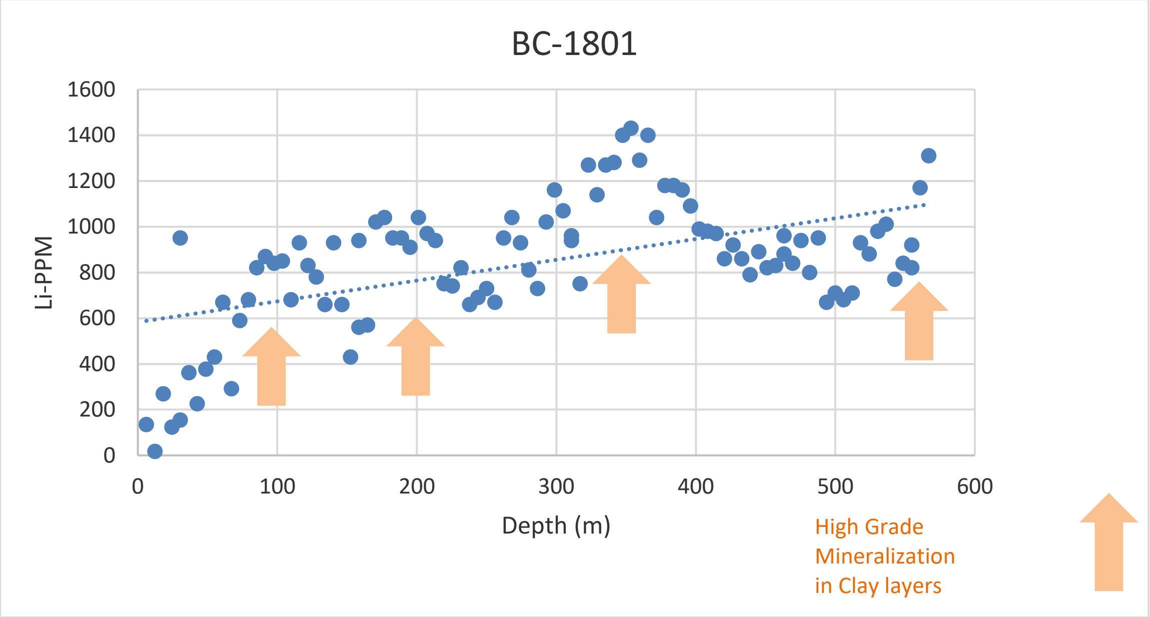
Lithium is known to occur in potentially economic concentrations in three types of deposits: pegmatites, continental brines, and sediments (dominantly clays). Currently, lithium is produced from both pegmatites and continental brines; however, brines are the most important source of lithium worldwide. 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 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, the lithium must be occurring as carbonate or a chloride with no association to clay minerals.

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 data from drill hole BC 18-01 confirms at least four depositional cycles at Bonnie Claire (Figure 8-1).

Figure 8-1: Lithium Distribution in Clay Layers with Depth 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 Bonnie Claire 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 PEA. The following geophysical discussion is included for completeness of the exploration effort.

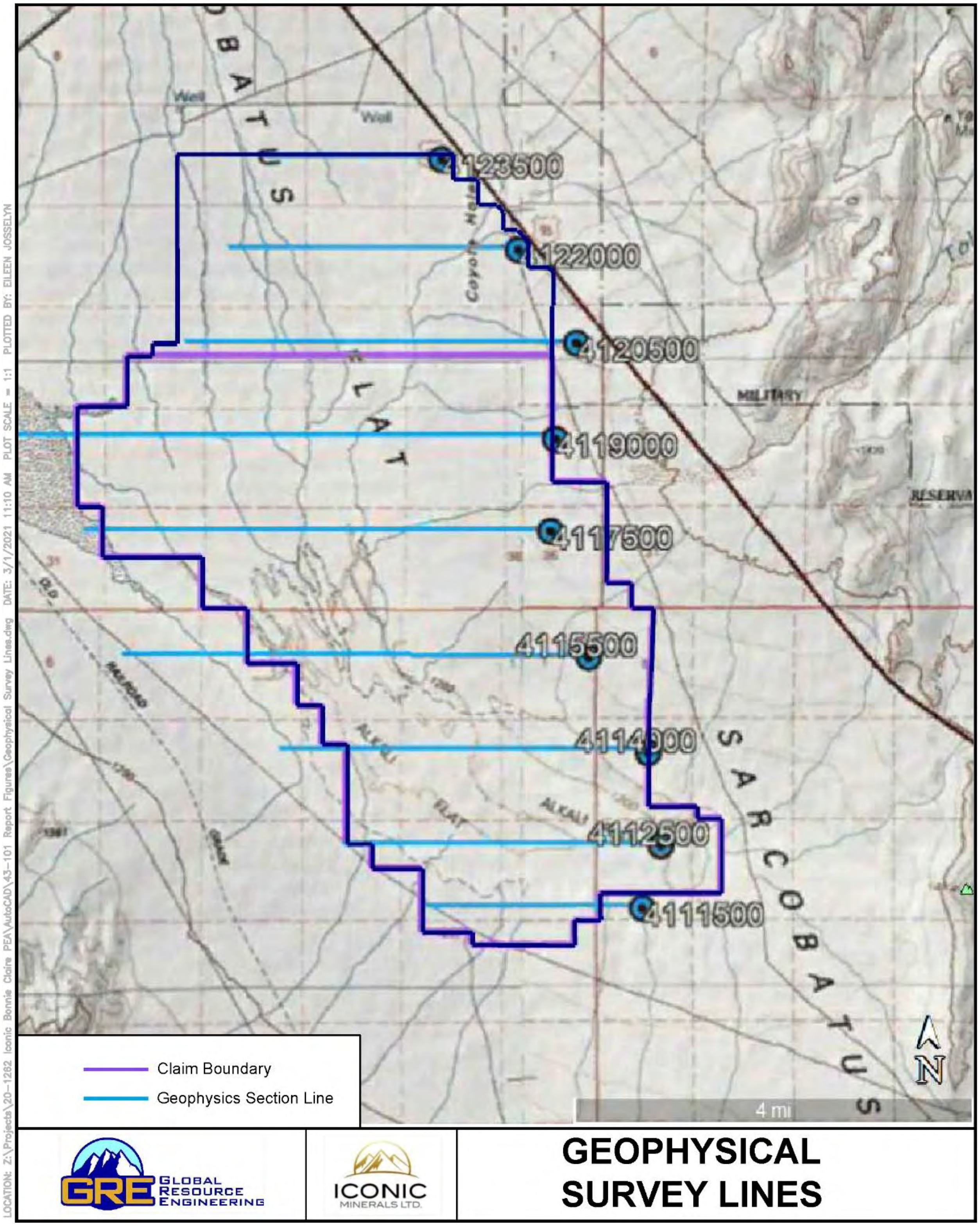
9.1 Geophysical Exploration

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 MagnetoTelluric (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

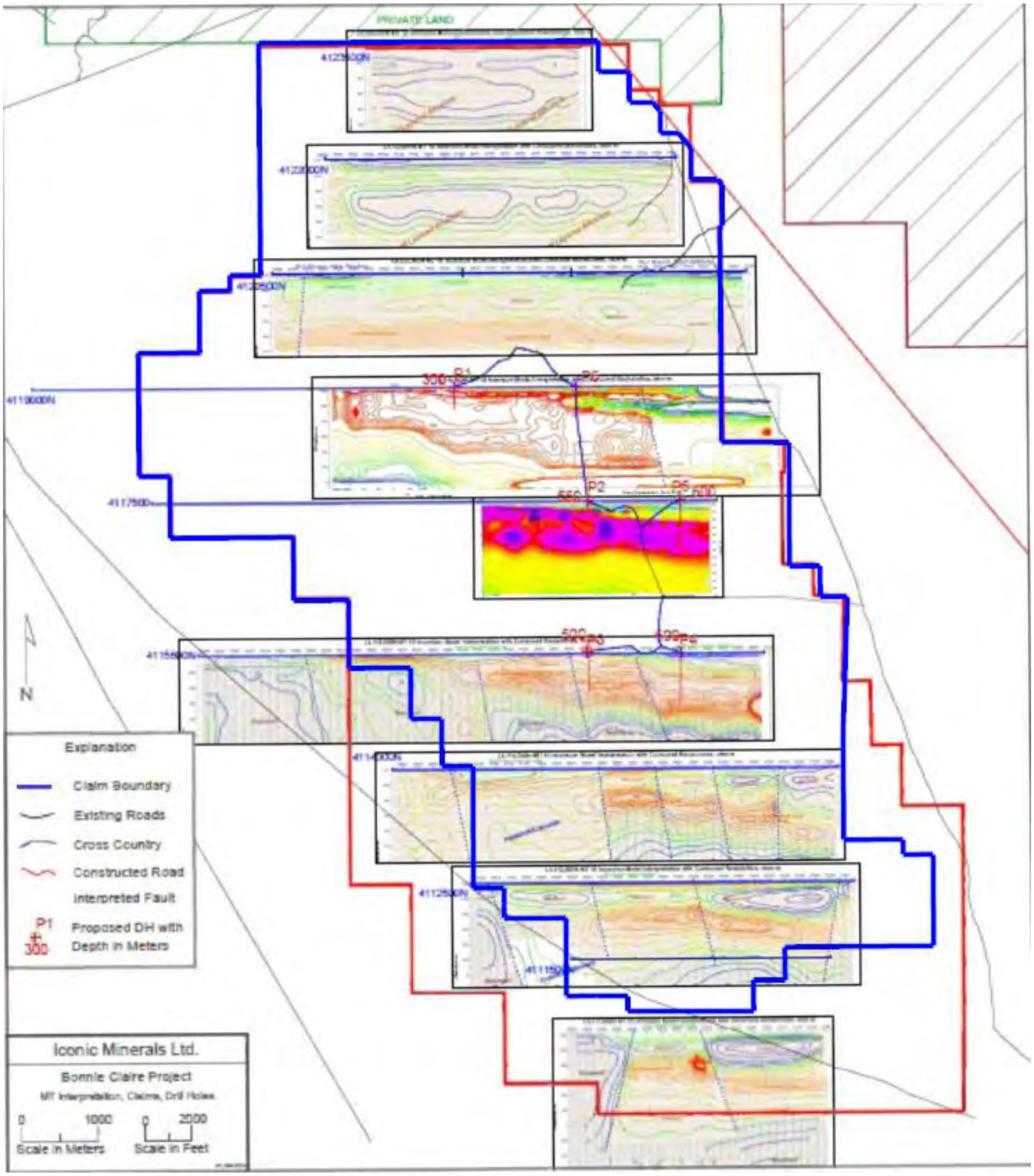


9.1.1 Geophysical Study Results, MT Survey

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.

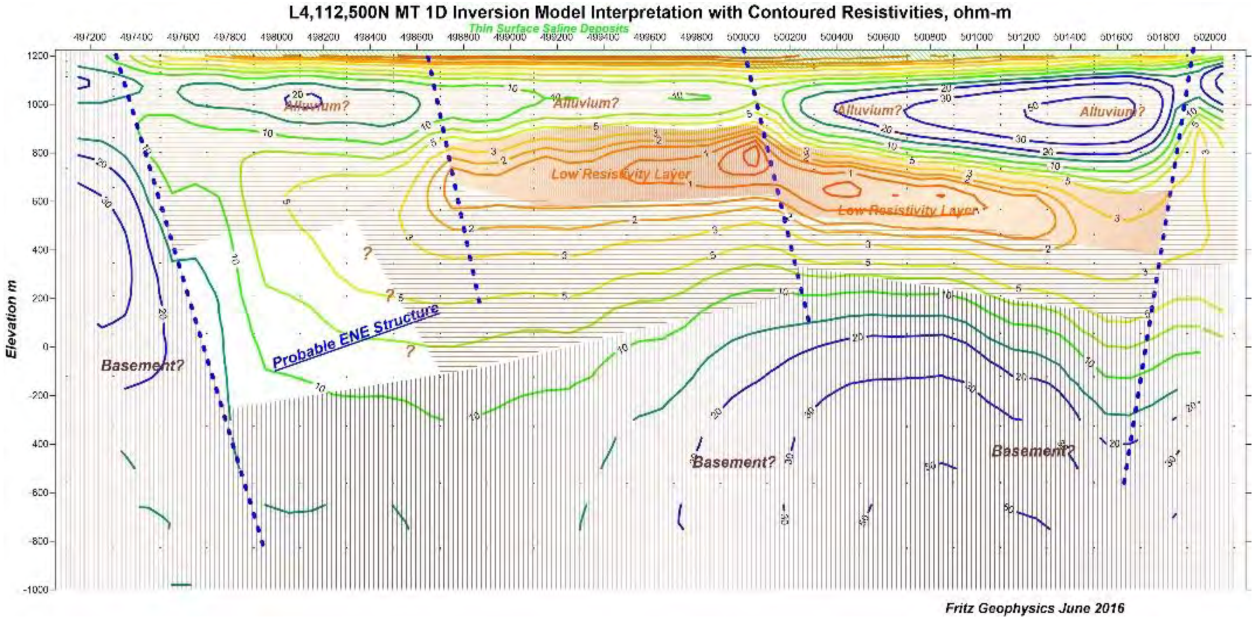
The nine sections are interpreted into different resistivity categories including: basement rocks, dry alluvium, wet alluvium, surface salt pans, and possible VLRL brines. These sections show that the northern third of the basin is separated from the southern two thirds by a probable east-northeast structure 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.

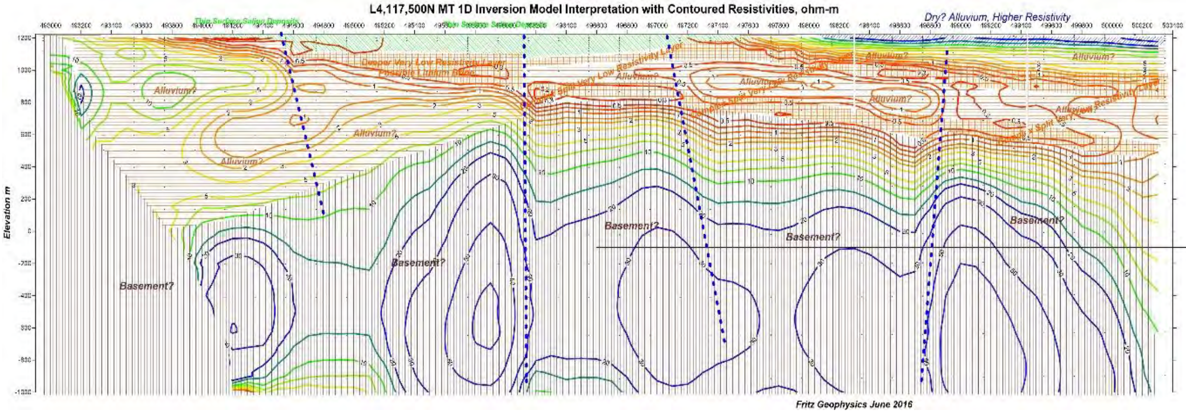
Figure 9-3 Bonnie Claire Project Geophysical Section, L4,112,500N



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.

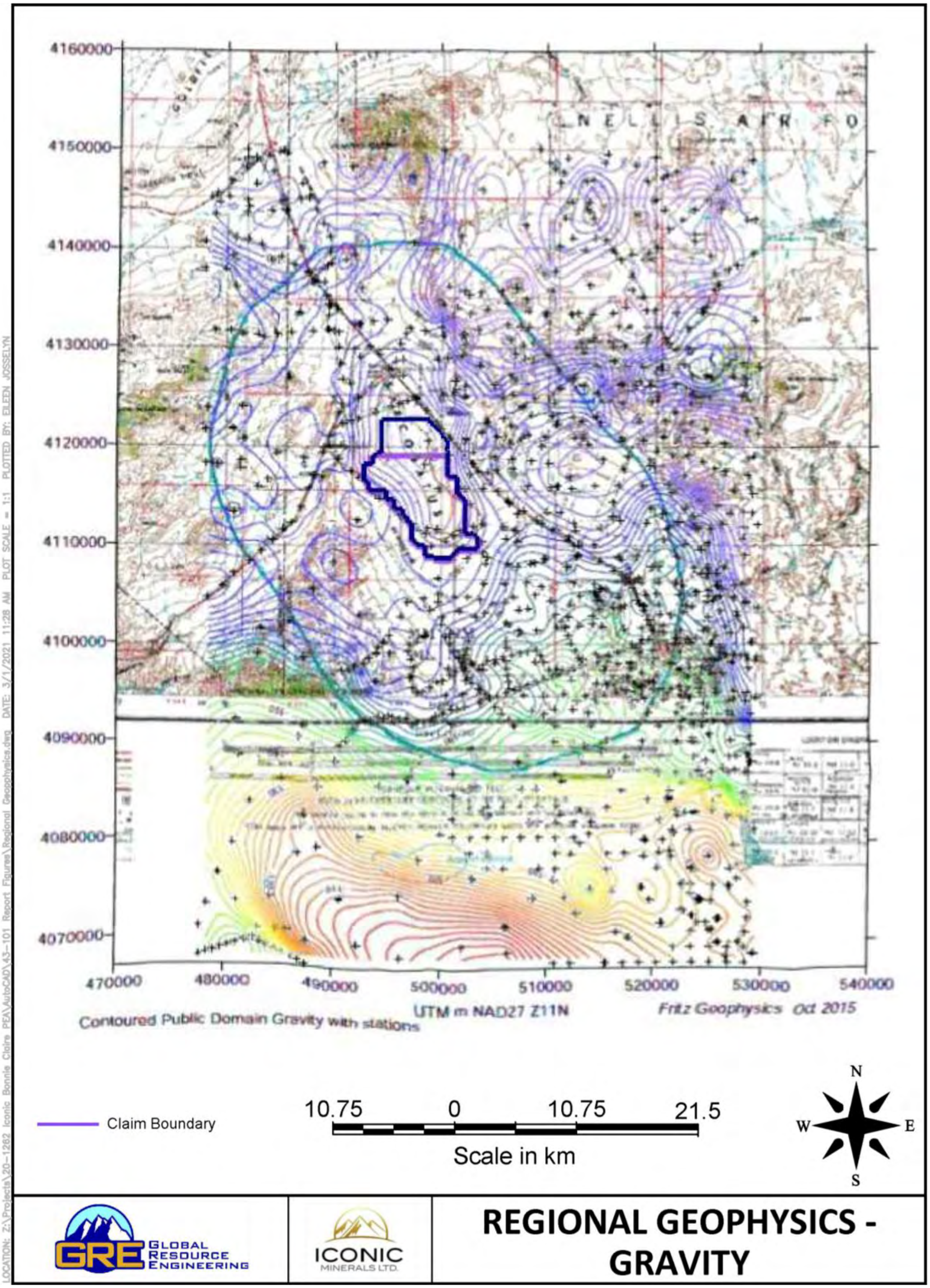
The several geophysical survey lines show northerly structures with a consistent down drop to the East in the VLRL. The interpreted VLRL distribution is shown in Figure 9-4. The several northerly structures drop this layer from about 200 meters deep to over 600 meters deep to the east and south.

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

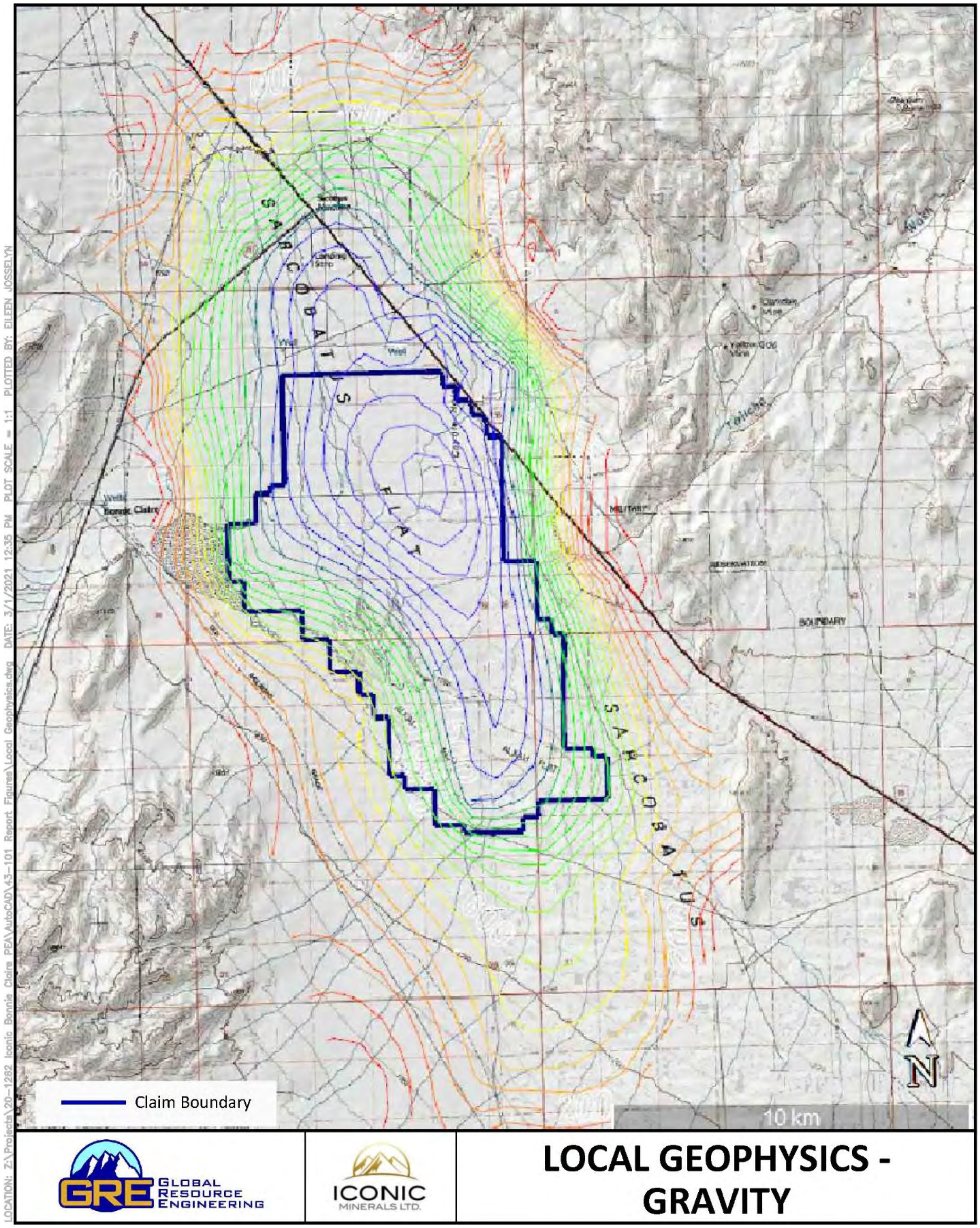
The gravity geophysical survey data helped define the geometry of the basin. The data suggests the deepest part of the basin to be in the northern one-third of the total basin area (Figure 9-5 and Figure 9-6). In general, the basin depth is approximately 1,600 meters below ground surface. The eastern 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



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 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 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 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)

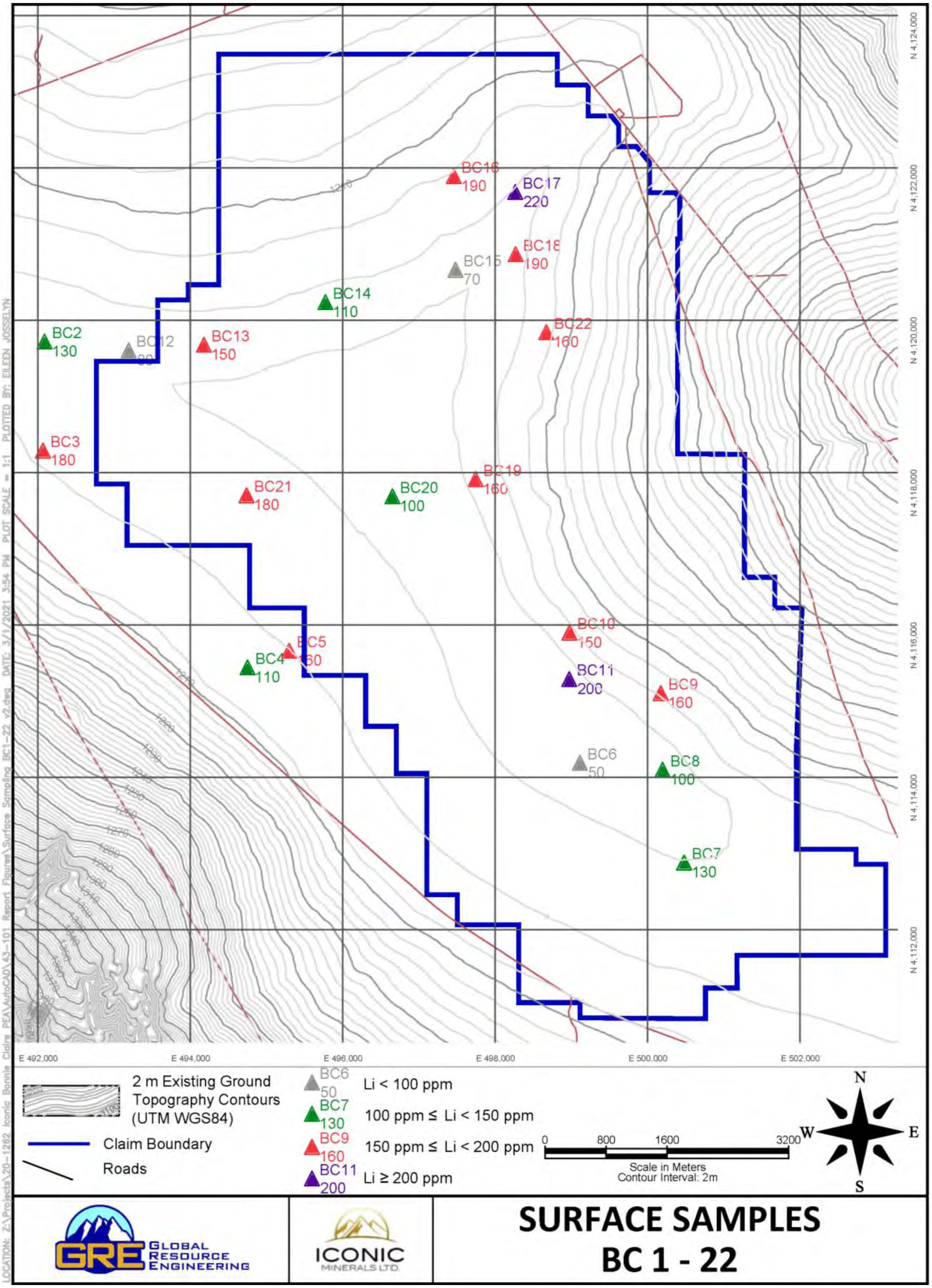
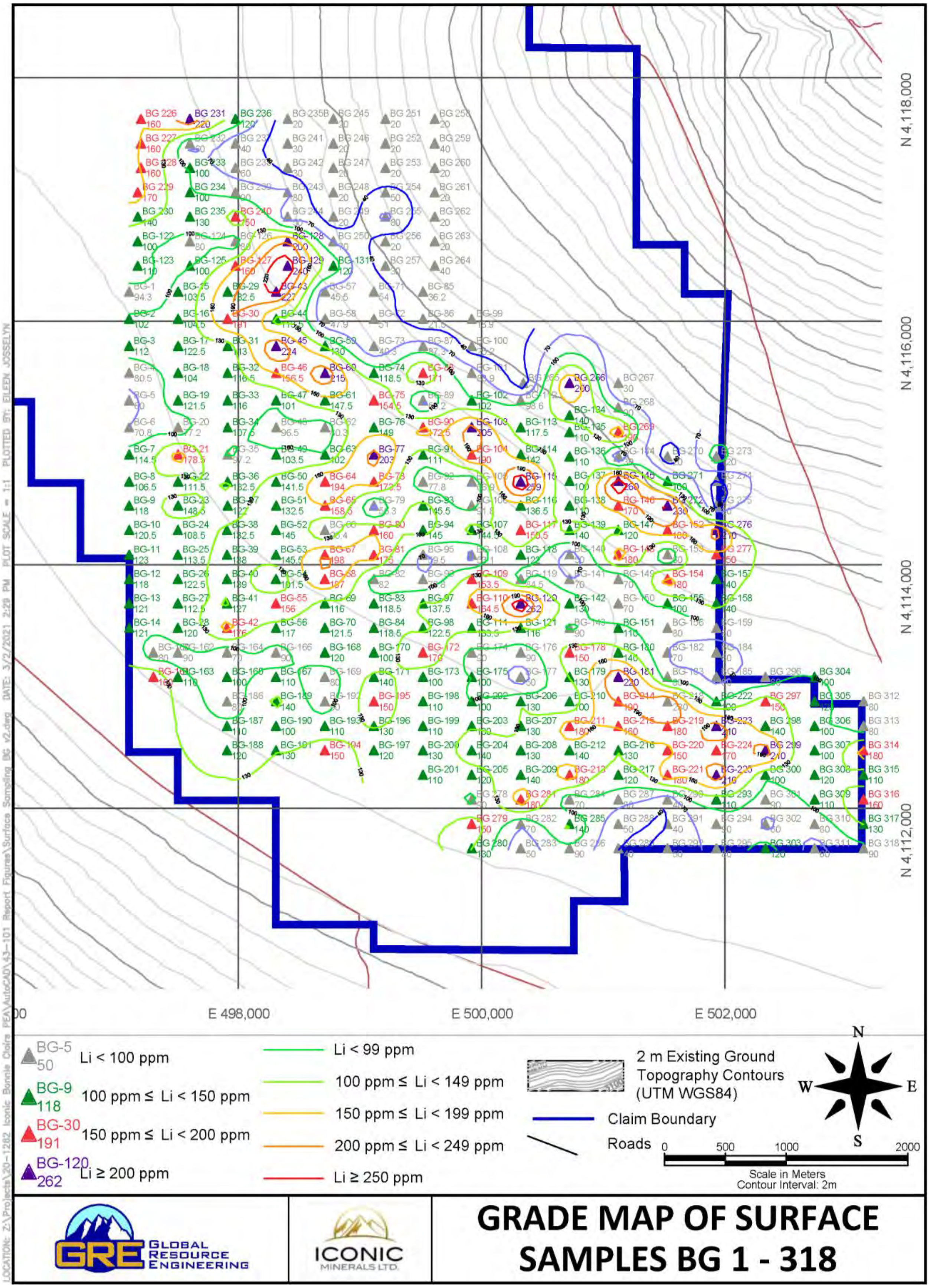


Figure 9-8: Bonnie Claire Lithium Project Surface Sampling Locations (BG 1-318)



9.3 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 Report, Iconic has completed ten holes, which include eight vertical RC holes and two vertical diamond core holes (DH) (noted on Figure 10-1 with a "C" suffix), totaling 2278.0 meters (see Figure 10-1 and Figure 10-2).

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

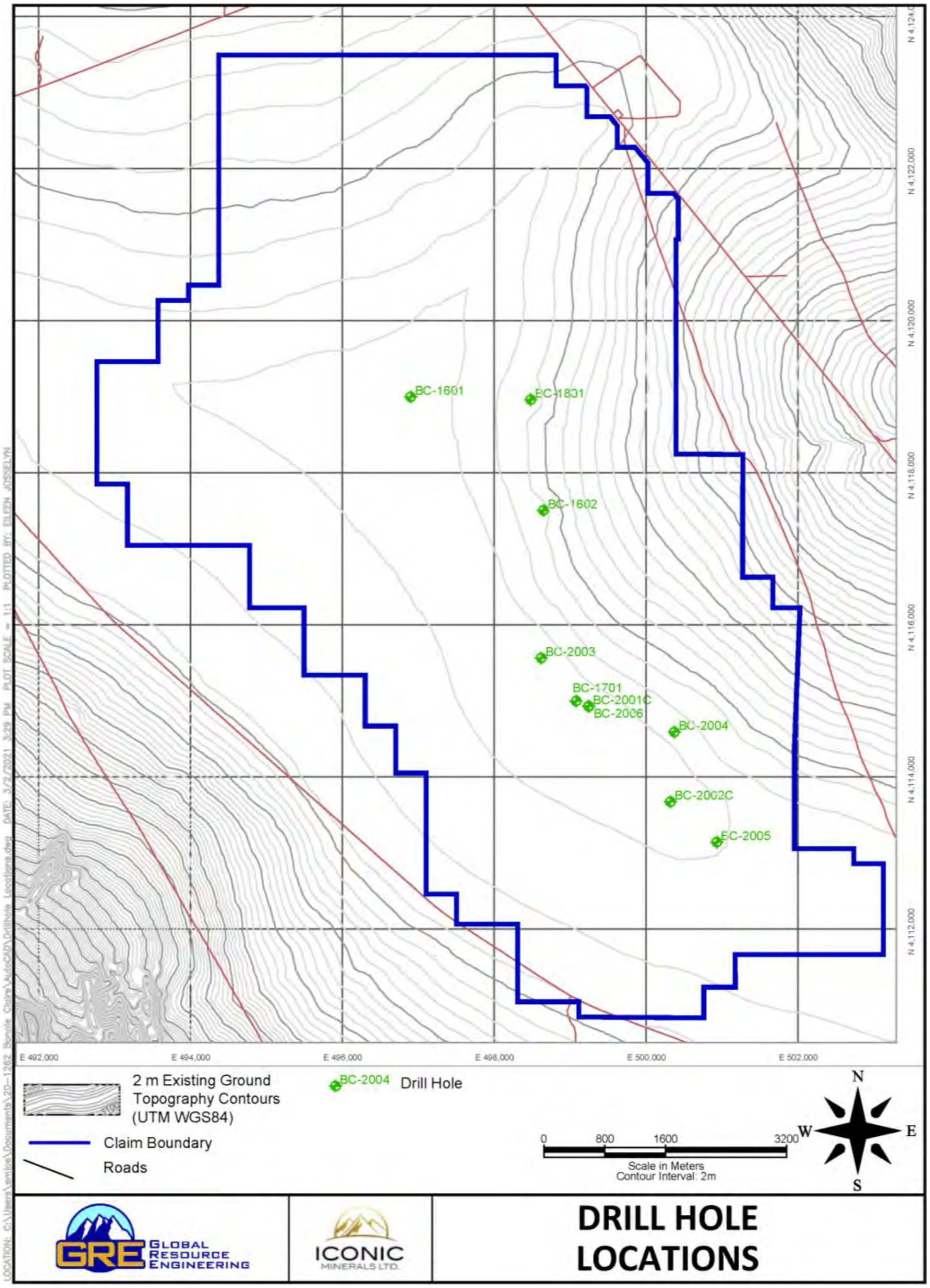


Table 10-1: Iconic Drilling Summary

Campaign Year	Drill Method	Meters	Number of Holes
2016	RC	1079	2
2017	RC	91.4	1
2018	RC	566.9	1
2020	RC	319.43	4
	DH	221.27	2
Total		2278.00	10

10.2 Iconic (2016-2018)

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, 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	RC	BC-1601	496,904.00	4,118,949.00	1204	475.5	0	-90
		BC-1602	498,646.00	4,117,454.00	1210	603.5	0	-90
2017	RC	BC-1701	499,078.00	4,115,000.00	1204	91.4	0	-90
2018	RC	BC-1801	498,480.00	4,118,963.00	1210	566.9	0	-90

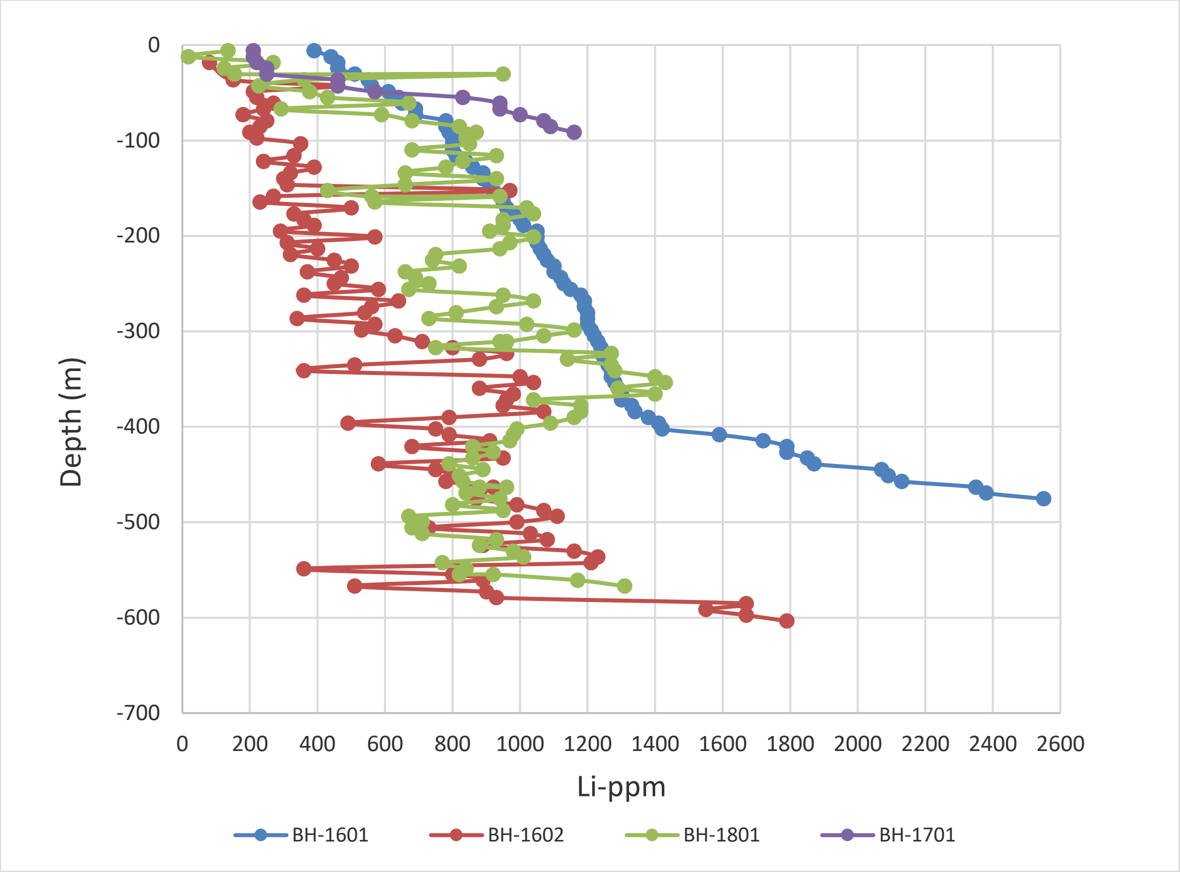
A total of 1737.3 meters of drilling was performed from 2016 to 2018. The average sample interval length is 6.09 meters (20 feet). Because lithium deposited within the fine grain clay, silt, and sand pore space, the sample length has no direct relationship with the mineralization. Iconic used a 20-foot 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)



Significant drill hole intervals are presented in Table 10-3.

Table 10-3: Bonnie Claire Lithium Project Significant Drill Intervals

Drill Hole ID	Depth (m)		Length (m)	Ave Li (ppm)
	From	To		
BC-1601	0	475.5	475.5	1,152.6
BC-1602	0	603.5	603.5	640.6
BC-1701	0	91.4	91.4	644.0
BC-1801	0	566.9	566.9	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)

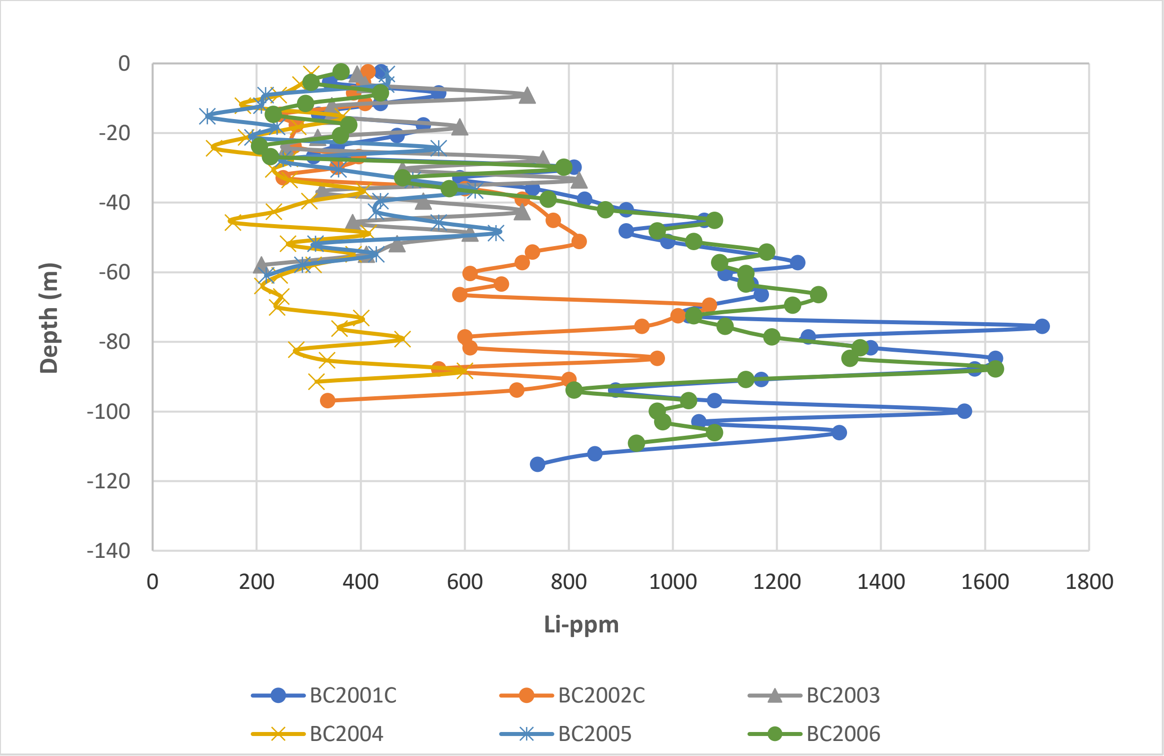
Campaign years	Drill Method	Drill hole ID	Easting	Northing	Elevation (m)	Depth (m)	Azimuth	Dip
2020	RC	BC2003	498,619.00	4,115,566.00	1177.14	57.91	0.00	-90.00
		BC2004	500,372.00	4,114,593.00	1173.48	91.44	0.00	-90.00
		BC2005	500,930.00	4,113,144.00	1085.70	60.96	0.00	-90.00
		BC2006	499,243.00	4,114,933.00	1173.48	109.12	0.00	-90.00
	DH	BC2001C	499,245.00	4,114,930.00	1179.27	121.30	0.00	-90.00
		BC2002C	500,321.00	4,113,676.00	1181.41	99.97	0.00	-90.00

A total of 540.71 meters 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 20 feet to 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. Core holes BC2001C and RC hole BC2006 are twinned. Assay results from the core hole are approximately 12% higher than the assay results from the RC hole, suggesting some of the lithium solubilizes during RC drilling. Additional twinning work using RC, rotary, and core are needed to determine which result is correct.

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



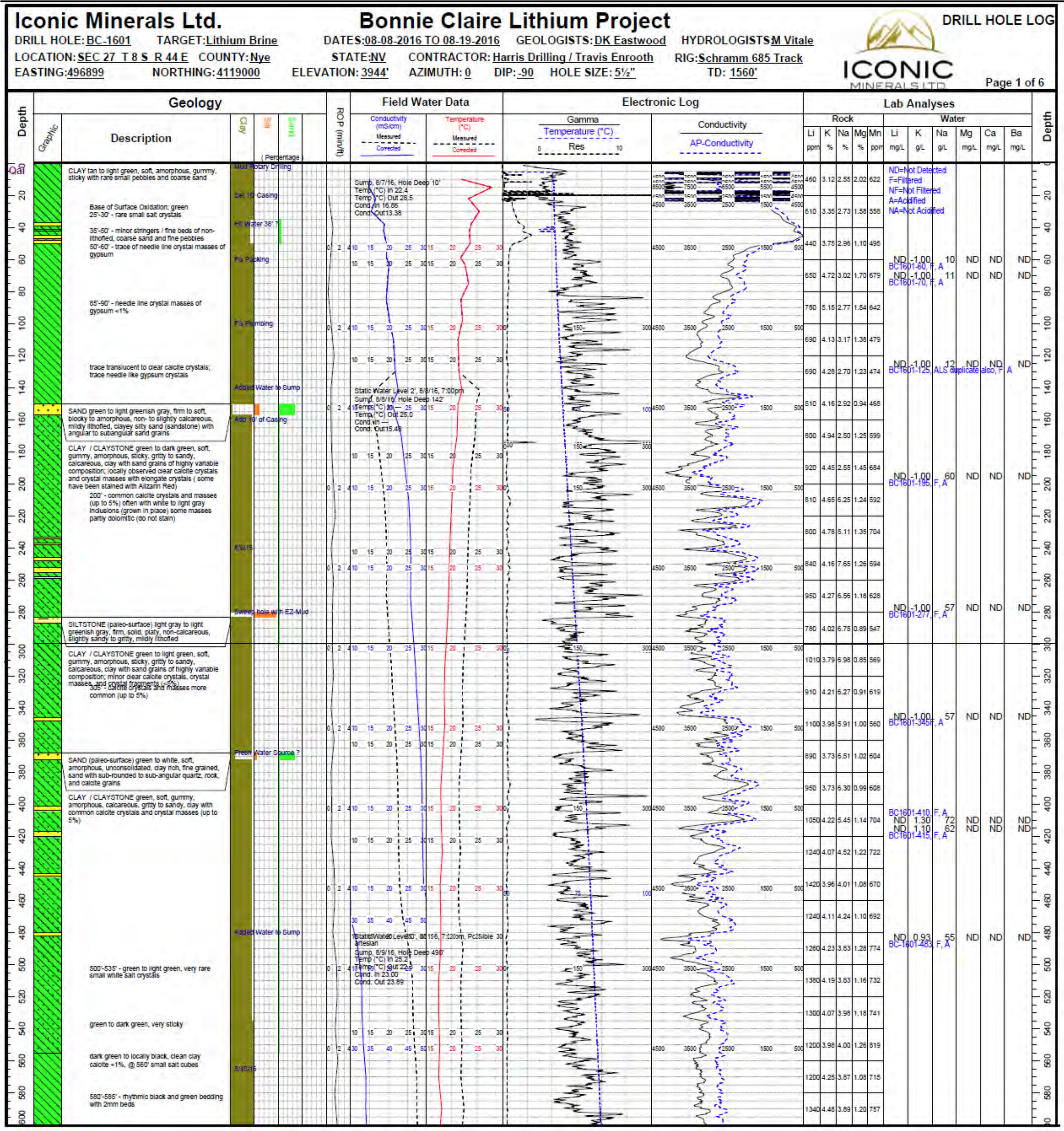
11.0 SAMPLE PRESERVATION, ANALYSES AND SECURITY

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.

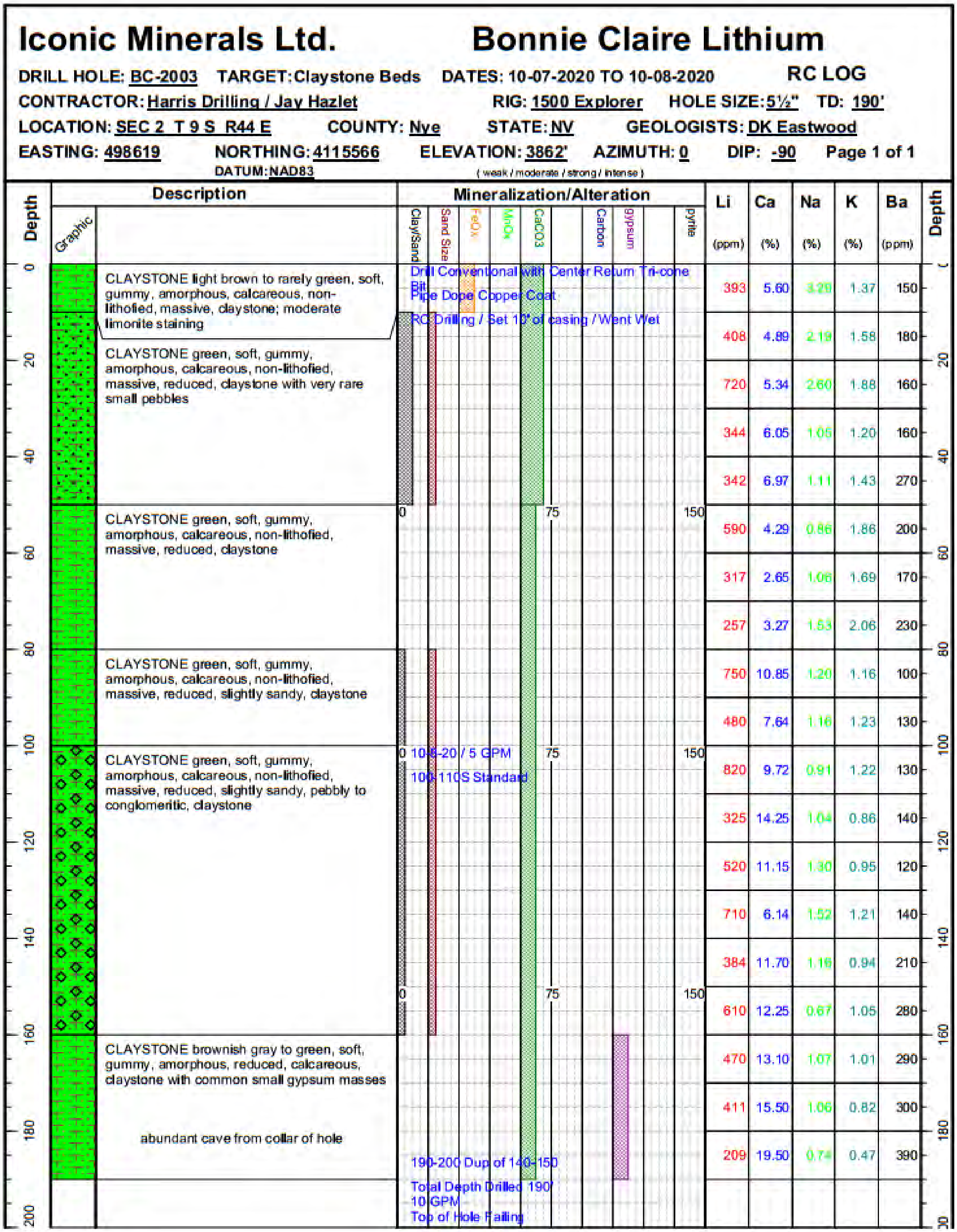
11.2 Sample Preparation (2020)

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**

DRILL HOLE: BC-2003 TARGET: Claystone Beds DATES: 10-07-2020 TO 10-08-2020 RC LOG
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
(weak / moderate / strong / intense)

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

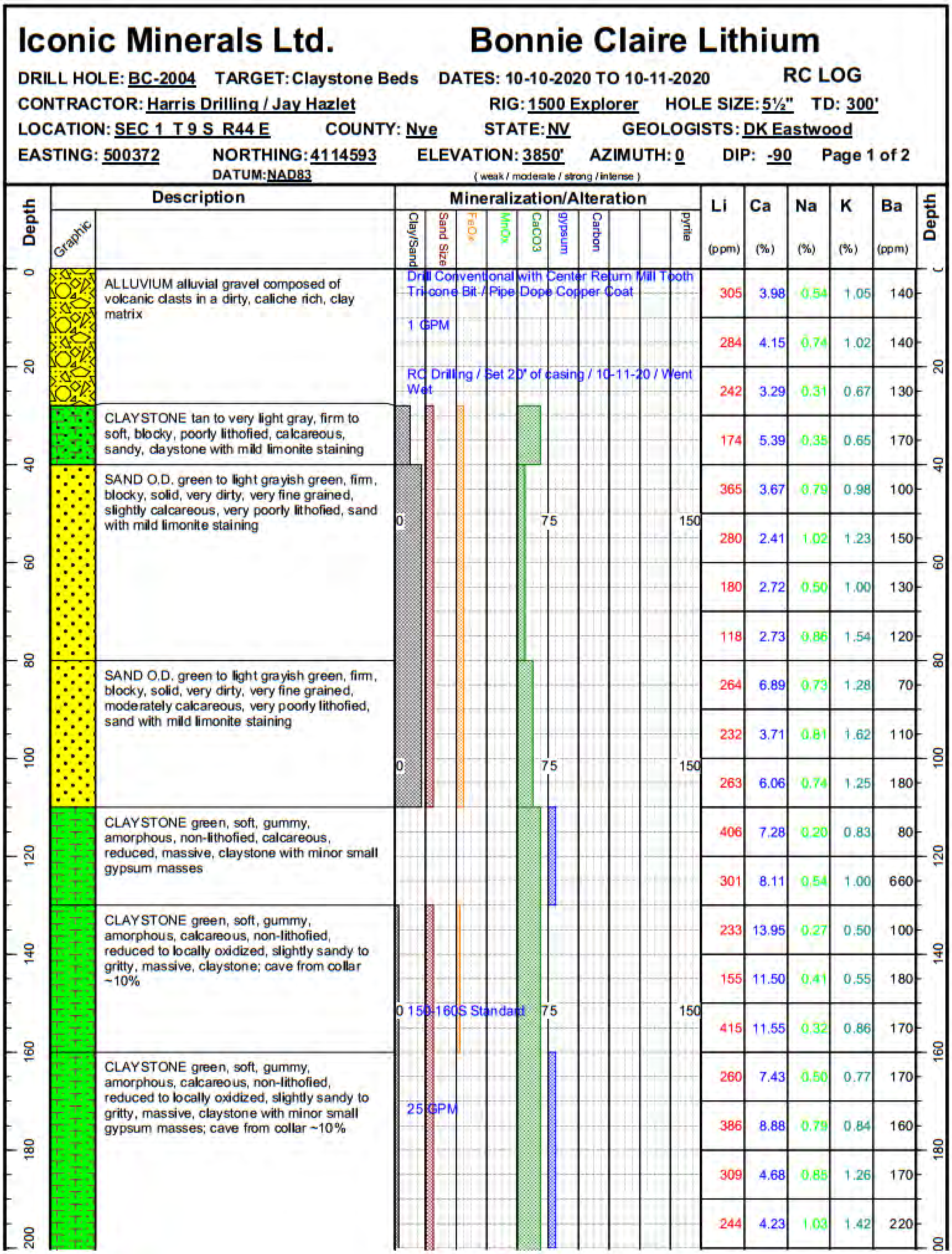
CLAYSTONE brownish gray to green, soft, gummy, amorphous, reduced, calcareous, claystone with common small gypsum masses

abundant cave from collar of hole

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

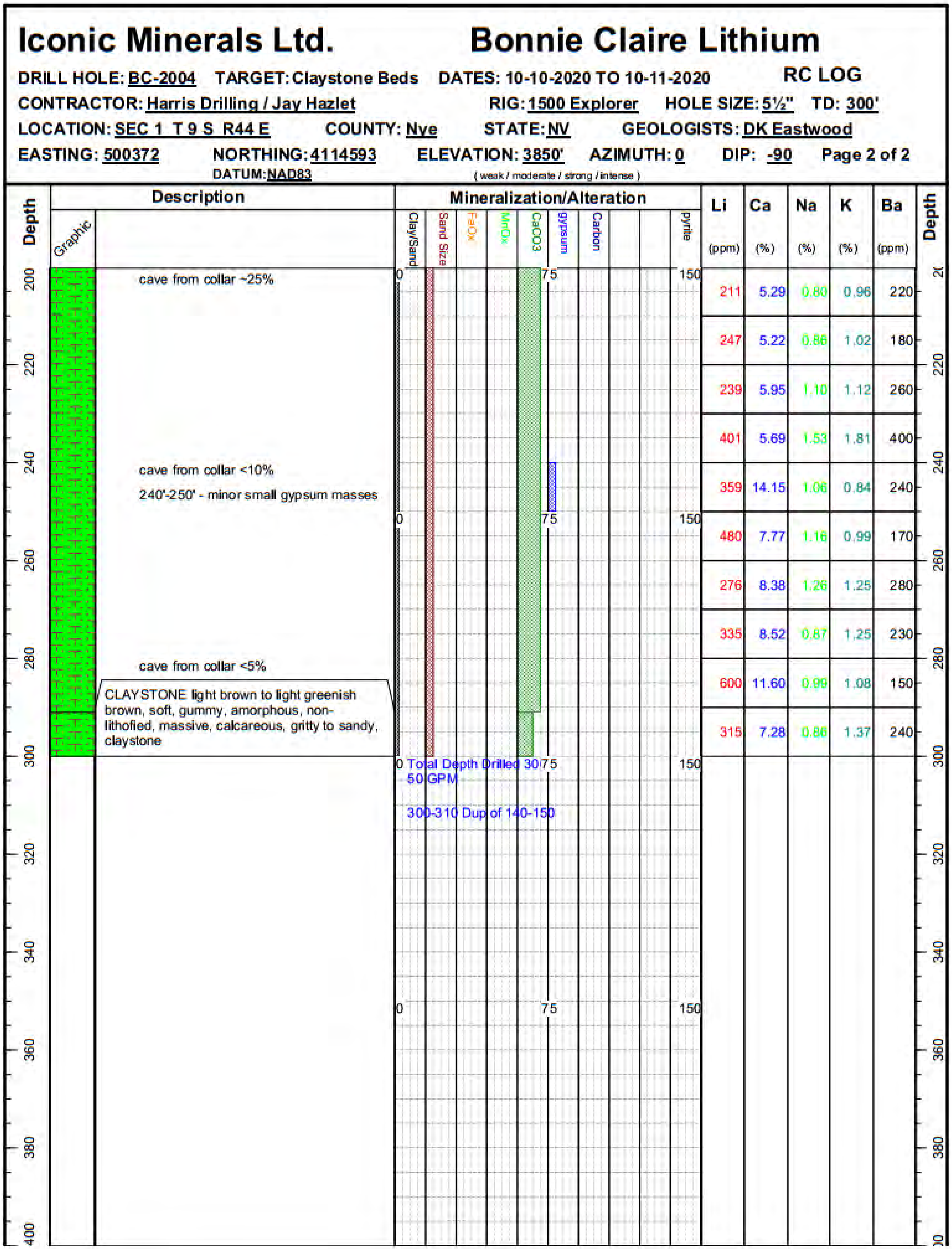
RC Drilling / Set 20' of casing / 10-11-20 / Went Wet

0 150-160S 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**

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 2 of 2
DATUM: NAD83

Description

cave from collar ~25%

cave from collar <10%

240'-250' - minor small gypsum masses

cave from collar <5%

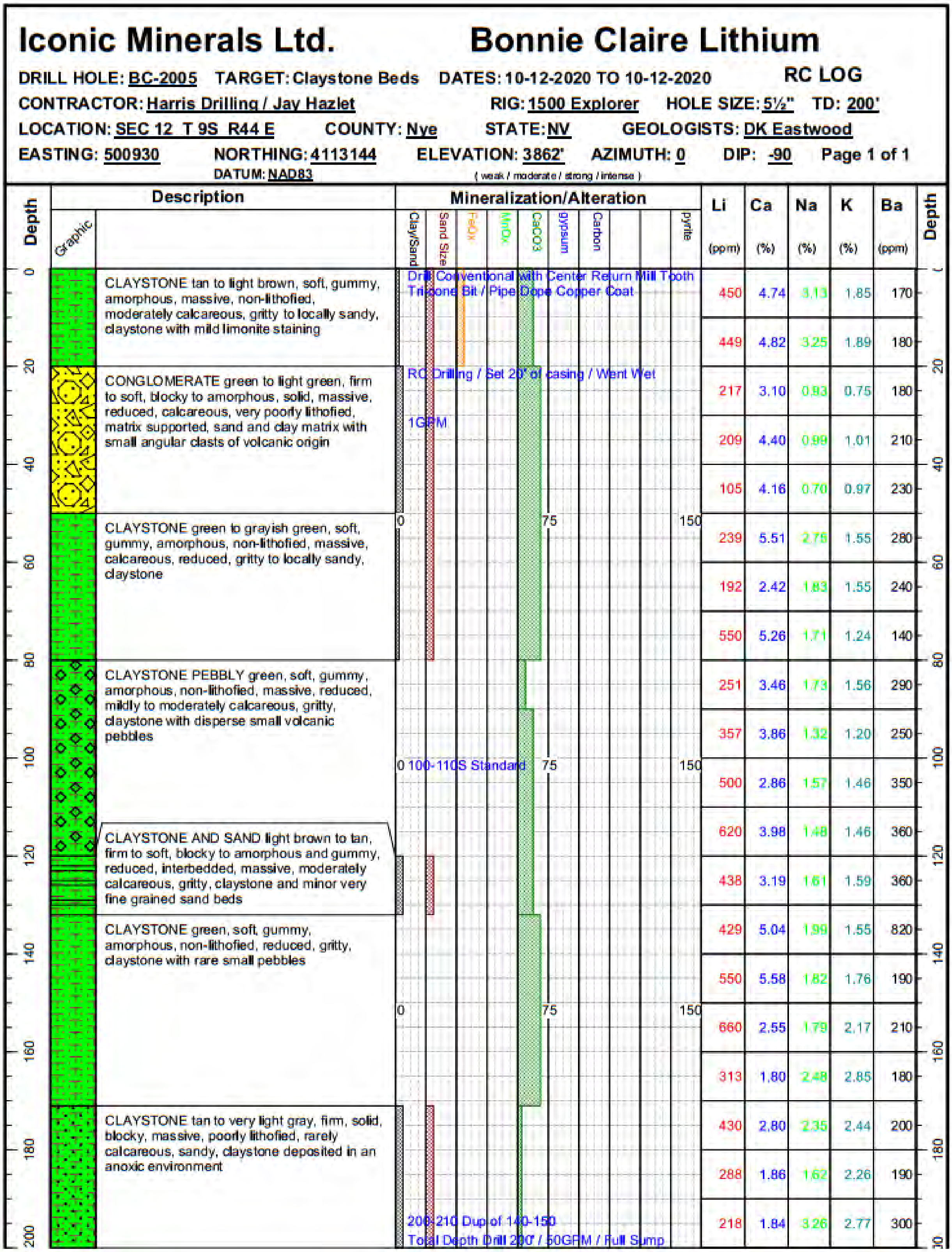
CLAYSTONE light brown to light greenish brown, soft, gummy, amorphous, non-lithofied, massive, calcareous, gritty to sandy, claystone

Total Depth Drilled 300
50 GPM

300-310 Dup of 140-150

Li (ppm)	Ca (%)	Na (%)	K (%)	Ba (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

0 75 150

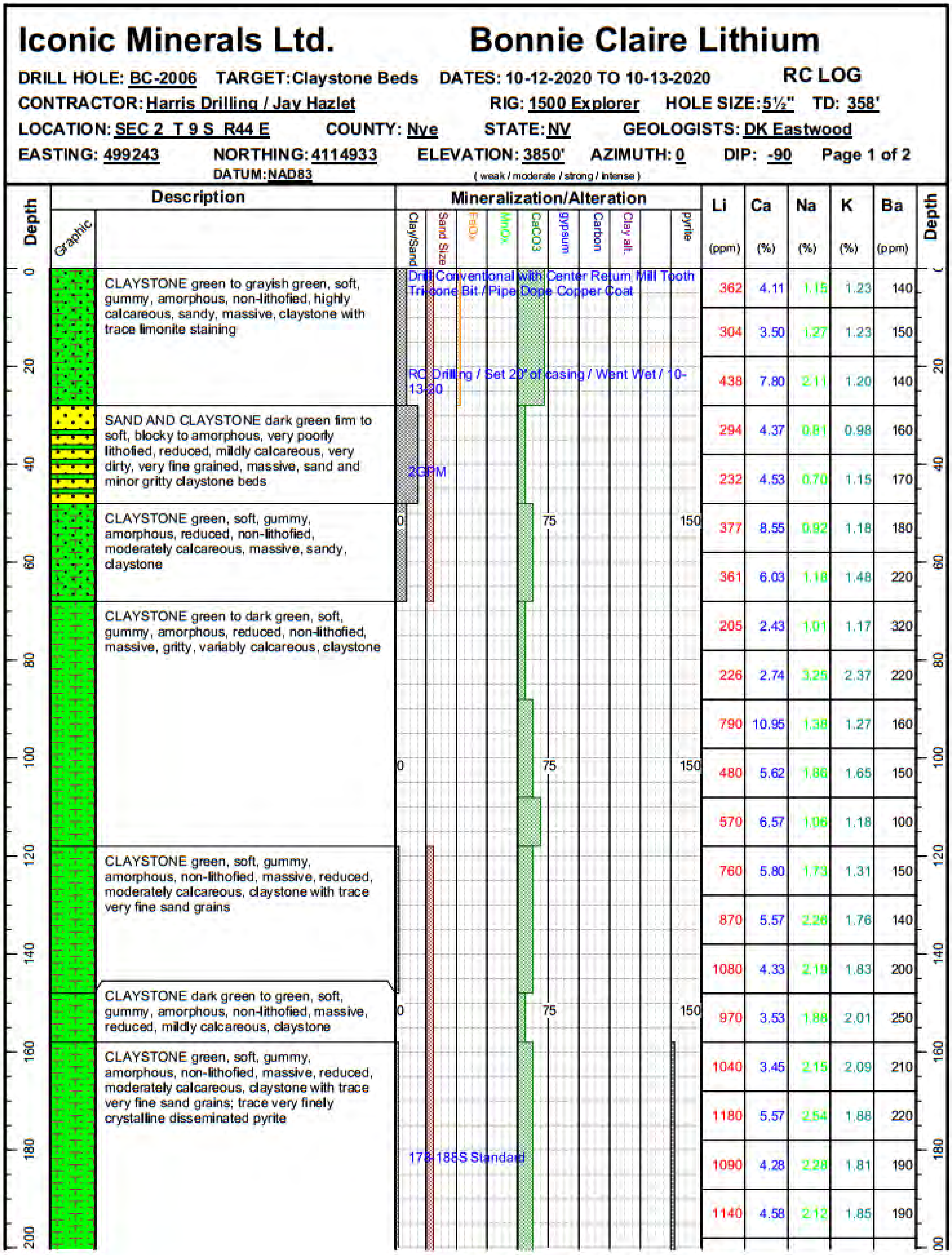
0 100-110S Standard 75 150

0 75 150

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	2.76	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**

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 1 of 2
DATUM: NAD83

(weak / moderate / strong / intense)

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

Drill Conventional with Center Return Mill Tooth Tricone Bit / Pipe Dope Copper Coat

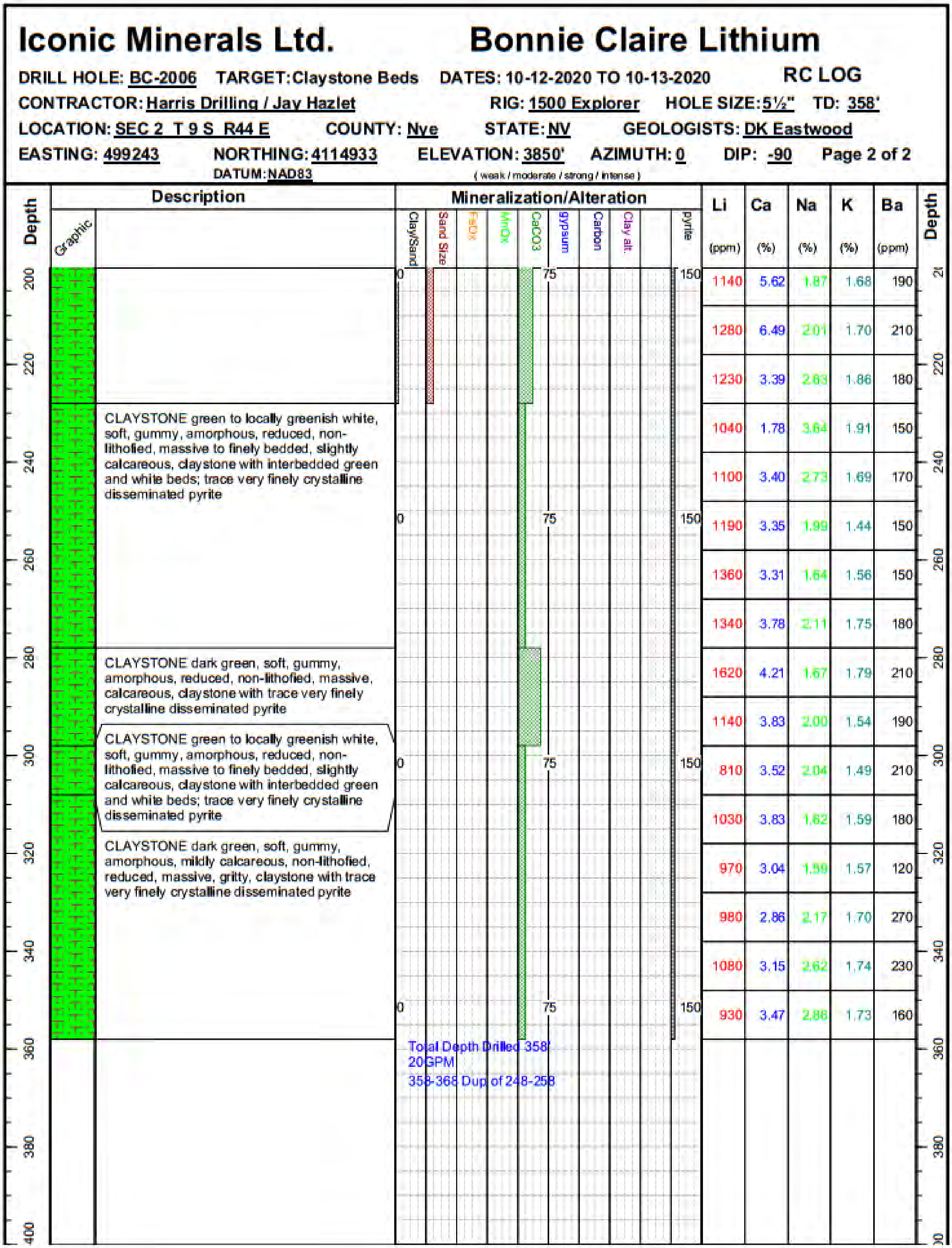
RC Drilling / Set 20' of casing / Went Wet / 10-13-20

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'
20 GPM
358-368 Dup of 248-258

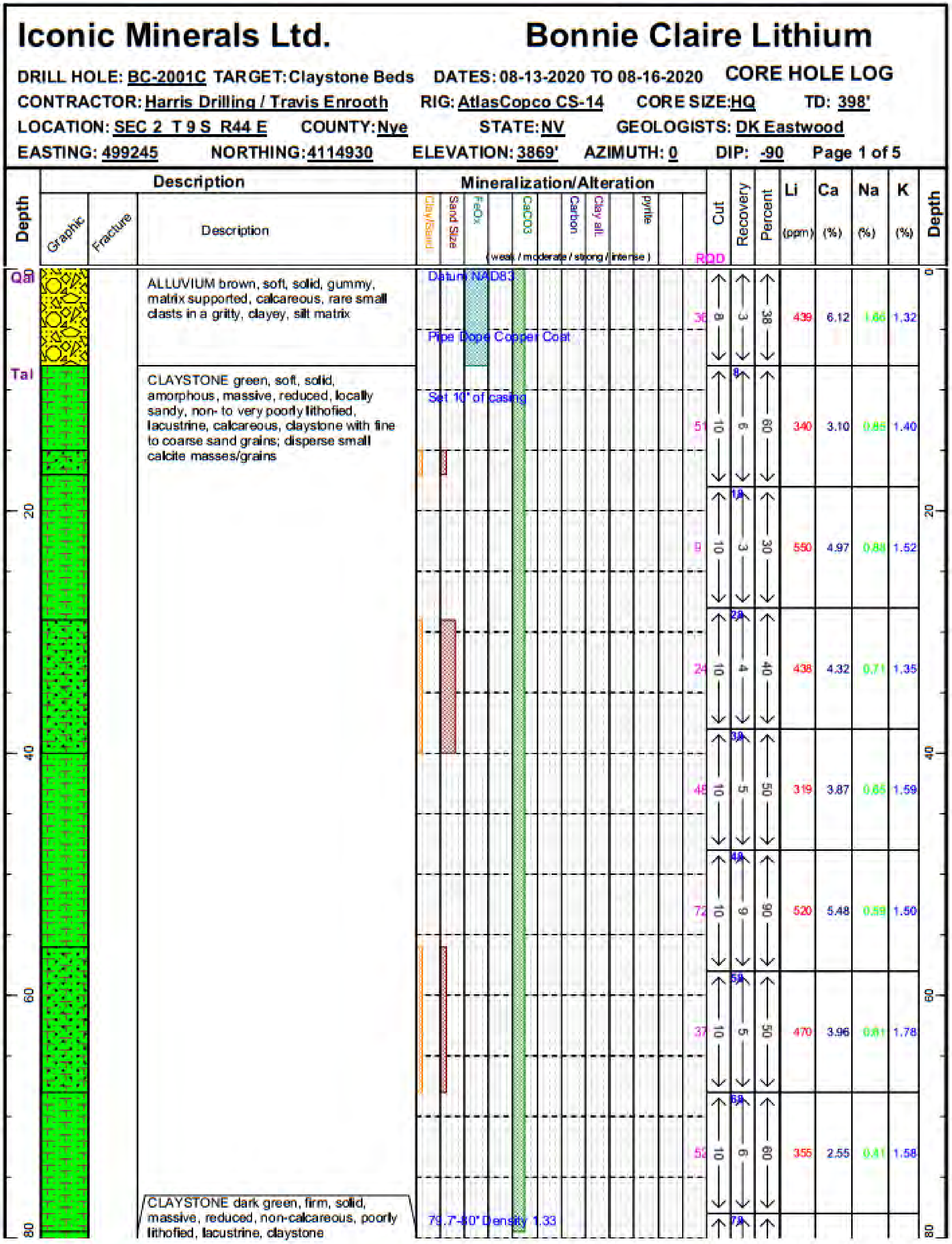
Li (ppm)	Ca (%)	Na (%)	K (%)	Ba (ppm)
1140	5.62	1.87	1.68	190
1280	6.49	2.01	1.70	210
1230	3.39	2.63	1.86	180
1040	1.78	3.64	1.91	150
1100	3.40	2.73	1.69	170
1190	3.35	1.99	1.44	150
1360	3.31	1.64	1.56	150
1340	3.78	2.11	1.75	180
1620	4.21	1.67	1.79	210
1140	3.83	2.00	1.54	190
810	3.52	2.04	1.49	210
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 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)

Figure 11-6: Core Hole Log for Drill Hole BC-2001C



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2001C TARGET: Claystone Beds DATES: 08-13-2020 TO 08-16-2020 CORE HOLE LOG
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 398'
LOCATION: SEC 2 T 9 S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 499245 NORTHING: 4114930 ELEVATION: 3869' AZIMUTH: 0 DIP: -90 Page 1 of 5

ALLUVIUM brown, soft, solid, gummy, matrix supported, calcareous, rare small clasts in a gritty, clayey, silt matrix

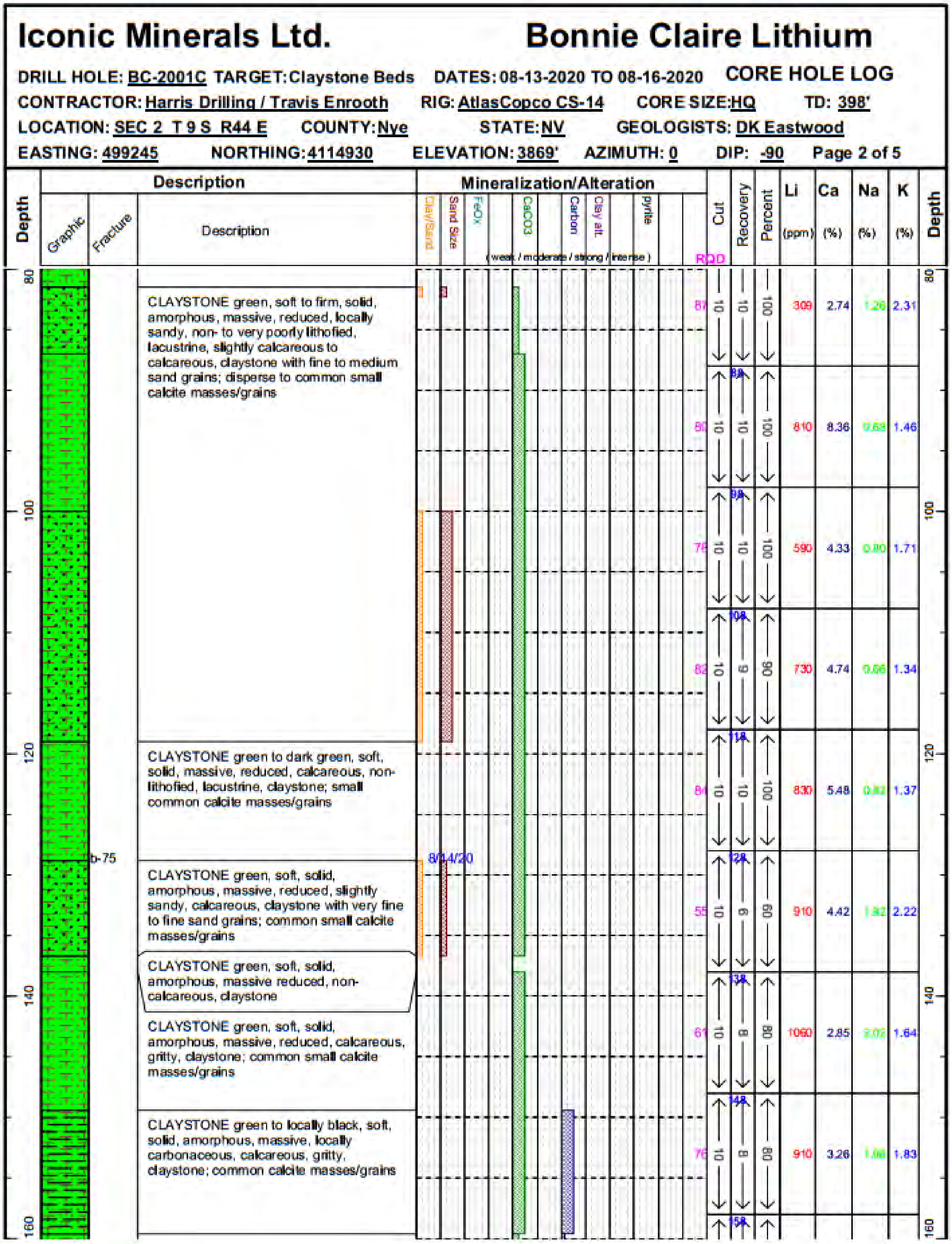
CLAYSTONE green, soft, solid, amorphous, massive, reduced, locally sandy, non- to very poorly lithofied, lacustrine, calcareous, claystone with fine to coarse sand grains; disperse small calcite masses/grains

CLAYSTONE dark green, firm, solid, massive, reduced, non-calcareous, poorly lithofied, lacustrine, claystone

Datum NAD83
Pipe Dope Copper Coat
Set 10' of casing
79.7-80' Density 1.33

RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
36	8	3	38	439	6.12	1.66	1.32
51	10	6	60	340	3.10	0.85	1.40
9	10	3	30	550	4.97	0.88	1.52
24	10	4	40	438	4.32	0.71	1.35
48	10	5	50	319	3.87	0.65	1.59
72	10	9	90	520	5.48	0.59	1.50
37	10	5	50	470	3.96	0.81	1.78
52	10	6	60	355	2.55	0.41	1.58

Figure 11-6 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

CORE HOLE LOG

DRILL HOLE: BC-2001C TARGET: Claystone Beds DATES: 08-13-2020 TO 08-16-2020
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 398'
LOCATION: SEC 2 T 9 S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 499245 NORTHING: 4114930 ELEVATION: 3869' AZIMUTH: 0 DIP: -90 Page 2 of 5

CLAYSTONE green, soft to firm, solid, amorphous, massive, reduced, locally sandy, non- to very poorly lithofied, lacustrine, slightly calcareous to calcareous, claystone with fine to medium sand grains; disperse to common small calcite masses/grains

CLAYSTONE green to dark green, soft, solid, massive, reduced, calcareous, non-lithofied, lacustrine, claystone; small common calcite masses/grains

CLAYSTONE green, soft, solid, amorphous, massive, reduced, slightly sandy, calcareous, claystone with very fine to fine sand grains; common small calcite masses/grains

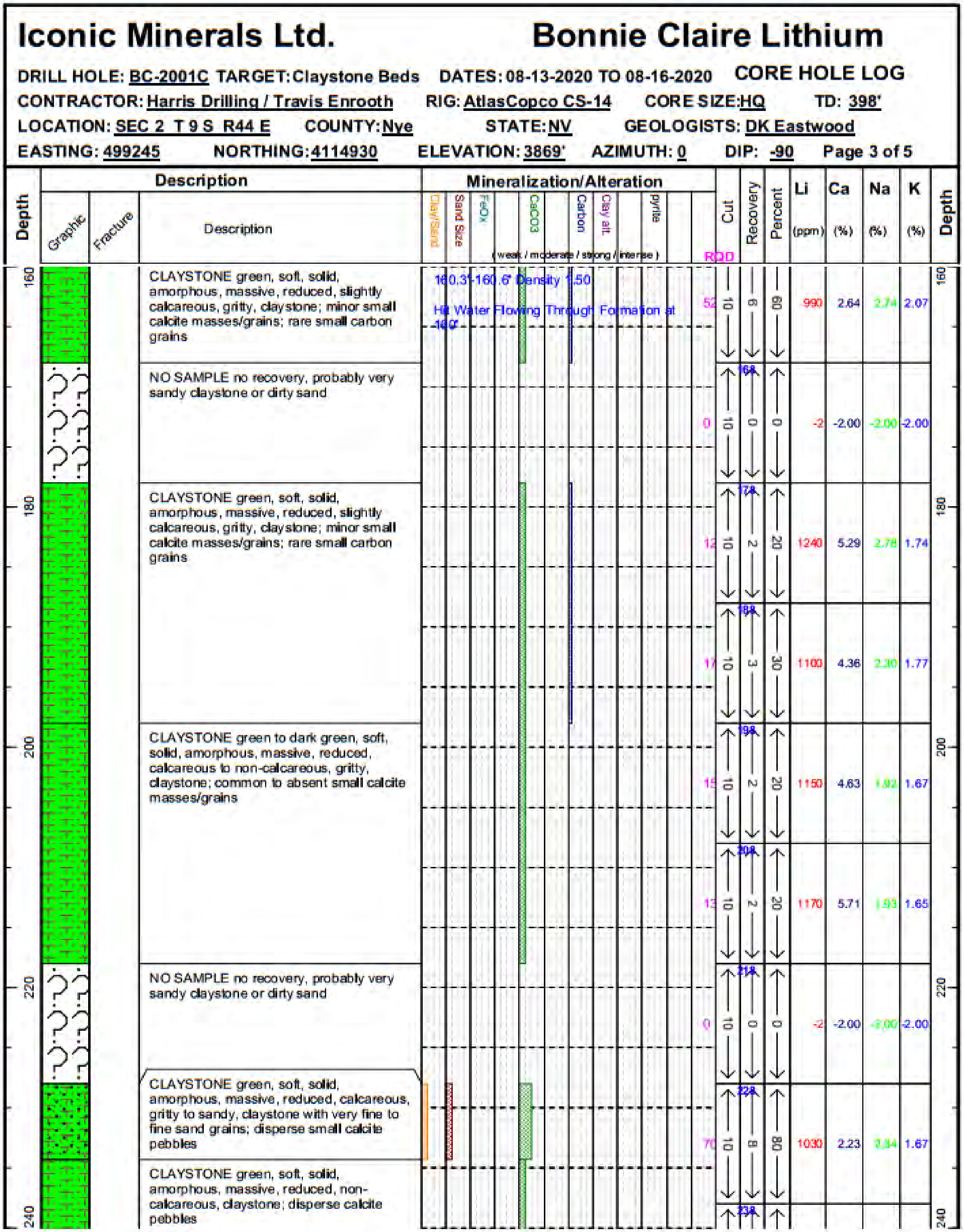
CLAYSTONE green, soft, solid, amorphous, massive reduced, non-calcareous, claystone

CLAYSTONE green, soft, solid, amorphous, massive, reduced, calcareous, gritty, claystone; common small calcite masses/grains

CLAYSTONE green to locally black, soft, solid, amorphous, massive, locally carbonaceous, calcareous, gritty, claystone; common calcite masses/grains

RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
87	10	10	100	309	2.74	1.26	2.31
80	10	10	100	810	8.36	0.68	1.46
78	10	10	100	590	4.33	0.80	1.71
82	10	9	90	730	4.74	0.66	1.34
84	10	10	100	830	5.48	0.82	1.37
55	10	6	60	910	4.42	1.92	2.22
61	10	8	80	1060	2.85	2.02	1.64
76	10	8	80	910	3.26	1.66	1.83

Figure 11-6 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2001C TARGET: Claystone Beds DATES: 08-13-2020 TO 08-16-2020 CORE HOLE LOG
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 398'
LOCATION: SEC 2 T 9 S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 499245 NORTHING: 4114930 ELEVATION: 3869' AZIMUTH: 0 DIP: -90 Page 3 of 5

CLAYSTONE green, soft, solid, amorphous, massive, reduced, slightly calcareous, gritty, claystone; minor small calcite masses/grains; rare small carbon grains

160.3'-160.6' Density 1.50

Hit Water Flowing Through Formation at 160'

NO SAMPLE no recovery, probably very sandy claystone or dirty sand

CLAYSTONE green, soft, solid, amorphous, massive, reduced, slightly calcareous, gritty, claystone; minor small calcite masses/grains; rare small carbon grains

CLAYSTONE green to dark green, soft, solid, amorphous, massive, reduced, calcareous to non-calcareous, gritty, claystone; common to absent small calcite masses/grains

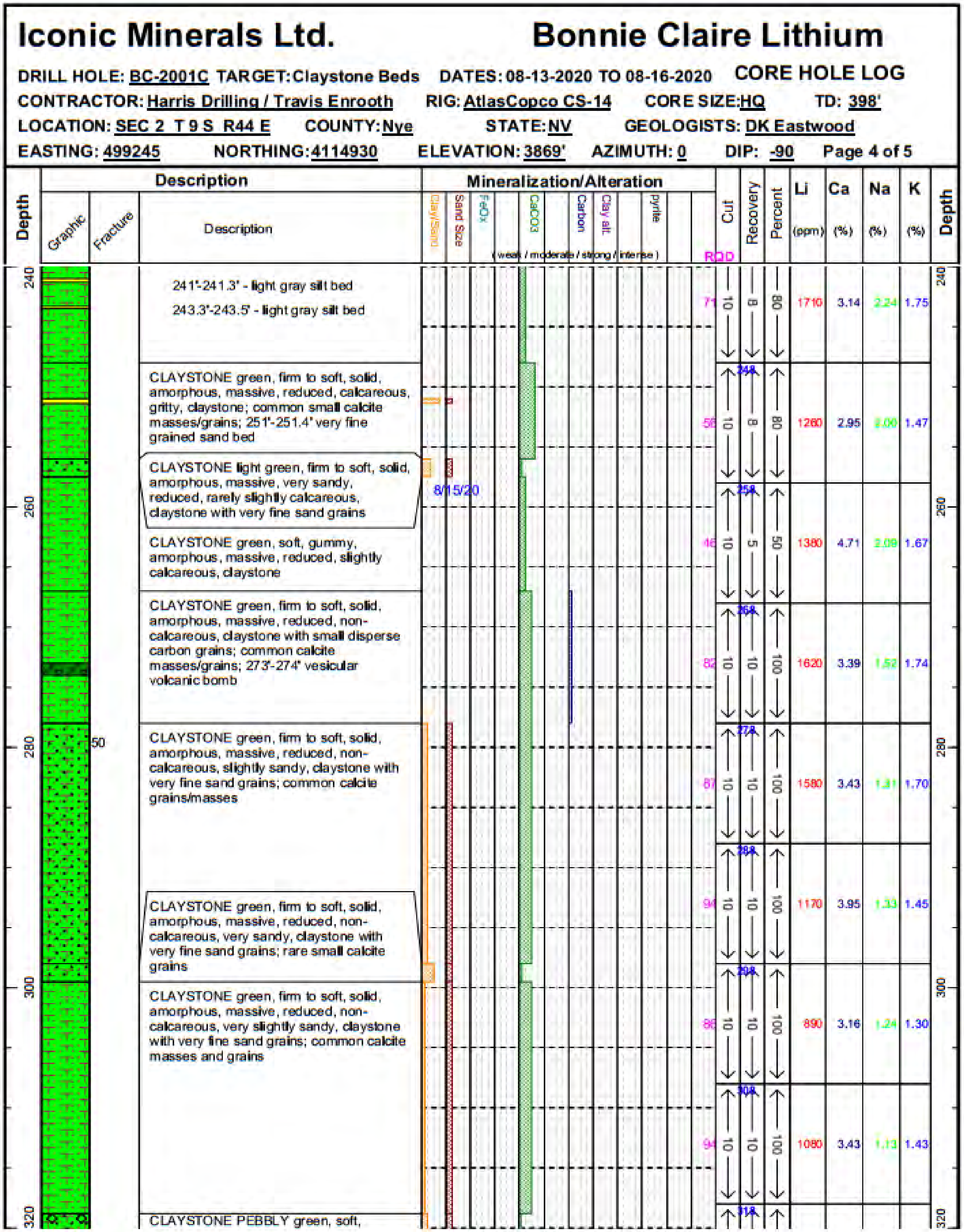
NO SAMPLE no recovery, probably very sandy claystone or dirty sand

CLAYSTONE green, soft, solid, amorphous, massive, reduced, calcareous, gritty to sandy, claystone with very fine to fine sand grains; disperse small calcite pebbles

CLAYSTONE green, soft, solid, amorphous, massive, reduced, non-calcareous, claystone; disperse calcite pebbles

	RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
	52	10	6	60	990	2.64	2.74	2.07
168	0	10	0	0	-2	-2.00	-2.00	-2.00
178	12	10	2	20	1240	5.29	2.78	1.74
188	17	10	3	30	1100	4.36	2.30	1.77
198	15	10	2	20	1150	4.63	1.92	1.67
208	13	10	2	20	1170	5.71	1.93	1.65
218	0	10	0	0	-2	-2.00	-2.00	-2.00
228	70	10	8	80	1030	2.23	2.34	1.67
238								

Figure 11-6 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2001C TARGET: Claystone Beds DATES: 08-13-2020 TO 08-16-2020 **CORE HOLE LOG**
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 398'
LOCATION: SEC 2 T 9 S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 499245 NORTHING: 4114930 ELEVATION: 3869' AZIMUTH: 0 DIP: -90 Page 4 of 5

241'-241.3' - light gray silt bed
243.3'-243.5' - light gray silt bed

CLAYSTONE green, firm to soft, solid, amorphous, massive, reduced, calcareous, gritty, claystone; common small calcite masses/grains; 251'-251.4' very fine grained sand bed

CLAYSTONE light green, firm to soft, solid, amorphous, massive, very sandy, reduced, rarely slightly calcareous, claystone with very fine sand grains

CLAYSTONE green, soft, gummy, amorphous, massive, reduced, slightly calcareous, claystone

CLAYSTONE green, firm to soft, solid, amorphous, massive, reduced, non-calcareous, claystone with small disperse carbon grains; common calcite masses/grains; 273'-274' vesicular volcanic bomb

CLAYSTONE green, firm to soft, solid, amorphous, massive, reduced, non-calcareous, slightly sandy, claystone with very fine sand grains; common calcite grains/masses

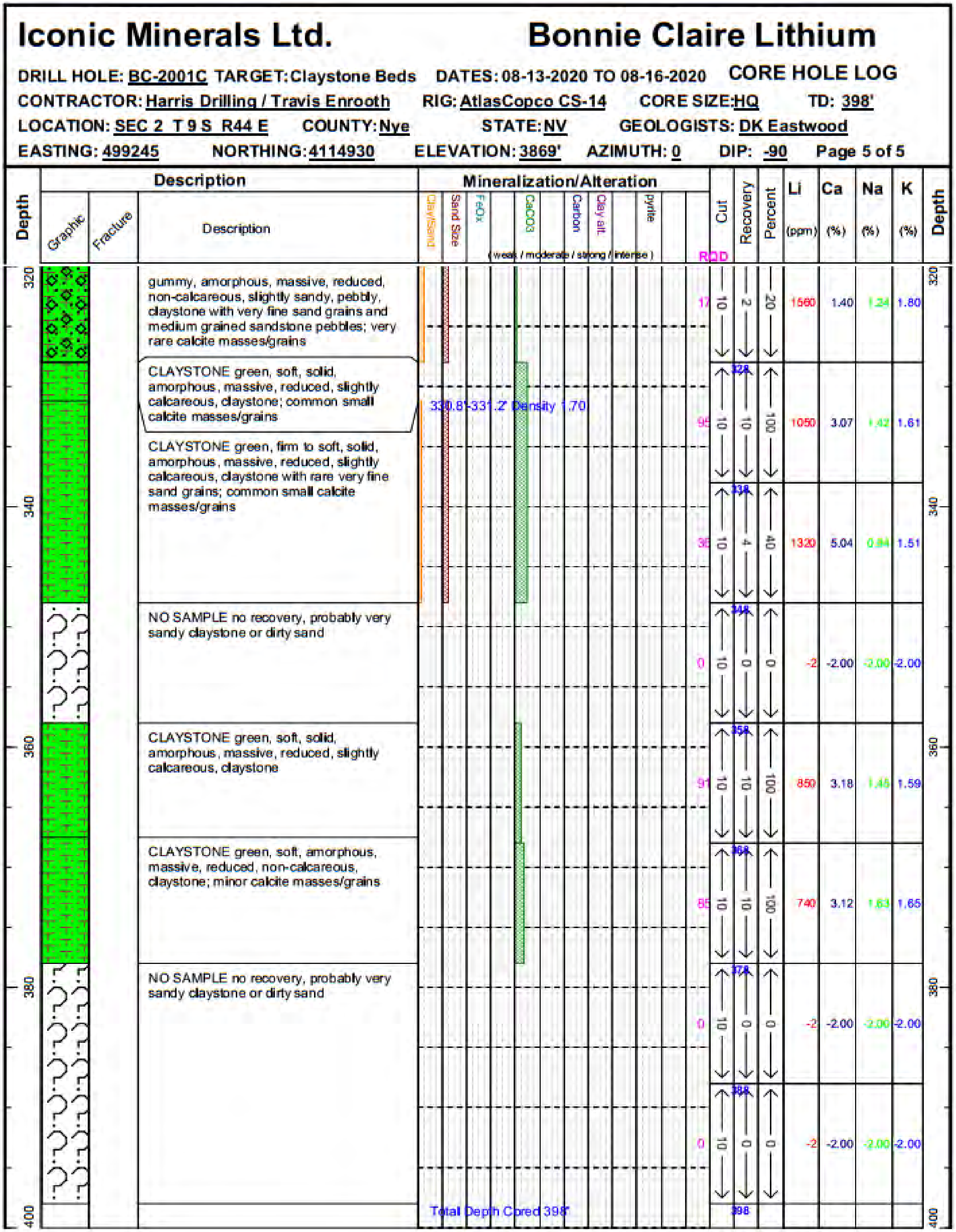
CLAYSTONE green, firm to soft, solid, amorphous, massive, reduced, non-calcareous, very sandy, claystone with very fine sand grains; rare small calcite grains

CLAYSTONE green, firm to soft, solid, amorphous, massive, reduced, non-calcareous, very slightly sandy, claystone with very fine sand grains; common calcite masses and grains

CLAYSTONE PEBBLY green, soft,

	RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
	71	10	8	80	1710	3.14	2.24	1.75
248	56	10	8	80	1260	2.95	2.00	1.47
258	46	10	5	50	1380	4.71	2.09	1.67
268	82	10	10	100	1620	3.39	1.52	1.74
278	87	10	10	100	1580	3.43	1.31	1.70
288	94	10	10	100	1170	3.95	1.33	1.45
298	86	10	10	100	890	3.16	1.24	1.30
308	94	10	10	100	1080	3.43	1.13	1.43
318								

Figure 11-6 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

CORE HOLE LOG

DRILL HOLE: BC-2001C TARGET: Claystone Beds DATES: 08-13-2020 TO 08-16-2020
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 398'
LOCATION: SEC 2 T 9 S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 499245 NORTHING: 4114930 ELEVATION: 3869' AZIMUTH: 0 DIP: -90 Page 5 of 5

Description:

gummy, amorphous, massive, reduced, non-calcareous, slightly sandy, pebbly, claystone with very fine sand grains and medium grained sandstone pebbles; very rare calcite masses/grains

CLAYSTONE green, soft, solid, amorphous, massive, reduced, slightly calcareous, claystone; common small calcite masses/grains

CLAYSTONE green, firm to soft, solid, amorphous, massive, reduced, slightly calcareous, claystone with rare very fine sand grains; common small calcite masses/grains

NO SAMPLE no recovery, probably very sandy claystone or dirty sand

CLAYSTONE green, soft, solid, amorphous, massive, reduced, slightly calcareous, claystone

CLAYSTONE green, soft, amorphous, massive, reduced, non-calcareous, claystone; minor calcite masses/grains

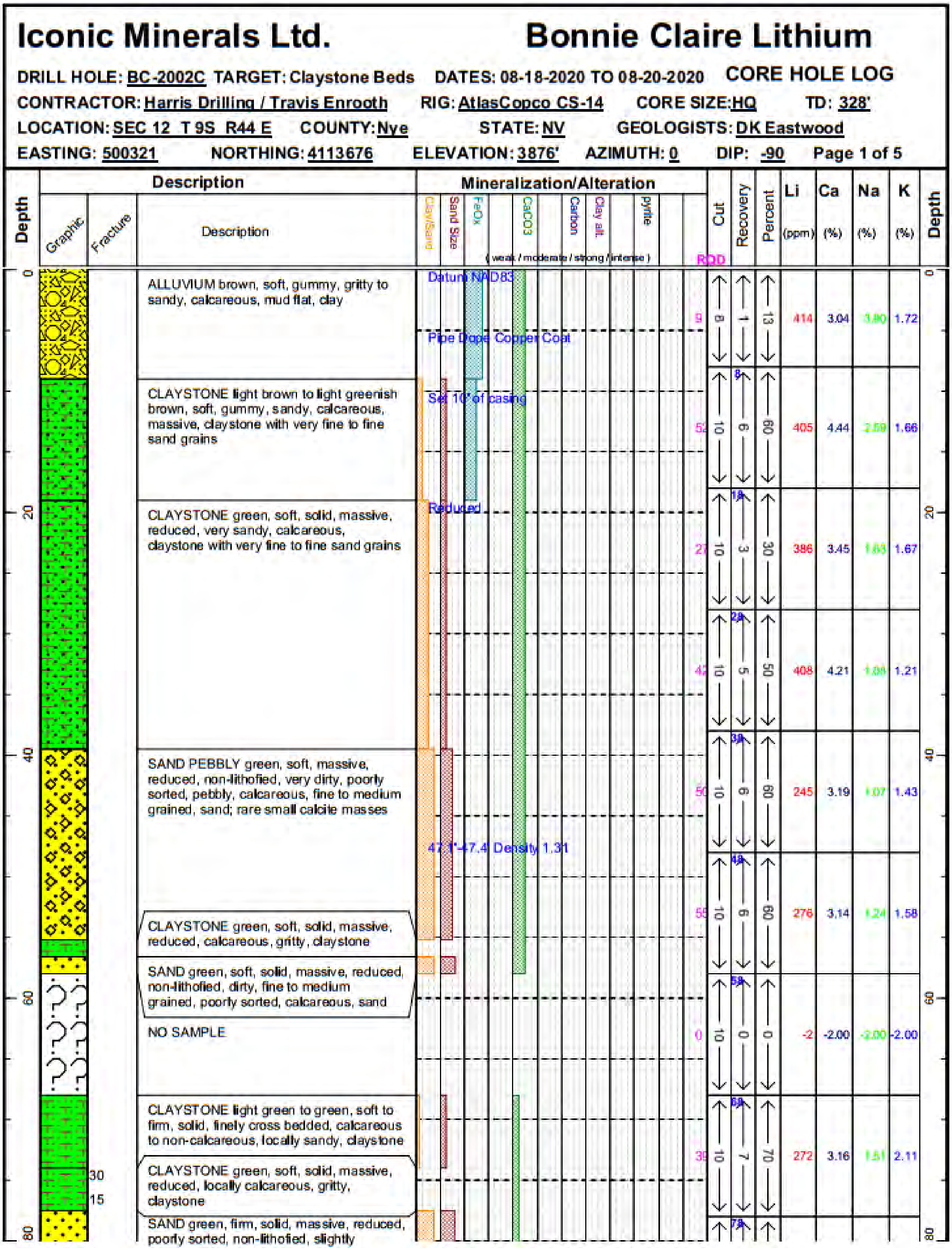
NO SAMPLE no recovery, probably very sandy claystone or dirty sand

330.8'-331.2' Density 1.70

Total Depth Cored 398'

RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
17	10	2	20	1560	1.40	1.24	1.80
95	10	10	100	1050	3.07	1.42	1.61
36	10	4	40	1320	5.04	0.94	1.51
0	10	0	0	-2	-2.00	-2.00	-2.00
91	10	10	100	850	3.18	1.45	1.59
85	10	10	100	740	3.12	1.63	1.65
0	10	0	0	-2	-2.00	-2.00	-2.00
0	10	0	0	-2	-2.00	-2.00	-2.00

Figure 11-7: Core Hole Log for Drill Hole BC-2002C



Iconic Minerals Ltd. **Bonnie Claire Lithium**

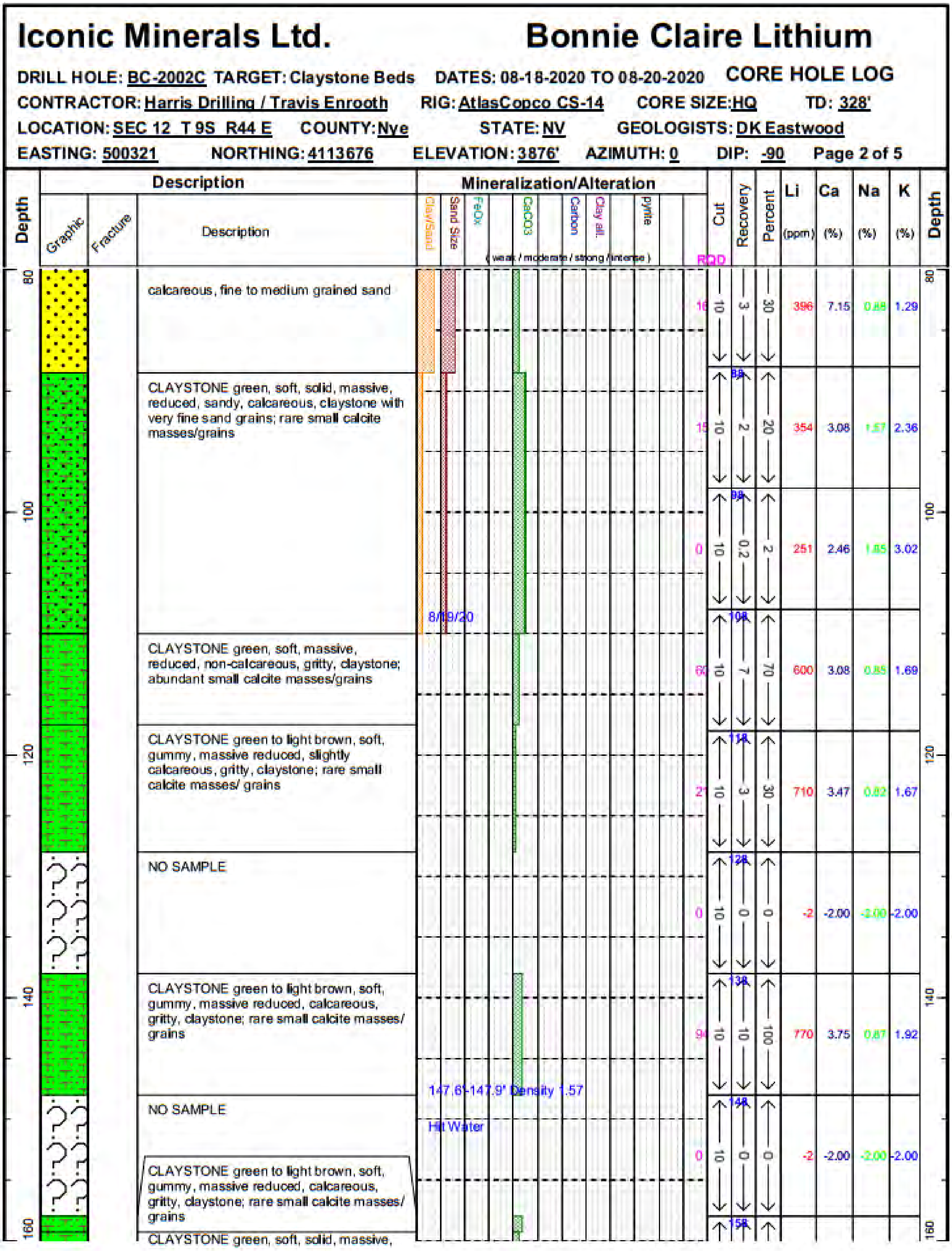
DRILL HOLE: BC-2002C TARGET: Claystone Beds DATES: 08-18-2020 TO 08-20-2020 **CORE HOLE LOG**
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 328'
LOCATION: SEC 12 T 9S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 500321 NORTHING: 4113676 ELEVATION: 3876' AZIMUTH: 0 DIP: -90 Page 1 of 5

Description
ALLUVIUM brown, soft, gummy, gritty to sandy, calcareous, mud flat, clay
CLAYSTONE light brown to light greenish brown, soft, gummy, sandy, calcareous, massive, claystone with very fine to fine sand grains
CLAYSTONE green, soft, solid, massive, reduced, very sandy, calcareous, claystone with very fine to fine sand grains
SAND PEBBLY green, soft, massive, reduced, non-lithofied, very dirty, poorly sorted, pebbly, calcareous, fine to medium grained, sand; rare small calcite masses
CLAYSTONE green, soft, solid, massive, reduced, calcareous, gritty, claystone
SAND green, soft, solid, massive, reduced, non-lithofied, dirty, fine to medium grained, poorly sorted, calcareous, sand
NO SAMPLE
CLAYSTONE light green to green, soft to firm, solid, finely cross bedded, calcareous to non-calcareous, locally sandy, claystone
CLAYSTONE green, soft, solid, massive, reduced, locally calcareous, gritty, claystone
SAND green, firm, solid, massive, reduced, poorly sorted, non-lithofied, slightly

RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
9	8	1	13	414	3.04	3.80	1.72
52	10	8 6	60	405	4.44	2.59	1.66
27	10	18 3	30	386	3.45	1.63	1.67
42	10	28 5	50	408	4.21	1.08	1.21
50	10	38 6	60	245	3.19	1.07	1.43
55	10	48 6	60	276	3.14	1.24	1.58
0	10	58 0	0	-2	-2.00	-2.00	-2.00
39	10	68 7	70	272	3.16	1.51	2.11
		78					

Datum NAD83
Pipe Dope Copper Coat
Set 10' of casing
Reduced
47.1'-47.4' Density 1.31

Figure 11-7 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2002C TARGET: Claystone Beds DATES: 08-18-2020 TO 08-20-2020 **CORE HOLE LOG**
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 328'
LOCATION: SEC 12 T 9S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 500321 NORTHING: 4113676 ELEVATION: 3876' AZIMUTH: 0 DIP: -90 Page 2 of 5

Description

calcareous, fine to medium grained sand

CLAYSTONE green, soft, solid, massive, reduced, sandy, calcareous, claystone with very fine sand grains; rare small calcite masses/grains

CLAYSTONE green, soft, massive, reduced, non-calcareous, gritty, claystone; abundant small calcite masses/grains

CLAYSTONE green to light brown, soft, gummy, massive reduced, slightly calcareous, gritty, claystone; rare small calcite masses/ grains

NO SAMPLE

CLAYSTONE green to light brown, soft, gummy, massive reduced, calcareous, gritty, claystone; rare small calcite masses/ grains

147.6'-147.9' Density 1.57

NO SAMPLE

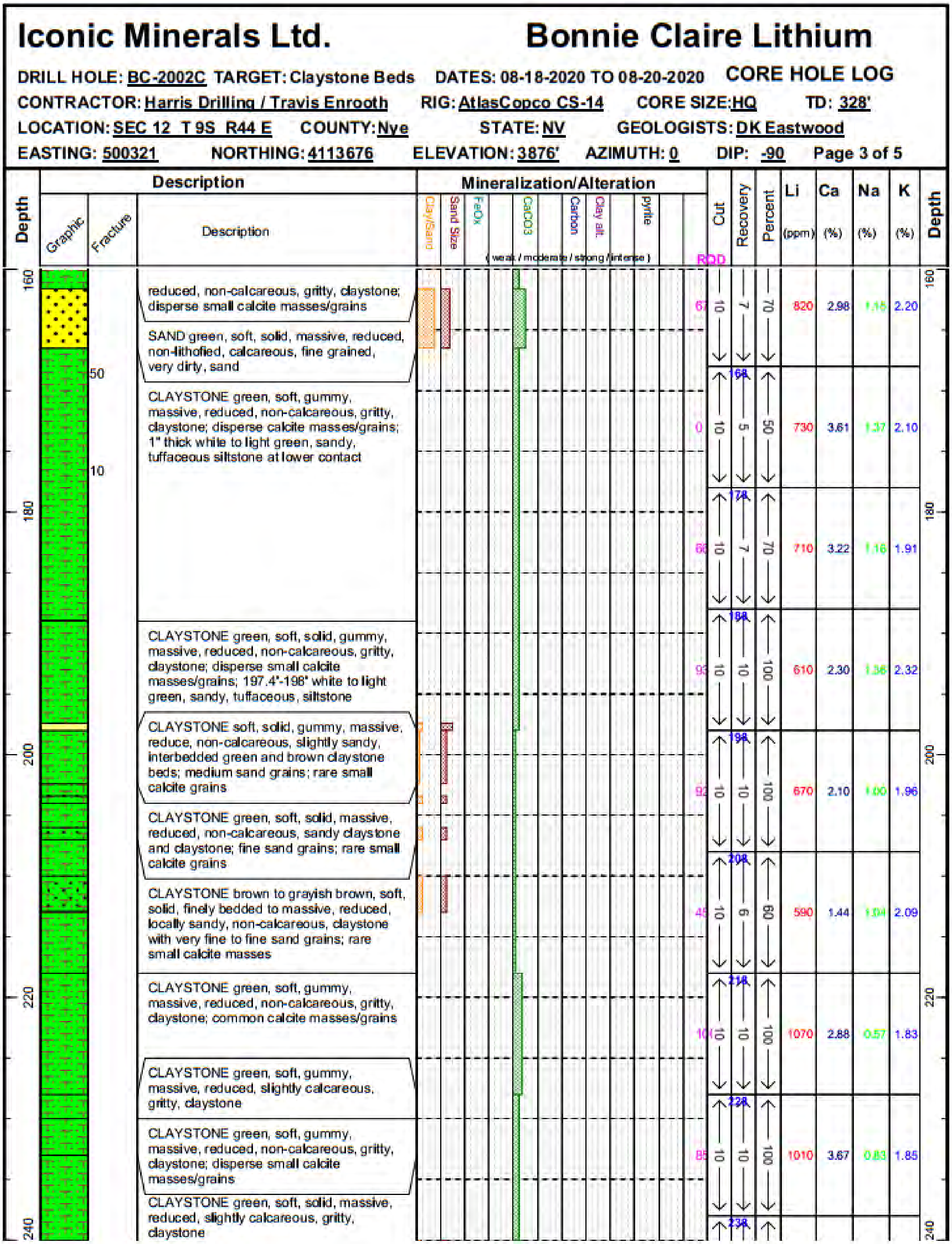
Hit Water

CLAYSTONE green to light brown, soft, gummy, massive reduced, calcareous, gritty, claystone; rare small calcite masses/ grains

CLAYSTONE green, soft, solid, massive,

Depth	RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
	16	10	3	30	396	7.15	0.88	1.29
88	15	10	2	20	354	3.08	1.57	2.36
98	0	10	0.2	2	251	2.46	1.85	3.02
108	60	10	7	70	600	3.08	0.85	1.69
118	21	10	3	30	710	3.47	0.82	1.67
128	0	10	0	0	-2	-2.00	-2.00	-2.00
138	94	10	10	100	770	3.75	0.87	1.92
148	0	10	0	0	-2	-2.00	-2.00	-2.00
158								

Figure 11-7 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2002C TARGET: Claystone Beds DATES: 08-18-2020 TO 08-20-2020 CORE HOLE LOG
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 328'
LOCATION: SEC 12 T 9S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 500321 NORTHING: 4113676 ELEVATION: 3876' AZIMUTH: 0 DIP: -90 Page 3 of 5

reduced, non-calcareous, gritty, claystone; disperse small calcite masses/grains

SAND green, soft, solid, massive, reduced, non-lithofied, calcareous, fine grained, very dirty, sand

CLAYSTONE green, soft, gummy, massive, reduced, non-calcareous, gritty, claystone; disperse calcite masses/grains; 1" thick white to light green, sandy, tuffaceous siltstone at lower contact

CLAYSTONE green, soft, solid, gummy, massive, reduced, non-calcareous, gritty, claystone; disperse small calcite masses/grains; 197.4'-198' white to light green, sandy, tuffaceous, siltstone

CLAYSTONE soft, solid, gummy, massive, reduce, non-calcareous, slightly sandy, interbedded green and brown claystone beds; medium sand grains; rare small calcite grains

CLAYSTONE green, soft, solid, massive, reduced, non-calcareous, sandy claystone and claystone; fine sand grains; rare small calcite grains

CLAYSTONE brown to grayish brown, soft, solid, finely bedded to massive, reduced, locally sandy, non-calcareous, claystone with very fine to fine sand grains; rare small calcite masses

CLAYSTONE green, soft, gummy, massive, reduced, non-calcareous, gritty, claystone; common calcite masses/grains

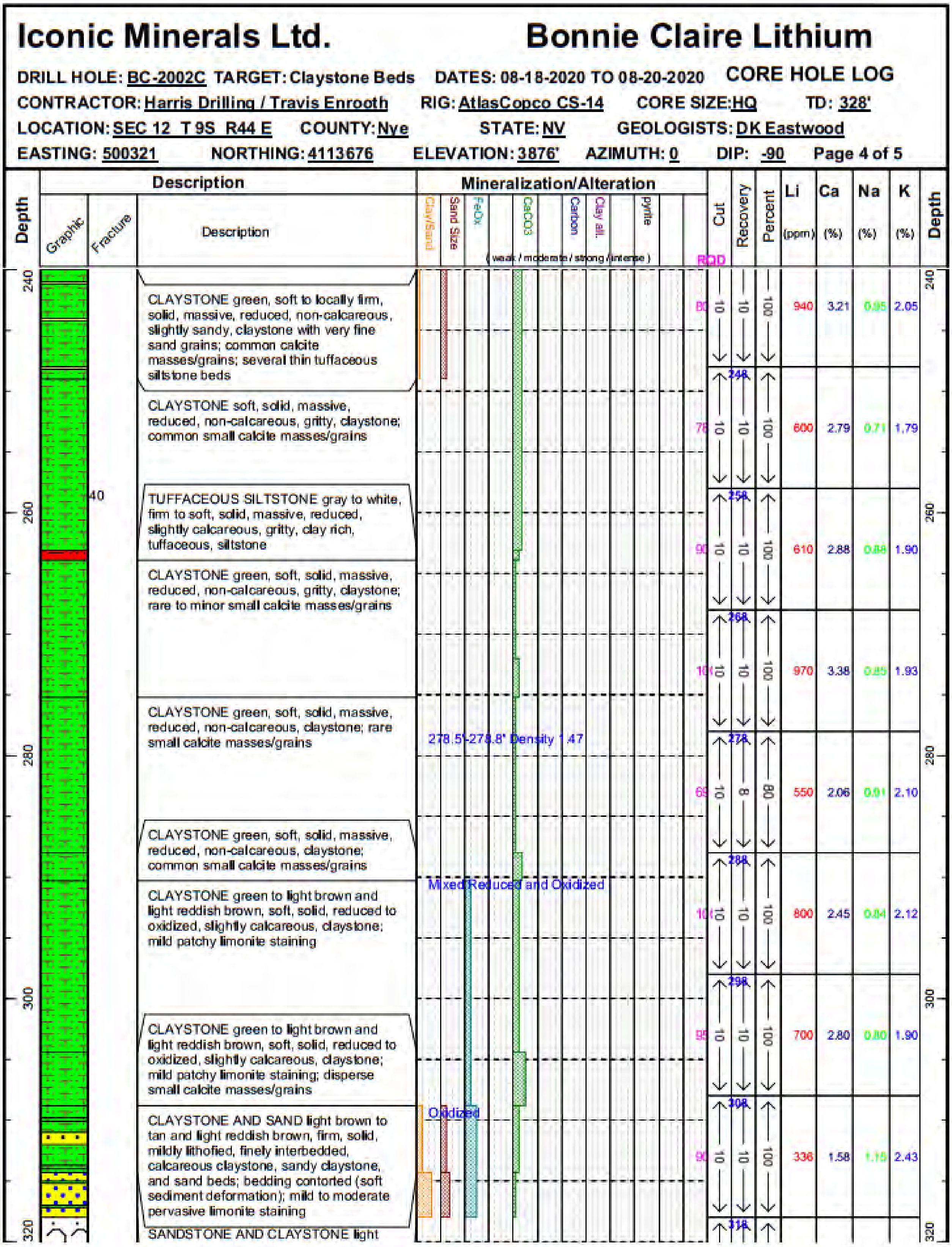
CLAYSTONE green, soft, gummy, massive, reduced, slightly calcareous, gritty, claystone

CLAYSTONE green, soft, gummy, massive, reduced, non-calcareous, gritty, claystone; disperse small calcite masses/grains

CLAYSTONE green, soft, solid, massive, reduced, slightly calcareous, gritty, claystone

RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
67	10	7	70	820	2.98	1.15	2.20
0	10 168	5	50	730	3.61	1.37	2.10
66	10 178	7	70	710	3.22	1.16	1.91
93	10 188	10	100	610	2.30	1.36	2.32
92	10 198	10	100	670	2.10	1.00	1.96
45	10 208	6	60	590	1.44	1.04	2.09
10	10 218	10	100	1070	2.88	0.57	1.83
85	10 228	10	100	1010	3.67	0.83	1.85
	238						

Figure 11-7 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2002C **TARGET:** Claystone Beds **DATES:** 08-18-2020 TO 08-20-2020 **CORE HOLE LOG**
CONTRACTOR: Harris Drilling / Travis Enrooth **RIG:** AtlasCopco CS-14 **CORE SIZE:** HQ **TD:** 328'
LOCATION: SEC 12 T 9S R44 E **COUNTY:** Nye **STATE:** NV **GEOLOGISTS:** DK Eastwood
EASTING: 500321 **NORTHING:** 4113676 **ELEVATION:** 3876' **AZIMUTH:** 0 **DIP:** -90 **Page 4 of 5**

Description:

CLAYSTONE green, soft to locally firm, solid, massive, reduced, non-calcareous, slightly sandy, claystone with very fine sand grains; common calcite masses/grains; several thin tuffaceous siltstone beds

CLAYSTONE soft, solid, massive, reduced, non-calcareous, gritty, claystone; common small calcite masses/grains

TUFFACEOUS SILTSTONE gray to white, firm to soft, solid, massive, reduced, slightly calcareous, gritty, clay rich, tuffaceous, siltstone

CLAYSTONE green, soft, solid, massive, reduced, non-calcareous, gritty, claystone; rare to minor small calcite masses/grains

CLAYSTONE green, soft, solid, massive, reduced, non-calcareous, claystone; rare small calcite masses/grains

CLAYSTONE green, soft, solid, massive, reduced, non-calcareous, claystone; common small calcite masses/grains

CLAYSTONE green to light brown and light reddish brown, soft, solid, reduced to oxidized, slightly calcareous, claystone; mild patchy limonite staining

CLAYSTONE green to light brown and light reddish brown, soft, solid, reduced to oxidized, slightly calcareous, claystone; mild patchy limonite staining; disperse small calcite masses/grains

CLAYSTONE AND SAND light brown to tan and light reddish brown, firm, solid, mildly lithofied, finely interbedded, calcareous claystone, sandy claystone, and sand beds; bedding contorted (soft sediment deformation); mild to moderate pervasive limonite staining

SANDSTONE AND CLAYSTONE light

Mineralization/Alteration notes:

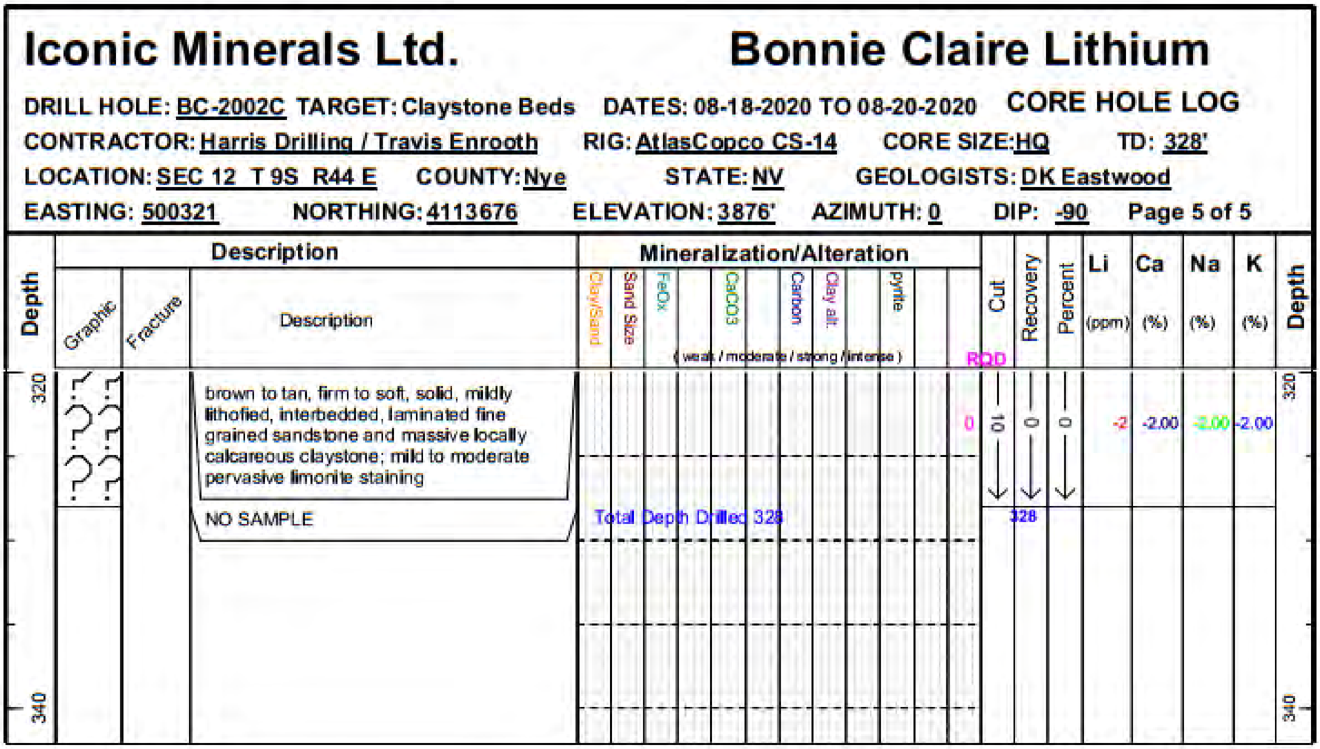
278.5'-278.8' Density 1.47

Mixed Reduced and Oxidized

Oxidized

	RQD	Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)
	80	10	10	100	940	3.21	0.95	2.05
248	78	10	10	100	600	2.79	0.71	1.79
258	90	10	10	100	610	2.88	0.88	1.90
268	10	10	10	100	970	3.38	0.85	1.93
278	69	10	8	80	550	2.06	0.91	2.10
288	10	10	10	100	800	2.45	0.84	2.12
298	95	10	10	100	700	2.80	0.80	1.90
308	90	10	10	100	336	1.58	1.15	2.43
318								

Figure 11-7 (continued)



Iconic Minerals Ltd. **Bonnie Claire Lithium**

DRILL HOLE: BC-2002C TARGET: Claystone Beds DATES: 08-18-2020 TO 08-20-2020 CORE HOLE LOG
CONTRACTOR: Harris Drilling / Travis Enrooth RIG: AtlasCopco CS-14 CORE SIZE: HQ TD: 328'
LOCATION: SEC 12 T 9S R44 E COUNTY: Nye STATE: NV GEOLOGISTS: DK Eastwood
EASTING: 500321 NORTHING: 4113676 ELEVATION: 3876' AZIMUTH: 0 DIP: -90 Page 5 of 5

Depth	Description	Mineralization/Alteration	RQD Cut	Recovery	Percent	Li (ppm)	Ca (%)	Na (%)	K (%)	Depth
320	brown to tan, firm to soft, solid, mildly lithofied, interbedded, laminated fine grained sandstone and massive locally calcareous claystone; mild to moderate pervasive limonite staining		0 10	0	0	-2	-2.00	-2.00	-2.00	320
	NO SAMPLE	Total Depth Drilled 328		328						
340										340

11.3 Analytical Procedures

11.3.1 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 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.

11.3.2 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. The samples were initially weighed, dried (if needed), crushed to 70% <2 millimeters, then pulverized to 85% <75 microns and split using a riffle splitter. The samples were then packed and shipped to another ALS lab, where they were digested using aqua regia. The sample was then subjected to ALS's MS-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.

11.4 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 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 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 eight feet, while the rest of the samples were all 10 feet. All sample material was then transported to Reno, Nevada. The cloth bagged samples were immediately submitted to ALS 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.

11.5 Quality Assurance and Quality Control

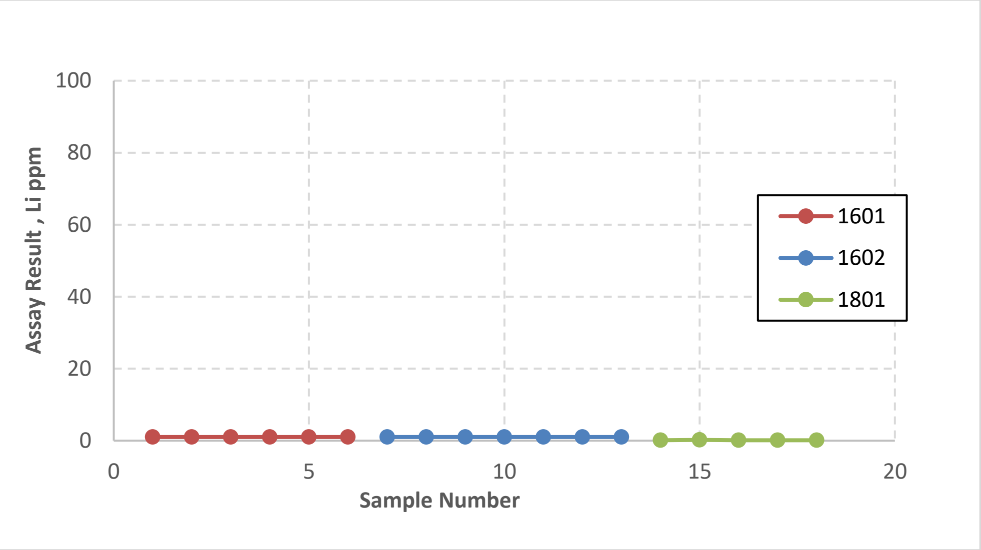
11.5.1 2016-2018 Campaign

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.

11.5.1.1 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 11-8 shows the assay results of the blanks by ALS 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.

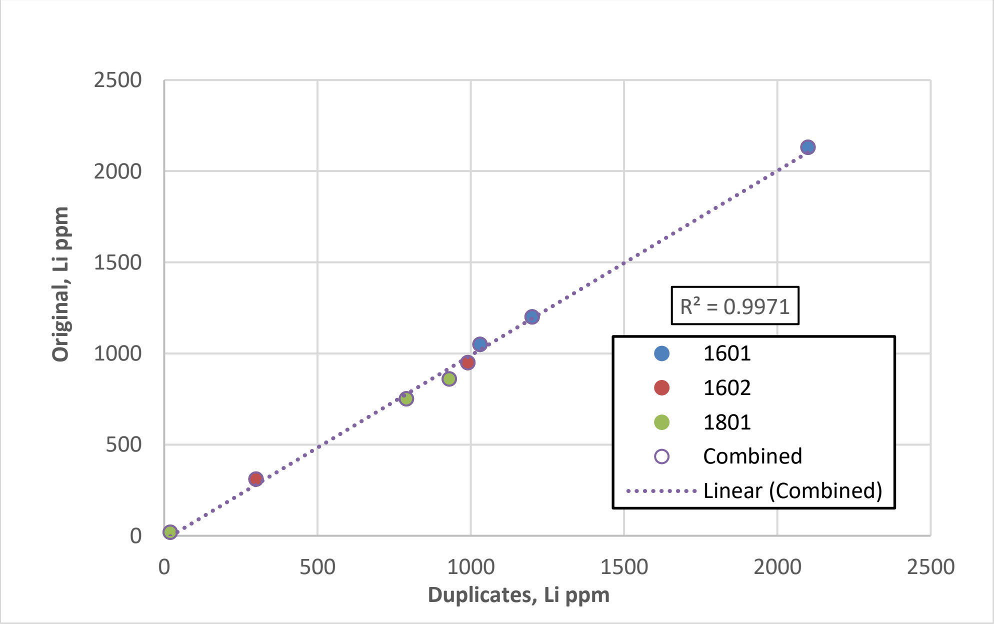
Figure 11-8: Assay Results, Blank Samples, RC Program (2016 & 2018)



11.5.1.2 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 11-9 shows a comparison graph of the ALS laboratory duplicates.

Figure 11-9: Laboratory Duplicate Comparison (2016 & 2018)



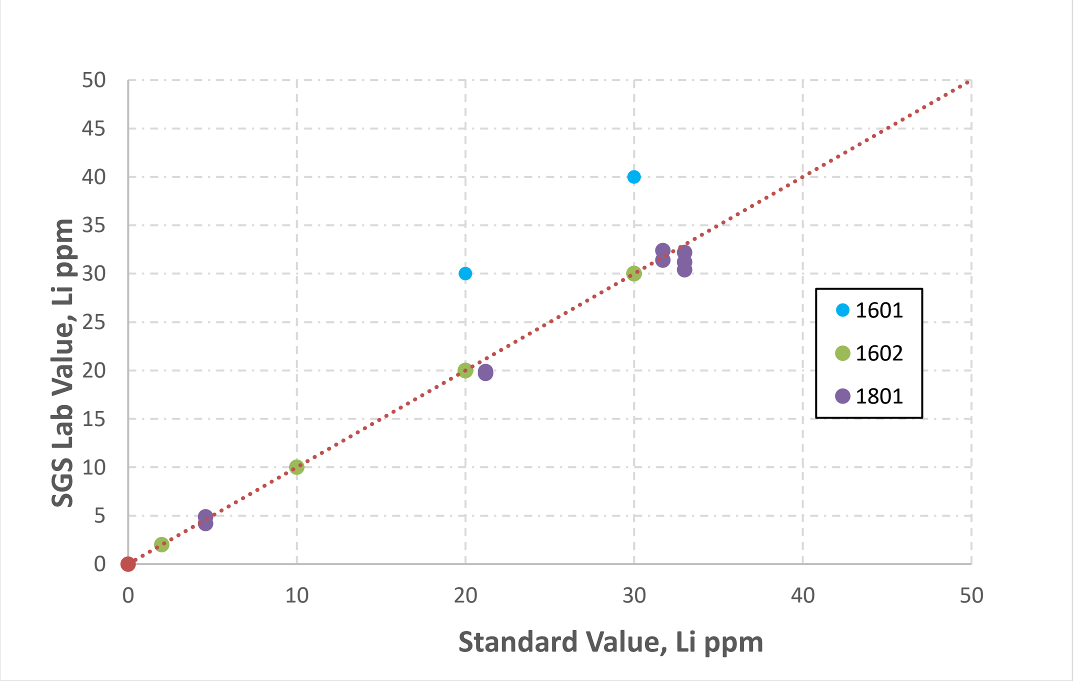
The Q-Q plots effectively indicate no scatter in the data, with R^2 values of 0.997 for the RC drilling program.

11.5.1.3 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 11-10 shows a scatter plot of the certified value for each assay standard compared to the value obtained by ALS 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 lab. values, which for lithium is acceptable, but again this scatter is within an acceptable range in the opinion of the QP.

Figure 11-10: Assay Standard Results RC Program (2016-2018)

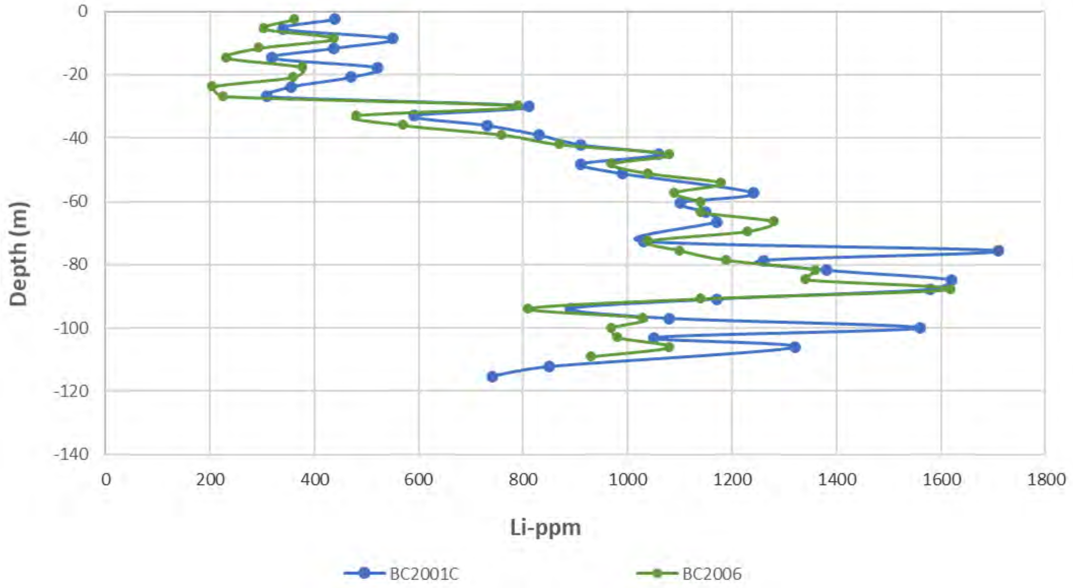


11.5.2 2020 Campaign

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 11-11, 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 11-11).

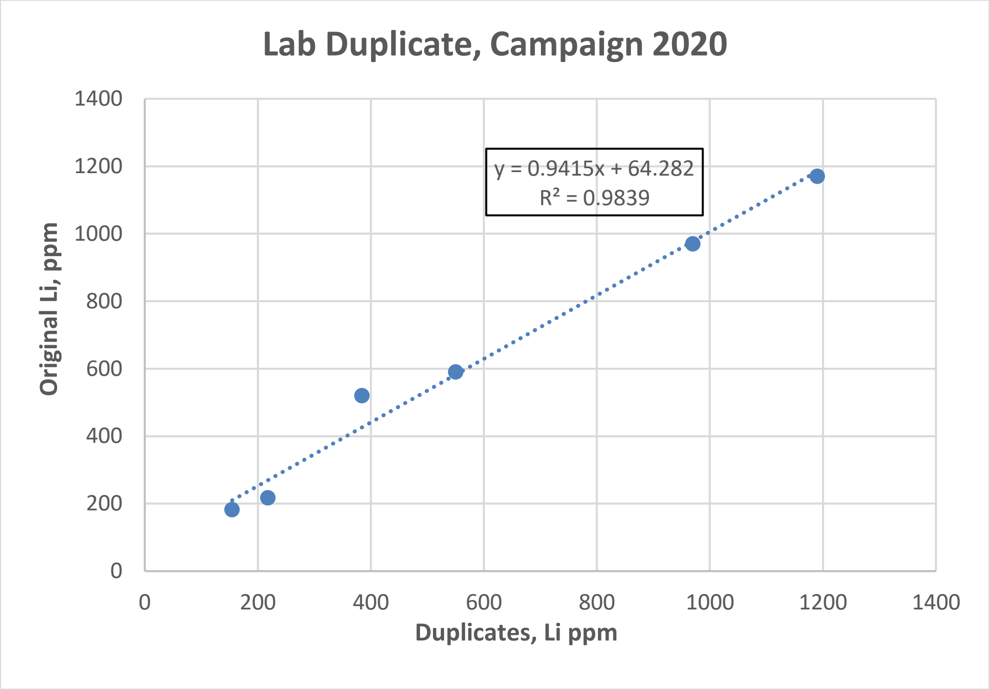
Figure 11-11: Lithium Grade Distribution with Depth for Holes BC-2001C and BC2006



11.5.2.1 Duplicate Analysis

Base 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 11-12 shows a comparison graph of the ALS 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 11-12: Laboratory Duplicate Comparison, 2020



11.6 QA/QC QP Opinion on Adequacy

Dr. Samari finds the sample preparation, analytical procedures, and security measures employed by Iconic to be reasonable and adequate to ensure the validity and integrity of the data derived from Iconic's sampling programs to date. The next stage of work should include a larger percentage of blanks, standards, and duplicates. 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 recommends for the future drilling campaign to prepare standard samples with a higher lithium between 600 to 1000 Li ppm.

Based on observations and conversation with Iconic personnel during the QP site visit (2020), in conjunction with the results of GRE's QP's review and evaluation of Iconic's QA/QC program, Dr. Samari makes the following recommendations:

- Formal, written procedures for data collection and handling should be developed and made available to Iconic 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.
- Review and evaluation of laboratory work should be an on-going process, 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.

- Standards with a Li grade close to the resource head grade should be used.

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 chip tray storage facility, check sampling, geologic maps and reports, and manual auditing of the Project drill hole database.

12.1 Site Inspection

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.

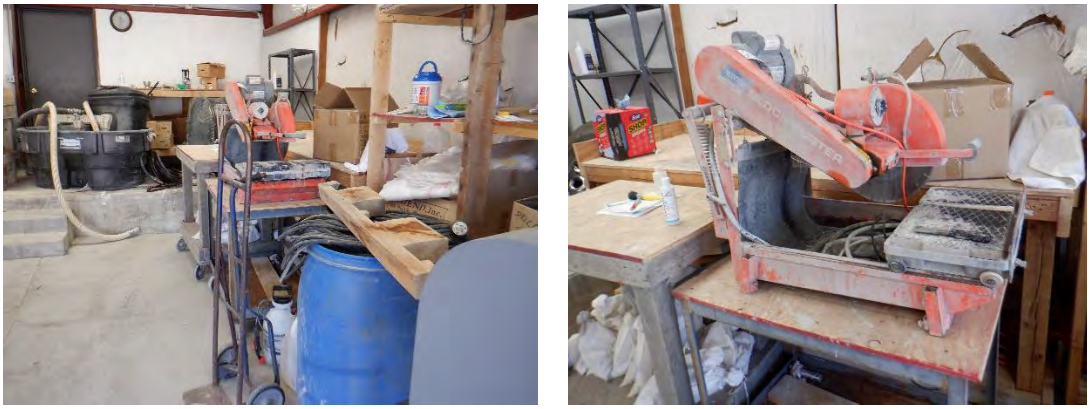
12.2 Site Inspection (2020)

GRE’s QPs Rick Mortiz and 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

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 (Photo 11-2).

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

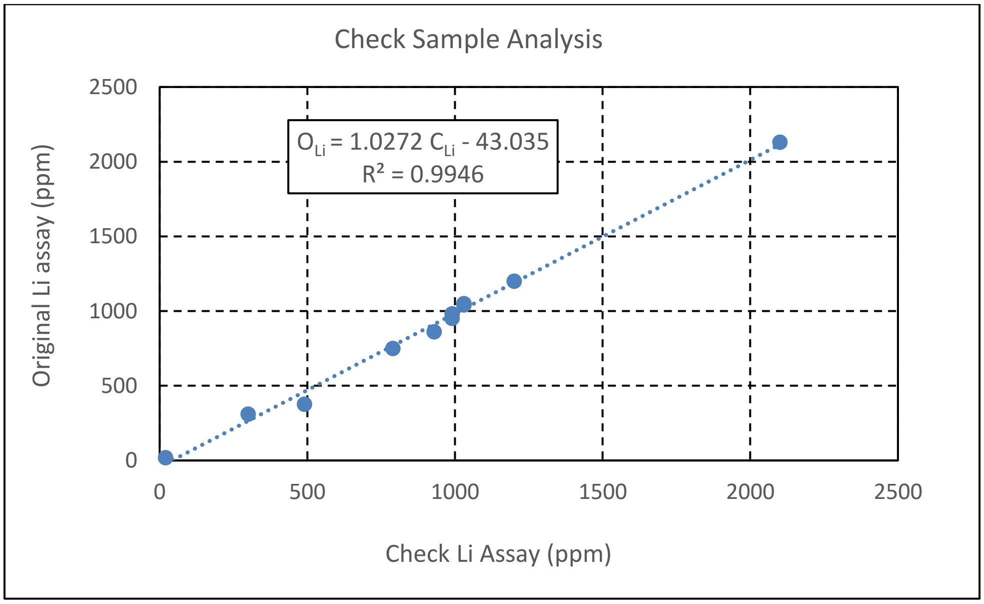


12.3 Visual Sample Inspection and Check Sampling

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)



In 2020, a check assay program was started by the QPs when they were onsite from October 9 through October 10, 2020. 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 12-3). Samples were transported by UPS in a secure manner from Reno to Golden, Colorado, USA.

Photo 12-3: Selected, and Packed Check Samples

As shown in Table 12-1, 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 Todd Harvey received Hazen's analytical report on the 17 selected samples by ICP method for 33 elements. The certificate of analysis from Hazen is shown in Table 12-2; Mr. Harvey selected 35% of the check samples as duplicate samples.

Table 12-1: Check Samples Submitted to Hazen Labs

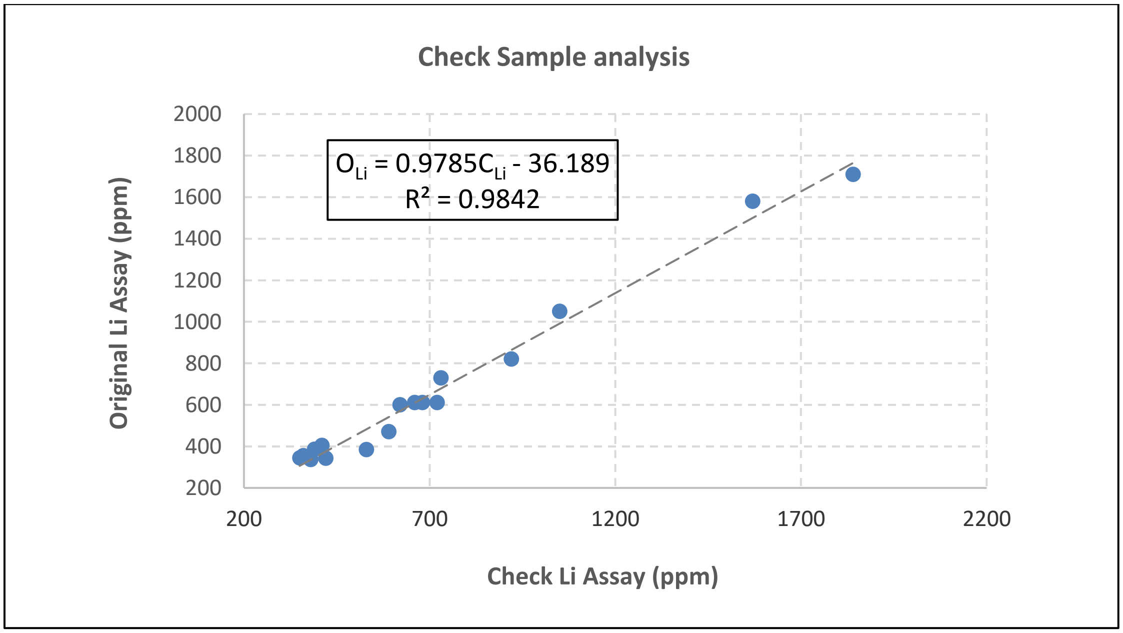
Sample No.	Hole No.	From (ft)	To (ft)	Int#	Type of Sample		Request Analysis	
					¼ RC	¼ Core	ICP Scan with emphasis on Lithium	Duplicate
1	2003	30	40	1	✓		✓	✓
2	2003	40	50	1	✓		✓	
3	2003	100	110	1	✓		✓	
4	2003	140	150	1	✓		✓	
5	2003	150	160	1	✓		✓	✓
6	2003	160	170	1	✓		✓	
7	BH2001C	68	78	1		✓	✓	
8	BH2001C	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 12-2: Summary Table of Hazen Results with Original Assays

Sample No.	Hole No.	From (ft)	To (ft)	Int#	Request Analysis: ICP Scan with emphasis on Lithium	Request Analysis: Duplicate	Original Li (ppm)	Hazen Li (ppm)	Hazen Duplicate Li (ppm)
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)



12.4 Database Audit

The author completed a manual audit of the digital Project database by comparing drill hole logs to corresponding information contained in the database. The manual audit revealed no discrepancies between the hard-copy information and digital data.

12.5 QP Opinion on Adequacy

Based on the results of Dr. Samari 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.

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 processing methods associated with lithium clay deposits are applicable to Bonnie Claire; however, the nature of the mineralization at Bonnie Claire may allow for pre-concentration methods beyond that typically available to lithium clay deposits.

Test work has demonstrated that Bonnie Claire 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 Minerals Ltd., though its Reno, Nevada subsidiary Bonaventure Nevada Inc. contracted Hazen Research Inc (Hazen) to conduct a preliminary metallurgical assessment of the deposit materials with the aim of developing a process flowsheet. The Hazen test work (Hazen Research Inc, 2021) 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. This report summarizes the bench-scale and bulk test activities performed with the two 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 Bonnie Claire Lithium Deposit located in Nye County, Nevada. Hazen analyzed the samples, and results indicated the average lithium concentrations for the two samples tested were 930 ppm Li (BC 1701) and 1,190 ppm Li (BC 2001C).

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 weight% for the BC 1701 material and 8 weight% for the BC 2001C material), which is a major acid consumer. A fractional analysis 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.

The minus 45 µm BC 1701 (Hazen HRI 55330) material was acid leached at 80°C with sulfuric acid (H_2SO_4) at a nominal acid/solids ratio of 500 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. Further 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.

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.

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.

13.3 Test Work

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 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 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 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 using the following:

- Inductively coupled plasma-optical emission spectroscopy (ICP-OES): lithium, sodium, potassium, calcium, magnesium, aluminum, and silicon
- Titration: chloride
- Ion selective electrode: fluoride
- Nitrogen pycnometry: specific gravity
- LECO combustion: carbon, acid insoluble carbon, and sulfur

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
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 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 weight% lithium oxide (Li_2O), and chlorite can contain up to 3 weight% 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 x-ray diffraction (XRD) analysisdid 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-clinoptilolite	3	4.1	3.7	3.1	4.4	3.6	2.5
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)

	Weight %						
	Mass Distribution	Assay			Distribution		
Size Fraction		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 type, 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 (CO2), 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 1 L 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 sodium sulfate (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 min; increasing the gypsum amount to 35% with 65% as-received sample resulted in similar lithium extractions of 77%.

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%.

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.

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	AR	AR	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm	-45 µm
Acid type	H_2SO_4	HNO_3	H_2SO_4	H_2SO_4	H_2SO_4	H_2SO_4	H_2SO_4	H_2SO_4	H_2SO_4	H_2SO_4
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

AR = as-received material, 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)

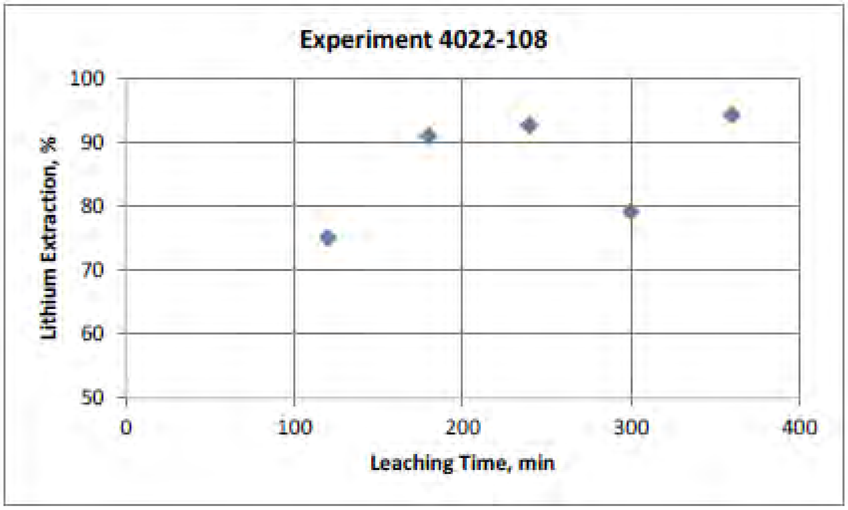


Table 13-9: HRI 55330 Analysis of Experiment 4022-108 Acid Leach Liquor

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.

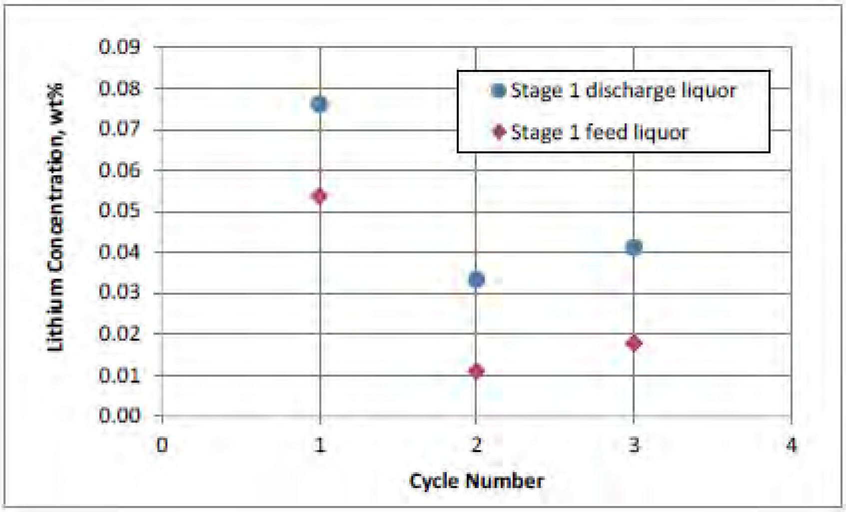
To assess the acid consumption and metal extractions for the two-stage process, a mass balance model was constructed assuming no kinetic sampling occurred and that the Stage 1 discharge solids entered Stage 2 with no mass loss. Acid consumptions for the combined stages were 201 kg/t of 45 µm feed for 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 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.

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
- Sodium
- Sulfur
- Calcium
- Silicon

- Iron

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. The solid-liquid separation work conducted on minus 45 µm unleached solids showed that an inorganic additive such as CaSO4 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 [m2/(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 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

		Flocculant		Additive		Feed Slurry, % Solids	Initial Settling Rate, m/h	Terminal Pulp, % Solids	Unit Area Requirement	
Hazen ID	Feed Slurry ID	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 0.1m^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 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 microns) – All fine particulate (0.04 microns and coarser) are removed and returned to leach.
- Nanofiltration (0.0008 microns) – A lithium/sulfuric acid permeate is formed. The retentate contains Ca, Mg, and rare earth elements among others.
- Acid Reverse Osmosis (0.0005 microns) – 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 (Ca, Mg, Sr). The ion exchange strip solution are 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.

13.4 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 investigated.

13.5 Leach Parameters – Selected Processing Route

Based on the complete results, the following leaching parameters were developed:

- Cyclone the feed material at a 75 µm P_{80} to reject 22% of the material
- Calcination at 850°C for 1 hour with the addition of 20% sodium sulfate
- Water leach at 80 to 90°C for 4 hours using a counter-current system
- Solution purification
    - primary impurity removal – not required
    - secondary impurity removal using soda ash (11.3 kg/t)
    - Final product purification with bicarbonate process using carbon dioxide (0.8 kg/t)
- Evaporation and crystallization to improve the lithium grade and recover the Glauber's Salt
- Final product is high purity battery grade lithium carbonate

13.6 Conclusions and Interpretation

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 microns (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. Of these two methods, thermal treatment is favored and presented as the base case for the PEA, having demonstrated better overall lithium extraction and recovery performance.
- 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.

13.7 Recommendations

On the basis of the information available at the date of this Technical Report, the following recommendations are made:

- Thermal processing appears to be the most viable option given the test work conducted. More definitive testing should be conducted at batch scale to further define the process variables and to optimize the process. Estimated cost $150,000 with a duration of 3 to 4 months.
- An investigation into the lithium recovery and acid consumption 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 3 to 4 months.
- The direct acid leaching system will require an alternative downstream purification system in order to be viable. Vendors should be contacted to provide support; cost will be dependent on vendor requirements, estimated at $100,000 with a duration of a 12 to 18 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 pilot scale test work should be conducted to optimize the thermal treatment parameters. This includes examining mass rejection through size separation, process variable optimization, including calcine temperature, retention time, and reagent additions. Estimated cost $300,000 with a duration of 4 to 6 months.
- Locked cycle testing should be conducted to better understand the process chemistry and the recycle streams. Could be included in early-stage benchtop testing.
- 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 4 to 6 months for laboratory scale analysis.

14.0 MINERAL RESOURCE ESTIMATE

A Mineral Resource Estimate update was issued July 28, 2021 (GRE, 2021). This PEA incorporates the Resource Estimate modeling conducted for the July 2021 Technical Report but updates the Mineral Resource statement to include only borehole mined resources at a cutoff grade of 1,200 ppm to be consistent with the mining method presented in Section 16.

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.

14.1 Definitions

Mineral Resources stated for the Project conform to the definitions adopted by the Canadian Institute of Mining, Metallurgy, and Petroleum (CIM) as amended May 10, 2014, and meet criteria of those definitions, where:

> A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
>
> A "Measured Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.
>
> An "Indicated Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
>
> An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate

is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

14.2 Data Used for the Lithium Estimation

14.2.1 Topography

Ms. Lane downloaded USGS topographic data for four 7.5-minute quadrangles: Bonnie Claire, Bonnie Claire NW, Scottys Junction, and Springdale NW. In addition, GRE's QP digitized a small portion of topographic data for the Tolicha Peak SW quadrangle because current topographic data for it was unavailable for download.

14.2.2 Drill Hole Data

The mineral resource estimate incorporates geologic and assay results from drilling of 10 drill holes on the Project (Figure 10-1). 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 all 10 drill holes, totaling 2,278.1 meters (7,474 feet), with an average depth of 227.8 meters (747.4 feet) per hole. Drilling was limited to the sedimentary areas.

Drill hole collar elevations for the 2020 drill holes did not match topography and were, on average, 27 meters below the average of the 2016 to 2018 collar elevations. Ms. Lane recommends LiDAR surveying so that accurate topographic measurements can be ascertained. To correct for this discrepancy, Ms. Lane adjusted the collar elevations within Leapfrog to match the topography. Ms. Lane believes it is highly likely the drill hole survey for the 2020 drill holes was 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	1202.131
BC-1602	1207.008	1207.008
BC-1701	1202.131	1202.131
BC-1801	1206.398	1206.398
BC-2001C	1179.271	1202.549
BC-2002C	1181.405	1204
BC-2003	1177.138	1204
BC-2004	1173.48	1204.783
BC-2005	1177.138	1204
BC-2006	1173.48	1202.54

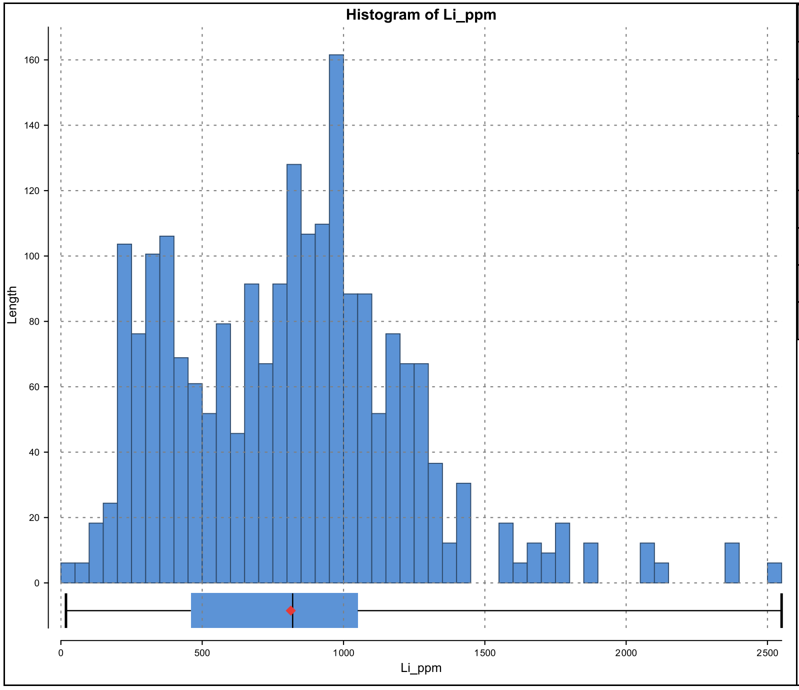
14.2.3 Assay Data

Assay data from the 2016 and 2018 drill holes were analyzed and reported using method ME-ICP61, whereas assay data from the 2020 drill holes were analyzed and reported using method ME-MS41. The

2017 drill hole did not include assay results. Ms. Lane combined the results from both methods into a single Li results field before importing into Leapfrog.

Statistics for the assay data are illustrated in Figure 14-1.

Figure 14-1: Histogram of Assay Li Grade



Parameter	Length-Weighted Value
Count	434
Length	2,134.82
Mean	813.40
SD	422.31
CV	0.519
Variance	178,345.59
Minimum	18.0
Maximum	2,550.0

14.2.4 Specific Gravity

Ms. Lane used a specific gravity (SG) of 1.5 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.

14.3 Resource Estimation

14.3.1 Estimation Bottom Boundary

Drill holes in the northern portion of the Project (BC-1601, BC-1602, and BC-1801) are deep, averaging 548 meters (1,800 feet) of depth. Drill holes in the southern portion of the Project, however, are relatively shallow, averaging 90 meters (296 feet) of depth. To ensure that grades were not modeled into deep blocks below the shallower drill holes, Ms. Lane created a bottom boundary representing a distance of approximately 50 meters below the bottom of the drill holes.

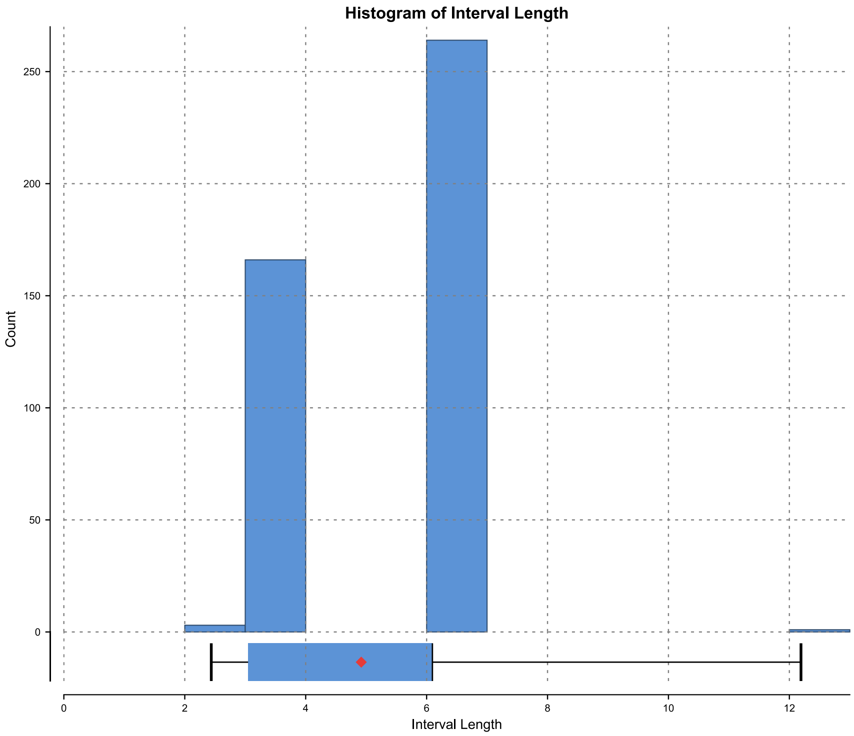
14.3.2 Compositing

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 3.048-meter (10-foot) or

6.096-meter (20-foot) intervals, as shown in Figure 14-2, with some samples collected at other intervals up to a maximum of 12.192 meters (40 feet).

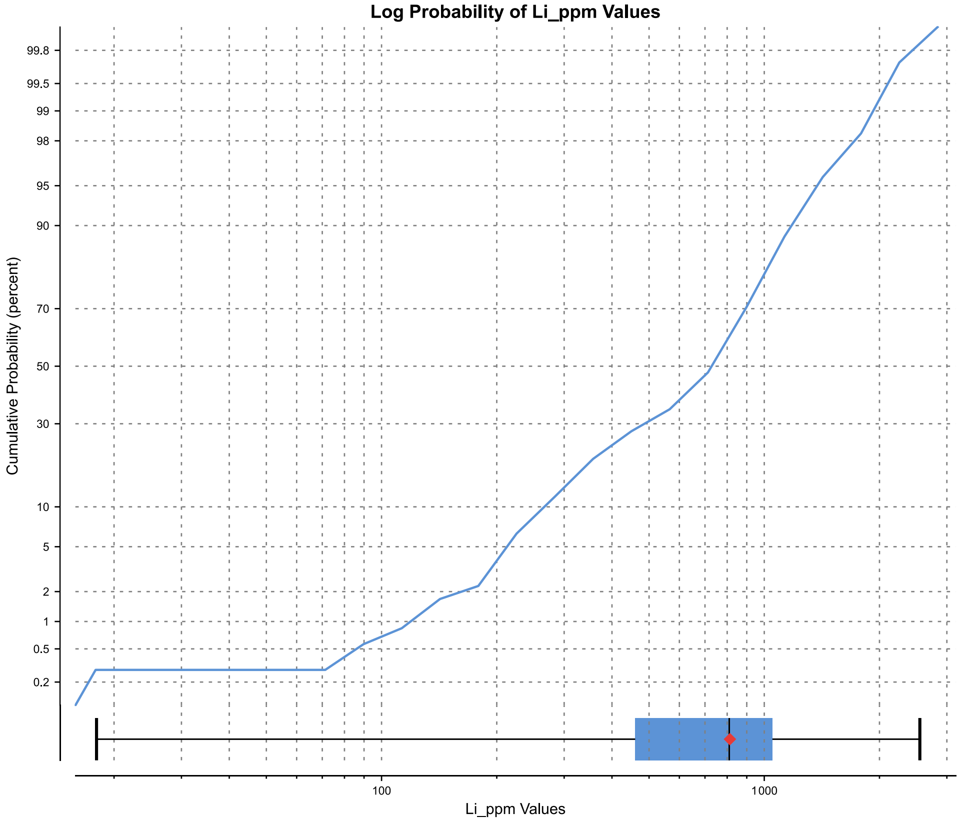
Down-the-hole composites were created from the Li assays, with the following specifications: 6.096-meter (20-foot) intervals, with anything less than 3.048 meters (10 feet) added to the previous interval. This resulted in 354 composite intervals with Li grades from 18 ppb to 2,550 ppb.

Figure 14-2: Bonnie Claire Project Assay Data Interval Length Histogram



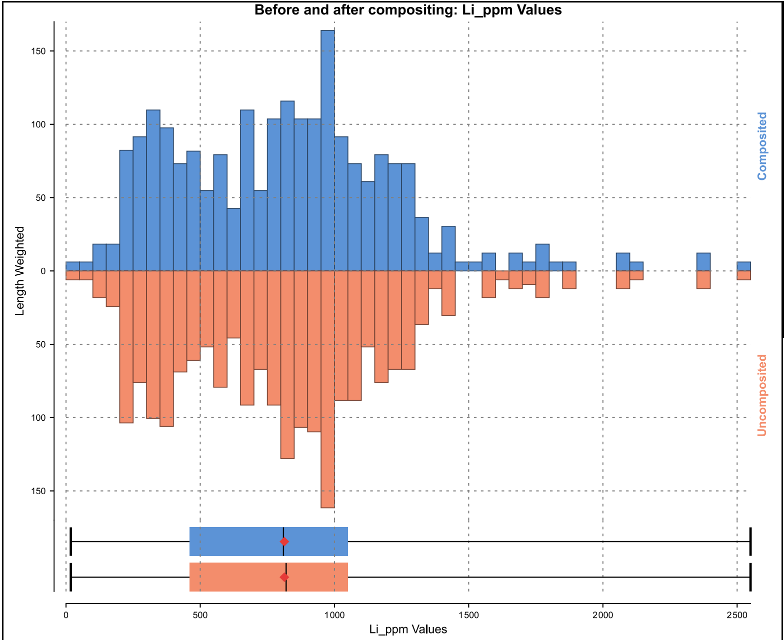
Values were not clipped because the cumulative probability plot of the composited data did not exhibit a grade break that would indicate the presence of outlier data (Figure 14-3).

Figure 14-3: Bonnie Claire Project Composite Data Cumulative Probability Plot



A comparison of the before and after compositing statistics is shown in Figure 14-4.

Figure 14-4: Bonnie Claire Project Before and After Compositing Statistics

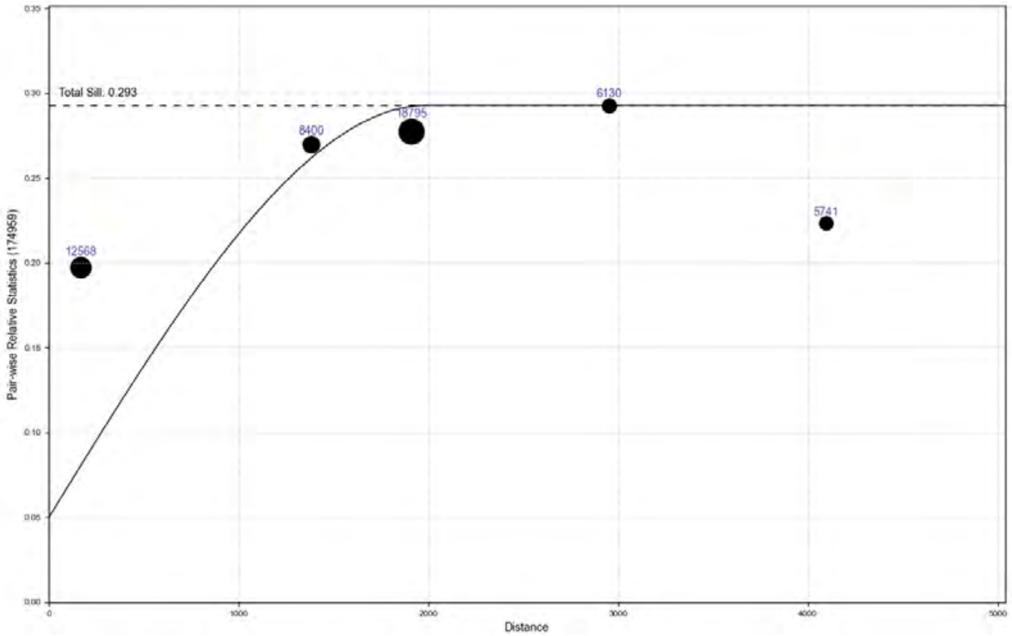


	Composited	Uncomposited
Count	354	434
Length	2,156.76	2,134.82
Mean	813.40	813.40
SD	417.90	422.31
CV	0.514	0.519
Variance	174,644.03	178,345.59
Minimum	18.0	18.0
Maximum	2,550.0	2,550.0

14.4 Variography

Because of the lack of data in the east-west direction in the Project area, Ms. Lane created a global horizontal pairwise relative variogram from the composited data to determine appropriate ellipsoid ranges. Figure 14-5 shows the global variogram. The variography resulted in a range of 2,000 meters in the major axis direction, 1,000 meters in the semi-major axis direction, and 80 meters vertically. The modeled pitch was set to the axis the drill holes are aligned on (70 degrees), and dip and dip azimuth were both 0 degrees.

Figure 14-5: Bonnie Claire Project Variogram Results



14.5 Estimation Methods

Ms. Lane used three estimation methods to model Li grade into the block model: inverse distance to the second power (ID2), ordinary Kriging (Kr), and nearest neighbor (NN).

For each method, two passes were conducted, the first at the ellipsoid ranges (2,000 meters x 1,000 meters x 80 meters) and the second at approximately ½ the horizontal ellipsoid ranges (1,000 meters x 600 meters x 80 meters). All blocks with modeled grade were coded as Inferred resources.

For the first pass, the search was restricted to a minimum of six samples and a maximum of 15 samples per block and a maximum of five samples per drill hole, thereby requiring data from a minimum of two drill holes to populate a block. For the second pass, the search was restricted to a minimum of six samples and a maximum of 15 samples per block, with no maximum number of samples per drill hole, thereby allowing grade to be estimated from a single drill hole.

14.6 Block Model

The Bonnie Claire Deposit block model parameters are shown in Table 14-2.

Table 14-2: Bonnie Claire Project Block Model Parameters

Direction	Block Size (meters)	Start	End	Number
Easting	50	492,760	503,560	216
Northing	50	4,109,430	4,123,530	282
Elevation (AMSL)	5	1300	540	152

14.7 Block Model Validation

Visual comparison of composites versus block model values by section and plan show good correlation, as shown in Figure 14-6 through Figure 14-10.

Swath plots of the three estimation methods were used to compare the results from each method and analyze which method smoothed the estimated grade best. As shown in Figure 14-11 and Figure 14-12, the ID2 method results in the fewest swings in grade.

Ms. Lane evaluated the statistics of the three estimation methods compared with the composited data statistics, as shown in Table 14-3. The ID2 method most closely matches the composite values.

Figure 14-6: Bonnie Claire Project Section Location Plan

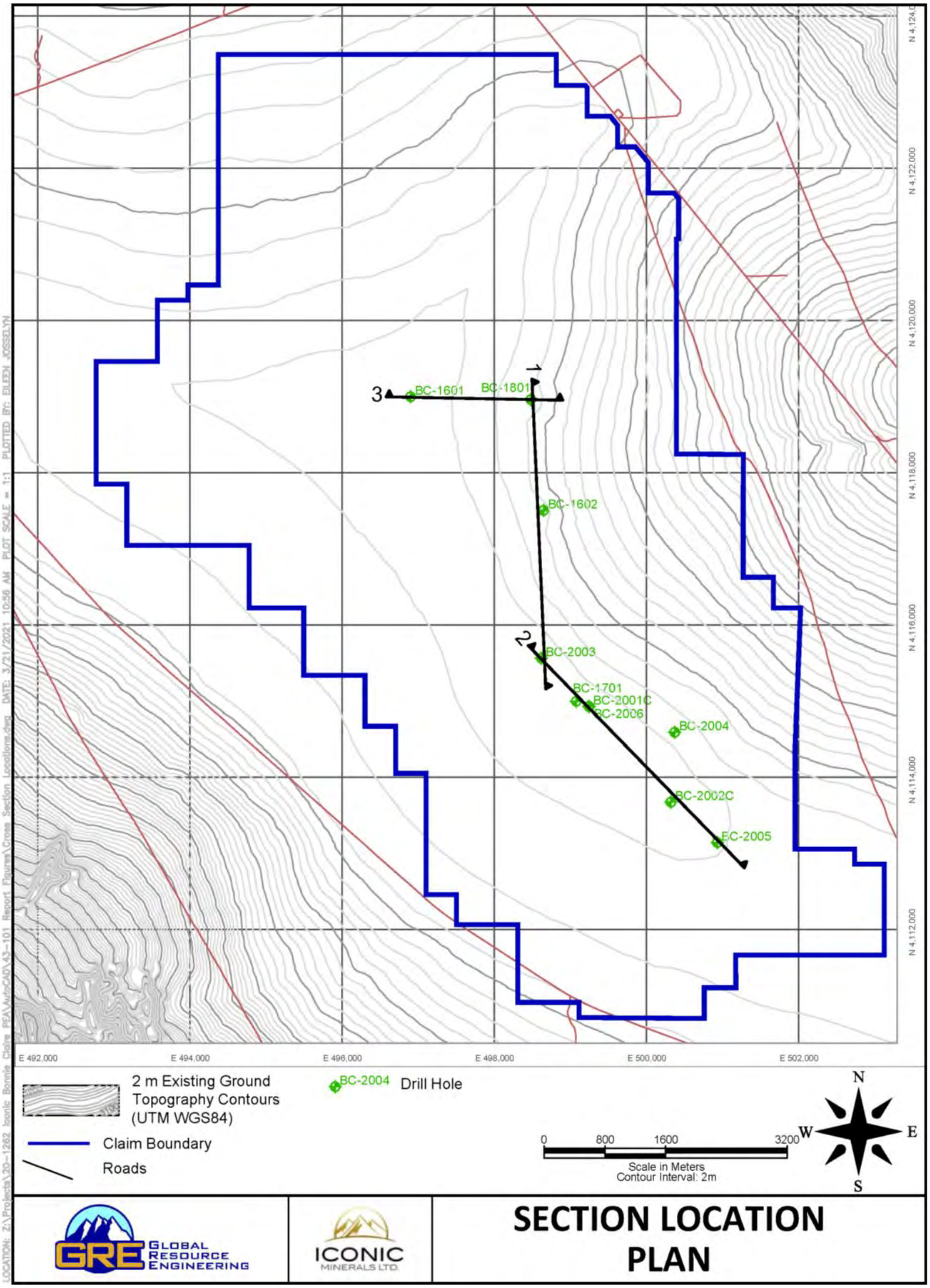


Figure 14-7: Bonnie Claire Project Comparison of Block Model and Composite Grades Section View 1

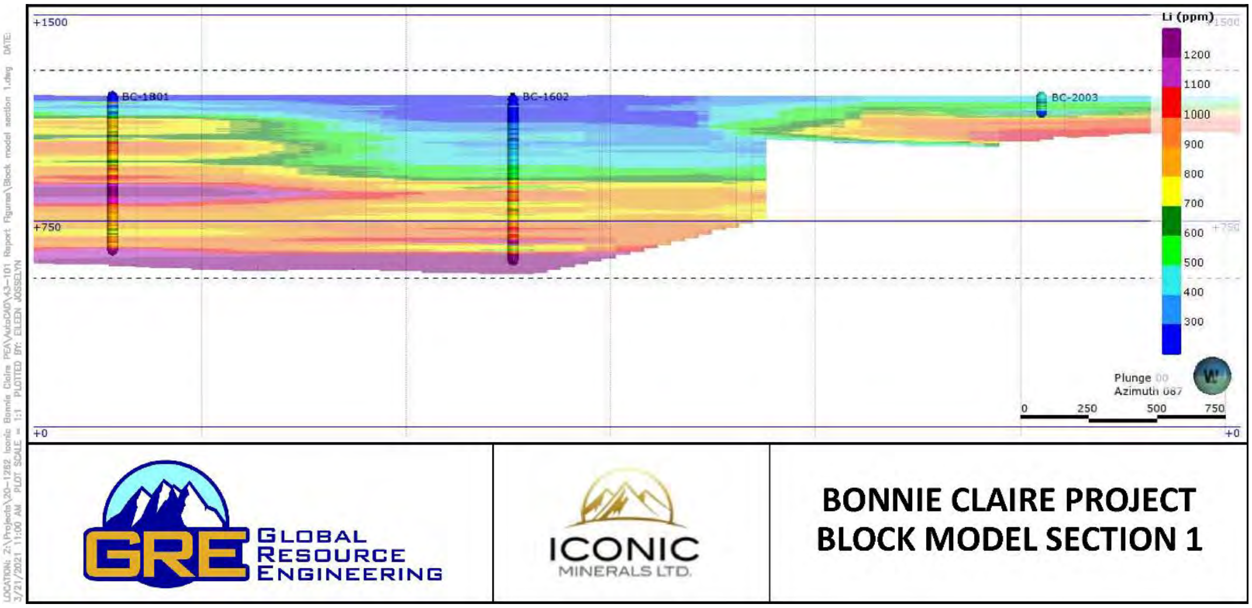


Figure 14-8: Bonnie Claire Project Comparison of Block Model and Composite Grades Section View 2

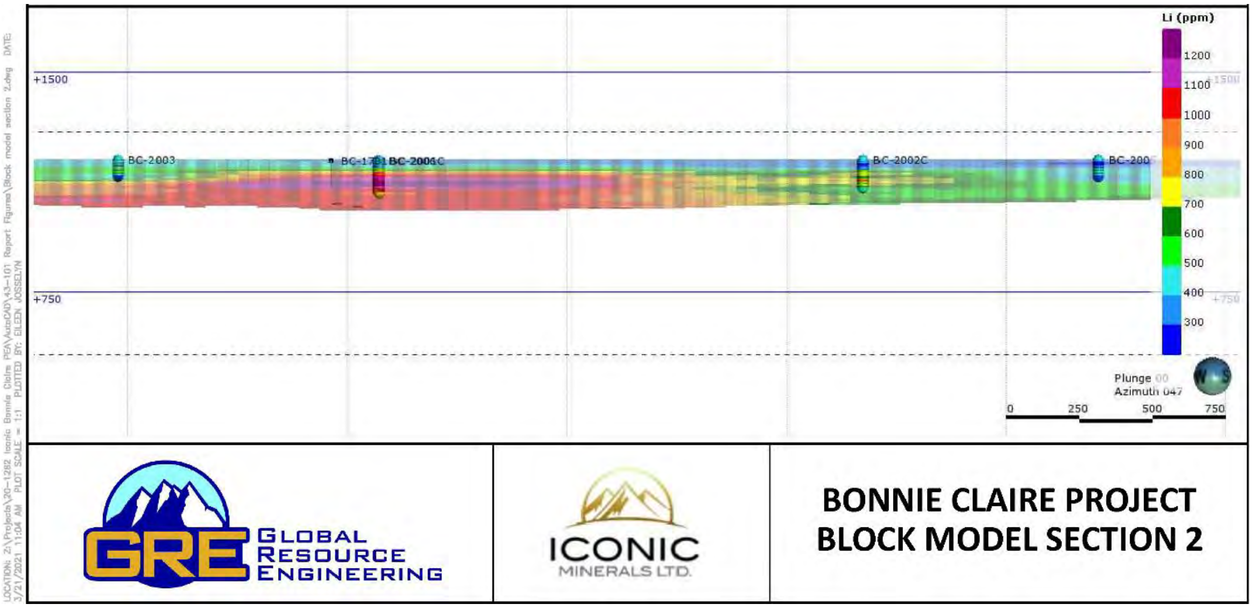


Figure 14-9: Bonnie Claire Project Comparison of Block Model and Composite Grades Section View 3

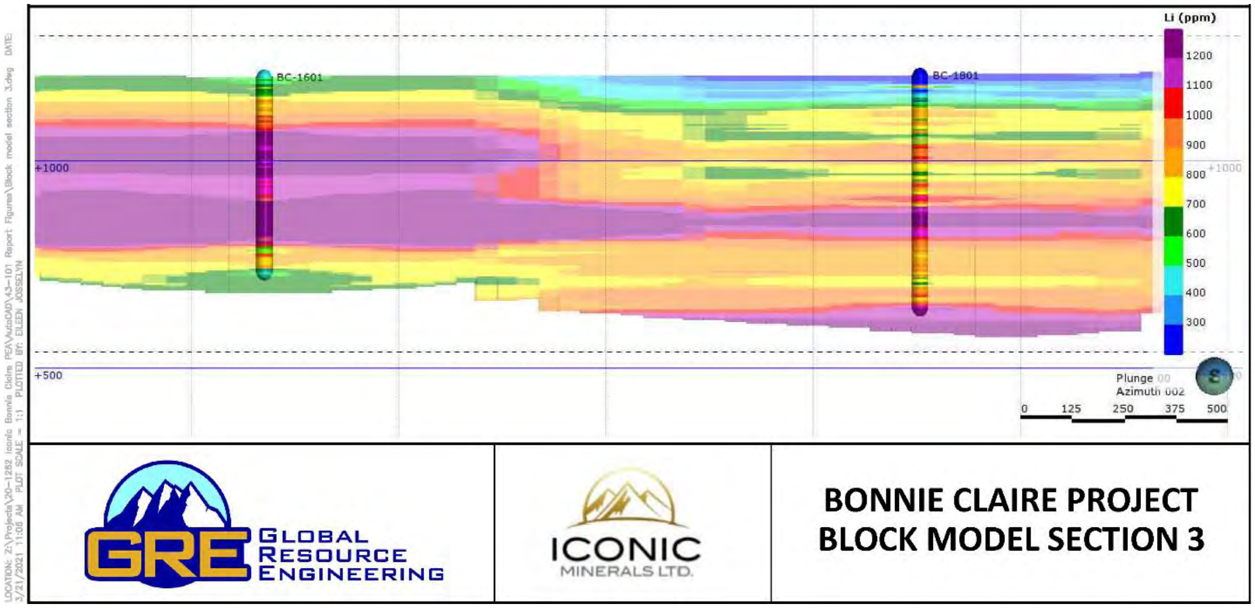


Figure 14-10: Bonnie Claire Project Comparison of Block Model and Composite Grades Plan View

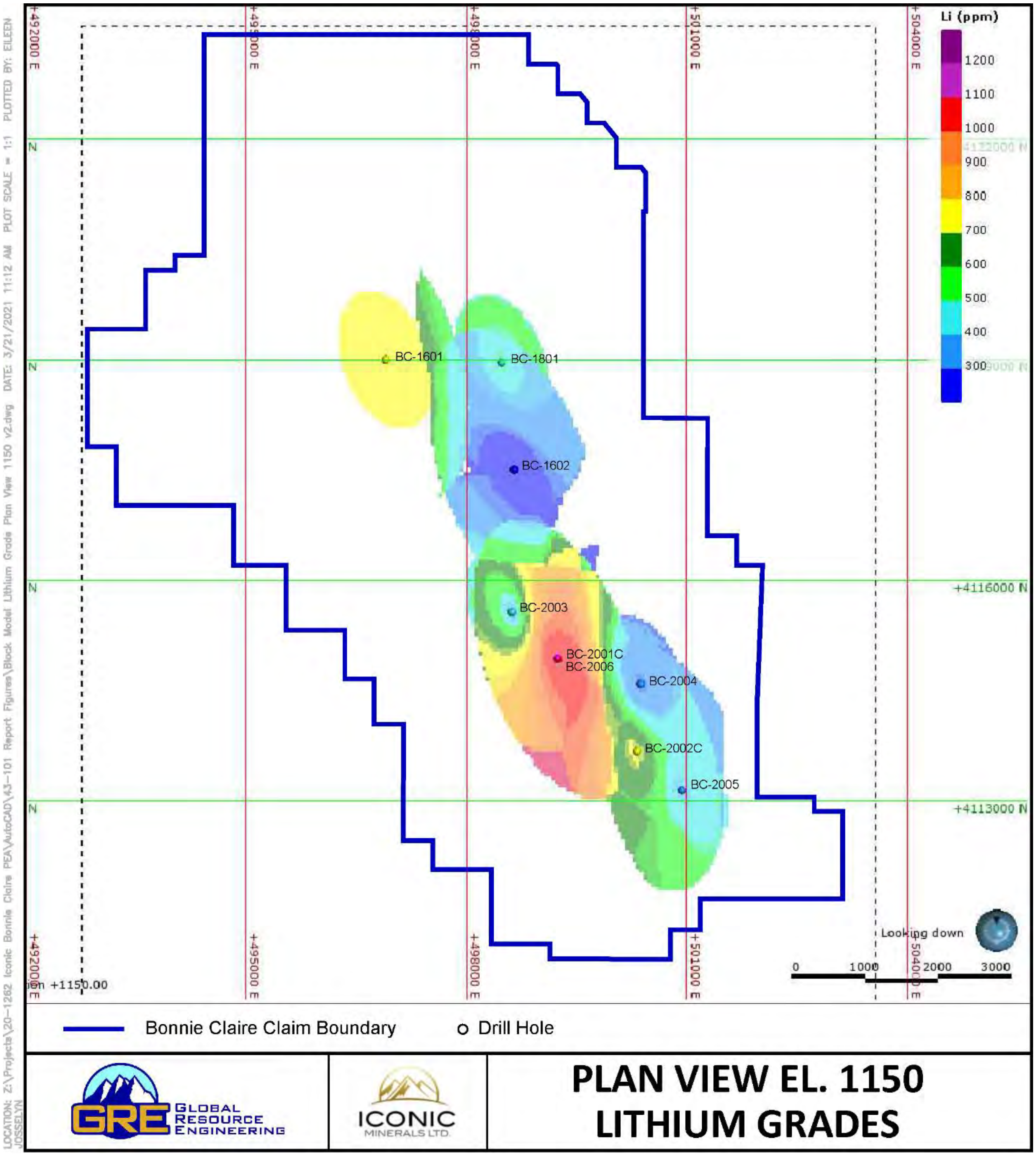


Figure 14-11: Bonnie Claire Project Swath Plot in X

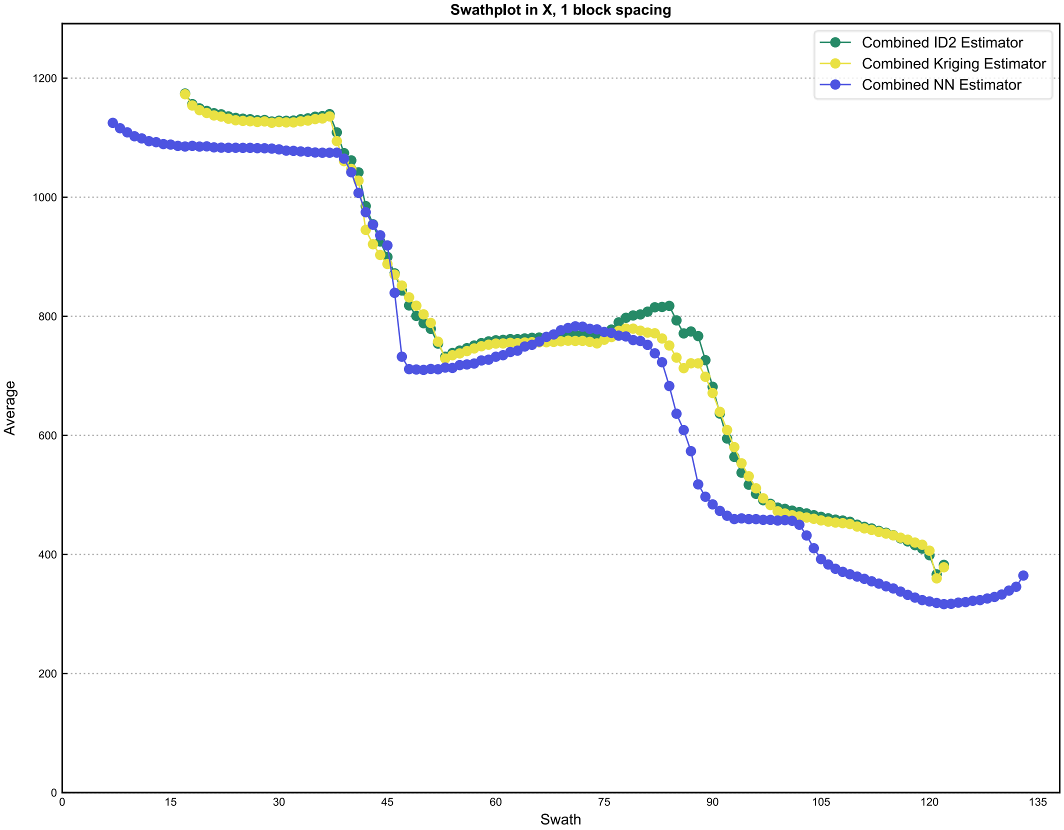


Figure 14-12: Bonnie Claire Project Swath Plot in Y

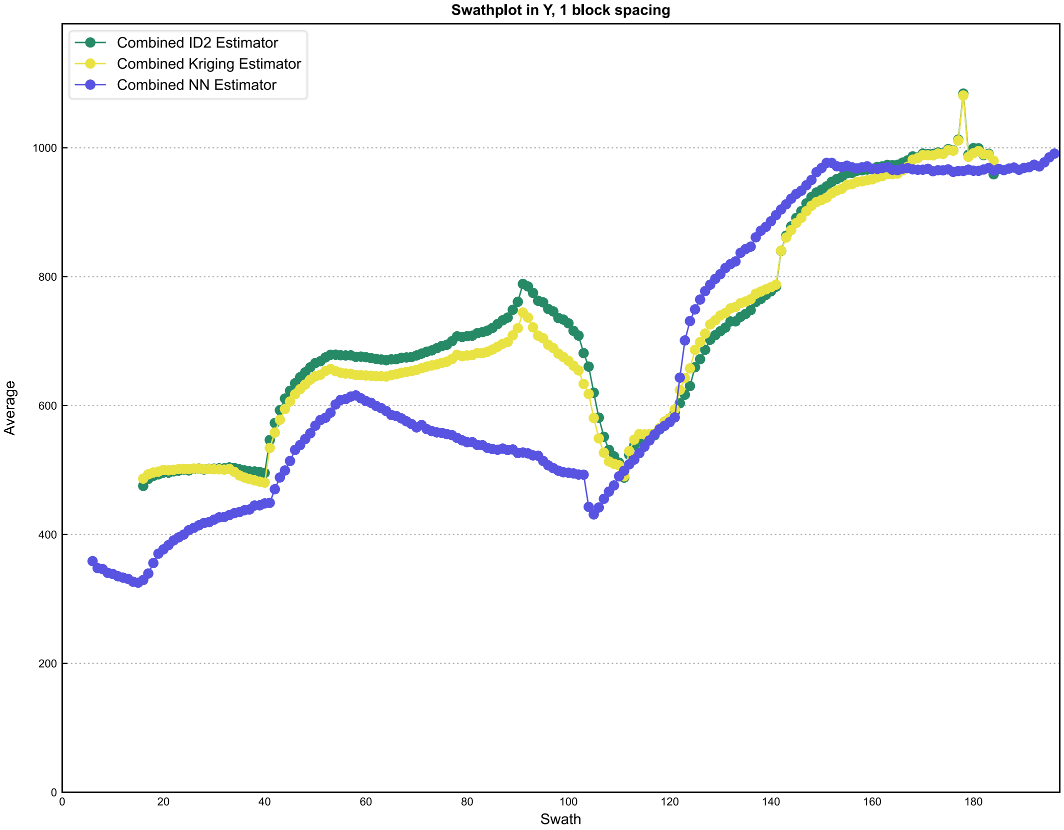


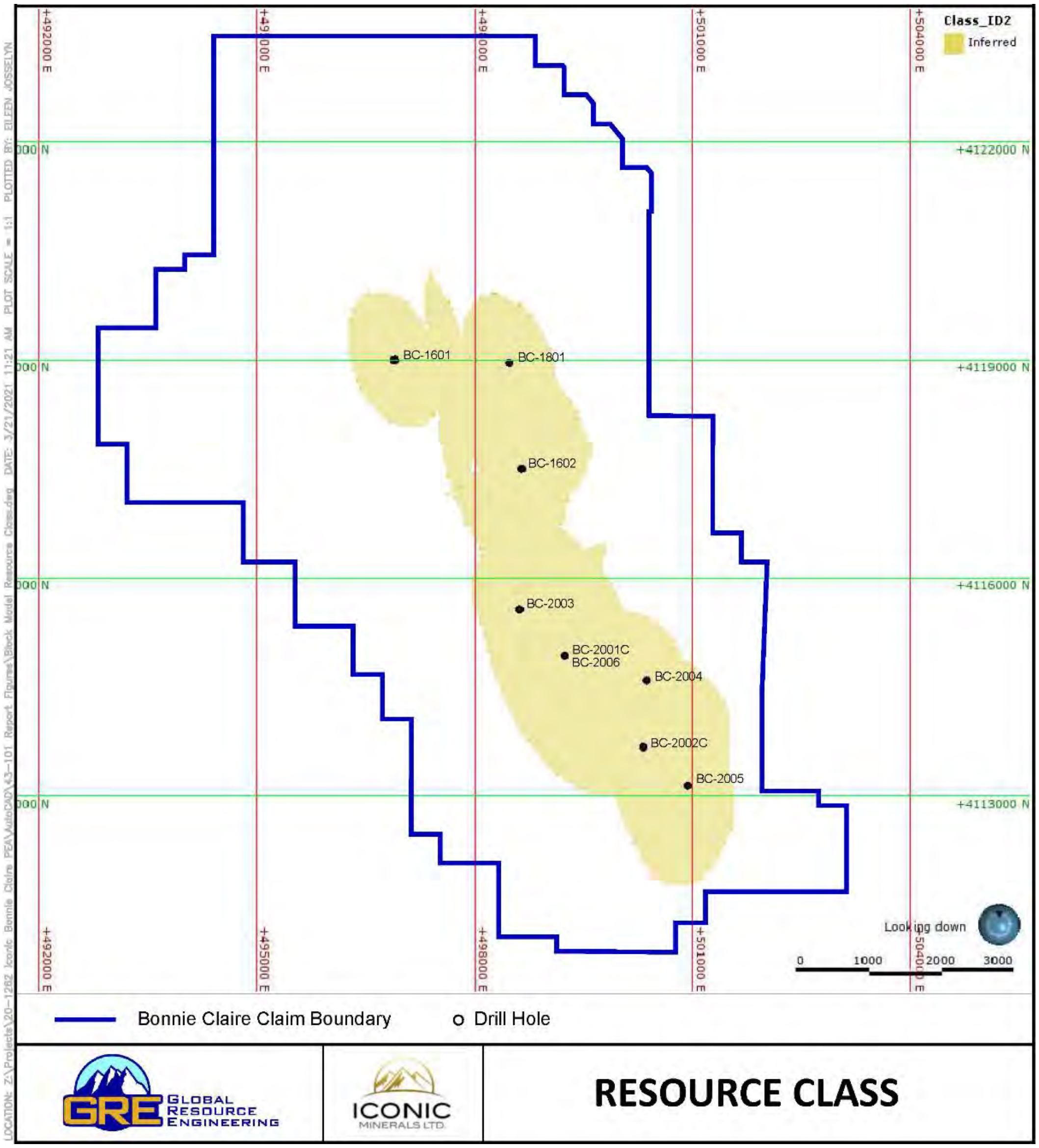
Table 14-3: Bonnie Claire Project Estimation Method Statistical Comparison

	Composites		ID2	Kr	NN
Count	354	Block Count	427,240	427,240	776,827
Length	2,156.76	Volume	5,340,500,000	5,340,500,000	9,710,337,500
Mean	813.40	Mean	810.35	701.84	807.19
SD	417.90	SD	338.91	329.48	439.00
CV	0.514	CV	0.418	0.411	0.544
Variance	174,644.03	Variance	114,860.11	108,554.32	192,724.56
Minimum	18.0	Minimum	20.89	126.69	18.0
Maximum	2,550.0	Maximum	2,447.3	2,209.0	2,550.0

14.8 Resource Classification

All blocks were assigned resource classification of Inferred as shown on Figure 14-13.

Figure 14-13: Bonnie Claire Project Resource Classifications



14.9 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.

The QP restated the resource statement from that published in the Mineral Resource Estimate Technical Report (GRE, 2021) to include only the borehole mineable resource with a cutoff grade of 700 ppm.

The calculated economic cutoff grade is:

Mining	$7.96/tonne
Process & G&A	$26.84/tonne
Total	$34.80/tonne

At 75% recovery, the cost is $46.59/tonne, and with production of 5.323 kg $LiCO_3$ per kg of Li contained and a price of $13,400/tonne Li_2CO_3, the calculated cutoff grade is:

$$\frac{\$46.59}{\text{tonne Li}} \times \frac{1\text{ kg Li}}{5.323\text{ kg Li2CO3}} \times \frac{\text{tonne Li2CO3}}{\$13{,}400} = \text{653 ppm or approximately 700 ppm.}$$

The mineral resources are stated at a borehole mining cutoff grade of 700 ppm.

The mineral resource that may be "potentially borehole mineable" is the estimated mineral resource at the Bonnie Claire Project that could be extracted using borehole mining techniques. The mineral resources that may be potentially borehole mineable assume a 68% mining recovery and 5% mining dilution but do not include plant recovery or refining penalties. Ms. Lane has had prior experience with borehole mining and it is her opinion that it may be a viable option for Bonnie Claire. 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.

14.9.1 Statement of Mineral Resource

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a mineral resource as:

> a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

The "reasonable prospects for economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cutoff grade taking into account extraction scenarios and processing recoveries.

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 reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. The mineral resource statement for the Bonnie Claire Project is presented in Table 14-4.

Table 14-4: Bonnie Claire Mineral Resource Estimate

Class	Extraction Method Applied for Constraint	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million kg)	Li Carbonate Equivalent (Million kg)
Inferred	Borehole	3,407.3	1,013.0	3,451.5	18,372.3

1. Cutoff grade is 700 ppm Li
2. The effective date of the Mineral Resource is August 20, 2021.
3. The Qualified Person for the estimate is Terre Lane of GRE.
4. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
5. Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.
6. Assumes 68% recovery by borehole

Table 14-5 shows the sensitivity of the mineral resource to cutoff grade

Table 14-5: Bonnie Claire Resource Estimate Sensitivity to Cutoff Grade

Cutoff Grade (ppm)	Class	Extraction Method Applied for Constraint	Mass (Million Tonnes)	ID2 Li Grade (ppm)	Li (Million kg)	Li Carbonate Equivalent (Million kg)
700	**Inferred**	**Borehole**	**3,407.3**	**1,013.0**	**3,451.5**	**18,372.3**
800	Inferred	Borehole	2,839.5	1,064.67	3,023.1	16,091.9
900	Inferred	Borehole	1,981.4	1,158.64	2,295.7	12,220.0
1,000	Inferred	Borehole	1,392.6	1,248.61	1,739	9,255.4
1,100	Inferred	Borehole	965.0	1,337.23	1,290	6,869.3
1,200	Inferred	Borehole	652.4	1,426.67	931	4,954.6
1,300	Inferred	Borehole	354.0	1,575.68	558	2,968.9
1,400	Inferred	Borehole	268.1	1,649.32	442	2,353.3

15.0 MINERAL RESERVE ESTIMATES

There are no Mineral Reserves in this Technical Report.

16.0 MINING METHODS

The QP evaluated both open pit mining and borehole mining (BHM) and a combination of both for the Bonnie Claire Lithium Project. Both are potentially viable options; however, the prevalence of relatively lower grade material near surface results in high stripping ratios early in the mine life for open pit mining. The use of BHM eliminates this by targeting high-grade mineralization at depth as well as offering other Project benefits, including reduced surface disturbance (i.e., no open-pit) and reduced tailings at surface due to tailings backfilling underground. The soft nature of clay should make it ideally suited to water jet cutting. For these reasons, the QP selected BHM as the more viable method at this stage of the Project. Test work and test borehole mining are required to support this mining method. If future drilling and assaying programs identify higher grade, shallow mineralization, the mining method could change.

As outlined above, The QP has used a base case of borehole mining (BHM) using jetting and pumping for this study. The borehole recovery using jetted drilling and pumping would pump high-pressure water through drill holes into the formation while simultaneously pumping the resulting loosened material out, creating a void that could be backfilled with suitable material to prevent caving from the surface. One benefit of this method would be that it could be targeted to deeper higher-grade locations without the need for removal of the shallow lower-grade material.

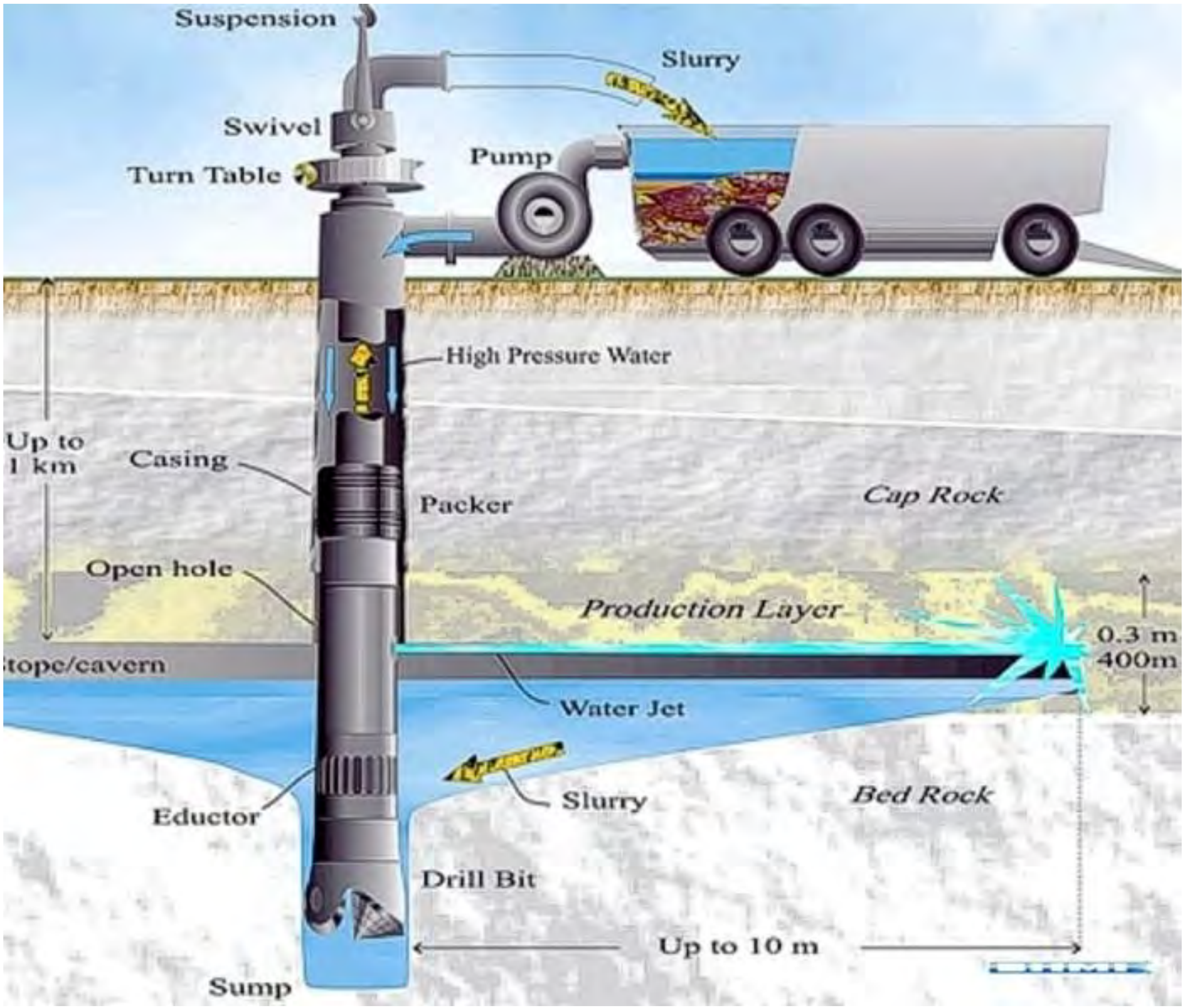
Proofing of the borehole recovery concepts must be conducted. The QP recommends conducting field pilot testing to determine efficacy and design parameters.

Borehole mining, also known as slurry mining, is a process in which a tool incorporating a water jet cutting system and downhole slurry pumping system would be used to mine minerals through a borehole drilled from the ground surface to the buried mineralized material. Water jets from the boring tool erode the mineralized material to form a slurry, which would flow into the inlet of a slurry pump at the base of the tool. The slurry would then be pumped to the surface for transfer to the processing plant by pipeline (Figure 16-1). (Savanick, 1993).

The systems for transportation and fragmentation of ore are incorporated into a single machine that would be operated remotely from the surface by a two- or three-person crew. Disturbance to the environment would be minimal and short-term; no overburden would be removed, and subsidence would be avoided by backfilling. (Savanick, 1993)

The BHM method is based on in-situ water jet cutting of mineralized material, creating a slurry and delivering it to the surface. The borehole mining tool would be lowered into the borehole, and high pressure water would be pumped down. At the bottom of the tool, one portion of that water would be ejected through a nozzle as a water jet that would cut the mineralized material, creating a slurry. The remainder of high pressure water would travel to the eductor, which would produce a vacuum, sucking the slurry up the borehole to the surface. The slurry would be pumped to the processing plant for separation, drying, and processing or a solids separation step could be performed at the borehole location. Clarified water would be returned to the borehole and pumped down again, creating a recirculating BHM water supply system. (Abramov, 2001)

Figure 16-1: Typical Borehole Mining System



Source: BHMI, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0>, via Wikimedia Commons, accessed 8/3/2021

The borehole mining tool would be suspended on a drill rig tower, which allows the tool to rotate and move along the borehole axis. While extracting rock mass, underground caverns (stopes) are created. If necessary, compressed air can be injected to the raising slurry flow to create an airlift effect. (Abramov, 2001)

For the Bonnie Claire Lithium Project economic analysis, QP Ms. Lane limited borehole mining to materials with a lithium grade of 1,200 ppm or higher to increase capital recovery and reduce the Project payback period and risk. To facilitate use of the 1,200 ppm Li cutoff grade, Ms. Lane created a 1,200 ppm Li grade shell and reported all mineralized material within that grade shell for extraction via BHM. The 1,200 ppm Li grade shell is illustrated in Figure 16-2. Table 16-1 shows the available BHM resource at the 1,200 ppm Li cutoff.

Figure 16-2: Bonnie Claire Lithium Project 1,200 ppm BHM Grade Shell

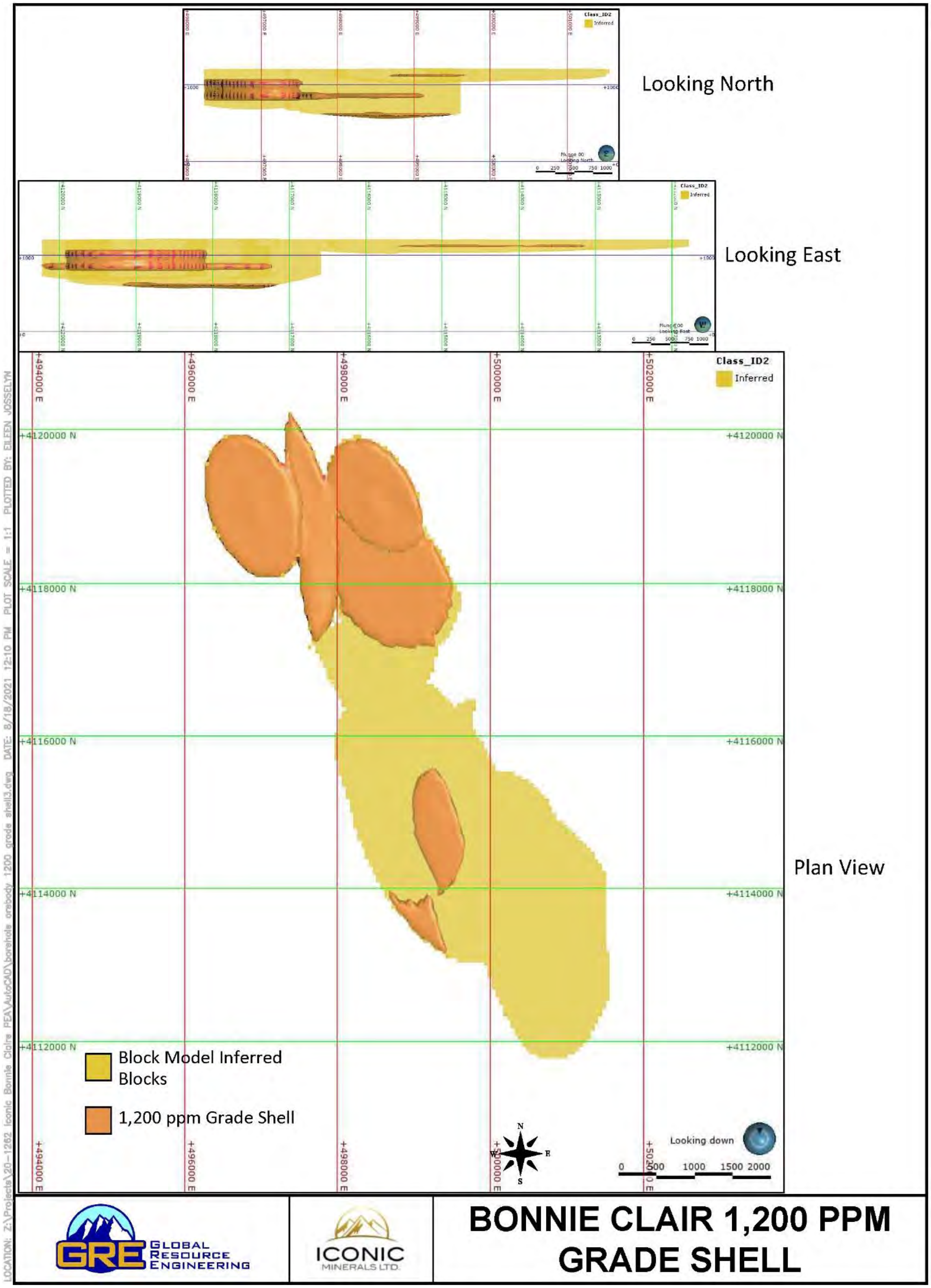


Table 16-1: Bonnie Claire Project Available Resource Within the 1,200 ppm Li Grade Shell

Mineralized Material above Cutoff (Million tonnes)	Li Grade (ppm)	Li (Million kg)
780.4	**1,377.3**	**1,074.8**

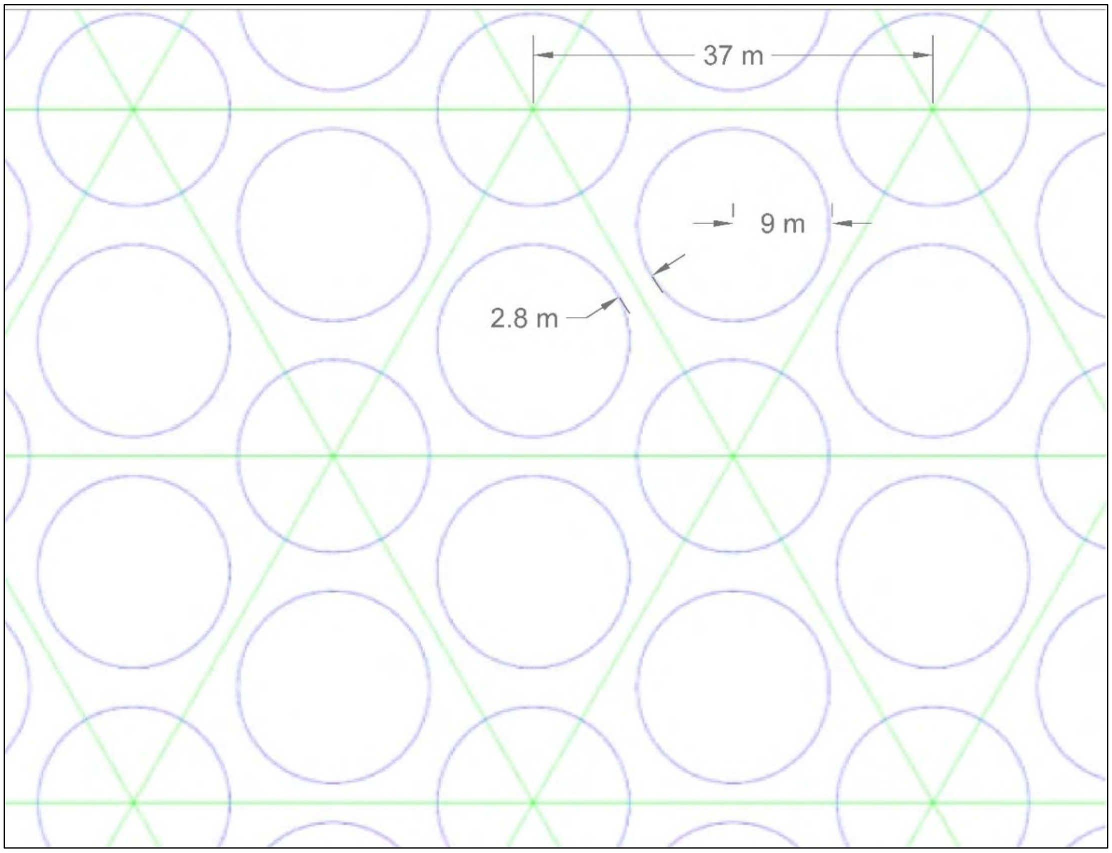
The numbers in Table 16-1 vary from those shown in Table 14-5 because the reporting included any unmineralized blocks and blocks with lower grade that fell within the grade shell.

Ms. Lane made the following assumptions for the BHM:

- Mining jet radius = 9.1 meters (30 feet)
- Minimum borehole spacing along green lines (see Figure 16-3) = 31.7 meters (104 feet)
- Design borehole spacing along green lines (see Figure 16-3) = 36.6 meters (120 feet)

These assumptions result in a borehole spacing area (each green triangle on Figure 16-3) of 579.3 square meters (m^2) (6,235 square feet [sf]), a single borehole extraction area of 262.7 m^2 (2,827 sf), and a recovery area of 1.5 times the borehole extraction area (because there is one complete borehole and three 1/6 boreholes within each green triangular area) (394 m^2 [4,241 sf]). The boreholes would be arranged in a triangular/honeycomb pattern, as illustrated in Figure 16-3. Spacing between the outer limits of each borehole area of influence would be 2.8 meters (9.28 feet). This borehole pattern and spacing would result in recovery of 68% of the mineralized material.

Figure 16-3: Bonnie Claire Lithium Project Borehole Pattern



In addition, QP Ms. Lane assumed a slurry extraction rate of 1,000 gallons per minute (gpm), with 30% solids. The resulting solids removal rate would be 1,390 tonnes per day (tpd) per borehole. The nominal BHM mining rate was set to 15,000 tpd, requiring a minimum of 13 boreholes operating simultaneously. Production would ramp up initially by extracting from a single borehole, resulting in 14% of design extraction, for the first three months then by extracting from three boreholes, resulting in 43% of design extraction, for the next three months, then by extracting from 13 boreholes for the remainder of the Project.

The extraction area was divided into six zones: Zone 1 through Zone 6, as illustrated in Figure 16-4. Zone 1 has three sub-zones, the deepest from elevations 590 to 620, the middle from elevations 800 to 900, and the uppermost from elevations 1,000 to 1,040. Zone 2 has two sub-zones, the deepest from elevations 590 to 630 and the uppermost from elevations 820 to 880. Zone 3 has two sub-zones, the deepest from elevations 560 to 640 and the uppermost from elevations 820 to 880. Zone 4 has a single zone, ranging from elevations 550 to 620. Zone 5 has a single zone, ranging from elevations790 to 1070. Zone 6 has a single zone, ranging from elevations 1100 to 1130. Tonnages and grades were reported within each zone in 10-meter intervals.

Ms. Lane applied a dilution factor of 5% to account for extraction of unmineralized material outside the defined Zone boundaries or within zone levels. The resources within each zone, including dilution, are summarized in Table 16-2.

Zone 5 was selected to commence first because it has the highest average grades early in the Project and has only one sub-zone. Zone 4 was selected to commence after completion of Zone 5, followed by Zone 1, Zone 3, Zone 2, then Zone 6. They were selected in order of highest to lowest average grade.

Each borehole would extract from the bottom of the grade shell volume up towards the surface, extracting only at elevations within appropriate mineralization. A detailed conceptual model for a single borehole was created for each zone, scheduling drilling of the full depth of the borehole, followed by jetting and slurry extraction from the bottommost 10 meter interval, followed by backfilling, followed by jetting and slurry extraction from the next higher 10 meter interval, etc., until all intervals had been jetted and backfilled. The duration required to complete extraction for a single borehole was divided by the duration of productive recovery to obtain a generalized productivity factor to be applied to the entire Zone. This is illustrated in Table 16-3.

Each jetted volume and borehole annulus would be backfilled with waste or tailings material from the processing plant mixed with 5% cement.

Mining of all six zones would take well over 100 years:

- Zone 5 has a life of approximately 94 years
- Zone 4 has a life of approximately 15 years
- Zone 1 has a life of approximately 16 years
- Zone 3 has a life of approximately 11 years
- Zone 2 has a life of approximately 7 years

Figure 16-4: Bonnie Claire Lithium Project BHM Zones

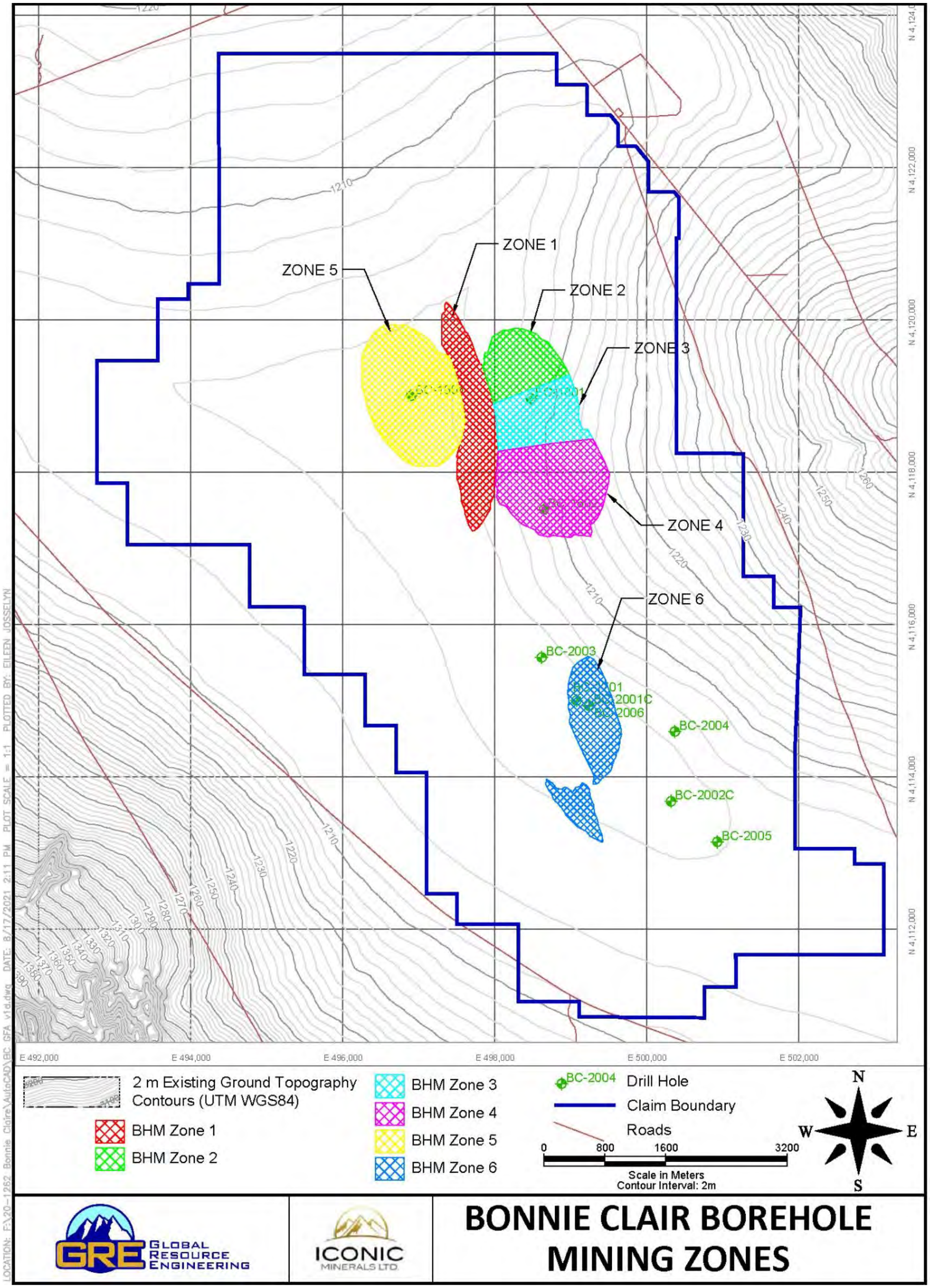


Table 16-2: Bonnie Claire Lithium Project Summary of Resources within the 1,200 ppm Li Grade Shell by BHM Zone

Borehole Mining Unit	Mineralized Material above Cutoff (Million tonnes)	Dilution (Million tonnes)	Total Mineralized Material (Million Tonnes)	Diluted Li Grade (ppm)	Li (Million kg)
1	86.1	4.3	90.4	1,350.2	122.0
2	37.8	1.9	39.7	1,157.3	46.0
3	56.7	2.8	59.6	1,202.9	71.7
4	75.9	3.8	79.6	1,351.4	107.6
5	497.5	24.9	522.4	1,331.4	695.5
6	26.3	1.3	27.7	1,155.0	31.9
Total	**780.4**	**39.0**	**819.4**	**1,311.7**	**1,074.8**

Table 16-3: Example BHM Productivity Calculation

Activity	Borehole Mining Unit	Elevation (m)	Removable Ore Tonnes	Removable Lithium kg	Number of Boreholes	Average Depth (m)	Borehole Days	Ore Removal Rate (tpd)	Ore Removable with # of Boreholes Operating	Ore Days	Start Day	Finish Day
Drill Setup							0.44				0	0
Borehole Drill						621	3.04				0	3
Jet	Zone2Lower	590	53,564	63,297	13			15,000	76,833	5	3	9
Pull Jet up and Drop Backfill Pipe							0.22				9	9
Backfill Jetted Volume							0.47				9	9
Jet	Zone2Lower	600	147,300	170,772	13			15,000	76,833	5	9	14
Pull Jet up and Drop Backfill Pipe							0.22				14	15
Backfill Jetted Volume							0.47				15	15
Jet	Zone2Lower	610	200,864	227,230	13			15,000	76,833	5	15	20
Pull Jet up and Drop Backfill Pipe							0.22				20	20
Backfill Jetted Volume							0.47				20	21
Jet	Zone2Lower	620	147,300	161,206	13			15,000	76,833	5	21	26
Pull Jet up and Drop Backfill Pipe							0.22				26	26
Backfill Jetted Volume							0.47				26	27
Jet	Zone2Lower	630	66,955	73,691	13			15,000	76,833	5	27	32
Pull Jet up and Drop Backfill Pipe							0.22				32	32
Backfill Jetted Volume							0.47				32	33
Jet	Zone2Middle	820	1,191,794	1,310,037	13			15,000	76,833	5	33	38
Pull Jet up and Drop Backfill Pipe							0.22				38	38
Backfill Jetted Volume							0.47				38	38
Jet	Zone2Middle	830	6,923,116	7,824,585	13			15,000	76,833	5	38	43
Pull Jet up and Drop Backfill Pipe							0.22				43	44
Backfill Jetted Volume							0.47				44	44
Jet	Zone2Middle	840	7,431,972	8,745,682	13			15,000	76,833	5	44	49
Pull Jet up and Drop Backfill Pipe							0.22				49	50
Backfill Jetted Volume							0.47				50	50
Jet	Zone2Middle	850	7,552,491	9,020,795	13			15,000	76,833	5	50	55
Pull Jet up and Drop Backfill Pipe							0.22				55	55
Backfill Jetted Volume							0.47				55	56

Activity	Borehole Mining Unit	Elevation (m)	Removable Ore Tonnes	Removable Lithium kg	Number of Boreholes	Average Depth (m)	Borehole Days	Ore Removal Rate (tpd)	Ore Removable with # of Boreholes Operating	Ore Days	Start Day	Finish Day
Jet	Zone2Middle	860	7,659,618	8,997,533	13			15,000	76,833	5	56	61
Pull Jet up and Drop Backfill Pipe							0.22				61	61
Backfill Jetted Volume							0.47				61	62
Jet	Zone2Middle	870	6,534,779	7,385,018	13			15,000	76,833	5	62	67
Pull Jet up and Drop Backfill Pipe							0.22				67	67
Backfill Jetted Volume							0.47				67	67
Jet	Zone2Middle	880	1,821,168	2,001,337	13			15,000	76,833	5	67	73
Pull Jet up and Drop Backfill Pipe							0.22				73	73
Backfill Jetted Volume							0.47				73	73
Back out Drill and Backfill Borehole Annulus							0.44				73	74
Relocate Drill							0.44				74	74
Total Days												74
Productive Days												61
Percent Productivity												83%

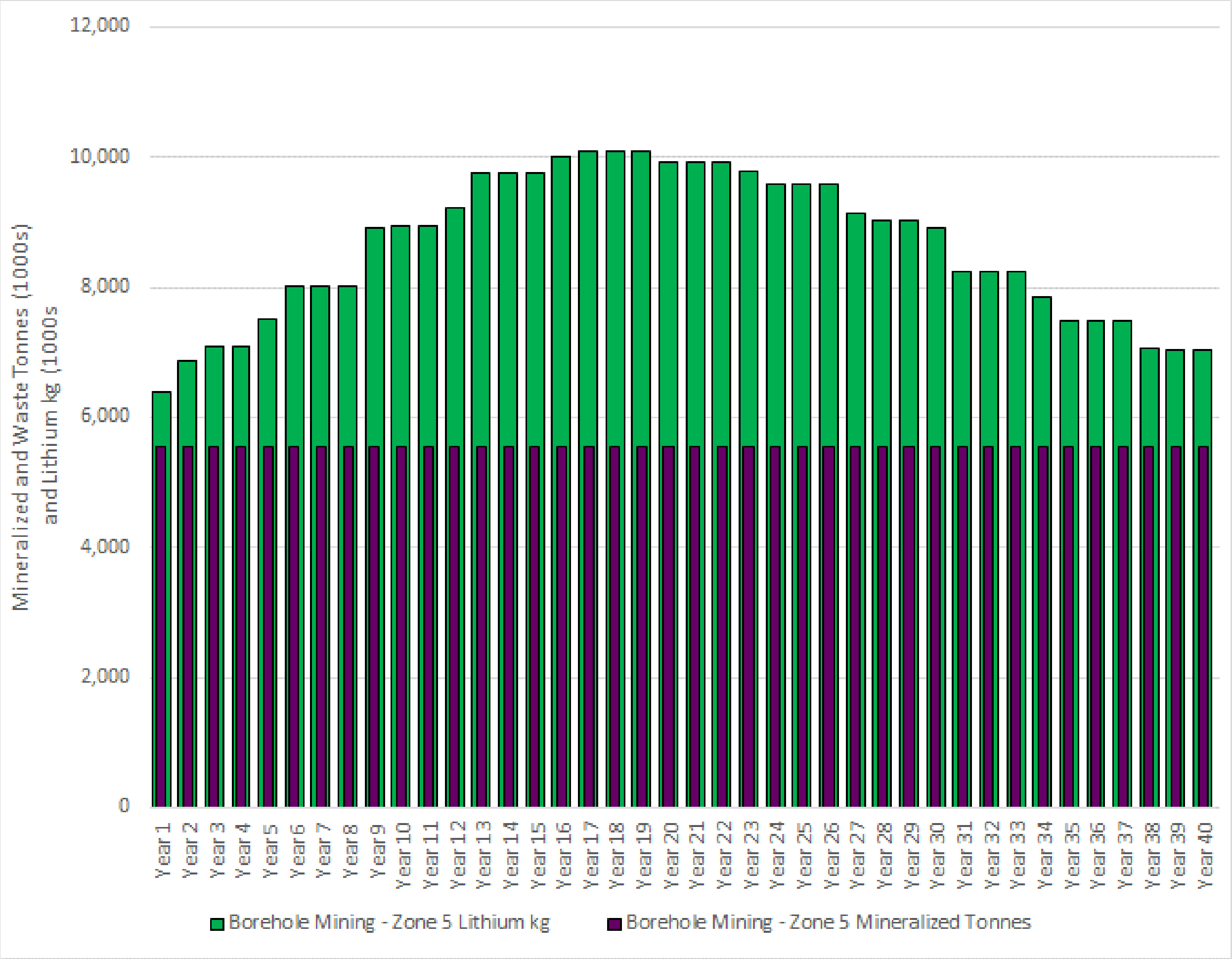
- Zone 6 has a life of approximately 5 years

Ms. Lane restricted the scheduling to the first 40 years of mining; the scheduled resources are summarized in Table 16-4 and illustrated in Figure 16-5. As a result, only Zone 5 is shown on the schedule.

Table 16-4: Bonnie Claire Lithium Project Resource within the 1,200 ppm Li Grade Shell Scheduled in First 40 Years

Borehole Mining Unit	Total Mineralized Material (Million Tonnes)	Diluted Li Grade (ppm)	Li (Million kg)
5	221.8	1,556.1	345.1

Figure 16-5: Bonnie Claire Lithium Project Mine Production Schedule Summary for First 40 Years



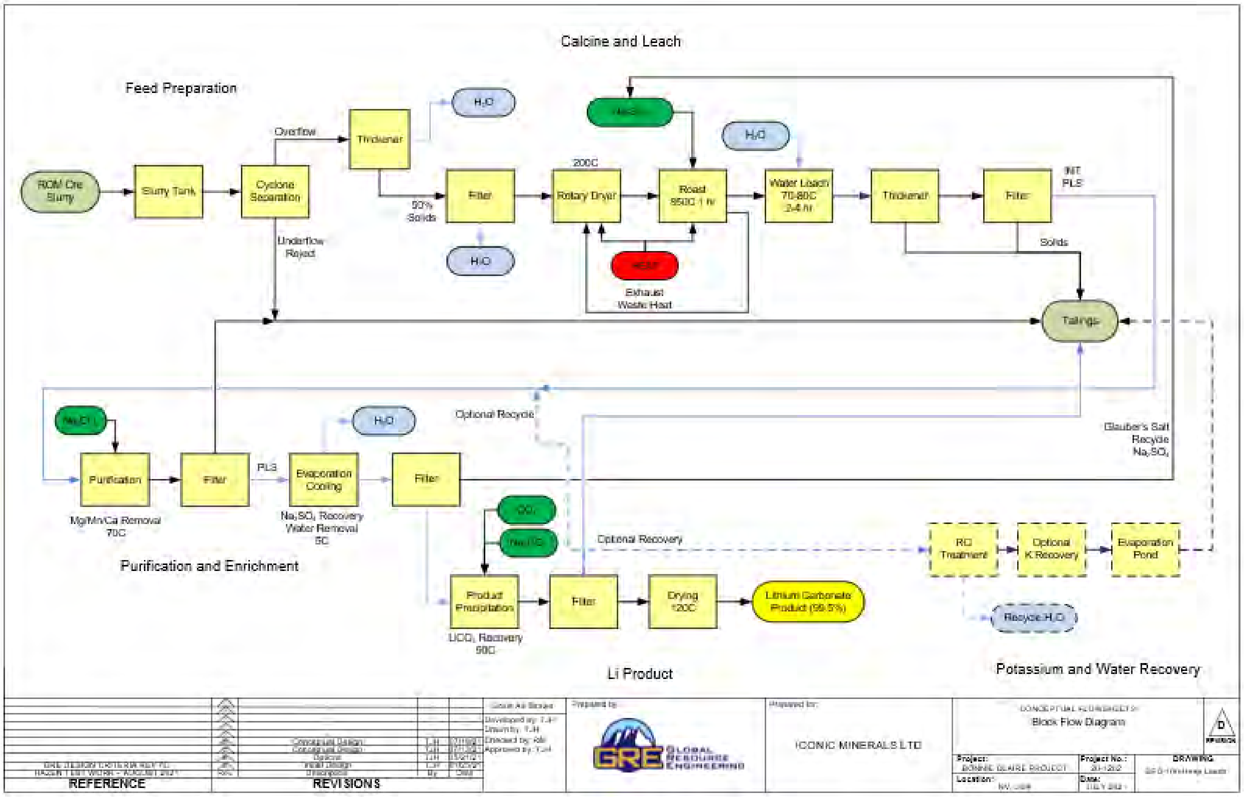
17.0 RECOVERY METHODS

This section describes the processing pathway for the recovery of lithium as a pure carbonate from the Bonnie Claire Lithium Deposit. The flowsheet is based on test work outlined in Section 13.

The process has been developed based on pretreatment developed by the US Bureau of Mines followed by downstream industry-standard commercially proven unit operations. This flowsheet is the basis of the capital and operating cost provided in subsequent sections of the document. The designed throughput for the process is 15,000 tonnes per day or 5,175,000 tonnes per year. The anticipated lithium recovery is 75%.

Figure 17-1 shows the block flow diagram outlining the major processing unit operations.

Figure 17-1: Bonnie Claire Lithium Project Proposed Flowsheet



At this stage, benchtop laboratory test work has been conducted across the entire flowsheet with preliminary testing of final product production. This flowsheet represents a typical lithium production pathway producing high grade (>99.5%) lithium carbonate. The process has been divided into basic unit operations including:

- Feed Preparation
- Pretreatment
- Lithium Extraction
- Secondary Impurity Removal
- Solution Polishing

- Lithium Carbonate Production
- Tailings
- Utilities – Water, reagents, natural gas, and electricity

Each of the primary unit operations is summarized in the following sections.

17.1 Feed Preparation and Pretreatment

The feed preparation circuit is designed into three main components: screening, drying, and calcination. The objective is to allow the mine to deliver mineralized material to the plant as a slurry. The in-situ material contains significant moisture, and the mining method will produce a slurry.

The material would be transported to a slurry stock tank equipped with a linear screen to remove oversize. The oversize material, >1 millimeter, would report to tailings. Undersize from the linear screen would report to the tank, which would feed a cyclone for further size separation. Oversize material from the cyclone would report to a dry stack tailings facility. Undersize material would then report to a thickener and proceed to a dewatering filter. The filtered material would then be dried via a rotary dryer at 200°C. Waste heat from the rotary kiln would be recycled to the dryer to reduce energy demands.

The dryer discharge would proceed to a rotary kiln for calcination at 850°C for approximately one hour. Sodium sulfate (Na_2SO_4) would be introduced to the kiln as both fresh reagent and recycled Glauber's Salt (hydrated sodium sulfate) from downstream recovery. A quench tank would be used to reduce the temperature of the calcinated material from 850°C to 80°C. The calcined material would then be discharged to a quench tank with a target of 50% solids. Calcination converts the lithium minerals to a soluble lithium sulfate (Li_2SO_4).

17.2 Lithium Extraction

Lithium extraction would be achieved through elevated temperature leaching (70-80^oC) with water. The hot calcine would provide enough energy that no additional slurry heating is anticipated. Lithium is soluble in water in the form of lithium sulfate. The material would then be pumped to the primary leach tanks.

A single primary leach tank would serve as the initial leach vessel and would be equipped with a high shear agitator to assist in the removal of the evolved carbon dioxide. The retention time of the primary leach vessel would be four hours and would be designed to reduce gas evolution to an acceptable level prior to the slurry being transferred to a series of two counter-current decantation (CCD) thickeners, each 41 meters in diameter. The solids from the leach circuit would flow countercurrent to the leach solution to achieve efficient washing of the leach solids. The use of a CCD system maximizes the solution recovery from the leach circuit.

An additional total leach time of four hours would be targeted in the CCD thickeners. Feed to the first CCD thickener would be combined with flocculant and the clear overflow solution from the second thickener and allowed to settle. The target underflow solids concentration would be 40% solids. The clear overflow would be pumped to the Secondary Impurity Removal (SIR) process. The target discharge pH from the second thickener would be 6.0. The use of calcining would greatly reduce the contamination from iron and aluminum-containing minerals. Thus, there would be no need for a primary impurity removal system.

The second thickener underflow would be pumped to a belt filter where additional washing would occur using process water. The solids from filtration would be discharged to a conveyor for delivery to the dry stack tailings storage facility (TSF). The final moisture content would be targeted at 10%. Recovered filtrate would be recycled back to the second CCD thickener feed tank. Final leach recovery is estimated at approximately 82% with a 2.5% solution loss to tailings.

17.3 Secondary Impurity Removal (SIR)

This purification stage would be used to reduce the calcium, magnesium, and manganese concentrations of the pregnant leach solution (PLS) through the stage-wise addition of soda ash. The pH would first be elevated to 9 and then to a final target of 10 to facilitate precipitation of the impurities. The circuit would consist of three tanks in series, with a total retention time of four hours.

The resulting slurry would be pumped to a pressure leaf filter to remove the precipitated impurities, and the PLS would be advanced to evaporation and Glauber's Salt recovery. The filtered solids would be combined with the primary leach tailings and delivered to the TSF. The filtrate forms the SIR PLS and would be advanced to the polishing circuit.

Solution evaporation would be achieved through the use of a Multi-Effect Vacuum Evaporator. A 5-stage thermal-mechanical evaporation system would be employed to provide a solution volume reduction of approximately four. This volume reduction would produce the required PLS lithium tenor. The evaporate would be collected and recycled as process water. The condensate would then be further processed for the recovery of Glauber's Salt via cold crystallization. The slurry would then be filtered, and the Glauber's Salt crystals recycled to the calcination process. This filtrate would report to the subsequent product precipitation circuit.

17.4 Solution Polishing

The SIR PLS would be pumped through a heat exchanger system to increase the solution temperature to 30^{o}C prior to treatment with an ion exchange system to remove the remaining manganese/calcium in the PLS. solution. The ion exchange resin would be stripped with hydrochloric acid and regenerated with sodium hydroxide.

17.5 Lithium Carbonate Production

The clarified and purified PLS would be pumped to the product precipitation circuit, where the temperature would be further increased to approximately 90-95^{o}C. Soda ash (Na_2CO_3) would be introduced to the purification train to produce crude lithium carbonate from the lithium sulfate. The precipitation circuit would consist of two-parallel trains of two tanks in series with a total of six hours of retention time per train. The crude lithium carbonate precipitate would then be further purified with the bicarbonate process using carbon dioxide (CO_2). The filtered and washed solids would be conveyed to a drying circuit prior to being packaged for sale. The target would be to produce a lithium carbonate product of 99.5% purity.

Drying on the lithium carbonate precipitate would take place in an indirect-fired rotary dryer maintained at 120^{o}C. The dried product would be conveyed to a packing system where 1-tonne bulk bags would be filled and sealed.

17.6 Secondary Products

No secondary products have been included in this study, but the potential to produce agricultural fertilizer in the form of Glasserite or sulfate of potash is likely possible. Additional testing would be required to validate.

17.7 Tailings

The filtered and washed primary leach residue and SIR residue would be combined and placed in a dry-stack TSF or used as backfill for the DHM. Additional lime may be added to ensure complete stability of any residual dissolved species before final placement.

The materials would be conveyed via an overland conveyor to the impoundment area or pumped to boreholes for use as backfill. For dry stack placement, a series of grasshopper conveyors would transport the material to a slewing stacking conveyor for placement, and a dozer would be used for final spreading and contouring.

17.8 Utilities

17.8.1 Water Treatment

Barren leach solution would be treated in a reverse osmosis (RO) plant for water recovery. It is anticipated that approximately 60% of the water could be recovered through the RO system. This high purity water would be used for reagent makeup, filter cake washing, and ion exchange rinsing. Excess water would be combined with process water for general site usage.

Process water would be delivered via a dedicated pipeline from a well field, stored in a process water tank, and distributed to the required unit operations as required. Approximately 650 cubic meters per hour (m^3/hr) (2,862 gpm) of fresh water would be required for the Project. Some water recycle may be possible, reducing this makeup water requirement. Filtration and settling test work is needed.

17.8.2 Reagents

The reagents area would be centralized to facilitate delivery, make up, and storage. The reagent area would consist of flocculant makeup, sodium sulfate, sulfuric acid, hydrochloric acid, caustic, soda ash, and lime.

17.8.3 Natural Gas

Natural Gas would be delivered to the Property via a dedicated pipeline and distributed on site as required. The primary use of natural gas is in the pretreatment process.

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 (Figure 18-1). 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 as shown in Figure 18-1. 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.

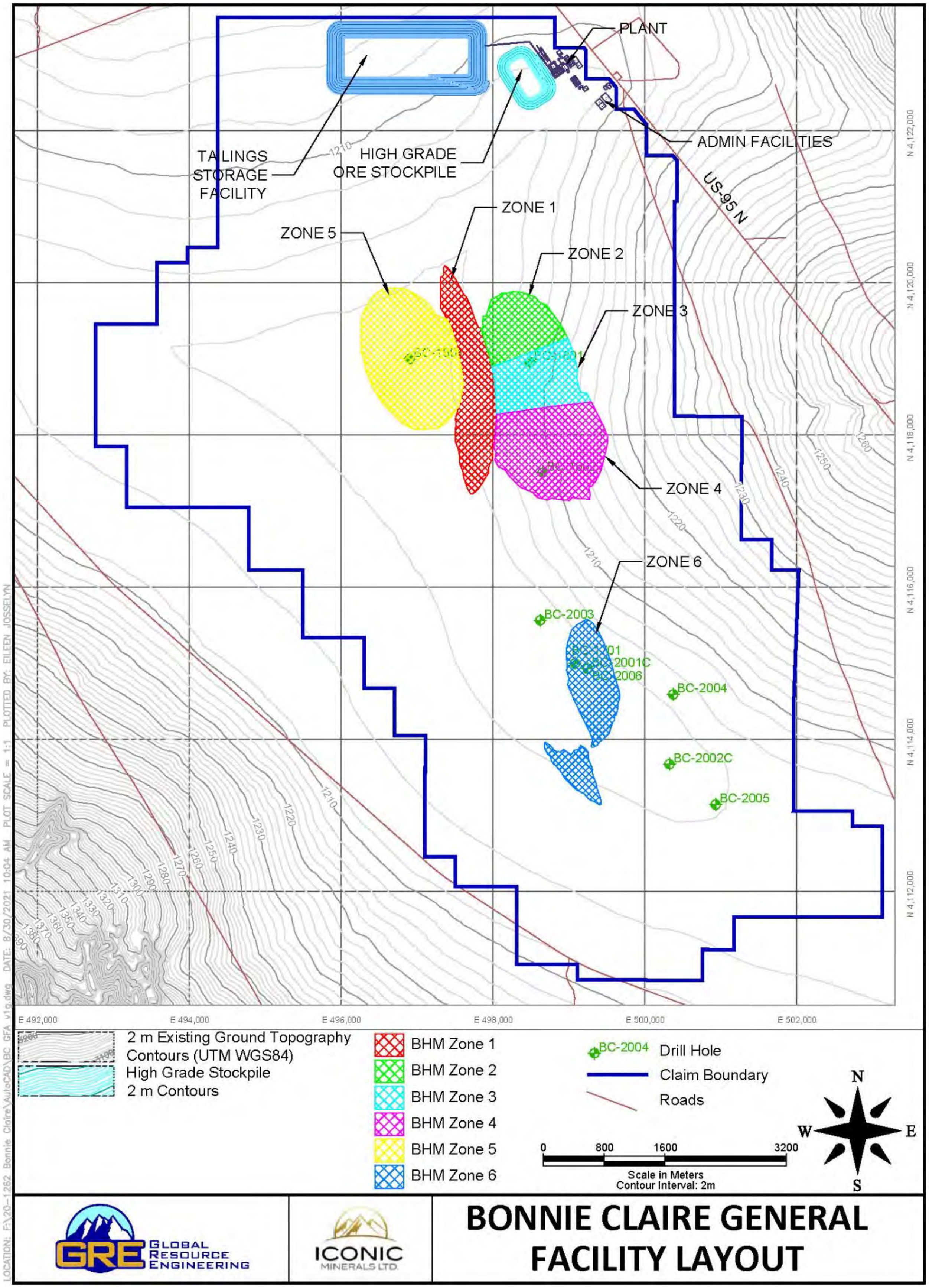
The crushing, leaching, and filtration areas will be open-air contained enclosures. The process building will house the lithium recovery and product manufacturing equipment and work areas.

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.

Figure 18-1: Bonnie Claire Lithium Project Plant and Administrative Facility Location



18.2 Tailings Facility

It is anticipated that all tailings would be used as backfill for the BHM. However, only about 50% of the tails will be able to be used due to swell, the rest would be conveyed from the filtration plant to a facility to the west as shown in Figure 18-1. 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 Companies have not yet evaluated options for securing makeup water. The cost of acquiring a source for makeup water was not included in the PEA. The costs of supply wells, pipeline, and power to provide makeup water to the Project site are included.

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

The lithium business is expanding due to a revolution in transportation technology. Lithium batteries are quickly replacing other forms of vehicle propulsion in southeast Asia and Europe. Iconic has not conducted any market studies.

A market study is needed for Bonnie Claire as it has the potential to produce a significant portion of the current world consumption. Due to electric vehicle battery demand and large-scale energy storage, worldwide lithium demand is expected to increase dramatically. If the Bonnie Claire Lithium Project was to produce, it could have a significant impact on world lithium production depending on its production scenario.

Iconic and Nevada have no agreements or contracts in place for the sale of lithium products or for the purchase or sale of any other commodities, resources, or supplies.

The outlook for lithium supply, demand, and pricing is the subject of numerous published reports and analyst reviews.

According to the Fastmarkets web site (Fastmarkets staff, 2021):

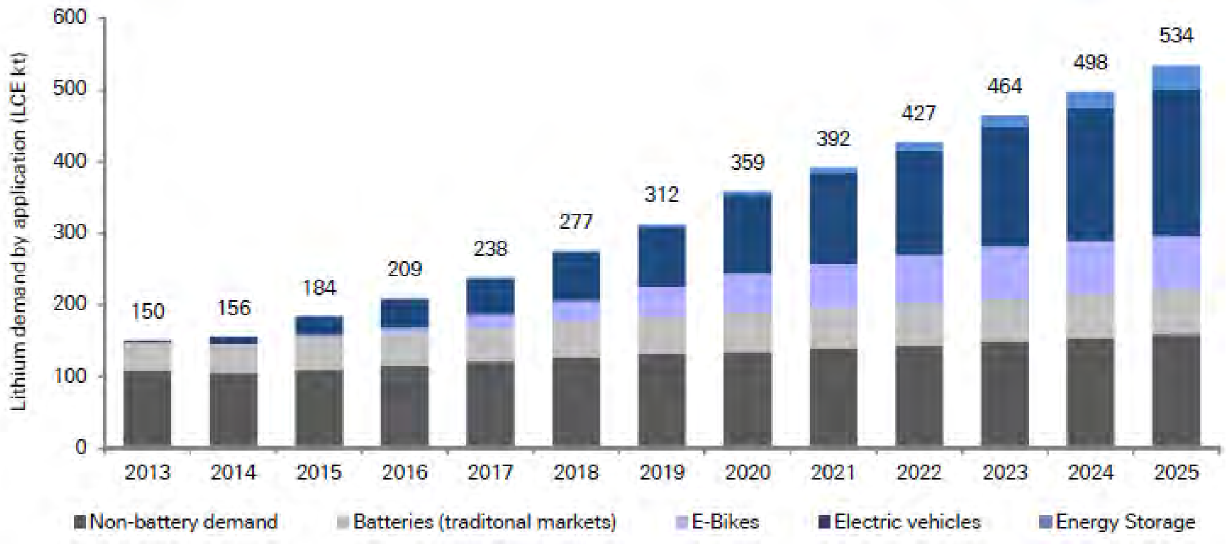
> Electric vehicle (EV) demand will continue to drive the lithium market forward: EV penetration will reach 15% in 2025, and we expect to see it rise to around 35% by 2030. Add to that mix growing demand from applications such as energy storage systems (ESS), 5G devices, and Internet of Things (IoT) infrastructure.
>
> The main takeaway here is that the EV market faces many decades of strong, compound growth.

A 2016 market study by Deutsche bank (Deutsche Bank, 2016) concluded there would be unprecedented demand growth over the next 10 years, primarily driven by electric vehicle lithium-ion battery demand, as illustrated in Iconic and Nevada will commission a market study for the next phase of work.

Figure 19-1.

Iconic and Nevada will commission a market study for the next phase of work.

Figure 19-1: Global Lithium Demand Forecast



Source: Deutsche Bank, 2016

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 2 to 3 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 Plan of Operations (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 (ROD), 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

21.1 Capital Costs

The capital cost estimate has been prepared for the PEA under the assumption of processing of mined material at a rate of 15,000 tpd. Project costs were estimated using cost data from Infomine (2020) and experience of senior staff. The estimate assumes that the Project will be operated by the owner.

GRE's QP expects there will be four to five years of continued exploration, engineering, and permitting prior to a production decision.

Initial capital costs are defined as all costs in pre-production years. Sustaining capital is defined as the capital costs incurred in the periods after a sustained positive cash flow is achieved through the end of mine life.

All capital cost estimates cited in this Report are referenced in US dollars with an effective date of August 2021.

The capital costs for the first 40 years of production are summarized in Table 21-1.

Table 21-1: Bonnie Claire Lithium Project Capital Cost Summary

Item	1000s $
Mine Capital	
Support Equipment	$6,631
Borehole Mining Production Equipment	$44,169
Mine Consumables First Fills	$2,028
Total Mine Capital	**$52,827**
Infrastructure Capital	
Access Roads	$460
Facilities	$4,875
Security	$250
Utilities	$6,937
Freight and Tax	$1,068
Total Infrastructure Capital	**$13,590**
G&A Capital	
Owner's Costs	$13,800
Bonding	$4,000
Feasibility Study	$25,000
Pilot Plant	$3,000
Test Mining	$3,000
Permitting	$2,500
Total G&A Capital	**$51,300**
Laboratory Capital	
Equipment	$502
Freight and Tax	$53
Total Laboratory Capital	**$555**
Process Capital	
Equipment	$107,805
Building	$24,543

Item	1000s $
Field Indirects	$138,845
First Fills and Spares	$15,000
Engineering	$20,428
Total Process Capital	**$306,621**
Working Capital	$31,881
Sustaining Capital	$70,437
Contingency	$127,468
Total Capital Costs	**$654,680**

The initial capital costs total $547 million, which includes $126 million in contingency.

21.1.1 Mining Equipment

Mine production equipment consists of 13 borehole mining reverse circulation drills with casing, pipe, and eductor, one positive displacement pump per drill rig plus two spares, two compressors per drill rig, four slurry pumps to pump recovered mineralized material to the plant, water pumps to pump water from the plant to the drills, an allowance for reservoirs and water supply, and high density polyethylene (HDPE) pipe for slurry and water to and from the plant.

Mining support equipment consists of a dozer, two haul trucks, a loader, grader, water truck, service/tire truck, light stands, pickup trucks, and a compactor.

An allowance was included for initial consumables, diesel fuel and tires, estimated based on one month of operating costs.

Table 21-2: Bonnie Claire Lithium Project Mining Equipment Capital Costs

Item	Quantity	Unit	1000s $
Support Equipment Capital Costs			
Dozer D9T	1	each	$1,253
Haul Truck (40t articulated)	2	each	$1,412
Loader 980K	1	each	$616
Grader	1	each	$508
Water Truck	1	each	$1,325
Service/Tire Truck	1	each	$181
Light Plants	4	each	$106
Pickup Truck	5	each	$265
Compactor	1	each	$330
Freight and Tax			$635
Total Support Equipment Capital Costs			**$6,631**
Borehole Mining Production Equipment Capital Costs			
Drill Rig - Reverse Circulation	13	each	$20,472
Pumps (PD for jetting)	15	each	$6,500
Pumps (slurry)	4	each	$295
Motor (slurry)	4	each	$332
Pumps (water)	1	each	$74
Motor (water)	1	each	$83
Compressor	26	each	$1,850

Item	Quantity	Unit	1000s $
Reservoirs and water supply	1	each	$302
HDPE Pipe - 16-inch diameter	5000	meters	$10,028
Freight and Tax			$4,233
Total Borehole Mining Production Equipment Capital Costs			**$44,169**
Mine Consumables First Fills Capital Costs			
Diesel			$382
Lube			$310
Tires			$10
Cement			$1,132
Freight and Tax			$194
Total Mine Consumables First Fills Capital Costs			**$2,028**
Total Mine Equipment Capital Costs			**$52,827**

21.1.2 Infrastructure

Infrastructure capital costs includes facilities, security, surface water management, and site utilities. These costs are incurred in Year -1.

Each item's capital cost was estimated based on knowledge of nearby mine operations or senior engineers' experience. Table 21-3 shows total costs for each infrastructure item.

Table 21-3: Bonnie Claire Lithium Project Infrastructure Capital Costs

Item	1000s $
Haul Roads	$460
Office	$75
Warehouse	$1,000
Mine Shop	$3,500
Fuel Bay	$100
Wash Bay	$200
Security and Fencing	$250
Surface Water Management	$500
Water Well with Pump	$2,500
New Well Pump	$216
Back Up Gen Set	$454
Sub-Station	$1,500
Power Line 33KV	$1,767
Freight	$347
Sales Tax	$721
Total Infrastructure Capital Costs	**$13,590**

21.1.3 General and Administrative

Allowances are made under Owners Costs for pre-production items including owner's team in Project management, further testing and feasibility study, permitting and bonding, construction insurance, commissioning, recruitment and training (Table 21-4).

Table 21-4: Bonnie Claire Lithium Project G&A Capital Costs

Item	1000s $
Startup Training	$1,500
Project Management	$4,800
Drilling and Met Testing	$4,000
Feasibility Study	$25,000
Pilot Plant	$3,000
Test Mining	$3,000
Construction Insurance	$1,200
Commissioning and Start-up	$2,300
Reclamation Bond	$4,000
Permitting	$2,500
Total G&A Capital Costs	**$51,300**

Costs for acquiring makeup water are not included.

21.1.4 Laboratory Equipment

Costs for equipment for the laboratory are shown in Table 21-5

Table 21-5: Bonnie Claire Lithium Project Laboratory Capital Costs

Item	1000s $
Jaw Crusher	$40
Pulverizer	$80
Dust Enclosure	$30
Compressor	$5
Dust Collector	$25
Sample Splitter	$16
Balance	$6
ICP	$110
Fume Hoods	$30
Drying Oven	$30
Digestion Blocks	$30
Misc - glass, titration, etc	$100
Freight and Sales Tax	$53
Total Laboratory Capital Costs	**$555**

21.1.5 Process Plant

Capital costs for the process plant are shown in Table 21-6.

Table 21-6: Bonnie Claire Lithium Project Processing Capital Costs

Item	1000s $
Feed Preparation	$5,265
Lithium Extraction	$34,756
Purification	$39,955
Product Production	$1,791
Tailings	$8,738

Item	1000s $
Utilities	$17,301
Total Equipment	$107,806
Installation Labor	$68,036
Concrete	$8,696
Piping	$28,999
Structural Steel	$9,160
Instrumentation	$6,535
Insulation	$3,332
Electrical	$12,948
Coatings and Sealants	$1,139
Spares and First Fill	$15,000
Building	$24,543
Engineering/Management	$20,428
Total	$306,622

The details of the equipment for each area can be found in Section 17. The core equipment is highlighted below.

The Feed Preparation area includes a main stock tank and linear screen as well as a cyclone separation system and thickener and filter.

The Lithium Extraction area includes the thermal pretreatment system and a CCD leaching circuit as well as a residue thickener and filter. Ancillary equipment including pumps, agitators and reagent handling is also included.

The Purification area consists of the secondary impurity removal system which utilizes multiple stirred tanks followed by thickening and filtration. This area also includes solution evaporation and Glauber's Salt crystallization. Ancillary equipment including pumps, agitators and reagent handling is also included.

The Production area includes a crude product precipitation system and a final product purification system along with a product dryer and bagging system. Ancillary equipment including pumps, agitators and reagent handling is also included.

The Tailings area includes conveyors from the filtration area to the tailings facility and a radial stacker.

The Utilities area includes a water treatment plant using reverse osmosis, compressed air, fresh water wells and pipeline, gas pipeline and distribution, electrical distribution, boiler, and backup power generation.

Processing Plant Construction

Construction allowances are applied to the plant capital equipment items above to arrive at the total processing plant cost. The Construction Direct Costs allow for installation, concrete, steel, piping, electrical and instrumentation controls, and are estimated by percentages of the equipment costs based upon internal and published data for similar installations.

21.1.6 Other Capital

Working Capital

An allowance of two months of operating costs was included to cover delays and costs beyond those included in Owners Costs, totaling $30 million. Because of the long length of the mine schedule, working capital recovery is not included.

Sustaining Capital

Sustaining capital costs are set at 10% of the average yearly owner's mobile equipment operating costs, or $1.7 million per year.

Contingency

Capital contingency was set to 30% of the total capital costs, for a total of $177 million.

21.2 Operating Costs

The Project operating costs for the first 40 years of production were developed from estimates of labor, operating and maintenance supplies, power, and fuel. The operation was sized to the nominal production rate of 15,000 tpd.

Distribution of the estimated costs is shown in Table 21-7.

Table 21-7: Bonnie Claire Lithium Project Operating Cost Summary

Area	Average Annual (1000s $)	Plant Feed ($/tonne)
Mine	$46,277	$8.88
Processing	$119,953	$23.03
G&A	$7,138	$1.37
Contingency	$17,337	$3.33
Total Operating Costs	**$190,704**	**$36.61**

21.2.1 Mine Operating Costs

Mine operating costs include borehole mining, which includes the following:

- drill rig set up
- drilling at a nominal rate of 0.2 meters/minute, casing the hole as it is drilled
- pumping water into the borehole piping to facilitate mineralized material jetting using positive displacement pumps
- recovery of mineralized material from the borehole with eductor pumps
- pumping of slurry from the boreholes to the process plant
- pumping of water from the process plant to the boreholes
- pulling casing up and backfilling mined out volumes and boreholes with waste material or tailings mixed with a minimum of 5% by weight of cement

The mine operating costs are summarized in Table 21-8.

Table 21-8: Bonnie Claire Lithium Project Mine Operating Cost Summary

Item	Average Annual (1000s $)	Plant Feed ($/tonne)
Support Equipment		
Dozer D9T	$298	$0.06
Haul Truck (40t articulated)	$284	$0.05
Loader 980K	$65	$0.01
Grader	$143	$0.03
Water Truck	$374	$0.07
Service/Tire Truck	$47	$0.01
Light Plants	$28	$0.01
Pumps (dewatering)	$0	$0.00
Pickup Truck	$99	$0.02
Compactor	$117	$0.02
Borehole Mining Production Equipment		
Drill Rig - Reverse Circulation	$16,182	$3.12
Pumps (PD for jetting)	$3,899	$0.75
Pumps (slurry)	$71	$0.01
Motor (slurry)	$1,834	$0.35
Pumps (water)	$18	$0.00
Motor (water)	$459	$0.09
Compressor	$3,061	$0.59
Backfill	$13,583	$2.61
Borehole Mining Hourly Labor Cost	$4,226	$0.81
Salaried Labor Cost	$1,490	$0.29
Total Mine Operating Costs	**$46,277**	**$8.88**

Mining support equipment hours were calculated from the number of pieces of equipment times the operating hours/day, assuming utilization of 90% and availability of 85%, times the operating days/year.

21.2.2 Processing Plant

The plant operating costs account for feed preparation, lithium extraction, purification, product, tailings handling, and utilities, and are grouped by reagents and maintenance supplies, power and labor (Table 21-8).

Table 21-9: Bonnie Claire Lithium Project Process Operating Cost Summary

Item	Average Annual (1000s $)	Plant Feed ($/tonne)
Plant Labor	$9,414	$1.81
Power	$12,486	$2.40
Reagents & Consumables & Rehandle	$98,053	$18.82
Total Process Operating Costs	**$119,953**	**$23.03**

Operating hours for plant functions were assumed to be 24 hours/day, 7 days/week, for 52 weeks/year with an availability of 94.5%.

Laboratory operating hours were set at 2 shifts/day, 8 hours/shift, and 260 operating days/year.

Labor

The plant labor can be broken down as shown in Table 21-10.

Table 21-10: Bonnie Claire Lithium Project Process Plant Labor

Area	Number
Administration	15
Technical	6
Operators	64
Support	8
Maintenance	9
Electrical	5
Total	107

Power

The total installed load at Bonnie Claire is estimated to be 16.6 MW with an annual consumption 90 GWh. The electricity costs have been provided by the local utility and equate to $0.138 per KWh, including service, demand, and consumption charges. The electrical usage by area is shown in Table 21-11.

Table 21-11: Bonnie Claire Lithium Project Process Plant Power

Area	Installed KW	Load (KW)	Cost ($/kwh)	Total		
				$/yr (x1000)	$/tonne	$/tonne LCE
Feed Prep	2,887	828	$0.138	$946	$0.18	$45.942
Leach/PIR/SIR	11,240	8,168	$0.138	$9,336	$1.80	$453.267
Utilities	2,498	1,857	$0.138	$2,122	$0.41	$103.033
Total	**16,625**	**10,853**		**$12,405**	**$2.40**	**$602.24**

Reagents and Consumables

A breakdown of the reagent costs is shown in Table 21-12.

The two largest costs for reagents are the sodium sulfate accounting for 49% of the reagent costs and natural gas accounting for an additional 28% of the costs. No cost has been included for fresh water supply beyond the pumping electrical costs.

Lump sum estimates are made for maintenance supplies in each area, equipment and vehicle operation and laboratory supplies.

Table 21-12: Bonnie Claire Lithium Project Reagent Costs

Area	Material	Unit Consumption	Units	Annual Consumption	Units	Cost Per Unit	Total		
							$/yr (x1000)	$/tonne	$/tonne LCE
Feed Prep									
	Sodium Sulfate	80	kg/t	412,965	ea	$115	$47,491	$9.18	$2,306
	Flocculent	20	g/t	104	ea	$2,500	$259	$0.05	$13
Subtotal							**$47,491**	**$9.18**	**$2,306**
Leach/PIR/SIR									
	Flocculent	20	g/t	104	ea	$2,500	$259	$0.05	$13
	Soda Ash	8.8	kg/t	45,416	t	$213.00	$9,674	$1.87	$470
	CO2 Gas	0.6	kg/t	2,881	t	$50.00	$144	$0.03	$7
	IX Resin	0.002	kg/t	11	t	$9,936.00	$108	$0.02	$5
	IX Reagents	1.000	kg/t	5,175	t	$100.00	$518	$0.10	$25
Subtotal							**$9,932**	**$1.92**	**$482**
Consumables									
	Maintenance Items	3.0%	Equip Cost ($M)	$385	Eq Cost		$11,561	$2.23	$561
	Natural Gas - Calcine	215.9	m3 water/hr	14,000	BTU/gal (70%)	3.78	$25,026	$4.84	$1,215
	Natural Gas - Leach Heating	-	m3 water/hr	817.66	BTU/gal (94%)	3.78	$-	$-	$-
	Natural Gas - SIR Heating	245	m3 water/hr	1,263.66	BTU/gal (94%)	3.78	$2,563	$0.50	$124
	Natural Gas - CO2 Heating	0.1	m3 water/hr	223.00	BTU/gal (94%)	3.78	$0.1	$0.00	$0.005
	Natural Gas - dryer	0.039	m3 water/hr	14,000	BTU/gal (70%)	3.78	$4.5	$0.00	$0.221
	Fresh Water	650.1	m^3/h	5,382,497	m^3	-	$-	$-	$-
	RO Chemicals	0.10	$/m3	121,807			$122	$0.02	$6
	Lab Supplies						$500	$0.10	$24
	Misc Op Supplies	107	employ	$2,000.00	$/emp		$214	$0.04	$10
Subtotal							**$39,990**	**$7.73**	**$1,941**
Total							**$97,413**	**$18.82**	**$4,729**

21.2.3 General & Administrative

General & Administrative (G&A) operating costs consist of site management and support and include lump sum allocations based on similar operations (Table 21-13).

Table 21-13: Bonnie Claire Lithium Project General and Administrative Operating Cost Summary

Item	Average Annual (1000s $)	Plant Feed ($/tonne)
G&A Labor	$3,013	$0.58
Services and Supplies	$4,125	$0.79
Total G&A Operating Costs	**$7,138**	**$1.37**

Included are allocations for site insurance, offices supplies, legal costs, property maintenance, training and recruitment, subscriptions, travel, miscellaneous equipment rentals, vehicle operating and maintenance, site safety, environmental, and sanitary services. Corporate overhead costs are not included in the estimate.

State and local taxes are not included in the G&A costs but are included in the cash flow analysis.

22.0 ECONOMIC ANALYSIS

A discounted cash flow model was prepared using the information and estimates from the previous sections of this report. The model includes federal, state, and local taxes.

This technical report is a preliminary economic assessment and is preliminary in nature and utilizes inferred mineral resources. Inferred mineral resources are considered too speculative, geologically, to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

22.1 Model Assumptions

Ramp-up to full production is assumed in the first year of operation. The time for permitting, feasibility and other studies prior to a construction decision is not included in the model. The costs for these studies, however, were included in Owner's Costs.

The nominal production rate at full operations is set at 15,000 tpd, or 5.250 million tonnes/year. At this rate, the Project mine life is substantially long. For the cash flow model, the mine life is truncated at the end of 40 years.

Lithium recovery is estimated at 74.7% of the lithium tonnes processed and results in production ranging from 16,500 tpy of LCE in year 1 to a maximum of 38,000 tpy in year 17, averaging 32,300 tpy of LCE.

The mine schedule results in 222 million tonnes of mineralized material averaging 1,556 ppm Li for the first 40 years of mine life.

The base price for lithium product is $13,400/tonne of LCE based on the information in Section 19.0. All production is given in terms of lithium carbonate equivalent. Additional value is possible by producing lithium hydroxide but no premium on price is included. Any premium that does occur is assumed to offset lower prices in the first two years of operation when production of technical grade product may occur. The base price is assumed to be freight on board the Project site.

No allowance was included to obtain a source of makeup water. Such costs are dependent on future conditions and agreements with other entities.

No overriding royalties were included in the model.

The cash flow model is illustrated in The model is on a 100% equity basis with no debt leveraging. An 8% discount rate is used to report Net Present Values.

Assumptions made for the tax calculations are:

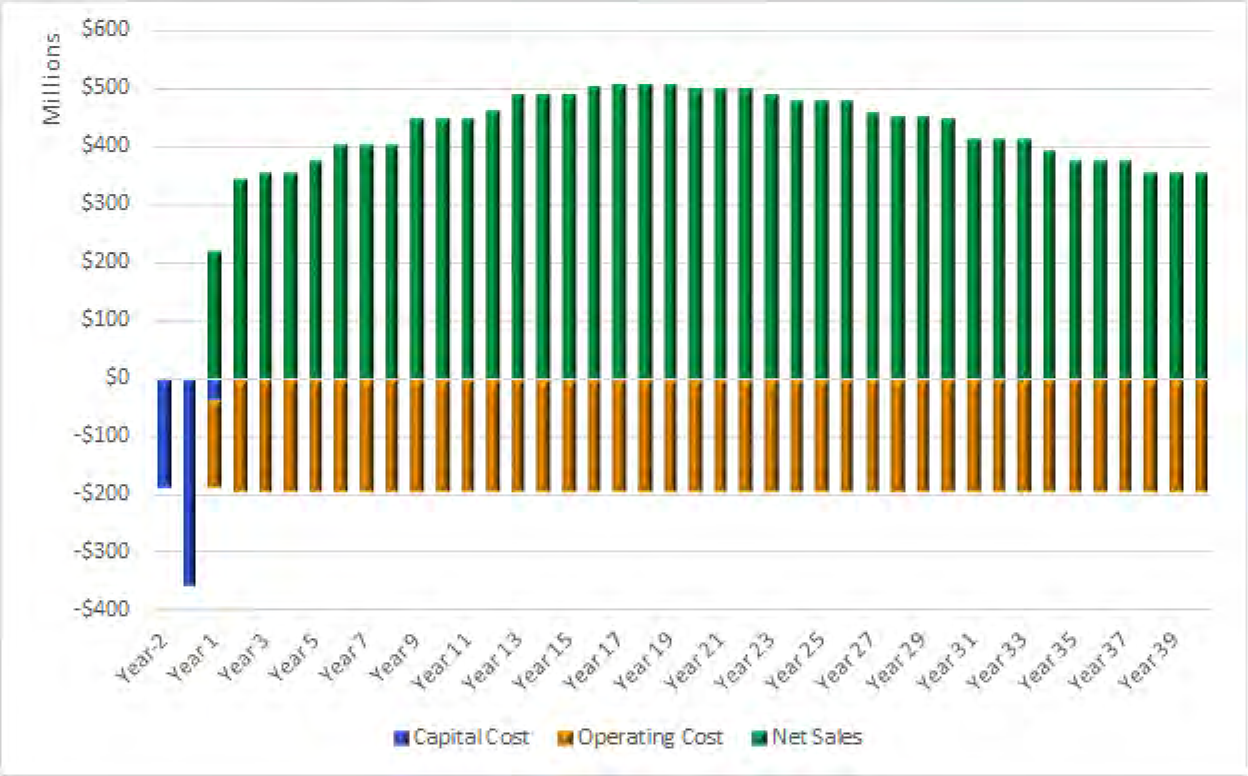
- Federal Income Tax is applied at 21% after deductions for depletion, depreciation and state and local taxes.
    - Depreciation is calculated using basic straight-line method with seven years on mobile equipment and 15 years on all other plant and facilities.

Figure 22-1. The model is on a 100% equity basis with no debt leveraging. An 8% discount rate is used to report Net Present Values.

Assumptions made for the tax calculations are:

- Federal Income Tax is applied at 21% after deductions for depletion, depreciation and state and local taxes.
    - Depreciation is calculated using basic straight-line method with seven years on mobile equipment and 15 years on all other plant and facilities.

Figure 22-1: Bonnie Claire Lithium Project Cash Flow Model



- The depletion allowance is calculated from the lesser of 15% of net profits after operating costs or 50% of the net profits after depreciation.
- State and local taxes are applied at full rates. Certain deductions or exemptions may apply and remain to be determined.
    - Nevada Net Proceeds Tax is applied at up to 5% of net profits after depreciation and depletion.
    - The property tax rate of 3.4409% for Nye County is applied on the book value of capital.
    - A sales tax of 7.6% was applied to equipment capital costs based on the rate for Nye County.

22.2 Results

Results for the Project are:

- Average annual production of 32.3 million kg (32,300 tonnes) of LCE
- Cash operating cost of $5,974/tonne LCE
- All-in sustaining cost of $6,057/tonne LCE

- A $1.5 billion after-tax Net Present Value (NPV) at an 8% discount rate
- A 23.8% after-tax Internal Rate of Return (IRR)
- Payback period of 6.7 years
- Break-even price (0% IRR) of $6,545/tonne LCE

22.3 Sensitivity Analyses

Sensitivity of the Project was evaluated to changes in lithium price, capital costs, and operating costs, these results are shown in Table 22-1, Figure 22-2, and Figure 22-3.

Table 22-1: Bonnie Claire Lithium Project Sensitivity Analysis

Variable	% of Base Case		
	50%	100%	150%
NPV8 (million $)			
Capital Cost	$1,755	$1,497	$1,235
Operating Cost	$2,264	$1,497	$670
Lithium Price	-$428	$1,497	$3,275
IRR			
Capital Cost	39.2%	23.8%	17.6%
Operating Cost	32.0%	23.8%	14.9%
Lithium Price	1.3%	23.8%	39.7%

Note: IRR (internal rate of return) and NPV (net present value) are both shown after-tax

Figure 22-2: Bonnie Claire Lithium Project NPV@8% Sensitivity to Varying Lithium Carbonate Price, Capital Costs, and Operating Costs

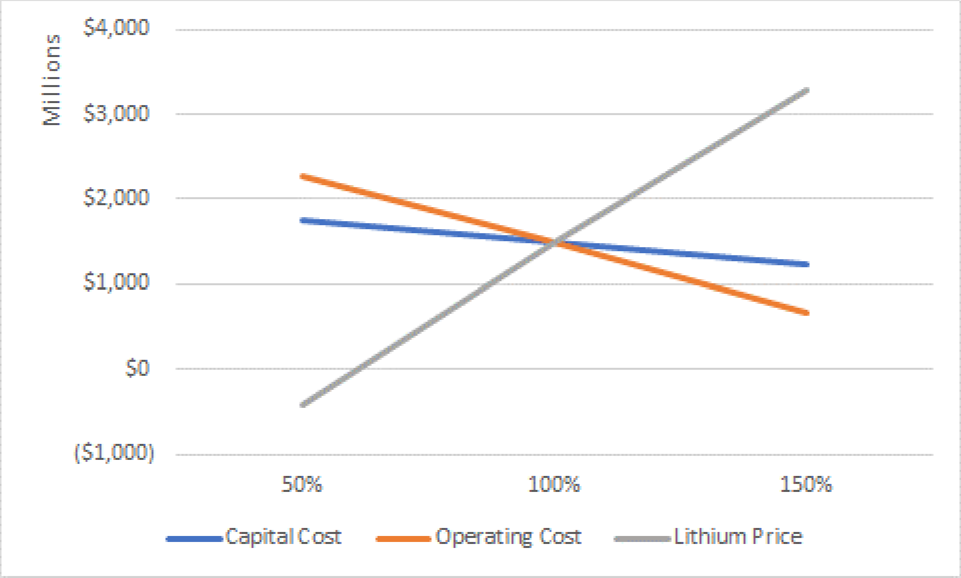
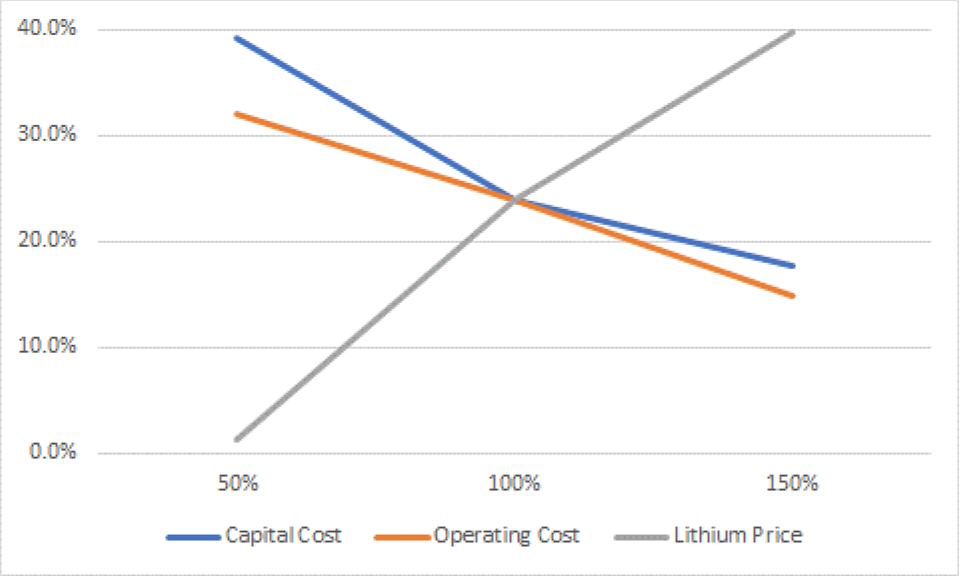


Figure 22-3: Bonnie Claire Lithium Project IRR Sensitivity to Varying Lithium Carbonate Price, Capital Costs, and Operating Costs



Sensitivity of NPV @8% and IRR at higher lithium carbonate prices are shown in Table 22-2.

Table 22-2: Bonnie Claire Project Additional Sensitivities

Variable	Li_2CO_3 Price			
	$13,400	$20,000	$25,000	$30,000
NPV8 (million $)	$1,497	$3,248	$4,572	$5,897
IRR	23.8%	39.5%	50.2%	60.3%

The cash flow model is most sensitive to changes in lithium price and is moderately sensitivity to changes in operating cost and least sensitivity to changes in capital costs.

22.4 Conclusions of Economic Model

The Project economics shown in the PEA are favorable and robust, providing positive NPV values at varying lithium carbonate prices, capital costs, and operating costs.

Results for the Project are:

- Average annual production of 32.3 million kg (32,300 tonnes) of LCE
- Cash operating cost of $5,974/tonne LCE
- All-in sustaining cost of $6,057/tonne LCE
- A $1.5 billion after-tax Net Present Value (NPV) at an 8% discount rate
- A 23.8% after-tax Internal Rate of Return (IRR)
- Payback period of 6.7 years
- Break-even price (0% IRR) of $6,545/tonne LCE

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 Pure Energy Resources, Ameriwest Lithium Inc., Cypress Development Corp. (Cypress), Noram Ventures (Noram), and Spearmint Resources Inc. have produced NI 43-101 compliant reports of nearby properties.

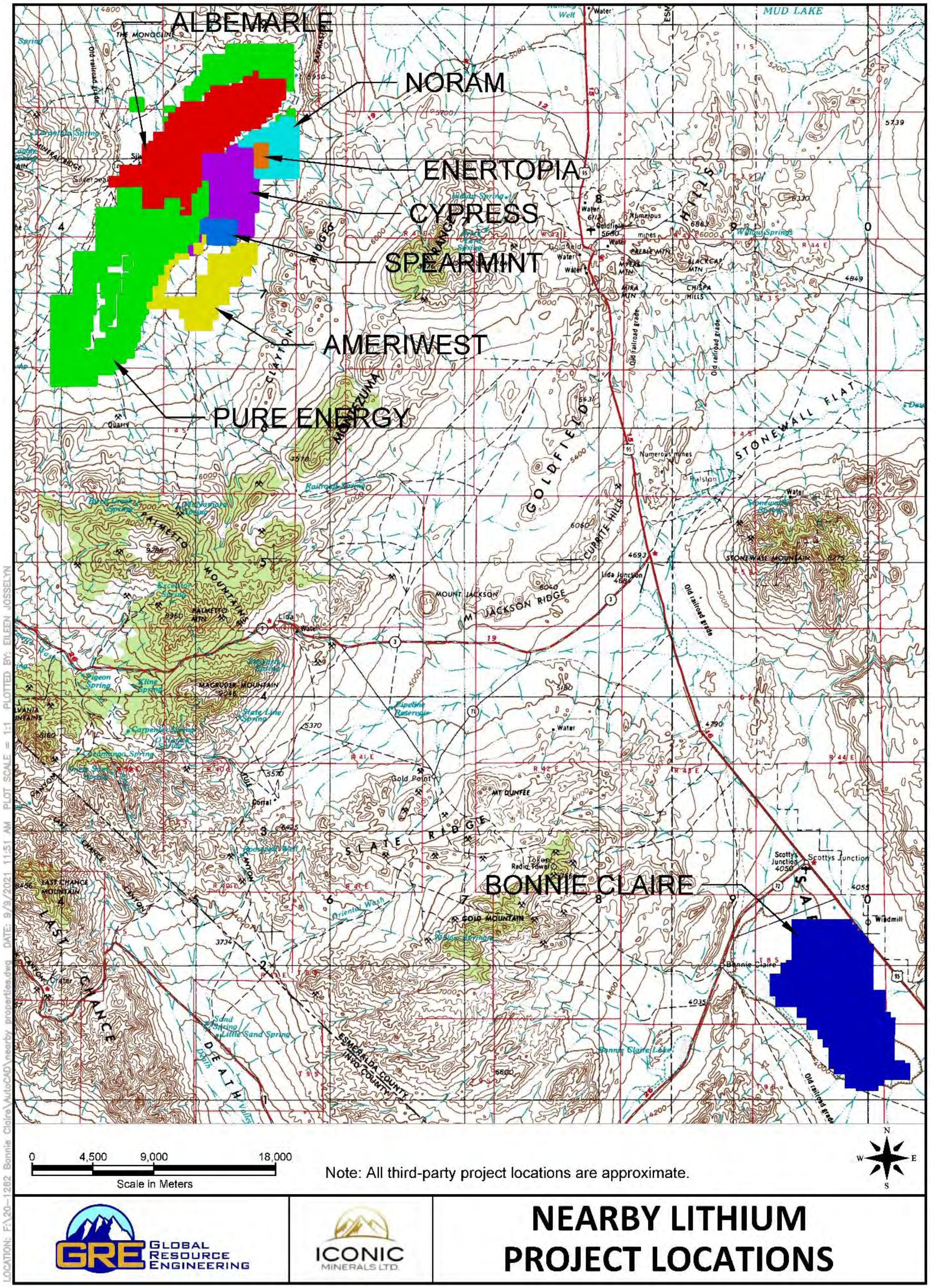
The author has not verified the information provided in the above technical reports, and the information is not necessarily indicative of the mineralization that is found at Bonnie Claire.

Figure 23-1).

Pure Energy Resources, Ameriwest Lithium Inc., Cypress Development Corp. (Cypress), Noram Ventures (Noram), 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

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. A production scenario involving borehole mining methods and lithium carbonate production, as outlined in this PEA, results in robust economics, and Prefeasibility Study for the Project is recommended.

Limited drilling and assaying has been conducted. To move the Project forward, additional drilling and assaying should be conducted. Additional drilling and assaying will enable reclassification of Mineral Resources from the Inferred category to the Indicated and/or Measured categories.

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 microns (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. Of these two methods, thermal treatment is favored and presented as the base case for the PEA, having demonstrated better overall lithium extraction and recovery performance.
- 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 QP evaluated both open pit mining and borehole mining (BHM) and a combination of both for the Bonnie Claire Lithium Project. Both are potentially viable options; however, the prevalence of relatively lower grade material near surface results in high stripping ratios early in the mine life for open pit mining, reducing the IRR and increasing the payback period. The use of BHM eliminates this by targeting high-grade mineralization at depth, as well as offering other Project benefits from an environmental and social perspective.

These benefits include a considerably reduced surface disturbance (i.e. no open-pit) and reduced tailings at surface due to tailings backfilling underground. The reduced disturbance on surface that borehole mining offers compared to conventional open pit is significant.

The Project also has the potential for incorporating solar power into its development due to its location in Nevada, US.

Collectively, the Bonnie Claire Lithium Project as the potential to be a long-lived asset with a lower environmental impact when compared to a conventional open pit mining operation.

Additional work is needed to determine if the BHM concept is technically feasible for this Project. Proofing of the borehole recovery concepts must be conducted. The QP recommends conducting field pilot testing to determine efficacy and design parameters

The Project economics shown in the PEA are favorable, providing positive NPV values at varying lithium carbonate prices, capital costs, and operating costs.

The Project has the potential to be a major supplier of lithium products in the world, and additional work is warranted.

Four to five years of continued exploration, Project development, and permitting are expected to determine the viability of the Project.

26.0 RECOMMENDATIONS

Ms. Lane, Dr. Harvey, and Dr. Samari recommend the following activities be conducted for the Iconic Bonnie Claire Lithium Project:

- 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 BHM 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, specifically:
    - Thermal processing appears to be the most viable option given the test work conducted. More definitive testing should be conducted at batch scale to further define the process variables and to optimize the process. Estimated cost $150,000 with a duration of 3 to 4 months.
    - An investigation into the lithium recovery and acid consumption 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 3 to 4 months.
    - The direct acid leaching system will require an alternative downstream purification system in order to be viable. Vendors should be contacted to provide support; cost will be dependent on vendor requirements, estimated at $100,000 with a duration of a 12 to 18 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 pilot scale test work should be conducted to optimize the thermal treatment parameters. This includes examining mass rejection through size separation, process variable optimization, including calcine temperature, retention time, and reagent additions. Estimated cost $300,000 with a duration of 4 to 6 months.
    - Locked cycle testing should be conducted to better understand the process chemistry and the recycle streams. Could be included in early-stage benchtop testing.
    - The potential for recovery of additional valuable minerals/elements should be investigated, including rare earths and 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 4 to 6 months for laboratory scale analysis.
- Market analysis to determine production impacts and product prices, including reagent pricing.

- Prefeasibility Study, including determination of infrastructure requirements, such as sources of power, water, reagent, 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 all be completed in a single phase spread over two to three years. The estimated costs to complete the proposed recommended actions are shown in Table 26-1.

Table 26-1: Estimated Costs to Complete the Proposed Program

Activity	Estimated Cost
Drilling, Surface Sampling, and geochemistry Down-Hole Surveys	$3,000,000
Borehole Mining Testing	$3,000,000
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	$9,000,000

Ms. Lane expects that 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 Iconic 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 QA/QC program, those QPs makes 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 Iconic 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.
- Iconic' 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 Iconic), 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 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled "Preliminary Economic Assessment NI 43-101 Technical Report, Bonnie Claire Lithium Project, Nye County, Nevada, USA" with an effective date of July 6, 2021 and an issue date of September 23, 2021 (the "PEA"), 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 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. 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 and certify that by reason of my education, affiliation with a professional organization (as defined in National Instrument 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101.
7. I have visited the Project.
8. I am responsible for Sections 1.3, 1.4, 15, 16, 1.7, 6, 7, 8, 9, 10, 11, and 12 of the PEA Technical Report.
9. I am independent of Iconic Minerals Ltd. and Nevada Lithium Resources Inc. as described in section 1.5 by National Instrument 43-101.
10. I was a QP 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.
11. I have read National Instrument 43-101 and Form 43-101F1. The Resource Estimate has been prepared in compliance with the National Instrument 43-101 and Form 43-101F1.
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: September 23, 2021

CERTIFICATE OF QUALIFIED PERSON

I, Richard D. Moritz, of 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled “Preliminary Economic Assessment NI 43-101 Technical Report, Bonnie Claire Lithium Project, Nye County, Nevada, USA” with an effective date of July 6, 2021 and an issue date of September 23, 2021 (the “PEA”), DO HEREBY CERTIFY THAT:

1. I am a MMSA Qualified Professional in Processing, #01256QP
2. I hold a degree of Bachelor of Science (1979) in Mining Engineering from University of Nevada, Reno and a Master’s in Business Administration (1987) from the University of Nevada, Reno.
3. I have practiced my profession since 1979 in capacities including mining engineer, mine superintendent, mine manager, processing superintendent, processing manager, and senior management positions for engineering, and mining companies. My relevant experience for the purpose of this PEA is as the mineral processing engineer with 35 or more years of experience.
4. I have taken classes in mining, mine economics, mineralogy, and mineral processing.
5. I have worked at producing operations utilizing heap leaching and milling for processing, designed precious metals recovery plants for an international engineering company, completed new mineral processing plant construction and commissioning. I have worked at locations in North America, Central America, South America, Africa, Australian, and former Russia.
6. I have been on multiple teams developing new mines from initial design through to construction and operation.
7. I have been involved in numerous studies including scoping studies, prefeasibility studies, and feasibility studies.
8. I have read the definition of “Qualified Person” set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional organization (as defined in National Instrument 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of National Instrument 43-101.
9. I most recently visited the Bonnie Claire Property in October 2020 for one day and have reviewed previous metallurgical data and lab reports, and prior technical reports on the subject Property.
10. I am responsible for Sections 2, 4, 23, and 27 of the PEA Technical Report.
11. I am independent of Iconic Minerals Ltd. and Nevada Lithium Resources Inc. as described in section 1.5 by National Instrument 43-101.
12. I have not previously worked on the Bonnie Claire Lithium Project.
13. I have read National Instrument 43-101 and Form 43-101F1. The Technical Report has been prepared in compliance with the National Instrument 43-101 and Form 43-101F1.
14. 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.

Richard D. Moritz
“Richard D. Moritz”
Principal Mining and Mineral Processing Engineer
Global Resource Engineering, Ltd.
Denver, Colorado
Date of Signing: September 23, 2021

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 "Preliminary Economic Assessment NI 43-101 Technical Report, Bonnie Claire Lithium Project, Nye County, Nevada, USA" with an effective date of July 6, and an issue date of September 23, 2021 (the "PEA"), 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 this Mineral Resource Estimate 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 SX/EW 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 and certify that by reason of my education, affiliation with a professional organization (as defined in National Instrument 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101.
11. I have not visited the Project.
12. I am responsible for Sections 1.8, 13, 17, 21.1.4, 21.1.5, and 21.2.2 of the PEA Technical Report.
13. I am independent of Iconic Minerals Ltd. and Nevada Lithium Resources Inc. as described in section 1.5 by National Instrument 43-101.
14. I was a QP 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.
15. I have read National Instrument 43-101 and Form 43-101F1. The PEA has been prepared in compliance with the National Instrument 43-101 and Form 43-101F1.

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: September 23, 2021

CERTIFICATE OF QUALIFIED PERSON

I, Terre A Lane, of 600 Grant St., Suite 975, Denver, Colorado, 80203, the co-author of the report entitled "Preliminary Economic Assessment NI 43-101 Technical Report, Bonnie Claire Lithium Project, Nye County, Nevada, USA" with an effective date of July 6, 2021 and an issue date of September 23, 2021 (the "PEA"), 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 Mineral Resource Estimate 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 and certify that by reason of my education, affiliation with a professional organization (as defined in National Instrument 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101.
8. I have not visited the Project.
9. I am responsible for Sections 1.1, 1.2, 1.9, 1.10, 3, 5, 6, 14, 15, 16, 18, 19, 20, all of 21 except 21.1.4, 21.1.5, and 21.2.2, 22, 24, 25, 26 of the PEA Technical Report.
10. I am independent of Iconic Minerals Ltd. and Nevada Lithium Resources Inc. as described in section 1.5 by National Instrument 43-101.
11. I was a QP 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.
12. I have read National Instrument 43-101 and Form 43-101F1. The PEA has been prepared in compliance with the National Instrument 43-101 and Form 43-101F1.
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: September 23, 2021

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