# TECHNICAL REPORT



LITHIUM INFERRED RESOURCE ESTIMATE CLAYTON VALLEY ESMERALDA COUNTY, NEVADA USA

Prepared for Noram Ventures, Inc. and Alba Minerals Ltd. Effective Date: July 24, 2017

By Bradley C. Peek, MSc., CPG

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## 1 Summary

This Technical Report is prepared for Noram Ventures, Inc. (Noram) and Alba Minerals Ltd (Alba). Both are publicly traded Canadian corporations with corporate offices in Vancouver, BC, Canada. Both companies are listed on the TSX Venture Exchange (Noram's symbol is TSX-V:NRM; Alba's symbol is TSX-V:AA-H). Alba has entered into an option agreement with Noram and its wholly-owned subsidiary, Green Energy Resources (Green Energy) to purchase a 25% interest, and an option to acquire a further 25% interest, in the properties (also herein called the "claims") described in this report.

Noram acquired a land position in the Clayton Valley of Nevada consisting of 888 placer claims. The land package covers 17,738 acres (7,178 hectares). The perimeter of Noram's claims are located within 1 mile (1.6 kilometers) of Albemarle Corporation's (Albemarle's) lithium brine operations. Lithium is produced at Albemarle's plant from deep wells that pump brines from the basin beneath the Clayton Valley playa. The plant is the only lithium producer in the United States and has been producing lithium at this location continuously since 1967.

Between Albemarle's operation and Noram's land position lies Pure Energy Minerals' Clayton Valley South project where Pure Energy has announced an NI 43-101 compliant inferred resource of 816,000 metric tonnes of lithium carbonate equivalent (LCE) above a cutoff of 20 gm/ml (Spanjurs, 2015)). Pure Energy has more recently announced a very positive Preliminary Economic Assessment (PEA) for their project. This resource occurs as basinal brines similar to those at Albemarle's project. The resource has not been verified by the author, and is not necessarily indicative of the mineralization that is the subject of this technical report.

The drilling of 46 shallow core holes into the lithium-rich sediments that were previously identified through surface sampling has provided a basis for the definition of an inferred lithium resource. The lithium assays from the drilling provided results that were quite consistent over a reasonably large area of close-spaced drill holes. The model generated for the inferred resource estimate indicated a zone of higher lithium grades trending northwest-southeast through the area of the resource. The deposit remains open in several directions and at depth and the drilling only tested a very small portion of the area covered by the extensive claim holdings. There is considerable upside potential for increasing the size of the deposit.

The model that was generated from the close-spaced drilling was not constrained by the lithology, since the lithology was very homogeneous and did not permit lithologic correlations between drill holes. Information about the mining, processing or other economic criteria does not allow for the designation of a clear cut-off grade for the deposit. These factors are to be determined by future testing and analysis. For these reasons, the model was generated using various ranges of lithium grades which will serve as guidelines as additional information becomes available to constrain the model. The model herein reports a resource of approximately 17 million metric tonnes at a grade of about 1060 ppm Li. If additional economic analyses indicate that the model requires further constraints, due to a wide variety of potentially significant economic factors, the tonnage and grade could fluctuate accordingly.

One of the keys to the project is to determine if lithium can be economically extracted from the sediments. To this end Noram commissioned Membrane Development Specialists LLC (MDS) to investigate the amenability of the subject property's sediments to lithium extraction using new membrane processes. Their findings, although preliminary in nature, have shown that the test materials were amenable to an acid leach, ultrafiltration, nanofiltration and reverse osmosis process to separate the lithium from the test material and remove a large portion of the magnesium and calcium with no rejection of lithium. MDS was able to supply some initial estimates of the costs to process the sample material to recover a metric tonne of lithium carbonate. The MDS estimate for operating costs was US\$2,000  $\pm$ 25% per tonne of lithium carbonate. This estimate only includes the operating costs for the recovery process and does not include mining costs and other incidentals. It is the opinion of the author that, using the approximate calculation of the cost to produce a tonne of lithium carbonate using the MDS process and considering the projected low cost of mining the clays, the property has a reasonable prospect of producing lithium carbonate at some point in the future and could become a low-cost producer.

This report recommends a second phase of shallow core drilling, requiring a budget estimated to be US \$90,000, and a pilot-scale test by MDS to demonstrate the extractability of lithium from the clays, the latter with a budget estimated at US \$480,000.

## 2 Introduction

This Technical Report is prepared for Noram Ventures, Inc. (Noram) and Alba Minerals Ltd (Alba). Both are publicly traded Canadian corporations with corporate offices in Vancouver, BC, Canada. Both companies are listed on the TSX Venture Exchange (Noram's symbol is TSX-V:NRM; Alba's symbol is TSX-V:AA-H). Alba has entered into an agreement with Noram and Green Energy to acquire interests in the properties described in this report. The acquisition terms are described in Section 4 below.

The property has been the subject of two previous Technical Reports, one for Noram dated October 24, 2016 and one for Alba dated January 13, 2017.

The majority of information contained in this report was generated by the author during and in conjunction with trips to the properties. Other information was gleaned from various sources and, when possible, verified by the author. These other sources being:

- Published literature
- Noramventures.com website
- Albamineralsltd.com website
- Harrison Land Services concerning the claim staking and ownership (Section 4)
- U. S. Bureau of Land Management LR2000 website for verification of claim status

Sources are also referenced in the text of this document, where appropriate.

The author has made five trips to the properties that are the subject of this report. The property visits were on the following dates:

- May 5 7, 2016 (Surface Phase 1)
- July 21 25, 2016 (Surface Phase 2)
- August 3 6, 2016 (Surface Phase 3)
- December 12 22, 2016 (Drilling)
- January 8 27, 2017 (Drilling)

During the visits the author supervised core drilling, collected samples for assay, noted some aspects of the geology, took photographs and, on a rare occasion, assisted with the claim staking. These activities were conducted in conjunction with Harrison Land Services, who was under contract with Noram and Noram's wholly owned subsidiary, Green Energy Resources, to stake claims, to collect samples and geologic information and to test a portion of the property by core drilling.

ATV	All-Terrain Vehicle	
BLM	U. S. Bureau of Land Management	
Ca	Ca Chemical symbol for calcium	
Li	Chemical symbol for lithium	
Mg	Chemical symbol for magnesium	
MDS	Membrane Development Specialists LLC	
NSR	Net smelter return royalty	
NV	Nevada	
PPM	Parts per million	
RQD	Rock quality designation	

## Abbreviations and Acronyms Used in Report

## 3 Reliance on Other Experts

Gavin Harrison of Harrison Land Services, who is not a Qualified Person, supplied most of the information regarding the staking and locations of the placer mining claims. Mr. Harrison has more than 10 years of experience staking and recording claims on BLM land in several states in the western U. S. The author verified the presence and location of many of the claim stakes and location documents on the ground and for some of the claims, witnessed the recording of claims at the Esmeralda County Courthouse in Goldfield, Nevada. Harrison Land Services was also responsible for production of the claim location map used in this report.

Membrane Development Specialists (MDS) provided three confidential reports dealing with the lithium extraction process testing and estimates of related processing costs (Section 13).

AuTec Innovative Extractive Solutions Ltd. provided a review of the MDS process with comments and explanations of the MDS findings.

Star Point Enterprises, Inc. was responsible for a scoping study of the water rights situation in the Clayton Valley, Nevada (Section 24).

All other sections of the report are the sole responsibility of the author.

## 4 Property Description and Location

The properties are located in Esmeralda County, Nevada approximately halfway between Las Vegas and Reno (Figure 1). The property position consists of a total of 888 placer claims (7,193 hectares) staked on U. S. Government land administered by the U. S. Bureau of Land Management (BLM). Each claim covers an area of 20 acres (8.1 hectares). The claims are in two non-contiguous groups. The northern group has been named the Li Group and consists of 188 placer claims staked in portions of Townships T1S, R39E and T1S, R40E, Mt. Diablo Principal Meridian. The southeasterly group consists of the Zeus, Zeus XT, Hades and Spartan claims, which are contiguous with each other. This southeastern group is made up of 700 placer claims and is located in portions of townships T2S, R40E; T2S, R40 1/2E and T3S, R40E, Mt. Diablo Principal Meridian (Figure 2). All claim corners and location monuments were located using handheld Gamin GPS units (Gavin Harrison, personal communication, and in part, witnessed by the author).

The initial claims, the Li group, were staked by Harrison Land Services acting as a contractor for Stadnyk and Partners USA Corp. and were subsequently acquired by Noram through purchase (Noramventures.com news releases dated April 25 and April 27, 2016). Stadnyk and Partners retained a 2.5% NSR royalty from this transaction. Later claim acquisitions were accomplished through claim staking by wholly owned subsidiary Green Energy Resources using Harrison Land Services as the claim staking contractor (Gavin Harrison, personal communication) (Noramventures.com news releases dated May 26, June 7 and June 29, 2016). The 50 Spartan claims that were previously held in trust by Plateau Ventures LLC were transferred to Green Energy Resources and the Quit Claim Deed was recorded with Esmeralda County in January 2017 (Gavin Harrison, personal communication). All 888 claims are owned 100% by Noram,

beneficially through Green Energy. Table 1 is a listing of all of the claim names and BLM NMC numbers for the claims that have been assigned numbers.

All 888 claims are located on unencumbered public land managed by the federal Bureau of Land Management (BLM). Annual holding costs for the claims are \$155 per claim per year to the BLM, due August 31<sup>st</sup>. There is also a \$4 per claim annual document fee to be paid to Esmeralda County each year, due November 1<sup>st</sup>. There is no set expiration of the claims as long as these payments are made annually.

There are no known significant factors or risks that may affect access, title or the right or ability to perform work on the Noram claim areas.

Claim No.	Claim No.	BLM No.	BLM No.	
From	n To From		То	
LI-001	LI-188	NMC1125249	NMC1125436	
Zeus-001	Zeus-150	NMC1126587	NMC1126736	
Zeus XT-001	Zeus XT-150	NMC1134326	NMC1134473	
Spartan-001	Spartan-050	NMC1125697	NMC1125746	
Hades-001	Hadies-75	NMC1134151	NMC1134225	
Hades-076	Hades-101	NMC1128495	NMC1128520	
Hades-102	Hades-145	NMC1134226	NMC1134266	
Hades-146	Hades-172	NMC1128521	NMC1128547	
Hades-174	Hades-174	NMC1128548	NMC1128548	
Hades-175	Hades-223	NMC1134268	NMC1134317	
Hades-224	Hades-260	NMC1128549	NMC1128585	
Hades-261	Hades-267	NMC1134318	NMC1134324	
Hades-268	Hades-301	NMC1128586	NMC1128619	
Hades-303	Hades-303	NMC1134325	NMC1134325	
Hades-304	Hades-350	NMC1128620	NMC1128666	

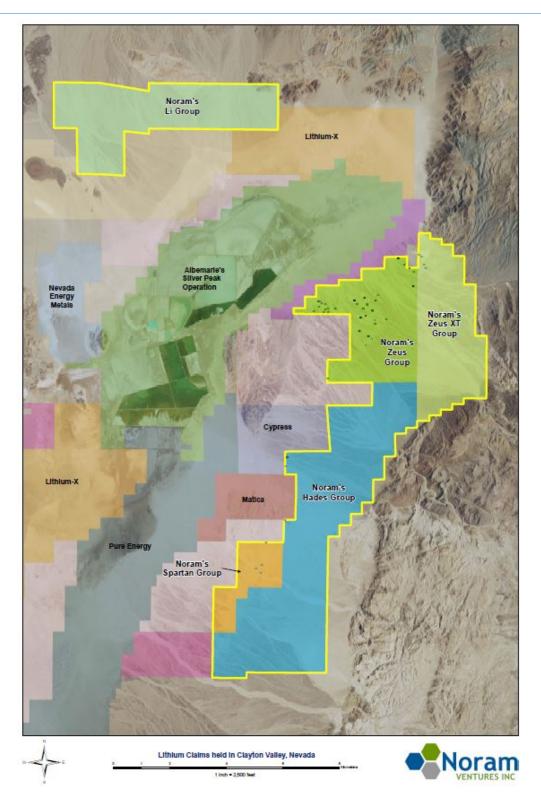
Table 1 - Claims with BLM NMC numbers.

In an agreement dated December 20, 2016 with Green Energy and Noram, Alba purchased a 25% interest in the claims for CDN\$255,000 and received an option to acquire up to an additional 25% interest in the claims, all subject to the 2.5% NSR. To acquire the full 50% Alba must pay Green Energy a further CDN\$845,000 by a series of installments over the period ending November 30, 2017 and issue 1,000,000 common voting shares in its capital to Noram on or before November 30, 2017 (Noramventures.com press release dated February 22, 2017).



*Figure 1 – Property location map.* 

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*Figure 2 – Overview of Noram Ventures' claims in the Clayton Valley and their spatial relationship to Albemarle's evaporation pond operations at Silver Peak (See also Fig 5).* 

To the author's knowledge the land under claim contains no buildings or other structures. There are no known mineralized zones on the surface of Noram's staked land, other than those defined by the drilling described in this report and the surface sampling described in previous Technical Reports. To the author's knowledge there are no environmental liabilities associated with the property position, nor any mine workings or development of any sort, excepting the shaft discussed in previous Noram and Alba Technical Reports.

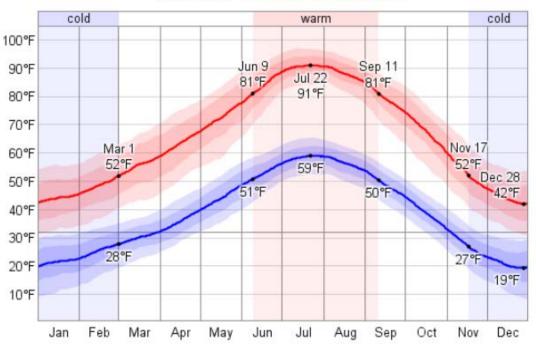
An Exploration Plan of Operations to drill 55 core holes was submitted on behalf of Green Energy Resources to the Tonopah, Nevada office of the Bureau of Land Management (BLM). The BLM in Nevada works in conjunction with the Nevada Bureau of Mines and Geology for the permitting processes on public lands. Since the surface disturbance for the drilling was to be held to less than 5 acres (2.02 hectares), only a Notice of Intent was required. The BLM responded with a Decision that a Bond of US\$ 7,092.00 would be required prior to commencement of operations. The Bond was submitted and accepted in early December 2016 and drilling began on December 13, 2016.

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Generally speaking, all the Noram claims fall between elevations of 4300 and 5200 feet above sea level. The topography is mostly gently sloping basin margins consisting of unconsolidated sediments. These sediments are cut by typical desert washes, which can be steep sided. The area can mostly be traversed by 4-wheel drive vehicles, but often with some difficulty. There are few roads crossing the property.

The vegetation of the region is sparse, mostly consisting of widely spaced low brush. No trees are present. The area lies in the eastern rain shadow of the Sierra Nevada and is high desert. Tonopah, the nearest town of any size has average annual precipitation of 5.14 inches (130.6 mm). In July, the hottest month, it has an average high temperature of 91.9°F (33.3°C) and an average low temperature of 57.5°F (14.2°C). In December, the coldest month, it has an average high temperature of 19.4°F (-7°C) (Source: Wikipedia.com). Figure 3 below is a graphic representation of the Tonopah average temperatures (Source: Weatherspark.com).

The mild climatic conditions allow for field work to continue throughout the year, however drilling was temporarily limited in winter by the problem of freezing water lines.



**Daily High and Low Temperature** 

Figure 3 – Daily high and low temperatures for Tonopah, Nevada.

The property can be accessed from Tonopah by driving south on U. S. Highway 95 for a distance of 7 miles (11 kilometers) and then southwest on the Silver Peak gravel road for a distance of 20 miles (32 kilometers). Both of these roads underwent upgrades during the summer of 2016. It is now possible to drive to the edge of the property entirely on paved roads by driving south 21 miles (34 km) on Highway 95 and then driving 11 miles west on the newly paved Silver Peak Road.

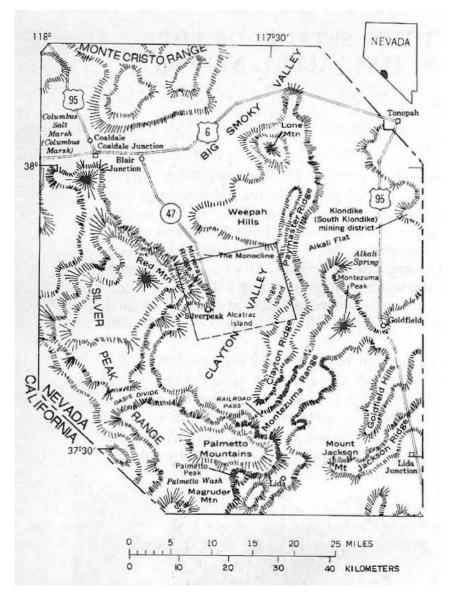
## 6 History

The Albemarle Corporation operations at Silver Peak, Nevada, within the Clayton Valley, is the site of the only lithium production in North America. Brines containing lithium are pumped from wells that penetrate the playa sediments. The brines are concentrated through a series of evaporation ponds and the resulting salts are processed to extract lithium at the plant at Silver Peak.

Following the lithium price rise in recent years, several exploration companies became interested in the Clayton Valley resulting in several thousand new claims being staked, surrounding the Albemarle land holdings. In early 2016 Harrison Land Services became aware of some unstaked land in close proximity to the Albemarle land holdings. Harrison Land Services was put in touch with Noram Ventures, who eventually funded the staking program for their initial claim position, the Spartan and Li claim groups. Market response to the acquisition and initial exploration successes have provided the impetus to stake the additional claims that Noram now holds. The claims that comprise the properties have been staked on U. S. Government land that was open to staking. There have been no previous owners, previous mineral resource or reserve estimates and no previous production from the properties.

## 7 Geologic Setting and Mineralization

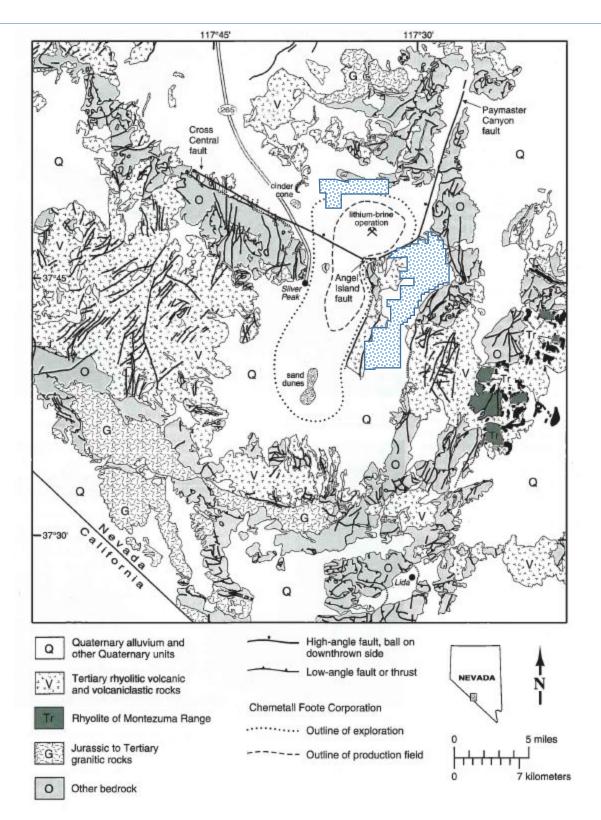
The Clayton Valley is a closed basin playa surrounded by mountains. Figure 4 (from Davis and Vine, 1979) shows the physiographic features in the Clayton Valley area.



*Figure 4 – Physiographic features surrounding Clayton Valley, Nevada.* 

Clayton Valley is flanked on the north by the Weepah Hills, on the east by Clayton and Paymaster Ridges and on the west and south by the Silver Peak Range and the Palmetto Mountains. The playa floor is approximately 40 square miles (100 square kilometers). Altitudes range from 4,265 feet (1300 meters) on the playa floor to 9,450 feet (2,880 meters) at Piper Peak (Davis and Vine, 1979).

Tectonically, the Clayton Valley occurs in the Basin and Range Province. Figure 5, from Zampirro (2005) is a generalized geologic map of the Clayton Valley area with the Noram land position superimposed. The province is dominated by horst and graben faulting and some right lateral motion since Tertiary time, which continues to the present (Foy, 2011). The basement is made up of Neoproterozoic to Ordovician carbonate and clastic rocks that were deposited along the ancient western passive margin of North America. The basin is bounded to the east by a steep normal fault system toward which basin strata thicken (Munk, 2011). Structural and stratigraphic controls have divided the basin into six economic, yet potentially interconnected, aquifer systems (Zampirro, 2005). The sediments deposited in the basin are primarily silt, sand and gravel interbedded with illite, smectite and kaolinite clays (Kunasz, 1970 and Zampirro, 2005). These sediments include a substantial component of volcaniclastics. Green and tan tuffaceous claystones and mudstones on the eastern margin and above the playa sediments, best described by Davis (1981), have thus far been the primary objective of Noram's exploration effort and are considered by Kunasz (1979) and Munk (2011) to be the primary source of the lithium for the basin brines.



*Figure 5 – Generalized geologic map from Zampirro (2005) with Noram Ventures' claim outlines (blue stippled areas) added.* 

Page 12 Peek Consulting, Inc. 438 Stage Coach Lane, New Castle, CO 81647 During the visits to the Noram properties the only areas where the geology was investigated has been on portions of the Zeus, Zeus XT, Hades and Spartan claim groups. No actual geologic mapping was undertaken during these visits, but the following geologic information was noted. The Li claim group was not investigated by the author.

## 7.1 Geology – Spartan Claims

The area of the Spartan claims is southeast of the Rockwood (now Albemarle) lithium mine. It is an area of small mesas capped by more resistant sandy limestones and limey sandstones. Tan and green clay units are present on the slopes of many of the washes that cut through the claim block. The Geology and Mineral Deposits of Esmeralda County (Albers & Stewart, 1972) has classified these rocks as Tertiary age Esmeralda Formation. Their description of the Esmeralda is "Bedded tuff and tuffaceous sedimentary rocks", which matches the lithologies observed in the field. A few thick (up to 10 feet (3 meters)) units, which appear to be a totally unconsolidated ash-fall tuff, were observed.

## 7.2 Geology – Zeus Claims

The Zeus claim block, which was the primary focus of the Phase 1 drilling, covers a large area that gently slopes toward the northwest. The drainages, or washes, cut through the Tertiary Esmeralda Formation. The Esmeralda in this area is made up of fine grained sedimentary and tuffaceous units which generally dip to the northwest, but while the strike and dip can be quite varied in some portions of the claims, most of the sediments dip at less than 5°. Some bedding undulations were noted, possibly caused by differential compaction. Faulting was also noted in some zones, mostly in the northwestern regions of the claims, but due to time constraints, the faults have not been traced.

The resulting topographic configuration consists of long rounded "ridges" of Esmeralda Formation separated by gravel filled washes. The ridges were generally 50' (15m) to 100' (30m) wide and had lengths of a few hundred to a few thousand feet and trended northwest. These geomorphic features have been described by some authors (Davis, 1981; Kunasz, 1974) as a "badlands" type topography. The depth of the Esmeralda Formation was not determined by the author, since the base of the formation was not seen in any of the washes. Davis (1981) measures this section at approximately 100 meters (328 feet) thick and Kunasz (1974) described it as being approximately 350 feet (107 m) thick. In some areas it was noted by the author to be in excess of 100 feet (30 m) thick where washes cut through the thicker exposures. The ridges are topped with weathered remnants of rock washed down from the surrounding mountainous areas; a weathering phenomenon typical of the desert terranes. The photo below is an example of such topography.



*Figure* 6 – *Example of the ridges and washes encountered on the Zeus claim group.* 

The Esmeralda Formation in the main area of interest on the Zeus claims was mostly soft and crumbly siltstones, mudstones and claystones, but contained several thin beds of harder, more consolidated sediments. Most beds were tuffaceous, as evidenced by fine crystal shards. Nearly all of the sediments are calcareous, indicating lakebed deposition. Several of the samples contained vugs or voids partially filled with a white soft evaporite (?) mineral, probably gypsum (Figure 8). A further indication of lakebed sedimentation is evidenced by algal mats (Figure 9) and digitate algal features (Figure 10).

## 7.3 Mineralization

The brine mineralization within the Clayton Valley has been documented by numerous studies spanning several decades. Brine targets have not yet been investigated on Noram's claims.

The targeted mineralization investigated by Noram occurs at surface in the form of sedimentary layers enhanced in lithium to the extent that the lithium appears to be extractable from them economically, although this has not yet been demonstrated through in-depth economic analysis. The relationship of these targeted lithium-bearing sedimentary layers with respect to brine-related Li-extraction evaporation ponds is illustrated schematically in Figure 7. Noram's claim locations with respect to an existing evaporation-pond Li recovery operation is shown in Figure 2 above. The targeted layers occur primarily as light green, interbedded tuffaceous mudstones and claystones. The beds are nearly always calcareous and most often salty. The mudstones are usually poorly consolidated, while the thin claystone beds can be well consolidated and often form nodules. Occasionally there are sandy beds, as well. The units occur as lakebed sediments that have been mapped (Albers and Stewart, 1972; Davis, 1981) as Miocene or Pliocene

Esmeralda Formation. Algal mats and even digitate algal features have been noted on occasion, but these are generally not well preserved. The beds are gently dipping, usually to the northwest, but with local undulations. These units have been shown by Kunasz (1970) to be the probable source of lithium for the basin brines. Exploration for this mineralization, which confirmed the existence of anomalously high levels of lithium within sediments on Noram's claims is documented in Section 9 below.

Lengths, widths, depths and continuity of the mineralization are not yet known, and are currently being determined by Noram. This report includes recommendations and a budget for continuing this work.

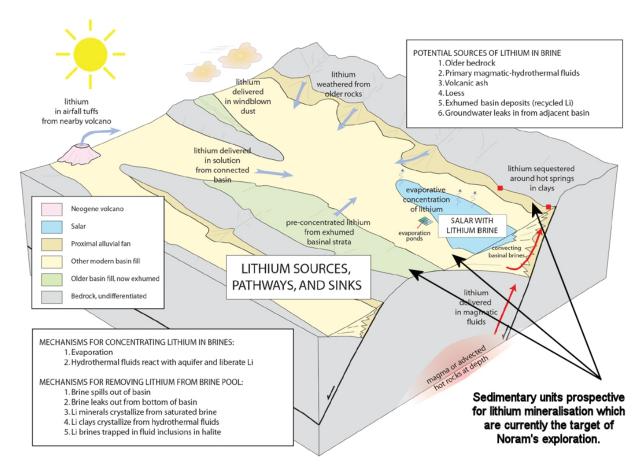


Figure 7 – Schematic deposit model for lithium brines (Bradley, 2013).



*Figure* 8 – *Example of gypsum (?) blebs in a tuffaceous, calcareous mudstone.* 



Figure 9 – Example of algal mats in the Esmeralda Formation on the Zeus claims.



Figure 10 – Digitate algal structures in the Esmeralda Formation on the Zeus claims.

## 8 Deposit Types

Noram's Clayton Valley claims offer two deposit types that are potential objects of exploration efforts. Type one is the most obvious, which involves drilling for brines in the deep basin similar to those being exploited by Albemarle at their operations at Silver Peak. The lithium brine potential of Noram's claims has not been investigated to date.

The second deposit type depends on the development of a new lithium extraction process currently being developed and tested at the bench scale by Membrane Development Specialists at their laboratory in Escondido, California (Section 13). The process being tested would extract lithium directly from lithium-rich mudstones and claystones, which occur at surface over large portions of the southeastern claim groups – particularly identified on the Zeus claims. The same or similar beds appear to occur beneath the surface over large areas of at least some of the other claim groups.

## 9 Exploration

Competitor companies are known to be active in the Clayton Valley. They are sampling and performing geophysical surveys and drilling, among other activities. As far as is known, competitors are mostly searching for the deeper brine targets. Cypress Development Corporation

is the only other company, besides Noram, known to be investigating lithium-rich sediments occurring at surface. In August 2016 Cypress optioned part of their Clayton Valley properties to Pure Energy Minerals (cypressdevelopmentcorp.com news releases). The portion they optioned had a higher potential for discovery of the deep basinal brines. The portion they kept is discussed further in Section 23.

At this point in time, the only exploration activity conducted by Noram on its claims has been:

- 1. Three phases of surface sampling with assaying of all surface samples
- 2. Collection of surface bulk samples for testing by Membrane Development Specialists and possibly by other labs
- 3. Completion of a shallow drilling program on its Zeus claim group (as described in Section 10 below)

The exploration work has been primarily conducted by the author as a contractor, working alongside and through Harrison Land Services. No detailed geologic mapping, per se, has been undertaken, although various geologic phenomena have been noted and photographed.

The primary objective of the exploration program has been to establish the presence of high lithium values over a large area of the Noram claims.

## 9.1 Surface Sampling Method and Approach

As the property was considered a raw prospect, the object of the surface sampling performed during 2016 was to establish the presence or absence of lithium and perhaps other minerals of value in the surface sediments. Sampling took place in three phases which started with grab samples, progressed to grab and chip samples to characterize mineralization over stratigraphic intervals and finally with 50 kilogram samples which were utilized in metallurgical tests to demonstrate the viability of liberating lithium from the clay while separating magnesium and calcium from the resulting pregnant solution.

In most cases, particularly for the chip samples, an attempt was made to clear away the surficial weathered material to obtain the freshest sample available. It should be noted that the surface weathering in this region was believed to be quite deep, however the drilling proved that quite the opposite was true. Sampling methods are more thoroughly described in the previous Technical Reports filed by Noram and Alba.

All surface sampling was conducted by or was closely supervised by the author. The sampling was completed in three phases. All phases used handheld GPS units to locate the sample sites.

- Phase 1 was a first pass effort to see if any of the sediments were lithium-rich. It consisted of the collection of 17 random grab samples from the Spartan and Zeus claim groups.
- Encouraged by the results from the Phase 1 samples, Phase 2 involved a more intense sampling effort with the main objective of determining how consistently the lithium mineralization occurs. Some 81 samples were collected during Phase 2, primarily from

the Zeus claim group, but also from the Zeus Extension, Spartan and Hades claim groups. Many of the samples collected in Phase 2 were vertical chip samples and many of these were stacked vertical intervals – one occurring above or below that last on the sides of the washes. Sample sites were marked on the ground, located using a handheld GPS and were photographed.

• Phase 3 of the surface sampling program consisted of the collection of two bulk samples of approximately 50 kilograms (110 pounds) each from two different sites. The samples were shipped to Membrane Development Specialists for lithium extraction testing. Also during Phase 3 some 4 additional vertical chip samples were collected on the Zeus claims. Geologic investigations on the Zeus claims appeared to show that marker beds were present within the lithium-rich sediments that would enable correlation of beds between the planned drill holes, however this did not prove to be true from the drill hole information. Drill holes were also staked during Phase 3 in order to allow the permitting process to begin for the projected drilling phase.

Details of the three phases of surface sampling and collection of two bulk samples were enumerated in two previous NI 43-101 reports (for Noram Ventures Inc., dated October 24, 2016 and for Alba Minerals Ltd., dated January 13, 2017). The reports contained sample locations, sample descriptions and analyses. To avoid unnecessary redundancy, these details will not be repeated herein.

On completion of the surface sampling phases, the author prepared a report for Noram according to the requirements of Canada's National Instrument 43-101, entitled "Lithium Exploration Project, Clayton Valley, Esmeralda County, Nevada, USA" and dated 24 October, 2016. The report was filed on SEDAR in November, 2016.

In the report the author recommended that Noram conduct a drilling program of approximately 55 holes of approximately 70 feet (21.3 meters) depth to begin quantifying the volume and grade of the lithium-bearing sediments on the Zeus and Hades claims. Permits were obtained for the recommended drilling program, and the drilling program, which is described in Section 10 below commenced in early December, 2016.

Following the agreement between Noram and Alba described in Section 4, a similar Technical Report to the one prepared for Noram was filed for Alba and Noram and filed with SEDAR in February 2017. It also contained details of the drilling program up to the effective date of the report, which was January 13, 2017.

## 10 Drilling

Drilling on Noram's claims commenced on the 13th of December with a plan to drill 55 sites. During the Phase 1 drilling program 46 holes were completed, rather than the planned 55 holes. The average hole depth was 14.3 meters. Forty-four of the holes (labeled CVZ-01 through CVZ-44) were drilled on the Zeus claims. One hole, drilled on the Hades claims and labeled CVH-01, was located near the old shaft described in the previous two Technical Reports. One hole was also drilled in the area of the Zeus Extension claims. It was originally thought that this hole was on the Zeus Extension claims and was therefore labeled CVX-01. It was later found that it was located just off of the Zeus Extension claims, on the Zeus claims. Table 5 lists the boreholes drilled, Figure 11 is an overview map of all of the Phase 1 drill holes and Figure 12 shows an enlarged view of the collar locations of each hole drilled on the Zeus claims.

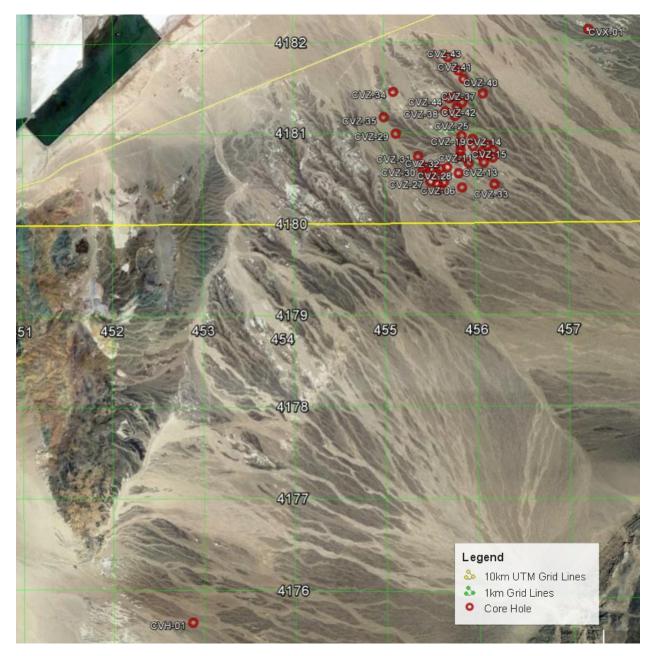


Figure 11 - Locations of the 46 sites drilled during the Phase 1 drilling campaign.

The grid displayed in Figure 11 is UTM NAD 83, Zone 11S with 1000 m spacing. Photo source – Google Earth Pro. Grid source = Nearby.org.uk.

## *Table 5 – Phase 1 core hole location data.*

Locations in UTM, NAD83, Zone 11S.

		NT 41.	Elevation	Total Depth
Hole ID	Easting	Northing	(m)	(m)
CVH-01	452876.5	4175657.0	1378.0	14.3
CVX-01	457245.5	4182107.8	1377.0	8.2
CVZ-01	455519.9	4180580.7	1328.6	15.1
CVZ-02	455569.5	4180543.4	1329.5	14.6
CVZ-03	455584.7	4180421.6	1334.0	14.5
CVZ-04	455651.8	4180445.2	1335.0	14.0
CVZ-05	455622.2	4180380.1	1336.7	13.4
CVZ-06	455850.7	4180385.6	1343.7	11.0
CVZ-07	455614.6	4180595.0	1332.5	14.6
CVZ-08	455690.3	4180608.0	1333.1	14.5
CVZ-09	456074.6	4180778.3	1343.0	15.2
CVZ-10	455973.0	4180837.4	1339.2	10.7
CVZ-11	456051.0	4180737.3	1344.3	12.2
CVZ-12	456143.2	4180742.4	1345.7	12.2
CVZ-13	456091.0	4180658.0	1347.0	12.8
CVZ-14	456131.2	4180845.8	1343.4	13.4
CVZ-15	456187.3	4180710.1	1348.9	12.2
CVZ-16	456196.1	4180790.9	1346.1	16.8
CVZ-17	455850.3	4180951.7	1335.4	15.8
CVZ-18	455835.2	4180723.9	1338.8	15.8
CVZ-19	455971.7	4180918.5	1339.5	14.6
CVZ-20	455837.8	4180851.7	1333.8	27.1
CVZ-21	455961.7	4180720.2	1340.7	15.2
CVZ-22	455926.0	4180650.8	1342.0	12.2
CVZ-23	455837.3	4180785.9	1337.5	13.7
CVZ-24	456031.3	4180594.5	1346.0	15.2
CVZ-25	455780.8	4181171.1	1330.6	15.2
CVZ-26	455479.0	4180533.1	1328.2	15.5
CVZ-27	455504.0	4180452.5	1330.9	6.7
CVZ-28	455814.5	4180544.1	1342.0	14.9
CVZ-29	455129.8	4180984.9	1315.9	12.2
CVZ-30	455421.0	4180593.0	1327.5	15.2

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CVZ-31	455373.0	4180734.2	1323.8	15.2
CVZ-32	455454.6	4180613.8	1326.5	15.2
CVZ-33	456205.5	4180418.8	1354.0	28.0
CVZ-34	455103.5	4181446.1	1305.7	14.0
CVZ-35	454998.5	4181166.9	1310.5	15.2
CVZ-36	455782.3	4181387.1	1323.8	13.4
CVZ-37	456086.2	4181416.3	1334.5	15.2
CVZ-38	455673.6	4181224.7	1321.5	13.4
CVZ-39	455802.1	4181266.9	1331.3	15.2
CVZ-40	455878.0	4181578.2	1325.2	14.6
CVZ-41	455821.1	4181672.6	1321.7	12.2
CVZ-42	455858.8	4181319.8	1328.7	15.2
CVZ-43	455706.6	4181821.3	1315.4	9.4
CVZ-44	455718.3	4181366.6	1328.8	13.7

Drill holes were located using a Trimble GPS Pathfinder ProXT unit.

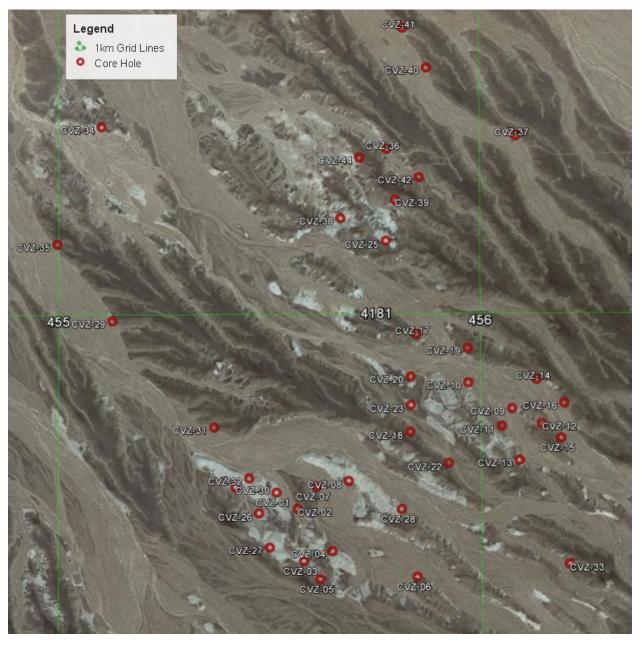


Figure 12 - Enlarged map of collar locations of the 44 core holes drilled on the Zeus claims.

The grid displayed in Figure 12 is UTM NAD 83, Zone 11S with 1000 m spacing. Photo source – Google Earth Pro. Grid source = Nearby.org.uk.

A total of 544 core samples and 44 QA/QC samples were dispatched to the ALS laboratory in Reno for analysis.

Drilling was carried out by Harrison Land Services using equipment manufactured by Shaw Tool. The drills are "backpack" type drills using 2-cycle engines for power. They drilled a 41-

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mm core to depths sometimes surpassing 90 feet (27.4 m). Figure 13 shows one of these drills in operation on the subject property.



Figure 13 - Shaw Tools backpack core drill in operation on the Zeus claims.

Page 24 Peek Consulting, Inc. 438 Stage Coach Lane, New Castle, CO 81647 Two of these drills were operating for most of the 10 days prior to the holiday break in December. After the break, drilling resumed on January 3, 2017 using 3 drills most of the time until drilling finished on January 24. As with most drilling operations, difficulties were encountered. Most of the rock is poorly lithified and often comes out of the core tube as a soft mud or clay, making recovery problematic at times. Despite this, core recovery averaged 80.1% for all 46 drill holes.

The terrain in the area of close-spaced holes consists of elongate, rounded hills cut by washes (Figure 6). Attempts to drill from the tops of these hills or down in the washes proved to be problematic for the small drills since the hills are topped by very hard, silicic, unconsolidated rubble that had washed down from the surrounding mountain ranges and the washes contained similar unconsolidated rocks. For this reason, all the holes in the close-spaced drilling area were drilled along the base of the hills, but up out of the washes proper.

#### 11 Sample Preparation, Analyses and Security

Core samples were collected from the drillsites by the geologists on the project, including the author of this report, and were transported to the staging area box trailer via ATV. At the trailer the core was logged for RQD, and lithology. The core was then photographed. The core was split by the onsite geologists. Half of the core was retained in the core boxes for future viewing or sampling. The other half of the core was placed in consecutively numbered sample bags, along with numbered sample tags, to be shipped to the same ALS laboratory in Reno as was utilized for surface samples. The site where logging, photography and sampling occurred is picture in Figure 14, along with geologist Michael Keller who assisted the author during the drilling project.

Normally, samples would be separated along lithologic breaks in the core. These samples were different in that, for most of the samples, no definite lithologic breaks could be discerned. Therefore, samples were almost entirely collected at 4-foot intervals.

There were indications from Noram's and Noram's competitors' testing that the lithium may be taken into solution relatively easily, even with normal deionized water. For this reason, sawing the core was not considered. The core was relatively soft, so it was found that, with some exceptions, the core could be split using a putty knife. Where hard layers or nodules were encountered, the core was split using a hammer and 3-inch wide chisel. It is estimated that the hard layers or nodules constituted about 2% of the core.

#### Noram Ventures Inc. / Alba Minerals Ltd.



Figure 14 – Geologist Michael Keller in box trailer used for core logging and sampling.

The core was only handled by the drillers and the geologists and was locked in the trailer when no one was onsite. Samples for assay were transported back to the author's hotel room where they were secure until shipment to the lab.

For shipment, the bagged samples were placed in 5-gallon plastic pails along with the sample submittal sheets. As an additional security measure, two globe-type metal seals were inserted through the side and top of each pail and sealed. Duct tape was then used to cover the globe seals to prevent accidental damage to the seals during shipment. Figure 15 shows photographs of the sealed shipping containers. A message was taped to the top of each pail indicating that, if the seals were compromised, the lab personnel were to contact the author by phone or email. The pails were then shipped via United States Postal Service to the lab in Reno, NV. There were no indications from the lab that the seals had been compromised.



Figure 15 - Sealed shipping containers, before and after applying duct tape.

All samples were sent to ISO-17025 accredited ALS Laboratories in Reno, Nevada for analysis. ALS is a public company listed on the Australian stock exchange, and is entirely independent of Noram and Alba. All samples were prepared using ALS' PREP-31 sample preparation process, which is presented in the ALS Fee Schedule as:

"Crush to 70% less than 2mm, riffle split off 250g, pulverize split to better than 85% passing 75 microns."

Each sample was then analyzed using ALS' ME-MS61 analytical method which uses a Four Acid Digestion and MS-ICP technologies. All samples were analyzed for 48 elements. Other than the standard quality control procedures implemented by ALS as part of their ISO-17025 accreditation protocols, no additional quality control procedures were carried out by the operator. Samples were kept in the care of the author at all times until mailed via the United States Postal Service to the ALS lab in Reno.

Four types of QA/QC samples were used:

Sample Type	Number of Samples
MEG-Li.10.13	12
MEG-Li.10.14	6
MEG-Blank.14.03	15
Duplicate samples	11

Table 2 - QA/QC samples used for the Phase 1 drilling.

The MEG samples were purchased from Minerals Exploration & Environmental Geochemistry of Reno, Nevada. Figures 16 and 17 show the distributions of the assay results for the MEG lithium standards. All values fell within the high and low range values determined by MEG from MEG's 117 test samples for each of MEG-Li.10.13 and MEG-Li.10.14. The MEG standards were processed by ALS Laboratories in Vancouver, BC using aqua regia digestion.

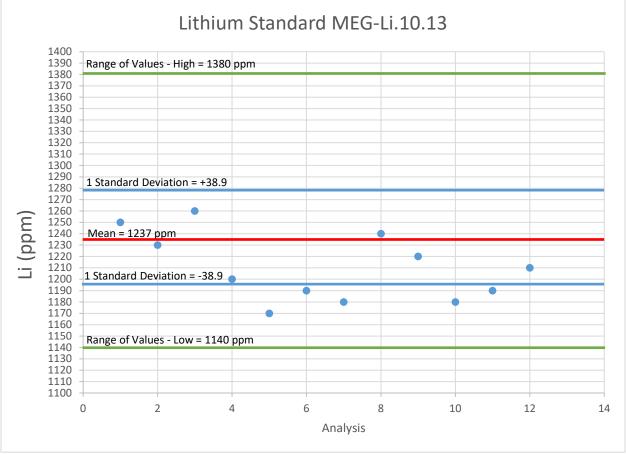


Figure 16 - Range of values for MEG-Li.10.13.

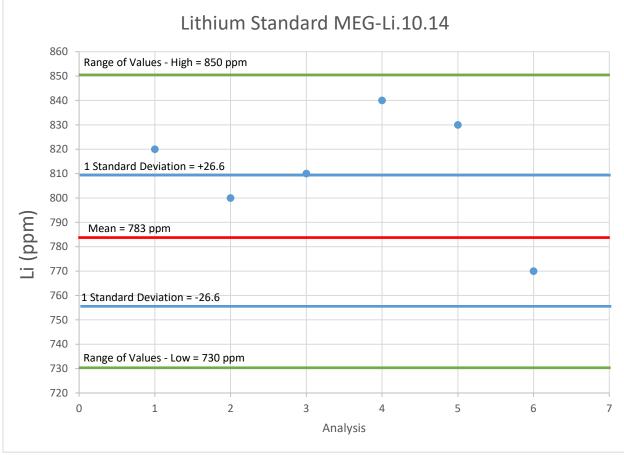
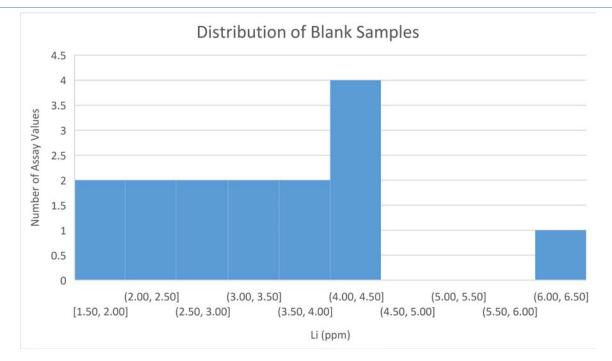


Figure 17 - Range of values for MEG-Li.10.14.

Fifteen MEG Blank Standard 14.03 samples were used as QA/QC samples during the drilling program. All Blank sample results were judged to be within an acceptable range. The distribution of lithium values from the blank sample results is shown in Figure 18.



#### Figure 18 - Distribution of Blank Standard results.

Duplicate samples were obtained by collecting ½ of the ½ core remaining after splitting the sample for assay. Most duplicate sample results were very close to the original sample results. The largest variation was 9.9% between one sample pair. The next largest sample pair variation was 3.5%. These results were judged to be acceptable. Figure 19 is a graph showing the relationship between sample pairs.

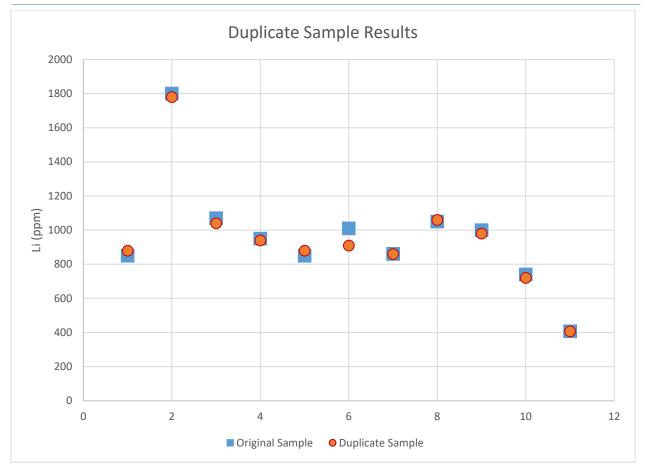


Figure 19 - Comparison of duplicate sample pairs.

# 12 Data Verification

In regard to the drilling program, the author has been able to confirm the accuracy of locations of drill holes by checking a number of them with his own handheld GPS unit. During his visits to the property during the drilling program, the author confirmed that sampling was being conducted according to the protocols described in Section 11 above, and therefore data collected on drill samples to date is accurate.

The author is of the opinion that there have been no limitations on his verifying any of the data presented in this report, except for his not having verified the resources reported on a neighboring property by Pure Energy Minerals (Spanjurs, 2015).

The author is of the opinion that all data presented in this report is adequate for the purposes of this report.

# 13 Mineral Processing and Metallurgical Testing

Noram commissioned Membrane Development Technologies (MDS) to investigate the amenability of the subject property's sediments to lithium extraction using new membrane processes.

MDS was provided with three bulk samples for testing. Two of the samples were collected from the same surface sample site on the Zeus claims. The other sample was taken five kilometers to the southwest in order to provide preliminary assurance that spatial variation in mineralogy across Noram's claims, which may affect Li recoverability, could be taken into account. The three samples had mean Li grades of 917ppm, 933ppm and 940ppm Li. The first two samples (917ppm and 933 ppm) were estimated from three samples collected at each sampled site. The last sample was thoroughly homogenized in the laboratory at SGS Labs' Denver facility and is the average of six splits taken from the homogenized sample. These samples are considered to adequately represent the target mineralization considering the early stage of exploration of the property.

Two confidential internal reports by Lein (2016 and 2017), although preliminary in nature, have shown that the test samples were amenable to an acid leach, ultrafiltration, nanofiltration and reverse osmosis to separate the lithium from the test material and remove a large portion of the magnesium and calcium with no rejection of lithium. These bench-scale tests focused on the viability of liberating lithium from the clays while removing magnesium and calcium (the only potentially deleterious elements evaluated to date) from the leachate. The tests on the third sample (940ppm Li) have indicated that it is possible to recover approximately 90% of the lithium from the sample. The tests also indicate that a major portion of the acid and water used in the process will be recyclable, which has been shown to be an important factor in the economic viability of the process and the project as a whole. The results are encouraging, but are preliminary and a significant amount of additional testing is required before a final process flow sheet can be determined and the economic viability of the process can be firmly established.

Nonetheless, MDS was able to supply some initial estimates of the costs to process the sample material to recover a metric tonne of lithium carbonate. The MDS estimate for operating costs was US\$2,000  $\pm$ 25% per tonne of lithium carbonate. This estimate only includes the operating costs for the recovery process and does not include mining costs and other incidentals.

It is the opinion of the author that, using the approximate calculation of the cost to produce a tonne of lithium carbonate using the MDS process and considering the projected low cost of mining the clays, the property has a reasonable prospect of producing lithium carbonate at some point in the future and could become a low-cost producer. However, considerably more testing will be required to verify its economic viability. Testing is ongoing and is expected to result in a more definitive statement about the test results in the near future.

As a further important point of interest, the process being developed by MDS, once operating, requires the addition of a relatively small amount of make-up water (See discussion in Section 24).

## 13.1 Li vs. Ca Correlation

Since it appears that the sulfuric acid consumption will, by far, be the single highest cost factor to the lithium extraction process, it is important to examine acid consumption data. The presence of carbonate minerals in the host material is the major influence on acid consumption. None of the samples tested from the drilling were tested for carbonate ( $CO_3$ ), however one can derive a very near match for the abundance of carbonate by studying the calcium and magnesium data, since nearly all of the carbonate is tied up in the minerals calcite ( $CaCO_3$ ) and dolomite ( $CaMg(CO_3)_2$ ).

By modelling calcium as was done for lithium (See Section 14), it was noted that very similar patterns of distribution were evident between the two models. To follow this line of thinking, a correlation coefficient between Ca and Li was generated and found to be +0.35. Additionally, Ca and Mg were added together and compared to Li. That correlation coefficient yielded a figure of +0.54 and the weighted average of the Ca + Mg in the close-spaced holes (See Section 14) was 6.98%. From this we can conclude that, in the playa lake bed where these sediments were deposited, conditions that were favorable for the deposition of carbonates were also favorable for the deposition of lithium. Figure 20 is a graph of the lithium values versus Ca + Mg values from all of the 344 assays from the close-spaced drill holes used in the resource estimate. The data indicate that, in general, where there are areas of higher carbonate, the increased acid costs to process these materials will be offset by higher lithium grades.

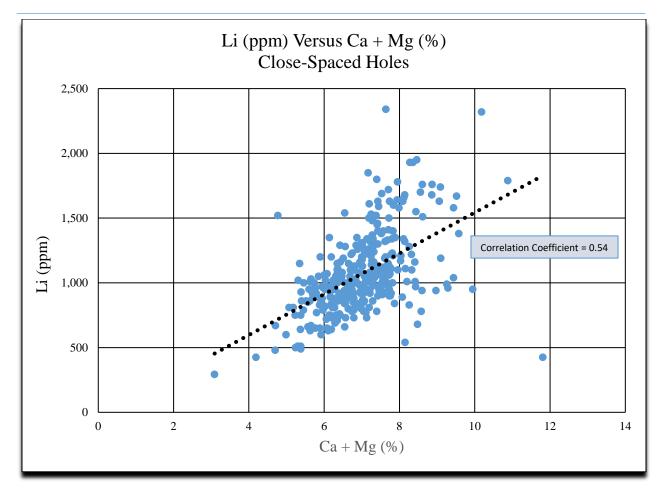


Figure 20 - Graph of Li (ppm) vs. Ca + Mg(%)

# 14 Mineral Resource Estimates

### 14.1 General

This inferred resource estimate is considered to be an early stage deposit definition effort. While the factors listed above will be important to the possible viability of the deposit, the deposit has not undergone the much more rigorous testing that must be performed before a mining decision can be made. It should also be noted that, as far as is known by the author, there are no other operations in the world that are currently producing lithium directly from sediments. Therefore, there are no known models which can be used as a comparison.

The deposit is held by placer mining claims staked on U. S. Government lands administered by the Bureau of Land Management. Therefore, the permitting process for any mining operation is well established and has been tested on many past BLM projects. There are no known unusual legal, environmental, socio-economic, title, taxation or permitting problems associated with the subject claims that would adversely affect the development of the property, other than the possible necessity to develop water rights for the extraction of the lithium (See discussion in Section 24).

The inferred mineral resource estimate, herein, is defined by a relatively shallow drilling depth, averaging 14.4 meters and a relatively large areal extent of 455,800 square meters, determined by an area of close-spaced drill holes. Drill holes outside the area of close-spaced drilling were determined to be too far afield to be of use for the model. The resulting model derived from these parameters is a thin, pancake-like deposit. The close-spaced drill holes have been defined as: CVZ-01 thru CVZ-24, CVZ-26 thru CVZ-28 and CVZ-30 and CVZ-32, making a total of 29 core holes used in the model.

Parameter	Total Phase 1 Drill Program	Close-Spaced Holes		
Holes Included	All Holes	CVZ-01 thru CVZ-24 and CVZ-26 thru CVZ-28 and CVZ-30 and CVZ-32		
No. of Holes	46	29		
Meters Drilled	652	415		
Average Hole Depth (m)	14.3	14.4		
No. of Samples	544	345		
Weighted Average (PPM Li)	907.8	1059		
Median (PPM Li)	910	1010		

Table 3 - Comparison summary of Close-Spaced Holes to Total Drilling Program

The data for the resource estimate was generated using the Rockworks 17 program, sold by Rockware, Inc.

#### 14.2 Economic Factors

No economic limit or cut-off grade has been established for the type of lithium deposit being discussed, since the type of deposit and the anticipated extraction process are, as far as is known, unique to the industry. Preliminary testing reports which discuss the possible extraction using an acid leach, ultrafiltration and nanofiltration (See Section 13) have indicated that a lower limit for the process feed could be as low as 200 ppm Li to produce a lithium carbonate product. However, this number is very preliminary and, as far as is known by the author, is not based on solid economic factors, so cannot be used with any certainty as a basis for an economic limit.

For the development of this inferred mineral resource estimate, consideration has been given to economic factors such as mining and processing costs to determine that the deposit has reasonable prospects for economic extraction. The primary factors for the economic extraction determination are:

- The deposit occurs at or very near the surface, greatly reducing mining costs.
- The deposit is almost entirely unconsolidated or semi-consolidated, which will not require blasting, further lowering mining costs.
- Preliminary testing for the extraction of the lithium from the mined material (See Section 13) has indicated that the material will be relatively inexpensive to process and the extraction process will use relatively little water (See Section 24).
- The deposit occurs in a mining-friendly environment, on BLM land, with nearby producing properties.
- Electric power, developed transportation routes and a mining workforce are located proximally to the deposit.

A rough approximation of the mining cost is US\$0.50/tonne, which for the 522 tonnes of mined material needed to produce 1 tonne of lithium carbonate (assuming a grade of 400 ppm and a theoretical recovery of 90%), would be US\$ 261. With higher grade material, the mining cost for a tonne of lithium carbonate would be reduced. The estimated mining cost per tonne of US\$ 0.50 is not based on any real measurements or calculations, but is an approximation based on the author's mining experience, so is subject to change as additional knowledge of the deposit is gained. Table 5 shows estimates of the mining costs for various average lithium grades based on the US\$ 0.50/tonne figure.

Material Grade (ppm)	Li Metal Per Tonne Mined (kg)	Material Required for 1 Tonne Li <sub>2</sub> CO <sub>3</sub> (Tonnes)	With 90% Recovery (Tonnes)	Mining Cost at US\$0.50 Per Tonne	
200	0.2	940	1044	\$522	
400	0.4	470	522	\$261	
600	0.6	313	348	\$174	
800	0.8	235	261	\$131	

*Table 4 - Estimated tonnes required to produce one tonne of lithium carbonate.* 

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1000	1.0	188	209	\$104
1200	1.2	157	174	\$87
1400	1.4	134	149	\$75

While the numbers are very preliminary, these mining costs, accompanied by the processing costs suggested in Section 13, indicate that the costs to produce a tonne of lithium carbonate may well be below US\$ 2,500/tonne. With the current price for lithium carbonate in the range of US\$ 14,000 to US\$ 15,500 per tonne (Lithium Miner News for the Month of June 2017), it serves to show that there is a reasonable chance that the deposit could be economically exploited.

#### 14.3 Model Parameters

With the lack of a cut-off grade, consider the histogram of the lithium values in the close-spaced holes, generated by Rockworks 17, shown in Figure 21. The statistics for the histogram are listed in Table 6. From these statistics, it was determined that values less than -2 standard deviations (454 ppm Li) would not be used and values greater than +2 standard deviations (1676 ppm Li) would be reduced to 1676 ppm, which in effect, removed or dampened the effect of the moderately anomalous, strongly anomalous and extremely anomalous values from the population. This involved removing or reducing 20 values of the total population of 345 values for the close spaced holes. This was done to take a conservative approach to the model.

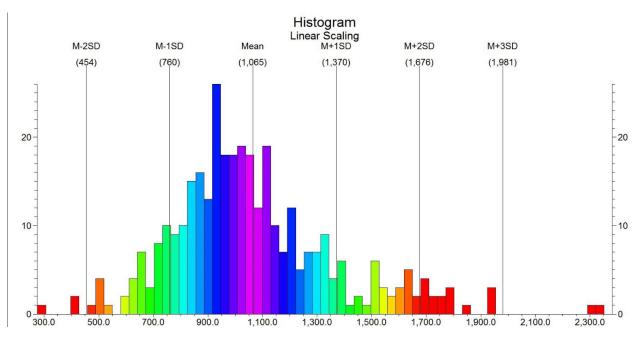


Figure 21 - Histogram of all Li values from close-spaced drill holes.

Statistical Summary					
Population	345				
Minimum Value	293.0				
Maximum Value	2,340.0				
Range	2,047.0				
Mean	1,065.02319				
Standard Deviation	305.41876				
Standard Error	16.44319				
Median	1,010.0				
Sum	367,433.0				
Sum of Squares	423,413,199.0				
Variance	93,280.62155				
Skewness	0.92889				
Kurtosis	1.50207				
Coefficient of Variation	0.28677				
Mean - 1 Standard Deviations	759.60442				
Mean - 2 Standard Deviations	454.18566				
Mean - 3 Standard Deviations	148.7669				
Mean - 4 Standard Deviations	-156.65187				
Mean + 1 Standard Deviations	1,370.44195				
Mean + 2 Standard Deviations	1,675.86072				
Mean + 3 Standard Deviations	1,981.27948				
Mean + 4 Standard Deviations	2,286.69825				
Background Population	255				
Slightly Anomalous Population	70				
Moderately Anomalous Population	18				
Strongly Anomalous Population	0				
Extremely Anomalous Population	2				

Table 5 - Statistics for all Li values from close-spaced drill holes.

Since visibly definable stratigraphic horizons were not found in the core, the model was not constrained by stratigraphy. The vertical thickness of the model was only constrained by the depth of the drill holes. To constrain the model horizontally, a 12-sided polygon was constructed around the close-spaced drill holes at a distance of 100 meters from the outermost holes (Figure 22). It is possible that the model could have been extended farther horizontally, but after careful review of several cross sections and level plans, it appeared that extending the model father was not warranted.

The tops of the drill holes were located in the fringe area between the washes and the elongate ridges, as explained in Section 10. Therefore, the model only includes the volume of material below the level of the washes and does not take into account the ridges of material between the washes. The mass of the material above the washes is estimated to be approximately 2 to 3 million tons, but the data involving the grade of the material (surface sampling) was considered too widespread to be included in the resource model. The material in the ridges does, however, provide considerable upside tonnage potential which may at some future point be included in the resource.

Figures 23 through 25 are profiles through the inverse distance squared model showing the drill holes and their respective lithium values in PPM. The vertical exaggeration of the profiles in X5 for clarity. Careful examination of the profiles, as well as profiles created at right angles, were used to verify the accuracy of the model. Figure 26 shows the locations of the profiles with respect to the drill holes. The profiles demonstrate that, while there is some correlation between nearby holes, correlations do not extend far beyond the holes in a consistent fashion. The one exception to this is a zone of higher grade lithium which trends from southeast to northwest and is visible in the profiles and is shown in the fence diagram of the inverse distance model shown in Figure 27.

Controls on the mineralization are uncertain at this time, but the orientation of the SE - NW higher-grade zone may reflect an ancient shoreline of the playa lake bed. This orientation is also suggestive of the trend of block faulting in the region which also could have influenced lithium mineralization.

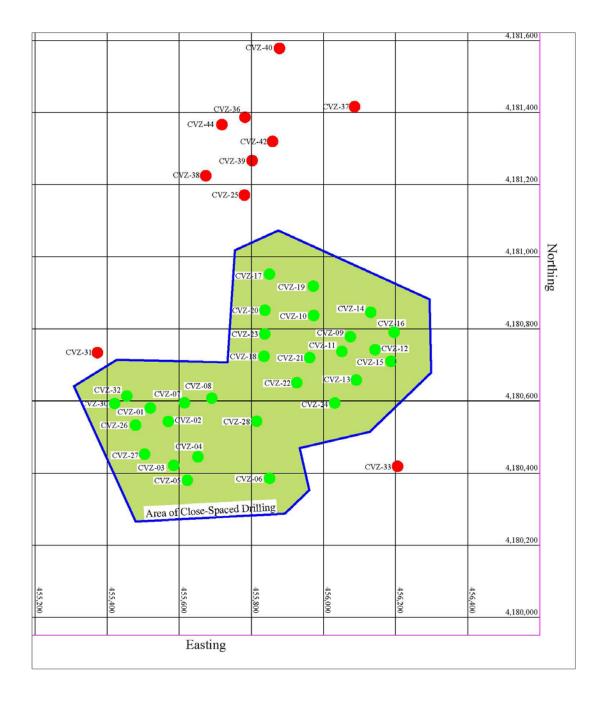
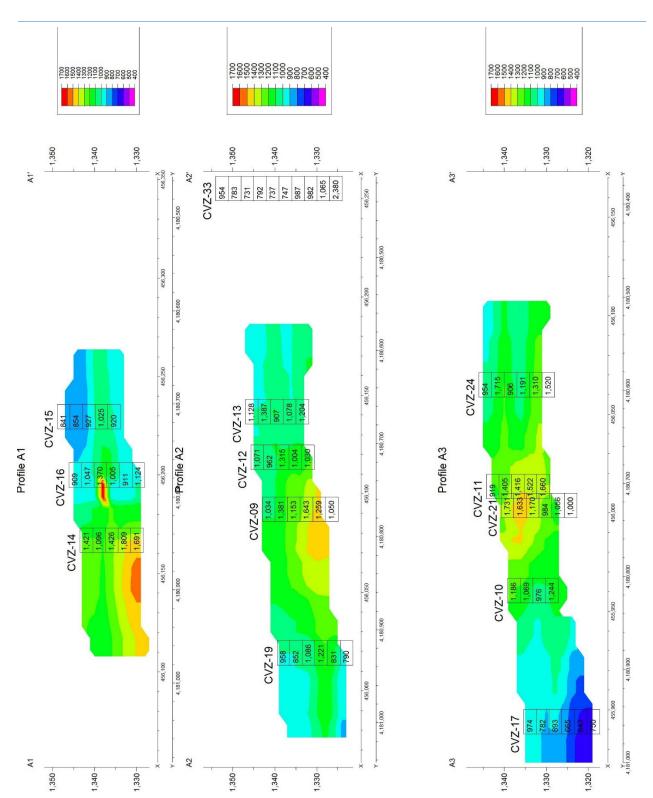


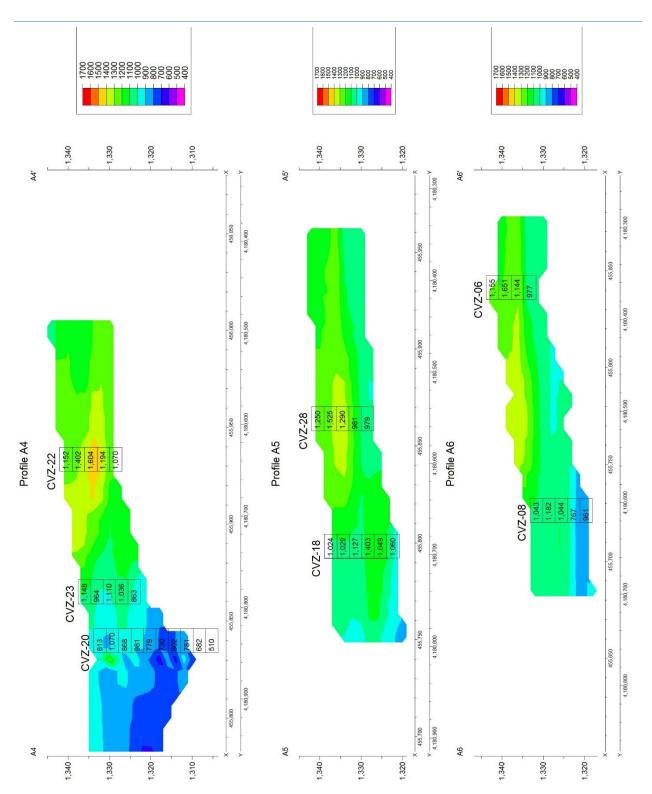
Figure 22 - Polygon used to constrain model horizontally.

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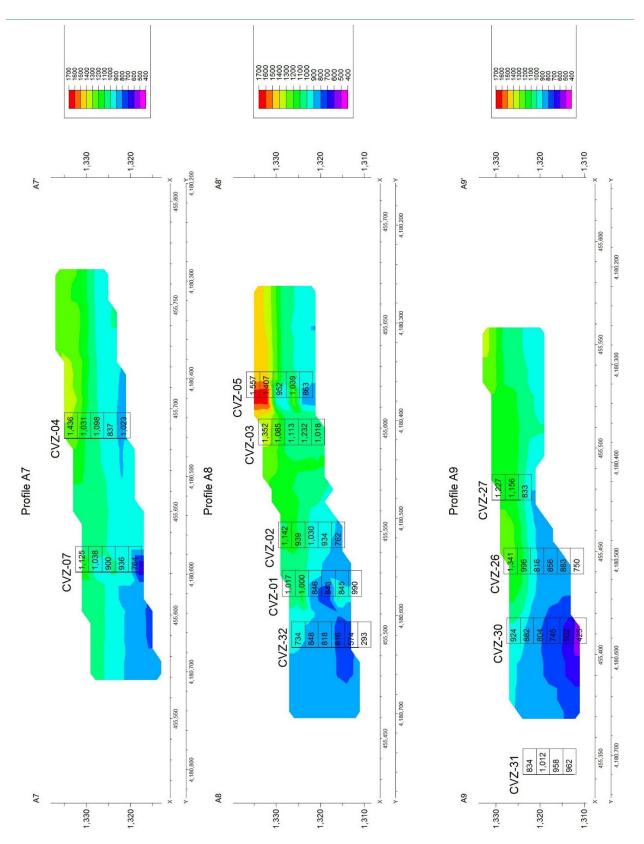


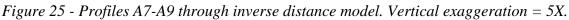
*Figure 23 - Profiles A1-A3 through inverse distance model. Vertical exaggeration = 5X.* 

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*Figure 24 - Profiles A4-A6 through inverse distance model. Vertical exaggeration = 5X.* 





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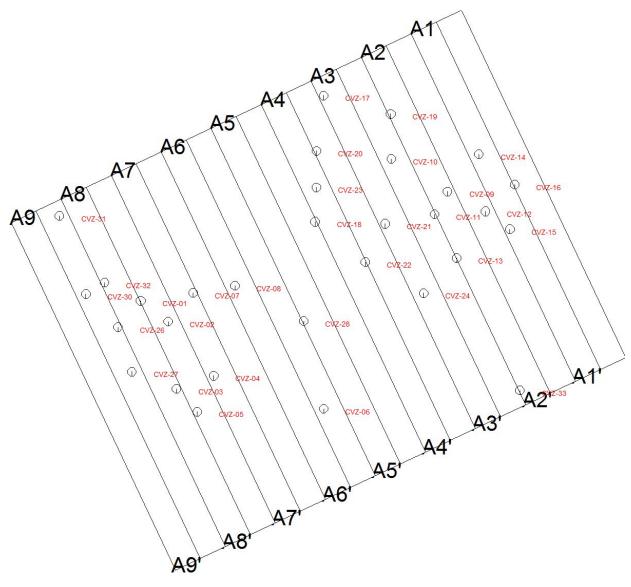


Figure 26 - Locations of Profiles A1-A9.

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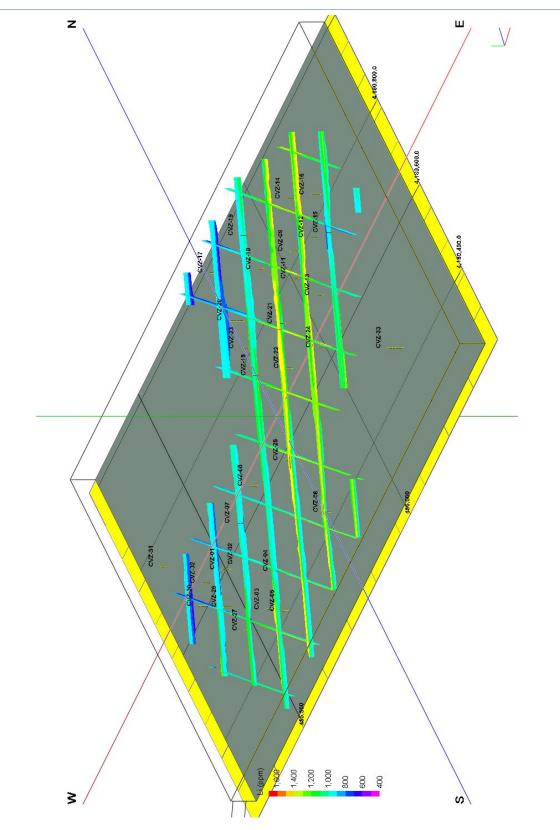


Figure 27 – Fence diagram through the inverse distance model.

Page 45 Peek Consulting, Inc. 438 Stage Coach Lane, New Castle, CO 81647 The inverse distance model was constructed using voxels with dimensions of 20m X 20m horizontally by 2m vertically, reflecting the relatively thin vertical component of the deposit. A mining bench height for such a deposit has not been developed at this point. Due to the relative simplicity of the deposit, not being complicated by structure or nugget effect, the model chosen was deemed to be adequate for the purposes of this resource estimate.

### 14.4 Density Determination

Density measurements for the deposit were generated by randomly selecting samples from drill holes inside the area of close-spaced drilling with no regard to depth or elevation. They were selected using a random number generator. Since there were no recognizable lithological breaks within the close-spaced drilling, a random sampling was deemed most appropriate.

It was believed that density measurements could not be performed in the usual way since, once the core had been sampled, the remaining mud/clay samples were nearly always represented by small fragments of the unconsolidated material. Therefore, the densities were determined using method OA-GRA08c by ALS Laboratories in Reno, Nevada, USA. The method was applied to pulps from the selected samples. The method is described by ALS thusly:

"This method uses an automated gas displacement pycnometer to determine density by measuring the pressure change of helium within a calibrated volume. The principle of operation is based on Boyle's Law. The gas pycnometer measures volume of solid particles using gas (Helium) displacement which will penetrate the finest pores. The pressure difference is measured when a known quantity of helium flows from a precisely known reference volume into a sample cell containing the sample material."

One drawback to this method of density measurement is that the samples were wet when the core was recovered from the drill holes and were dry when they underwent the density measurements. Therefore, the density figures used in the model may be on the low side and the actual tonnage of material in the ground may be higher than that reflected in the model calculations.

The ALS Lab method measures specific gravity and has a lower limit of 0.01 and an upper limit of 20. The density samples exhibited the following statistics:

Table 6- Density sample statistics.

Population	20
Minimum	2.57
Maximum	2.73
Average	2.66
Median	2.65

A plot of the specific gravity versus the lithium content of the 20 density samples, Figure 28, indicates there is no relationship between the two factors.

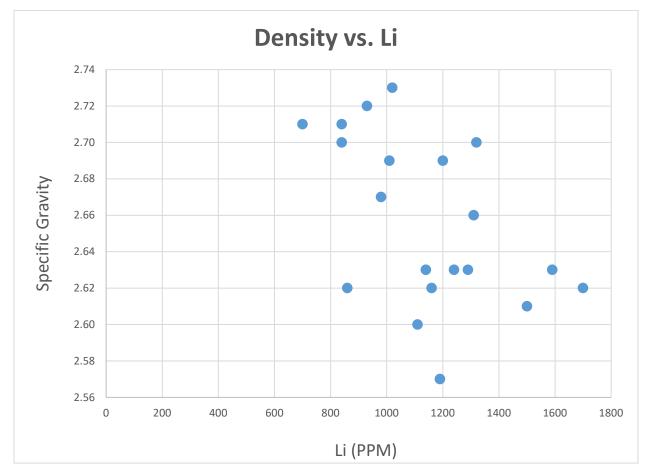


Figure 28 - Relationship between specific gravity and lithium values.

The mean density of 2.66 was used for the tonnage factor in the model calculations.

## 14.5 Model Results

Model calculations were primarily focused on the inverse distance squared method, but as a check, kriging scenarios using various parameters were performed, as well. It was found that the final kriged tonnages and grades did not vary substantially from the inverse distance squared values. Therefore, inverse distance squared was use for final calculations.

Table 8 is a compilation of the various 2-meter levels of the model segregated into the 200 ppm lithium ranges, showing the relationship between horizontal level and lithium concentration.

Table 9 lists the final tonnage and grade of the entire deposit. The result of approximately 17 million tonnes at a grade of 1060 ppm Li is considered to be a reasonable estimate for the deposit, having been checked using several computer generated and manual methods.

Max Elev	Min Elev	Item	400-600	600-800	800-1000	1000-1200	1200-1400	1400-1600	Total Vol	Total Mass
(m)	(m)		Li (ppm)	Li (ppm)	Li (ppm)	Li (ppm)	Li (ppm)	Li (ppm)	(m <sup>3)</sup>	(kg)
1348	1346	Volume (m <sup>3</sup> )	0	0	0	0	0	0	0	
		Mass (kg)	0	0	0	0	0	0		
		Average (ppm)								
1346	1344	Volume (m <sup>3</sup> )	0	0	0	0	0	0	0	
		Mass (kg)	0	0	0	0	0	0		(
		Average (ppm)								
1344	1342	Volume (m <sup>3</sup> )	0	0	0	0	0	0	0	
		Mass (kg)	0	0	0	0	0	0		(
	1010	Average (ppm)								
1342	1340	Volume (m <sup>3</sup> )	0	800	24800	0	0	0	25600	
		Mass (kg)	0	2128000	65968000	0	0	0		6809600
1240	1000	Average (ppm)	0	780	882	52000	0	0	100000	
1340	1338	Volume (m <sup>3</sup> )	0	800	76000	52000	0	0	128800	2 12 50000
		Mass (kg)	0	2128000	202160000	138320000	0	0		342608000
1000	1005	Average (ppm)		780	910	1051	40.000		220.400	
1338	1336	Volume (m <sup>3</sup> )	0	0	55200	124800	49600	800	230400	61206400
		Mass (kg)	0	0	146832000	331968000	131936000	2128000		612864000
1226	1004	Average (ppm)	0	0	926	1105	1244	1400	240000	
1336	1334	Volume (m <sup>3</sup> )	0	0	11200	205600	120800	2400	340000	00440000
		Mass (kg)	0	0	29792000	546896000	321328000	6384000		90440000
1224	1000	Average (ppm)	0		960	1116	1244	1435	125.000	
1334	1332	Volume (m <sup>3</sup> )	0	0	25600	214400	172800	12800	425600	1100000000
		Mass (kg)	0	0	68096000	570304000	459648000	34048000		113209600
1000	1000	Average (ppm)			974	1112	1269	1432	510200	
1332	1330	Volume (m <sup>3</sup> )	0	0	65600	184000	250400	19200	519200	
		Mass (kg)	0	0	174496000	489440000	666064000	51072000		138107200
1000	1000	Average (ppm)			974	1097	1287	1445	640000	
1330	1328	Volume (m <sup>3</sup> )	0	0	125600	243200	228800	43200	640800	
		Mass (kg)	0	0	334096000	646912000	608608000	114912000		1704528000
		Average (ppm)			959	1099	1296	1431		
1328	1326	Volume (m <sup>3</sup> )	0	0	128800	285600	216000	38400	668800	
		Mass (kg)	0	0	342608000	759696000	574560000	102144000		1779008000
100.6	1004	Average (ppm)			933	1101	1298	1443	650000	
1326	1324	Volume (m <sup>3</sup> )	0	800	100800	392800	121600	36000	652000	152 (22000
		Mass (kg)	0	2128000	268128000	1044848000	323456000	95760000		173432000
		Average (ppm)		640	898	1089	1261	1482		
1324	1322	Volume (m <sup>3</sup> )	0	0	120800	380800	48800	6400	556800	140100000
		Mass (kg)	0	0	321328000	1012928000	129808000	17024000		1481088000
1222	1220	Average (ppm)	0	1.000	931	1083	1268	1444	545600	
1322	1320	Volume (m <sup>3</sup> )	0	1600	198400	322400	23200	0	545600	145120600
		Mass (kg)	0	4256000	527744000	857584000	61712000	0		1451296000
1220	1010	Average (ppm)	0	660	935	1088	1224	0	400000	
1320	1318	Volume (m <sup>3</sup> )	0	47200	238400	200800	1600	0	488000	120000000
		Mass (kg)	0	125552000	634144000	534128000	4256000	0		1298080000
1010	101.6	Average (ppm)		747	924	1059	1240		120000	
1318	1316	Volume (m <sup>3</sup> )	800	52800	337600	28000	800	0	420000	1117200000
		Mass (kg)	2128000	140448000	898016000	74480000	2128000	0		1117200000
1016	1014	Average (ppm)	600	697	906	1043	1280	0	212000	
1316	1314	Volume (m <sup>3</sup> )	0	47200	239200	25600	0	0	312000	00000000
		Mass (kg)	0	125552000	636272000	68096000	0	0		82992000
		Average (ppm)		698	883	1047			10 - 100	
1314	1312	Volume (m <sup>3</sup> )	0	55200	141600	800	0	0	197600	525616000
		Mass (kg)	0	146832000	376656000	2128000	0	0		
10/2	1010	Average (ppm)	-	765	864	1023	-	-	107-007	
1312	1310	Volume (m <sup>3</sup> )	0	68000	68800	800	0	0	137600	366016000
		Mass (kg)	0	180880000	183008000	2128000	0	0		
10/12	1000	Average (ppm)	000	770	834	1010	-			
1310	1308	Volume (m <sup>3</sup> )	800	48800	44800	800	0	0	95200	
		Mass (kg)	2128000	129808000	119168000	2128000	0	0		253232000
		Average (ppm)	500	751	831	1050				
1308	1306	Average (ppm)   Volume (m <sup>3</sup> )   Mass (kg)	500 4000 10640000	751 21600 57456000	831 15200 40432000	0	0	0	40800	108528000

Li Range (ppm)	400-600	600-800	800-1000	1000-1200	1200-1400	1400-1600	All Ranges
Total Mass (Tonnes)	14,896	919,296	5,375,328	7,081,984	3,283,504	423,472	17,098,480
Weighted Avg. Li (ppm)	544	738	910	1091	1278	1448	1060

Table 8 - Mineral resource final numbers.

# 23 Adjacent Properties

The perimeter of Noram's claims are located within 1 mile (1.6 kilometers) of Albemarle's lithium brine operations. It is a matter of public record that lithium at Albemarle's plant is produced from deep wells that pump brines from the basin beneath the Clayton Valley playa (Kunasz, 1970; Zampirro, 2005 and Munk, 2011).

Between Albemarle's operation and Noram's land position lies Pure Energy Minerals' Clayton Valley South project where Pure Energy has announced in an NI 43-101 report an inferred resource of 816,000 metric tonnes of lithium carbonate equivalent (LCE) above a cutoff of 20 gm/ml (Spanjurs, 2015)). Pure Energy has subsequently (June 26, 2017) announced a Preliminary Economic Assessment (PEA) showing an expected 20-year project life with a Net Present Value of US\$264 million (after tax at 8% discount rate) and an estimated Internal Rate of Return of 21% (after tax). The Pure Energy resource occurs as basinal brines similar to those at Albemarle's project, has not been verified by the author, and is not necessarily indicative of the mineralization that is the subject of this technical report.

There is potential that wells, if drilled on Noram properties, could penetrate basinal brines similar to those used by Albemarle to produce lithium and similar to those announced by Pure Energy for their resource estimate and PEA. However, at present it is unknown whether the brines are present beneath Noram claims or whether lithium could be produced economically if the brines are present.

East of Pure Energy's claims and adjacent to the west of Noram's holdings, Cypress Development has recently completed a 9-hole core drilling program of the lithium-rich sediments. Cypress Development's news releases indicated that they had drill intercepts of greater than 200 feet (61 meters) averaging greater than 1000 ppm. The reported results are very similar in geology and lithium grade to those reported herein, however the mineralization discovered by Cypress is not necessarily indicative of mineralization that may be found beneath the property that is the subject of this report.

# 24 Other Relevant Data and Information

Because of the desert conditions in the Clayton Valley area, water is of major importance to any potential mining operation. In this regard, a scoping study (Hamilton, 2016) was commissioned with Star Point Enterprises, Inc. of Moab, Utah. Star Point's report has indicated that obtaining water rights for the proposed operation could be an involved and somewhat costly undertaking, since the Clayton Valley Basin is over-appropriated (current water rights are in excess of water volumes available for an average year). The report concludes:

"Project water is available in the area for exploration and development primarily through the purchase of water rights from other mining entities within the Clayton Valley groundwater basin. Once quantities for exploration and development are determined, quick research can reveal the likely path towards water delivery. Initial research has revealed that water right purchases in this basin will be in excess of \$900/acre-foot annually as a direct result of large mining operations presently holding the majority of the limited Clayton Valley Basin water resources."

Having said that, indications from the test work performed by MDS for the extraction of lithium from the sediments are that the process will be able to recycle a majority of the process water. Additional testing is required to determine the amount that can be recycled.

# 25 Interpretation and Conclusions

The drilling of 46 shallow core holes into the lithium-rich sediments that were previously identified through surface sampling has provided a basis for the definition of an inferred lithium resource. The lithium assays from the drilling provided results that were quite consistent over a reasonably large area of close-spaced drill holes. The model generated for the inferred resource estimate indicates a zone of higher lithium grades trending northwest-southeast through the area of the resource. The deposit remains open in several directions and at depth and the drilling only tested a very small portion of the area covered by the extensive claim holdings. There is considerable upside potential for increasing the size of the deposit.

The model that was generated from the close-spaced drilling was not constrained by the lithology, since the lithology was very homogeneous and did not permit correlations between drill holes. Information about the mining, processing or other economic criteria does not allow for the designation of a clear cut-off grade for the deposit. These factors are to be determined by future testing and analysis. For these reasons, the model was generated using various ranges of lithium grades which will serve as guidelines as additional information becomes available to constrain the model. The model herein reports a resource of approximately 17 million metric tonnes at a grade of about 1060 ppm Li. If additional economic analyses indicate that the model requires further constraints, due to a wide variety of potentially significant economic factors, the tonnage and grade could fluctuate accordingly.

The success of this sediment mining scenario depends on whether an efficient method of lithium extraction can be found. Should it be shown by the current and future drilling programs that the lithium grades discussed above (and present in the metallurgical samples which yielded promising results) are continuous over mineable distances, the greatest challenge, and risk, to the project's economic viability will be the development of an economic lithium extraction process. To the author's knowledge no other operations are currently extracting lithium from sediments, although various companies are actively conducting research in this regard. Noram has taken the initial step and has submitted samples of the sediments to MDS for metallurgical testing with positive, although preliminary, results. Testing is ongoing and is expected to result in a more definitive statement about the test results in the near future.

# **25** Recommendations

Noram Ventures and Alba Minerals have successfully completed the early phases of exploration for sediment hosted lithium mineralization, including completing a shallow drilling program on the most promising of its claims. The data obtained from the drilling has been sufficient to generate an inferred resource estimate to move the project forward.

The primary recommendation of this report is to follow the Phase 1 drilling program with a second round (Phase 2) of exploratory drilling adjacent to the presently defined resource area. It is believed that the infill drilling of 12 holes will add significantly to the inferred resource. Drilling of four additional core holes each in the Zeus XT and Hades claims areas are also recommended. It is anticipated that the additional holes can utilized the existing Notice of Intent with the BLM with minor changes. Some surface sampling of the rounded hills accompanied by a drone topographic survey in the resource area will also add to the inferred resource. The estimated budget to accomplish this is presented in Table 10 below, and is the first part of the spending recommended in this report.

Item			Total
Drill 20 shallow core holes to depths of approximately 15m (50ft) + geological logging and sampling of core, surface sampling.			US\$63,000
Assays of core samples	250 samples	\$40/sample	US\$10,000
Assays of surface samples	50samples	\$40/sample	US\$ 2,000
Geological evaluation of drilling results, resource estimation and report writing			US\$15,000
Total			US\$90,000

Table 9 – Recommended  $2^{nd}$  Phase – Drilling budget.

Noram has begun the process to determine whether the lithium-rich sediments can be processed economically to extract lithium for sale on the open market. The initial testing by MDS was successful in that it showed that extraction of the lithium is possible with an acid leach and membrane technology.

As the second recommended phase of work on the Noram properties, which is not contingent on the results of the drilling recommended above and should be ongoing during the drilling phase, it is suggested that the property owners continue to pursue the testing of extraction methods with a pilot-scale test to prove the economic viability of the lithium extraction process, budgeting US\$480,000 for this purpose.

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### Certificate of the Author

I, Bradley C. Peek, MSc., CPG do hereby certify that:

- 1. I am currently employed as a Consulting Geologist at 438 Stage Coach Lane, New Castle, Colorado 81647, USA
- This certificate applies to the Technical Report titled "Technical Report, Lithium Inferred Resource Estimate, Clayton Valley, Esmeralda County, Nevada, USA" with the effective date July 24, 2017 (the "Technical Report").
- 3. I graduated in 1970 from the University of Nebraska with Bachelor of Science degree in Geology and in 1975 from the University of Alaska with Master of Science degree in Geology.
- 4. I am a member in good standing with the Society of Economic Geologists and the American Institute of Professional Geologists (Certified Professional Geologist #11299).
- 5. I have continuously practiced my profession for 45 years in the areas of mineral exploration and geology. I have explored for copper, lead, zinc, silver and gold in 10 states of the USA and 8 foreign countries. I have spent most of 2016 exploring for lithium in the Clayton Valley, Nevada, USA.
- 6. I visited the Noram Ventures Clayton Valley Lithium property on May 5 7, 2016, July 21 25, 2016, August 3 6, 2016, December 12 22, 2016, and January 8 27, 2017
- 7. I am responsible for all sections of this report with the exception of those portions indicated under the heading, "Reliance on Other Experts".
- 8. I am independent of Alba Minerals Ltd. And Noram Ventures Inc. applying all of the tests in Section 5.1.1, Part 1.5 of NI 43-101.
- 9. I have had no prior involvement with the property that is the subject of the Technical Report.
- 10. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, professional affiliation, and past relevant work experience, I fulfil the requirement to be an independent qualified person for the purposes of this NI 43-101.
- 11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all of the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
- 12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them of the Technical Report for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.

Dated July 24, 2017

2. Check

Bradley C. Peek, CPG

# Date and Signature Page

The report herein, entitled "Lithium Inferred Resource Estimate, Clayton Valley, Esmeralda County, Nevada, USA" is dated July 24, 2017.

Bradley C. Peek, MSc., CPG



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### Consent of Qualified Person:

To: Securities Regulatory Authority

Alberta British Columbia Ontario

I, Bradley C. Peek, do hereby consent to the public filing of the technical report entitled "Lithium Inferred Resource Estimate, Clayton Valley, Esmeralda County, Nevada, USA" and dated 24 July, 2017 (the "Technical Report") by Noram Ventures, Inc. and Alba Minerals Ltd (the "Issuers"), and I acknowledge that the Technical Report will become part of the Issuer's public record. I also consent to the use of extracts from, or a summary of, the technical report.

Signed Walley Chall

Dated

July 24, 2017

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