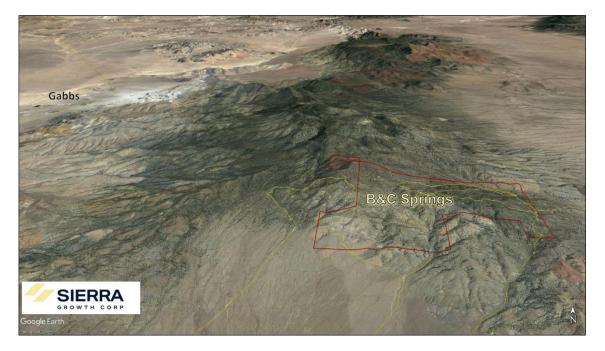


# NI 43-101 Technical Report B&C Springs Property Nevada, USA

Longitude: -117.815 Latitude: 38.778



Annotated View of Property (looking north). Captured in Google Earth



Prepared by: David Seers MGeol (Hons) AusIMM (CP), &

Charles Greig P.Geo (QP)

Effective Date: April 21st, 2021



# Date and Signature Page

The Report titled "NI 43-101 Technical Report B&C Springs Property Nevada, USA" with an effective date of April 21<sup>st</sup>, 2021, was prepared on behalf of Sierra Growth Corp. by David Seers (QP) and Charles Greig (QP).

Name	Signed	Date Signed (dd/mm/yyyy)
David Seers	Tak life	08/11/2021

Name	Signed	Date Signed (dd/mm/yyyy)
Charles Greig	Arian	08/11/2021





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# 1 Summary

## 1.1 Introduction

Following a Technical Disclosure review, Sierra Growth Corp. (Sierra or the Issuer) has prepared a Technical Report (the Report) in accordance with NI 43-101 for the BC Springs Property (the Property) in Nye County, Nevada, USA.

Mr. David Seers (QP) has been commissioned to compile the Report. Mr. Charles Greig (QP) undertook a site visit to the Property on November 14, 2020, to review geology and historical mine workings.

On March 1<sup>st</sup>, 2021, Sierra entered into a Mining Lease Agreement (Agreement) for the BC Springs Property with two private individuals (Tim Neal and James N. Marin), collectively the "Owner". The terms of the agreement allow Sierra exclusive rights to explore, develop, and mine the Property and further granting to the Lessee (Sierra) the exclusive right and option to purchase the Property.

The Property consists of 26 Lode Mining Claims and a further 41 Applications for contiguous Lode Mining Claims, the Property (Claims and Applications) occupies an area of approximately 586.5 hectares in the Paradise Range of west-central Nevada.

## 1.2 Property Location

The Property is in the Walker Lane Trend and Paradise Peak Mining District (PPMD), that has a long history of exploration and limited small-scale mining that has been facilitated with excellent access and good infrastructure.

The Walker Lane Trend, a northwest to southeast zone, several hundred kilometers long, characterized by Miocene structural deformation, volcanism, and related mineralization. The Walker Lane has itself been developed across a geologically complex belt of Paleozoic and Mesozoic continental passive margin to arc volcanic rocks which were deformed during Paleozoic orogenic events. The Property is underlain by thrust faulted plates of Paleozoic sedimentary and volcanic rock structurally emplaced over Paleozoic and Mesozoic sedimentary rocks. Dikes, sills, and stocks that range in age from Mesozoic to Cenozoic are common. Cenozoic volcanic rocks of the Walker Lane are widespread in the area immediately surrounding the Property. Paleozoic to Mesozoic rocks are cut by regional-scale high-angle faults that typically strike between west-northwest and north-northwest, and these trends are commonly followed by dike swarms and by vein-associated mineralization. Significant Quaternary alluvial deposits of gravel and sand mask the bedrock at lower elevations.

Historical field reports, available via the Nevada Bureau of Mines and Geology website (<u>http://www.nbmg.unr.edu/</u>), indicate that vein, skarn, and porphyry style mineralization is present at the Property associated with a range of metallic elements including Mn, Zn, Cu, Pb, Cd, Ag, Au, Mo.

## 1.3 Exploration

Mining at the Property, reported in the early 20<sup>th</sup> century, targeted vein hosted Au, Hg and W at the Baxter Hancock, UV Industries, Big Dike, and Mildred mines. Exploration of the Property continued up until the 1970's principally targeting Mo-Cu-Ag bearing porphyry-associated mineralization. Detailed records of mining and exploration activities at the Property are not available

## 1.4 Drilling

Historical reports reference major drill programs by UV Industries at the B&C Springs Deposit in the 1970's and 1980's. The company had drilled 66-holes in the main B&C Springs deposit area for a total of 13,716 m by 1982 (Lindsey, 1982).



## 1.5 Historical Estimates

Mr. Greig (QP) highlights that the historical estimates presented in the Report have not been verified by him and he considers these historical estimates to be unreliable as key assumptions, parameters and methods used to determine the historical estimate are not known. However, Mr. Greig (QP) considers that historical resource estimates are useful for identifying zones of mineralization and indicating the dimensions of mineralized zones, this information is relevant to guiding future exploration.

Mr. Grieg (QP) has not done sufficient work to classify these historical estimate as a current mineral resource, and Sierra does not consider historical estimates as current mineral resources.

Based on UV Industries drill data, third-parties evaluated Mo +/-Ag-Cu mineralization at B&C Springs and developed Historical Estimates considering mineralization potentially amenable to open-pit and underground mining.

The most recent Historical Estimate was documented by Tribe (2007) who reported that Adanac Moly Corp. revisited UV Industries drill data to estimate mineral potential applying the polygonal method resulting in an estimated total "Open Pit Mineral Inventory" of 96.1M tonnes averaging 0.23% Mo and 0.20% Cu.

Tribe noted that drill spacing was excessive in some areas and recommended additional drilling on 100-foot (30 m) centers, and that much closer hole spacing would be required to confirm continuity for definition of an underground resource.

Mr. Greig (QP) highlights that an internal company report by Amax (Pinsent 2006) detailed a program of check assaying on UV Industries' drill chips/core that identified discrepancies (check assays lower than original assay) in lower ranges of Mo values, however, higher value ranges were only slightly lower than those reported by UV Industries.

Mr. Greig (QP) notes that "Open Pit Mineral Inventory" is not a classification recognized by the Canadian institute of Mining, Metallurgy and Petroleum (CIM), or Committee for Mineral Reserves International Reporting Standards (CRIRSCO).

The Issuer has not explored the Property and insufficient information exists to estimate mineral resource and mineral reserve estimates. Mr. Seers (QP) highlights that significant further exploration is required before the continuity and economic potential of mineralization identified at the Property can be determined.

## 1.6 Interpretations and Conclusions

Mr. Seers (QP) and Mr. Greig (QP) conclude the following:

- The Property is in the Paradise Peak Mining District that is known to host vein, skarn and porphyry style mineralization related to Paleozoic, Mesozoic, and Cenozoic igneous lithologic units
- Mining on and near the Property at various times over the past 100 to 150 years has exploited mineralization of Mn, Zn, Cu, Pb, Cd, Ag, Au, and Mo related to the various deposit styles
- There is a close association between dikes, veining, skarn-style mineralization at the B&C Springs Deposit
- The Property has not been systematically explored using modern techniques
- The Property is prospective for vein, skarn, and porphyry style mineralization



• Historical drilling and estimates at the B&C Springs deposits indicate that footwall of the South Thrust is a prospective target for Mo-Ag-Cu mineralization. The projection of the thrust along strike and at depth, as well as indication of the potential zones of mineralization along it could be facilitated by geophysical surveys.

## 1.7 Recommendations

Mr. Seers (QP) and Mr. Greig (QP) recommend that:

- Sierra seeks permission to the explore the Property from the United States Forest Service
- Efforts to locate drill chips/core and logs from the B&C Springs Deposit continue
- Continued exploration of the Property.

Contingent on acquiring permission to explore, a two-phase exploration program is recommended; Phase-1 Prospecting and Geological Mapping, and Phase 2 Soil Geochemical Sampling.

Phase 1 is estimated to take 14 days to complete for an approximate cost of US\$60k. A cost and time estimate for Phase 2 should be determined when Phase 1 results are available.

Results from Phases 1 and 2 should be documented and evaluated prior to considering and additional exploration of the Property, that might include:

- A property-wide airborne magnetometer survey to delineate units and structures
- Localized Induced Polarization (IP) and/or Controlled Source Audio-frequency Magnetotellurics (CSAMT) surveys across mineralized or altered trends.



# 2 Introduction

Following a Technical Disclosure review, Sierra Growth Corp. (Sierra or the Issuer) has prepared a Technical Report in accordance with NI 43-101 for the B&C Springs Property (the Property) in Nye County, Nevada, USA.

Mr. David Seers (QP) has been commissioned to compile the Report and Mr. Charles Greig (QP) undertook a site visit to the Property on November 14, 2020, and reviewed Property geology and historical mine workings.

Table 2-1 details the Sections of the Report that each Qualified Person is responsible for.

Qualified Person	Section
David Seers	1, 2, 3, 4, 5, 9, 10, 11, 13, 14, 24, 25, 26, 27
Charles Greig	6, 7, 8, 12, 23

Table 2-1: Qualified Persons - Section Responsibilities

Sierra Growth Corp. is a junior exploration company and is listed on the Canadian Securities Exchange (CSE) under the ticker (CSE:SGRO).

On March 1<sup>st</sup>, 2021, Sierra entered into a Mining Lease Agreement (Agreement) for the B&C Springs Property with two private individuals (Tim Neal and James N. Marin), collectively the "Owner". The terms of the agreement allow Sierra exclusive rights to explore, develop, and mine the Property and further granting to the Lessee (Sierra) the exclusive right and option to purchase the Property.

Information contained in this Report has been sourced from:

- The Sierra Growth Corp. website (<u>https://www.sierragrowth.com/</u>)
- Correspondence between Mr. David Seers (QP) and Sierra
- Summary Report on Sierra Growth Nevada Properties, prepared by C.J. Greig & Associates, Ltd.
- Publicly available documents sourced from Internet sites
- The Nevada Bureau of Mines and Geology website (<u>http://www.nbmg.unr.edu/</u>)
- Nevada Mining Claim Listings website (<u>https://data-ndom.opendata.arcgis.com/pages/mining-claims</u>)
- Signed PDF document detailing the Mining Lease Purchase Agreement for the B&C Springs Property, Nevada provided by Sierra Growth Corp, dated March 1<sup>st</sup>, 2021.

#### Units of Measure

The metric and imperial system have both been used in the Report, standard unit abbreviations are given in all instances.

References to currency are expressed in United States Dollars 'US\$'.

#### Coordinate System

The Latitude Longitude (ESPG:4326) and UTM, NAD83 Zone 11N (ESPG:26911) coordinate systems have been used throughout the Report.



# 3 Reliance on Other Experts

In Section 4 of the Report, Mr. Seers (QP) has relied on information provided to him by Sierra concerning, legal, political, environmental, and financial matters relevant to the Report.

### 3.1 Property Interest

Mr. Seers has relied on details of Sierra's interest in the Property provided to him by Sierra.

#### 3.2 Land Tenure

Mr. Seers has relied on information relating to land tenure agreements provided to him by Sierra.

#### 3.3 Environmental

Mr. Seers has relied on information relating to environmental matters provided to him by Sierra.

### 3.4 Royalties, Back-in Rights, Payments

Mr. Seers has relied on information relating to royalties, back-in Rights, payments, and other encumbrances provided to him by Sierra.



# 4 Property Description and Location

The Property is in the Toiyabe National Forest in Nye County, Nevada, within the Paradise Range approximately 14 km southeast of Gabbs (Figure 4-1).

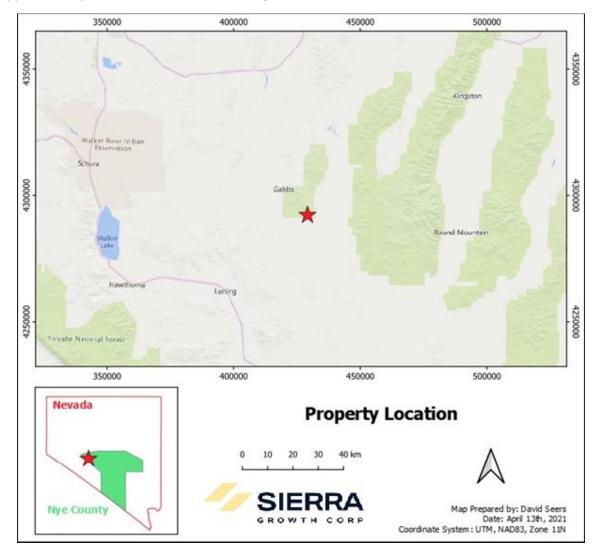


Figure 4-1: Property Location

The approximate center of the Property in the UTM, Latitude/Longitude, and UTM, NAD83, Zone 11N coordinate system is provided in Table 4-1.

Coordinate System	Easting / Longitude	Northing / Latitude
UTM, NAD83, Zone 11N	429215	4292454
UTM, Latitude/Longitude	-117.815	38.778



On March 1<sup>st</sup>, 2021, Sierra entered into a Mining Lease Agreement (Agreement) for the BC Springs Property with two private individuals (Tim Neal and James N. Marin), collectively the "Owner". The terms of the agreement allow Sierra exclusive rights to explore, develop, and mine the Property and further granting to the Lessee (Sierra) the exclusive right and option to purchase the Property. Key parts of the Agreement are highlighted below:

- Upon signing of the Agreement Sierra paid The Owners US\$15k (United States Dollars) in return exclusive rights until March 1<sup>st</sup>, 2022
- 2. If the Lessee pays the Owners an additional US\$20k on or before March 1<sup>st</sup>, 2022, exclusively rights will be extended until March 1<sup>st</sup>, 2023
- If the Lessee pays the Owners an additional US\$30k on or before March 1<sup>st</sup>, 2023 exclusively rights will be extended until March 1<sup>st</sup>, 2024. During this Period Sierra commits to undertaking \$75k exploration investment at the Property and will issue the Owner with 100,000 shares in Sierra
- 4. If the Lessee pays the Owners the additional amount of the greater in value of US\$40k and 24 ounces of .999 gold on or before March 1<sup>st</sup>, 2024. the term of this Lease shall be extended until March 1<sup>st</sup>, 2025. During this Period Sierra commits to undertaking US\$150k exploration investment at the Property and will issue the Owner with 100,000 shares in Sierra
- 5. If the Lessee pays the Owner the additional amount of the greater in value of US\$50k and 29 ounces of .999 gold on or before March 1<sup>st</sup>, 2025, the term of this Lease shall be extended until March 1<sup>st</sup>, 2026. During this Period Sierra commits to undertaking US\$225k exploration investment at the Property and will issue the Owner with 100,000 shares in Sierra
- 6. If Lessee pays the Owner the additional amount of the greater in value of US\$50k and 29 ounces of ,999 gold on or before March 1<sup>st</sup>, 2026, the term of this Lease shall be extended until March 1<sup>st</sup>, 2027. During this Period Sierra commits to undertaking US\$300k exploration investment at the Property and will issue the Owner with 100,000 shares in Sierra
- 7. Owner grants Sierra the exclusive and irrevocable right and option to purchase the Property, less the NSR, at any time during the term of the Lease by paying the Owner an amount equal to the aggregate value of any unpaid terms (points 1 to 6) plus the amount of the greater in value of US\$295k and, 174 ounces of .999 gold
- 8. In addition to the staged payments, upon commencement of production from the Property, the Owner maintains a Net Smelter Return (NSR) of 2.0%
- 9. Sierra has the right to buy down the half of the NSR royalty. For payment of the greater of US\$2M or 1176 troy ounces of .999 gold.

The Property consists of 67 unpatented Lode Mining Claims (Claims). Twenty-six (26) Claims have been issued and are in good standing; an additional 41 contiguous Claims are in application. Mr. Seers (QP) is not aware of any reason why the Claims in application would not be granted. Details of the Claims have been summarized in Figure 4-2 and Table 4-2. The approximate total area of the Property is 586.5 hectares.

Mr. Seers (QP) is not aware of any environmental liabilities, community issues or any other encumbrances that might hinder Sierra advancing exploration at the Property.

Mr. Seers (QP) highlights that historical mining activities may have generated environmental liabilities that have not been formally identified.



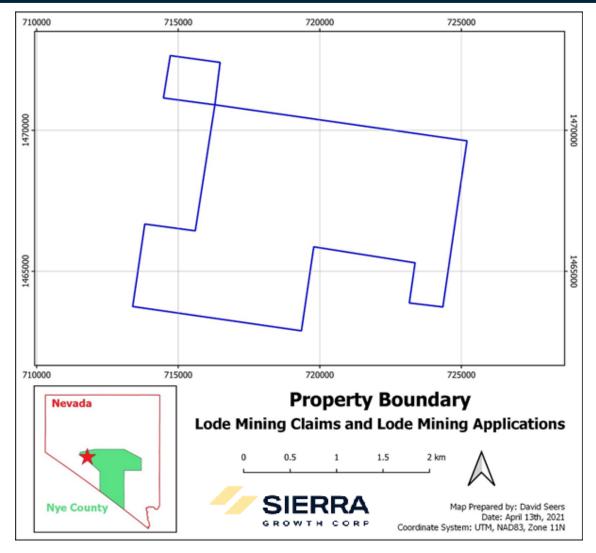


Figure 4-2: Property Boundary – Lode Mining Claims and Lode Mining Applications



Table 4-2: Property Claims and Applications

Claim Name	Nye County Document #	BLM-NMC Serial #	Status	Note
BC # 23	597578	872657	Granted	Original Claim
BC # 24	597579	872658	Granted	Original Claim
BC # 25	597580	872659	Granted	Original Claim
BC # 39	597590	872669	Granted	Original Claim
BC # 40	597591	872670	Granted	Original Claim
BC # 41	597592	872671	Granted	Original Claim
BC # 118	645293	915920	Granted	Original Claim
BC # 120	645295	915922	Granted	Original Claim
BC # 122	645297	915924	Granted	Original Claim
BC # 124	645299	915926	Granted	Original Claim
BC # 18	946086	1219236	Granted	Expansion Claim
BC # 19	946087	1219237	Granted	Expansion Claim
BC # 22	946091	1219238	Granted	Expansion Claim
BC # 26	946092	1219239	Granted	Expansion Claim
BC # 34	946088	1219240	Granted	Expansion Claim
BC # 35	946089	1219241	Granted	Expansion Claim
BC # 38	946093	1219242	Granted	Expansion Claim
BC # 42	946094	1219243	Granted	Expansion Claim
BC # 58	946095	1219244	Granted	Expansion Claim
BC # 60	946096	1219245	Granted	Expansion Claim
BC # 62 BC # 64	946097 946098	1219246 1219247	Granted Granted	Expansion Claim Expansion Claim
BC # 64	946098	1219247	Granted	Expansion Claim
BC # 163	946101	1219240	Granted	Expansion Claim
BC # 165	946102	1219250	Granted	Expansion Claim
BC # 167	946103	1219251	Granted	Expansion Claim
BC # 17	Pending	Pending	Pending	Expansion Claim
BC # 20	Pending	Pending	Pending	Expansion Claim
BC # 21	Pending	Pending	Pending	Expansion Claim
BC # 27	Pending	Pending	Pending	Expansion Claim
BC # 33	Pending	Pending	Pending	Expansion Claim
BC # 43	Pending	Pending	Pending	Expansion Claim
BC # 123	Pending	Pending	Pending	Expansion Claim
BC # 125	Pending	Pending	Pending	Expansion Claim
BC # 126	Pending	Pending	Pending	Expansion Claim
BC # 127	Pending	Pending	Pending	Expansion Claim
BC # 128	Pending	Pending	Pending	Expansion Claim
BC # 129	Pending	Pending	Pending	Expansion Claim
BC # 130	Pending	Pending	Pending	Expansion Claim
BC # 131	Pending	Pending	Pending	Expansion Claim
BC # 146	Pending	Pending	Pending	Expansion Claim
BC # 147	Pending	Pending	Pending	Expansion Claim
BC # 148	Pending	Pending	Pending	Expansion Claim
BC # 149	Pending	Pending	Pending	Expansion Claim
BC # 151	Pending	Pending	Pending	Expansion Claim





Claim Name	Nye County Document #	BLM-NMC Serial #	Status	Note
BC # 153	Pending	Pending	Pending	Expansion Claim
BC # 168	Pending	Pending	Pending	Expansion Claim
BC # 170	Pending	Pending	Pending	Expansion Claim
BC # 172	Pending	Pending	Pending	Expansion Claim
BC # 174	Pending	Pending	Pending	Expansion Claim
BC # 36	Pending	Pending	Pending	Expansion Claim
BC # 37	Pending	Pending	Pending	Expansion Claim
BC # 49	Pending	Pending	Pending	Expansion Claim
BC # 59	Pending	Pending	Pending	Expansion Claim
BC # 68	Pending	Pending	Pending	Expansion Claim
BC # 70	Pending	Pending	Pending	Expansion Claim
BC # 72	Pending	Pending	Pending	Expansion Claim
BC # 73	Pending	Pending	Pending	Expansion Claim
BC # 76	Pending	Pending	Pending	Expansion Claim
BC # 115	Pending	Pending	Pending	Expansion Claim
BC # 117	Pending	Pending	Pending	Expansion Claim
BC # 119	Pending	Pending	Pending	Expansion Claim
BC # 121	Pending	Pending	Pending	Expansion Claim
BC # 150	Pending	Pending	Pending	Expansion Claim
BC # 152	Pending	Pending	Pending	Expansion Claim
BC # 154	Pending	Pending	Pending	Expansion Claim
BC # 156	Pending	Pending	Pending	Expansion Claim

The Property is in the Toiyabe National Forest and access rights and agreement to undertake exploration should be reached with all relevant parties (largely the United States Forest Service).



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

The Property is in the Toiyabe National Forest on the eastern slope of the Paradise Range at elevations between 2000 and 2500 meters above sea level (masl). Topography is gentle with rounded hilltops, and incised valleys of moderate slope (Figure 5-1). Vegetation of the Toiyabe National Forest and at the Property includes, lush meadows, common dispersed conifer forests, and local aspen groves.

The climate in the area around the Property is typically arid and is conducive to exploration activities throughout the year. High temperatures average 33° C in July, coldest temperatures average -2° C in December and may produce some freezing rain and snow. Annual precipitation averages 12 cm and snowfall between the months of November and March can temporarily complicate access to and around the Property.

The Property can be accessed via 4x4 vehicles throughout the year on a series of unpaved roads. From the village of Gabbs travel 7 km south on State Highway 361, turn east onto Poleline Rd. and proceeding 14 km to the turn onto a secondary road called Dead Indian Pony Rd., and proceed 10 km northward to the Property. Unpaved roads provide access to various parts of the Property. It is possible to access all areas of the Property on foot.

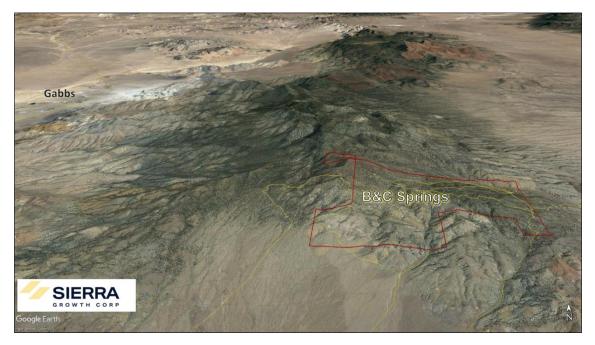


Figure 5-1: Annotated View of Property (looking north), access roads are shown in yellow and the Property boundary is shown in red. Captured in Google Earth

The exploration program recommended in Section 26 of the Report requires the negotiation of right of access. Mr. Seers (QP) is not aware of any other factors that might impede the recommended exploration program presented in the Report.

Mr. Seers (QP) notes that formal studies related to potential locations for mining infrastructure (i.e., camp, processing plant, tailings, waste rock storage) have not been completed. Based on a review of Google Earth imagery and discussion with Mr. Greig, Mr. Seers (QP) considers there are sites that may be suitable for mining infrastructure. The development of any mining infrastructure is subject to permissions and permitting.



There are no permanent structures on the Property, although there is at least one dilapidated mining shack dating back many decades, and plenty of old workings comprised of shallow pits and shafts, with a limited number of tunnels (adits). The nearest power line is located along Poleline Road, some 8 km from the area of interest.

Basic amenities required to run an early-stage exploration project, including communications, fuel, food, and drinking water are available at the town Gabbs, although the larger community of Tonopah, to the south and considerably farther away, is still readily accessible day-to-day, and offers more suitable amenities and support for exploration programs.



# 6 History

Detailed records for the Property are not available.

Mr. Greig (QP) has relied on publicly available information to complete Section 6 of the Report, and he has not independently verified this information.

## 6.1 History of the Paradise Peak Mining District

The Paradise Peak District is in the southern Paradise Range, about 190 km southeast of Reno. Field reports and memorandums relating to the Paradise Peak Mining District (PPMD) are available via the Nevada Bureau of Mines and Geology website (<u>http://www.nbmg.unr.edu/</u>). These reports indicate intermittent mining and exploration activity in the district began around 1900, but production, mainly gold and silver, was small and intermittent through the 1920's. References are made to exploration activities continuing into the 1970's. Mining and exploration interest in the district has been focused primarily on precious metals deposits, copper-molybdenum deposits, and to a lesser extent, tungsten, and mercury deposits.

## 6.1.1 Sheebar Mercury Mine

The discovery of the Sheebar mercury mine in 1929 is the first documented mine in the PPMD. A wide zone of banded quartz-carbonate veining along a shear zone in recrystallized limestone is exposed at the mine. Veins have strings of crystalline cinnabar along them and are reported to locally contain both scheelite and fluorite. Records indicate that the Sheebar Mine produced a small amount of mercury through 1943 and was again explored in the mid 1960's. A small quantity of tungsten was produced from the Sheebar Mine in 1954.

#### 6.1.2 Paradise Peak Mine

In 1983, FMC Gold Corporation discovered a gold and silver deposit at the Paradise Peak mine property, approximately 11 km west-southwest of the Property.

Mineralization at Paradise Peak has been classified as a hybrid epithermal-hot spring type deposit.

Paradise Peak was in production from 1986 to 1994 and is reported to have produced 1.6M ounces of Au and 24.1M ounces of Ag.



## 6.2 History of the Property

The Property has been a focus for mining and exploration activities for at least 100 years and at least four abandoned mines are recorded in the property limits (Figure 6-1).

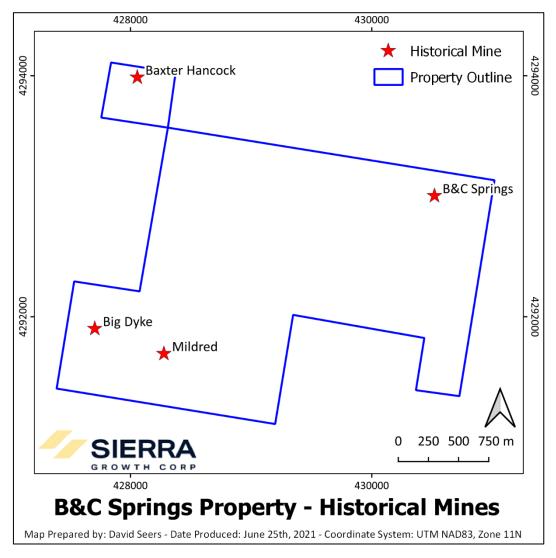


Figure 6-1: B&C Springs - Historical Mines

#### 6.2.1 B&C Springs Mine (UV Industries)

On the northeast part of the Property there are several small shafts and adits on copper-bearing gossans and jasperoid zones in silicified limestone and hornfels whose excavation probably predated the 1900's. Stockwork quartz veining is exposed in several road cuts and trenches; the veins contain chalcocite as well as blue and green oxide copper minerals. Silicified, quartz-veined porphyry was found on dumps in this area. The B&C Springs (also known as U. V. Industries) molybdenum-copper-silver deposit underlies the gossan zones but was not discovered until 1968.

The B&C Springs porphyry molybdenum-silver-copper deposit was found by United States Smelting, Refining and Mining Company ("USSRAM") in the northeast corner of the current Property through prospecting of a notable magnetic low, outlined in an airborne magnetic survey flown in 1968. Molybdenite was discovered in waste-rock around an old adit that had been driven on near-surface sulfide mineralization. In 1969, the area was mapped by USSRAM, and grid-based geophysical and geochemical surveys are reported to have been conducted over the main area of interest. The



company also drilled two short rotary-holes. The following year, drilling continued with a combination of shallow rotary and deeper diamond-drilling.

Major drill programs on the deposit have been reported between 1970 and 1974, in 1977 and in 1978. In 1972 USSRAM changed its name to UV Industries, Inc. After 1978, UV Industries drilled to the southwest of the main showings and encountered low-grade copper and gold values in a fissure-vein. It continued to explore that part of the property until the early 1980s. The company had drilled 66holes in the main B&C Springs deposit area for a total of 13,716 m by 1982 (Lindsey, 1982).

Pinsent (2006) evaluated data from the historic exploration at B&C Springs and reported that the size and shape of the B&C Springs deposit suggests derivation from a buried porphyry intrusion accompanied by fluid flow in deformed rocks in the footwall of the South Thrust (Figure 7-2). The mineralization is best developed in recrystallized calc-silicate and hornfels rocks, possibly because they were able to fracture and provide permeability, rather than in marbles, which were less amenable to development of permeability via fracturing. Pinsent (2006) felt that the temperature of formation of the deposit was too low to generate typical skarn mineralogy.

According to Pinsent (2006), individual logs provide a downhole graphic log, along with brief lithological descriptions and assay data over selected sample intervals. In some cases, site locations are shown by field grid coordinates and collar elevations are commonly given as estimates. The holes were all drilled vertically. In earlier holes, sample interval lengths varied appreciably, however, constant 5 ft intervals were used in the later holes. Some of the logs show recovery data, but there is very little geotechnical information.

UV Industries also produced several editions of surface maps and drill-sections at a variety of different scales. A detailed set of drill sections provide an interpretation of the geology underlying the South Thrust. The sections available include 32 drill holes, including four from rotary-drilling. There are similar, simpler sections showing down hole molybdenum assay content and interpretative sections showing possible continuity of "higher-grade" (> 0.1% Mo over 10ft or more) zones from hole to hole based on Pinsent's (2006) interpretation. They appear to include forty drill-holes, including ten from rotary drilling. These sections were used by Worthington (2004) in his assessment of a possible small-scale pit and underground potential of the deposit.

Holes were drilled through the deposit to depths of 250 to 500 meters and outlined, what was interpreted to be, a relatively flat-lying tabular deposit trending north 15° east, dipping 20° to the southeast, with a total length of 1195 meters, an average width of 465 meters and an average thickness of 51 meters (Pinsent, 2006). The deposit is approximately parallel to an overlying thrust fault. The northeast part of the deposit, proposed for open pitting by Worthington (2004), comes to surface in the floor of a valley where the cap of "greenstone" overlying the thrust fault has been eroded away.

## 6.2.2 Baxter-Hancock Mine

The Baxter-Hancock high-grade tungsten deposit was discovered on the northwest corner of the Property in the early 1950's. Scheelite occurs in a zone of silicified and brecciated limestone up to 75 feet wide, near the contact with Buzzard Peak granite and adjacent to a major fault zone that trends north-south and dips 45° west. Quartz seams and veins ranging in width from a few inches to 5 feet are closely spaced across a 20-foot-wide zone.

Development on the Baxter-Hancock mine consisted of a small pit 75 ft x75 ft x 35 ft deep, a 75-foot vertical shaft on the west side of the pit, and 2 shallow shafts 600 and 800 feet west of the pit.



Reported production from the pit during the 1950's amounted to 3000 tons that contained from 2.0% to 12.5% W03 and was shipped to the U.S. Vanadium mill at Bishop, California (USBM unpublished data, 1963). A small tonnage of mined material varying from 0.5% to 2.0% W03 was stockpiled and later milled at Gabbs. The mine eventually produced about 10,000 tons containing 16,128 Short Ton Unit (stu) of W03 through 1956 (Tingley and Quade, 1986).

## 6.2.3 Mildred Mine

Old workings in the Mildred Mine area, 2.4 km south of Baxter-Hancock, were probably originally worked for gold and silver, but records are not available. Kleinhampl and Ziony (1984) attribute more recent dozer work and trenching in this southwest part of the Property to exploration for tungsten during the 1950's. An area of complex geology, numerous workings, and anomalous samples occurs in a zone about 3 mi long and 3/4 mi wide extending NW and SE from the Mildred mine. The zone parallels the range front and is underlain by faulted Tertiary volcanic rocks, and older limestone, sedimentary rocks, and greenstone. Many of the diggings in this area explored brittle shear zones, fault contacts, quartz veins, tactites, and areas of brecciation and silicification.

#### 6.2.4 Bid Dyke Mine

About 600 m west of Mildred, a hematite-bearing garnet-epidote skarn zone which formed along a limestone-dike contact is exposed at the Big Dyke Mine. A USBM field report for the Big Dyke Mine by Quade in 1985 indicated that in the early 1900's the zones were mined for Au, but were later explored for W and Mo. A single 200 ft shaft and numerous open cuts were developed. Sampling in the area has returned anomalous values for Zn, Cu, Pb, Ag, Mo, Cd and Mn.

### 6.3 Historical Estimates

Mr. Greig (QP) highlights that the historical estimates presented in Section 6.3 of the Report have not been verified by him and he considers these historical estimates to be unreliable as key assumptions, parameters and methods used to determine the historical estimate are not known. However, Mr. Greig (QP) considers that historical resource estimates are useful for identifying zones of mineralization and indicating the dimensions of mineralized zones, this information is relevant to guiding future exploration.

Mr. Grieg (QP) has not done sufficient work to classify these historical estimate as a current mineral resource, and Sierra does not consider historical estimates as current mineral resources.

Based on drilling by UV Industries, three historical estimates have been completed for the B&C Springs deposit (Figure 6-1).

Mr. Greig (QP) highlights an internal company report by Amax (Pinsent 2006) that detailed a program of check assaying on UV Industries' drill chips/core that identified discrepancies (check assays lower than original assay) in lower ranges of Mo values, however, higher value ranges were only slightly lower than those reported by UV Industries. Pinsent (2006) recommended the twinning of number of the drill holes and additional analyses to determine if oxidation of core may have contributed to the discrepancies. Mr. Greig (QP) has not seen any records of twinned drill holes having been completed.

#### 6.3.1 Historical Estimate 1

Based on drilling by UV Industries, a Historical Estimate was prepared by the United States Bureau of Mines (D. Lindsey) for the B&C Springs porphyry molybdenum-silver-copper deposit. The historical estimate considered a small pit and determined over 12M tonnes with a strip ratio of 2.4:1 (waste:mineralization) (Worthington, 2004).



D. Lindsey (1982) revisited his work in the early 1980's and based on a 0.04% Mo cut-off estimated a "Demonstrated Resource" of 33.64M tons (30.51M tonnes) averaging 0.08% Mo, 0.18% Cu, and 6.86 g/t Ag for the B&C Property.

Mr. Greig (QP) notes that "Demonstrated Resource" is not a classification recognized by the Canadian institute of Mining, Metallurgy and Petroleum (CIM), or Committee for Mineral Reserves International Reporting Standards (CRIRSCO).

### 6.3.2 Historical Estimate 2

Adanac Moly Corp. acquired the Property in the early 2000's and revisited UV Industries' drilling records to investigate the potential for higher-grade zones of Mo mineralization that might be amenable to underground mining methods (Worthington 2004). This work did not consider accompanying Cu and Ag mineralization.

Worthington (2004) determined that drill data within a 3000 ft by 1000 ft block showed a persistent higher-grade band averaging 31 feet thick and averaging 0.20% Mo, dipping about 20° to the southeast. Parallel bands of less continuous Mo mineralization were interpreted to follow shear zones related to thrust faults.

Based on 25 drill hole intersections, Worthington (2004) determined a "Mineral Inventory" of as much as 5 million tonnes averaging 0.20% Mo. Worthington noted that mineralization remained open to expansion with further drilling.

Mr. Greig (QP) notes that "Mineral Inventory" is not a classification recognized by the Canadian institute of Mining, Metallurgy and Petroleum (CIM), or Committee for Mineral Reserves International Reporting Standards (CRIRSCO).

#### 6.3.3 Historical Estimate 3

Tribe (2007) reported that Adanac Moly Corp. again revisited UV Industries drill data to estimate mineral potential applying the polygonal method. Tribe (2007) reported an estimated total "Open Pit Mineral Inventory" of 96.1M tonnes averaging 0.23% Mo and 0.20% Cu.

Tribe noted that drill spacing was excessive in some areas and recommended additional drilling on 100-foot (30 m) centers, and that much closer hole spacing would be required to confirm continuity for definition of an underground resource.

Mr. Greig (QP) notes that "Open Pit Mineral Inventory" is not a classification recognized by the Canadian institute of Mining, Metallurgy and Petroleum (CIM), or Committee for Mineral Reserves International Reporting Standards (CRIRSCO).



# 7 Geological Setting and Mineralisation

## 7.1 Regional Geology

The B&C Springs Property lies in the Walker Lane Trend (also known as Walker Lane Belt) a northwest to southeast zone, several hundred kilometers long, characterized by Miocene structural deformation, volcanism, and related mineralization. The Walker Lane Trend is recognized for hosting precious metal mineralization (Au and Ag) in epithermal deposits related to Miocene volcanism. The Walker Lane metallotect lies within a tectonically complex part of the North American Cordilleran margin that has evolved from a Proterozoic to early Paleozoic passive margin setting that was first deformed during the Paleozoic Antler and Sonomon orogenies, that in Mesozoic and early Cenozoic time evolved into a convergent margin and continental arc and/or backarc. The Miocene backarc volcanism evident in the Walker Lane Trend was overprinted by extensional to transtensional deformation in the late Miocene and Pliocene as the convergent margin evolved into the present Continental Transform system exemplified in major faults such as the San Andreas fault. The transition from convergent margin to extensional/transtensional and hence into translational tectonics is well-expressed in the present-day tectonically-developed topography of the Basin and Range province, in Nevada with the distinct and internally-drained Great Basin.

The geology of the Paradise Peak Quadrangle was mapped by Vitaliano and Callaghan (1963). A very simplified geological map, based on 1:500k mapping data, available on the Nevada Bureau of Mines and Geology website (<u>http://www.nbmg.unr.edu/</u>), and is shown in Figure 7-1.

The Property is underlain by thrust faulted plates of Paleozoic sedimentary and volcanic rock structurally emplaced over Paleozoic and Mesozoic sedimentary rocks. Dikes, sills, and stocks that range in age from Mesozoic to Cenozoic are common. Cenozoic volcanic rocks, which are abundant in Nevada, are widespread in the area surrounding the Property. Paleozoic to Mesozoic rocks are cut by regional-scale high-angle faults that typically strike between west-northwest and north-northwest, and these trends are commonly followed by dike swarms and by quartz veins (Wallace, 1978). Significant Quaternary alluvial deposits of gravel and sand mask the bedrock at lower elevations.



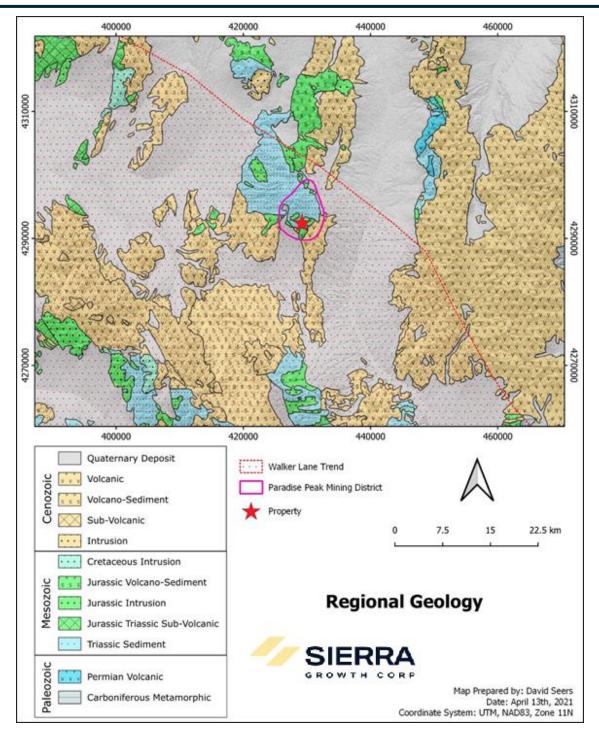


Figure 7-1: Regional Geology - Simplified Map based on 1:500k data from Nevada Bureau of Mines and Geology



# 7.2 Local Geology

## 7.2.1 Stratigraphy

The geology of the Paradise Peak Mining District (PPMD) (Figure 7-2) is characterized by Paleozoic volcanic and sedimentary sequences, and Mesozoic sedimentary, volcanic, and intrusive units. Cenozoic volcanics overlie the Mesozoic units to the southeast. Quaternary alluvial deposits have been mapped at lower elevations.

Mesozoic units of the PPMD have been described by H.G. Ferguson and S.W. Muller (1949), and pre-Tertiary stratigraphy of the nearby Union District (approximately 20-25 km to the east-northeast of the B&C Springs property, in the Shoshone Range) has been described by N.J. Silberling (1959).

The oldest rocks of the Paradise Range are believed to be Permian in age. Silberling (1959) describes the Permian Pablo Formation as being comprised of three local members. The lowest member is composed of coarse and fine-grained sedimentary rocks interstratified with andesitic volcanic rocks gradationally overlain by a relatively thin limestone member which is in turn overlain by a thick "greenstone" member composed of altered andesitic flows and volcanic breccia.

Unconformably overlying the Permian rocks is a sequence of limestone and silicic to calcareous sedimentary rocks, with lesser intermediate volcanic rocks, assigned to the Late Triassic Luning Formation. Four informal members are recognized within the Luning. In ascending order, they are the clastic member, composed of siliceous conglomerate, sandstone, and argillite (600 ft. thick); the shaly limestone member (600 feet); the calcareous shale member (550 feet); and the carbonate member, composed of massive limestone and dolomite (at least 2,000 ft. thick; Silberling, 1959). Ferguson and Muller (1949) mapped Luning Formation units below the Paradise thrust in the vicinity of Paradise Peak. They distinguished three lithological units; a lower limestone, gray to black, thin bedded (2,000 ft. thick); slate with a little conglomerate (1,000 ft. thick); and upper limestone and dolomite, white, massive, and crystalline (500 to 600 ft. thick).

The Gabbs and Sunrise Formations conformably overlie the Luning Formation in the region. An exposed section of the undifferentiated Gabbs and Sunrise Formations is 2,700 feet thick in the nearby Union district and is composed largely of argillaceous limestone and calcareous siltstone ranging from latest Triassic to at least Early Jurassic in age (Silberling, 1959).

Several hundred feet of strata assigned to the Early to Middle Jurassic Dunlap formation in the Union district conformably overlie the Sunrise formation, consisting mainly of noncalcareous, possibly nonmarine, sandstone.

Several irregular stocks, up to 4 km in diameter, are mapped in the Paradise Range, and are primarily of granite to granodiorite composition, with lesser diorite. Some of the intrusions are Jurassic to Cretaceous in age, while others are Cenozoic. Granitic dikes of unknown ages are abundant in several areas, and some have been described as porphyritic.

## 7.2.2 Structure

Regional widespread extensional deformation has resulted in normal faulting of the Basin and Range system superimposed on large-scale folds that are broken by thrust faults developed during folding. Most of the normal faults trend northwesterly and preceded the deposition of Cenozoic volcanic rocks. However, some of the faults displace both the older and the overlying Cenozoic rocks.

At least two major thrust faults are present in the local area. A limestone-dolomite facies of the Luning Formation is thrust over the Luning, Gabbs, and Sunrise formations, and is in turn overthrust by



greenstones regarded as belonging to the Pablo Formation. Movement of the upper plates was probably to the east and is believed to have been of considerable magnitude.

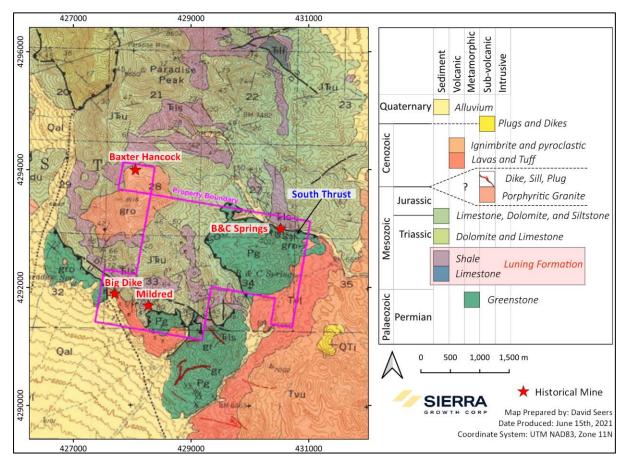


Figure 7-2: Local Geology – Extracted from Vitaliano and Callaghan, 1963, USGS GQ-250



# 7.3 Property Geology

## 7.3.1 Stratigraphy

The oldest rocks on the Property are found within upper thrust plates in the eastern and southern claims consisting of volcanic breccia and/or "greenstone" that is inter-bedded with marine sedimentary rocks, and which are probably part of the Pablo Formation. Vitaliano and Callaghan (1963) have mapped the overthrust rocks as Permian, whereas Silberling and John (1989) assigned these rocks an age range of upper Paleozoic and/or lower Mesozoic. Petrographic work by Tribe (2006) on samples of the "greenstone" indicated that some of the rocks in this over-thrusted plate are gabbro. The volcanic rocks have undergone intense propylitic alteration and largely consist of aggregates of chlorite, epidote, carbonate, sericite, quartz, and pyrite (Pinsent, 2006). The B&C Springs molybdenum deposit is in the footwall of one of the thrust faults. Although the volcanic rocks are thought to have been over-thrust prior to the mineralization that underlies the thrust, they are essentially barren. They may have formed an impervious cap that largely confined the ore-bearing fluids to the structurally-underlying sedimentary rocks (Callaghan, 1979).

Silberling and John (1989) have mapped limestone, marble, and calcareous sedimentary units in the central part of the B&C Springs Property as Early Jurassic age, which may belong to the Gabbs and Sunrise Formations, whereas others have mapped these areas as undifferentiated Luning, Gabbs and Sunrise Formations. The limestone units in these Formations have been locally recrystallized to marble and some contain small garnet, serpentine, and chlorite alteration zones.

The rocks that host the B&C Springs molybdenum and copper mineralization have been described as Luning Formation by Pinsent (2006). He describes these units as folded, faulted and moderately metamorphosed sedimentary rocks that strike to the northeast and (regionally) dip at approximately 20° to the southeast. The metasediments are fine-grained and calcareous; the uppermost Luning formation unit within the drilled area consists of thin-bedded dolomite and limestone that has recrystallized to marble and contains locally well-developed garnet, serpentine, and chlorite alteration or replacement (in part skarnified) zones. This unit is the primary host for the mineralization. It is underlain by a 100 ft (30 m) thick recrystallized shale unit that has been hornfelsed. Below that, there is another, less skarnified, barren limestone; and below that there is a second hornfelsed shale unit.

In the immediate deposit area, the top of the Luning Formation is defined by the "South Thrust" (Figure 7-2) which appears to have a similar strike and dip to the underlying metasediments, with a northeast strike and 20° dip to the southeast. There are no obvious marker horizons (Nash, 1982). The molybdenum deposit is a tabular body lying within the metasedimentary rocks in the immediate footwall of the fault. The mineralized zone comes to surface in the north, where the overlying thrust plate has been eroded away by a downcutting creek.

Some of the deeper drill holes on the Property passed through the Luning Formation into intrusive rocks at depth logged as "quartz monzonite". This intrusion is separated from the Luning formation by a well-defined "shattered zone" (Callaghan, 1979; Nash, 1982). Nash (1982) suggests that the mineralized Luning formation rocks may have been thrust over the intrusion from the west. The intrusive rock is texturally like that of the Buzzard Peak stock, located about 1 km to the west, where it underlies the northwest corner of the Property. The intrusive rocks intersected in the drilling have been altered but there is no evidence that they are genetically related to the overlying mineralization. The age of the intrusion is unknown, although Callaghan (1979) speculates that it is probably Cretaceous. It is possible that some of the altered dikes within the molybdenum deposit may be derived from the granitic Buzzard Peak intrusion, which is known to be weakly-mineralized, and



contains local intense stockwork quartz veining and quartz-sericite alteration, with attendant sulfide mineralization in the form of pyrite and lesser chalcopyrite (Hansen, 1977).

## 7.3.2 Mineralization

Historical field reports, available on the Nevada Bureau of Mines and Geology website (http://www.nbmg.unr.edu/), indicate that vein, skarn, and porphyry style mineralization are present in the Property area. A range of metallic elements are recorded including Cu, Zn, Pb, Ag, Au, Mo, W, Cd and Mn. Limestone units are widely altered or metamorphosed to marble and localized zones of garnet-epidote tactite or skarn are developed, typically adjacent to dikes, but for the most part it appears that temperatures were not high enough to develop large mineralized skarn zones. Several of the local mineral occurrences are described in Section 6 (History), including the Baxter-Hancock tungsten-bearing veins, Mildred gold- and tungsten-bearing veins and the Big Dike skarn occurrences which contain values in gold, tungsten, and molybdenum. Little modern exploration work (over the past 60 years or more) has been done on these mineral occurrences, and the reports describing the mineralization are sparse and/or in private hands, and unavailable. The main mineral body on the Property, however, is the B&C Springs Mo-Cu-Ag deposit that was drilled extensively by UV Industries in the 1970's.

Pinsent (2006) reported that the B&C Springs deposit and the mineralizing system it formed from may have been driven by a largely unexposed porphyry intrusion emplaced into the deformed and brecciated host rocks in the footwall of the South Thrust. The mineralization is best developed in recrystallized calc-silicate and hornfels rocks, possibly because they were able to readily fracture and provide the requisite permeability. The deposit contains sub-parallel "layers" of higher-grade molybdenum that are relatively flat-lying, parallel to the overlying thrust fault. These may have been emplaced along shear zones that were sympathetic with the main thrust fault.

Pinsent (2006) has reported on the mineralization in the B&C Springs molybdenum-copper deposit, and his descriptions are summarized as follows.

The sulfide mineralization is almost entirely disseminated. Molybdenite, chalcopyrite and variable amounts of pyrite replace matrix material in altered and fractured rock and are found as irregular, erratically distributed pockets and clusters. There is considerable over-lap between the distribution of molybdenite and chalcopyrite; however, they differ locally and may reflect two separate mineralizing events.

Most commonly, molybdenite occurs as small, disseminated crystals inter-mixed with quartz and recrystallized carbonate, sericite, tremolite and magnetite (Wallace, 1978, Lindsey; 1982). The crystals range in size from <1 to 4 mm in diameter. Less commonly, larger flakes and crystals occur along fracture planes and joint surfaces, accompanied by chlorite or mica. Alternatively, in tuffaceous rocks or siltstones, molybdenite may be finely concentrated along preferred laminations. Some of the molybdenite is mechanically redistributed along shears and the deposit is thought to be cut by late, near-vertical block faults (Nash, 1982)

The deposit is cut by an irregular stockwork of narrow (2-10 mm wide) quartz-feldspar +/- sericite veins. They appear to be well developed in the more strongly Mo mineralized areas but few of them carry molybdenite. The veins have minor alteration selvages and show little reaction with the surrounding host-rock. Their constituent minerals are markedly less altered than those in the surrounding rock and it is possible they post-date mineralization (Goeltz, 1977). The quartz-feldspar veins

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locally contain pyrite and/or chalcopyrite and other trace sulfide minerals, including bornite, covellite, tetrahedrite, sphalerite and galena. Most of the chalcopyrite present is disseminated; however, it is also found in hair-line fractures (Wallace, 1978; Callaghan, 1979 and Lindsey, 1982).

Molybdenite and chalcopyrite have undergone varying degrees of oxidation down to as much as 350 ft (107m) (Hansen, 1977), but insufficient data is available to determine the extent of molybdenum oxidation, and whether Mo oxide was analyzed in core samples.

No intensive mineral exploration has taken place on the Property since the last drilling in 1982, and, although considerable molybdenum-copper mineralization is indicated in the B&C Springs deposit, Mr. Greig (QP) believe that further significant exploration is required before the continuity and economic potential of mineralization can be determined.



# 8 Deposit Type

Based on a review historical reports and observations made in the field, Mr. Charles Greig (QP) is satisfied that the Property is that the Property is prospective for epithermal vein, skarn, and porphyry styles of mineralization, these styles are consistent with a wider porphyry environment.

Mineralization in a porphyry environment is driven by hydrothermal solutions emanating from and/or propelled by an intrusive heat source. The identification of intrusions and surrounding zones of hydrothermal alteration are key exploration components. These features, as well as areas of mineralization, may be identified via geology, geophysics, geochemistry, and/or remote sensing.

In most porphyry deposits copper is the primary commodity of economic interest, although rare deposits with low copper grades are mined principally for associated elements, such as gold, silver, or molybdenum. Molybdenum- and silver-bearing porphyry-style mineralization is one of the main target types sought on the Property.

A porphyry deposit has the following characteristics:

- Sulfide minerals are localized in a network of fracture-controlled stockwork veinlets and as disseminated grains in the altered rock adjacent to veins;
- Alteration and mineralization are genetically related to predominantly intermediate to silicic magma reservoirs, typically at 1-4 km depth, emplaced into shallow crustal rocks, in magmatic arcs above subduction zones;
- Intrusive rock complexes that are emplaced immediately before and/or synchronously with porphyry deposit formation, and which host the deposits, are predominantly in the form of upright-vertical cylindrical stocks and(or) complexes of dikes that may be emplaced along steeply dipping fault systems;
- Zones of phyllic-argillic and marginal propylitic alteration overlap or surround a potassic alteration assemblage;
- Sulfide minerals may also be introduced during overprinting phyllic-argillic alteration events; and,
- Peripheral vein and skarn deposits may form distally from the buried stock (Figure 8-1).

Porphyry deposits result from the condensation of hydrothermal fluids derived from a crystallizing magma reservoir in the shallow crust. These shallow subvolcanic complexes are typically made up of multiple intrusions of varying composition, derived from a source reservoir at greater depth. The compositions of the shallow intrusions that host porphyry deposits are dependent on the deep melt reservoirs from which both the shallow intrusions and the ore fluids were derived.

Copper-ore mineral assemblages are a function of the chemical composition of the fluid phase and the pressure and temperature conditions affecting the fluid. Thus, specific mineral associations may vary in a deposit as the composition of the hydrothermal fluid changes. Most porphyry deposits are copper bearing. The principal copper sulfide mineral is chalcopyrite, although substantial amounts of copper may occur as bornite, enargite, and chalcocite. By-product elements frequently include molybdenum (typically in molybdenite), and silver and gold, typically hosted in sulphide minerals. Other associated minerals may include pyrite, sphalerite, galena, tetrahedrite, and gold tellurides.



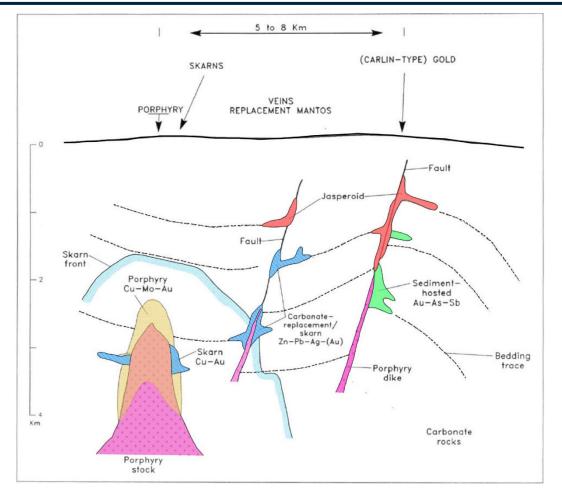


Figure 8-1: Schematic model of possible links between porphyry and sediment-hosted deposits (after Sillitoe and Bonham, 1990)

Molybdenum is an important constituent in many porphyry copper deposits, but the details of its occurrence are variable. In some deposits, molybdenite may be found in close association with copper minerals, in veins and disseminations. In others, there may be separate sets of veins, possibly overprinting earlier veins, that contain more exclusively either molybdenum or copper minerals. This may be the case at B&C Springs where drill intercepts have suggested independent, but partially overlapping, zones of copper and molybdenum mineralization.

Geochemical zoning studies have shown that copper, molybdenum, gold, and tin are the most anomalous elements within ore zones. Although silver and arsenic are also anomalous within ore zones, they may additionally occur with barium, zinc, lead, and antimony in overlying and lateral subeconomic, altered rock. Some deposits show anomalous tellurium above ore, and zinc and lead may form negative anomalies immediately above and within ore.

Deposits are typically elliptical in plan view, draping over the conical intrusive body, and they vary greatly in dimensions, with long axis ranging from <0.5 km to >5 km, minor axis from <0.2 km to >1 km and depths of up to 1 km or more.

Porphyry copper deposits can be correlated with late and/or distal polymetallic base metal and precious metal veins (zinc, lead, silver, gold), carbonate replacement and skarn deposits, as well as disseminated gold deposits (Figure 8.1). These distal deposits are commonly associated with dikes that emanate from the porphyry stock. Many of these styles of mineralization have been identified in various mineral showings on the B&C Springs Property. The greatest potential for additional porphyry-

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style mineralization may be in the central part of the Property at depth, where the intrusive that underlies the B&C Springs deposit may connect with the Buzzard Peak stock.

Thermal metamorphism from a magma body intruding into sedimentary rocks may result in formation of hornfels and marble, preceding porphyry copper and skarn mineralization. Pressure from rising hydrothermal fluids and vapours causes fracturing of the overlying rocks. Metamorphism modifies the permeability of host rocks and thus can affect pathways for the mineralizing fluids. This may be the case at the B&C Springs deposit where mineralized hornfels units were subject to strong fracturing and shearing, whereas the intervening layers of marble are not mineralized because the rock was not amenable to fracturing, therefore limiting permeability.

The geophysical signature of porphyry deposits often appear as magnetic highs, with alteration halos usually manifest as donut-shaped or open-ring peripheral magnetic lows. Induced polarization (IP) anomalies are generally, but not always, a diagnostic indicator of economic mineralization. The IP anomalies correlate with both mineralization and alteration-related magnetic lows; however, IP anomalies often indicate the most abundant pyrite zones in altered rocks rather than areas of less-IP-reactive clay minerals. Radiometric methods will show the potassic alteration if significant potassically-altered parts of the system are exposed. Potassic, phyllic, argillic, and propylitic alteration halos of porphyry deposits contain distinct spectral absorption features that can be mapped in surface exposures using multispectral and hyperspectral remote sensing data.



# 9 Exploration

The Issuer has not explored the Property.

Although there is clear evidence of historical exploration at the Property, including, trenching and other exploratory excavations, records of results are not available.



# 10 Drilling

The Issuer has not undertaken any drilling at the Property.

## 10.1 Historical Drilling

Historical records indicate that UV industries undertook a series of drill programs at the Property in 1970 and 1974, in 1977 and in 1978, targeting the B&C Springs Porphyry area. UV industries drilled 66-holes in the main B&C Springs deposit area for a total of 13,716 m by 1982 (Lindsey, 1982).

Detailed records from these drill programs are not available for review and the location of drill chips or core is not known.



# 11 Sampling Preparation, Analyses and Security

The Issue has not taken any samples from the Property.

Details of sample preparation, analyses and security of historical sampling are not available.

Mr. Seers (QP) recommends that robust sampling procedures and appropriate analytical techniques are defined prior to commencing exploration at the Property. Sampling protocols, including, analytical methods and security should be documented, and field crews should be adequately trained in the execution of the protocols.



# 12 Data Verification

Mr. Charles Greig (QP) undertook a site visit to the Property on November 14, 2020, to review the local geology, assess access, and visit historical workings at B&C Springs Deposit, Mildred Mine, Baxter-Hancock Mine. Mr. Greig noted the following during his site visit:

- Drill chips/core or logs from the B&C Springs Deposit are not available for review, and it
  was not possible to observe the Mo (Cu-Ag) mineralization reported in historical
  documents. Mr. Greig observed small superficial occurrences of Mo (Cu-Ag)
  mineralization in the field that he considers to be consistent with mineralization in a
  porphyry environment
- Evidence of historical mining and exploration is readily observed at the B&C Springs Deposit, Mildred Mine, and Buzzard Peak Stock (in the northwest part of the property) areas of the Property, including mine adits, shafts, pits, and trenches
- Historical exploration activities in proximity to the Buzzard Peak Stock and probable related intrusions targeted zones of veining and skarnification near contacts with calcareous metasedimentary units of the Luning Formation. Mineralization observed by Mr. Greig in exploratory pits includes sulfides and oxides of copper, iron
- Coarse quartz veining exposed in mine adits/pits and exploratory workings in the vicinity of the Mildred Mine host copper sulfides (primarily chalcopyrite) and range in thickness between 1 and 50 cm
- Granodiorite and diorite dikes up to several meters wide host minor copper sulfide mineralization in veins and locally as disseminations were noted on several parts of the property, particularly in the vicinity of the B&C Springs mineralized zone. The dikes are subvertical and generally appear to strike west-northwest to east-southeast.

Mr. Charles Greig (QP) reviewed the geological setting and mineralization types at the Property and he is satisfied that the information presented in the Technical Report adequately reflects the current understanding of geology and mineralization sat the Property.

Photos of mineralization observed at the Property by Mr. Charles Greig (QP) has been provided in Figure 12-1.



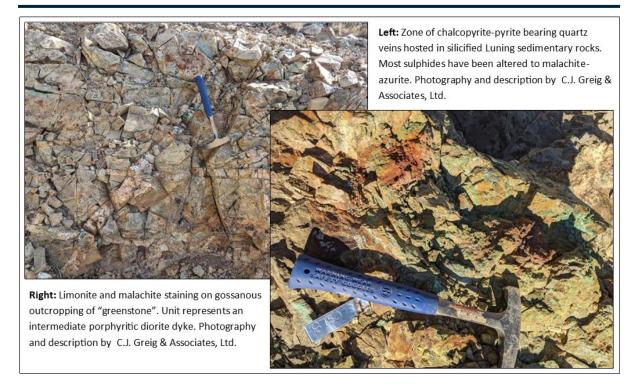


Figure 12-1: Photography of the mineralization observed at the Property by Mr. Charles Greig (QP)

Mr. Charles Greig (QP) notes that the geology on the Property is consistent with regional mapping and that mineralization on the Property is associated with quartz veins, skarn, dikes, and porphyry intrusions, all are typical of a porphyry environment. Mineralization observed in surface workings is in general minor, and includes copper, molybdenum, gold, silver, and tungsten minerals.

Near the abandoned B&C Springs camp, numerous small pits and adits have been driven into copperbearing altered calcareous metasedimentary rocks. Exposed pit and adit walls display 1-50 cm thick, coarse quartz veins that host fresh to variably supergene-weathered copper sulfides, primarily chalcopyrite, and there appears to be a direct association of copper mineralization and alteration with veining. Independent sampling by Mr. Greig (QP) (Table 12-1) of chalcopyrite mineralized rock (D009955) returned 1.74% copper. The distribution of numerous small historic pits in the sporadically mineralized Luning Formation rocks, indicate an association with a contact between the Luning Formation and both the Buzzard Peak stock and what appears to be part of a swarm of porphyry dikes to the west-northwest. A small dump containing porphyry material was sampled to assess the potential for local disseminated sulfides (now largely oxides) in the intrusion to carry copper values, which they do, with sample D009956 returning 0.18% copper as well as several grams per ton silver.

East of the pitted area, a series of hornblende quartz eye feldspar granite to granodiorite and diorite(?) porphyry dikes also host at least minor sulfide mineralization (mainly pyrite but also likely copperbearing sulfides given the presence there of copper oxides) and it appears that the dikes have been emplaced into the upper thrust plate "greenstone" unit of Silberling and John (1989), and Vitaliano and Callaghan (1963). In addition, the porphyry dikes appear to exhibit similar "propylitic" epidotechlorite alteration to that which characterizes the greenstone.

It should be noted that although the Buzzard Peak stock, northwest of the B&C Springs deposit, has not appeared to be the focus of rigorous previous exploration in terms of old workings shown on government maps (as opposed to Mildred area), vein-style copper mineralization was noted in a more modern-day trench within the stock itself. In addition, tungsten skarn or vein mineralization occurs



near the northern margin of the stock such as at the Baxter-Hancock occurrence where large boulders rich in scheelite, and limonite-stained quartz veins can be found throughout the dump material.

With regard to the genesis of the B&C Springs deposit, the commodities, Mo, Cu, and Ag, and spatial association with the Buzzard Peak stock are at least suggestive of porphyry-style mineralization. Skarnstyle mineralization and calc-silicate horizons at B&C Springs and at the Mildred occurrence are in accord with this interpretation. Porphyry mineralization and deposits commonly have a preferred orientation, and at B&C Springs deposit (T. Neal, personal communication) suggested that a possible preferred orientation to mineralized zones may not have been properly evaluated because of the vertical orientation of all the drill holes used to test the deposit.

This possibility of structural control and porphyry association is well worth considering. Not only does the non-compliant resource defined by Tribe (2007) have a well-defined northerly trend, which one might suspect reflects more than just a gently dipping stratigraphic control, but Mr. Greig's (QP) observations suggest that porphyry dikes are very common on the property. These observations, together with the abundance of Tertiary(?) dikes present to the northwest, toward Gabbs, suggest that dikes present on the property may have been under-represented in mapping by Vitaliano and Callaghan (1963). In addition (T. Neal, personal communication) reported that dikes of Tertiary age connect from the Pactolus Hills in the south, to the Mildred part of the property, and that precious metals mineralization has been noted in association with the dikes by USGS government geologists.

Mr. Greig (QP) submitted his independent samples for analysis at the ALS-Global laboratory in Reno, Nevada..

Sample	East	North	Sample Type	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Notes and Description
D009955	428920	4292848	3m Grab- Chip	0.01	23.3	17400	7.1	458	18.65	Stockwork of Quartz veins ranging between 1 and 50 cm and typically dipping easterly; veins host chalcopyrite and pyrite and veins and wallrock commonly display malachite/azurite
D009956	430455	4292954	Dump Sample	0.03	3.79	1830	448	566	27.1	Rusty weathering sulphide- bearing boulder from large dump
236600D	428305	4291691	Grab from subcrop	<0.01	3.5	65.2	427	1130	17.1	Near Mildred mine and old workings. Contact of well- bedded Luning formation rocks with porphyry dyke to west, with skarnification along dike margin. Sample of calc-silicate rock hosting galena-bearing stringers

#### Table 12-1: Independent Sampling

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Sample	East	North	Sample Type	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Notes and Description
D009958	428219	4291628	Grab	2.8	89.3	43.9	3450	12300	412	Near Mildred mine, taken from small dig in probable sedimentary rocks (strong oxidation) cut by quartz veins. Sample from 2cm thick quartz vein with moderate limonite.



# 13 Mineral Processing and Metallurgical Testing

Samples from the Property have not been subject to Mineral Processing and Metallurgical Testing.

Mr. Seers (QP) notes that metallurgically, skarn deposits can be complicated, and he recommends that Mineral Processing and Metallurgical Testing is undertaken at an early stage if significant mineralization is identified at the Property.



## 14 Mineral Resources Estimates

There is insufficient information to support a Mineral Resource Estimate for the Property.



## 23. Adjacent Properties

Information reported in Section 23 of the Report has been compiled from publicly available information.

Mr. Greig (QP) has been unable to verify the information and he notes that mineralization observed on adjacent properties is not necessarily indicative of the mineralization on the Property.

The Walker Lane Trend hosts several significant mines, two formerly producing properties are within 20 km of the Property (Figure 23-1):

### Paradise Peak mine

Gold-silver mineralization related to epithermal hot-springs was discovered in 1983. Oxide mineralization was mined from several pits between 1986 to 1994. The United States Geological Service states that Paradise Peak produced a total of 1.6M ounces of Au and 24.1M ounces of silver (<u>https://mrdata.usgs.gov/mrds/show-mrds.php?dep\_id=10310352</u>).

### **Paradise Valley**

The Paradise Valley property hosts what is interpreted to be a high-sulphidation epithermal system. Gold-Silver mineralization is related to veining hosted in an area of hydrothermal alteration.

The Property has been subject to multiple exploration and drilling programs; one of the significant intercepts from this historic drilling program is reported to have returned 40 feet (12.2 meters) of 0.18 oz/t gold (6.2 g/t gold) and 0.62 oz/t silver (21 g/t silver)



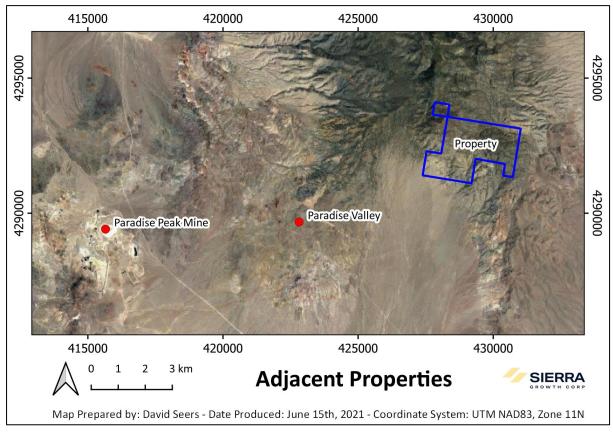


Figure 23-1: Adjacent Properties



## 24 Other Relevant Data and Information

Mr. Seers (QP) believes all available information relevant to the accurate understanding of the Property is included within this Technical Report.



# 25 Interpretation and Conclusions

Mr. Seers (QP) and Mr. Greig (QP) conclude the following:

- The Property is in the Paradise Peak Mining District that is known to host vein, skarn and porphyry style mineralization related to Paleozoic, Mesozoic, and Cenozoic igneous lithologic units
- Mining on and near the Property at various times over the past 100 to 150 years has exploited mineralization of Mn, Zn, Cu, Pb, Cd, Ag, Au, and Mo related to the various deposit styles
- There is a close association between dikes, veining, skarn-style mineralization at the B&C Springs Deposit
- The Property has not been systematically explored using modern techniques
- The Property is prospective for vein, skarn, and porphyry style mineralization
- Historical drilling and estimates at the B&C Springs deposits indicate that footwall of the South Thrust is a prospective target for Mo-Ag-Cu mineralization. The projection of the thrust along strike and at depth, as well as indication of the potential zones of mineralization along it could be facilitated by geophysical surveys.
- With the aim of determining the economic potential of the Property, further exploration is warranted. Exploration should evaluate projections of mineralization from historical mines and the potential of the wider Property.



## 26 Recommendations

Mr. Seers (QP) and Mr. Greig (QP) recommend that:

- Sierra seeks permission to the explore the Property from the United States Forest Service
- Efforts to locate drill chips/core and logs from the B&C Springs Deposit continue
- Continued exploration of the Property.

Contingent on acquiring permission to explore, a two-phase exploration program is recommended.

### Phase 1 Prospecting and Geological Mapping across the Property.

The prospecting and geological mapping program should record structural controls, areas of metasomatism/alteration, and mineralization across the Property. The relationship between the Luning Formation and intrusive rocks appears to be an important factor in the development of mineralization and the relationship between the overthrust "greenstone" at B&C Springs may also be a factor. Efforts should be made to understand these relationships.

So that the understanding of mineralizing controls is optimal, it is recommended that the Baxter Hancock, UV Industries, Big Dyke, and Mildred Mines are evaluated before exploring other parts of the Property.

Prospecting and geological mapping should consider the potential for a range of deposit types associated with the porphyry environment, including vein, skarn, and porphyry. Surface mineral occurrences, veins, and porphyry dikes should be mapped, or re-mapped, focusing on structural controls.

Appropriate sampling protocols should be established prior to commencing exploration at the Property.

### Phase 2 Soil Geochemical Sampling

Soil geochemical sampling should be planned across projections of known mineralization and in other areas of interest identified in Phase 1 of the recommended exploration program.

### Estimate time and cost

Phase 1 of the recommended exploration program will cost an estimated US\$60k (Table 26-1) and will take approximately 14 days to complete. Sample processing and analysis will require additional time.

• Estimated Phase 1 costs have been summarized in



• Table 26-1



Description	Est. Cost USD		
14 days Prospecting and mapping- 4 geologists @ \$550/day/geologist	\$	31,000	
14 days Food and Drink @ \$60/day/person	\$	3,360	
Sampling Supplies - bags, ties, tickets, makers @ \$400	\$	400	
4x4 Hire - 14 days @ \$100/day	\$	1,400	
Fuel - Est @ \$500	\$	500	
Hotel 3 rooms for 14 nights - Tonopah @ \$5000	\$	5,000	
Sample Analysis (FA and ICP) - 600 samples @ \$30/sample	\$	18,000	
	\$	59,660	

Table 26-1: Estimated costs for recommended exploration program



## 27 References

The following references were used when compiling the Report:

### Website

Sierra Growth Corp - <a href="https://www.sierragrowth.com/">https://www.sierragrowth.com/</a>

The Nevada Bureau of Mines and Geology - (<u>http://www.nbmg.unr.edu/</u>)

Nevada Mining Claim Listings - (https://data-ndom.opendata.arcgis.com/pages/mining-claims)

Field Reports and Memorandums

- Field Report for the Paradise Nevada Mine Co, Nye County, Nevada (15/08/1921)
- Field Report for the Big Dike Mine by Jack Quade (10/04/1985)
- Field Report for UV Industries Property by J.V. Tingley (5/20/1986)
- Memorandum Paradise Peak District (author and date not recorded post 1984)

Mining Lease-Purchase B&C Springs Property, Nevada

• Signed PDF document provided to Mr. Seers by Sierra Growth Corp, dated March 1<sup>st</sup>, 2021

### Publication

Callaghan, E., 1979, BC Project - Paradise Range, Nye County, Nevada, of USSRAM Exploration Company, 1979 Unpublished Report.

Ferguson, H.G., and Muller, S.W., 1949, Structural Geology of the Hawthorne and Tonopah Quadrangle, Nevada; USGS Professional Paper 216, 55p.

Goeltz, S., 1977, Petrological Reviews of Drill Core: USSRAM Unpublished Company Memorandum.

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Nevada Bureau of Mines, 1964, Bulletin 65, pp 158-159.

Pinsent, R.H., 2006, Preliminary Report on the BC Moly Property, Paradise Peak Range, Nevada, for Adanac Moly Corp., May 2006.

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Tingley, J. V., and Quade, J., 1986, A mineral inventory of the Tonopah Resource Area, Battle Mountain District, Nevada: Nevada Bureau of Mines and Geology Open-File Report 86-14, 101 p.

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Vitaliano, C.J., and Callaghan, E., 1963, Geology of the Paradise Peak Quad., Nevada, USGS, Quad Map, GQ-250, Scale 1:62,000.

Wallace, S.R., 1978, Review of BC Mo-Cu-Ag Prospect, Nye County, Nevada; Private Report for UV Industries, 10p.

Worthington, W.T., 2004, Molybdenum Potential of the BC Project Area, Nye County, Nevada; Internal memorandum for USSRAM Exploration Company.