

**TECHNICAL REPORT FOR THE**  
**BLUE MOON MINE**  
**TOWNSHIP 4 SOUTH, RANGE 16 EAST MDB&M**  
**MARIPOSA COUNTY, CALIFORNIA**  
**NOVEMBER 19, 2023**  
**EFFECTIVE DATE: OCTOBER 27, 2023**  
**PREPARED FOR:**  
**BLUE MOON METALS INC.**  
**BY**  
**QUALIFIED PERSONS:**

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**Resource Development Associates Inc.**  
**Highlands Ranch, Colorado**

**DATE AND SIGNATURE PAGE**

Blue Moon Metals Inc.: Technical Report for the Blue Moon Massive Sulphide Deposit, Township 4 South, Range 16 East, MDB&M, Mariposa County, California.

Technical Report Effective Date: October 27, 2023

Dated: November 19, 2023

*(signed/sealed) Thomas A. Henricksen* \_\_\_\_\_

Dr. Thomas A. Henricksen, Q.P., C.P.G.

Geologist

*(signed/sealed) Scott Wilson* \_\_\_\_\_

Scott Wilson, C.P.G., SME-RM

Geologist

**AUTHOR CERTIFICATE**

Thomas A. Henricksen

I, Thomas A. Henricksen, P.Geo., as an author of the technical report entitled "Technical Report, Blue Moon Mine, Mariposa County, California USA" (the "Technical Report") with an effective date of October 27, 2023 prepared for Blue Moon Metals Inc. (the "Issuer"), do hereby certify:

1. I am currently employed as an exploration geologist working in various locations in the United States, South America, and Turkey.
2. I am SME Registered Member No. 4115974
3. I am a graduate of the University of Wisconsin-Oshkosh (B.Sc. Geology, Cum Laude, 1969) and Oregon State University (PhD Economic Geology, 1974)
4. My relevant experience with respect to stratiform copper-zinc deposits dates back to 1968-69, working on the VMS projects of western Wisconsin and northern Minnesota, including working with the Kennecott team that discovered the Flambeau deposit, and eventual mine, in western Wisconsin. I also managed VMS projects for US Borax at Eskay Creek, British Columbia, and for Kennecott adjacent to the Greens Creek Mine on Admiralty Island in the 1990's. I have had more than 50 years of exploration and development of copper, precious metals, and non-metallic minerals, throughout the world.
5. I am a Qualified Person for the purposes of the National Instrument 43-101 of the Canadian Securities Administrators ("NI 43-101").
6. My most recent personal inspection and sampling of the property was in 2023, on four separate occasions for a total of 15 days.
7. I am responsible for all sections of the Technical Report, except for Section 14 and parts of sections 25 and 26
8. 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. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I am currently independent of Blue Moon Metals as defined by Section 1.5 of the Instrument.
10. I have read NI- 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the public filing of the Technical Report with SEDAR for regulatory purposes and any publication by them for regulatory purposes, including electronic publication in the public company files on their website and accessible by the public, of the Technical Report.

Dated November 19, 2023

(signed/sealed) Thomas A. Henricksen

Thomas A. Henricksen SME#

**AUTHOR CERTIFICATE**

Scott E. Wilson

I, Scott E. Wilson, CPG, SME-RM, of Highlands Ranch, Colorado, as an author of the technical report entitled "Technical Report, Blue Moon Mine, Mariposa County, California USA" (the "Technical Report") with an effective date of October 27, 2023 prepared for Blue Moon Metals Inc. (the "Issuer"), do hereby certify:

1. I am currently employed as President by Resource Development Associates, Inc., 10262 Willowbridge Way, Highlands Ranch, Colorado USA 80126.
2. I graduated with a Bachelor of Arts degree in Geology from the California State University, Sacramento in 1989.
3. I am a Certified Professional Geologist and member of the American Institute of Professional Geologists (CPG #10965) and a Registered Member (#4025107) of the Society for Mining, Metallurgy and Exploration, Inc.
4. I have been employed as both a geologist and a mining engineer continuously for a total of 34 years. My experience included resource estimation, mine planning, geological modeling, geostatistical evaluations, project development, and authorship of numerous technical reports and preliminary economic assessments of various projects throughout North America, South America and Europe. I have employed and mentored mining engineers and geologists continuously since 2003.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I have not conducted a personal inspection of the Blue Moon Mine.
7. I am responsible for Section 14 and parts of Sections 25 and 26 of the Technical Report.
8. I am independent of the Issuer as independence is described in Section 1.5 of NI 43-101.
9. The Issuer retained my services in August 2023 to independently estimate mineral resources for the Project.
10. I have read NI 43-101 and Form 43-101F1, and this Technical Report was prepared in compliance with NI 43-101.
11. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Dated: November 19, 2023

(signed/sealed) Scott Wilson

Scott E. Wilson, CPG, SME-RM

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## 1 SUMMARY

The authors were retained in 2023 by Mr. Patrick McGrath, President and CEO of Blue Moon Metals Inc. (“BMZ” or the “Company”) to prepare a Technical Report on the Blue Moon deposit in California. The purpose of this report is to provide an updated resource and current NI 43-101 technical report for BMZ (previously named Blue Moon Zinc Corp.) This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects. Dr. Thomas A. Henricksen of Chico, California, carried out four separate on-site examinations totaling approximately 15 days, including January, 2023, March-April, 2023, late August, 2023, late September, 2023. Additional drilling (11 holes) beyond the 2018 Technical Report was carried out in 2018, 2019 and 2021. Scott Wilson has updated the resource using the entire drill database, including drill holes in 2018, 2019 and 2021 and all the new classification definitions.

The Blue Moon property hosts a polymetallic volcanogenic massive sulfide (VMS) deposit located in central California approximately 22 miles northeast of Merced and 120 miles east, southeast of San Francisco. BMZ holds the mineral rights to the Blue Moon VMS through its wholly owned subsidiary, Keystone Mines Inc. The Blue Moon deposit is the largest known VMS deposit of its type within the Foothills Massive Sulfide Belt of California. Mineralization is hosted in rhyolite/andesite/sedimentary rocks, within a sequence 150-200 feet in thickness, plunging steeply to the south, and along a strike length of 2000-3000 feet, open-ended down plunge and to the south. Within these rock units are higher grade intercepts of polymetallic mineralization as thick as twenty feet.

The Blue Moon deposit, at a 4% zinc equivalent cutoff, hosts an indicated resource of 3.51 MT grading 11.07 % Zn equivalent and an inferred resource of 3.83 MT grading 10.71 % Zn equivalent. The resource estimate is shown below.

**Table 1-1 Blue Moon Indicated Mineral Resources. Effective date October 27, 2023**

Zones	K mt	Zn%	Cu%	Pb%	Ag oz/t	Au oz/t	ZnEq %	Zn lbs. (x1,000)	Cu lbs. (x1,000)	Pb lbs. (x1,000)	Ag Oz (x1,000)	Au OZ (x1,000)
Main	2,942	6.09	0.80	0.17	1.18	0.04	10.62	358.55	46.95	10.00	3.47	0.11
East	498	6.64	0.47	0.63	3.72	0.09	14.18	66.14	4.67	6.29	1.85	0.04
West	74	4.55	0.64	0.34	0.97	0.03	8.14	6.74	0.94	0.51	0.07	0.00
<b>Total</b>	<b>3,514</b>	<b>6.14</b>	<b>0.75</b>	<b>0.24</b>	<b>1.54</b>	<b>0.05</b>	<b>11.07</b>	<b>431.44</b>	<b>52.57</b>	<b>16.81</b>	<b>5.40</b>	<b>0.157</b>

**Table 1-2 blue Moon Inferred Mineral Resources. Effective date October 27, 2023**

Zones	K mt	Zn%	Cu%	Pb%	Ag oz/t	Au oz/t	ZnEq %	Zn lbs. (x1,000)	Cu lbs. (x1,000)	Pb lbs. (x1,000)	Ag Oz (x1,000)	Au OZ (x1,000)
Main	2,845	6.23	0.56	0.25	1.24	0.04	10.26	354.75	31.92	14.06	3.54	0.11
East	860	5.49	0.65	0.64	2.77	0.08	12.91	94.52	11.06	11.06	2.39	0.07
West	124	2.22	0.79	0.27	0.47	0.02	5.71	5.50	0.68	0.68	0.06	0.00
<b>Total</b>	<b>3,830</b>	<b>5.94</b>	<b>0.59</b>	<b>0.34</b>	<b>1.56</b>	<b>0.05</b>	<b>10.71</b>	<b>454.77</b>	<b>45.04</b>	<b>25.79</b>	<b>5.98</b>	<b>0.186</b>

Qualified Person Scott Wilson C.P.G., SME. Mineral Resources are not Mineral Reserves do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted to mineral reserves. Ag Selling Price \$23.00/Oz, Au Selling Price \$1800.00/Oz, Cu Selling Price \$3.75/lb, Pb Selling Price \$0.95/lb, Zn Selling Price \$1.45/lb. Effective date of October 27, 2023. Columns may not add up due to rounding.

The Blue Moon property is controlled by Blue Moon Metals Inc. through its wholly owned subsidiary, Keystone Mines Inc., an Idaho Corporation. The property consists of three distinct land tenure components that cover approximately 445 acres, including:

1. Three patented mineral claims (American Eagle, Blue Bell, and Bonanza) owned 100% by Keystone Mines Inc.
2. Eight Federal Lode claims (Red Cloud 1-8) held 100% by Keystone Mines Inc. and
3. 100% interest in the mineral rights from two Spanish Land Grants of the James Gann Jr. Trust of 1991, owned by Keystone Mines Inc. in conjunction with a surface rights lease agreement, pursuant to an option purchase agreement completed in 2001.

The Blue Moon deposit is one of numerous similar deposits and occurrences known to exist in the Foothills Massive Sulfide Belt along the western side of the Sierra Nevada Mountains of California. The property has a long history of exploration and saw small-scale mining during World War II. Exploration, using modern models for genesis and controls of such deposits, during the 1980’s and 1990’s, led to an economic scoping study which indicated that

additional drilling would be required so that a feasibility study can be completed. Previous exploration has defined numerous exploration targets, both as downward extensions of the Blue Moon deposits and along strike of the deposits within the favorable felsic volcanic rocks.

The main priority exploration target is the down dip continuation of the Blue Moon mineralization. Drilling is warranted to test for the continuation of the thin high-grade massive sulfide mineralization forming the East lens defined by holes CH-13, 14, 32, 56, and 58. The high gold and Zn/Zn + Cu and Pb/Zn + Pb ratios are suggestive that this mineralization occurs at the edge of a massive sulfide lens. The 690 feet long plunge length defined thus far in these drillholes is positive.

Henricksen completed four separate site visits during 2023 to confirm a variety of details and data relevant to the project as stipulated in previous reports. The visits included reviewing county assessor files and the U.S. Bureau of Land Management (BLM) land files for ownership verification, pulling drill core samples for review, verifying drill logs correspond with core runs, cross checking assay certificates with core, field checking of drill site locations with collar coordinates and visiting mineralized exposures in the Blue Moon, American Eagle, and the Lone Oak areas.

It is recommended that BMZ evaluate a preliminary economic assessment (“PEA”) for the Project. A PEA will allow BMZ and its investors understand the economic viability of the Project. The culmination point for Phase 1 will be a positive economic outcome of the PEA. Subsequent to a positive PEA, a successive phase of technical project advancement programs will be recommended.

**Table 1-3 Blue Moon Phase 1 Preliminary Economic Assessment**

<b>Activity</b>	<b>Amount</b>
Mine Planning Design	\$55,000
Process Planning and Design	\$35,000
Economic Analysis	\$10,000
Author Technical Report	\$50,000
Contingency (20%)	\$30,000
<b>Total</b>	<b>\$180,000</b>

Phase 2 of the Blue Moon Project development will be an infill drilling program, consisting of 15,000 feet of core drilling, assaying, geological modeling and metallurgical testing. The subsequent phase is tabulated in Table 1-4. This phase is intended to increase confidence in advancement of the Project.

**Table 1-4 Blue Moon Phase 2 Project Development-**

<b>Activity</b>	<b>Amount</b>
Infill Drilling (15,000 feet)	\$2,500,000
Assaying (approximately 3,000 samples)	\$60,000
Geological Interpretation and Modeling	\$75,000
Metallurgical Testing	\$100,000
Contingency (15%)	\$410,250
<b>Total</b>	<b>\$3,145,250</b>

## **2 INTRODUCTION**

Blue Moon Metals Inc. (BMZ), holds the mineral rights to the Blue Moon massive sulfide occurrence in central California through its wholly owned subsidiary, Keystone Mines Inc.

The authors were retained by BMZ to update this report to be compliant with current regulations.

Dr. Thomas A. Henricksen of Chico, California, carried out four separate on-site examinations totaling approximately 15 days, including January, 2023, March-April, 2023, late August, 2023, late September, 2023. Additional drilling beyond the 2018 Technical Report was carried out in 2018, 2019 and 2021. Scott Wilson has updated the resource using the entire drill database, including drill holes in 2018, 2019 and 2021 and all the new classification definitions.

BMZ has consolidated the exploration information for the property from previous owners and participants including Hecla Mining Co., Colony Pacific, Westmin, and Lac Minerals. BMZ has carried out three separate drilling programs since 2018.

During the site visits, sufficient opportunity was available to examine drill core from previous programs as well as conduct a general overview of the property including view selected drill sites and the condition of existing project infrastructure. Based on his experience, qualifications and review of the site and resulting data, Dr. Henricksen, is of the opinion that the programs have been conducted in a professional manner and the quality and quantity of data and information produced from the efforts meet or exceed acceptable industry standards of that time. It is also believed that for the most part, the work has been directed or supervised by individuals who would fit the definition of Qualified Persons in their particular areas of responsibility as set out by the Instrument.

Much of the data has undergone thorough scrutiny by BMZ staff as well as certain data verification procedures by MMTS, see Data Verification, Item 12.

Sources of information are listed in the references, Item 27. For the geologic discussions Henricksen has leaned heavily on the information discussed in the Technical Report of 2018 authored by Giroux and O'Connor.

**3 RELIANCE ON OTHER EXPERTS**

The author is not an expert in legal matters. The author is required by NI 43-101 to include a description of the property title, terms of legal agreements and related information in Section 4.2 of this report. The author has relied on property agreement information provided by Blue Moon and claim information from the U.S. BLM records and Mariposa County Assessor files to provide summaries of title, ownership and related information. A careful review of the Blue Moon claim title information was conducted by BMZ and Henricksen during 2023 via examination in Mariposa County assessor files. The results of this review are discussed in Section 4.2 of this report. This report does not represent a legal title opinion. This report has been prepared on the understanding that the property is, or will be, lawfully accessible for evaluation, development, mining, and processing.

No other experts were relied upon in the preparation of this technical report.

## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 PROPERTY LOCATION

The Blue Moon project is located in eastern, central California along the eastern foothills of the Sierra Nevada Mountains. It is located at latitude 37°33'55 "N and longitude 120°15'22"W, approximately 120 miles south-southeast of San Francisco. The project is in Mariposa County, California and is situated within Township 4 South, Range 16 East (T4S, R16E), sections 19 and 30, as referenced to the Mount Diablo meridian and baseline of Public Land Survey System (PLSS). The historic and collapsed Blue Moon mine workings are denoted on the Merced Falls 7.5 minute USGS topographic map by two shaft symbols plotted in the SE corner of section 19.

The town of Mariposa is located sixteen miles east of the project, is the county seat, has a population of around 2,000 and a tourist based economy relying heavily on visitors to Yosemite National Park. The town of Merced, with a population of around 80,000 inhabitants, is twenty two miles to the southwest of Blue Moon and has a diverse economy related to large scale agriculture and is home to University of California Merced. The local community of Hornitos with a population of about 75 and minimal services is situated about four miles south of the project.

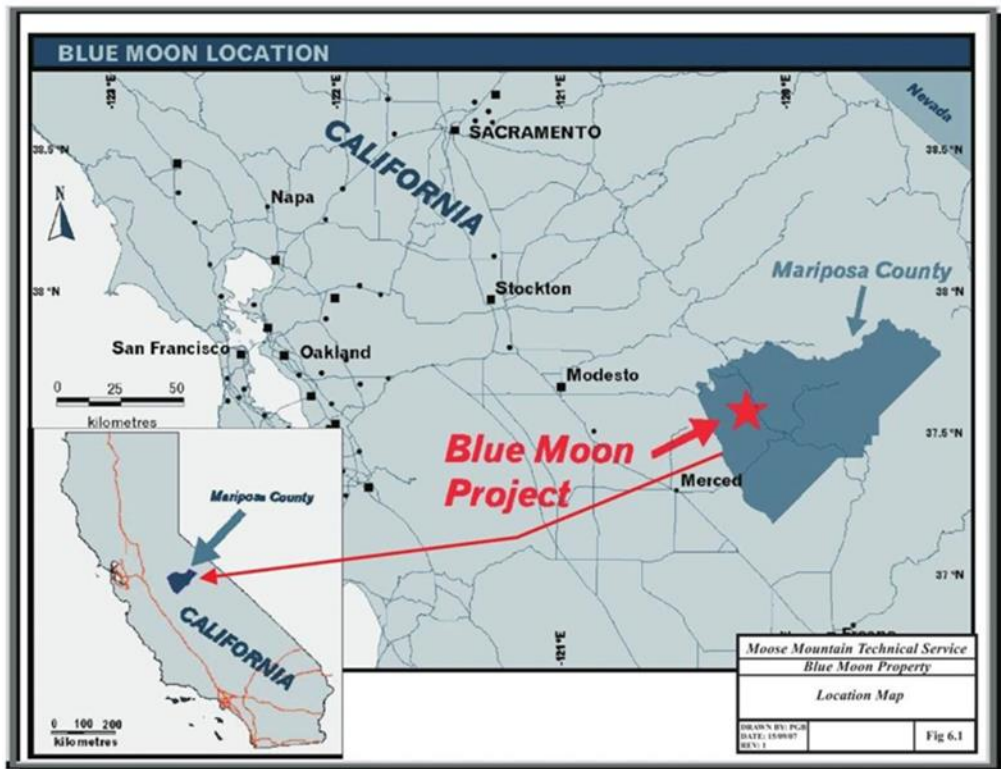
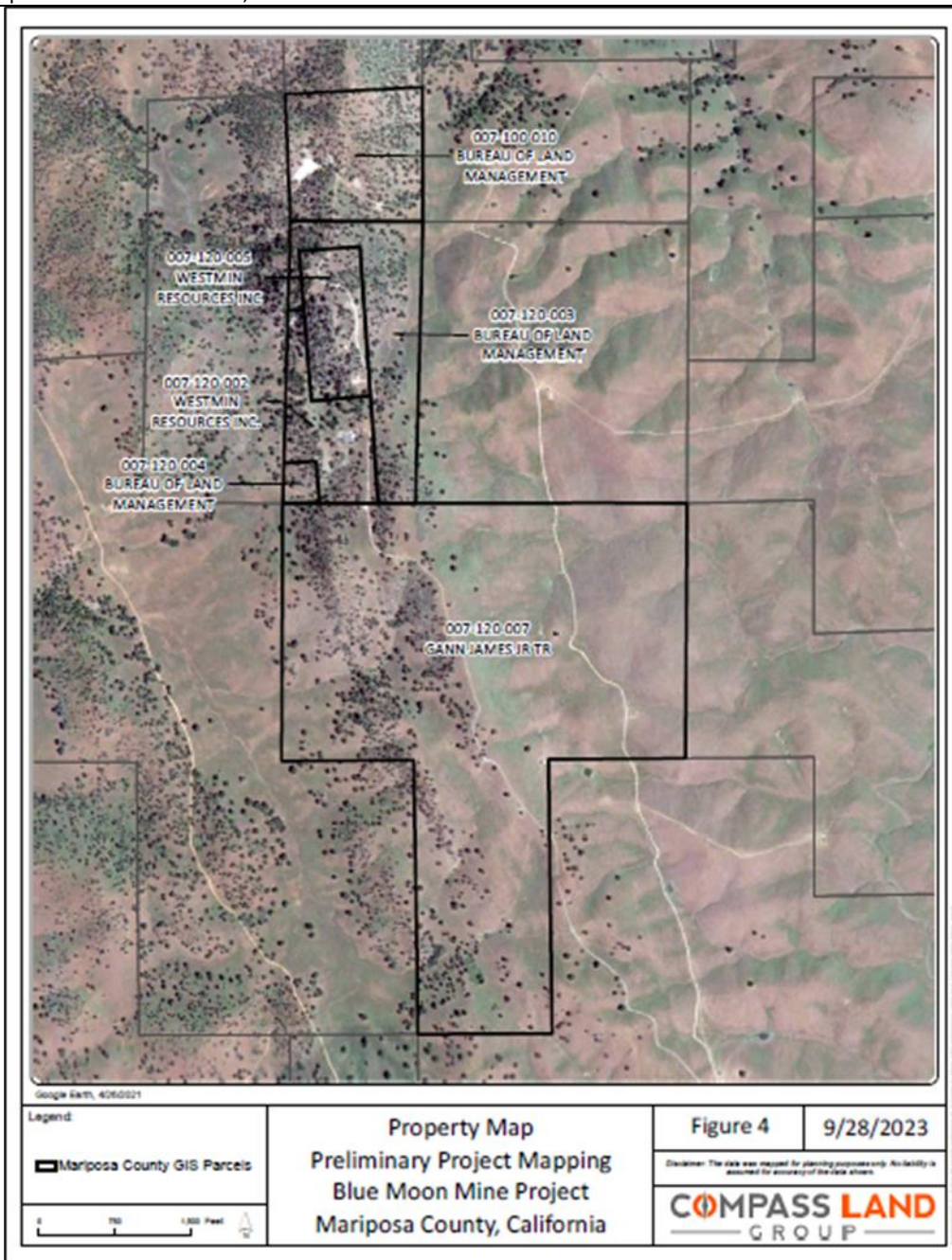


Figure 4-1 Blue Moon Location Map

### 4.2 MINERAL TENURE

The Blue Moon property consists of three distinct land tenure components that cover 445 acres. These include:

1. Three patented mineral claims ((American Eagle, Blue Bell and Bonanza) owned 100% by Keystone Mines Inc. However, BMZ owns the surface and subsurface rights here.
2. Eight federal lode claims (Red Cloud 1-8) held 100% by Keystone Mines Inc. BMZ's wholly owned US subsidiary has the mineral rights pursuant to BLM claims.
3. 100% interest in the mineral rights from two Spanish Land Grants of the James Gann Jr. Trust of 1991, owned by Keystone Mines Inc. in conjunction with a surface rights lease agreement for 40 acres, pursuant to an option purchase agreement completed in 2001.



**Figure 4-2 Current Land Status at the Blue Moon Project**

BMZ owns or has the rights to the subsurface rights here and have the right to 40 acres of surface rights for the mine infrastructure.

The patented and Federal Lode claims are subject to a 0.5% Net Smelter Royalty (“NSR”) capped at US\$500,000, payable to a third party.

The property was previously owned by Westmin Mines, Inc., an Idaho corporation and subsidiary of Westmin Resources, Inc. On September 12, 2002, Westmin Resources was acquired by Expatriate Resources Ltd., now Yukon Zinc Corporation. The acquisition was subject to a purchase agreement with Boliden Westmin (Canada) Limited, whereby Expatriate acquired 100% interest in Westmin Resources, Inc. in return for the issuance of 3 million common shares and the granting of a 0.5% net smelter return royalty capped at US\$500,000 to Boliden Westmin.

The subsidiary Westmin Mines, Inc. changed names to Keystone Mines, Inc. on October 25, 2002. In 2004, Expatriate transferred Keystone to Pacifica Resources Ltd., now EDM Resources Inc., through a Plan of Arrangement. Subsequently, in 2007, Pacifica through a Plan of Arrangement, transferred Keystone to Savant Explorations Ltd. Savant Explorations Ltd. changed names to Blue Moon Zinc Corp. on June 5, 2017 and changed its name to Blue

Moon Metals Inc. on April 13, 2021. Currently the Blue Moon property is controlled by Blue Moon Metals Inc. through its 100% ownership of the US subsidiary Keystone Mines, Inc., an Idaho Corporation.

In 2017 Northern Empire Resources Corp. (NM) through an agreement with Imperial Metals Corporation, acquired a 10% net profits interest (NPI) in the Blue Moon project through the takeover of Imperial's Sterling Mines subsidiary. The NPI is only to be paid after deducting all operating expenses, all pre-production expenditures dating back to May 14, 1996 and all post- production expenditures. A finance charge of Prime plus one-half of one percent is also to be deducted before any NPI is paid. The NPI was repurchased and extinguished by Keystones Mines Inc. in January 2018 through the issuance of 300,000 Blue Moon Metals Inc. common shares and the payment of \$20,000 cash to NM.

In September 2020, Blue Moon Metals Inc. repurchases two separate 1% Net Smelter Returns (NSR) on the Blue Moon project by paying each 1% NSR holder US \$12,000 or \$24,000 in total.

The Project is located within the boundaries of the County of Mariposa in the state of California. Mariposa County is the lead agent for all county, state and federal permitting jurisdictions. Exploration permits are issued by Mariposa County through an Administrative Use Permit ("AUP"). The Company's existing AUP expired on June 26, 2023 and the Company will need to apply for a new AUP before commencing any future drilling activities. The Company must also obtain a Notice of Intent to Operate (NOI) from the Bureau of Land Management. The Company has a current NOI in place through to August 27, 2024

To the extent known, there are no other royalties, back-in rights, payments or other encumbrances to which the Property is subject. The author knows of no known environmental liabilities for which the property is subject. The author knows of no other significant factors and risks that may affect access, title or the right or ability to perform work on the Property.



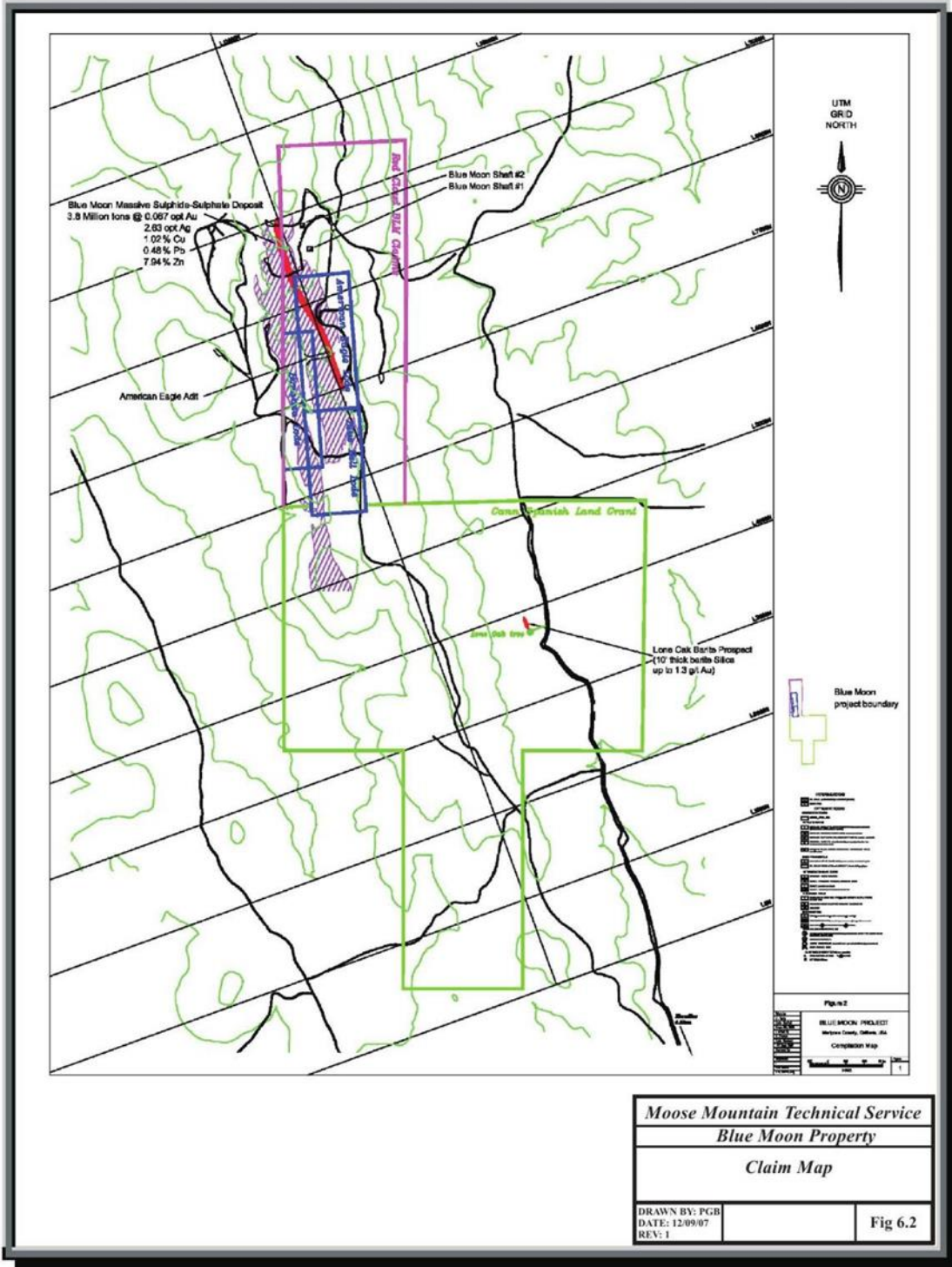


Figure 4-3 Showing Holdings and General Outline of Surface Mineralization

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

### 5.1 ACCESS

The Blue Moon property is located 22 miles northeast of Merced, California, and approximately 120 miles east-southeast of San Francisco, California.

Access to the Blue Moon project is via California County Route J16 also known as Hornitos Rd. and Bear Valley Rd. The road is a paved secondary highway between the communities of Hornitos and Bear Valley. Two miles north of Hornitos, at the intersection of J16 and Exchequer Rd., the project access consists of three miles of gravel roads consisting of county right-of-way across open, private ranch lands and BLM Federally managed ground.

### 5.2 TOPOGRAPHY, ELEVATION AND VEGETATION

The Blue Moon project is located in the lower foothills of the western Sierra Nevada mountains. The mineralized property generally coincides with and lies along a broad, prominent northwest trending ridgeline known as Bullion Hill. Elevations on the project site are between 1,420 feet and 1,180 feet above mean sea level. Lands falling away to the east and west are open, rolling hills covered with tall grasses and sparsely scattered oak trees with some pines. Drainage to the east and south is into Hornitos Creek and the San Joaquin River; to the east and north into Lake McClure behind the Exchequer dam on the Merced River; to the west into Lake McSwain below Exchequer dam on the Merced River.



Figure 5-1 Drone view from above Blue Moon Shaft to the South along ridge

### 5.3 CLIMATE

The average yearly temperature for Hornitos, three miles south of the Blue Moon property, is 61° with an average maximum temperature of 100° in July and an average minimum of 34° in December and January. The average yearly precipitation for the area is approximately 19 inches with a high of 13.5 inches between December and the end of March, and a low of 0.5 inches in July and August. Precipitation generally comes as gentle falls rains between October and January and as occasional heavy downpours sometimes causing local flash flooding and small landslides or slumps. Rare occasional trace of snow can occur in winter. Summers are hot and dry.

### 5.4 INFRASTRUCTURE

There are no services available at the project site. Electricity must be generated locally by diesel generators.

A small storage facility is in place on the site consisting of six steel, lockable, Conex-type shipping containers used for core storage and temporary office space, and 400 linear feet of outdoor, steel core racks under corrugated, steel roofing.

Necessary additional rental equipment to adequately supply and support drilling campaigns has proven to be readily available nearby. Any future potential development beyond exploratory drilling will require additional infrastructure needs analyses.

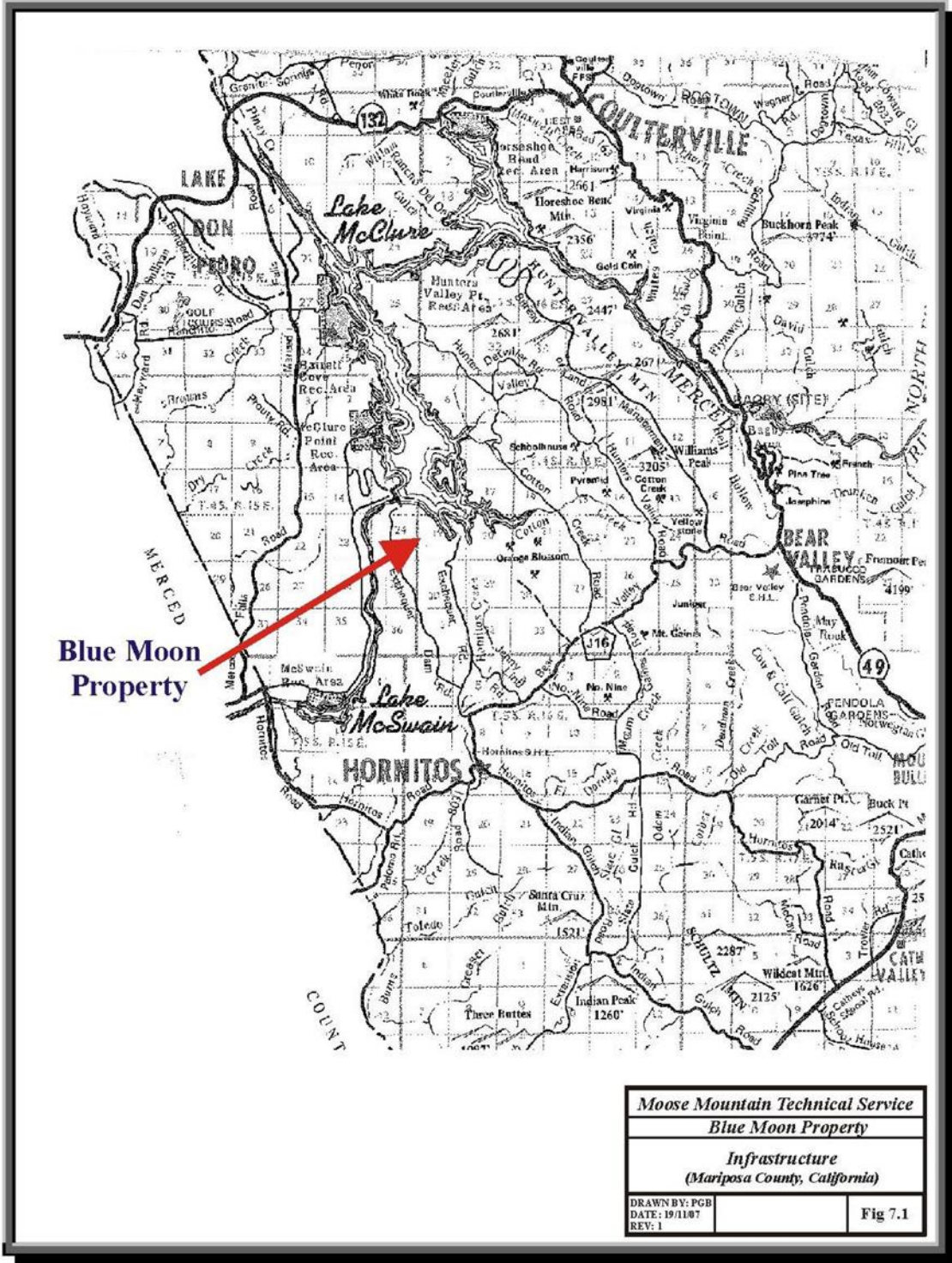


Figure 5-2 Infrastructure

## 6 HISTORY

Extending along the foothills of the west slope of the Sierra Nevada from Butte County on the north to Fresno County on the south is a discontinuous belt of copper and zinc mineralization. This belt also has been the source of substantial amounts of gold. Gold-bearing gossans in the oxidized zones overlying the copper-zinc deposits were mined during the gold rush. Later, during the copper "booms" of the Civil War and World Wars I and II, considerable amounts of gold were recovered as a by-product. During the 1930s a few gossan deposits in this belt were again mined for gold.

The primary copper and zinc deposits consist of lenticular sulfide bodies in zones of alteration in greenstones and various types of schists. The ore bodies contain abundant pyrite with associated chalcopyrite, sphalerite and some gold and silver. Most of the ore contains only a small fraction of an ounce of gold per ton, but a few ore bodies have yielded as much as one ounce of gold per ton. Also present are galena, bornite, tetrahedrite, covellite, and chalcocite.

The most important mines in the foothill belt have been the Big Bend mine, Butte County; Spencerville and Boss mines, Nevada County; Dairy Farm and Valley View mines, Placer County; Copper Hill and Newton mines, Amador County; Penn, Quail Hill, Napoleon, Collier, Keystone-Union, and North Keystone mines, Calaveras County; Blue Moon, Pocahontas, Green Mountain and La Victoria mines, Mariposa County; Buchanan, Jessie Belle, and Daulton mines, Madera County; and Fresno Copper and Copper King mines, Fresno County.

Considerable by-product gold has been recovered from copper mines in the Moonlight District of northeastern Plumas County, the principal sources having been the Walker, Engels, and Superior mines. However, few production figures are available, so the total gold output of these mines is unknown. In 1931, the Walker mine was the source of 432,000 tons of copper ore that had an average gold content of .05 ounces per ton. At the Walker mine, the mineral bodies consist of wide chalcopyrite-bearing quartz veins in schist and hornfels near granitic rocks. At the Engels and Superior mines, the deposits are bands of chalcopyrite and bornite in sheared granitic rocks.

The Blue Moon deposit is the largest known volcanogenic massive sulfide deposit of its type within the Foothills Massive Sulfide Belt.

A few miles to the south of the Blue Moon prospect in Mariposa County is the nearby town of Hornitos. Hornitos was a rollicking Mexican village that sprang up in the 1850s from the newly rich gold diggings at Quartzburg. Situated on Burns Creek, "Hornitos" means "little ovens" in Spanish and was named for the above ground rock and adobe graves of Mexican settlers found in the area. These gravestones were built like little square bake ovens. There less than 75 current residents today.

Although copper was discovered in Mariposa County during mid-1800's gold rush, initial exploration in the American Eagle-Blue Moon area did not begin until the 1890's. Approximately 50 prospect pits, trenches, and shafts were developed by gold prospectors at that time, mainly on quartz outcrops and pyritic/gossanous outcrops. In 1899, the American Eagle adit was driven 300 feet into an alteration zone and an "appreciable quantity" of gold was produced from one of six known mineralized zones. This zone is now covered but was reported to be about 4 feet wide and consisted of oxidized sphalerite, pyrite, tetrahedrite, galena, chalcopyrite, silver, and gold, with grades of roughly 3 to 8% zinc, 2 to 11% copper, 1% lead, 1-3 opt silver, and 0.01 to 0.22 opt Au. This mine was worked until 1912, and then was idle until 1942 when, during WWII, a small block of ground was stope. By 1943 the American Eagle was again inactive and has remained so to the present time. No reliable production figures for the total production at the American Eagle are available.

In the early 1930's prospecting in the Blue Moon area, just north of the American Eagle was begun. In 1935 a small amount of Au-Ag-Cu oxide ore was mined, probably representing the surface expression of the Blue Moon Main Zone. In 1940, Red Cloud Mines, Inc., began developing shallow workings which intersected zinc, probably in the Main Zone in the area Blue Moon Shaft #1. The Federal Bureau of Mines had initiated a diamond-drilling program at the American Eagle mine based on an examination by one of its engineers in June 1943 drilling was done from January to March 1944. The results of this drilling by the government are unknown.

Exploratory drilling at that time verified continuity of the mineralization at depth. 1943, Red Cloud Mines, Inc., was acquired by Hecla Mining Co. Production at a rate of 200 tons per day yielded ore with an average content of 14% zinc and minor copper, lead, silver and gold. Cutoff grade was defined as 7% zinc over a minimum stope width of four feet. Ore was milled and concentrated by flotation at the Jenny Lind gold mine and mill site located four miles to the southeast. Zinc concentrates were sold to Metals Reserve Co. at Merced Falls and later at Merced; copper concentrates were trucked to the ASARCO smelter at Selby, California.

In 1945, the "hanging wall fault breccia" caved twice, once in the summer and again in November. Following the second cave-in, the Blue Moon mine was abandoned. At that time the mine had been developed to a depth of 490

feet and along strike for 320 feet, with a total of 2370 feet of workings. Total production amounted to about 56,000 tons of ore containing about 12.3% zinc, 0.37% copper, 0.48% lead, 3.76 opt silver, and 0.062 opt Au.

At the time of its closing, the consolidated Blue Moon mine was ranked as the eleventh largest producing mine in Mariposa County and by far the largest productive base metal mine in the County.

The hiatus in activity following the cessation of mining on the Blue Moon deposit and government drilling was broken in 1976 when prospectors Tom Evans and Norm Stevens acquired the area; Amselco acquired the property and conducted soil geochemical and electromagnetic surveys and 4,161 feet of percussion drilling between 1976 and 1979. Between 1981 and 1984 Colony Pacific Explorations Ltd. conducted geological mapping, soil geochemical sampling, induced polarization and down hole EM geophysical surveys, and 33,385 feet of diamond drilling. This drilling was focused on testing the down dip extension of the mine area. Mr. Thomas Evans supervised this work and defines the steep plunge of the lenses to the south, still recognized today.

American Mine Services optioned the property from Colony Pacific in 1983 and calculated a geological and mineable reserve, as per 1983 criteria, as well as undertaking preliminary metallurgical studies, mine engineering and design studies and site facilities planning but subsequently defaulted on their option agreement in 1983. Westmin Resources Limited concluded an option on the property and conducted several exploration programs in the period 1984-1988 and completed 56,853 feet of diamond drilling expanding the resource base of the deposit and discovering the American Eagle lens and East lenses. The exploration work included recalculation of the mineral resource, and commencing engineering studies and conducting metallurgical, hydrological, and environmental baseline studies. In October 1987 Westmin terminated its option and converted its interest into an equity position in Colony. Colony Pacific continued with permitting of an underground exploration permit and made application for a permit for the underground development and exploration program.

More than \$5 million in exploration was completed in the period (Thompson, 1995).

In 1991 Lac Minerals (eventually Barrick) optioned the property from Colony Pacific and carried out 19,654 feet of drilling in 15 holes. Lac also completed soil and rock geochemical surveys, and HLEM and magnetic surveys. Westmin re-acquired the property in May 1996 at a cost of \$1.45M.

Following the repurchase in May of 1996, Westmin resumed evaluation of the development of the Blue Moon property, however as budgetary priorities were being focused on the company's discovery at the Wolverine deposit in the Yukon, exploration and development efforts were diverted away from Blue Moon. In February 1998, Westmin granted Augusta Metals Corporation an option on the Blue Moon property. Augusta, completed 2,470 feet of drilling in five holes on the Lone Oak barite-gold prospect southeast of the main VMS zone. Subsequently Augusta failed to fulfill its work commitments and the option was forfeited during 2000. A more complete summary of ownership is shown in Table 6-1.

**Table 6-1 Summary of Blue Moon Ownership**

<b>Year</b>	<b>Owner&amp;/or Operator</b>
<b>1890-1935</b>	Local people (American Eagle claims)
<b>1942</b>	Red Cloud Mines
<b>1943-1945</b>	Hecla Mining Company
<b>1976</b>	Tom Evans & Norm Stevens (staked Red Cloud Claims) and each 1% NSR holders
<b>1976</b>	Amselco
<b>1980</b>	Denis Baxter
<b>1981</b>	Quail Hill Mining Corp. (wholly owned by Colony Pacific); Quail Hill also optioned American Eagle from J. Gann
<b>1982</b>	Quail Hill (Colony Pacific) optioned Gann Spanish Land Grant
<b>1983</b>	American Mine Services
<b>1985</b>	Westmin Resources, Inc. acquires an option on Porath-Cox property (north of Red Crow claims)
<b>1984-1987</b>	Westmin
<b>1987-1990</b>	Westmin/Colony Pacific joint venture
<b>1990-1991</b>	Lac Minerals, USA option agreement with Colony Pacific
<b>1992</b>	Quail Hill (Colony) acquires 100% interest in Red Cloud claims
<b>1996</b>	Westmin (Harlan Meade) acquires 100% ownership from Colony Pacific Explorations Ltd.
<b>1998</b>	Boliden Limited acquires Westmin
<b>1999-2001</b>	Augusta Metals Incorporated acquires an option to earn a 70% interest in the property
<b>2002</b>	Expatriate Resources Ltd. (Harlan Meade) purchases 100% interest in Westmin from Boliden
<b>2004</b>	Expatriate Resources Ltd. transferred ownership from Keystone Mines, Inc. to Pacifica Resources Ltd.
<b>2007</b>	Pacifica Resources Ltd. transferred Keystone Mines, Inc. to Savant Explorations Ltd. Savant Explorations Ltd. was created as a result of two corporate spinouts of advanced stage zinc assets. Yukon Zinc followed by a 2007 spinout by Selwyn Resource's zinc assets into Savant Explorations Inc. Savant Explorations Inc. was created in 2007 as a result of a corporate spinout from the parent company, Selwyn Resources Ltd. (now EDM Resources Inc.) and it included the Blue Moon project. At the time, Selwyn was focused on the Howard's Pass project, one of the largest undeveloped zinc-lead deposits in northern Canada. Selwyn Resources held the Blue Moon project since 2004 when Selwyn Resources was created from a spinout from Expatriate Resources Ltd., who was focused on the Wolverine project in northern Canada.
<b>2017</b>	Savant Explorations Ltd. renamed to Blue Moon Zinc Corp. - current owners
<b>2018</b>	Blue Moon Zinc Corp. buys back 10% NPI
<b>2020</b>	Blue Moon Zinc Corp. buys back the two 1% NSRs
<b>2021</b>	Blue Moon Zinc Corp. renamed to Blue Moon Metals Inc.

A little more detail is presented here: Hecla performed small scale mining during World War II; 56,000 tons grading 12.3% zinc 1981-1984 Imperial Metals completed approximately 33,000 feet of diamond drilling 1984-1988 Boliden (Westmin), one of Europe's largest zinc producers, completed: Approximately 57,000 feet of diamond drilling • Calculated a mineral resource and commenced engineering, metallurgical, hydrological and environment baseline studies 1989 Boliden (Westmin) obtained a permit and approval to build a shaft to continue underground development and resource expansion. 1991 Barrick (Lac) completed approximately 20,000 feet of drilling 2007 Blue Moon was created as a result of two corporate spinouts of advanced stage zinc assets. Yukon Zinc followed by a 2007 spinout by Selwyn Resource's zinc assets into Savant Explorations Inc. In 2008, Savant Explorations Inc. issues a NI 43-101 resource estimate via previous and well-documented work programs. 2017 Blue Moon issues updated NI 43-101 Mineral Resource Estimate. 2018 Blue Moon received multi-year drill permit; Phase I drilling successfully completed –discovered high-grade zone within the deposit. Updated NI 43-101 Mineral Resource Estimate in 2018 but prior 2018 drill program. 2019 Strategic JV with Platina Resources; up to \$11 million in carried expenditures.

Year	Work Completed	Claim	Operator
1890-1899	Prospecting, 950 feet of underground development and limited gold production	American Eagle	Local people
1930-1935	Prospecting, underground development, small tonnage of gold-silver-copper ore mined	Blue Moon	Local people
1942	11 surface and underground diamond drill holes (4,516.5 ft.)	Blue Moon	Red Cloud Mines
1944	7 surface diamond drill holes (2,800 ft.)	American Eagle	U.S. Bureau of Mines
1943-1945	Underground mine, production of 50,490.274 tons grading 2.126g/t Au, 128.588g/t Ag, 0.36% Cu, 0.48% Pb, 12.3% Zn	Blue Moon	Hecla Mining Company (purchased from Red Cloud Mines)
1976-1979	Soil geochemical and EM surveys, 9 percussion drill holes (4,160.99 ft.)	Blue Moon, Amselco Hill	Amselco
1981-1983	Geological mapping, soil geochemistry, IP and down-hole EM geophysical surveys, 20 diamond drill holes (22,494.69 ft)	Blue Moon, American Eagle	Colony Pacific
1983	Determined geologic and mineable reserves, did site planning, and preliminary metallurgy	Blue Moon	American Mine Services
1984-1986	Geological mapping, 30 diamond drill holes (43,329.0 ft.), determined geologic and mineable reserves; did metallurgy, hydrology and base line environmental studies; initiated permitting for underground exploration	Blue Moon, American Eagle	Westmin Resources, Inc.
1987-1990	17 diamond drill holes (23,319.02 ft.), IP survey; completed permitting for underground exploration	Blue Moon	Colony Pacific
1990-1991	15 diamond drill holes (19,639.0 ft.), 2,500 ft. shaft pilot hole, soil geochemistry, rock litho-geochemistry	Blue Moon	Lac Minerals, USA (Barrick)
1999	5 diamond drill holes (2,471.0 ft.) on Lone Oak showing	Gann Spanish Land Grant	Augusta Metals Incorporated
2018	Permitting for drilling; 4 diamond drill holes (4,099 ft.)	Blue Moon	Blue Moon Metals Inc.
2019	2 diamond drill holes (3,626 ft.)	Blue Moon	Platina Resources (former JV partner)
2021	5 diamond drill holes (7,750 ft.); downhole EM on hole 83	Blue Moon	Blue Moon Metals Inc.
2023	Magnetic survey	Blue Moon	Blue Moon Metals Inc.

The property is a former producer having produced 55,655 tons grading 0.062 oz/ton Au, 3.75 oz/ton Ag, 0.36% Cu, 0.48% Pb, 12.3% Zn (50,490.274 tons grading 2.126g/t Au, 128.588g/t Ag, 0.36% Cu, 0.48% Pb, 12.3% Zn). (Eric and Cox, 1948, p. 145) The mine operated between 1943 and 1945. 8 additional drill holes were carried out in 2018, 2019, and 2021, by recent owners and optionees and are shown on Table 10-2 in Chapter 10 on drilling.

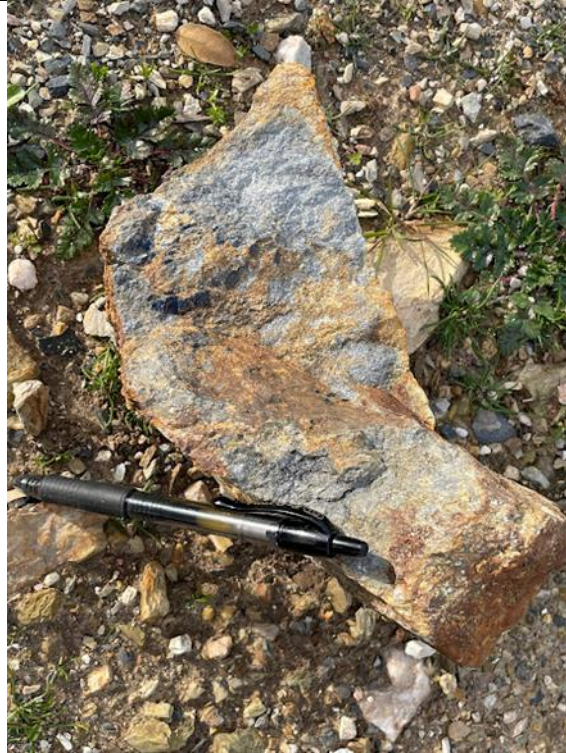


**Figure 6-1 American Eagle Mine Entrance**



**Figure 6-2 Blue Moon Mine; Historic Mine Shaft of Hecla**



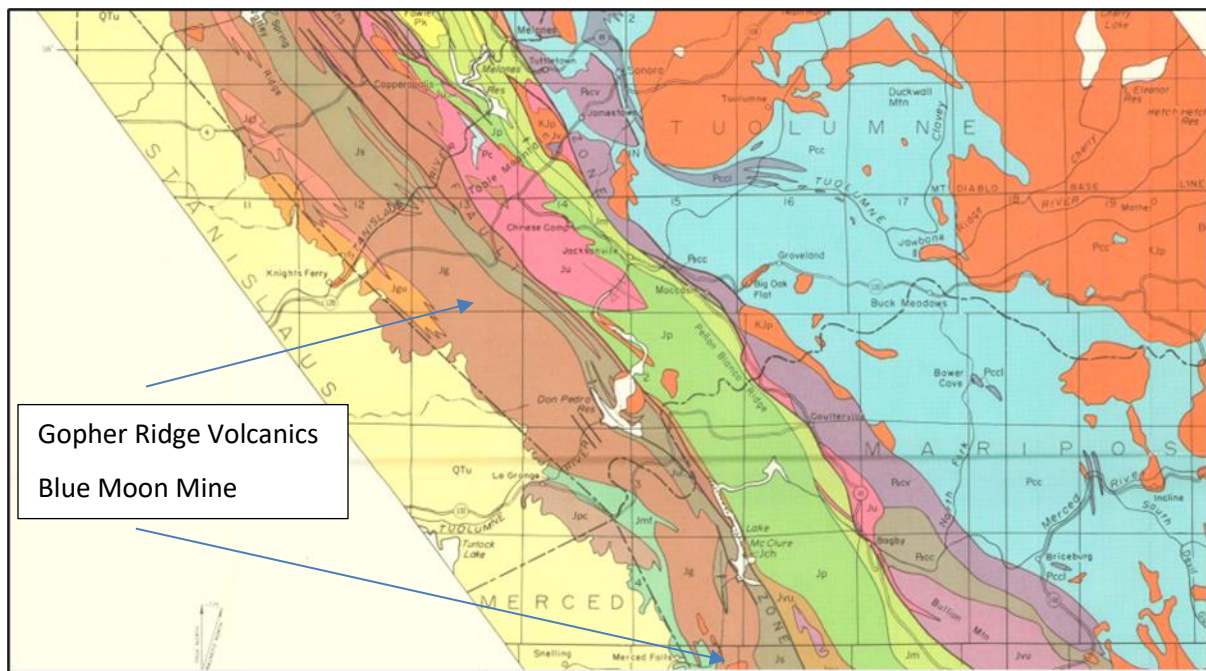


**Figure 6-3 Blue Moon VMS on Dump of Shaft 2**

## 7 GEOLOGICAL SETTING AND MINERALIZATION

The Blue Moon deposit is hosted by the Upper Jurassic Gopher Ridge Formation of the Western Block of the Sierra Foothills Metamorphic Belt (Figure 7-1). This belt extends for 186 miles along the western foothills of the Sierra Nevada Mountains and is approximately 9.5 miles wide. Along the length of the belt, clusters of Zn-Cu rich, polymetallic, massive sulfide deposits occur at approximately 25-mile intervals. Many mines were developed between 1860 and the mid 1900's along the belt. One of the largest was the Penn mine in Calaveras County north of Mariposa County, which produced 883,402 tons of Cu-Zn-Pb (Au-Ag) ore (Martin, 1988).

### 7.1 REGIONAL GEOLOGY



**Figure 7-1 Regional Geology of the Gopher Ridge Volcanics in the Foothills Copper-Zinc Belt that host the Blue Moon Zn Deposit**

Rocks in the Sierra foothills consist of north trending tectonostratigraphic belts of metamorphosed sedimentary, volcanic, and intrusive rocks ranging in age from late Paleozoic to Mesozoic. These belts represent rock sequences, largely of island-arc affinity, that were accreted to the continent. They extend about 235 miles along the western side of the Sierra and are flanked to the east by the Sierra Nevada Batholith and to the west by sedimentary rocks of the Cretaceous and Jurassic Great Valley sequence. The structural belts are internally bounded by the Melones and Bear Mountains fault zones, and are characterized by extensive faulting, shearing, and folding (Earhart, 1988). Historically, three belts have been identified in the southern Sierran foothills based on lithologic differences and the nature of gold mineralization - the West Gold Belt, the Mother Lode Belt, and the East Gold Belt. The Mother Lode Belt is responsible for most of the gold produced. However, substantial gold has been produced from the East Belt, as well as gold, copper, and other base metals from rocks of the West Belt. The West Belt consists of an eastern component composed of an ophiolitic melange and a Jurassic age western component composed of the Copper Hill Volcanics, the Salt Springs slate, and Gopher Ridge Volcanics. The Bear Mountains fault zone separates the melange from the Copper Hill Volcanics. The West Belt contains widely scattered gold deposits occurring in quartz veins and stringers in schist, slate, granitic rocks, altered mafic rocks, and as gray ore in greenstone. The West Belt also hosts the Foothill Copper-Zinc Belt (Figure 7-2) and the massive sulfide deposits of the Penn Mine and other VMS deposits. The Mother Lode Belt traverses western Calaveras County and consists of the upper Jurassic Logtown Ridge and Mariposa formations the Logtown Ridge Formation consists of about 6,500 feet of volcanic and volcanic-sedimentary rocks of island arc affinity. The overlying Mariposa Formation contains a distal turbidite, hemipelagic sequence of black slate, schist, amphibolite and chlorite schist, fine-grained tuffaceous rocks, and subvolcanic intrusive rocks. The thickness of the Mariposa Formation is estimated to be about 2,600 feet thick at the Consumnes River (Earhart, 1988). Mother Lode mineralization is characterized by steeply dipping gold-bearing mesothermal quartz veins and bodies of mineralized country rock adjacent to veins. Mother Lode ores are generally low to moderate grade (1/3 ounce of gold or less per ton), but ore bodies can be large. Mother Lode veins are characteristically enclosed in Mariposa Formation slate with associated greenstone. The Mother Lode belt vein system ranges from a few hundred feet to a mile or more in width. Mother Lode type veins fill voids created within faults and fracture zones and consist

of quartz, gold and associated sulfides, ankerite, calcite, chlorite, limonite, talc, and sericite. The Melones Fault zone separates the Mother Lode Belt from the East Belt. The Eastern Belt is dominantly argillite, phyllite and phyllonite, chert, and metavolcanic rocks of Paleozoic-Mesozoic age. The phyllite and phyllonite are dark to silvery gray. The chert is mostly thin bedded with phyllite partings. The Paleozoic-Mesozoic metasedimentary and metavolcanic rocks of the Eastern Belt have been assigned to the Calaveras Complex by most investigators (Earhart, 1988). Older Paleozoic metamorphic rocks have been assigned to the Shoo Fly Complex. The metamorphic complexes have been intruded in places by Mesozoic plutonic rocks.

Lode deposits of the East Belt consist of many individual gold-bearing quartz veins enclosed in metamorphic rocks of possible Jurassic age, metamorphic rocks of the Calaveras Complex, metamorphic rocks of the Shoo Fly complex, or in granitic rocks. Most of the veins trend northward and dip steeply. An east-west set of intersecting faults may be a controlling factor in controlling deposition of ore. Ore deposits of the East Belt are smaller and narrower than those of the Mother Lode, but commonly are more chemically complex, and richer in grade. Gold is usually associated with appreciable amounts of pyrite, chalcopyrite, pyrrhotite, galena, sphalerite, and arsenopyrite.

## 7.2 LOCAL GEOLOGY

The Foothill Copper-Zinc Belt (Figure 7-2) forms part of a complex lithotectonic belt of Jurassic age island arc metavolcanic, metasedimentary, and metaplutonic rocks. It lies west of, and roughly parallel to the Mother Lode gold belt. The ore deposits, which form lenticular bodies in the metavolcanic rocks, are primarily composed of massive pyrite and various amounts of chalcopyrite, sphalerite, gold and silver. Some deposits, however, contain small amounts of pyrrhotite, galena, tetrahedrite, or bornite. Until the early 1970s, the massive sulfide deposits at the Penn Mine were thought to be epigenetic replacement deposits formed along shear zones (Heyl, et al, 1948; Clark and Lydon, 1962). The reinterpretation of massive sulfide deposits in Japan as being of volcanogenic origin rather than replacement deposits resulted in a reevaluation of many massive sulfide deposits in the western US. As a result, more recent studies of specific deposits, including those of the Penn Mine, have proposed a syngenetic origin of these deposits (Peterson, 1985). Kemp (1982) defined the island-arc setting in which the Foothill Copper-Zinc Belt deposits are situated. Schmidt (1978) defined the textural and structural attributes, stratigraphic framework, and the sulfide ore mineralogy at the Penn Mine and concluded these deposits are more indicative of Kuroko-type syngenetic volcanogenic sulfides. Bedrock at the Penn Mine consists primarily of greenschist-facies metavolcanic rocks of the Gopher Ridge Volcanics that strike N 30° W and dip steeply to the east (generally greater than 70°). Despite the regional metamorphism and eastward tilting there is little evidence of major folding or faulting in the area (Peterson, 1985). The metavolcanic rocks have a weak to intense foliation paralleling the strike. Peterson (1985) subdivided the Gopher Ridge Volcanics at the Penn Mine into one intrusive and five volcanic sub-units based on prominent lithologic features: 1) felsic quartz porphyry intrusive unit, 2) siliceous tuff unit, 3) basalt unit, 4) mafic to intermediate tuff unit, 5) heterogeneous tuff unit, and 6) vent complex unit. Most of the copper-zinc ore bodies are intimately associated with sills and lenses of the felsic quartz porphyry unit which occur within the lower three volcanic units. Also associated with the ore bodies are large areas of sericitic and silicic alteration that produced a quartz sericite schist, and chloritic, hematitic, and pyritic alteration halos around the known ore bodies. Ore Bodies and Genesis Ore occurs in two distinct zones of mineralization; a Western ore zone lying to the east of quartz porphyry schist and along which Shaft Nos. 1, 2, 6 were sunk, and an Eastern ore zone just west of chloritic quartz porphyry, which was mined in shafts Nos. 3 and 4. Twelve separate ore bodies were differentiated during underground mining. Heyl et al (1948) provides numerous cross sections through many of the mine's more important ore bodies.

Schmidt (1978) identified several zoned ore types including massive ores, stringer ores and disseminated ores. The principal ore bodies consist of massive mixtures of sphalerite, pyrite, bornite, and chalcopyrite with minor gangue comprised of barite, quartz, calcite and/or mica schist, and rare to minor galena and tetrahedrite/tennantite. Quartz, selenite, and some native-copper are also present (Clark and Lydon, 1962). Many of the massive ores are banded with alternating layers of chalcopyrite, pyrite, or sphalerite, whereas others are a fine-grained heterogeneous mixture of up to 60% sphalerite, 50% pyrite, and varying proportions (up to 30%) of copper and accessory minerals. Many of the banded ores show kinks, swirls, and folds indicative of post-deposition deformation (Schmidt, 1978). The ore bodies are lenticular in form, and the long axes plunge down dip or steeply to the north or south. Ore bodies showed pronounced elongation with length:breadth ratios ranging from 2:1 to 5L:1 and averaging 3:1 (Schmidt, 1978). They varied considerably in size, some having been mined along the pitch length of as much as 1000 feet (Heyl et al, 1948). Thickness of the ore bodies varies from 4 to 30 feet. Stringer ores are of pyrite, chalcopyrite, sphalerite, bornite, calcite, barite, and quartz. Gangue of fine-medium-grained aggregates of quartz, calcite, and barite occur interstitial to stringer ores. Disseminated ores consist of disseminated pyrite, chalcopyrite, and sphalerite, and are associated with extensive wall-rock alteration (Schmidt, 1978). Fine-grained pyrite comprises between 1 to 10 percent of the rock. Ore bodies display a strong asymmetric zonation both in mineralogy and mode

of ore occurrence, which was not consistent with a replacement origin. A typical ore body in the Western ore zone consists of: 1) a hanging wall layer of massive to banded ore rich in sphalerite, barite, chalcopyrite, pyrite, and galena, and tetrahedrite-tennantite, with sphalerite-barite rich ore being more abundant towards the hanging wall, and copper minerals more abundant towards the footwall; 2) a zone of stringer ores with copper minerals (bornite and chalcopyrite), pyrite, quartz, and minor tetrahedrite; and 3) quartz-pyrite veinlets and disseminated pyrite mineralization with quartz porphyry or rhyolitic tuffs. In the Eastern ore zone, the above sequence is reversed, occurring from footwall to hanging wall. The zoning was attributed to a syngenetic process where gravity would contribute to the asymmetry of both the ores and alteration effects (Schmidt, 1978). Mineralized zones are conformable with the volcanic section. Ore bodies lie along bedding and schistosity planes rather than along fault planes or fracture zones as would be expected by a hydrothermal origin. The mineralized zones also exhibit stratigraphic selectivity, occurring only within or to one side of a felsic quartz porphyry. Ore bodies commonly occur at the contact of a felsic porphyry with more mafic rocks. The felsic quartz porphyry intrusive units and parts of the volcanic units are sericitically altered and silicified in the stratigraphic horizons of the ore deposits (Peterson, 1985). Similar associations of ore, felsic rocks, and alteration are characteristic of Kuroko-type deposits massive sulfide deposits (Franklin et al, 1981). The fluids affecting the felsic quartz porphyry intrusive and responsible for the ore are thought to have had a common origin, with alteration occurring contemporaneously with deposition of the massive ore bodies. First the volcanic units were deposited in an island arc environment. Contemporaneous with or shortly after their deposition, felsic quartz porphyry bodies intruded the volcanic rocks along bedding planes to form a number of sills, the massive sulfide bodies were deposited, and the adjacent country rock was altered.



Figure 23. Map of Copper and Zinc Belts, Sierra Nevada. The foothill copper-zinc belt and the Plumas County copper belt are shown. The principal mines are marked.

**Figure 7-2 Foothills Copper-Zinc Belt, Western Sierra Nevada Mts., California**

### 7.3 PROPERTY GEOLOGY

The Gopher Ridge Formation in the area of the Blue Moon deposit consists of a basal sequence of basalt and andesite overlain by a rhyolite, Figure 7.1. The rhyolite strata are up to 300m thick and host the Blue Moon deposit(s). The sulfide-sulphate mineralized lenses are hosted in the lower part of the felsic sequence. The felsic volcanic rocks are succeeded to the east by volcanoclastic rocks and ultimately by deep-water argillaceous, sedimentary rocks (Meade, 1996).

Strata at Blue Moon strike approximately 20° west of north, dip near vertically, face to the east and are tightly folded. Minor fold features suggest a steep, north plunge of the regional structure. All lithologies have undergone low grade metamorphism and the prefix “meta” is not applied to lithologic names for the sake brevity in writing. Lithologies observed at Blue Moon exhibit metamorphic characteristics of the lower greenschist facies.

The rhyolite strata have been subdivided on the basis of phenocryst mineralogy into three distinct units: aphyric rhyolite, feldspar porphyry rhyolite and quartz-feldspar porphyry rhyolite. The distinction of these different types of rhyolite allows the modeling of the depositional environment of the volcanic rocks at the time of the sulfide mineralization and the identification of stratigraphic horizons within the felsic rocks. More massive phases of aphyric rhyolite define rhyolite dome features that are flanked by clastic, fragmental facies. The thinning of the aphyric rhyolite proximal to the domes defines favorable environments for deposition of massive sulfide mineralization.

Further up the stratigraphic sequence, massive feldspar porphyry rhyolite appears to define sill or dyke features that locally truncate sulfide mineralization.

Sericitic alteration and bleaching of the rhyolite strata cause wide ranges in the appearance of the various rhyolite rocks, and careful distinction of alteration changes versus changes in lithology is important to defining the volcanic stratigraphy.

Lateral to the sulfide mineralization are chemical sedimentary rocks containing hematite, magnetite, barite, silica and manganese minerals, which help define mineralized, potential ore type horizons. Sulfide-barite mineralization on the edges of massive sulfide mineralization grade laterally into hematite-jasper iron formation, which, in turn, grade into manganese-bearing siliceous tuffaceous rock.

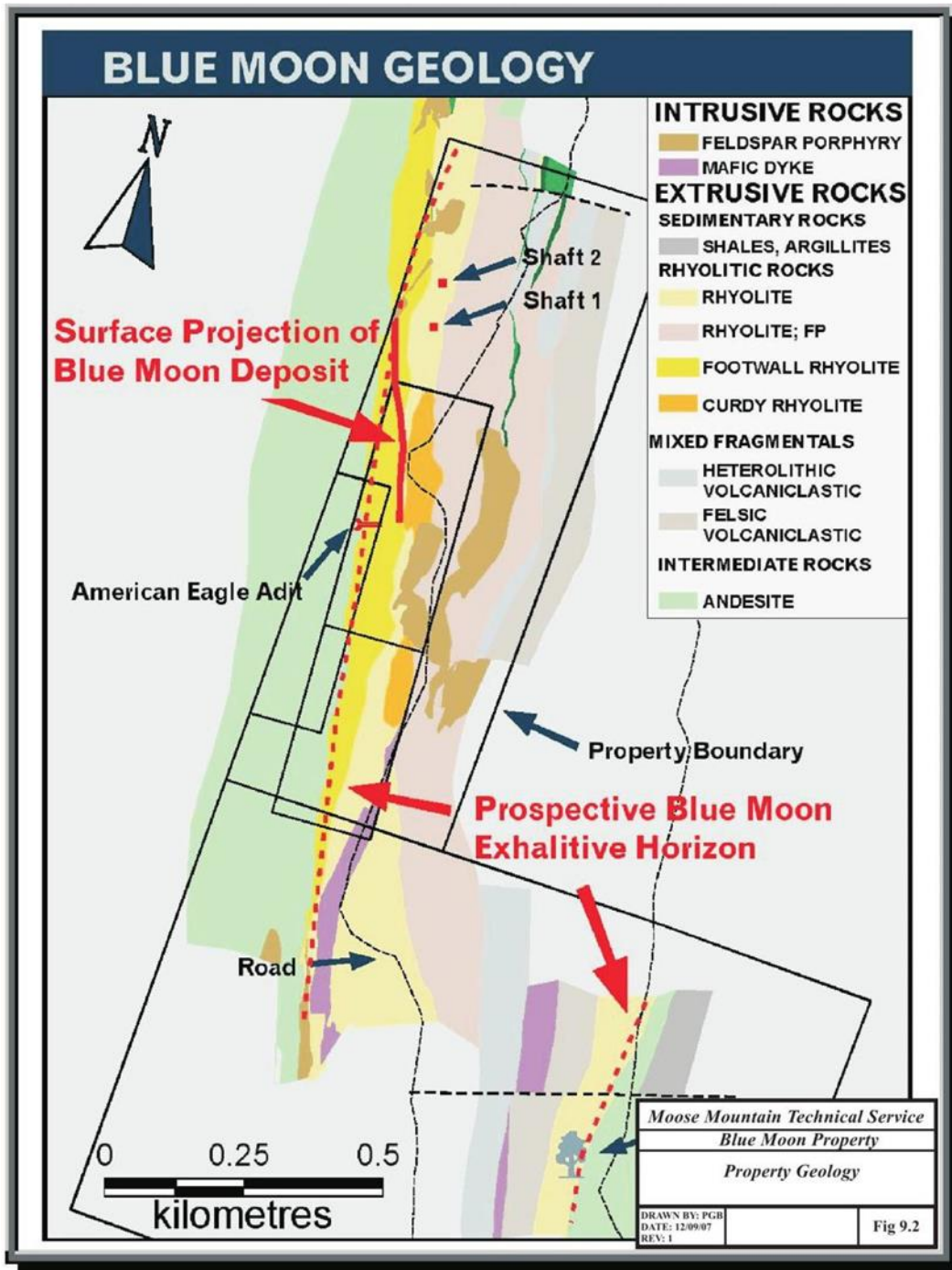


Figure 7-3 Property Geology (Meade, 2002)

#### 7.4 MINERALIZATION

Probably the best local surface geology maps displaying mineralization at the Blue Moon deposits were those during Harlan Meade's leadership time with both Western Mines and Expatriate Resources (Fig. 7.3). Several geologists,

including Paul Wodjak and Garfield McVeigh are mentioned in the references. Several subsequent geologists have mapped offset faults in the Main Zone and more work is necessary to clarify these differences.

The Blue Moon deposit is a Kuroko-type volcanogenic massive sulfide deposit. The deposit is shown to have some similarities with the Lynx and Myra deposits at Myra Falls, Vancouver Island. Stacked sulfide-sulphate lenses occur in two or more horizons within a 50-180 foot stratigraphic interval. Four distinct lenses of massive sulfide mineralization have been identified; the West, Main, East and American Eagle zones. The American Eagle Zone appears to occur in the same stratigraphic position as the West Zone.

The West Zone occupies the lowest stratigraphic position and occurs near the base of the aphyric rhyolite sequence. The Main Zone lies stratigraphically above the West Zone and occurs with the first appearance of quartz and feldspar porphyry rhyolite. The East Zone lies stratigraphically above the Main Zone, although several authors have included it as part of the Main Zone. It is hosted entirely within feldspar porphyry rhyolite.

Massive sulfide mineralization consists of pyrite, sphalerite, chalcopyrite, galena, and minor tetrahedrite and bornite. Massive and semi-massive sulfides may be accompanied by purple anhydrite, gypsum or barite. Textures include massive, banded and clastic mineralization feat

Metal zoning in base or precious metal is poorly understood although there is a strong tendency for narrower mineralized zones to be relatively richer in gold and silver and to have barite gangue.

The potential ore horizons are enveloped by sericite-silica-pyrite alteration that extends laterally in the rhyolite stratigraphy at least 3000 feet, as far as known mineralization is recognized, and more than 490 feet into the footwall andesite. A stockwork sulfide feeder zone is not clearly identified within the footwall alteration zone. This discordant sericite altered zone is linked to a lower stratabound sericite altered zone in the footwall andesite which extends at least 0.7 miles to the south from the deposit and may be an important exploration guide to other mineralized centers.

The lower mineralized horizon (West and American Eagle zones) generally contains more pyrite, chalcopyrite, sphalerite, anhydrite and gypsum than the upper mineralized horizon (Main and East zones) which is comparatively enriched in galena, tetrahedrite and barite. The South Zone has not been studied. Gold and silver grades can be significant in the lower horizon lenses but on average are three times greater in the upper horizon lenses.

A database of some 1,540 samples is available for the deposit. All of the samples are from drill core. Table 7-1 lists some general statistics.

**Table 7-1 Summary Statistics from Drill Core, Blue Moon**

Parameter	Minimum	Maximum	Mean	Stand. Dev.	C.V.
<b>Sample length (ft)</b>	0.4	21.3	3.78	1.78	0.47
<b>Copper (%)</b>	0.0	10.7	0.35	0.85	2.44
<b>Zinc (%)</b>	0.0	46.0	2.37	5.09	2.15
<b>Lead (%)</b>	0.0	6.4	0.14	0.47	3.48
<b>Silver (oz/ton)</b>	0.0	40.3	0.69	2.44	3.55
<b>Gold (oz/ton)</b>	0.0	1.04	0.019	0.06	3.19

**8 DEPOSIT TYPES**

The Blue Moon deposit is a Kuroko-type, polymetallic, volcanogenic, massive sulphide deposit, or VMS deposit. The sulfide-sulphate deposit is hosted in rhyolite. The ore minerals are pyrite, sphalerite, chalcocopyrite, galena, and minor tetrahedrite and bornite. The associated sulphate minerals are barite, gypsum and purple anhydrite. To date, four lenses of mineralization have been identified within at least two, possibly three, horizons. The lenses are enveloped by sericite-silica- pyrite alteration. Gold and silver grades are significant in the lower horizon lenses but are, on average, three times greater in the upper horizon lenses.

The deposit type and model for Blue Moon is considered appropriate for a volcanogenic massive sulfide deposit.



## **9 EXPLORATION**

Blue Moon has carried out surface exploration at the prospect. Three drill campaigns were carried out in 2018, 2019, and 2021.

Exploration of the Blue Moon property, mostly historical in nature, was carried out by earlier owners includes geological mapping, soil geochemical surveys and geophysical surveys, including an induced polarization survey and down-hole EM surveys.

Blue Moon has recently carried out a gravity survey, reported in this document.

### **9.1 GEOLOGICAL MAPPING**

Westmin Resources and Expatriate Resources geologists carried out several campaigns of excellent geological mapping in the late 1980s and at Lone Oak in 1991. Mapping was at a scale of 1:500. A summary of the maps is shown in Figure 7.3.

Westmin's mapping found volcanic rocks of the Gopher Ridge Formation comprised basalt overlain by andesite and rhyolite. The rhyolite succession is 900-1000 feet thick in the vicinity of the West and Main zone mineral deposits and is divided into four units based on quartz and feldspar phenocryst content and texture. The most important unit is the footwall rhyolite because it is key to localizing ore. It is a distinctive aphyric (cherty) rhyolite, commonly banded and highly variable in color. The top of the footwall rhyolite defines the West zone mineralized horizon. New zones of aphyric rhyolite to the south of Blue Moon, whether or not they are exactly correlative with the footwall rhyolite, are considered by previous authors to have better mineralization potential than other types of rhyolite. Henricksen is not sure.

The West zone horizon marks a sharp change in rhyolite stratigraphy at Blue Moon. Rhyolite above the West zone comprises clastic, sparsely feldspar porphyritic rhyolite ("curdy") rhyolite and quartz-feldspar porphyritic phases. The Main zone at Blue Moon lies above the West zone and occurs in sparsely porphyritic and curdy rhyolite 40 to 180 feet stratigraphically above the West zone. These phases of rhyolite are a less specific guide to ore. The footwall and curdy rhyolite appear to be domal features and either unit could host mineralization south of the American Eagle adit.

Intrusive rhyolite is prominent east and south of the Blue Moon deposits but should not be regarded as a negative feature to finding more ore. In fact, it might be considered favorable because most of the copper-zinc ore bodies at the Penn deposit are closely associated with intrusive quartz porphyry rhyolite.

### **9.2 GEOCHEMICAL SURVEYS**

Two soil geochemical surveys were completed, one by Colony Pacific in the early 1980s was limited to main deposit area and a later survey by Lac Minerals in 1991 that covered the entire property. In both surveys soil was collected from the "B" soil horizon. The analytical reports are no longer available; however, as the surveys were conducted by reputable mining companies, the author has no reason to doubt their authenticity.

Little detail remains on the Colony Pacific survey other than the grid spacing of 400 feet by 50 feet and that only zinc, copper, silver and barium were analyzed by the atomic absorption method. Colony Pacific found a moderately strong copper-zinc soil anomaly overlies the andesite footwall alteration zone and the sub-crop of the mineral zones. It is 500–1000 feet wide and extends to the southern limit of the survey at that time.

Hydromorphic dispersion downslope has enhanced the extent of copper and zinc anomalies. Silver was not useful and barium was ineffective due to incorrect analytic procedure. Apparently, no other elements such as lead were determined.

In the 1980's, Lac Minerals' (now Barrick) 1991 soil survey is more detailed (50 foot intervals on lines 200 foot apart), covered the entire property, employed better methodology (ICP and fire assay AA finish) and analyzed for gold, silver, copper, lead, zinc, manganese, arsenic, antimony, barium and mercury. The survey shows that zinc and copper are commonly subject to hydromorphic dispersion in this local California climate. The results for lead, one of the least mobile of the metals analyzed is shown in Figure 9.1. The anomalous results high-light the rhyolite-andesite contact as being favorable to mineralization, and indicate the metalliferous nature of this contact.

### **9.3 GEOPHYSICS**

#### **EM Studies by Walker (2021)**

Walker (2021) carried out a study on the effectiveness of EM surveys, both surface and down hole surveys, in finding new massive sulfides at the Blue Moon property. He examined the old data and came up with the following conclusions:

- Based on the borehole logging and previous exploration reports the sphalerite zones at the New Moon Project are not very conductive
- Based on the EM carried out by Lac and Boliden the maximum depth of detection of the Main Zone was detected ~250 m below surface
- Based on the Boliden downhole EM data the Main Zone was detected in boreholes 60-80 m away. However, if Hole 70 anomaly is related to BM83 that distance is larger.
- These depths and distances will depend upon how massive the zone is and also on the coupling of the surface loop and the conductor.
- For these deep targets I feel that borehole EM is your best bet. I would suggest surveying the holes as soon after drilling as possible to ensure the holes remain open and to help target your next holes.

#### **Gravity (2023)**

Tom Carpenter(2023) carried out a gravity survey in September of 2023. A total of 131 gravity stations were read above the drill locations of massive sulfides on the Blue Moon Project, over the course of four days. Stations were read on a 100 meter grid with some 25 meter infill stations. The work was carried out on a 4x4 ATV and on foot.

The massive sulfide zones with residual gravity stations in Figure 9-1. Figure 9-2 shows the NNW trending gravity low superimposed on the massive sulfide zones. The ore zones appear to nestle along the eastern edge of the gravity low. The gravity low probably is probably formational and is coincidental with phylically altered rhyolite with the more mafic rocks being gravity highs. At Blue Moon the contact between the altered rhyolite and andesite is very favorable location for forming the VMS mineralization, even the actual massive sulfide zones are too thin and/or too deep to be recognized by widely spaced gravity stations. The drilling has shown that the VMS is often at the eastern contact of the rhyolite/andesite at Blue Moon as shown as the eastern contact of the gravity low.

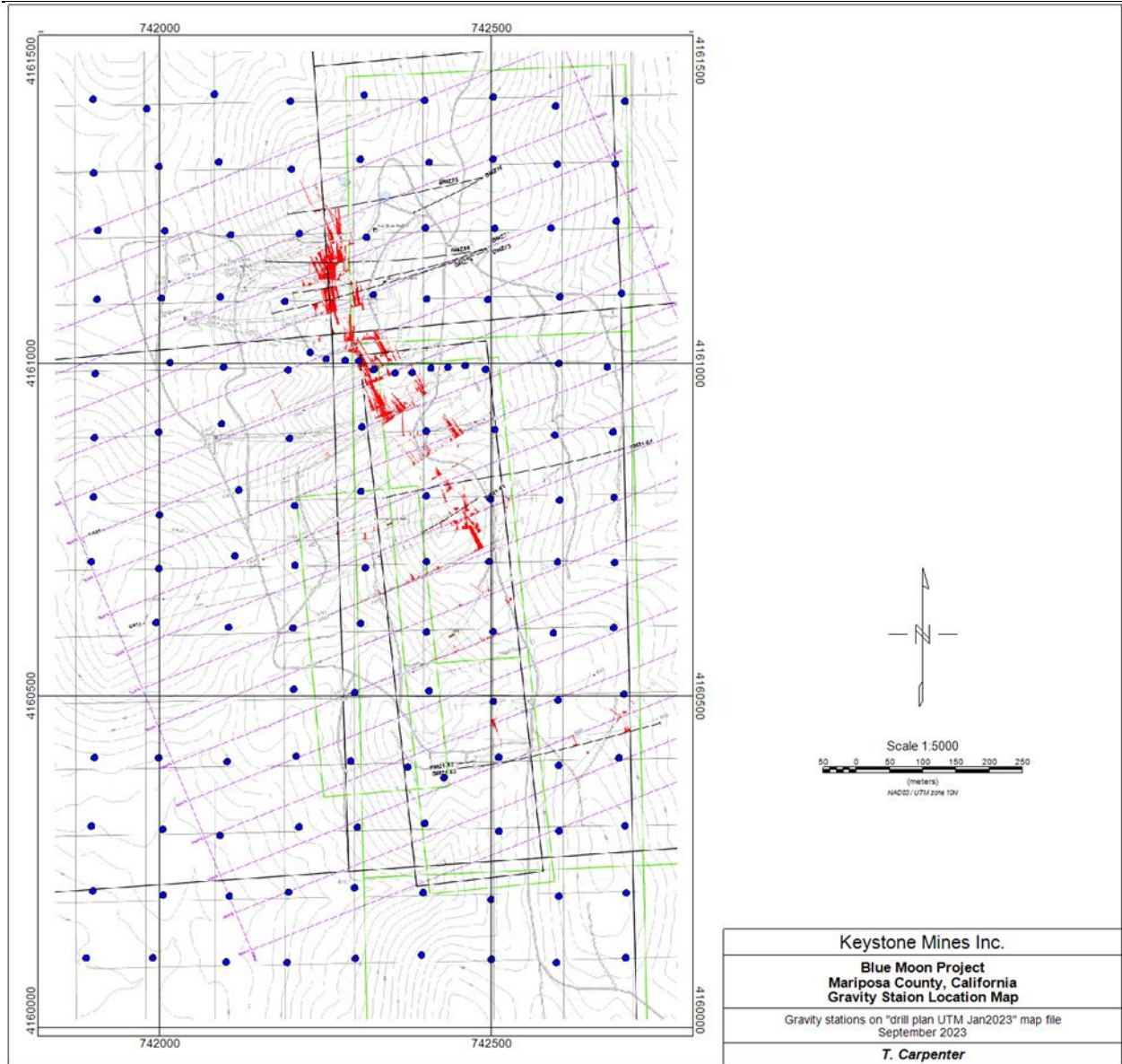


Figure 9-1 Massive Sulfide Zones (Red) and Gravity Station Grid

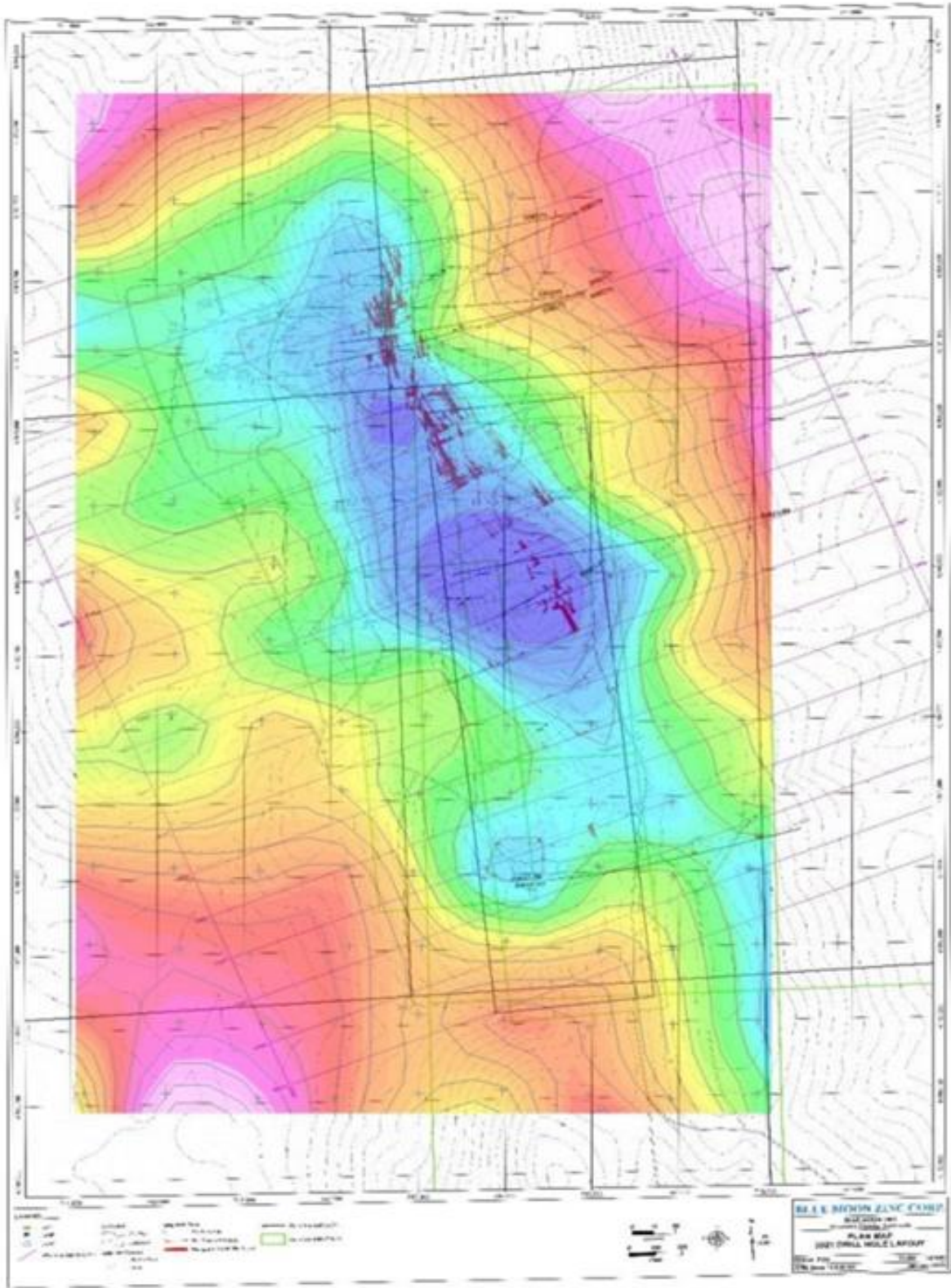
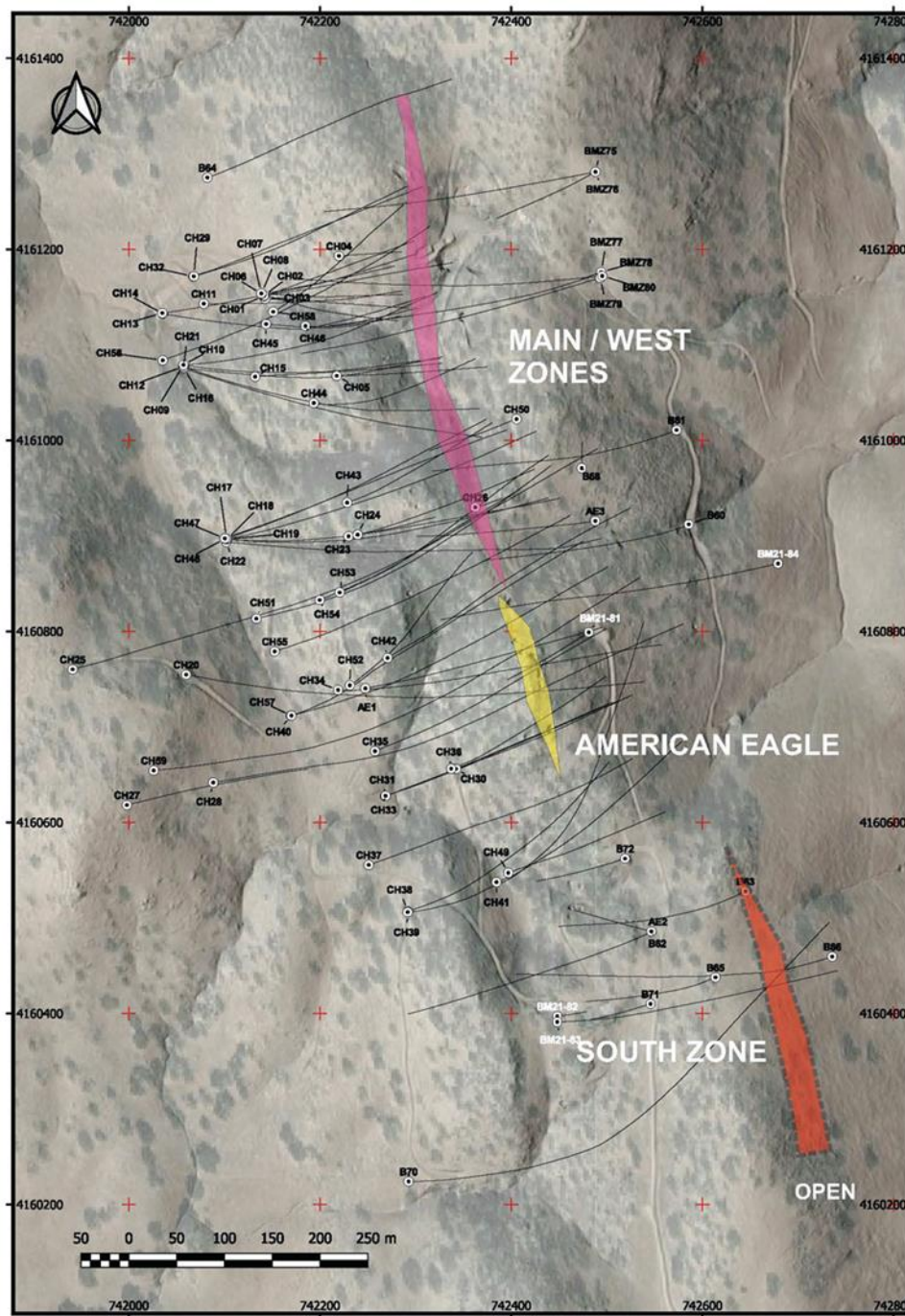


Figure 9-2 NNW Trending Gravity Low Superimposed Massive Sulfide Zones (Carpenter, 2023)

10 DRILLING



**Figure 10-1 Location of All Drill Holes on the Blue Moon Prospect through 2023 (Shum, Kevin 2023)**

Most of the drilling on the property was completed by previous owners starting in 1942 and by BMZ in 2018, 2019, and 2021

Drilling has occurred on the Blue Moon property since 1942 with a total of 136,416 feet of drilling in 124 drill holes. The majority of the holes were drilled in the Blue Moon deposit area. A few holes were drilled in the Amselco Hill and Lone Oak areas, targeting the favorable stratigraphic horizon. Most of the holes drilled on the Blue Moon property have been diamond holes of BQ and NQ core sizes, with the exception of the 9 holes drilled in 1979 by Amselco, which were percussion holes. As well, all the holes, with the exception of the Amselco holes, have had down-hole surveys. Only core holes drilled since 1979 were used in the resource calculation.

**Table 10-1 Summary of drilling on the Blue Moon Property, prior to the formation of BMZ**

Year	Operator	No. of Holes	Hole Numbers	Footage (ft)
1942	Red Cloud Mines	10	RC2 – RC8, 101-103	4,516.5
1944	US Bureau of Mines	7	1-7	2,800.0
1979	Amselco	9	79-1 – 79-9	4,161.0
1981	Colony Pacific	2	B1, B2	1,584.0
1982	Colony Pacific	12	AE1-AE3, B3-82 – B11-82	11,054.1
1983	Colony Pacific	6	B12-83 – B17-83	9,856.6
1984	Westmin	5	B18 – B22	10,891.7
1985	Westmin	10	CH13-14,17-18,23-28	10,307.5
1986	Westmin	15	AE 86 CH 1, B 86 CH 29 – B 86 CH 42	22,129.8
1987	Westmin	7	B 87 CH 43 – B 86 CH 49	6,872.0
1988	Westmin	10	B 88 CH 50 – B 88 CH 59	16,447.0
1991	Lac Minerals	15	B 91 CH 60 – B 91 CH 74	19,639.0
1999	Augusta	5	LO 99 CH 01 – LO 99 CH 05	2,471.0
	<b>Totals</b>	<b>113</b>		<b>122,730.2</b>

**Table 10-2 Drilling by BMZ Since 2018 at Blue Moon Project**

Hole	Feet Drilled
BMZ75 (2018)	1,180
BMZ76 (2018)	950
BMZ77 (2018)	180
BMZ78 (2018)	1,789
BMZ79 (2019)	1,837
BMZ80 (2019)	1,877
BMZ81 (2021)	719
BMZ82 (2021)	577
BMZ83 (2021)	2,809
BMZ84 (2021)	1,768
	<b>13,686 ft</b>

**Table 10-3 Significant intercepts from the BMZ drill program**

Hole	From (feet)	To (feet)	Length (feet)	Zinc (%)	Gold (g/t)	Silver (g/t)	Lead (%)	Copper (%)	ZnEq (%)
<b>BMZ75</b>	1022.0	1038.0	16.0	1.2	0.08	0.7	0	0.04	1.4
<b>Inc</b>	1027.0	1029.0	2.0	2.9	0.05	1.5	0	0.08	3.2
<b>BMZ78</b>	1425.0	1545.7	120.7	9.45	1.10	42.93	0.15	0.58	12.61
<b>Inc</b>	1436.0	1441.0	5.0	1.90	4.98	32.60	0.47	0.11	8.08

<b>Inc</b>	1459.0	1464.0	5.0	2.60	5.01	18.50	0.01	0.33	8.77
<b>Inc</b>	1468.5	1453.3	15.2	5.98	2.30	15.44	0.03	0.38	9.40
<b>Inc</b>	1508.0	1538.0	30.0	30.30	1.67	71.07	0.05	1.70	36.80
<b>Inc</b>	1508.0	1511.0	3.0	46.50	3.14	130.00	0.13	2.20	56.51
<b>BMZ79</b>	412.8	420.3	7.5	25.6	0.68	17.39	0.02	0.87	28.46
<b>Inc</b>	414.7	417.7	3.0	49.6	0.91	30.32	0.05	1.39	54.11
<b>BMZ79</b>	450.4	461.3	10.9	3.1	0.16	4.49	0.27	0.47	4.62
<b>Inc</b>	457.2	459.2	2.0	4.2	0.08	3.30	0.33	0.24	5.24
<b>BM21-83</b>	504.0	514.0	10.0	3.8	0.07	5.10	0.17	0.12	4.40
<b>Inc</b>	509.0	514	5.0	5.0	0.07	5.10	0.22	0.08	5.50
<b>BM21-83</b>	1829.0	1839.0	10.0	1.1	3.62	11.3	0.30	0.04	5.30
<b>Inc</b>	1839.0	1839.0	5.0	1.2	6.96	15.2	0.30	0.03	8.80
<b>BM21-83</b>	2408.0	2458.0	50.0	2.4	0.31	4.5	0.06	0.12	3.13
<b>Inc</b>	2413.0	2423.0	10.0	3.4	0.17	5.8	0.05	0.09	3.90
<b>Inc</b>	2443.0	2453.0	10.0	4.3	0.31	4.5	0.01	0.34	5.46

Drill hole BMZ-78 cut 30 feet (9.35 meters) of massive sulfide mineralization grading 30.3% zinc, 1.7% copper, 1.67 g/t gold and 71 g/t silver for a zinc equivalent of 36.8% within a broader interval of 120.7 feet (36.5 m) that returned 9.45% zinc, 0.58% copper, 1.1 g/t gold and 42.9 g/t silver for a zinc equivalent of 12.61%;

BMZ-78 was drilled into a previously untested area (200 feet x 500 feet) within the West and Main Zones at a vertical depth of approximately 1,200 feet (374 meters);

Blue Moon's 2018 drill program demonstrated that the massive sulfide lenses are now traceable for approximately 3,000 feet (900 meters) along plunge and remain open to surface and depth

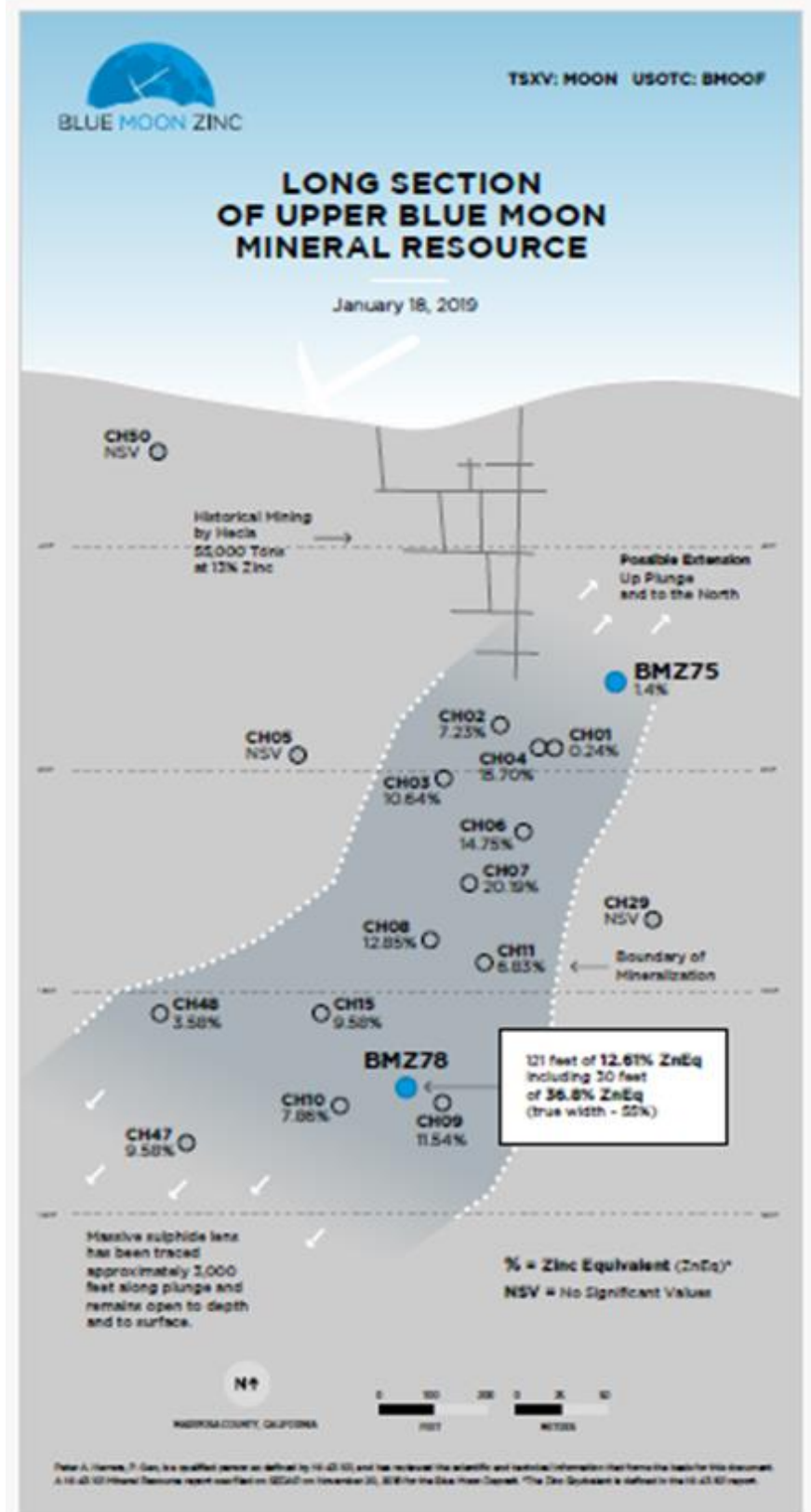


Figure 10-2 Long Section with Blue Moon Drillholes BMZ-75 and BMZ-78

Hole BMZ79 intersected a significant zones of high-grade zinc mineralization, in the form of sphalerite, including (Not true width. True width approximately 55%.):

- 7.47 meters (24.5 feet) at 25.55% zinc, 0.87% copper, 0.68 g/t gold and 17 g/t silver for a zinc equivalence (“ZnEq”) of 28.46% from 412.81 meters, including:



- meters (10.0 feet) at 49.60% zinc, 1.39% copper, 0.91 g/t gold and 30 g/t silver for a ZnEq of 54.11% from 414.65 meters.

A second zone of zinc mineralization in the same hole from 450 meters, included:

- 10.96 meters (36.0 feet) at 3.11% zinc, 0.47% copper and 0.27 % lead for a ZnEq of 4.62% from 450.37 meters, including:
  - 2.08 meters (6.8 feet) at 4.2% zinc for a ZnEq of 5.24% from 457.16 meters.

The high-grade zone of BMZ79 includes the highest zinc interval ever intercepted in the project to date, 1.71 metres (5.6 feet) at 51.9% zinc, 1.49% copper, 0.05% lead, 0.85 g/t gold and 31.9 g/t silver from 414.65 metres.

The high-grade mineralized intercept in Hole BMZ79 is 50 meters (164 feet) above and eight meters (26 feet) south of the high-grade mineralization intercepted by the 2018 Blue Moon Zinc diamond hole BMZ78. The intercept extends the size of the high-grade zone of mineralization within the Main mineralized horizon. The Main mineralized horizon also intersected some interesting anomalies of gold and silver (see Table 10-3).

The stage 1 drilling program totaled 1,132 meters (3,714 feet) and tested the northern border of the mineral resource as well as extend the zone of high-grade mineralization near hole BMZ78 which was drilled by Blue Moon in 2018.

A new drill discovery was made in 2021 testing a geophysics conductor target, located west of the three previously discovered Blue Moon mineral zones and south of the American Eagle workings. This new Zone was discovered deep and lateral to the previous mineral system. The Zinc Sulfide (Sphalerite) encountered in this new discovery has a different hue from the other zones which may indicate a separate emplacement pulse with slightly different timing which could add to the currently known zones. This conductor was revealed first as stringers and blebs of sulfides were encountered starting at a core depth of 2,363 feet and continued until the banded and massive interval from 2,400-2,452 feet (52 feet interval at a vertical depth from surface of approximately 800 feet) then mineralization tapered off into another stringer zone down to 2,461 feet at core depth. The whole mineral rich zone covered near 100 feet of core length (core length not true thickness). Higher up in the hole several smaller zones were encountered indicated by the section and in the table. The mineralization is hosted in rhyolite and rhyolite tuffs of the Gopher Ridge Formation. The stringer and main zone of sulfides are composed of Sphalerite, Chalcopyrite, Galena Tetrahedrite and Pyrite. Details of the assay will be discussed as results become available. In the photos below, the part of the mineralized zone drill interval is displayed.



Figure 10-3 Photographs of Zinc Mineralization in the New South Zone Hole BM21-83

Table 10-4 Assay Highlights New South Zone (Drillhole BM21-83)

Drill-hole	From ft	To ft	Thickness	Zn%	Cu%	Pb %	Ag opt	Au opt	ZnEq%(*)
BM21-83	2408	2458	50	2.4	0.12	0.06	0.13 (4.5gpt)	0.009 (0.31gpt)	3.13
including	2413	2423	10	3.4	0.09	.05	0.17 (5.8 gpt)	0.005 (0.17 gpt)	3.90
including	2443	2453	10	4.3	0.34	0.01	0.13 (4.5 gpt)	0.009 (0.31 gpt)	5.46

The above thicknesses are core lengths and are not true thickness. The estimated true thicknesses are approximately 50% of the core length. These results are also reported in Table 10-3.

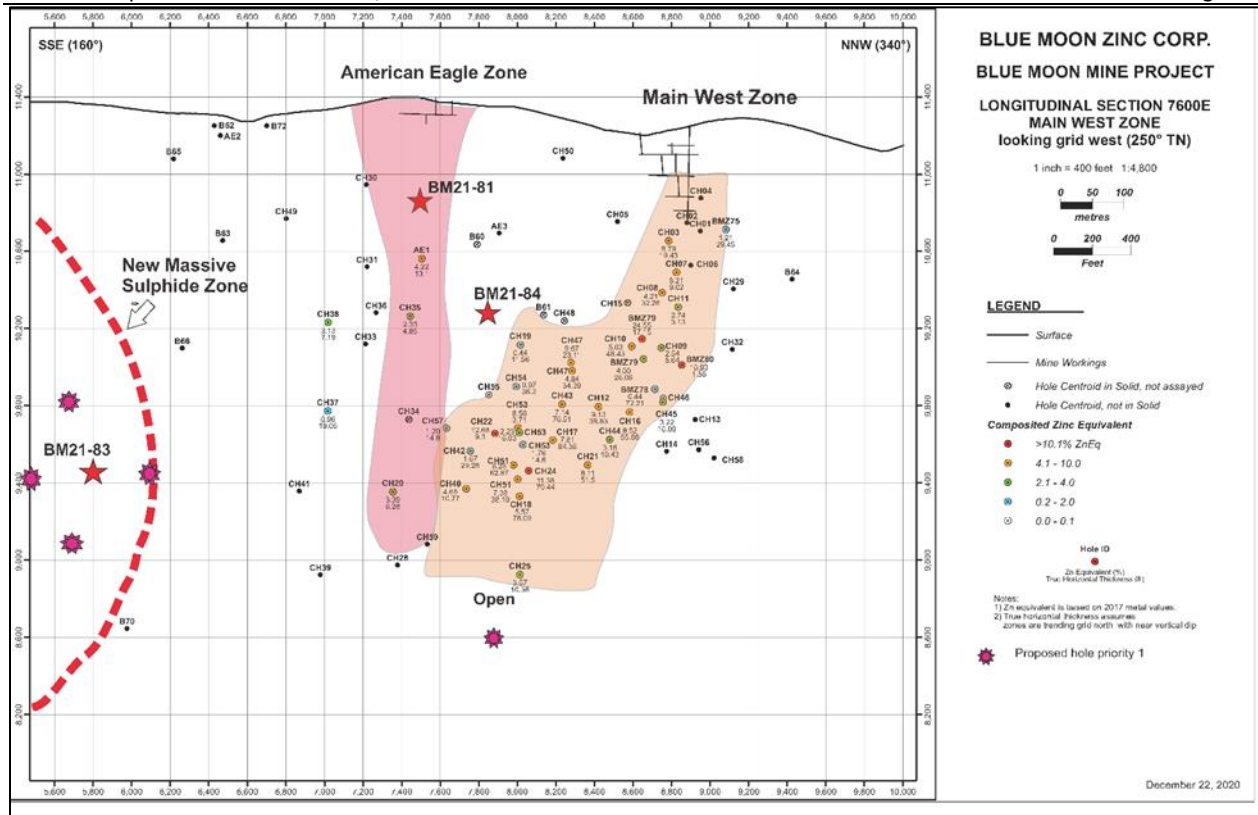


Figure 10-4 Long Section Showing Latest Drilling Through 2021

## 11 SAMPLE PREPARATION, ANALYSIS AND SECURITY

Core from the drill holes through 2021 was collected at the drilling rig by a company geologist and brought to the core logging facility on the Blue Moon property. The core was cleaned, logged for rock type, structures and mineralization prior to a geologist marking out specific intervals for sampling based on sulfide content. Sampling of the core was done either by a hydraulic splitter if visually lower grade OR sawn if deemed to be potentially higher grade. The core was sampled lengthwise with one half placed into a plastic sample bag with a sample tag. The other half was returned to the core box with a duplicate sample tag number for a permanent record. Standards and blank samples were not inserted in to the sample stream of the core samples pre-Blue Moon as this was not practiced by the majority of mining companies at that time. Core with visual mineralization was stored in sea containers and kept locked when the site was unattended. The saved mineralized sections of core remain on site in sea containers and were available for inspection without limitations.

Samples for analysis were sent by truck to independent laboratories. Some of the earlier samples were sent to a Mineral Assay Office Inc., Nevada; however, the majority of the core samples were analyzed by Chemex Labs (now ALS Laboratories) in Vancouver, Canada. Both laboratories were certified assayers within their respective jurisdictions and independent of the owners of the property. All assay data used in the resource calculation was generated via standard, industry accepted assaying techniques. Gold assaying used a 30g sample size for a fire assay with and atomic absorption spectrometry finish (FA-AAS). Silver and lead assays were generated with atomic absorption spectrometry (AAS). All other elements were assayed by inductively coupled plasma atomic emission spectroscopy (ICP-AES), including barium which required an additional, final gravimetric procedure. Known standards and blank samples were inserted into the sample stream by the laboratory for quality control.

One set of check assays carried out by previous authors found includes 55 samples that were assayed by both Chemex Labs in Vancouver (Chemex) and Mineral Assay Office Inc. in Nevada (Mineral). Table 11-1 summarizes the results of the check assays.

**Table 11-1 Summary Statistics, Check Assays**

Parameter	Cu	Zn	Ag	Au
Mean, Chemex	0.918	5.385	2.554	0.035
Mean, Mineral	0.970	5.500	2.433	0.038
Stand. Dev, Chemex	0.997	6.622	7.037	0.082
Stand. Dev, Mineral	1.066	6.653	7.009	0.094
CV, Chemex	1.09	1.23	2.76	2.31
CV, Mineral	1.10	1.21	2.88	2.44

A paired t-test was performed and previously reported on the data to check bias between the labs. In all cases the difference between the labs is considered insignificant. Table 11-2 summarizes the results.

**Table 11-2 Paired t-test, Check Assays**

Element	Results
Cu	Mineral reports 0.05% higher than Chemex
Zn	No bias found between labs
Ag	Chemex reports 0.12 oz/ton higher than Mineral
Au	No bias found between labs

It is the opinion of the author that the sample preparation, security and analytical procedures followed during the work on the property were the industry standard practice for that period of time and can be relied on as the work was done by professional geologists and assayers.

## 12 DATA VERIFICATION

Dr. Thomas Henricksen, co-author of this Technical Report, completed three site visits to the Blue Moon prospect in 2023. In addition to the site visits, Henricksen and co-author Scott Wilson had access to the complete data base of the project including all original assay certificates, the original drill logs, the results of surveys of the original drill-hole locations by Freeman and Seaman Land Surveyors, and down-hole, directional survey results for all holes used in the resource calculations. As well as the original surveyors report on the drill-hole locations, the author was provided with a report of a 2018 survey commissioned by Blue Moon and completed by Jones Snyder and Associates, a registered land surveyor in the state of California. The 2018 survey included resurveying of 29 holes used in the current resource calculation as well as monuments established by the surveys of 1984 and 1991.

All mineralized intersections used in the resource calculation are preserved in a secured storage facility on the Blue Moon property and have not been exposed to the elements. As part of the verification process, the Author completed cross checks of the assay sample numbers recorded in the original assay certificates with drill logs and the sample tags in the core boxes for 30 of the mineralized intercepts. No discrepancies or errors were noted between the sample numbers on the tags in the core boxes and those recorded in the assay certificates. Henricksen did not note any visual discrepancies between what he observed in the core with that recorded in the drill logs and no assay with high zinc, copper or lead was noted to be at odds with what was observed by him in the drill core for that interval.

Henricksen reviewed the results of the 2018 drill-hole survey and compared them with the original surveys of 1984 and 1991. In addition, the surveys of the 2019 were also checked for the drilling in those years. The results of the surveys compare very closely and no material difference was found. As a check of the professional surveys, Henricksen also checked the collar locations with a handheld GPS unit (Garmin). The co-ordinates noted by Henricksen matched those of the earlier surveys.

As a check on core recoveries reported in the historical logs, the writer carried out spot checks of key mineralized sections in 25 holes of the 72 used in the resource calculation of this report. The core recovery noted by the Author match those reported in the historical logs. The author also checked the thicknesses of mineralization by measuring the angle between the core axis and the contact of massive sulfide zones with the bounding rhyolite host rocks.

Spot checking of 25 holes used in the resource calculation with respect to drill-hole length, azimuth and grid location found no material differences.

In the opinion of QP the data used to estimate a resource is adequate for the purpose used in this technical report.

In general, the database is considered good and the errors noted are not significant.

### 13 MINERAL PROCESSING AND METALLURGICAL TESTING

Complete and thorough metallurgical testing has not been finalized for the Blue Moon project. The following reporting should be considered “historical” and needs to be repeated.

Colony Pacific Explorations Ltd. undertook preliminary metallurgical test work in 1983. More definitive test work was completed by Lakefield Research, Peterborough, Ontario in August through November 1988 at the request of Westmin Resources Limited. As the 1988 metallurgical testing was more extensive and thorough, it supersedes the earlier Colony Pacific work.

In 1988, Westmin Resources sent two samples of mineralization to Lakefield Research in Ontario. The samples consisted of core and coarse reject material from earlier drilling. Material from both samples was crushed to minus 6 mesh and 10 kilograms were riffled for Bond Work Index determination. The remainder was crushed to minus 10 mesh and separated into subsamples for individual tests. Test charges were prepared of material ground to -200 mesh. Based on Lakefield’s analyses the head grade of the two samples was as listed below:

**Table 13-1 Lakefield Analyses**

<b>Element</b>	<b>Sample 1</b>	<b>Sample 2</b>
Copper %	1.71	0.34
Lead %	0.15	1.03
Zinc %	15.1	6.54
Sulphur %	24.1	11.5
Arsenic %	0.03	0.01
Antimony %	0.024	0.008
Gold gpt	8.00	6.35
Silver gpt	41.5	64.3
Specific gravity	3.51	3.56

#### **SAMPLE 1**

The major sulfide minerals were pyrite, sphalerite and chalcopyrite. Galena tennantite / tetrahedrite and bornite were also present, but in very small amounts. This sample was a coarse grained, high sulfide sample.

#### **SAMPLE 2**

Was of barite rich mineralization and was finer grained than Sample 1. Galena was present as a significant constituent, but the amount of tennantite was less than Sample 1.

Lakefield carried out 26 separate bench scale floatation tests to investigate the sequential floatation of copper and zinc from the two samples and the effect of grind, collector and depressant combinations.

In Sample 1, the zinc circuit test work methodology consisted of separating the copper-lead minerals followed by the making of a zinc concentrate. The results of a cycle test on Sample 1 indicated 93% Cu recovery in a concentrate analyzing 26.5% Cu, 2.35% Pb and 7.0% Zn. A high- grade zinc concentrate was produced in all tests. The cycle test results projected a 62% Zn concentrate representing 95% Zn recovery. The zinc concentrate is of good quality. Gold and silver recoveries in the copper concentrates were approximately 70% and 65% respectively.

The mineralogy of Sample 2 was more complex and fine-grained. The copper and lead floated slowly reducing selectivity in the copper-lead circuit. Secondary copper minerals were observed. Satisfactory copper-lead concentrates were produced with recoveries up to 93% of the copper and 95% of the lead in a cleaner concentrate; however, separation of the copper and lead from such products was difficult and insufficient sample was available to continue test work. As with Sample 1, a high-quality zinc concentrate was produced following a conventional flow sheet. The zinc concentrate grade was also greater than 60%. The very high zinc grade in zinc concentrates in part reflects the relatively low iron content of sphalerite in the ores.

Analyses of the concentrate and pyrite tails shows deleterious metals principally arsenic and antimony that may results in penalties.

Concentrate Analyses %		
	Combined copper concentrate	Combined zinc concentrate
Sb	0.12	0.004
As	0.30	0.012
Fe	26.1	1.40
S	29.5	29.5
Bi	0.021	<0.002
Hg	0.0002	0.0014
F	0.022	0.023
Cl	<0.005	0.005
SiO <sub>2</sub>	0.84	0.86
CaO	0.21	0.35
MgO	0.083	0.073
Al <sub>2</sub> O <sub>3</sub>	0.33	0.35
Cd	-	0.34

The Bond Work Index tests showed Sample 1 to be 8.6 while Sample 2 was 8.3.

Additional test work is warranted to determine a better means of achieving separation of the copper and lead in the bulk copper-lead concentrates. Alternatively, early separation of the lead may improve separation from copper.

To the extent known to the author, these test samples are representative of the styles of mineralization of the mineral deposit as a whole. To the extent known, there are no processing factors or other deleterious elements that could have a significant effect on the potential economic extraction of the deposit.

**14 MINERAL RESOURCE ESTIMATES****14.1 SUMMARY**

The Mineral Resource Estimates (“MRE”) in this report have been determined by using inverse distance cubed (ID3) techniques for the three zones, Main, Western and Eastern of the Blue Moon Massive Sulphide Occurrence. Assay data was derived from the current drilling database, including drill holes completed after 2018. Mineralized domain solids were created from the coding of drill data in a 3D geological modeling program. Drilling intercept assay values were capped for each mineralized domain using statistical analysis and subsequently composited forming the sample set used for the MRE grade estimates. Mineral Resource Estimates have been determined according to the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines. Mineral Resources have been reported in accordance with the disclosure requirements under NI 43-101.

With the completion of the 2021 drill program and re-interpretation of the mineralized domains, the Mineral Resources reported in this report now include Indicated Mineral Resources in addition to Inferred Mineral Resources. Reasonable prospects of eventual economic extraction assume underground mining, surface mill processing and production of two concentrates. Mineral Resources are reported at a Zinc Equivalent Percent (ZnEq %) cutoff grade of 4%.

ZnEq % is calculated by each assayed metal being assigned a metal price, assumed recovery percentage and overall value factor based on the metal price and recovery. Parameters forming the basis for the ZnEq % formula are detailed in Section 1.6.

The formula used to calculate ZnEq % is:

$$\text{ZnEq} = (\text{Zn}\% * 27.55 + \text{Cu}\% * 69.75 + \text{Pb}\% * 18.05 + \text{Ag}(\text{oz/t}) * 14.95 + \text{Au}(\text{oz/t}) * 1260) / 27.55$$

**Table 14-1 Blue Moon Indicated Mineral Resource Estimate - ZnEq 4% . Effective Date October 27, 2023**

Zones	K mt	Zn%	Cu%	Pb%	Ag oz/t	Au oz/t	ZnEq %	Zn lbs. (x1,000)	Cu lbs. (x1,000)	Pb lbs. (x1,000)	Ag Oz (x1,000)	Au OZ (x1,000)
Main	2,942	6.09	0.80	0.17	1.18	0.04	10.62	358.55	46.95	10.00	3.47	0.11
East	498	6.64	0.47	0.63	3.72	0.09	14.18	66.14	4.67	6.29	1.85	0.04
West	74	4.55	0.64	0.34	0.97	0.03	8.14	6.74	0.94	0.51	0.07	0.00
<b>Total</b>	<b>3,514</b>	<b>6.14</b>	<b>0.75</b>	<b>0.24</b>	<b>1.54</b>	<b>0.05</b>	<b>11.07</b>	<b>431.44</b>	<b>52.57</b>	<b>16.81</b>	<b>5.40</b>	<b>0.157</b>

**Table 14-2 Blue Moon Inferred Mineral Resource Estimate. Effective Date October 27, 2023**

Zones	K mt	Zn%	Cu%	Pb%	Ag oz/t	Au oz/t	ZnEq %	Zn lbs. (x1,000)	Cu lbs. (x1,000)	Pb lbs. (x1,000)	Ag Oz (x1,000)	Au OZ (x1,000)
Main	2,845	6.23	0.56	0.25	1.24	0.04	10.26	354.75	31.92	14.06	3.54	0.11
East	860	5.49	0.65	0.64	2.77	0.08	12.91	94.52	11.06	11.06	2.39	0.07
West	124	2.22	0.79	0.27	0.47	0.02	5.71	5.50	0.68	0.68	0.06	0.00
<b>Total</b>	<b>3,830</b>	<b>5.94</b>	<b>0.59</b>	<b>0.34</b>	<b>1.56</b>	<b>0.05</b>	<b>10.71</b>	<b>454.77</b>	<b>45.04</b>	<b>25.79</b>	<b>5.98</b>	<b>0.186</b>

The Qualified Person for the above estimate is Scott Wilson C.P.G., SME. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Columns may not add up due to rounding. Aside from criteria described in other sections of this Technical Report, the author knows of no environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant factors that may materially affect the Mineral Resources in this Technical Report.

The MRE is broken into three zones: Main Zone (vm1), East Zone (ve) and West Zone (vw). Using compiled and modeled 3D drill data there are distinct, separate continuous lenses of mineralized material, striking mine grid north. The main zone is the dominant continuous mineralized lens and extends over 2,500’ both along strike and down dip. The western and eastern lenses are not as continuous and show three dominant, separate lenses each. These were modeled independently and subsequently appended together to form a combined east and west zone. In addition to the dominant mineralized lenses, there exist numerous, prominent mineralized intervals along many drill holes across the property. Individual mineralized domain solids were developed for these intervals which were subsequently labeled east lenses (vle) and west lenses (vlw) based on their relationship to the main lens. The “vle” and “vlw” lenses were compiled and added to the overall “ve” and “vw” domains respectively.



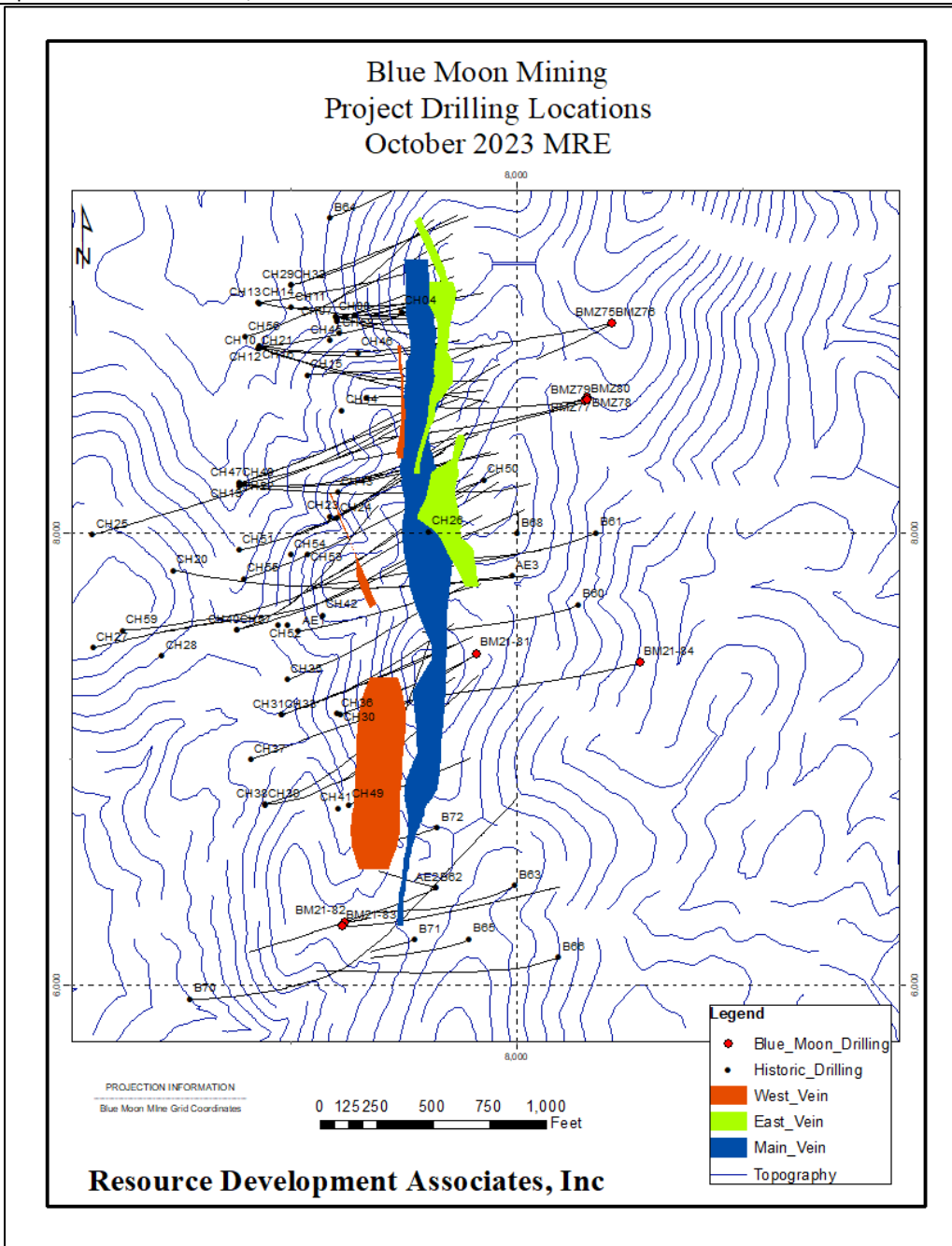


Figure 14-1 Plan View of Mineralized Domains and Drilling

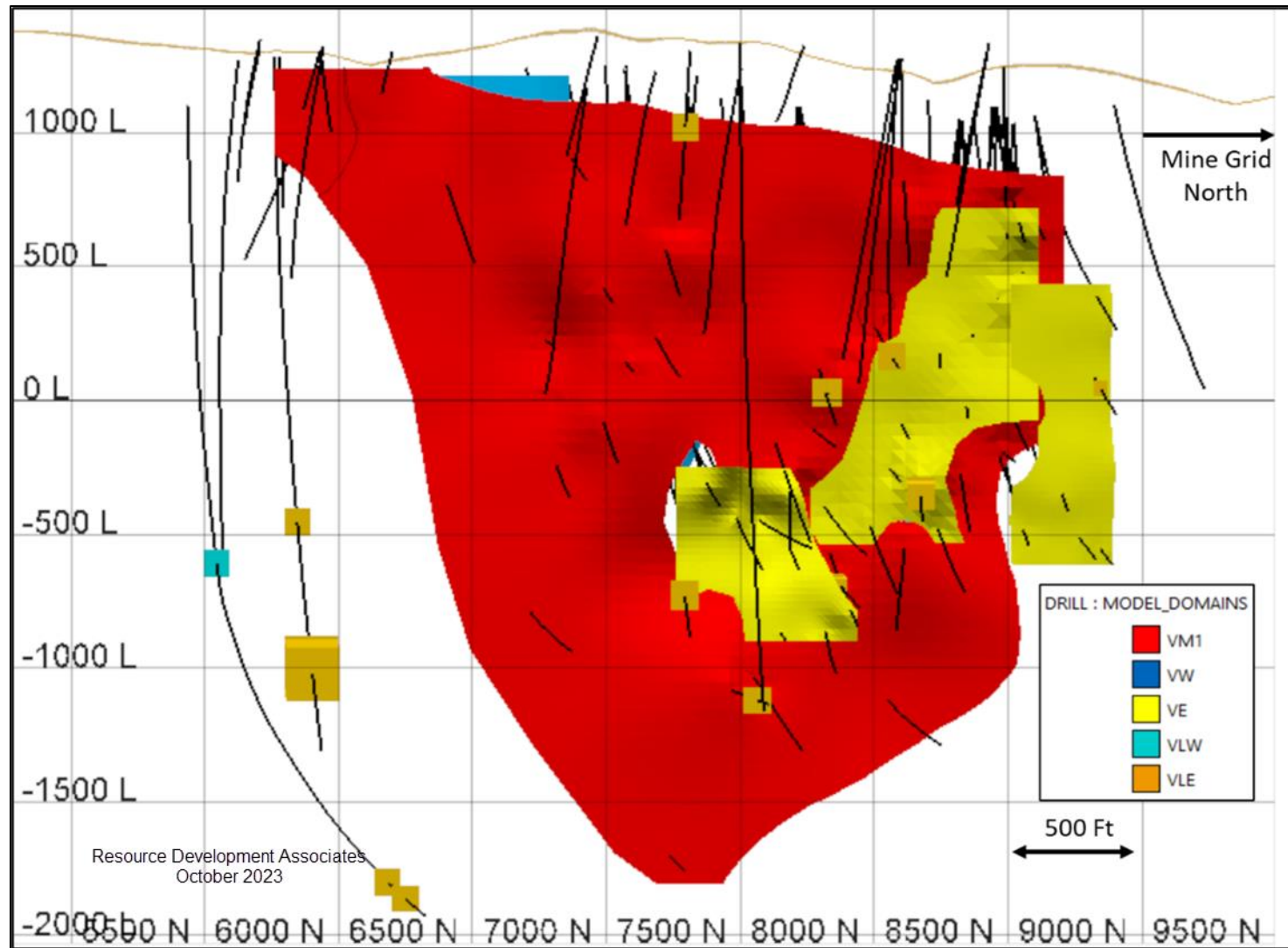


Figure 14-2 Long Section View - 7500E Looking West - Mineralized Domains

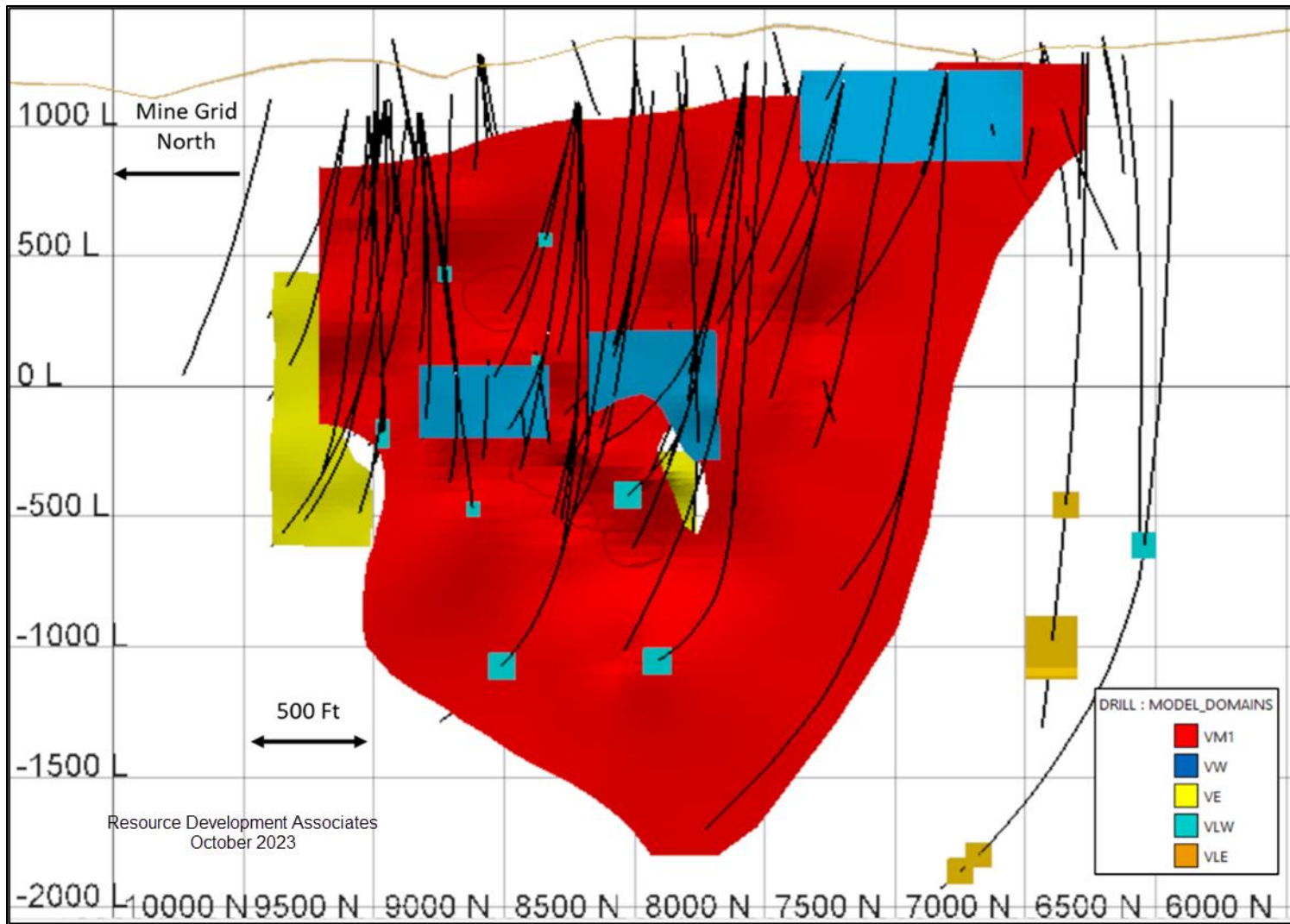


Figure 14-3 Long Section View - 7500E Looking East - Mineralized Domains

## 14.2 DATABASE

The database provided included a total of 87 drill holes totaling 122,364.33 Ft, 74 of which were used in the modeling of the mineralized domains and subsequent Mineral Resource Estimate. The drill database includes all drilling complete to date, including drill holes completed after 2018. The data received included a drill database with tables for assay and lithology. The database was verified and only one repeat assay interval was found and corrected. Assay values of 0.000 were representative of non-sampled intervals and subsequently changed to 0.001 for statistical purposes. Non-logged intervals were not used for domain modeling or included in the sample dataset used for the Mineral Resource Estimate.

Using previous company-provided geologic models and cross sections, new domain solids were constructed by means of coding the drill database using cross section interpretations on each hole included in the domain models. These codes were later cross referenced with broader cross section and long section analysis for continuity. Upon completion of the domain solids' modeling, assay intervals in the database were flagged with modeling codes based on inclusion within each domain and database statistics were reported for each domain. East and West lens ("vle" and "vlw" from Section 1.1) statistics were compiled with the "ve" and "vw" lenses respectively and will be referred to as such henceforth in this Technical Report. All non-coded assay intervals maintained a default value of (-1) and reference in the below statistics as "Wall Rock".

**Table 14-3 Drilling Database Assay Statistics**

Zone	Variable	Number	Mean	S.D.	Minimum	Maximum	C.V.
<b>All Mineralized Zones</b>	Au (opt)	663	0.041	0.089	0.001	1.039	2.142
	Ag (opt)	663	1.490	3.505	0.001	40.300	2.353
	Cu (%)	663	0.714	1.178	0.001	10.700	1.649
	Pb (%)	663	0.277	0.680	0.001	6.400	2.456
	Zn (%)	663	5.559	7.886	0.001	51.900	1.419
<b>Main Lense</b>	Au (opt)	436	0.033	0.082	0.001	1.039	2.460
	Ag (opt)	436	1.152	3.402	0.001	40.300	2.953
	Cu (%)	436	0.776	1.229	0.001	10.700	1.585
	Pb (%)	436	0.174	0.514	0.001	4.790	2.950
	Zn (%)	436	6.062	8.765	0.001	51.900	1.446
<b>Western Lenses</b>	Au (opt)	62	0.023	0.048	0.001	0.295	2.040
	Ag (opt)	62	0.953	2.028	0.012	11.800	2.128
	Cu (%)	62	0.682	0.807	0.005	4.840	1.182
	Pb (%)	62	0.446	1.005	0.005	4.870	2.252
	Zn (%)	62	3.678	4.554	0.010	23.000	1.238
<b>Eastern Lenses</b>	Au (opt)	165	0.070	0.109	0.001	1.032	1.568
	Ag (opt)	165	2.584	3.954	0.001	33.250	1.530
	Cu (%)	165	0.563	1.142	0.001	7.200	2.028
	Pb (%)	165	0.485	0.837	0.001	6.400	1.725
	Zn (%)	165	4.934	6.055	0.001	30.000	1.227
<b>Wall Rock</b>	Au (opt)	1968	0.003	0.006	0.001	0.128	2.005
	Ag (opt)	1968	0.118	0.675	0.001	25.860	5.715
	Cu (%)	1968	0.057	0.205	0.001	3.420	3.610
	Pb (%)	1968	0.030	0.185	0.001	5.270	6.063
	Zn (%)	1968	0.378	1.360	0.001	33.100	3.603

**14.2.1 CAPPING**

Each mineralized zone was independently evaluated for capping analysis. Assays were plotted using lognormal cumulative frequency plots (QFP) to investigate the presence of anomalous high grade outlier samples. QFP plots for each zone were compared to statistical models for capping using the cutoff of 3 standard deviations above the sample population’s mean. The statistical capping approach proved effective in visual comparison with the mineralized zones’ QFP plots but was anomalously low for the Waste zone due to the large presence of samples at the lower detection limit, or non-logged value of 0.001 for all metals’ grades. The Waste zone capping values were assigned based on the Waste zone’s QFP plot. Capping values were then assigned to the raw drill database assays prior to any compositing. The capped drill database’s statistics were then recorded, along with number of assays capped.

**Table 14-4 Drill Database Capping Values**

<b>Zone</b>	<b>Variable</b>	<b>Cap Value</b>	<b>Number Capped</b>
<b>Main Lense</b>	Au (opt)	0.279	8
	Ag (opt)	11.359	9
	Cu (%)	4.462	11
	Pb (%)	1.715	8
	Zn (%)	32.359	12
<b>Western Lenses</b>	Au (opt)	0.166	2
	Ag (opt)	7.036	2
	Cu (%)	3.103	1
	Pb (%)	3.460	3
	Zn (%)	17.339	2
<b>Eastern Lenses</b>	Au (opt)	0.397	2
	Ag (opt)	14.445	2
	Cu (%)	3.991	5
	Pb (%)	2.997	2
	Zn (%)	23.099	5
<b>Wall Rock</b>	Au (opt)	0.100	2
	Ag (opt)	4.000	5
	Cu (%)	1.500	8
	Pb (%)	1.000	4
	Zn (%)	9.000	4

**Table 14-5 Capped Drill Database Assay Statistics**

<b>Zone</b>	<b>Variable</b>	<b>Number</b>	<b>Mean</b>	<b>S.D.</b>	<b>Minimum</b>	<b>Maximum</b>	<b>C.V.</b>
<b>All Mineralized Zones</b>	Au (opt)	663	0.038	0.063	0.001	0.397	1.690
	Ag (opt)	663	1.318	2.398	0.001	14.445	1.820
	Cu (%)	663	0.668	0.957	0.001	4.462	1.434
	Pb (%)	663	0.250	0.544	0.001	3.406	2.181
	Zn (%)	663	5.361	7.087	0.001	32.359	1.322
<b>Main Lense</b>	Au (opt)	436	0.029	0.054	0.001	0.279	1.851
	Ag (opt)	436	0.957	1.979	0.001	11.359	2.067
	Cu (%)	436	0.732	1.019	0.001	4.462	1.392
	Pb (%)	436	0.147	0.354	0.001	1.715	2.407
	Zn (%)	436	5.832	7.849	0.001	32.359	1.346
<b>Western Lenses</b>	Au (opt)	62	0.021	0.035	0.001	0.166	1.690
	Ag (opt)	62	0.837	1.490	0.012	7.036	1.781
	Cu (%)	62	0.654	0.682	0.005	3.103	1.043
	Pb (%)	62	0.399	0.824	0.005	3.406	2.062
	Zn (%)	62	3.566	4.139	0.010	17.339	1.161
<b>Eastern Lenses</b>	Au (opt)	165	0.066	0.083	0.001	0.397	1.262
	Ag (opt)	165	2.450	3.197	0.001	14.445	1.305
	Cu (%)	165	0.503	0.854	0.001	3.991	1.698
	Pb (%)	165	0.464	0.722	0.001	2.997	1.558
	Zn (%)	165	4.789	5.521	0.001	23.099	1.153
<b>Wall Rock</b>	Au (opt)	1968	0.003	0.006	0.001	0.100	1.916
	Ag (opt)	1968	0.105	0.322	0.001	4.000	3.079
	Cu (%)	1968	0.053	0.159	0.001	1.500	3.022
	Pb (%)	1968	0.025	0.086	0.001	1.000	3.389
	Zn (%)	1968	0.347	0.859	0.001	9.000	2.476

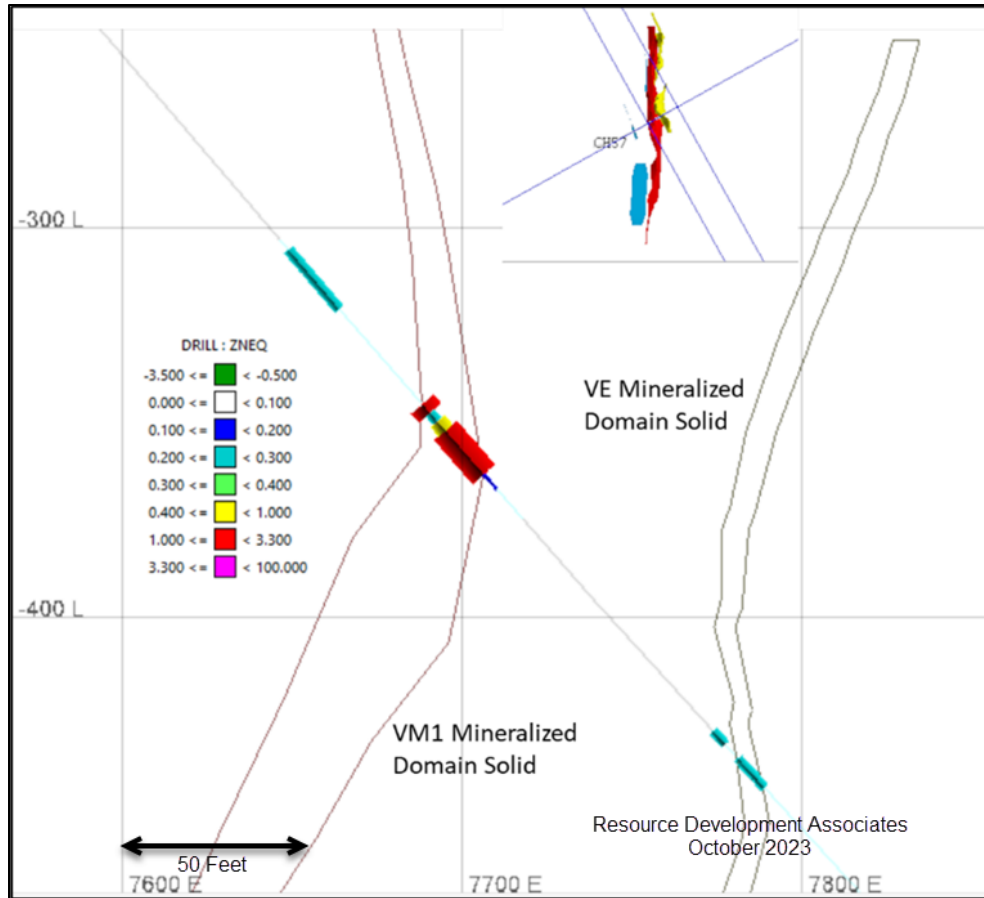


Figure 14-4 Cross Section Through Drill Hole CH57 Showing Mineralized Domain Solids Coded to Assay Intervals - Looking North Mine Grid for Scale

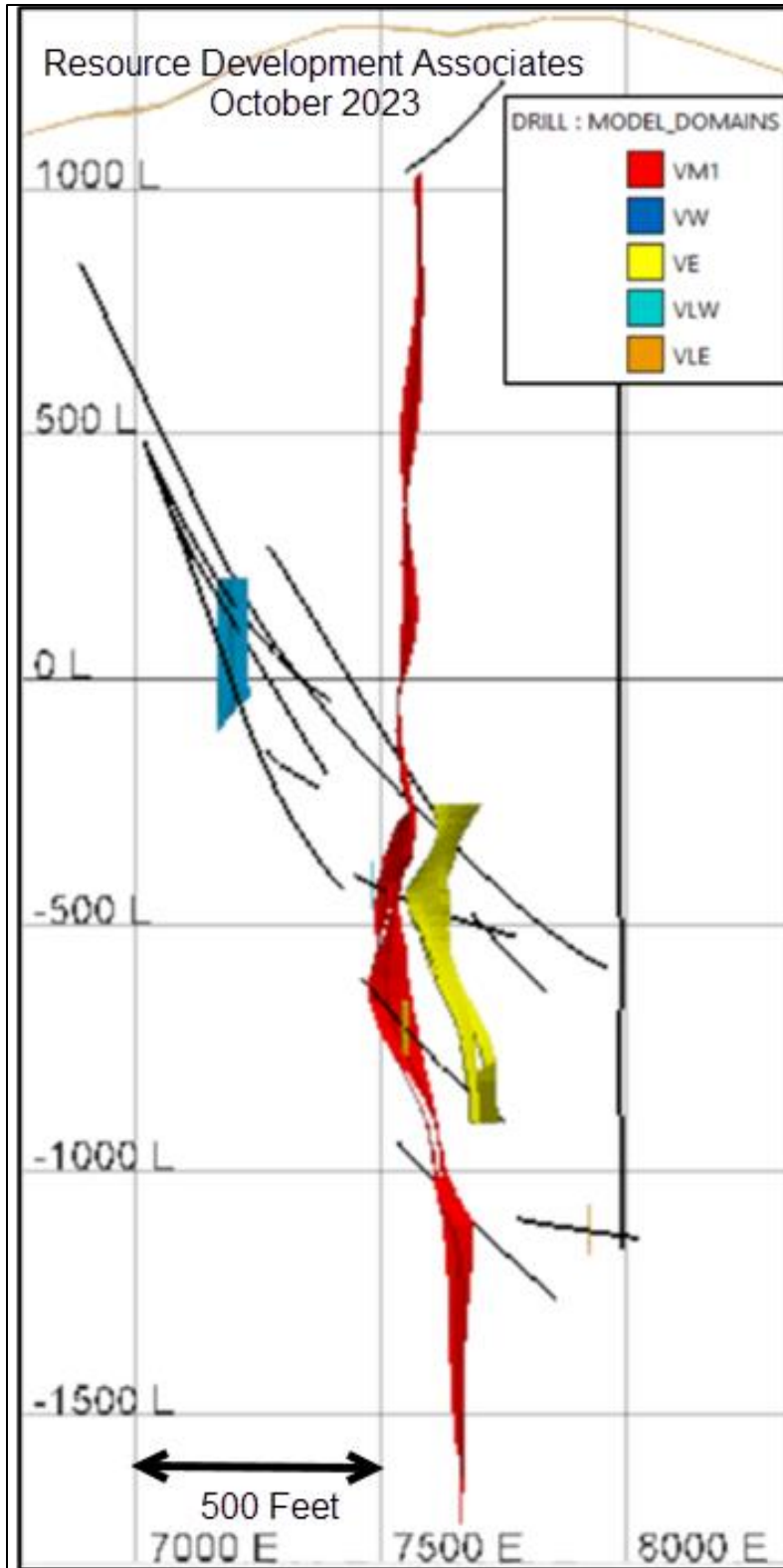


Figure 14-5 Cross Section View 8100N Looking North - Mineralized Domain Solids - Black Lines Indicate Drill Hole Traces



### 14.3 COMPOSITING

After assay intervals have been coded by inclusion within the mineralized domain solids and appropriately capped, they were composited on 5-foot run length intervals for each of the five reported metals. Compositing intervals were broken at the contact of the mineralized domain solids to maintain the integrity of the coded assay intercepts within the solids. Composites had zone domain codes recorded for future use in the MRE grade estimates.

**Table 14-6 Composite Database Statistics**

Zone	Variable	Number	Mean	S.D.	Minimum	Maximum	C.V.
<b>Main Lense</b>	Au (opt)	371	0.033	0.054	0.001	0.279	1.629
	Ag (opt)	371	0.952	1.788	0.001	11.359	1.878
	Cu (%)	371	0.691	0.909	0.001	4.462	1.316
	Pb (%)	371	0.144	0.321	0.001	1.715	2.230
	Zn (%)	371	5.540	7.112	0.001	32.359	1.284
<b>Western Lenses</b>	Au (opt)	61	0.019	0.027	0.001	0.124	1.446
	Ag (opt)	61	0.696	1.129	0.012	5.017	1.623
	Cu (%)	61	0.652	0.622	0.008	3.103	0.955
	Pb (%)	61	0.337	0.620	0.005	3.406	1.841
	Zn (%)	61	3.407	3.692	0.020	15.705	1.084
<b>Eastern Lenses</b>	Au (opt)	144	0.069	0.076	0.001	0.348	1.096
	Ag (opt)	144	2.648	3.178	0.005	14.266	1.200
	Cu (%)	144	0.512	0.763	0.005	3.991	1.492
	Pb (%)	144	0.489	0.700	0.003	2.799	1.431
	Zn (%)	144	5.204	5.380	0.024	23.099	1.034
<b>Wall Rock</b>	Au (opt)	22,738	0.001	0.001	0.001	0.039	1.088
	Ag (opt)	22,738	0.007	0.058	0.001	2.150	7.928
	Cu (%)	22,738	0.004	0.029	0.001	1.020	7.239
	Pb (%)	22,738	0.003	0.016	0.001	0.783	6.344
	Zn (%)	22,738	0.022	0.147	0.001	4.100	6.703

### 14.4 DENSITY

A total of 297 specific gravity samples were available for analysis. Previous measurements sub-divided the samples into respective mineralized lenses and by assay grade (Giroux, 2018). Upon investigation of the statistical results of dividing the samples based spatially and for inclusion within modeled mineralized horizons, it was determined that it was more representative to divide assigned density values based on the grade of total sulphide mineralization. This is an appropriate method when dealing with polymetallic mineralization in which the metal-bearing minerals are in high density contrast to the surrounding non-mineralized host rock or minerals.

Specific gravity determinations were binned into 5 grade categories based on the combined assay value of (Cu % + Pb % + Zn %) and a default Wall Rock value for non-mineralized domain sample intervals. Specific gravity measurements were then converted into their Imperial tonnage factor equivalents for use in the subsequent reporting of the Mineral Resource Estimate. Density values were assigned to blocks in the block model based on estimated metals grades and not independently estimated.

$$\text{Tonnage Factor (ton / cu ft)} = 1 / (2000 \text{ lbs/ton} / (62.4 \text{ lbs/cu.ft.} * \text{SG}))$$

**Table 14-7 Tonnage Factor Determinations from Specific Gravity Values Based on Total Sulphide Content**

Zn% + Cu% + Pb% Range	Sample Count	Low SG	High SG	Average SG	Tonnage Factor (TF) (tons/cu. ft.)
0.0 <= 1.0	65	2.53	4.48	3.07	0.0958
1.0 <= 2.0	46	2.67	4.37	3.11	0.0970
2.0 <= 10.0	100	2.59	4.69	3.26	0.1017
10.0 <= 20.0	50	2.86	4.25	3.41	0.1064
>20	33	3.32	4.55	3.75	0.1170
Wall Rock	32			3.16	0.0986

#### 14.5 BLOCK MODEL

A single block model was created to encompass all 3 mineralized domain solids. Due to the thickness variability of the mineralized zones, the block model was sub-blocked to better conform to locally thin areas of the solids. Smaller blocks allow for a more accurate representation of the modeled domains and permit themselves to future mine planning efforts for underground mining. Parent block dimensions are 20' x 20' x 20' in the Wall Rock domain but are sub-blocked and forced to a maximum of 10' x 10' in the Y and Z dimensions on the contact of and within the mineralized domains. Sub-block thicknesses in the X dimension can range from 0.1' up to 10' in order to respect local variations in domain thickness.

Blocks were populated with estimation and default grade variables for subsequent grade estimations.

**Table 14-8 Block Model Location and Dimensions**

Model Origin	Coordinates	Offset	Length (Ft)
East	7000	East	1200
North	5600	North	4000
Elevation	-2000	Elevation	3500

**Table 14-9 Block Model - Block Dimensions**

Block Class	Bearing	Dip	Plunge	Block X	Block Y	Block Z	Sub-Block X	Sub-Block Y	Sub-Block Z
Main	90	0	0	20'	20'	20'			
Sub-Block	90	0	0				0.1' - 10'	10'	10'

#### 14.6 GRADE ESTIMATION

Metal grades for the Mineral Resource Estimate were estimated using an Inverse Distance Cubed (ID3) estimation methodology. Single pass ID3 estimates were run for each of the composite metal values in each of the mineralized domain solids. Only samples coded for inclusion within a specific domain solid were used for estimations within that domain solid. Wall rock coded blocks were estimated for each of the composited metal values but is not included in this Technical Report's Mineral Resource Estimate. Grade estimation search ellipse parameters are based on previous statistical analyses of the Blue Moon deposit and a sub-set of the dataset used in this grade estimation (Giroux, 2018) and visual conformity to include distal outlier samples coded within the mineralized domain solids.

Capped database values were used for all estimates. Both visual and statistical inspection of the grade estimates within the block model show the ID3 model to well represent actual assay values versus estimated grade values throughout all 3 mineralized domain horizons.

Zinc Equivalent Percent (ZnEq %) values were calculated from the raw estimated metals values in the grade estimation. Due to the large number of estimated metals, it is common for a polymetallic deposit to use a combined

value variable to describe the total value of mineralized material within an estimate. ZnEq % is calculated from each estimated metal's assigned selling price and assumed recovery factor. These are combined to form an overall value factor for each metal which is subsequently used in the calculation. ZnEq % is calculated as follows:

$$\text{ZnEq} = (\text{Zn}\% * 27.55 + \text{Cu}\% * 69.75 + \text{Pb}\% * 18.05 + \text{Ag}(\text{oz/t}) * 14.95 + \text{Au}(\text{oz/t}) * 1260) / 27.55$$

**Table 14-10 Zinc Equivalent Percent (ZnEq %) Parameters Used for ZnEq % Calculation**

Variable	Metal Price	Recovery	Factor
Zinc	\$US1.45/pound	95% Recovery	27.55
Copper	\$US 3.75/pound	93% Recovery	69.75
Lead	\$US 0.95/pound	95% Recovery	18.05
Silver	\$US 23.00/oz	65% Recovery	14.95
Gold	\$US 1800.00/oz	70% Recovery	1260

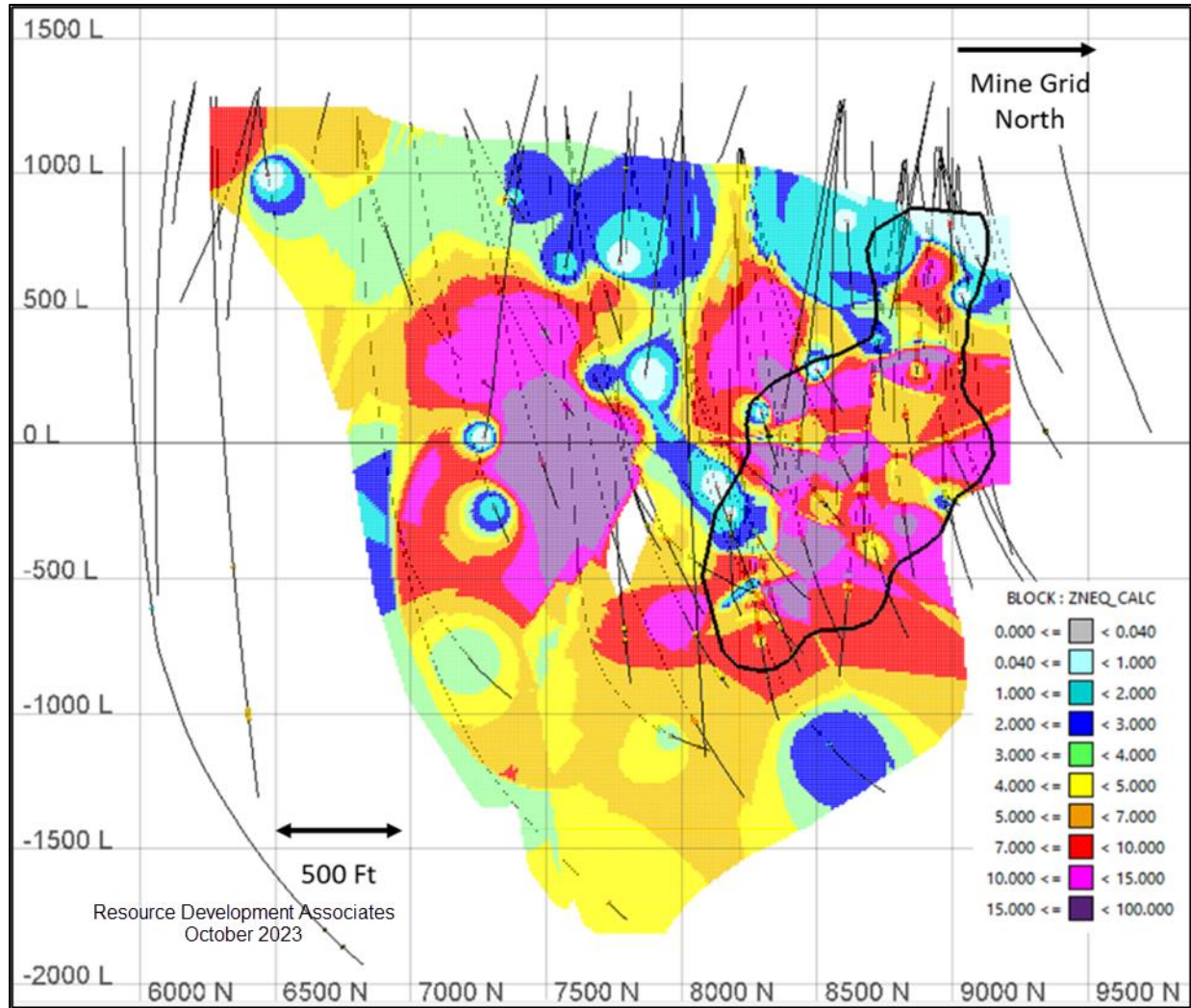
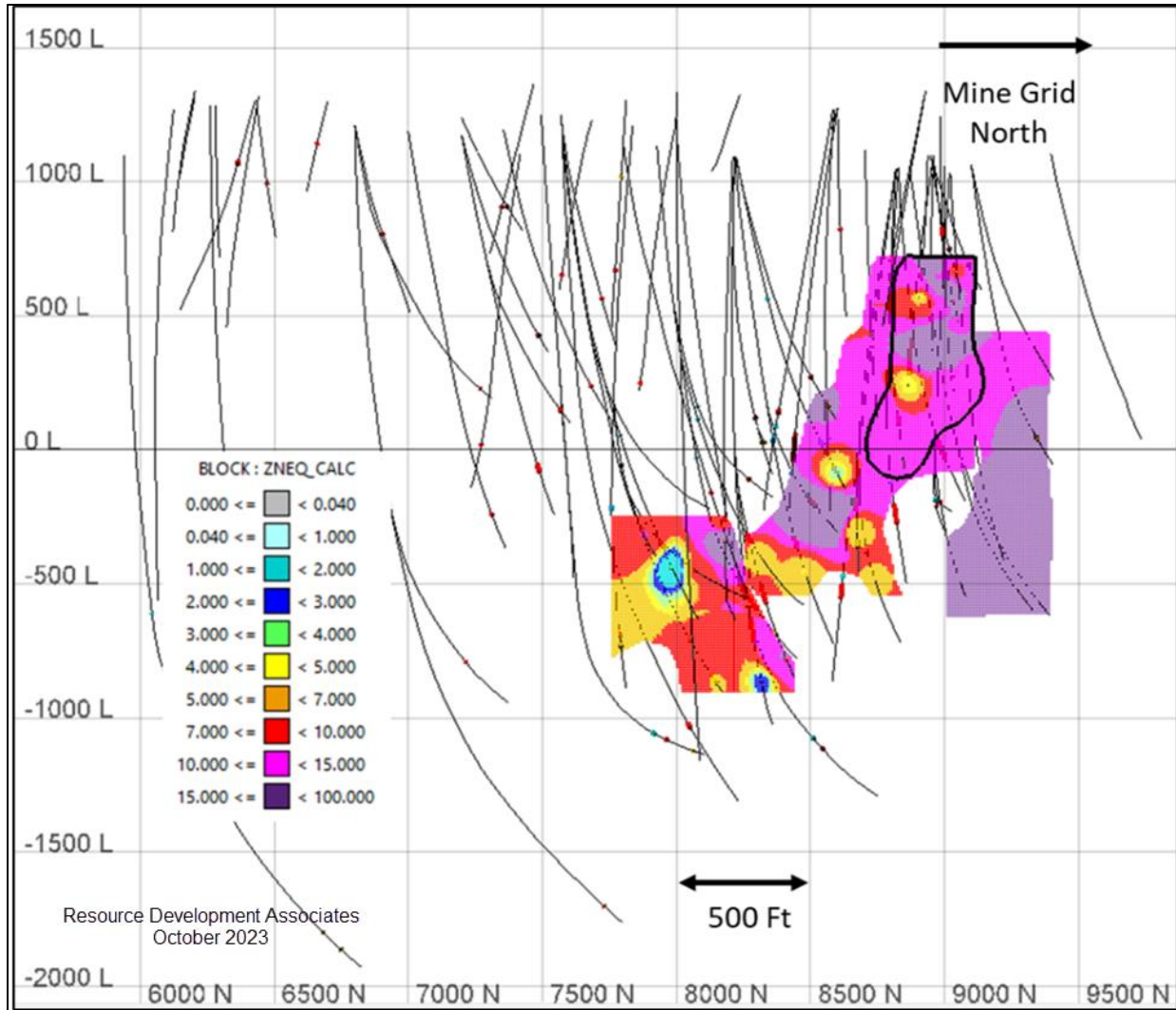
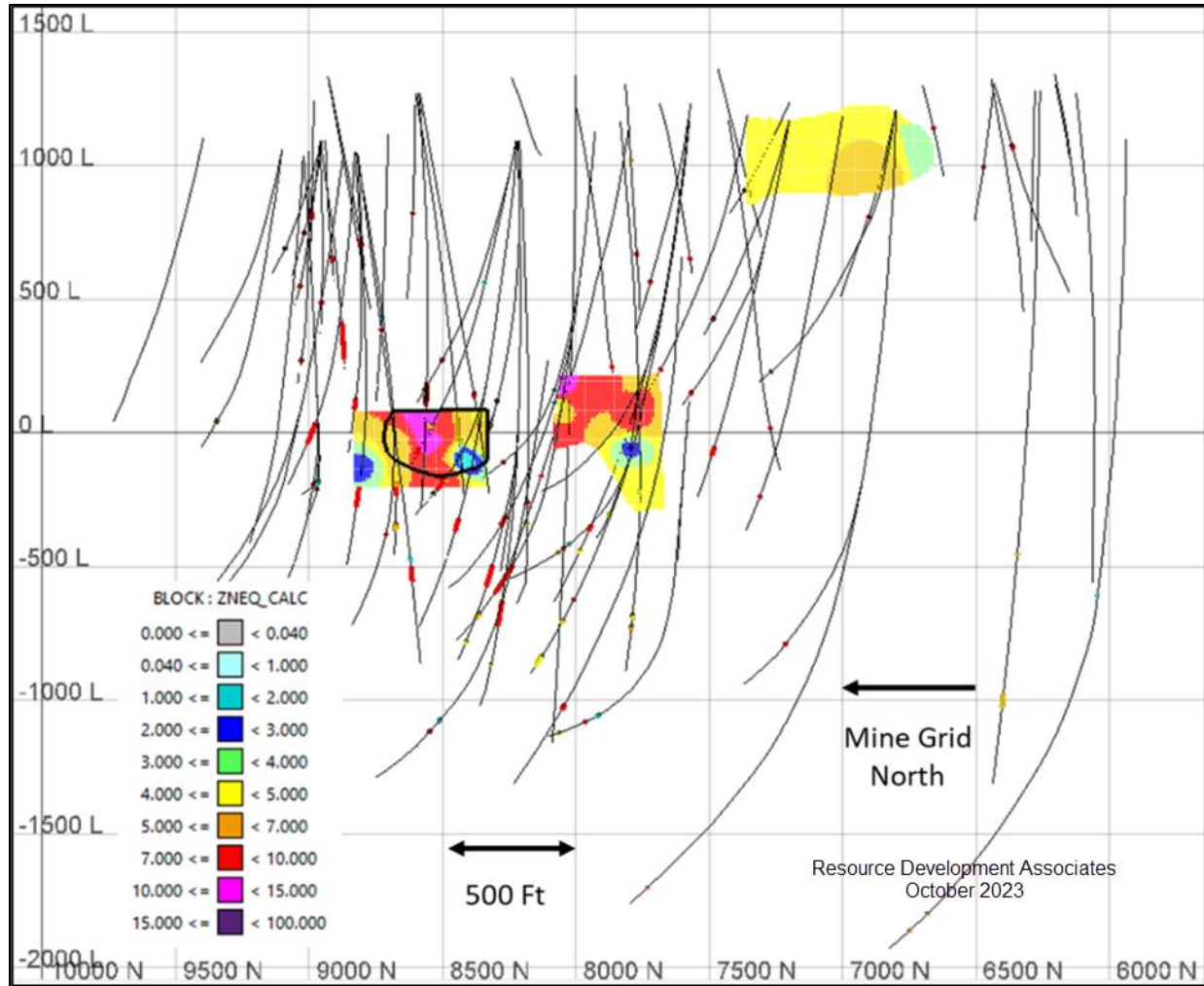


Figure 14-6 Zinc Equivalent % Grade Estimation of Main Zone - Long Section 8000E Looking West - Drill Traces as Black Lines and Resource Classification Boundary as Polygon



**Figure 14-7 Zinc Equivalent % Grade Estimation of Eastern Lenses - Long Section 8000E Looking West - Drill Traces as Black Lines and Resource Classification Boundary as Polygon**



**Figure 14-8 Zinc Equivalent % Grade Estimation of Western Lenses - Long Section 7000E Looking East - Drill Traces as Black Lines and Resource Classification Boundary as Polygon**

#### 14.6.1 GRADE ESTIMATION VERIFICATION

The ID3 grade estimate model was compared visually with nearest neighbor estimates and found to align well with both the model as well as composite grades. In addition to visual methods, the grade estimate model was subjected to statistical analyses to compare block estimated grades versus original composite grades. Composite samples were flagged with corresponding block estimated grades at their location for each of the 5 estimated metals. The results were plotted on scatter plots and trendlines analyzed.

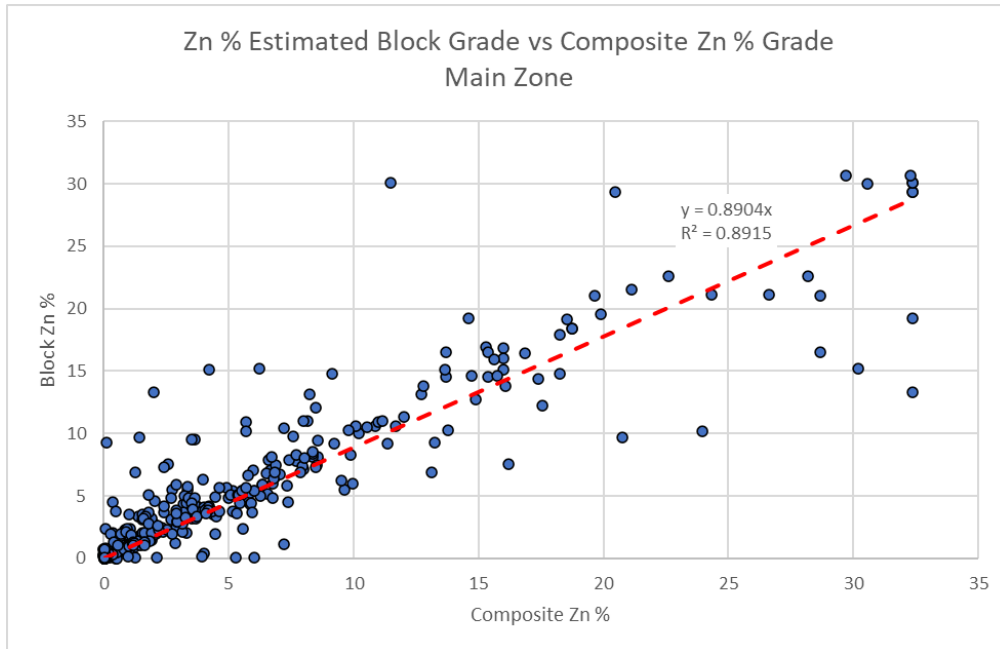


Figure 14-9 Main Zone Block Estimated Grades vs Capped Composite Grades - Zn %

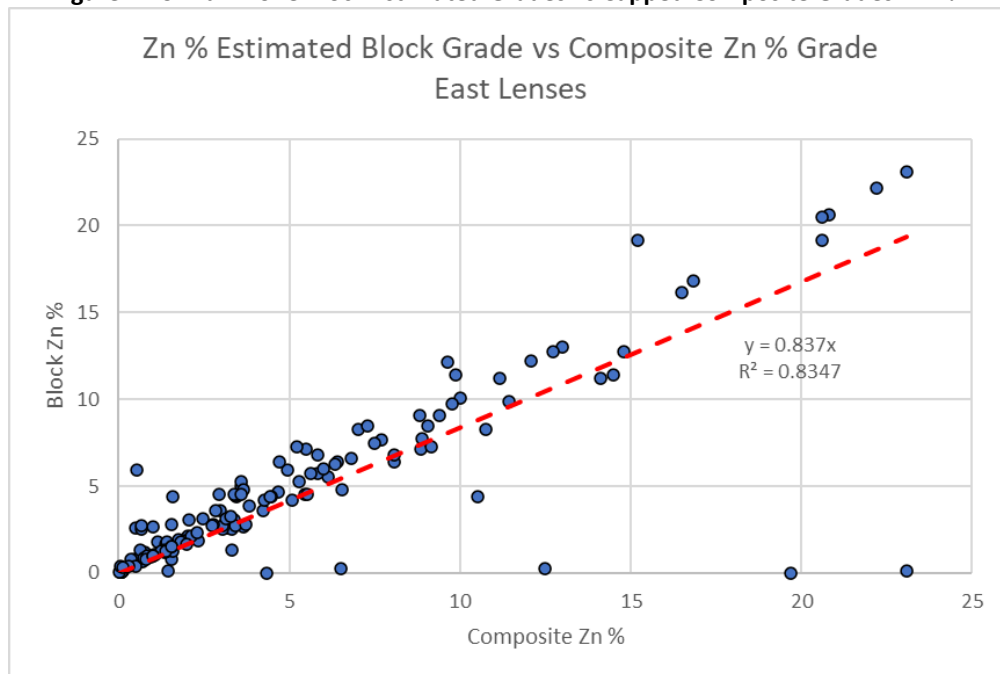
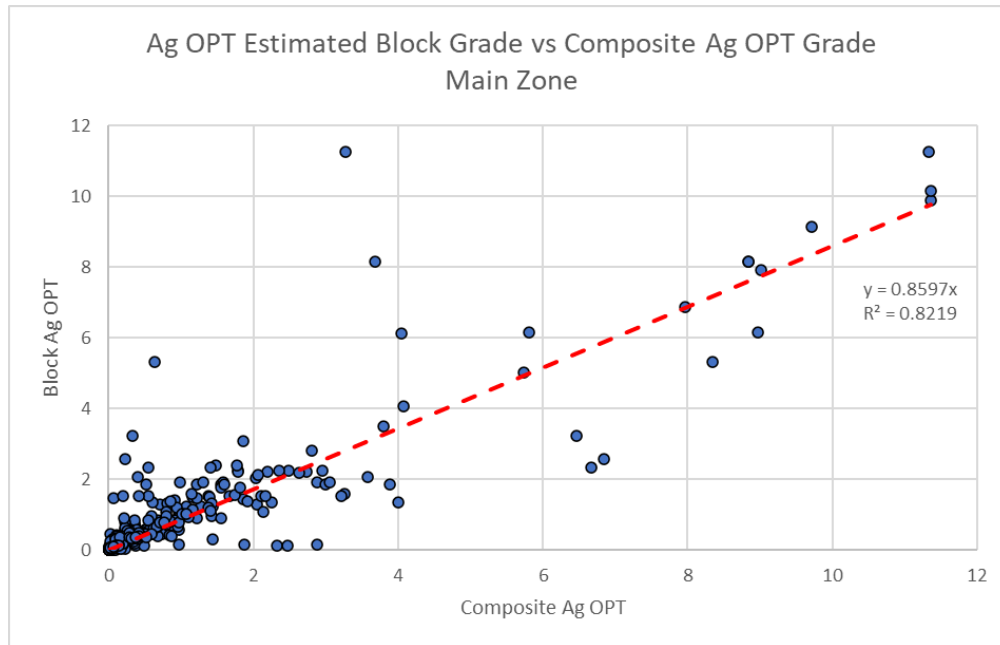


Figure 14-10 East Lenses Block Estimated Grades vs Capped Composite Grades - Zn %



**Figure 14-11 Main Zone Block Estimated Grades vs Composite Grades - Ag OPT**

Overall, the block model grade estimate has a lower average grade at the point of composites. This can be attributed to the grade estimation taking into account spatially close composites of lower grade material within the mineralized domain solid and not “washing out” high grade mineralization.

#### 14.7 RESOURCE CLASSIFICATION

Mineral Resources in this Technical Report are classified according to CIM Definition Standards, which are incorporated by reference in NI 43-101. Mineralization at Blue Moon has been classified as Inferred Mineral Resources and Indicated Mineral Resources based on increasing levels of confidence in data density throughout the mineralized domain solids. The addition of new drill data post 2018 has given the author additional confidence in the MRE and Resource Classifications.

Classification of mineral resources are based on the average distance to samples for each individual block estimate. Due to the fact that grade estimates were made using more distal samples, as well as more densely spaced samples, polygons were digitized in long section around contiguous zones showing estimates made with an average distance to sample of approximately 150' or less in areas of continuous drill intercepts, eliminating spatial outliers. Polygons were then used to construct triangulated solids which were used to flag the block model on inclusion. Blocks included in these solids were classified as Indicated Mineral Resources. This process was carried out on the three mineralized domain solid zones independently.



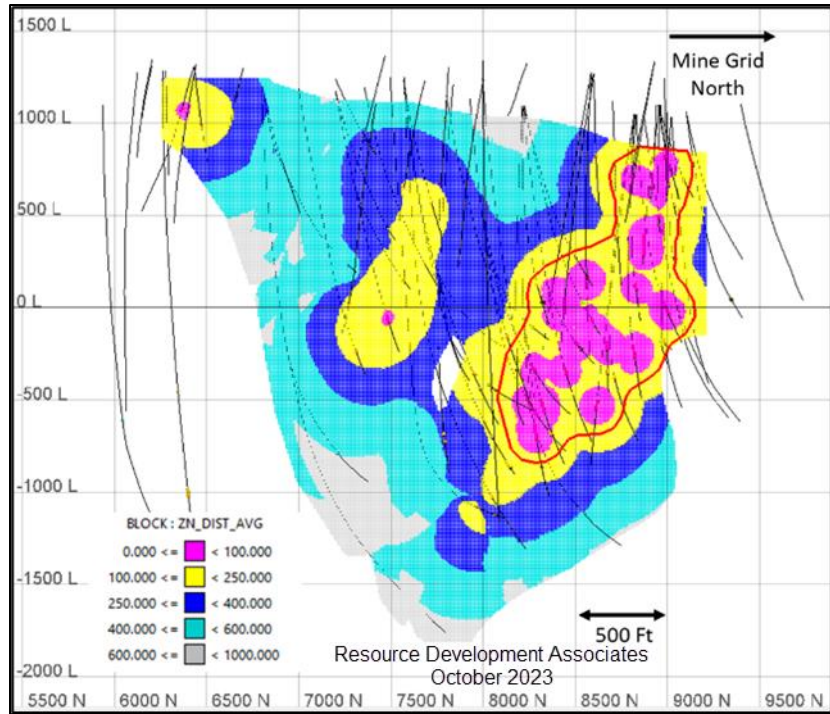


Figure 14-12 Long Section View - Main Zone - Average Distance to Sample and Indicated Mineral Resource Domain Boundary (Red) - 8000E Looking West

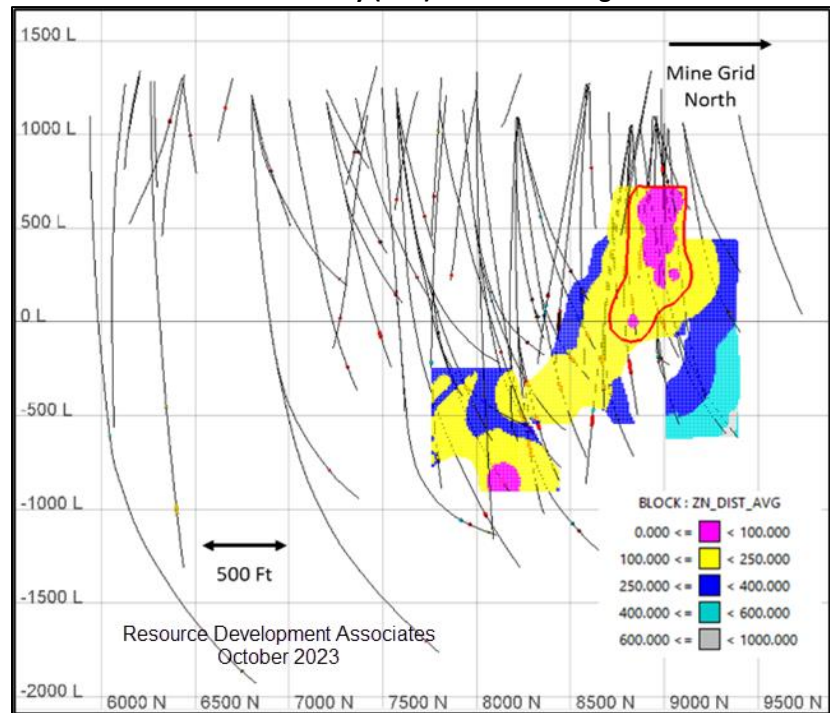


Figure 14-13 Long Section View - East Lenses - Average Distance to Sample and Indicated Mineral Resource Domain Boundary (Red) - 8000E Looking West

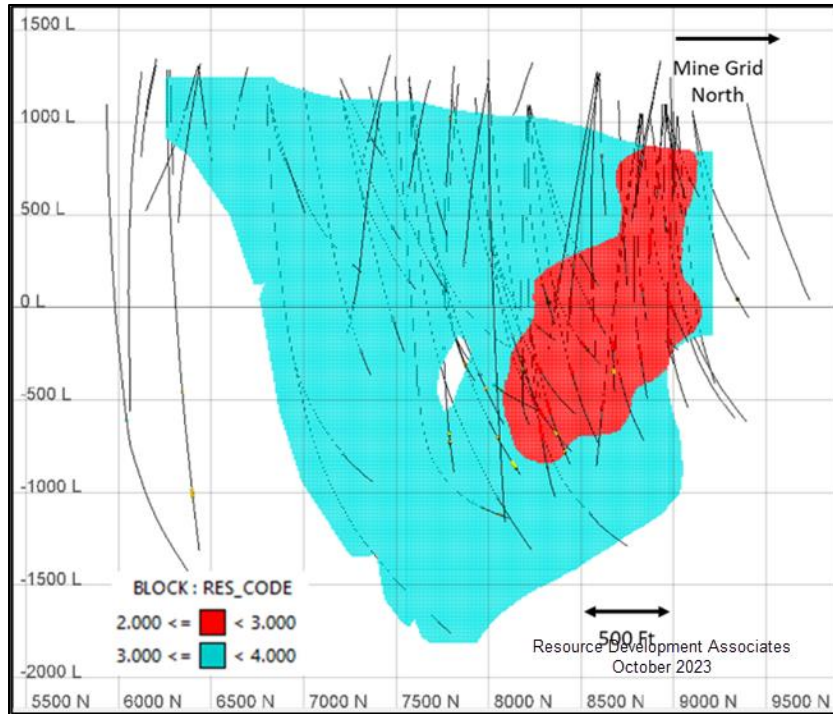


Figure 14-14 Long Section - Main Zone - Block Resource Classification (Red as Indicated Mineral Resource) - 8000E Looking West

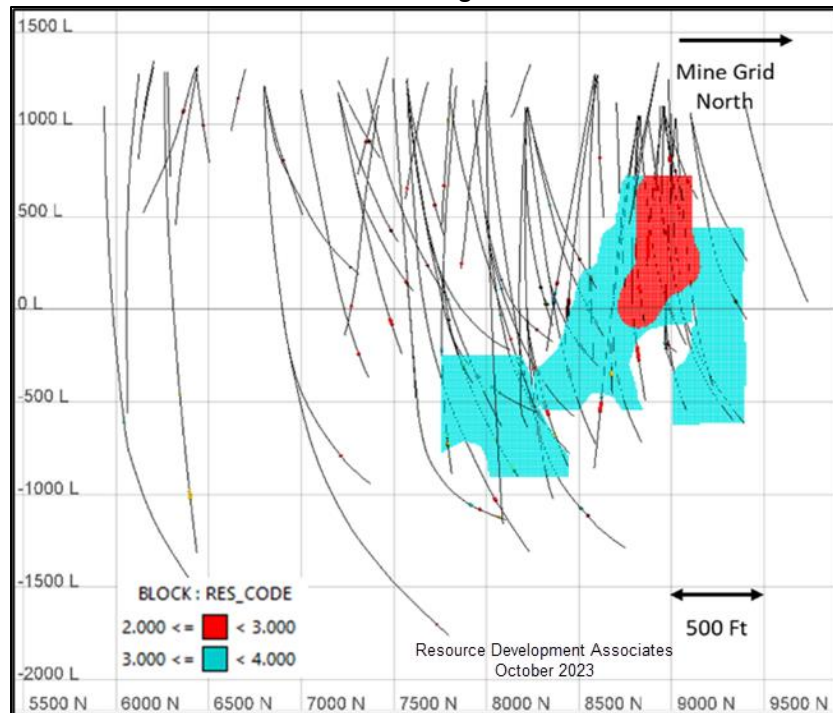
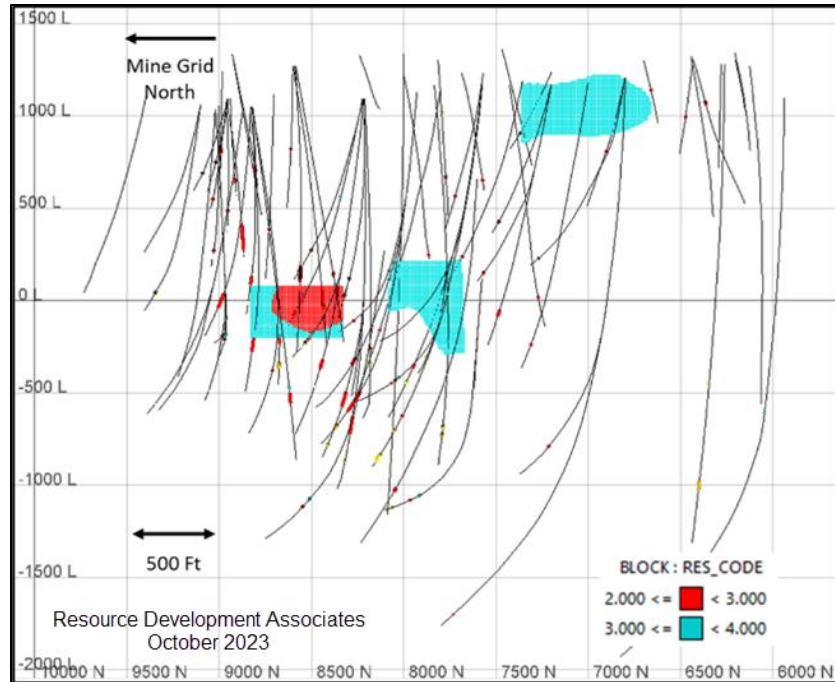


Figure 14-15 Long Section - East Lenses - Block Resource Classification (Red as Indicated Mineral Resource) - 8000E Looking West



**Figure 14-16 Long Section - West Lenses - Block Resource Classification (Red as Indicated Mineral Resource) - 7000E Looking East**

**14.8 MINERAL RESOURCE ESTIMATE DETAILS AND SENSITIVITES**

Tables in this Section detail the Mineral Resource Estimate for the Blue Moon Project as well as cutoff sensitivity analyses.

Tables 14-11 and 14-12 summarize the Blue Moon Mineral Resource Estimate classified according to CIM definitions. Reasonable prospects of eventual economic extraction, defined in this section of the Technical Report assume underground mining, surface mill processing and production of two concentrates. Mineral Resources are reported at a zinc equivalent percent (ZnEq %) of 4%.

**Table 14-11 Blue Moon Indicated Mineral Resource Estimate - ZnEq 4% Cutoff Effective October 27, 2023**

ALL ZONES	INDICATED	Grade Above Cutoff						Contained Metal				
		Cutoff > ZnEq%	Tons > Cutoff	Zn %	Cu %	Pb %	Ag Oz/Ton	Au Oz/Ton	ZnEq %	Zn Mlbs	Cu Mlbs	Pb Mlbs
1	3,778,072	5.80	0.71	0.22	1.44	0.042	10.47	438.39	53.83	16.99	5.45	0.160
2	3,673,576	5.94	0.73	0.23	1.48	0.043	10.72	436.52	53.70	16.97	5.44	0.159
3	3,597,974	6.04	0.74	0.23	1.51	0.044	10.89	434.37	53.22	16.85	5.42	0.160
4	3,513,869	6.14	0.75	0.24	1.54	0.045	11.07	431.44	52.57	16.81	5.40	0.157
5	3,389,314	6.28	0.76	0.24	1.58	0.046	11.31	425.45	51.47	16.60	5.34	0.155
6	3,129,355	6.54	0.78	0.26	1.66	0.048	11.79	409.23	48.65	16.22	5.19	0.150
7	2,802,903	6.85	0.80	0.28	1.77	0.052	12.40	383.95	45.03	15.67	4.96	0.146
8	2,363,532	7.36	0.82	0.31	1.95	0.057	13.28	347.72	38.85	14.71	4.60	0.134
9	2,133,401	7.66	0.84	0.32	2.04	0.059	13.80	326.82	35.76	13.79	4.35	0.126
10	1,801,444	8.18	0.86	0.34	2.18	0.062	14.59	294.70	30.99	12.14	3.92	0.111

Qualified Person Scott Wilson C.P.G., SME. Mineral Resources are not Mineral Reserves do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted to mineral reserves. Ag Selling Price \$23.00/Oz, Au Selling Price \$1800.00/Oz, Cu Selling Price \$3.75/lb, Pb Selling Price \$0.95/lb, Zn Selling Price \$1.45/lb. Effective date of October 13, 2023. Columns may not add up due to rounding.

**Table 14-12 Blue Moon Inferred Mineral Resource Estimate - ZnEq 4% Cutoff. Effective Date October 27, 2023**

ALL ZONES	INFERRED	Grade Above Cutoff						Contained Metal					
		Cutoff > ZnEq%	Tons > Cutoff	Zn %	Cu %	Pb %	Ag Oz/Ton	Au Oz/Ton	ZnEq %	Zn Mlbs	Cu Mlbs	Pb Mlbs	Ag MOz
	1	4,590,018	5.23	0.52	0.29	1.37	0.042	9.41	480.52	48.17	26.89	6.30	0.192
	2	4,472,793	5.35	0.54	0.30	1.40	0.043	9.62	478.56	48.00	26.74	6.27	0.192
	3	4,212,585	5.59	0.56	0.31	1.46	0.045	10.05	470.79	47.10	26.37	6.14	0.188
	4	3,829,696	5.94	0.59	0.34	1.56	0.049	10.71	454.77	45.04	25.79	5.98	0.186
	5	3,441,191	6.34	0.60	0.36	1.67	0.052	11.40	436.45	41.57	25.09	5.74	0.180
	6	2,865,828	7.02	0.61	0.41	1.89	0.060	12.59	402.09	35.23	23.41	5.43	0.172
	7	2,447,984	7.62	0.62	0.44	2.06	0.066	13.63	373.26	30.54	21.67	5.04	0.162
	8	2,032,413	8.41	0.58	0.50	2.31	0.074	14.86	342.01	23.65	20.29	4.68	0.151
	9	1,838,481	8.82	0.59	0.52	2.42	0.078	15.53	324.38	21.73	19.29	4.44	0.143
	10	1,623,749	9.38	0.61	0.53	2.47	0.081	16.32	304.60	19.92	17.08	4.02	0.132

Qualified Person Scott Wilson C.P.G., SME. Mineral Resources are not Mineral Reserves do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted to mineral reserves. Ag Selling Price \$23.00/Oz, Au Selling Price \$1800.00/Oz, Cu Selling Price \$3.75/lb, Pb Selling Price \$0.95/lb, Zn Selling Price \$1.45/lb. Effective date of October 13, 2023. Columns may not add up due to rounding.

**15 MINERAL RESERVES**

Not applicable to this MRE.

**16 MINING METHODS**

Not applicable to this MRE.

**17 RECOVERY METHODS**

Not applicable to this MRE.

**18 PROJECT INFRASTRUCTURE**

Not applicable to this MRE.

**19 MARKET STUDIES AND CONTRACTS**

Not applicable to this MRE.

**20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT**

Not applicable to this MRE.

**21 CAPITAL AND OPERATING COSTS**

Not applicable to this MRE.

**22 ECONOMIC ANALYSIS**

Not applicable to this MRE.

## 23 ADJACENT PROPERTIES

At the present, there are no adjacent properties with similar mineralization to the Blue Moon property. However, when Blue Moon was mined during the Second World War, its ore was trucked to the nearby gold mine facility at the abandoned Jenny Lind Mine to be milled. The Jenny Lind Mine, which also included the Washington Mine with which it was consolidated, produced a recorded \$1.1 million of gold before it closed in 1882.

Mineralization at the Jenny Lind Mine was not similar to that at Blue Moon and may be classified as a low sulfidation vein system. The Washington-Jenny Lind simply had the nearest milling facility available at the time of Blue Moon mining operations.

The Blue Moon deposit is one of seventeen volcanic massive sulfide deposits known to exist in the Sierra Nevada Foothills copper-zinc belt of central California. Nearest of these to Blue Moon is the Akoz deposit which is located approximately 4 miles to the northwest. Akoz had small production, the zinc being marketed around 1915 as a cure all due to the local sphalerite's triboluminescence property being mistaken for radium.

The Penn Mine, located 60 miles north of Blue Moon within the same belt of rocks had a similar short period of mining activity between 1943 and 1949 and produced 84,000 tons of VMS ore with averaging grades of 5.58% Pb, 7.89% Zn, 2.05% Cu, 2.37 oz/t Ag and 0.07 oz/t Au. The Penn mine has produced 973,784 tons of ore since its discovery in 1861.

Also in Mariposa County is the Fremont Mine, north of Mariposa, in the Mother Lode belt of rocks and being explored by Stratabound Minerals who has reported an indicated and inferred gold resource of nearly 1,000,000 ounces.

The author has not visited these properties and cannot verify that the mineralization at Blue Moon is representative at the properties.

## **24 OTHER RELEVANT DATA AND INFORMATION**

The Author knows of no other relevant data and information that would make the report understandable and not misleading.

## **25 INTERPRETATIONS AND CONCLUSIONS**

The Blue Moon deposit is the largest known volcanogenic massive sulfide deposit of its type within the Foothills Massive Sulfide Belt of California.

At a cutoff of 4% Zn equivalent, the Blue Moon deposits contain an Indicated resource of 3.514 MT of 11.07 % Zn equivalent and an Inferred resource of 3.830 MT of 10.7% Zn equivalent.

The average thicknesses of VMS within the different zones at Blue Moon is approximately 20 feet.

Given the stage of this project, it is recommended to carry out a preliminary economic assessment to determine the economic potential of the deposit.

Depending on the results of the preliminary economic assessment study, a drilling program will be required to increase the confidence in the resource estimate, produce more samples for metallurgical testing, as well as samples ABA testing of the lithologies.



## 26 RECOMMENDATIONS

It is recommended that BMZ evaluate a preliminary economic assessment (“PEA”) for the Project. A PEA will allow BMZ and its investors understand the economic viability of the Project. The culmination point for Phase 1 will be a positive economic outcome of the PEA. Subsequent to a positive PEA, a successive phase of technical project advancement programs will be recommended.

**Table 26-1 Blue Moon Phase 1 Preliminary Economic Assessment**

<b>Activity</b>	<b>Amount</b>
Mine Planning Design	\$55,000
Process Planning and Design	\$35,000
Economic Analysis	\$10,000
Author Technical Report	\$50,000
Contingency (20%)	\$30,000
<b>Total</b>	<b>\$180,000</b>

Phase 2 of the Blue Moon Project development will be an infill drilling program, consisting of 15,000 feet of core drilling, assaying, geological modeling and metallurgical testing. The subsequent phase is tabulated in Table 26-2. This phase is intended to increase confidence in advancement of the Project.

**Table 26-2 Blue Moon Phase 2 Project Development-**

<b>Activity</b>	<b>Amount</b>
Infill Drilling (15,000 feet)	\$2,500,000
Assaying (approximately 3,000 samples)	\$60,000
Geological Interpretation and Modeling	\$75,000
Metallurgical Testing	\$100,000
Contingency (15%)	\$410,250
<b>Total</b>	<b>\$3,145,250</b>

## 27 REFERENCES

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