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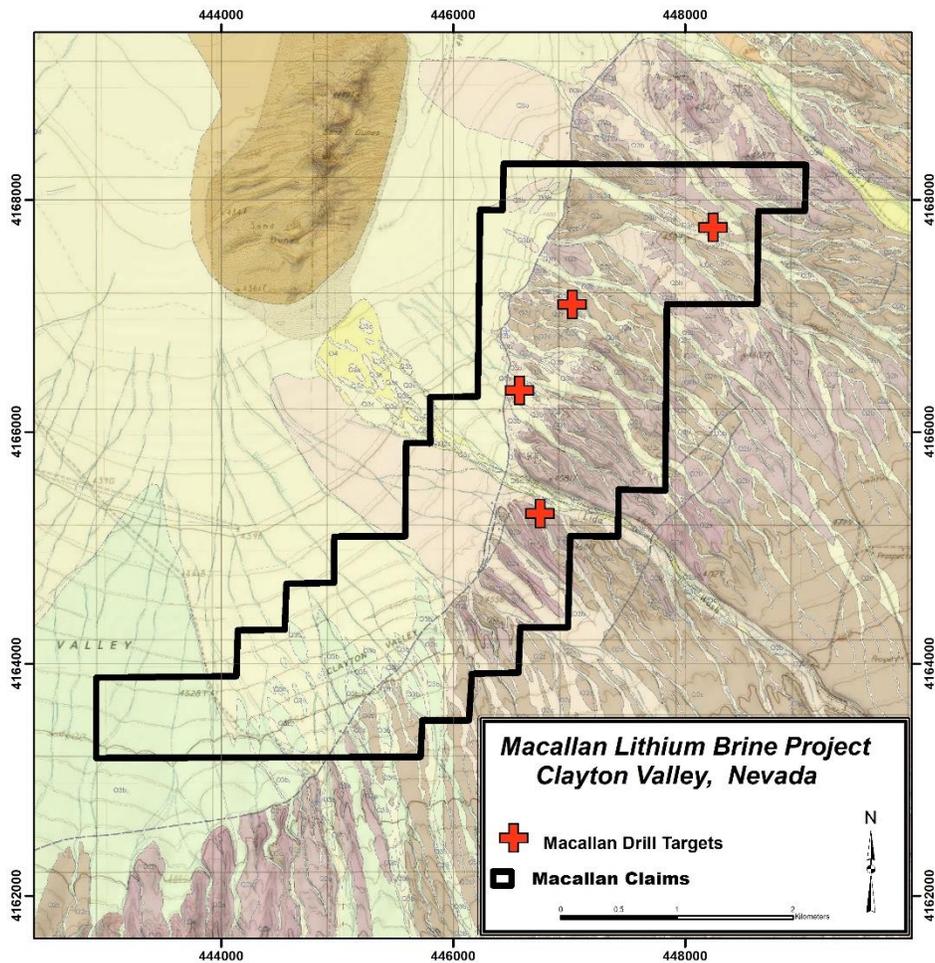
Scotch Creek Ventures Inc.

# MACALLAN LITHIUM PROJECT NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT

May 2021

Prepared by *Robert D. Marvin*

Date May 7th, 2021



## REVISION HISTORY

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REV. NO	ISSUE DATE	PREPARED BY AND DATE	REVIEWED BY AND DATE	APPROVED BY AND DATE	DESCRIPTION OF REVISION

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# GLOSSARY

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## UNITS OF MEASURE

Centimeter .....	cm
Cubic centimeter .....	cm <sup>3</sup>
Degrees Fahrenheit.....	°F
Gram.....	g
Part per million (1 ppm = 1 gram).....	ppm
Acre (1 acre = 43,560 square feet) .....	
Kilometer .....	km
Mile.....	mi
Meter .....	m
Millimeter .....	mm
Percent.....	%

## ACRONYMS AND ABBREVIATIONS

Nevada Mining Claim Number .....	NMC#
Bureau of Land Management.....	BLM
North .....	N
East.....	E
South.....	S
West.....	W
North Northeast.....	NNE
North Northwest.....	NNW
Lithium .....	Li
Calcium .....	Ca
United States Geological Survey.....	USGS
National Instrument.....	NI
Nevada Bureau of Mines and Geology.....	NBM

# SUMMARY

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Scotch Creek Ventures Inc. has requested preparation this technical report on its 100% owned Macallan Lithium Property located in the Clayton Valley of Esmeralda County, Nevada. Scotch Creek owns the mineral rights to 159 federal placer claims covering approximately 3180 acres. The property location is shown on Summary Figure 1 below. The map also shows the position of the immediately adjacent lithium brine production center owned by lithium production giant, Albemarle Corp, well as the advanced stage lithium brine project operated by Pure Energy Minerals and their partner Schlumberger Technology Corp.

Albemarle's Clayton Valley lithium production complex consists of a brine production well field and associated concentration and refining infrastructure. This "Silverpeak Lithium Mine" has been in continuous production since 1966 and is the largest lithium producer in North America.

The Macallan Lithium project within the south eastern portion of the Clayton Valley and is contiguous with lands owner by Pure Energy Minerals. The valley contains a thick section of lake-bed sedimentary rock units that were deposited within paleo lake Esmeralda a closed basin of late Miocene to recent age. Active faulting continues to down drop the basin against the basement rocks of the surrounding mountain ranges.

The term "closed basin" refers to the nature of the basin in that water enters the basin from precipitation on the surrounding mountains. The waters are trapped in the basin as no rivers exit the basin, thus it is "closed". Evaporation from the basin over millions of years has concentrated lithium and other salts within ground water and basin filling, volcanic ash rich sediments creating a world class lithium concentration in the Clayton Valley.

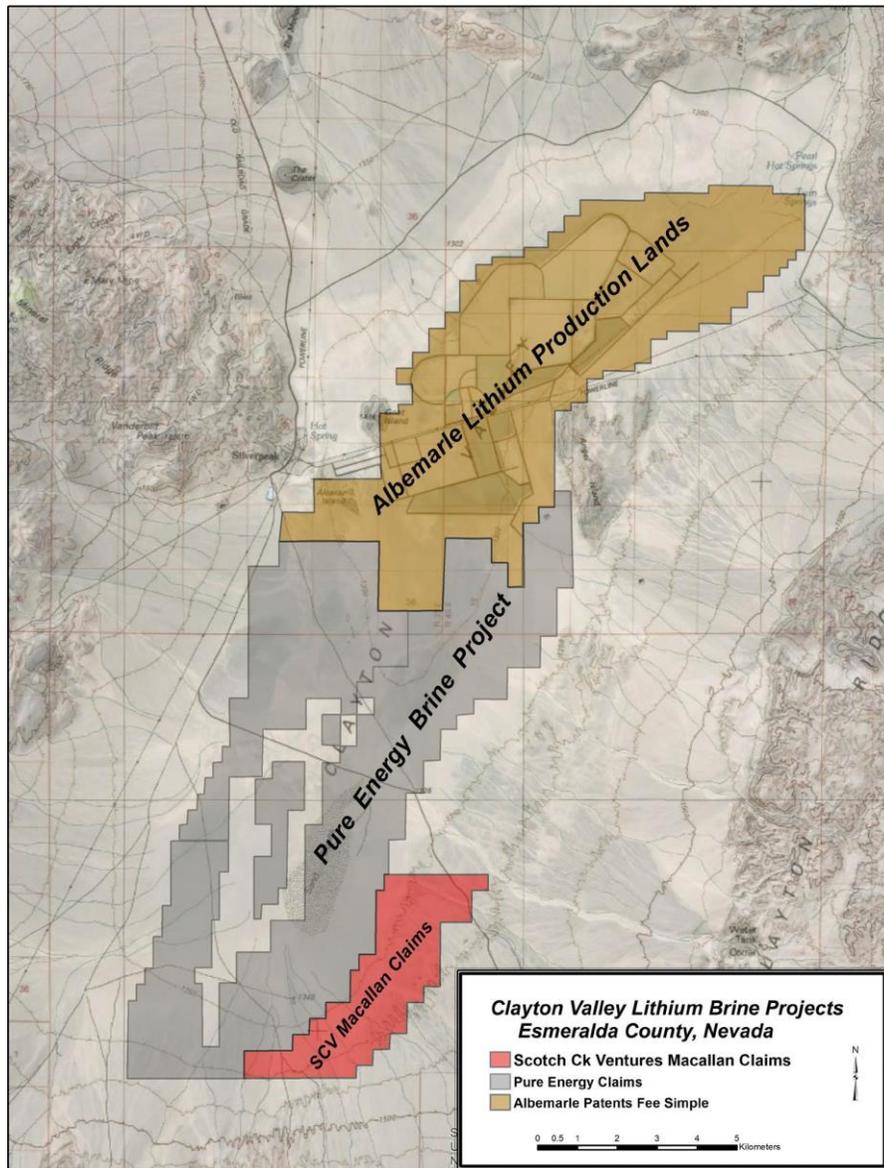
The basin has been completely isolated from massive fresh water run-off and resulting fresh water lake development as recent age, ice sheets melted. This isolation has allowed the basin to remain very saline and has no doubt contributed the preservation of the huge endowment of lithium present in the basin.

This topographic set-up differentiates the Clayton Valley from the majority of other saline playas in Nevada. Numerous other playas in the Clayton Valley region and throughout the western US exhibit a salty surface crust resulting from evaporation of huge volumes of glacial-melt waters in the last 10,000 years. Many of these other salty surfaced playa basins have been explored for lithium brine by drilling in the last ten years producing disappointing results in terms of groundwater and basin fill sediment lithium values.

The Clayton Valley has the right topographic framework to receive lithium from groundwater and surface water sources and to hold it in place, permanently trapped in the basin. The hot, dry climate of the area has acted to continuously concentrate lithium through evaporation in a volcanic ash rich, shallow lake environment.

The lithium has been combined with other salts and soluble metals into brines as well as into volcanic ash rich sedimentary rocks within the Clayton (claystone lithium resources).

The ultimate source of the lithium in the Clayton Valley remains very much under investigation by the USGS and other organizations. The most compelling argument is that the lithium has been leached from Miocene age volcanic ash.



Summary Figure 1

Lithium production in the Clayton Valley from 1966 to the present time has been from surface and groundwater lithium brines. The current operator of a significant lithium brine production field located in the central part of the basin is Albemarle Corporation. Albemarle has recently announced that they intend to invest additional money in the basin to increase brine production.

Prior to the recent startup (2015 to present) of numerous other lithium brine and lithium pegmatite mines worldwide lithium production from the Clayton brine field accounted for 3% of worldwide production, a testament to the robust mineral endowment of the basin. Albemarle and previous operators of the known brine field have done very limited exploration for additional lithium brine resources in the Clayton Valley. Estimates of current reserves within Albemarle's Silverpeak brine field are not available

This has now changed, starting in 2015, when a number of junior exploration companies entered the basin and began drilling lithium brine targets developed by seismic and electrical conductivity surveys of their claim blocks. The results of these efforts are intriguing. Pure Energy Minerals was successful in defining a lithium brine resource of approximately one million tonnes of lithium carbonate equivalent (LCE). This resource is located in a position along the east margin of the basin approximately nine kilometers north of the Scotch Creek Ventures Macallan claim block Summary Figure 1.

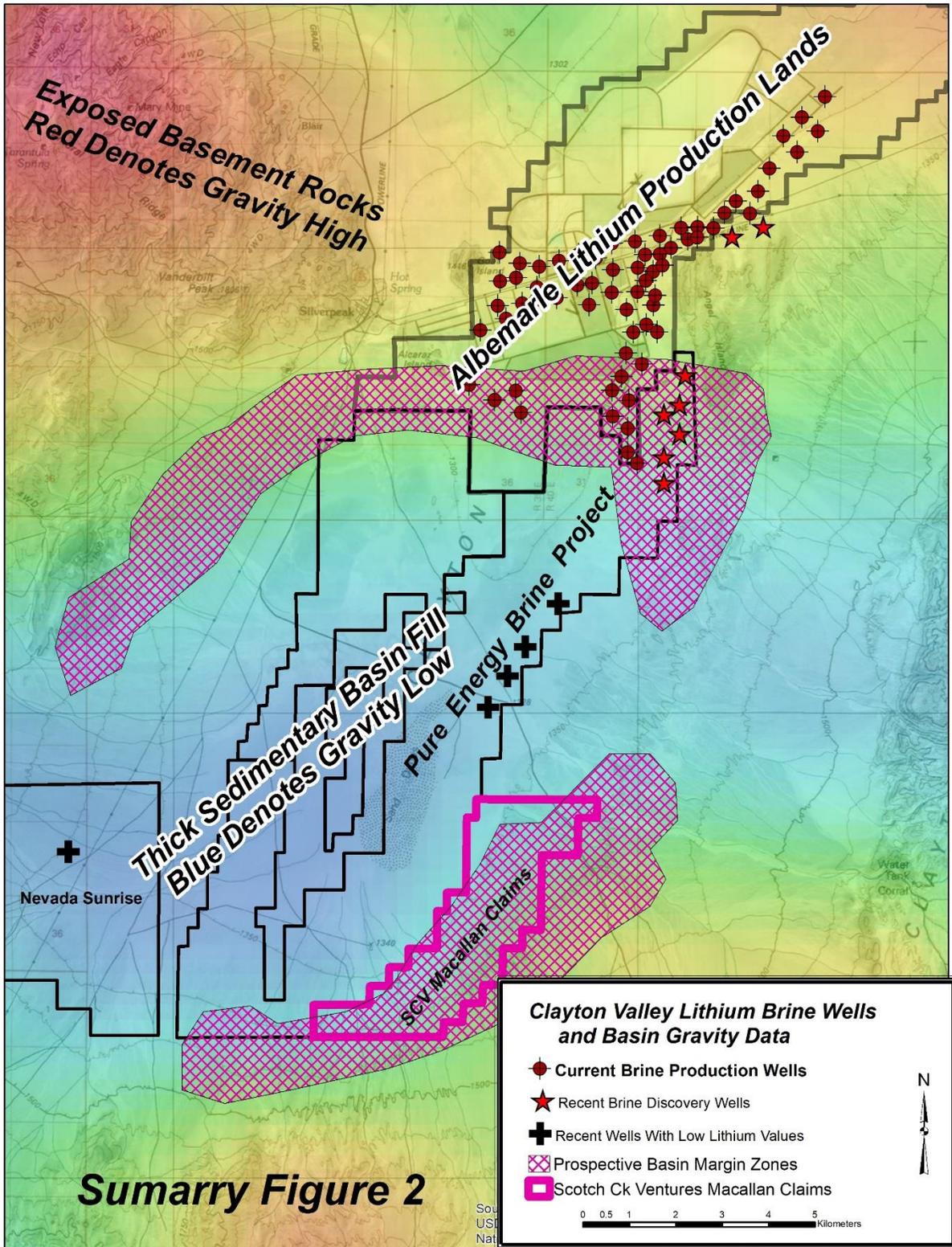
Additionally, Nevada Sunrise Gold Corp also drilled several holes into lithium bearing brine in a position north of the Pure Energy discovery area, also along the east margin of the basin.

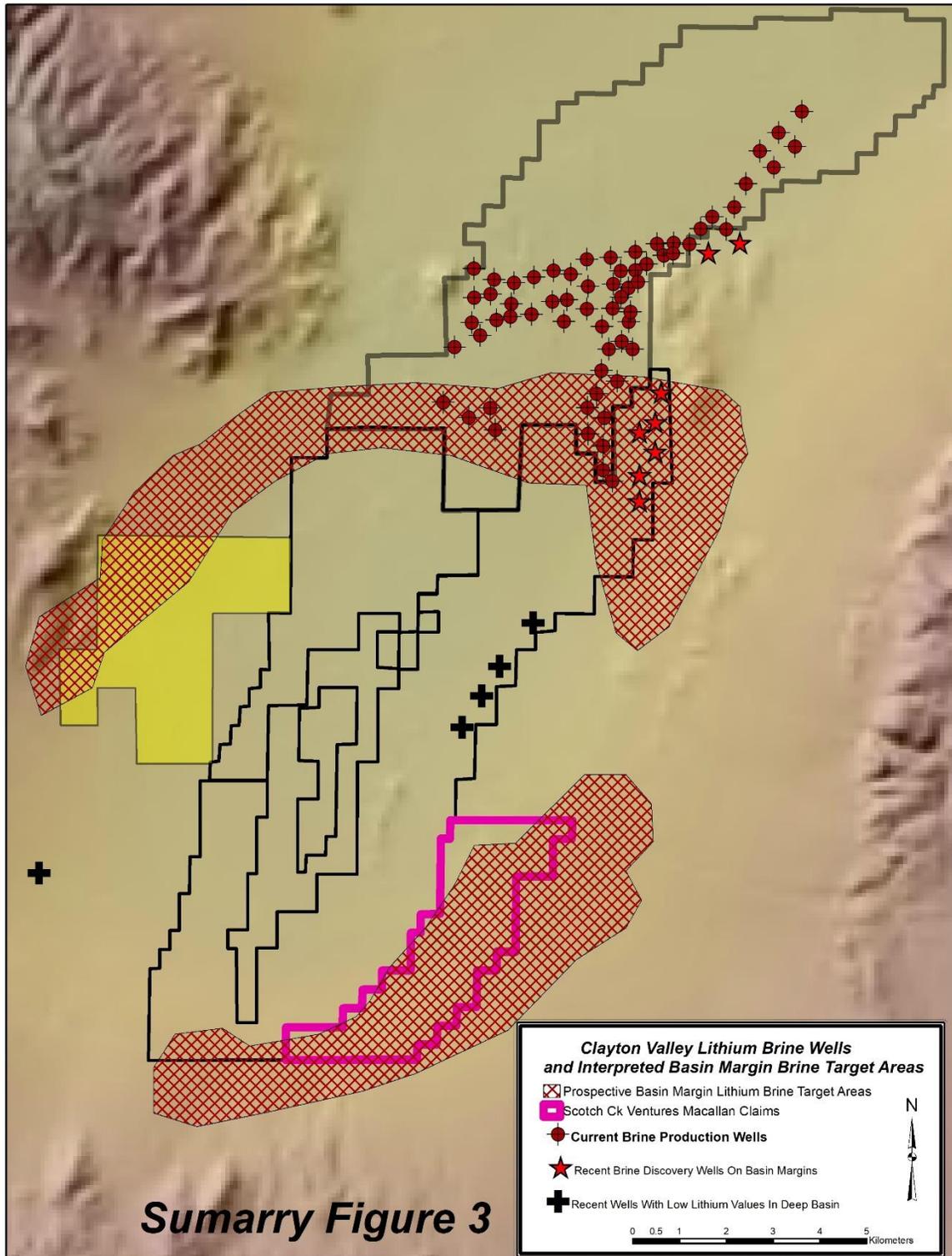
The intriguing part of these recent brine discoveries is that both came from positions on the margin of the deep central portion of the Clayton basin. Drilling by both Pure Energy and Nevada Sunrise into targets located the deep portions of the basin did not intersect lithium brine. The deep portions of the Clayton are not topographic lows, the term "deep" refers to parts of the basin with thick sections of low-density, basin fill sedimentary rocks.

The geologic model used by both Pure Energy and Nevada Sunrise was that lithium brines would be found preferentially where the basin fill is thickest. This model is based on the fact that brines are more dense than dilute groundwater and would, overtime migrate down to the deep subsurface and accumulate.

Recent exploration results from both Pure Energy and Nevada Sunrise definitively show that this brine density model is flawed. A fact robustly backed up by the position of Albemarle lithium brine production wells in the Clayton Valley

Without exception, all known lithium brines discovered to date in the Clayton Valley are located in portions of the basin where the sedimentary basin fill units are relatively thin. This positioning of lithium rich brines versus dilute, low lithium ground waters can be clearly seen by overlaying basin topography, basin gravity data and the position successful and unsuccessful well locations. This compilation is presented below (Summary Figures 2 and 3).





**Sumarry Figure 3**

The position of the Scotch Creek Ventures Macallan claim block along the eastern margin of the deep Clayton basin fully warrants subsurface exploration for lithium brine. Options for this recommended exploration include seismic reflection survey, ground water electrical conductivity survey and drilling. Drilling is the preferred approach due to the detailed data gained by logging the subsurface rock section at the property.

At this initial stage of exploration at Macallan it is the authors opinion that drilling is best approach to gain detailed knowledge of the rocks units and character of groundwater in the subsurface of the property. Drilling will also allow for sampling of groundwater in the search for lithium brine horizons.

It is recommended that a pattern of four reverse circulation drills be completed at Macallan. Based on the history of other successful brine exploration and discovery drilling in the Clayton, the depth of the proposed estimated to be between 250 and 350 meters or approximately 1000 feet below the basin surface. The estimated cost to complete the recommended four-hole program is \$400,000.

# 1.0 Introduction and Terms of Reference

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## 1.1 INTRODUCTION

Scotch Creek Ventures. ("SCV") hereby presents a National Instrument 43-101 compliant Technical Report summarizing lithium brine exploration potential for their Macallan Lithium Project property located within the Clayton Valley, Esmeralda County, Nevada. The report has been prepared in compliance with the Canadian Securities Administrators' NI 43-101 *Standards of Disclosure for Mineral Projects*.

## 1.2 TERMS OF REFERENCE

The author was retained by SCV to carry out an independent technical review of the Property. The review commenced March 25th, 2021 and continued through April 25th, 2021.

The author's assignment consisted of:

- Reviewing and summarizing regional and property-scale geologic and geophysical data compiled from public data sources.
- From interpretation of the compiled data, to develop a lithium brine exploration model for SCV use in the initial exploration of the Macallan placer claims,
- Preparing a technical report on the Property and
- Making recommendations for future exploration activities on the Property.

## 1.3 SOURCES OF INFORMATION

To prepare this Report, the author has relied dominantly on public data sources from both government geologic studies and from the reported results of other lithium exploration efforts in the basin by private companies.

## 1.4 PROJECT MANAGEMENT AND SITE PRESENCE

The project is at a grassroots stage thus site management will not be required until the recommendations of field work contained in the report are commenced. The author did visit the property during preparation of this report to confirm important facts and inferences resulting from data compilation.

## 1.5 UNITS & CURRENCY

All data compiled into the report was done so using UTM NAD 83 one 11 North.

Lithium (Li) assay values, where mentioned in this report for comparison of other recent exploration programs in the Clayton Valley (unrelated to SCV), are presented as parts per million (ppm).

Currency amounts for estimated costs of recommended exploration drilling are quoted in US dollars unless otherwise noted.

## 2.0 RELIANCE ON OTHER EXPERTS

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The author prepared this study using a compiled database of public data as well as the resource materials, reports and documents as noted in the text and "References" at the end of this Report.

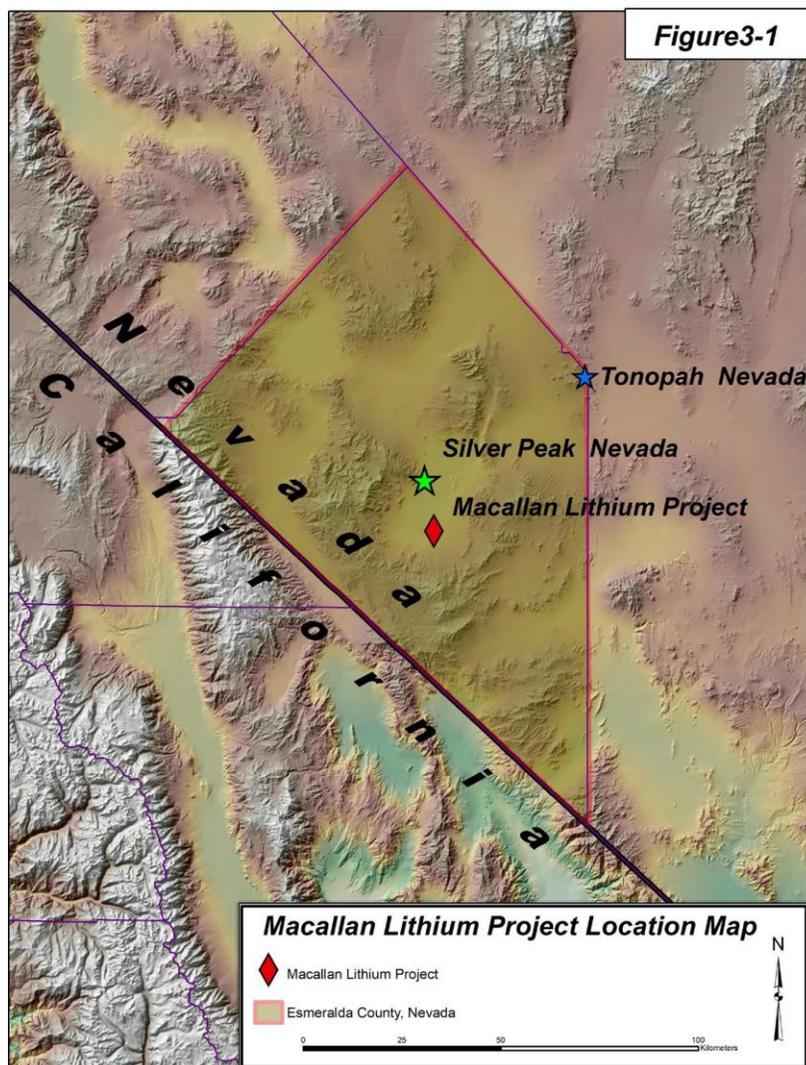
Mineral rights ownership determined and mapped in this report summarizes placer and lode claims data in this report was obtained directly from Bureau of Land Management (BLM) records. All mineral rights owned by Scotch Creek Ventures are in confirmation with the Mining Law of 1872 and are located on public lands administered by the BLM out of the Tonopah Field Office.

A significant amount of lithium exploration work has been carried out in the basin, some in areas adjacent to the Macallan claims, in the period from 2015 to 2020, these works done by various other competitor companies actively exploring the basin for additional lithium resources. These results have been compiled and used in preparation and findings of this report.

## 3.0 PROPERTY DESCRIPTION AND LOCATION

### 3.1 LOCATION

The Macallan Lithium Project property is centered near 446500 East, 4166000 North, UTM NAD 83, Zone 11 North datum, in central Esmeralda County, Nevada. The location is 180 miles northwest of Las Vegas, Nevada. The regional gold mining town of Tonopah is about 35 miles northeast of the project (Figure 3-1). The small community of Silverpeak lies 5 miles north of the project. The Property lies entirely within Townships, 3S and 4S, Ranges 39 E and 40 E, Mt Diablo Meridian. The Property is accessed off of paved state highway 265 to Silverpeak and from by a well-maintained service road that passes along a public easement through the active lithium brine mine in the basin.

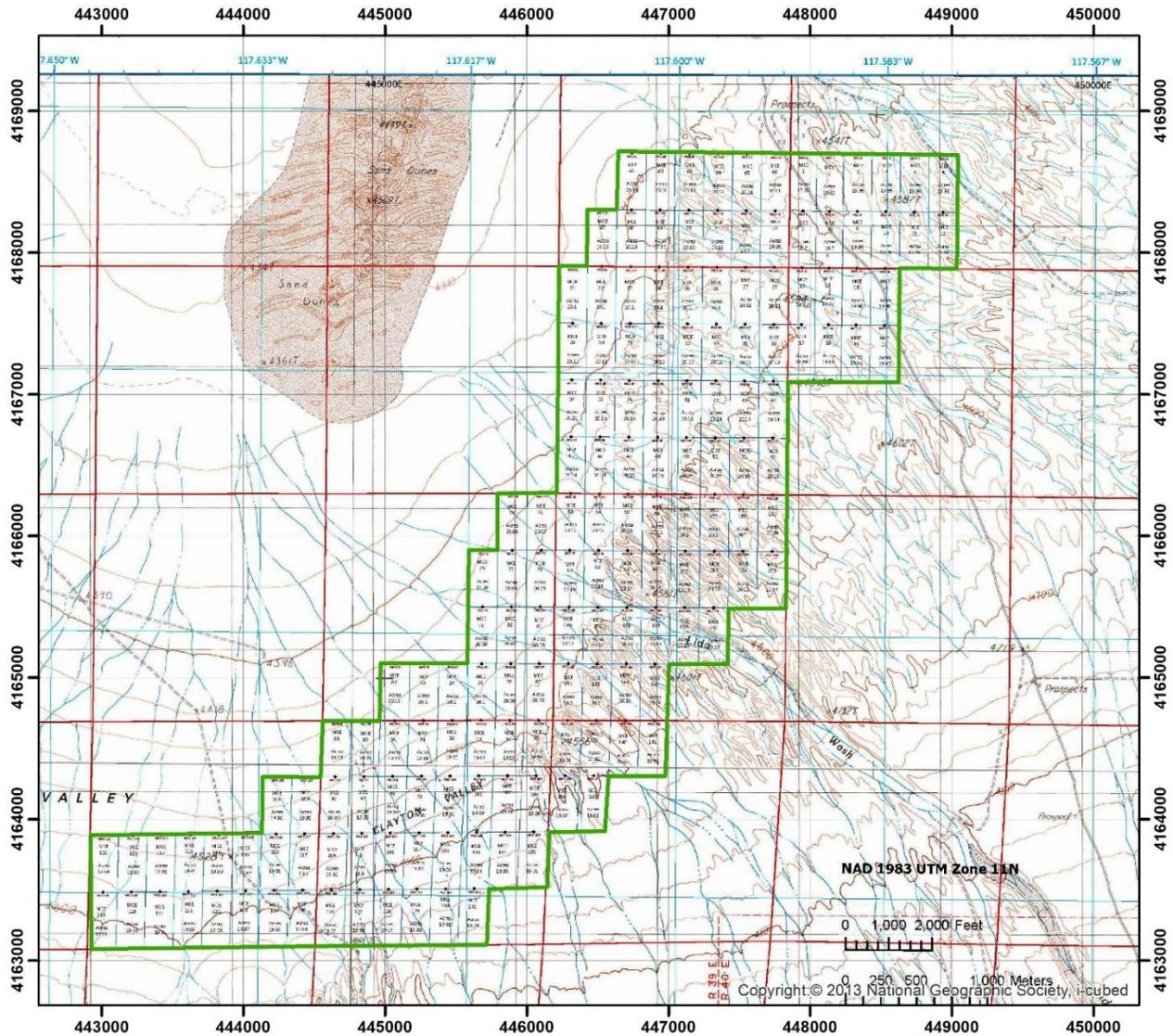


## 3.2 MINERAL RIGHTS DISPOSITION

The Macallan Lithium Project property consists of 159 placer mining claims MCE 1 to MCE 159 covering approximately 3180 acres of land in the southeastern portion of the Clayton Valley. The claims are 100% owned by Scotch Creek Ventures. The claims lie in surveyed territory within portions of Townships 3 South and 4 South, and Ranges 3 East and 4 East, MDM, (Figure 3-2 below).

The claims are properly filed with both Esmeralda County and the Bureau of Land Management and thus are in good standing. Annual filing fees to hold the ground, combined county and federal fees, will total approximately \$3,500. The author is not aware of any additional annual expenditure requirements attached to the property.

The placer claims are all approximately 20 acres in size and have been correctly staked as even, aliquot, divisions of a legal section, as required under placer mine claim regulations. The claims cover approximately 3180 acres and provide Scotch Creek with the mineral rights to lithium brines that may exist within the subsurface of the property.



**Macallan Lithium Brine Project  
Esmeralda County, Nevada  
MCE Placer Claims Location and File Map**

0 0.5 1 2 3 Kilometers

N  
↑  
↓  
S

**Figure 3-2**

### 3.3 TENURE RIGHTS

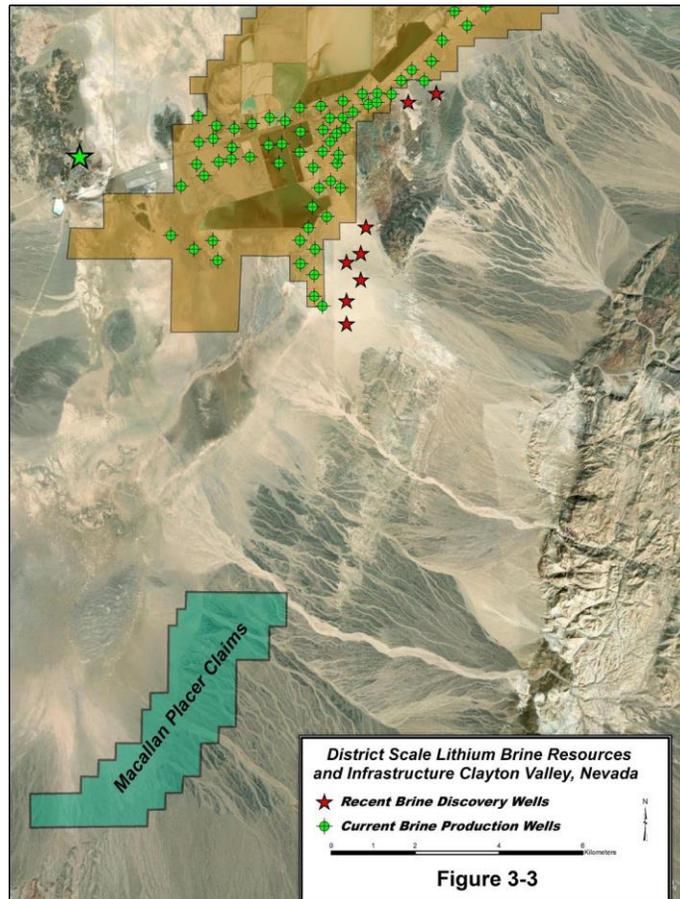
Scotch Creek Ventures owns 159 placer claims as shown figure 3-2 above. The claims are all in good standing with the BLM and Esmeralda County.

### 3.4 RESOURCES, RESERVES, DEVELOPMENT AND INFRASTRUCTURE

The property is located in the Clayton Valley, Nevada, the site of the only active lithium production in the US. The Silverpeak Lithium Production Complex owned by Albemarle is located 10 kilometers north of the Macallan claim block. This Silverpeak lithium brine mine has been in production continuously since the 1960's (Figure 3-3 below).

There are no lithium resources defined on the Macallan Lithium Project property at present as the property is at grassroots stage and has not undergone previous subsurface exploration. Recommendations for drilling made in this report are designed to test the subsurface of the claims for the potential presence of lithium bearing brines.

The property lies in close proximity to paved roads, power lines and regional towns and cities that service the mining industry.



### 3.5 LEGAL SURVEY

The 159 placer claims are survey tied to brass caps of the existing federal land survey in the area. No independent surveys of the claim block have been made. The claims were staked using handheld GPS units.

### 3.6 ENVIRONMENTAL LIABILITIES

The Macallan Lithium Project lies in a "green fields" exploration area. Minor evidence of previous mineral exploration disturbance was noted during the property field visit. Widely scattered, shallow prospect pits were noted in the northern third of the claim block. A dense cluster of similar prospect pits occurs immediately north of the property. None of these disturbances appears to create any environmental liability on the Scotch Creek Ventures lands. No buildings, mills, leach pads or other infrastructure has ever existed on the property.

### 3.7 PERMITS

No permits for disturbance related to mineral exploration have been obtained for the recommended exploration work of this report.

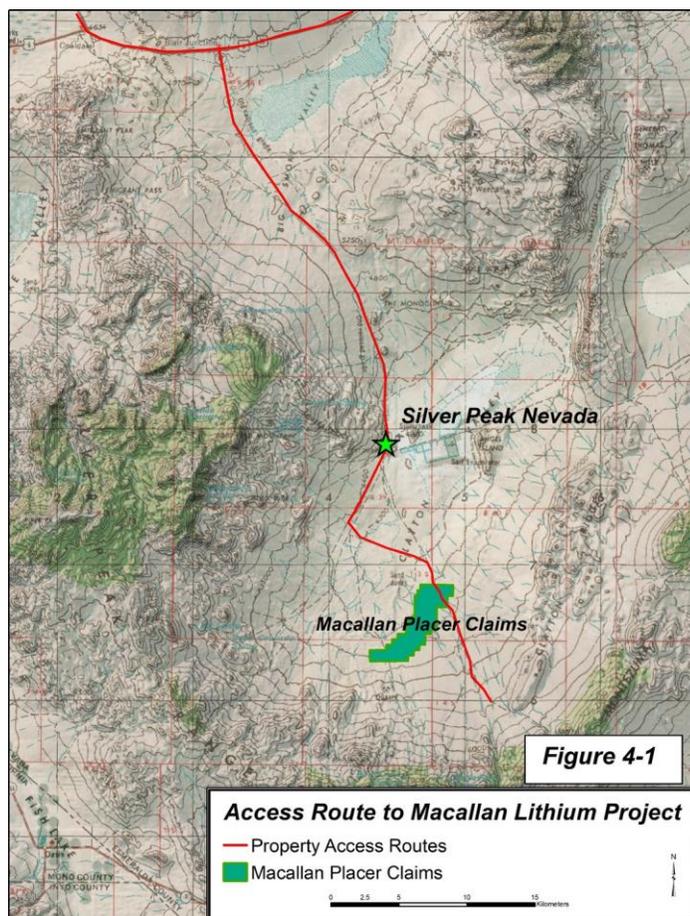
Drill exploration for lithium brines in the subsurface of the property, as recommended in this report, will require two permits. One permit will come from the Bureau of Land Management which will detail the proposed drilling activities and contain a requirement of the posting financial bond to ensure proper reclamation is completed in a timely fashion. These "Notice Level Permits" are routinely received within 30 days of application. A financial bond of approximately \$15,000 is anticipated for the recommended drill program.

An additional permit from the Nevada State Department of Minerals will also be required. This permit will come from the Dissolved Minerals Division, a newly created agency that oversees all drilling that has the intention of pumping and sampling ground water brines. This is another routine permit that should be obtained without significant delay once application has been made.

## 4.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

### 4.1 ACCESS

The property can be accessed by paved roads from Tonopah and Goldfield as well by the paved state route 265 through Silverpeak. From any of these paved approach routes, 4 to 5 miles of well maintained, all weather dirt roads lead directly onto the property.



### 4.2 LOCAL RESOURCES

The regional mining center city of Tonopah is within a 45-minute drive of the property. Tonopah has population of 15,500 (2018 census).

### 4.3 CLIMATE

The climate of the Clayton Valley is hot in summer, with average high temperatures around 100 °F and cool in the winter with average daily lows of 15 to 30 °F. Precipitation is dominantly in the form of thunderstorms in late summer. Snow cover in winter is rare.

### 4.4 PHYSIOGRAPHY

The Macallan Lithium Project is located in the Great Basin physiographic region and more precisely within the Walker Lane province of the western Great Basin. The Clayton Valley is a flat-bottomed salt basin that is surrounded by a complex pattern of mountain ranges. Broad, low passes lead into the basin from the north and east (paved access).

On the Macallan project itself the terrain is dominated by flats and shallow gullies cut into indurated gravels of Pleistocene age. Access to proposed drill sites may require limited track construction to remove large rocks. Many of the dry channels that cut the central portion of the property will require careful routing to limit road construction.



Central Macallan property. Typical active wash channel and raised channel margin.



Raised channel margin, central Macallan property

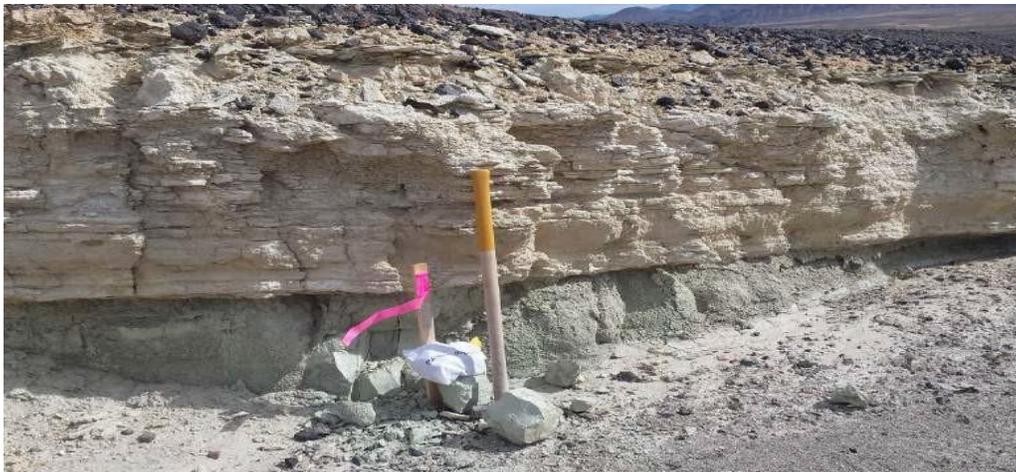


Photo of a raised channel margin from the Cypress Development lithium project located 10 kilometers north of Macallan. Note the similarity between the two locations, gravel rubble overlying sandstone units. In the case of the Cypress location, green mudstones are exposed below the orange-tan sandstones.

## 5.0 HISTORY

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The Macallan Project area shows signs of limited past “exploration” in the form of old prospect pits as well as rare, piled stone rock mound claim corners. No exploration for subsurface brines has occurred. The Macallan claim block area was included a detailed mapping effort of the Nevada Bureau of Mines and Geology (NBMG) in a field program carried out in 2015 and 2016.

The mapping published by the NBMG is a very important data base. This mapping will be discussed in detail in section 6 of this report.

## 5.1 COMPILATION OF REPORTS ON EXPLORATION PROGRAMS

This report is the first to be produced solely focused on the Macallan claim group area. Reports of private and public sector exploration activity on surrounding property packages have been read and compiled by the author. These reports have been a valuable resource in inferring the subsurface potential of the property.

Very active exploration ongoing in the Clayton Valley and the basin remains active for claim staking, grassroots exploration and advanced lithium resource development at the present time.

Recent, intensive, exploration within the Clayton Valley has been done by Albemarle, Cypress Development, Pure Energy Minerals, Noram Ventures and Spearmint Resources. Reports of results of these companies have been read the author and important findings are incorporated into this report. No information from Albemarle is available as they do not report on exploration activities or results.

The assay results of this combination of basin wide and focused exploration by those companies listed above have defined additional lithium brine and, as well, have outlined significant mudstone and claystone hosted lithium resources in the basin.

In summary, recent exploration in the Clayton Valley has resulted in significant new discoveries of lithium which have greatly increased the indicated total lithium resources of the Clayton Valley.

## 6.0 GEOLOGICAL SETTING MINERALIZATION

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### 6.1 DISTRICT GEOLOGY

The Clayton Valley is a lithium brine district hosted within the Esmeralda Formation, a sequence of lake basin fill rocks that contains zones of volcanic ash rich stratigraphy and salty evaporite units. Regionally, these Esmeralda rocks have been shown to be of late Miocene to early Pleistocene age, in the range of 1 million to 5 million years before present. The Albemarle brine production field at Clayton is sourced from weakly to non-lithified volcanic ash horizons which have high porosity. The brines are pumped from these porous units contained within the upper portion of Esmeralda Formation lake bed sediments of the Clayton.

Esmeralda Formation sedimentary rocks exposed at surface in the basin are dominantly volcanic ash rich mudstones, claystone with rare salt breccia evaporite units. All these exposed Esmeralda units are highly calcareous, ie they contain abundant calcite. The calcite acts to cement these units into indurated layers of fairly low porosity.

As was mentioned above, the presence of sandy, volcanic ash units within these rocks provides the host for lithium brine accumulation due to very high porosity. These units lack calcite cement and are seen as free flowing “sugar sands” in drill core. In these units, brine waters can accumulate in pore spaces within the sandy, ashy layers. Bounded above and below by low porosity, calcite cemented claystone and mudstone, these meter to multi meter scale beds are the lithium brine resource’s of the Clayton Valley.

It is important to note that the key section of lithium rich, mudstone, claystone and sandy ash bed units is the upper section of the Esmeralda formation. Lower units appear less favorable. The upper section, however, is over 100 meters thick, and could be 200 to 300 meters thick. The thickness of this prospective section of rocks in the Clayton Valley makes these rocks even more important.

Deep drilling by Pure Energy Minerals has shown that at depths of 600-700 meters below the playa surface, sandstones and siltstones become the dominant lithology, replacing the calcareous mudstones, sandy ashstones and evaporite horizons as seen at surface and in logged in exploration drilling programs.

The sandstone units of lower portion of the formation extend to depth for a minimum of 2000 meters below the playa surface in the portions of the central basin. A clear stratigraphic succession is evident which has ash rich mudstone and evaporite units near the surface and increasingly sandy units at deeper levels within the basin fill lacustrine stratigraphy. The identification of this basin fill sequence is important as it is within the upper, or youngest portion of the basin fill that the lithium mineralized mudstones and contained lithium brines have been found.

A summary of the Esmeralda Formation in the Clayton Valley is that these sedimentary formed within a shallow, saline lake environment formation as faulting down dropped the closed basin starting in Miocene time and ending in the recent past when the paleo brine lake Esmeralda evaporated. The upper portion of the Esmeralda is lithium rich, very likely

the result of its formation within a shallow brine lake that recently (10,000 to 20,000 years before present) covered the majority of the playa floor

Surficial sand and gravel units cover the Esmeralda units in many areas along the margins of the basin. These cover units are commonly less than five to ten meters thick. These units are distinctive from other post Esmeralda sands and gravels in that these units are moderately indurated and contain fist size and larger volcanic rock cobbles.

The presence of these indurated gravels at surface is a key exploration tool in identifying areas where underlying, lithium rich units of the upper Esmeralda formation are likely to occur and shallow depths.

This presentation of district geology has thus far focused solely on the basin infill stratigraphy due to the importance of those rocks in the localization of the lithium brines in the Clayton Valley.

A brief summary of the older rock units which outcrop around the rim of the basin is now presented to complete the description of the district scale geology of the Clayton Valley. Rugged, mountain uplifts around the rim of the basin are composed of Precambrian age metamorphic and intrusive rocks along with Paleozoic age limestone units. Early Miocene age volcanic rocks including intrusive volcanic domes and bedded ash units overly the older basement rocks in many areas around the basin margin. These uplifted rock units form the topographic barrier which isolates the Clayton Valley from the surrounding areas of southwest Nevada and adjacent portions of eastern California.

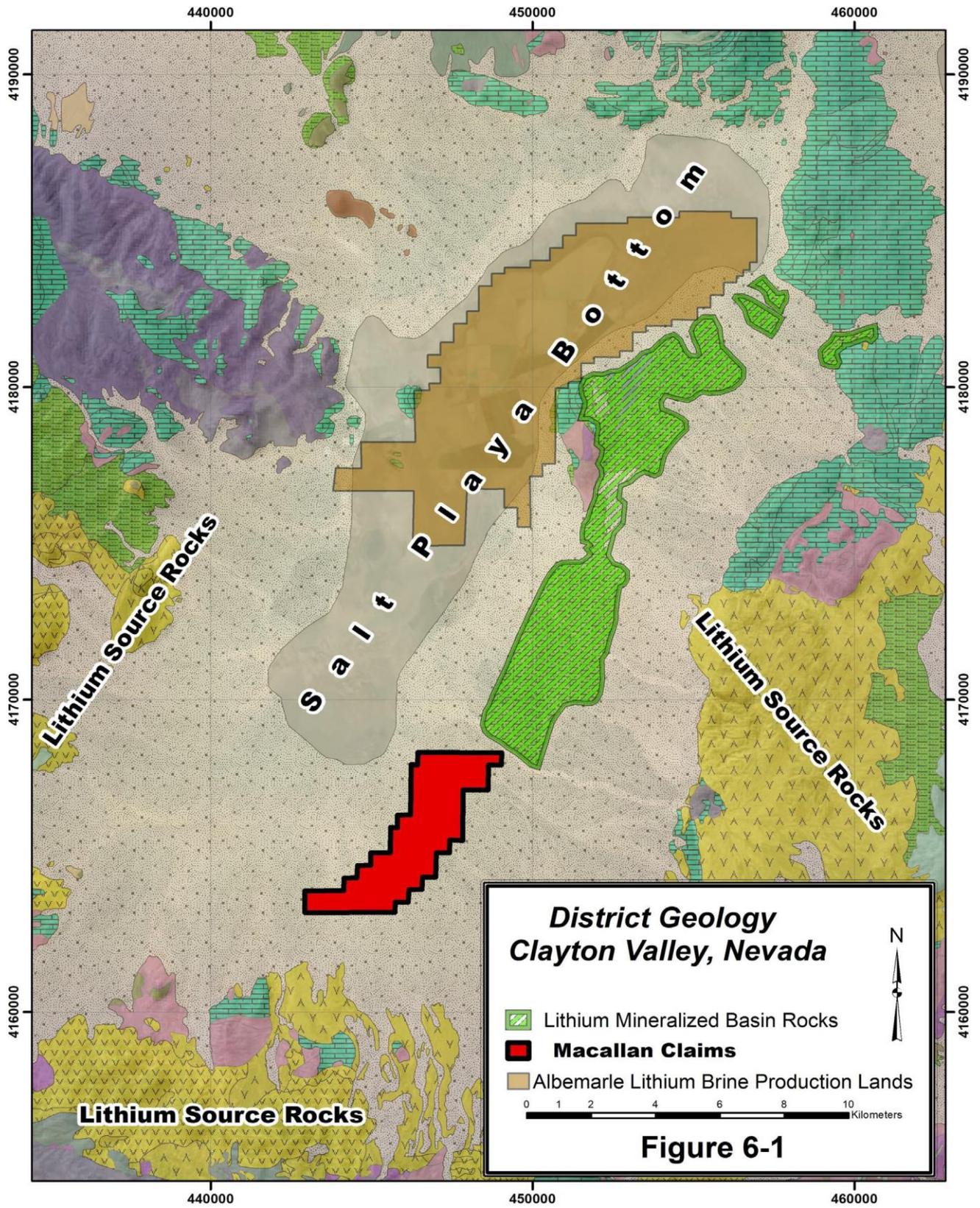
Isolated uplifted of these older rock packages occur within the basin itself. These basin uplifts are known as "Islands" and include Angel Island, Goat Island and Alcatraz Island. These uplifts stand above surrounding playa bottom salt and lithium rich deposits.

The position of the basin uplift "islands" mark the trends of important, active fault zones in the valley. Angel Island is bounded on its west flank by an important fault zone which has uplifted basement rocks along with overlying, lithium rich, lake bed sedimentary rocks.

As has been previously stated, the mudstone and claystone units of the upper portions of the Esmeralda formation of the Clayton Valley have very high volcanic ash content. The source of the ash is uncertain and likely complicated. Ash sources include a series of regional volcanic centers that have erupted immense volumes of rhyolitic ash throughout the Miocene and continuing into the Pliocene. USGS work has examined volcanic ash lithium brine aquifers and, in some cases, have been able to age date these volcanic ash units.

One ash source is located within the district: a rhyolitic volcanic caldera of late Miocene age located within the Silverpeak range on the west side of the basin. Massive to bedded lapilli tuff units of nearly 1000 feet in thickness are well exposed west-southwest of the town of Silver Peak. These rhyolite tuffs are considered lithium source rocks. These rocks are colored in yellow tones and labeled "Lithium Source Rocks" on figure 7-1 below.

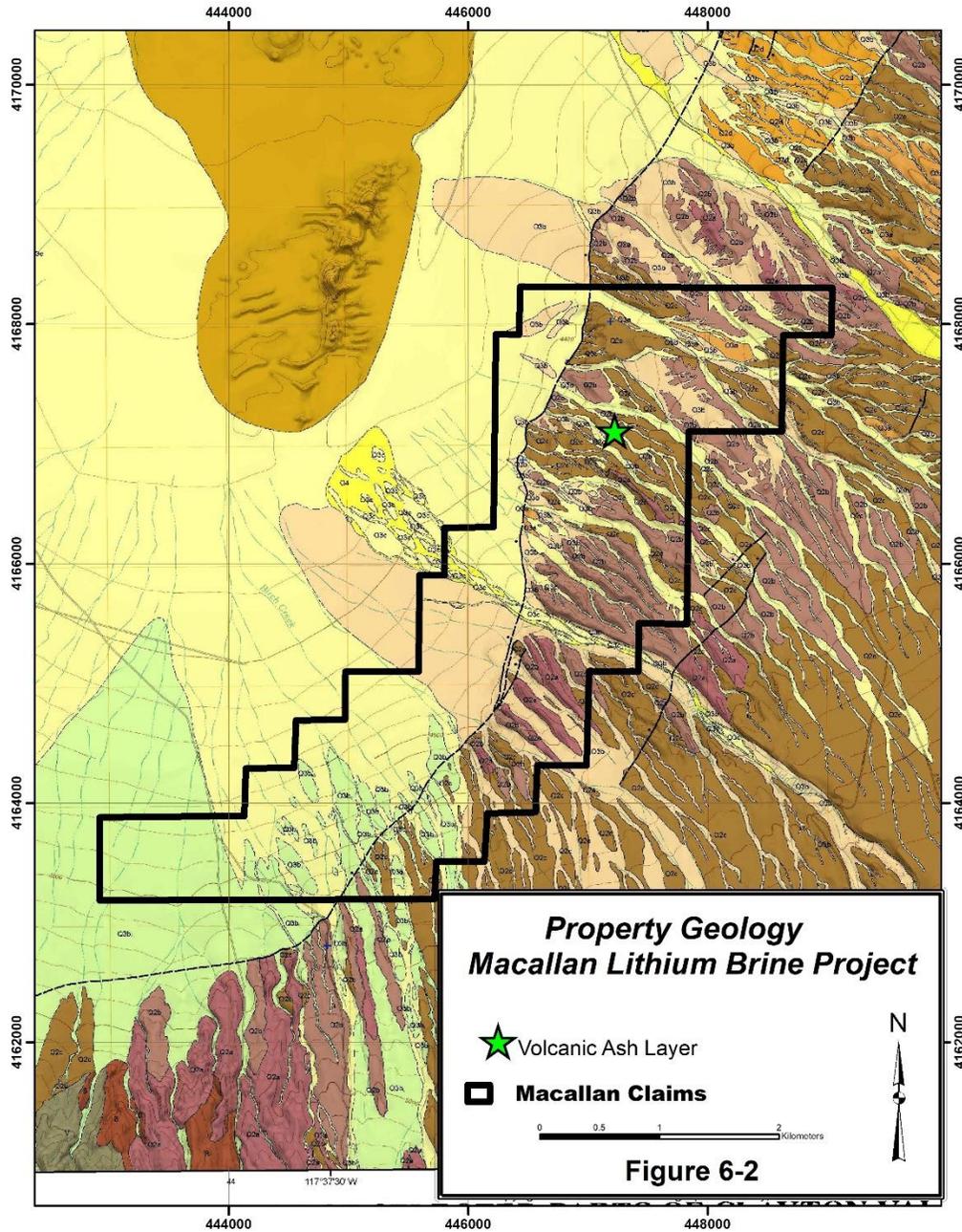
Prospective, upper Esmeralda Formation mudstones and salty evaporite rocks outcrop extensively on the eastern margin of the basin. These lithium brine and evaporite host rocks are colored in striped green on figure 7-1 below.



An important point from the district geology figure above is that the Scotch Creek Ventures Macallan claim block sits directly on trend with outcropping, lithium mineralized, volcanic ash rich, basin lake bed sedimentary rocks which project towards the project area from the NNE. The projected presence of these mineralized units in the subsurface at Macallan strongly suggests that porous ash units, associated with these rocks elsewhere in the basin, should exist below surface on the claims.

## 6.2 PROPERTY GEOLOGY

The geology of the Macallan property has mapped in detail by the Nevada Bureau of Mines. This work was focused on the surficial geologic units of the southern Clayton Valley and was done in 2015 and 2016 (Figure 6-2 below).



The Nevada Bureau of Mines and Geology map displays a complex pattern of surficial sandstone and indurated gravel units which cover the property. These units have been identified as being of Pleistocene age, recent, but distinctly older and separate from the loose sand and gravel materials which cover extensive portions of the basin bottom of the Clayton Valley.

The property was walked by the author during a field review associated with the completion of this report. During this work, an exposure of white volcanic ash was located in the north-central portion of the property during this field examination. The location of the ash unit is shown as a green star on figure 6-2 above. The ash is exposed at the base of a raised channel margin, cropping out below gravel units. Whether this ash horizon is part of the gravel cover sequence or represents the upper portion of the target lake bed sediment units is unknown. Ash units are not noted as being part of the cover rocks in the NBMG mapping report.

The NBMG mapping has identified a series of north-northeast trending normal faults that offset these older gravel units into a series of small-scale horsts and grabens. These units and the faulting pattern cutting through them tie this area geologically to the exposed and faulted claystone and mudstone units which occur to the north-northeast along the trend of a belt following the margin the basin.

This geologic connection can be clearly seen in satellite imagery of the eastern margin of the basin where the bedded units and normal faults can be traced for approximately 15 kilometers from the north boundary of the Macallan claim group all the way to the northern portion of the Noram Ventures exploration area. This setting will be further documented in later sections of this report.

The mapped, surficial rock units covering the Macallan placer claims are also widespread to the north-northeast of the property where they occur as thin cover units lying directly on lithium mineralized lake bed sedimentary rocks. The oldest of these cover units is denoted as gravel unit Q2a, described as being of middle to late Pleistocene age.

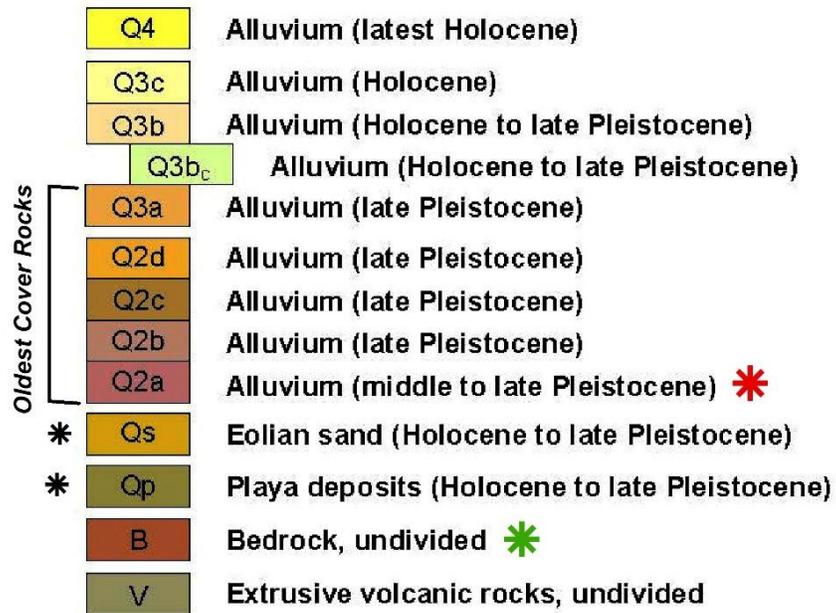
The age of this unit indicates that it lies stratigraphically directly above the brine target lake bed sedimentary and evaporite rocks targeted in the subsurface at Macallan.

This faulted belt of lake bed sediments is being intensely drilled by Noram, Cypress and others resulting in the discovery of a huge volume of lithium mineralization in positions above the water table.

Importantly, it is within these same units of the upper Esmeralda Formation that Pure Energy, Albemarle and others have found lithium brine resources localized within porous ash layers below the basin water table.

The presence of these complex sand and gravel units at Macallan is highly encouraging as it indicates that the target porous ash units with associated brine deposits should be present in the shallow subsurface below the mapped gravel rock cover units. Figure 6-3 below illustrates the importance of the cover rock sequence.

**Stratigraphic Section  
of Cover Rocks Lying Above Target Lithium Bearing Units**



\* Gravel Unit Q2a is the oldest of the gravel cover rocks in map area

\* Target Lake Bed Rock Units

\* Young Cover Sand and Playa Units Shown Out of Sequence

**Figure 6-3**

The understanding of the stratigraphic section takes close inspection as the units are not shown in typical sequence where the oldest units are at the bottom of the column with successively younger units shown upwards. Note that units Qs, sand dune deposits, and unit Qp, current playa bottom salt cover, are distinctly younger than the key Q2a unit. A middle Pleistocene age for the Q2a unit means it formed approximately 1 million years before present. The sand dune and playa units are of modern age, likely no older than 10,000 years. The importance of these ages cannot be overstated as it has direct bearing on what rock units are interpreted to lie under the older Q2a unit, namely the target lake bed sedimentary section that formed during the period when a brine lake covered the basin.

The following description of eastern Clayton Valley rock units has been modified from Cypress Development exploration results from their Dean and Glory properties located 10 kilometers north of the Macallan claims. Unit 1 below, Gravel Cover, is the northward continuation of the cover rocks mapped at Macallan. Units 2 through 5 detail the lake bed stratigraphy found beneath the thin veneer of cover gravels.

**Gravel Cover**, a thin veneer of polyolithic cobble, boulder and sand cover exists over portions of the property. This cover unit varies from 0 feet to 10 feet in thickness. These rocks are being shed out of steep canyons cutting the exposed basement units of the Clayton Ridge to the east.

**Upper Tuffaceous Mudstone Cap Rock**, this is the highest unit in the mineralized sequence and consists of interbedded silty mudstones and hard tuffaceous beds several meters thick. The unit is approximately 70% mudstone and 30% hard tuff layers. Approximately 10 to 30 feet thick.

**The Upper Olive Mudstone Unit**, this unit starts the main ash rich mudstone sequence which contains the majority of the mineralization found to date. The unit is oxidized and contains locally abundant iron oxide staining and partial layer replacement. Below an interbedded top section, this unit becomes massive with uniform texture, color and grain size. Approximately 90 feet thick. Average grade is approximately 1100 ppm Li

**Main Blue Mudstone Unit** (aka the Black and Blue), this is continuation of the Upper Olive unit above but below an oxidation-reduction boundary. A sharp color change from robust olive to blue occurs at the redox, or several times as the redox is locally complex and interbedded. Approximately 130 feet thick. Average grade is approximately 1300 ppm Li

**Lower Olive Mudstone Unit**, this unit underlies a second, locally complex oxidation – reduction boundary where the blue and black unit above change gradationally back to olive colored mudstone. Fully olive colored mudstone sections occur within this unit that contain completely black, reduced mudstone interbeds (see figure 7-4 above) The uppermost 30 to 40 feet are well mineralized. After about 40 feet the unit starts to turn tan and to contain increasing percentages of hard, sandy or other silica layers. Pumice fragments are common in this unit. Approximately 60 feet thick. Average grade is approximately 900 ppm Li.

These details from the work of Cypress Development are included here as they represent the best available description of the target units that are likely to be found in the subsurface at Macallan. The lithium values listed are for reference only as no subsurface exploration for lithium mineralization at Macallan has occurred.

Normal faulting of exposed rock units at Macallan is present as a belt of small-scale normal faults. The current knowledge of the structural setting of Macallan is based on NBMG mapping covering the property combined with data from other competitor company reports in the basin. As has been noted previously, the normal fault pattern at Macallan is the direct continuation of similar structures seen along the eastern margin of the basin, both with main lake bed sedimentary sequence as well as upward into the overlying, thin gravel cover units.

## 7.0 DEPOSIT TYPE

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Scotch Creek Ventures is in the initial stages of exploration of the Macallan property. Scotch Creek, through the compilation of data presented in this report, is proposing to conduct subsurface exploration through drilling to test concealed rock units for lithium brine occurrences similar to those previously discovered in the Clayton Valley. Known brine discoveries and resources have been found within porous ash bed units within the lake bed rock sequence. The presence of these favorable units in the subsurface at Macallan has not been established. However, the compilation of data done here strongly suggests these units will occur under cover rocks on the property.

The nature of the target sequence is also favorable for the presence of lithium mineralized mudstone, claystone and evaporite units in the subsurface. Such occurrences could be very similar to the resources being developed in positions to the north-northeast of the project.

## 8.0 EXPLORATION

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No previous exploration for lithium or other resources on the property is evident in the compiled data.

## 9.0 DRILLING

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No drilling has been done on the Macallan property based on the compilation of available data.

## 10.0 SAMPLE PREPARATION, ANALYSIS & SECURITY

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This report section is not applicable as no samples have been collected on the subject property.

## 11.0 MINERAL PROCESSING & METALURGICAL TESTING

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This section is not applicable this Report.

## 12.0 MINERAL RESOURCE ESTIMATES

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This section is not applicable this Report.

## 13.0 MINERAL RESERVE ESTIMATES

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This section is not applicable this Report.

## 14.0 MINING METHODS

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This section is not applicable this report.

## 15.0 RECOVERY METHODS

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This section is not applicable this Report.

## 16.0 PROJECT INFRASTRUCTURE

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Well maintained dirt access roads are the only infrastructure at the Macallan property.

## 17.0 MARKET STUDIES

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This section is not applicable this Report.

## 18.0 ENVIRONMENTAL STUDIES, PERMITS, & SOCIAL OR COMMUNITY IMPACTS

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No permits for disturbance related to mineral exploration have been obtained for the recommended exploration work of this report.

Drill exploration for lithium brines in the subsurface of the property will require two permits. One permit will come from the Bureau of Land Management which will detail the proposed drilling activities and contain a financial bond to ensure proper reclamation is completed in a timely fashion. These "Notice Level Permits" are routinely received within 30 days of application. A financial bond of approximately \$15,000 is anticipated for the recommended drill program.

An additional permit from the Nevada State Department of Minerals will also be required. This permit will come from the Dissolved Minerals Division, a newly created agency that oversees all drilling that has the intention of pumping and sampling ground water brines. This is another routine permit that should be obtained without significant delay once application has been made.

Routine exploration permitting does not require studies of potential environmental impacts unless it is determined by the BLM that such exploratory work on the property would cause harm to existing natural or cultural resources. This is considered unlikely by the author.

## 19.0 CAPITAL & OPERATING COSTS

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This section is not applicable.

## 20.0 ECONOMIC ANALYSIS

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This section is not applicable.



## 22.0 OTHER RELEVANT DATA & INFORMATION

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Exploration for lithium resources in the Clayton Valley has been very active for the last seven years and remains highly active and competitive today. Several recent discoveries of lithium in the basin have occurred recently. As a result, the basin is emerging as a world class lithium resource domain.

Even given the ongoing exploration of the basin, the understanding of where new brine discoveries in basin might be located has been largely static. This report presents a different view of potential target areas than has been used in recent years by other explorers.

Key positions along the margins of the basin remain completely untested. The Macallan claim group sits in one of these positions viewed as having high potential for the occurrence of lithium brines based on the compilation and interpretation of all available data done during preparation of this report.

## 23.0 INTERPRETATIONS & CONCLUSIONS

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The Clayton Valley has an enormous measured and inferred endowment of lithium and is rapidly emerging as one of the world's largest concentrations of lithium. This lithium has collected in the basin from a variety of sources, dominantly from the great volume of lithium bearing volcanic ash found in the upper portions of the Esmeralda Formation.

The basin has collected, retained and concentrated this lithium for several million years, both into mineral brines and also stored within the upper section of lake bed mudstones, claystone and evaporite rocks that in outcrop and in the subsurface along the eastern edge of the Clayton playa. This pile of mudstones is evidence of a significant brine lake that existed in the basin prior to final evaporation in the last 10,000 years. Both the lithium brines and lithium mudstones result from evaporative concentration of lithium within a lake that is now gone.

The position of known brine and mudstone lithium resources show that the margins of the basin are the preferential areas for lithium concentration in the Clayton Valley. The Macallan Lithium Project is located along a key portion of the eastern margin of the basin.

Based on compiled data for the Clayton Valley, it is evident that lithium concentration, both as brines and within lake bed sedimentary rocks has occurred in shallow water environments that formed in a shallow, salty environment of the ancient brine lake. More important is the fact that these "near-shore" areas of lithium enrichment have remained in place once formed. The lithium has not migrated into the deep portions of the basin.

Lithium brines in the Clayton Valley are hosted in porous layers within the near shore lake bed evaporite rock sequence. The brines are the direct result of the lithium rich evaporite rock units that contain them. The exploration for new lithium brine positions in the basin should be focused in areas where these lake margin sedimentary and evaporite units are found.

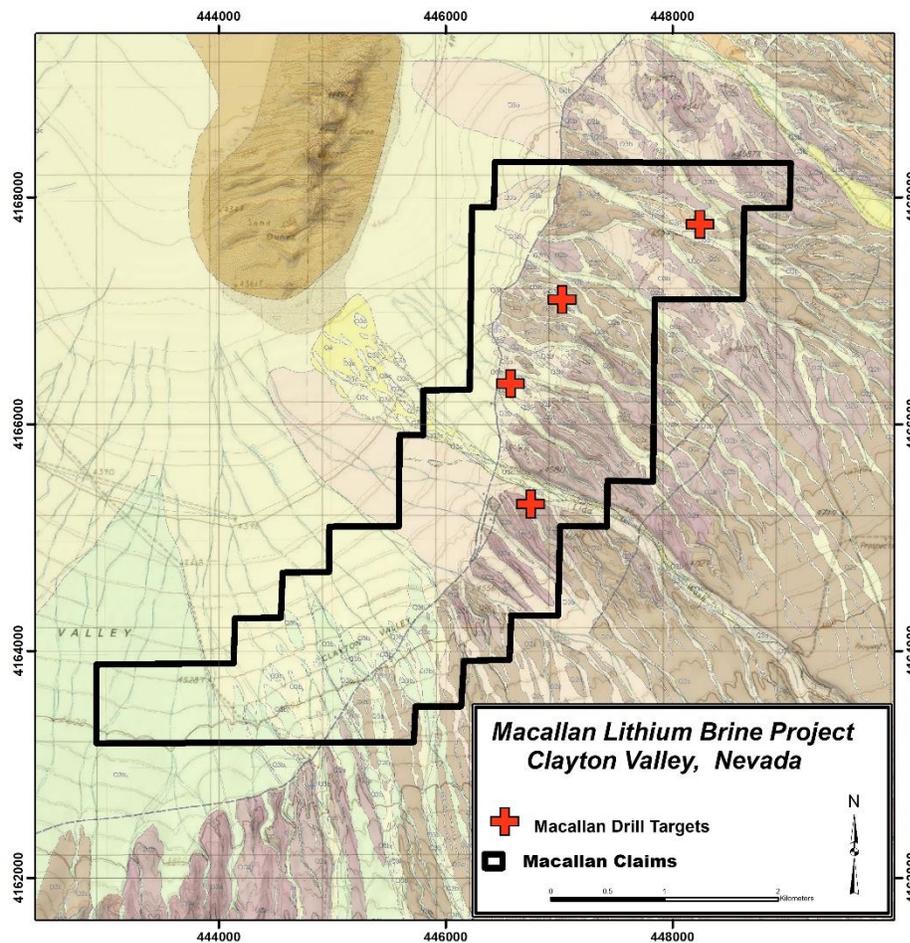
Despite the position and pattern of known resources, the highly prospective margins of the Clayton Valley playa remain largely unexplored. The Macallan claim block is well located in the southern margin of the basin and presents an opportunity to drill test the favorable upper Esmeralda Formation rock units which are interpreted to lay beneath the thin gravel cover units mapped at the project area.

The claim block covers in excess of 3,000 acres making it easily large enough to contain a large lithium resource should exploration of the property be successful.

## 24.0 RECOMMENDATIONS

The combination of a highly favorable geological setting and unexplored nature of the Macallan claim block make the claims favorable for a relatively low-cost brine exploration drill program. The target of the proposed drill program is lithium rich brines hosted within sedimentary and evaporite stratigraphy common to the Clayton Valley. The estimated cost for the recommended drill program is \$400,000.

Drilling is recommended as the most definitive method to conduct initial exploration of the property subsurface. Figure 24-1, below marks the collar location of four holes to be drilled in a first pass evaluation of the rocks in the subsurface at Macallan. The locations have been selected to provide adequate coverage of the property. The holes have been positioned to be on the east side of mapped normal faults on the property to maximize the opportunity to drill test the target rock units in the near surface. The proposed drill locations may need to be adjusted to allow for best access to the target areas. Extensive road building will be avoided.

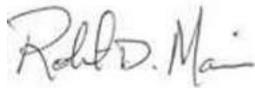


## 25.0 DATE & SIGNATURE PAGE

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This Report titled “*Macallan Lithium Project National Instrument 43-101 Compliant Technical Report*” and dated May 7<sup>th</sup>, 2021, was prepared and signed by the following author:

Date effective as of May 7th, 2021.



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Robert D. Marvin P.Geo. - CPG

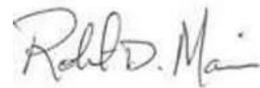


# CERTIFICATE

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I, Robert David Marvin., do hereby certify that:

1. I reside at 35 Chuck Wagon Road, Reno, Nevada.
2. I am Principle of Red Rock Exploration Inc. a firm dealing in economic geology consulting.
3. This certificate accompanies the report titled "*Macallan Lithium Project National Instrument 43-101 Technical Report*" dated May 7th, 2021.
4. I am a graduate from the University of New Mexico with a Bachelors Degree with Distinction (1984), I completed 15 credit hours of post graduate education in geology at the University of Nevada and I have practiced my profession continuously since 1985. In addition the author has completed college course work in climatology including the study of paleo lake basins in the western US.
5. I am a Practicing Member in good standing of the Association of Professional Geologists of Ontario (APGO) (Registration #2021)
6. I am a "Qualified Person" for the purpose of NI 43-101. My relevant experience includes 33 years of experience in mineral exploration and mine geology. I have been on the ground as a geologist on hundreds of exploration projects and producing mines,
7. I am responsible for all sections of this technical report.
8. I am an independent of the issuer as described in Section 1.5 of NI 43-101.
9. I have not had any prior involvement with the property that is the subject of this technical report prior to being asked to write this technical report.
10. I have read NI 43-101, Form 43-101F1 and have prepared this technical report in compliance with NI 43-101, Form 43-101F1 and generally accepted Canadian mining industry practice.
11. As of the 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.



Robert D. Marvin  
May 7<sup>th</sup>, 2021

## REFERENCES

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- Asher-Bolinder, Sigrid, Vine, J. D., Glanzman R. K., and Davis, J. R., 1980, Chemistry of ground water from test holes drilled in Esmeralda and Nye Counties, Nevada: U.S. Geological Survey Open-File Report 80-672, 31 p.
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- Pure Energy Minerals “Inferred Resource Estimate For Lithium, Clayton Valley South Project, Clayton Valley, Esmeralda County, Nevada, USA” dated July 17, 2015 was prepared for the Company by Raymond P. Spanjers, P.G., of North Carolina, USA, a “qualified person”
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- Vine, J. D., 1980, Where on earth is all the lithium, with a section on Uranium isotope studies, Fish Lake Valley Nevada, by J. R. Dooley, Jr.: U.S. Geological Survey Open-File Report 80-1234, 107 p.’ highly recommended reading