

**TECHNICAL REPORT FOR THE TWIN PEAKS PROJECT, LEMHI COUNTY, IDAHO, USA**

**44.94°N 114.05°W UTM Z11N 733150E 4980350N WGS84**



**Prepared for:**  
**Champion Electric Metals, Inc.**  
**Toronto, Ontario, Canada**

**Prepared by:**  
**Brewer Exploration**  
**And Geological Services, Inc.**  
**Salmon, Idaho, USA**



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**APPENDIX A** List of unpatented lode mining claims comprising the Twin Peaks Project.

**APPENDIX B** Induced polarization pseudosections and data inversion sections (1972).

Frontispiece: Historical aerial haulage station at Twin Peaks Mine. View to the southeast from 736148E 4982290N, 1850 m elevation, UTM Z11N WGS84. Photo by J. Phinisey.

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## 1.0 SUMMARY (ITEM 1)

Brian T. Brewer of Brewer Exploration and Geological Services Inc. (“Brewer”) has been retained to prepare this independent Technical Report for the Twin Peaks Project, Lemhi County, Idaho, USA (“the Technical Report”) for Champion Electric Metals Inc. (“Champion Electric” or “the Company”), a Canadian corporation publicly traded on the Canadian Securities Exchange (CSE:LTHM).

Brian T. Brewer, CPG (AIPG #11508), M.Sc., is the Qualified Person and author (“Author”) responsible for this Technical Report. The Author is the president of Brewer Exploration and serves as a consulting geologist to resource companies throughout the globe. Mr. Brewer has over 30-years of experience working throughout the United States, Mexico and South America, as well as other jurisdictions.

Neither the Author nor Brewer Exploration has any material interest or contingent interest in the outcome of the work conducted, nor do they have any pecuniary interest or other interest that could reasonably be construed as having the capability of affecting its independence. The Author is independent of the issuer of this report and the Property.

This report provides a technical summary of the Twin Peaks Project. The Project includes the historical Twin Peaks Mine (an intermittent producer of copper and lead from underground operations for the years 1927-1966) and the Badger Basin Prospect (a narrow copper- and silver-bearing quartz-sulfide vein located 3.7 km southwest of the historical Twin Peaks Mine). The Twin Peaks project also lies near the southern end of the Idaho Cobalt Belt southeast of and contiguous with Electra Battery Materials’ Iron Creek Project.

This report has been prepared in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators’ National Instrument 43-101 (“NI 43-101”), Companion Policy 43-101CP, and Form 43-101F1. The effective date for this Technical Report is August 1, 2024.

Information, conclusions, and recommendations contained within this technical report are based on field observations as well as published and unpublished data (Section 27: References) available to the Author at the time of preparing this report.

### 1.1 Mineral Tenure

The Twin peaks Project comprises 548 unpatented federal lode mining claims (the Badger, TP, and Degan claim groups) that total approximately 4,376 hectares. The current federal annual fees for the Badger, TP, and Degan unpatented mining claims are estimated at \$89,900 and there are no other annual holding costs for the Project. The Company owns 100% of the Twin Peaks Project through its wholly owned subsidiary, Idaho Champion Cobalt USA Inc. There are no underlying royalties or lease payments for the Project. All federal claim fees are paid in full through September 1, 2024.

### 1.2 Geology and Mineralization

The Belt-Purcell Basin, a Mesoproterozoic intracratonic rift within the Columbia/Nuna supercontinent, represents an estimated stratigraphic thickness of 15 to 20 km of mostly siliciclastic and subordinate carbonate strata. The siliciclastic sediments are comprised of quartzite, siltite, and argillite. The environment of deposition was shallow marine (or lacustrine) to subaerial.

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The Lemhi Subbasin of the Belt-Purcell Basin includes quartzite and siltite of the Apple Creek Formation, the principal host to cobalt-copper mineralization in the Idaho Cobalt Belt. The historical mines and modern resource areas of the Idaho Cobalt Belt define a strike length of 60 km and represent the most important cobalt district in the United States.

The Twin Peaks Project lies at the southern end of the Idaho Cobalt Belt adjacent to the Iron Creek Project (Electra Battery Materials). The stratigraphic interval that hosts the Iron Creek cobalt-copper resource and additional mineralized zones is exposed or is inferred to exist beneath thin post-mineral volcanic rock cover over 70% of the area of the Twin Peaks Project.

The Twin Peaks Project includes the Twin Peaks Mine, a small underground producer of lead-silver-copper-gold concentrate that was sporadically active between 1927 and 1966. Select sampling of a historical prospect located 1 km north of and on strike with the Twin Peaks Mine has returned values >15% copper and >30 ppm silver with gold values to 1.5 ppm and cobalt values to 2,580 ppm. This northern portion of the Twin Peaks hydrothermal system is unmined and lacks known historical drilling.

The Badger Basin Prospect lies near the center of the Twin Peaks Project and displays similarities to Twin Peaks Mine mineralization. Outcrop and select samples from spoils piles have returned values >20% copper and up to 132 ppm silver. Significant cobalt values are not known at the Badger Basin Prospect.

Iron Creek-style copper-cobalt mineralization is not known at the current level of exposure at the Twin Peaks Project. The western portion of the Twin Peaks Project where it is closest to and on strike with the Iron Creek resource is judged to have the greatest potential for discovery of such mineralization. Stream sediment samples in this western area have yielded geochemically anomalous values in copper (to 254 ppm), cobalt (to 32 ppm), and arsenic (to 54 ppm).

### 1.3 Exploration and Drilling

In 1927, Charles Kapp identified copper mineralization in talus along Corral Creek and staked the initial three mining claims of the Twin Peaks Mine. Historical underground development consisted of the Copper Area (east side of Corral Creek) and the Lead Area (west side of Corral Creek). Intermittent production of copper and lead concentrates with silver and gold credits continued to 1966 at limited scale.

Two drill holes are known to have been completed from surface at the Twin Peaks Mine. In 1977, Dual Resources completed a single diamond drill hole near the #3 level in the Lead Area to a total depth of 886 feet (270 m). A broad zone of disseminated pyrite was intersected within which sparse blebs of chalcopyrite were logged for the interval 434-645 feet (averaging 0.04% copper). The log recorded sparse scattered galena, pervasive chloritization, and shearing. Drilling difficulties in an interval of strong clay development forced the hole to be terminated (Tully, 1977).

In 1996, Cominco American completed a single drill hole at the Twin Peaks Mine to a depth of 1734.5 feet (529 m) as a downdip test of mineralized shear zones mapped on the #3 level of the Lead Area. The interval 1527-1601 ft (465-488 m) intersected trace-20% pyrite with minor chalcopyrite and galena. The geologic log for this interval records copper values nil to 7,490 ppm and silver values nil to 26 ppm associated with narrow, silicified shear zones (Ellsworth, 1996).

Champion Electric has not conducted any drilling activities on the Property.

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## 1.4 Mineral Resource Estimates

There are no current mineral resource estimates on the Property.

## 1.5 Development and Operations

No modern development or mining has been conducted on the Property.

In 1928-1929, mining by lessees in the Copper Area produced approximately 140 tons of ore grading 12% copper, 9 oz/t silver, and \$2/ton gold (about 3 g/t at the then prevailing gold price of \$20.67/oz). Ore was hand-sorted and shipped to Anaconda, MT. About 20 tons were mined in 1935 grading 14% copper. An additional 14 tons were mined in 1936 (Starr, 1955). In 1964, total workings for the Copper Area were estimated at 1,250 feet of drifts and crosscuts and 160 feet of raises (Landreth, 1964).

In 1938, galena was discovered in Corral Creek, leading to underground development on three levels at the Lead Area. By 1957, total development for the Lead Area consisted of more than 3,000 feet of tunnels, drifts, cross-cuts, and winzes (Merritt, 1957). Various milling operations with capacities in the range of 50-150 tons per day (tpd) produced gravity and/or flotation concentrates 1938-1964. In 1961, a sample of flotation concentrate assayed 55.28% combined lead and copper (Wilson, 1961). In 1966, Idaho Consolidated Mines Inc. was reported to be rehabilitating the #3 level in the Lead Area (Whelan, 1966); this is the last known underground development at the Twin Peaks Mine.

## 1.6 Conclusions, Interpretations and Recommendations

The Twin Peaks Property is located within the Blackbird Mining District of the Idaho Cobalt Belt, which is host to numerous historic Co-Cu prospects and mines as well as Glencore's Blackbird Mine and Jervois Global's Idaho Cobalt Operations.

Recent prospecting and exploration work conducted by Champion Electric has identified numerous occurrences of Co-Cu-Ag mineralization on the Property.

It is the Author's opinion that conditions exist on the Property that demonstrate the potential to host a significant cobalt deposit. These conditions include: a favorable geological setting and widespread significant Co, Cu and Ag values in rocks and soils.

It is the Author's opinion that the Twin Peaks Property is a Property of Merit for a number of reasons, including:

- Copper-silver-cobalt-gold-lead mineralization in the vicinity of the historical Twin Peaks Mine with the potential to be expanded, including the apparent northerly and southerly strike projections of the mineralizing hydrothermal system described by Landreth (1964) and Requa (1965).
- The potential for copper-cobalt mineralization similar in style to that known elsewhere in the Idaho Cobalt Belt (Blackbird Mine, RAM and Sunshine resources, Iron Creek Project, etc.) beneath post mineral cover. Such mineralization is not known to be present at current levels of exposure at the Twin Peaks Project. However, the sedimentary rock unit that serves as principal host to such



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copper-cobalt mineralization outcrops or is inferred to occur beneath the thin Tertiary-age (“post-mineral”) volcanic rock that covers over 70% of the Project area. The Author recommends testing for Blackbird Mine-style copper-cobalt mineralization at depth along the possible strike projection of such mineralization known at the Iron Creek Project 4 km to the northwest.

- A possible genetic link or metal zoning relationship between copper-silver mineralization in the vicinity of the Badger Basin Prospect and the historical Twin Peaks Mine. The Author recommends evaluating a possible genetic link between mineralization at the Badger Basin Prospect and copper-lead-silver-gold mineralization known at the Twin Peaks Mine. Additionally, it is recommended to consider the Badger Basin copper-silver occurrence as possible lateral metal zonation within a Blackbird Mine-style setting, as suggested by earlier workers (Formation Capital Corporation U.S., 1996).

The Author recommends a two-phase approach to exploration on the Property where Phase II will follow Phase I and will be contingent on the successful outcome of Phase I. Phase I results and conclusions would be used to assist with the planning of Phase II exploration activities.

The Author recommends that Phase I consists of additional geological mapping and rock sampling along with approximately 54 km of induced polarization (IP) data acquisition on 18 lines with nominal line spacing of 500 m. It is also recommended that an additional approximate 22 km of IP lines be budgeted for infill and follow-up of anomalous responses identified with the initial IP survey. Additionally, the Author recommends a trenching program be conducted north and south of the Twin Peaks Mine for an approximate length of 300 m. Proposed trenches should be oriented to cross the strike projection of the Twin Peaks Mine mineralized shear zones at areas of anomalous copper + cobalt values in rock from spoils piles and reconnaissance soil samples (Fig. 9-8 a-c). Concurrent to Phase I activities, the Author recommends initiating the permitting process for a diamond core drilling program.

Phase II activities are recommended to commence following the successful completion of Phase I and should consist of drill testing of targets generated in Phase I. The contingent work planned for Phase II will be designed to better understand the geological, structural, mineralogical and geochemical characteristics of the Twin Peaks mineral system(s) and delineate drill targets on the Property.

The estimated budgets for the recommended Phase I and Phase II exploration programs are shown in Table 26-1.

## 1.7 Risks

The risks for this project are commensurate with similar early-stage exploration projects and there is no guarantee that current or future exploration activities will result in the delineation of an economic orebody. Risk can be somewhat mitigated by adhering to a multi-phased exploration program as outlined in Section 1.6 and detailed within this report.

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## **2.0 INTRODUCTION (ITEM 2)**

Champion Electric contracted with Brewer Exploration to prepare this independent Technical Report for the Twin Peaks Project (“the Project”), located 29 km southwest of the city of Salmon in Lemhi County, Idaho, USA. Idaho Champion is a Canadian corporation publicly traded on the Canadian Securities Exchange.

Brewer Exploration and Geological Services, Inc. (“Brewer” or “Brewer Exploration”) is a natural resource consulting firm established as an Idaho corporation in 2008. Brian T. Brewer, CPG, M.Sc. and president of Brewer, has over 30 years of experience as a consulting geologist throughout the United States, Mexico and South America, as well of other jurisdictions and is the Qualified Person responsible for this report.

In 2018, Idaho Champion Cobalt USA Inc., a wholly-owned subsidiary of Champion Electric, purchased 100% interest in the Badger claims (36) from American Cobalt Corp. and staked the TP claims (342). Additional staking completed in 2023 and 2024 increased the total number of claims to 545, representing approx. 4,376 hectares.

This Technical Report provides a summary of the Twin Peaks Project, which includes the historical Twin Peaks Mine, a small intermittent producer of copper, lead, silver, and gold from underground operations for the years 1929-1966. Additional historical exploration has been conducted at the Badger Basin prospect located 3.7 km southwest of the Twin Peaks Mine. The Twin Peaks Project also lies near the southern end of the Idaho Cobalt Belt southeast of and contiguous with Electra Battery Materials’ Iron Creek Project.

This report has been prepared in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators’ National Instrument 43-101 (“NI 43-101”), Companion Policy 43-101CP, and Form 43-101F1. The Author is a Qualified Person (“QP”) under NI 43-101. The Effective Date of this technical report is August 1, 2024.

Information, conclusions, and recommendations contained within this technical report are based on field observations as well as published and unpublished data (Section 27: References) available to the Author at the time of preparing this report.

The Author visited the Property on 16 and 17 January 2024. The site visit was commissioned by Champion Electric and conducted on behalf of Champion Electric as part of their due diligence process and in preparation for preparing this report. During this site visit, the Author conducted a review of the Twin Peaks Property where he collected four rock samples from across the property.

### **2.1 Project Scope and Terms of Reference**

The purpose of this report is to provide a technical summary of the Twin Peaks Project in support of the business development activities and exchange filings of Champion Electric Metals. To the best of the Author’s knowledge, there have been no prior NI 43-101 technical reports completed for the property.

The scope of this study included a review of pertinent geological research available in the public domain. These sources include scientific publications, graduate theses completed in the geology departments of University of Idaho, Cornell University, and Colorado School of Mines, and the digital archives of the

Idaho Geological Survey. Additionally, reports and data have been provided to Mr. Brewer by Champion Electric relative to exploration activities and results, methodology, quality assurance, and interpretations; the Author has fully relied on the information provided by Champion Electric. Specific sources are cited throughout this Technical Report. Mr. Brewer has made such investigations as deemed necessary in his professional judgment to be able to reasonably present the conclusions, interpretations, and recommendations included herein.

## 2.2 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure

In this report, measurements are generally reported in metric units. Where information was originally reported in Imperial units, the author has made the conversions as shown below.

Currency, units of measure, and conversion factors used in this report include:

### Currency

Unless otherwise indicated, all references to dollars (\$) in this report refer to currency of the United States.

### Linear Measure

1 centimeter = 0.3937 inch

1 meter = 3.2808 feet = 1.0936 yard

1 kilometer = 0.6214 mile

### Area Measure

1 hectare = 2.471 acres = 0.0039 square mile

### Capacity Measure (liquid)

1 liter = 0.2642 US gallons

### Weight

1 gram = 0.03215 troy ounces

1 kilogram = 2.205 pounds

1 tonne = 1.1023 short tons = 2,205 pounds

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### **Frequently used acronyms and abbreviations**

AA	atomic absorption analytical method
Ag	silver
Au	gold
Bi	bismuth
cm	centimeters
core	diamond core-drilling method
Co	cobalt
°C	degrees centigrade
CRM	certified reference material
Cu	copper
DMEA	Defense Minerals Exploration Agency of the US Department of the Interior
g	grams
GPS	global positioning system
ha	hectares
ICP	inductively coupled plasma analytical method
K	potassium
kg	kilograms
km	kilometers
km <sup>2</sup>	square kilometers
l	liter
m	meters
Ma	million annum
mg	milligram
mm	millimeters
NOAA	National Oceanographic and Atmospheric Administration of the US Department of Commerce
OME	Office of Minerals Exploration of the US Department of the Interior
oz	troy ounce
Pb	lead
ppm	parts per million
ppb	parts per billion
QA/QC	quality assurance and quality control
RC	reverse-circulation drilling method
REE	rare earth elements
sdt	short (imperial) dry tons
st	short (imperial) tons
SHRIMP	sensitive high resolution ion microprobe
t	metric tonne or tonnes
Th	thorium
U	uranium
USGS	United States Geological Survey of the US Department of the Interior
Y	yttrium
Zn	zinc
µm	microns

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### 3.0 RELIANCE ON OTHER EXPERTS (ITEM 3)

This report has been prepared by Brian T. Brewer, CPG (AIPG # 11508) of Brewer Exploration and Geological Services Inc. The information, conclusions, opinions, and estimates contained herein are based on field observation as well as published information. Brian T. Brewer and Brewer Exploration and Geological Services Inc. are independent of Champion Electric and the Property. The Author therefore knows of nothing that would interfere with his objectivity with regards to the content and conclusions of this report.

For the purpose of this report, the Author has relied on ownership, agreement and encumbrances information provided by Champion Electric. Specifically, the Author received this information from Mr. Jonathan Buick, President and CEO of Champion Electric via a letter dated 29 January 2024. Mineral titles for all lode mining claims for the Twin Peaks Project were verified through the US Department of The Interior, Bureau of Land Management's online Mineral & Land Records System ([www.blm.gov.MLRS](http://www.blm.gov.MLRS)). Titles were searched on July 25, 2024

While the title information was reviewed for this report, it does not constitute, nor is it intended to represent a legal, or any other opinion as to title.

The Author has no reason to believe that the information used in the preparation of this report is false or purposefully misleading and has relied on the accuracy and integrity of the data referenced in Section 27 of this report.

The information, conclusions, and recommendations contained in this report are consistent with the data and information available at the time of preparation, and the assumptions, conditions, and qualifications set forth in this report.

As of the date of this report, the Author is not aware of any material fact or material change with respect to the subject matter of this report, in its entirety, that is not presented herein, or the omission of which could make this report misleading.

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## 4.0 PROPERTY DESCRIPTION AND LOCATION (ITEM 4)

Unless otherwise noted, the geographic coordinate system referenced in this Technical Report is WGS84 datum, Universal Transverse Mercator Zone 11 projection, linear measurements in meters, and area measurement in hectares.

### 4.1 Location and Land Area

The Twin Peaks Project is centered at 44.94°N, 114.05°W in east central Idaho, approximately 29 km southwest of the town of Salmon in Lemhi County (Fig. 4-1). The Project lies within the Blackbird Mining District in the Idaho Cobalt Belt. The USGS Degan Mountain and Goldbug Ridge 7.5' quadrangles provide topographic map coverage for the Project and vicinity.

### 4.2 Agreements and Encumbrances

The Property is comprised of 545 contiguous unpatented lode mining claims (“mineral tenures” or “claims”), known as the Badger, TP, and Degan claim groups, covering an area of approximately 4,376 hectares as shown in Figure 4-2. A list of the claims is presented in Appendix A. All claims are staked on Federal lands administered by the United States Forest Service or the Bureau of Land Management. All unpatented mining claims are administered by the Bureau of Land Management.

Champion Electric Metals Inc. owns 100% of the Twin Peaks Project through its wholly owned subsidiary, Idaho Champion Cobalt USA Inc. There are no underlying royalties or lease payments for the Project. There are no known active third-party mining claims within the Twin Peaks Project claim perimeter. All federal claim fees are paid in full through September 1, 2024.

Ownership of the unpatented mining claims is in the name of the holder (locator), subject to the paramount title of the United States of America, under the administration of the U.S. Bureau of Land Management (“BLM”). Under the Mining Law of 1872, which governs the location of unpatented mining claims on federal lands, the locator has the right to explore, develop, and mine minerals on unpatented mining claims without payments of production royalties to the U.S. government, subject to the surface management regulation of the USFS and BLM. Currently, annual claim-maintenance fees are the only federal payments related to unpatented mining claims, and Champion Electric represents these fees have been paid in full to September 1, 2024.

There is no expiration of ownership for the unpatented claims if annual federal claim maintenance fees are paid on time. Champion Electric holds full surface rights for exploration, development, and mining activities, subject to applicable state and federal environmental regulations.

The current annual maintenance fees for the Twin Peaks Project unpatented mining claims are estimated at \$89,900. This reflects the annual federal fee of \$165 per claim payable to the BLM. There are no other annual holding costs for the Project.

Figure 4-1 Location Map for Twin Peaks Project

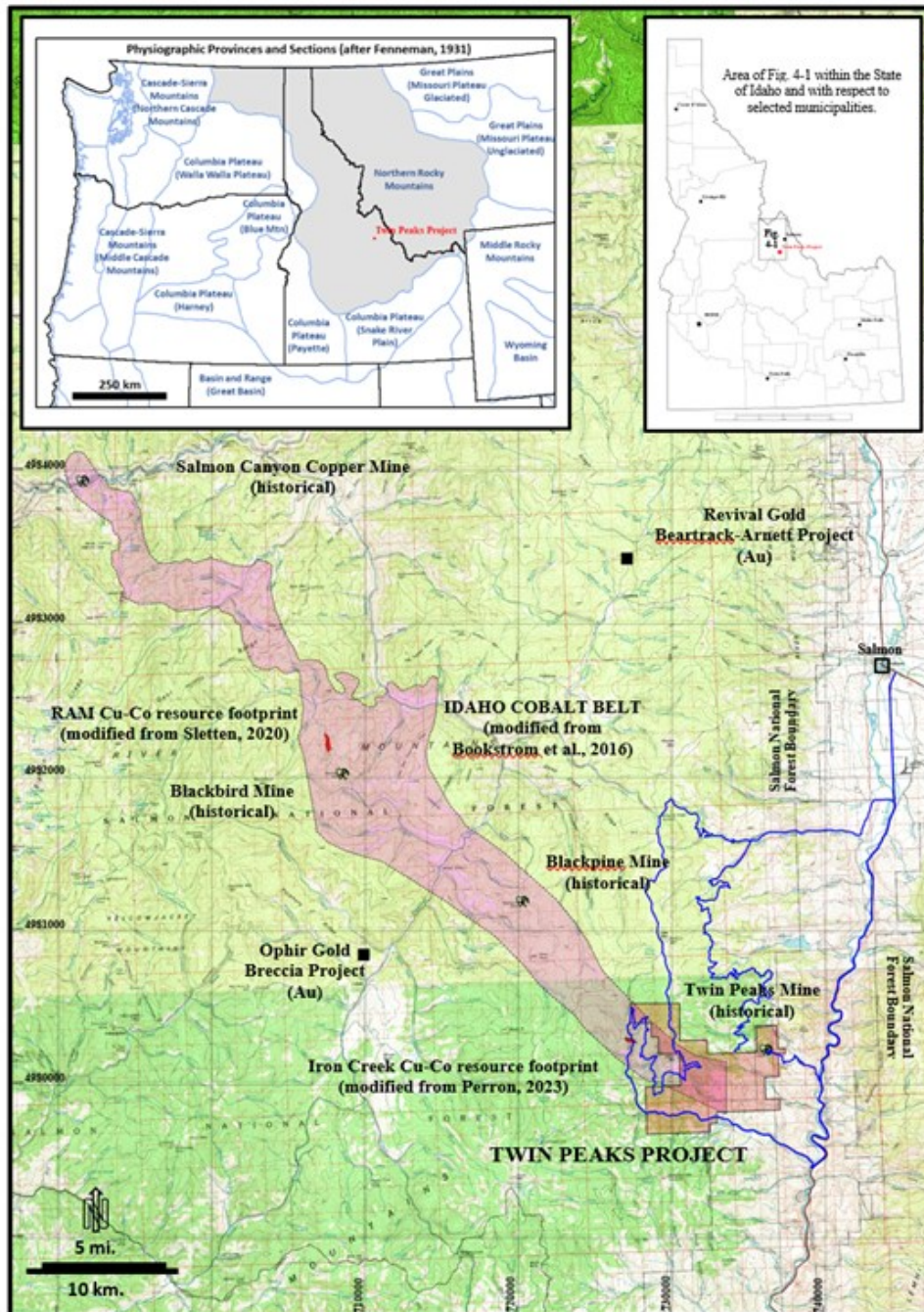
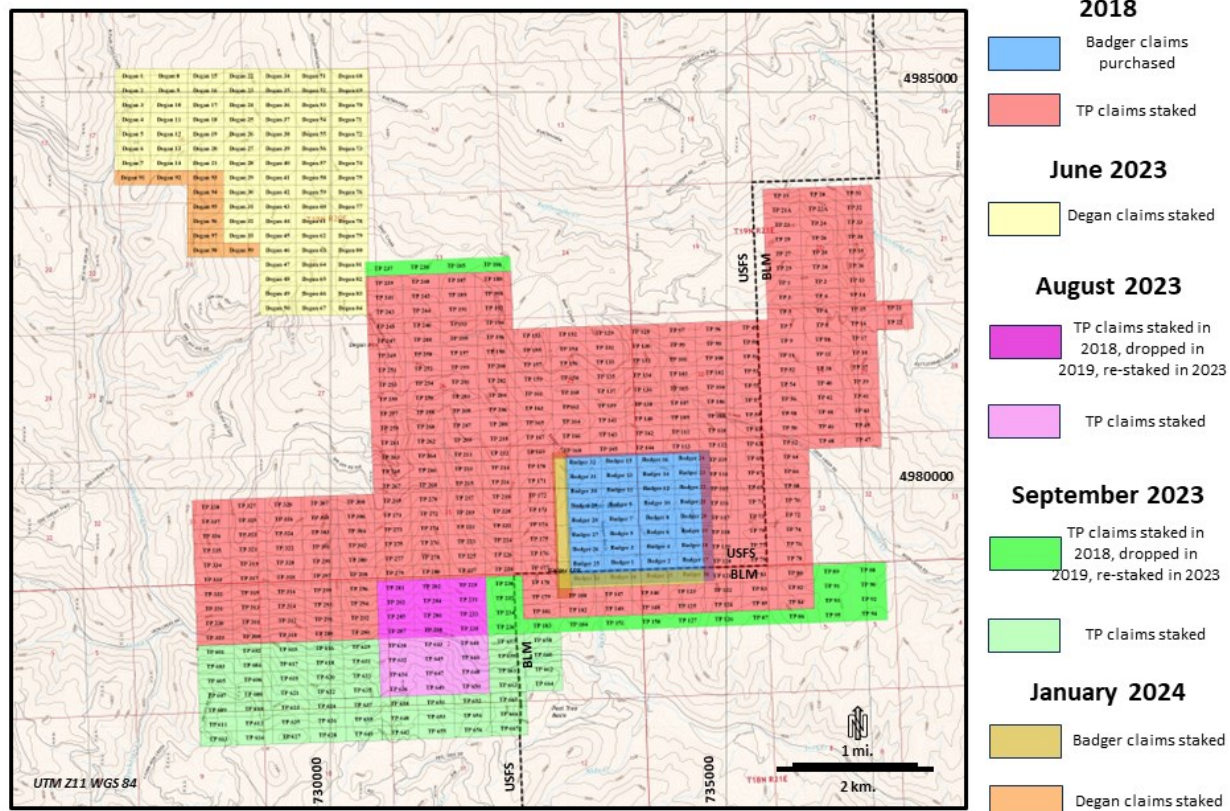


Figure 4-2 Twin Peaks Project Claim Map



Source: Champion Electric

### 4.3 Environmental Liabilities

There are no known environmental liabilities associated with the Twin Peaks Project.

It is known that BLM funded environmental clean-up of the historical Twin Peaks Mine in 2006 (North Wind Inc., 2007). This work consisted of demolition of the abandoned mill building (Fig. 4-3) and on-site burial of building materials in a solid waste impoundment. Additionally, historical mill tailings were entombed in a second impoundment. In total the impoundments represent less than 0.6 hectares (Fig. 4-4). Future ground disturbance should be avoided in these two small areas.

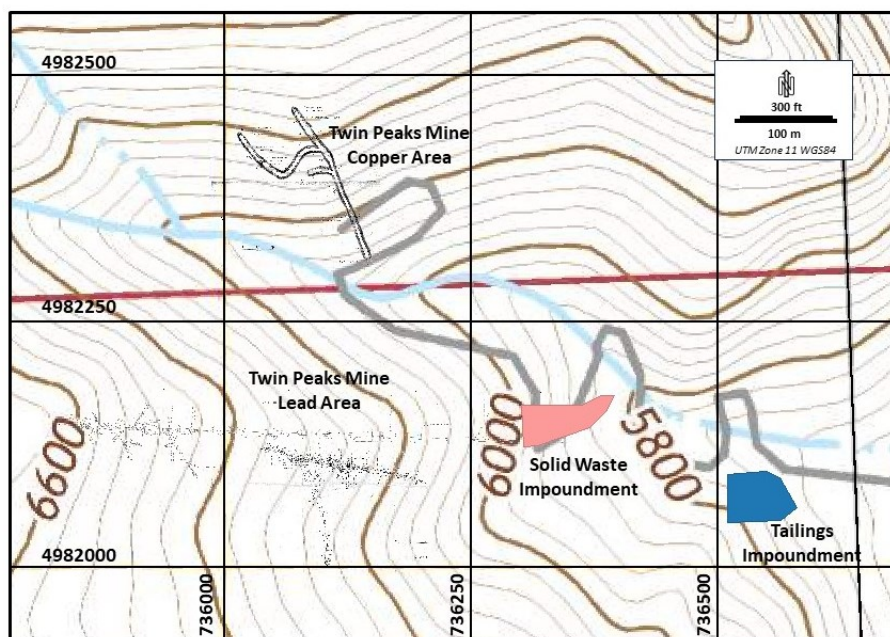


Figure 4-3 Twin Peaks Mine Mill Building in 2006



Modified from North Wind Inc. (2007)

Figure 4-4 Location of Twin Peaks Mine Solid Waste and Tailings Impoundments



Modified from North Wind Inc. (2007)

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Iron Creek bisects the southwestern portion of the Twin Peaks Project. Like many tributaries of the Salmon River, Iron Creek is habitat for steelhead trout (*Oncorhynchus mykiss*). It is anticipated that ground disturbance in tributary watersheds of Iron Creek will require enhanced management of silt runoff.

The portals for the Twin Peaks Mine Lead Area Levels #1 and #2 have been partially backfilled with grated culvert so that these openings may continue to serve as bat habitat (Figs. 6-1 a-b).

#### 4.4 Environmental Permitting

The Twin Peaks Mine and the area of interest for the proposed Phase II activities identified in this report lie on lands administered by the Bureau of Land Management.

Non-surface disturbing activities such as geological mapping, rock and soil sampling, and geophysical surveys, such as those proposed in Phase I activities of this report, are considered as casual use and are permitted on lands administered by the BLM without any permits required. However, surface disturbing activities such as trenching and drilling, as proposed in Phase II activities in Section 26 of this report, would require obtaining a permit from the BLM prior to the commencement of any such activities.

Any exploration activity on BLM land that disturbs the ground surface such as trenching, excavating, line cutting, blasting, road building, pad building, exploration drilling, or the general use of any mechanized equipment, requires notification to, and permission from, the BLM to perform the activities. Such notice and permit application will require an exploration plan be submitted. The exploration plan must thoroughly describe the planned activity and include information such as the location, nature, timing, and duration of the work to be conducted. The plan must also list the equipment that will be utilized to conduct the work, as well as any applicable program controls to reduce natural, wildlife, and/or social disturbance.

A review of the proposed activities by the local or jurisdictional BLM office will determine whether the planned activity or activities will require procession under a Notice of Intent (NOI) or Plan of Operations (POO) level permit.

NOI-level operations are designated to programs which produce a cumulative surface disturbance of less than 2.02 ha (5 acres) and typically take 15-30 days for approval after submission of the exploration plan.

POO-level operations are designated to programs which produce a cumulative surface disturbance of over 2.02 ha (5 acres), are subject to the National Environmental Policy Act (NEPA) regulations and requirements and may take 18-24 months for approval after submission of the exploration plan.

Exploration activities approved under either a NOI or POO would require submittal of a reclamation surety bond before the commencement of any surface-disturbing activity.

It is anticipated that Phase II of the recommended exploration activities outlined in Section 26: Recommendations, could be completed under a NOI-level permit. The associated reclamation bond is estimated at \$25,000.

The Twin Peaks Project is also located partially on land administered by the U.S. Forest Service (USFS)

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and is therefore subject to the National Environmental Policy Act (NEPA) and Part 228 Subpart A Locatable Minerals Program. NEPA requires the USFS to assess the environmental effects of any proposed activities prior to issuing a permit for the proposed action. A public review and comment period are part of the NEPA requirements (United States Forest Service, 2007).

Activities that are non-surface disturbing such as rock sampling, soil sampling and ground geophysical surveys do not require any approval from the USFS. Surface disturbing exploration activities, such as drilling will require approval from the USFS before the commencement of such work.

The USFS grants authorization for exploration activities through two options: 1) a Categorical Exclusion (“CE”) or 2) an approved Plan of Operations (“POO”).

The CE process is typically utilized for low-level mineral exploration activities and is outlined in 36 CFR 220.6 (e)(8)(i-vii) and applies to activities of one year or less in duration. These activities include: overland travel, construction of less than 1.6 km of low standard road(s), use of, or repair of, existing roads, trenching and drilling from existing roads.

A POO is required for more comprehensive activities such as drilling. Once the USFS receives a POO it will complete an Environmental Assessment (“EA”) to analyze the potential effects of the proposed action. An EA is typically sufficient to approve a POO for small-scale projects where the effects are shown to be insignificant. If work is considered larger-scale and significant, then an Environmental Impact Statement (“EIS”) is required.

Although the USFS would be the lead agency for any permitting on the western portion of the Property, the State of Idaho also has jurisdiction for some exploration activities. The Idaho Department of Lands (IDL) regulates surface mining activities indirectly through the approval of a reclamation plan. The Idaho Department of Environmental Quality (“IDEQ”) regulates all water related discharges and air quality issues, and the Idaho Department of Water Resources (“IDWR”) is responsible for issuing water rights.

The IDL regulates surface mining activities under IDAPA 20.03.02 Rules Governing Exploration, Surface Mining and Closure of Cyanidation Facilities. Specifically, IDAPA 20.03.02.06 outlines the requirements for exploration operations and reclamation requirements and would require notification to the IDL of any drilling activity within seven (7) days from commencement of operations. Additionally, the IDL requires authorization from the USFS for any POO.

The IDL has two reclamation standards for exploration activities, one standard for disturbances of less than 0.8 ha and another standard for disturbances of more than 0.8 ha. Regardless, the USFS requirements will be equal to, or more stringent, than the IDL.

Any diversion of public water resources for drilling will require a Temporary Water Appropriations Permit from the IDWR. These permits are approved for one year and must be applied for each year.

All surface disturbing activities approved through a CE or EA will require a bond for assurance of reclamation upon completion of activities.

Most of the recommended activities outlined in Section 26 (mapping, sampling and geophysical surveys)

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can be completed without any permitting from the USFS. However, before any drilling can be initiated on USFS lands, Champion Electric would be required to secure an approved POO from the USFS.

#### **4.5 Other Significant Factors or Risks**

The Author is not aware of any additional significant factors or risks that may affect access, title, or the right or ability to perform work on the Property.

## 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY (ITEM 5)

The information summarized in this section is derived from publicly available sources, as cited. The author has reviewed this information and believes this summary to be materially accurate.

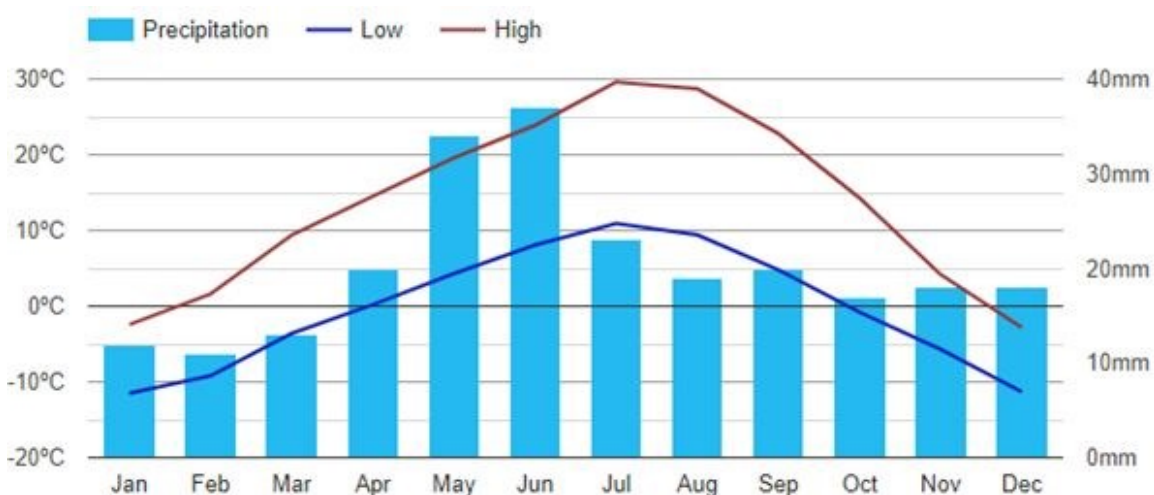
### 5.1 Physiography

The Twin Peaks Project is in the Northern Rocky Mountains physiographic province (Fenneman, 1931). Elevations range from a maximum of about 2,600 m near Degan Mountain to a minimum of about 1,600 m near the mouth of Badger Creek. Principal drainages are Deer Creek, a tributary of the Salmon River, and Badger Creek, which discharges into Iron Creek and thence to the Salmon River. Topography is characterized by steep slopes between generally narrow ridgelines and drainage valleys. Englemann spruce, cottonwoods, and aspen are common tree species along drainages. Sagebrush and grasses dominate hillsides and meadows. Stands of Douglas fir, lodgepole pine, and limber pine are found at higher elevations.

### 5.2 Climate

The Twin Peaks Project is represented principally by the Köppen climate classification “warm-summer humid continental (code Dsb)” (Wikipedia, 2022). According to [www.climate-data.org](http://www.climate-data.org), average annual precipitation is 242 mm per year and annual snowfall is 64 cm per year at the town of Salmon, 29 km north of the Project (Table 5-1 and Fig. 5-1). Maximum temperatures can approach 40°C during summer. Winter temperatures in Salmon can be among the coldest in the coterminous United States, with a lowest NOAA-recorded temperature of -37°C on January 7, 1979. Exploration activities such as geologic mapping, rock and soil sampling, and geophysical surveys may be practically limited to the months of April to October; drilling may be conducted year-round with adequate preparations and logistical support.

Figure 5-1 Monthly Averages for Salmon, ID Climate



Source: <https://www.usclimatedata.com/climate/salmon/idaho/united-states/usid0228> as of May7, 2023.

**Table 5-1 Summary of Climate Data for Salmon, ID**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average high (°C)	-2.4	1.6	9.4	14.5	19.6	23.9	29.6	28.7	22.8	14.3	4.2	-2.8
Average low (°C)	-11.5	-9.2	-3.6	0.2	4.3	8.1	10.9	9.4	4.8	-0.8	-5.7	-11.3
Avg. precip. (mm)	12	11	13	20	34	37	23	19	20	17	18	18
Average snowfall (cm)	18	10	5	3	0	0	0	0	0	0	10	18

Source: <https://www.usclimatedata.com/climate/salmon/idaho/united-states/usid0228> as of May7, 2023.

### 5.3 Local Resources and Infrastructure

Sufficient sources of labor for exploration operations, fuel, groceries, and accommodations are available in Salmon, ID. Skilled labor for mining, engineering services, and mining equipment services are available within a 500 km radius of the Twin Peaks Project, including in the cities of Butte, MT and Boise, ID.

There is currently no existing infrastructure on the Twin Peaks Project. A transmission line is located approximately 3 km east of the Twin Peaks Mine and Iron Creek may be a potential water source for a drill program.

The sufficiency of surface rights for mining operations, the availability and sources for water, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites have not been thoroughly investigated as part of this report. The Author makes no presumptions regarding the availability of suitable areas for these items being contained on the Property for any future mining operations.

### 5.4 Accessibility

Public vehicular access to the Twin Peaks Project is shown in blue in Fig. 4-1. Access to Twin Peaks Mine is provided by US Hwy 93 30 km south from Salmon to the bridge crossing of the Salmon River, thence 3 km northwest along Rattlesnake Creek/Twin Peaks Ranch Road to Twin Peaks Guest Ranch, thence 2 km northwesterly on the jeep trail to the mine. Vehicular access to the southern and western portion of the Twin Peaks Project is provided by US Hwy 93 38 km south from Salmon to the Iron Creek bridge crossing of the Salmon River, thence northwest along Iron Creek Road. Access to the northern portion of the Twin Peaks Project is provided by US Hwy 93 8 km south from Salmon to the Shoup Bridge crossing of the Salmon River, thence 11 km westerly along Williams Creek Road, thence 12 km southerly along Lake Creek Road, thence 9 km southerly along Rattlesnake Creek Road.

## 6.0 HISTORY (ITEM 6)

This section is based on information from published sources as cited and from historical documents accessed through the digital data archives of the Idaho Geological Survey. The Author has reviewed this information and believes it is a materially accurate summary of the history of the Twin Peaks Project. The reader is cautioned that descriptions of metal grades, metallurgical recoveries, and other figures do not meet current reporting standards and should not be relied upon. Further, exploration data (e.g., drill hole geologic logs and assays, geophysical surveys, etc.) are historical in nature and should not be relied upon.

### 6.1 Twin Peaks Mine

Exploration and mine development at the Twin Peaks Project have focused on the Twin Peaks Mine in Sections 20 and 29, T19N, R21E (Fig. 4-2). Small-scale underground mine development at the Twin Peaks Mine spans the period 1927-1966 with limited known exploration efforts since that time:

1927 – Charles Kapp identified copper mineralization in talus along Corral Creek and staked the initial three mining claims (Starr, 1955).

1928-1929 – Initial underground development by lessees on the east side of Corral Creek (the so-called “Copper Area”) produced approximately 140 tons of ore grading 12% copper, 9 oz/st silver, and \$2/st gold (about 3 g/t at the then prevailing gold price of \$20.67/oz). Ore was hand-sorted and shipped to Anaconda, MT (Starr, 1955).

1929-1935 – Idle

1935-1936 – About 20 tons were mined in 1935 grading 14% copper. An additional 14 tons were mined in 1936 (Starr, 1955).

1938 – Galena was discovered in Corral Creek, leading to discovery and underground development on two levels on the west side of Corral Creek (the so-called “Lead Area”) (Tully, 1977).

1944 – Lead-silver ore was milled on site in a 50 tpd mill (Tully, 1977).

1945 – Underground workings in the Lead Area were examined by a Sunshine Mining Company representative and seven samples were collected for assay (Smith, 1945; Table 6-1).

**Table 6-1 Sample Summary from Smith (1945)**

Sample #	Sample Description	Sample Location	Pb (%)	Ag (oz/st)
2217	7.8 ft cut across bedding	32 ft from face of crosscut	3.4	3.6
2218	7.0 ft cut across bedding	20 ft from face of crosscut	0.4	0.4
2219	3.5 ft cut across bedding	At face of crosscut	1.1	0.9
2213	3.6 ft cut across bedding	North side winze bottom	5.3	4.7
2214	3.0 ft cut across bedding	Bottom winze 12 ft south of [sample 2213]	12	3.8
2215	1.6 ft cut across ore lens	Bottom winze south end	2.5	1.3
2216	Grab sample from ore dump		30.1	15.2

1946 – Underground development in the Lead Area was reported to total 1,300 ft consisting of 250 ft of inclined shafts, 68 ft of raises, and 982 ft of tunnels. Mill capacity was reported at 50 tpd, employing gravity concentration and flotation (Sandstrom, 1946). Fifty tons of crude ore assaying 12.5-14.5% lead and 5.0-6.2 oz/st silver were shipped to the smelter at Salt Lake City, Utah for test purposes (Trout et al., 1946).

1947 – Underground development in the Lead Area was reported to total 1,543 ft of drifts, shafts, raises, and cross-cuts. The 30 tpd flotation plant was not operating (Sandstrom, 1947).

1947-1950 – Idle.

1950 – Idaho Consolidated Mines Inc. (formerly Twin Peaks Mine Inc.) developed the #3 level in the Lead Area (Landreth, 1964).

1952 – Ore produced from a southerly-directed drift at the 1491 ft position along the #3 level in the Lead Area was reported to range 2-6 ft in width and average about 6% combined lead and copper with 3 oz/st [about 100 g/t] silver and 0.03 oz/st [about 1 g/t] gold (Wilson, 1952).

1954 – A new 100 tpd selective flotation mill was completed just below the adit of the #3 level in the Lead Area (Landreth, 1964).

1955 – An interest-free loan was made by the Defense Minerals Exploration Administration (DMEA) to Idaho Consolidated Mines, Inc. to be used for underground exploration expenses for the period November 10, 1955 to December 10, 1957 (Talbert, 1964). The contract for the loan had a term of eleven years ending in 1966, during which time repayment of the loan would be calculated as a 5% royalty on sales of concentrate.

1956 – A 150 tpd mill was commissioned, its location not described in the citation (Wilson, 1957).

1957 – Total development in 1957 for the Lead Area consisted of more than 3,000 feet of tunnels, drifts, cross-cuts, and winzes (Merritt, 1957).

1961 – A sample of flotation concentrate assayed 55.28% combined lead and copper (Wilson, 1961).

1961 - A shipment of lead concentrates (Smelter Lot No. 491, Mine Lot No.1) was received at the East Helena Plant of American Smelting and Refining Company on April 7, 1961 (Fisher, 1961). This is the last known shipment from the Twin Peaks Mine. DMEA audit of smelter settlement sheets for the period 1955-1961 indicate a total of 77.735 sdt of concentrate sold (Table 6-2).

1961-1964 – In the fall of 1961, the #3 level in the Copper Area was started 100 feet below the #2 level. By February 1964, the #3 level consisted of about 1,050 feet of underground development, bringing total workings for the Copper Area to 1,250 feet of drifts and crosscuts and 160 feet of raises (Landreth, 1964).



**Table 6-2 DMEA Audit of Smelter Settlement Sheets (1955-1961)**

	<b>10-Nov-55 through 31-Jul-59</b>	<b>1-Aug-59 through 15-May-61</b>	<b>Totals</b>
<b>Lead concentrate sold (sdt):</b>	21.963	55.772	77.735
<b>Metallic contents</b>			
<b>Lead (lbs):</b>	8,181	55,898	64,079
<b>Copper (lbs):</b>	2,368	4,034	6,402
<b>Silver (troy oz):</b>	293.706	1,141.41	1,435.12
<b>Gold (troy oz):</b>	0.4	0.928	1.328

*Source: Fisher (1961).*

1964 – The Office of Minerals Exploration, the successor agency to DMEA, conducted a visit to the Twin Peaks Mine on June 9, 1964 (MacLaren, 1964). The previous royalty inspection was conducted October 15, 1963. No ore had been milled or shipped since the previous inspection, but about 1,000 tons of ore had been stockpiled. A follow-up inspection was completed on September 24, 1964. No shipments of ore or concentrate had been made. Alma Larson, mine superintendent, stated that about 3,500 tons of ore averaging 2-4% copper and 1-2 ounces per short ton silver had been stockpiled.

1966 – Idaho Consolidated Mines Inc. was reported to be rehabilitating the #3 level in the Lead Area (Whelan, 1966). An Office of Minerals Exploration attempt to visit the Twin Peaks Mine on September 21, 1966 was foiled by locked gates at the Twin Peaks Ranch property. The superintendent of the Calera mill (Blackbird Mine complex) stated that he did not think there had been any production from Twin Peaks Mine that year (MacLaren, 1966).

1977 – Dual Resources Ltd completed a single inclined diamond drill hole to a total depth of 886 feet (270 m). in the vicinity of the #3 level in the Lead Area (Tully, 1977).

1993 – The unpatented mining claims first staked in 1955 or before were allowed to lapse by Idaho Consolidated Mines.

1995-1997 – Cominco American held claims in Secs. 19, 20, 29, 30 T19N R21E. Cominco American completed a single diamond drill hole to a depth of 1,734.5 feet (529 m) as a downdip test of mineralization known at the #3 level in the Lead Area (Ellsworth, 1996).

2008-2009 – Both Anaconda Exploration LLC and Middle Verde Development LLC are recorded as having held the TP 1-6 placer claims in Secs. 19, 20, 29, 30 T19N R21E. Exploration details are unknown.

Figure 6-1a Portal for Level #1, Lead Area, Twin Peaks Mine



View to west at 736150E, 4982104N, 1903 m elevation. Photo: J. Phinisey, 2023.

Figure 6-1b Portal for Level #2, Lead Area, Twin Peaks Mine



View to west at 736205E, 498209010N, 1870 m elevation. Photo: J. Phinisey, 2023.

## 6.2 Historical Prospects in the Vicinity of Twin Peaks Mine

Two additional copper prospects are reported by Landreth (1964), one approx. 1 km north of the Twin Peaks Mine and the other approx. 1 km south (Fig. 4-2). These prospects lie along the projected strike of mineralization-controlling shear zones known at the Twin Peaks Mine, suggesting that the greater Twin Peaks Mine hydrothermal system may have a minimum strike length of 2 km.

1950s (?) - The northern prospect is a dozer cut, now sloughed in, oriented approx. east-west across the projected strike of Twin Peaks mineralized structures. The date of construction is known to pre-date 1964.

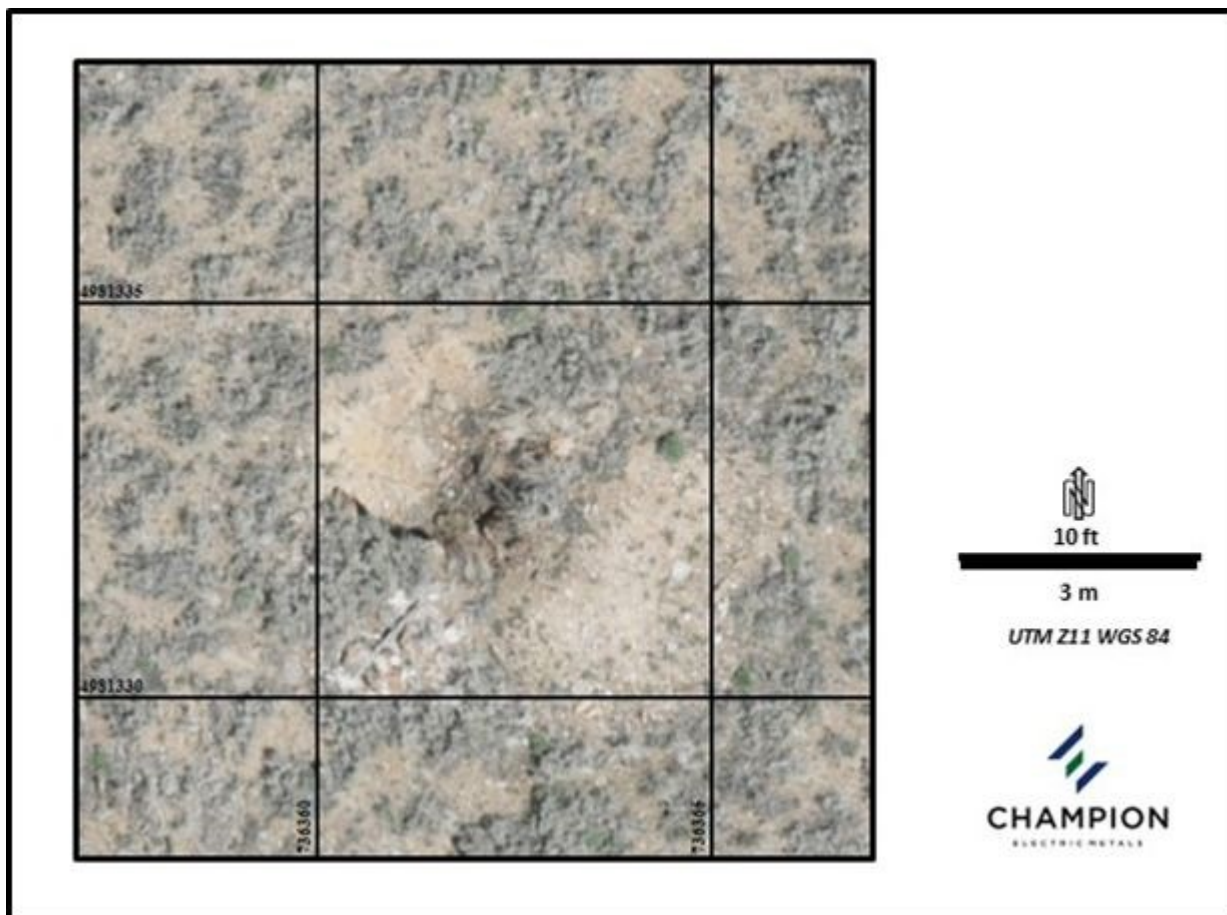
**Figure 16-2 Dozer Cut Copper Prospect 1 km North of Twin Peaks Mine**



*View to east at 735858E 4983128N 2240 m elevation. Photo: J. Phinisey, 2023.*

Date unknown - The unnamed copper prospect 1 km south of Twin Peaks Mine consists of a single 2 m diameter prospect pit whose exact location was identified from orthophotography (Fig. 6-3). Date of excavation is unknown.

Figure 6-3 Prospect Pit 1 km South of Twin Peaks Mine



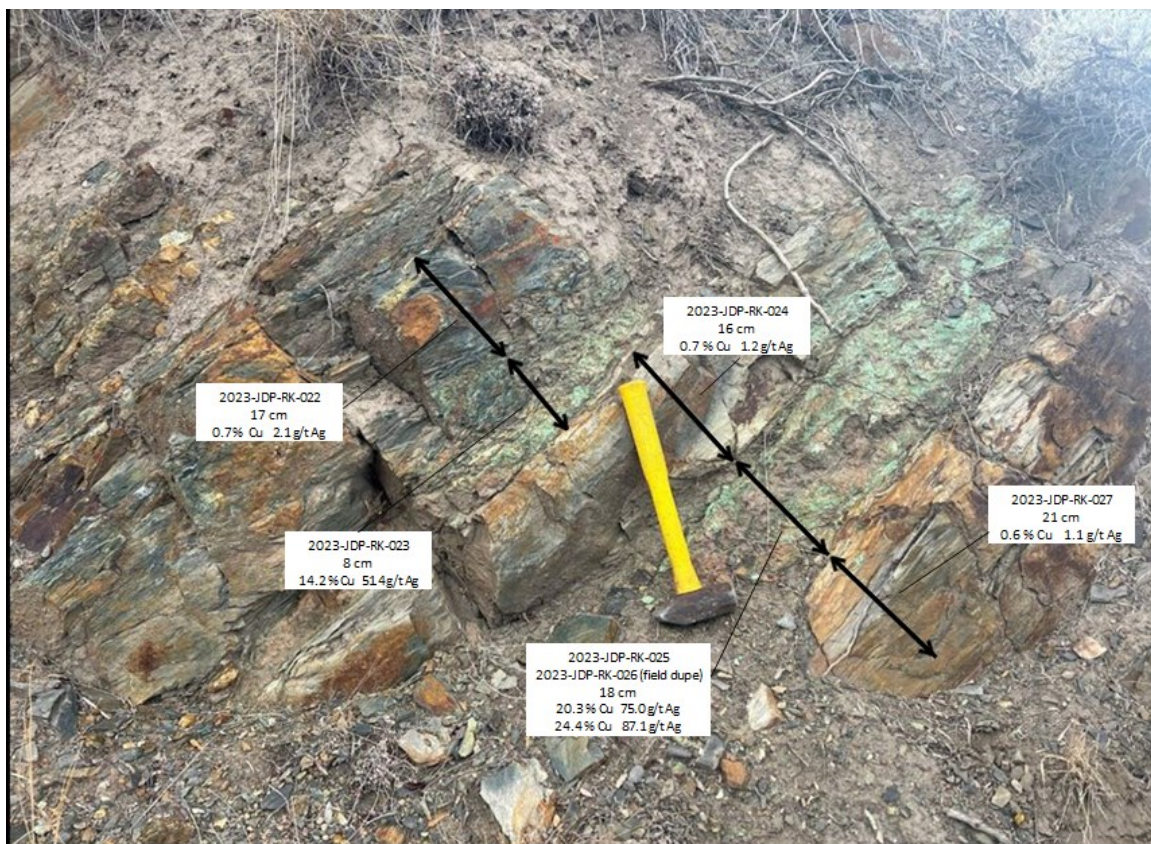
Orthophoto view of prospect pit at 736362E 4981333N. Source: Champion Electric, 2023.

### 6.3 Badger Basin Prospect

The Badger Basin Prospect is located at UTM coordinates 734100E 4979240N in Sec. 31 T19N R21E (Fig. 4-2).

1930s (?) - The date of earliest activity at Badger Basin Prospect is unknown but is suspected to be approx. contemporaneous with early production at Twin Peaks Mine. Development is known to consist of at least two adits (now collapsed) adjacent to a strongly copper- and silver-mineralized outcrop (Fig. 6a). Personnel of the Idaho Geological Survey collected one sample of vein material from waste rock dumps at the Badger Basin Prospect in 2019, yielding values of 29.4% copper, 154 g/t silver, and 3.8 ppm cobalt.

Figure 6-4a Mineralized Outcrop Adjacent to Badger Basin Prospect Collapsed Adits



View to the southeast at 734079 E 4979222 N. Photo by A. Lawrence, 2022.

1950s (?) - Three dozer trenches (now sloughed in) located 100 m west of the collapsed adits possibly date to completion of the northern dozer cut at Twin Peaks Mine (Fig. 6-4b). Personnel of the Idaho Geological Survey collected one sample from trench spoils piles in 2019, yielding values of 7,940 ppm copper, 4 g/t silver, and 10.8 ppm cobalt. The presence of copper mineralization in siltite on spoils piles suggests that multiple mineralized shear zones may be developed over the interval between the collapsed adits and these trenches. Strike length of mineralization is not known.

1989-1991 – Ballator Exploration held claims in Sections 25-26, T19N, R20E and Sections 30-31, T19N, R21E. Exploration details are not known.

1992-1998 – Formation Capital Corp. held claims in Sections 25-26, T19N, R20E and Sections 30-31, T19N, R21E. Exploration details are not known. According to the in-house technical report by Formation Capital Corporation U.S.A. (1996), the Badger Basin Prospect was not drill tested.

Figure 6-4b Historical Trenches at Badger Basin Prospect



View to the northeast at 733955N 4979140E 1777 m elevation. Photo: J. Phinisey, 2023.

#### 6.4 Rambling Rose Prospect and Vicinity

The Rambling Rose prospect is located at UTM coordinates 731550E 4978150N in Sec. 2 T18N R20E.

1950s (?) - Excavation consists of a bulldozer cut that runs diagonally up the slope from the Iron Creek Road for about 600 m and that exposes narrow quartz veins in phyllite containing sparse pyrite. One sample (SFM-055) collected by USBM personnel “contained no appreciable metal content” (Johnson, 1998). The date of construction is unknown but is inferred to date from the 1950s.

1989-1991 – Ballator Exploration held claims in Sections 1-2, T18N, R20E and Section 6, T18N ,R21E. Exploration details are not known.

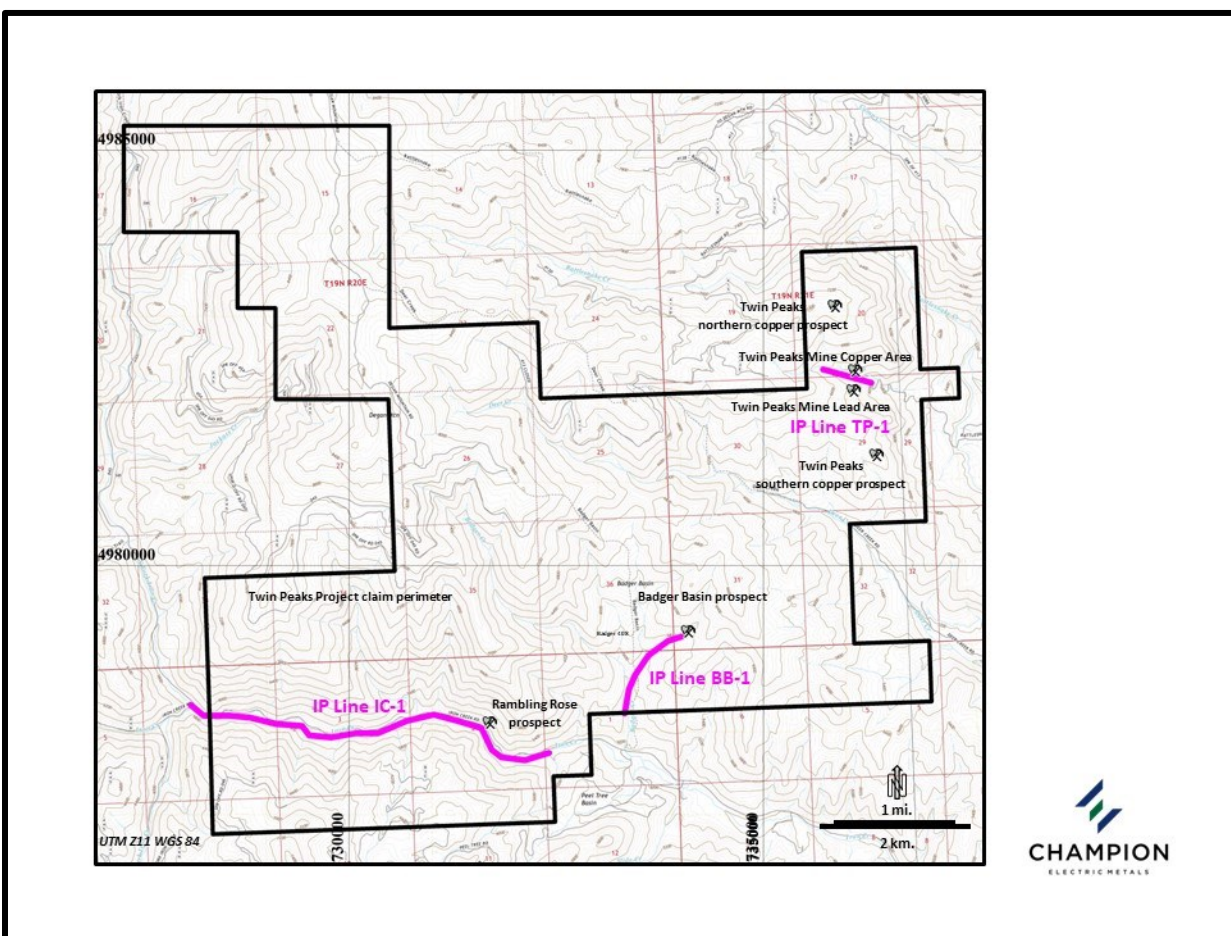
1992-1993 – Cominco American held claims in Sections 1-2, T18N, R20E. Exploration details are not known.

1992-1998 – Formation Capital held claims in Section 1, T18N, R20E and Section 6, T18N, R21E. Exploration details are not known.

## 6.5 Mining Geophysical Surveys Induced Polarization Lines at Twin Peaks Project (1972)

Mining Geophysical Surveys completed three lines of induced polarization data acquisition in 1972 at what is now the Twin Peaks Project (Fig. 6-5). These lines are located at Twin Peaks Mine along Corral Creek (TP-1), along Badger Creek and near Badger Basin Prospect (BB-1), and along Iron Creek Road near the Rambling Rose Prospect (IC-1). Digitized pseudosections and calculated inversion sections for resistivity and chargeability (Wright, 2023) are presented for each of these lines in Appendix 2.

Figure 6-5 Locations of Mining Geophysical Surveys Induced Polarization Lines (1972)



Source: Champion Electric, 2023.

## 6.6 Historical Mineral Resource Estimates

The Author is not aware of any historical resource estimate for the Twin Peaks Project.

## 7.0 GEOLOGIC SETTING AND MINERALIZATION (ITEM 7)

The information presented in this section of the report is derived from multiple sources, as cited. The author has reviewed this information and believes this summary accurately represents the Twin Peaks Project geology and mineralization as it is presently understood.

### 7.1 Regional Geologic Setting

The Belt-Purcell Basin, interpreted by Lonn et al. (2020) as an intracratonic rift within the Columbia/Nuna supercontinent, is the principal regional-scale geologic feature (Fig. 7-1). The Belt Supergroup, sedimentary fill of the Belt-Purcell Basin, has an estimated stratigraphic thickness of 15 to 20 km of mostly siliciclastic and subordinate carbonate strata (Box et al., 2012). Most of the exposed stratigraphic section was deposited between 1470 and 1400 Ma (Anderson and Davis, 1995; Evans et al., 2000). However, considerable thickness of lower Belt-Purcell strata may underlie the 1470 Ma horizon, and some strata occur above the 1400 Ma horizon (Box et al., 2012). Siliciclastic sediments are represented by quartzite, siltite, and argillite. The environment of deposition was shallow marine (or lacustrine) to subaerial.

The Belt stratigraphic sequence was first understood from descriptions and nomenclature that often were defined near isolated mining districts (e.g., Sullivan in southern British Columbia; Coeur d'Alene, ID; Butte, Mt). Progress is being made in the integration of these historical observations into a more consistent regional understanding, made difficult by the immense stratigraphic thickness without a single documented unconformity or marine sequence boundary and the repetition of lithologies (Lonn et al., 2020). Stratigraphic correlations are further complicated by distinct sequences within subbasins, including the Idaho Cobalt Belt-hosting Lemhi subbasin in east-central Idaho (Box et al., 2012). Facilitating this process within the Lemhi subbasin, the visually distinctive trough cross-beds and coarse-grained texture of the Swauger Formation permit its use as a marker bed (Burmester et al., 2016).

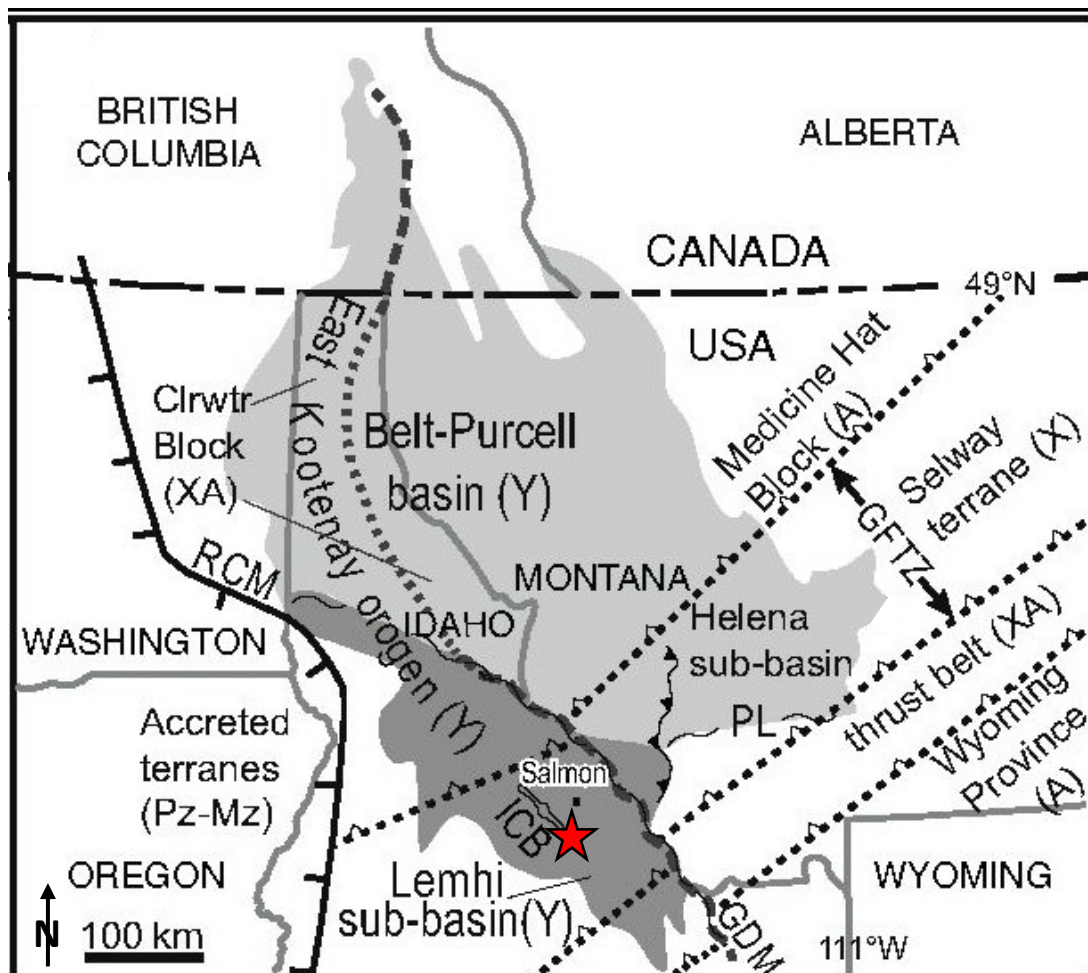
Bookstrom et al. (2016) summarize the tectonic and mineralization history of the Belt-Purcell Basin (Table 7-1). Key elements of this history are:

- The East Kootenay orogeny (ca. 1379–1325 Ma), represented by regional metamorphism and intrusion into the Lemhi subbasin of a bimodal suite of gabbroic and granitic plutons ( $1370 \pm 10$  Ma) (Evans and Zartman, 1990). Vhay (1948) and Slack (2012) suggested that the Blackbird Co-Cu deposits are genetically related to the megacrystic monzogranite pluton of this age that is exposed approx. 6 km northeast of the Blackbird mine near Big Deer Creek.
- Grenville-age metamorphism and mineralization (ca. 1200–1000 Ma), represented by thermal metamorphism of Apple Creek Formation in the Lemhi subbasin at  $1190 \pm 60$  Ma (Panneerselvam et al., 2012). In the Blackbird District, Aleinikoff et al. (2012) reported  $^{207}\text{Pb}/^{206}\text{Pb}$  age determinations of  $1058 \pm 11$  Ma and  $990 \pm 12$  Ma for unzoned hydrothermal xenotime. Quartz-biotite and quartz-tourmaline breccias  $\pm$  cobaltite, which appear to cut older cobaltite deposits in the Blackbird District, are assigned by Bookstrom et al. (2016) to this Late Mesoproterozoic episode of regional metamorphism and local hydrothermal mineralization.



- 
- Mafic-alkalic magmatism (ca. 530–485 Ma), represented in east-central Idaho by an assemblage of gabbroid to syenitoid plutons with U-Pb zircon age determinations of ca. 530 to 485 Ma (Gillerman, 2008 and Lund et al., 2010). Mafic dikes locally crosscut cobaltite-biotite ore at the Blackbird Mine and may have assimilated some cobalt mineralization (Bookstrom et al. 2016), but the intrusion of these mafic dikes is not itself interpreted to be a cobalt-mineralizing event.
  - Cordilleran orogenesis (ca. 155 to 55 Ma), represented by northwest-southeast compression during the Nevadan orogeny (ca. 155 to 142 Ma), westward retreat of subduction-related magmatism from (ca. 142 to 112 Ma), and widespread folding, thrusting, and intrusion of the Idaho Batholith during the Cretaceous Sevier orogeny. Mineralization associated with Cretaceous orogenesis is characterized by Fe-Cu-sulfide breccias and veins. At Blackbird, veins and veinlets containing pyrite, pyrrhotite, chalcopyrite, and cobaltian arsenopyrite cut the early Paleozoic mafic dikes described above and are interpreted to represent Cretaceous mineralization (Bookstrom et al. 2016), perhaps as remobilization of older mineralization during regional metamorphism. Within the Lemhi Subbasin, metamorphic grade increases northwards, from lower greenschist facies in the vicinity of the Iron Creek deposit (Nash, 1989) to lower amphibolite facies near Salmon Canyon Copper Mine (Nold, 1992).
  - Extensional tectonism and bimodal magmatism (ca. 55 to 0 Ma), represented in the Lemhi subbasin by Challis volcanic rocks, principally Ellis Tuff and the overlying Mafic Flow.

Figure 7-1 Location of Twin Peaks Project within Lemhi Subbasin of Belt-Purcell Basin



Tectonic map showing the Belt-Purcell Basin, the Lemhi subbasin, and the Idaho cobalt belt (ICB) in relation to the Cordilleran orogen. RCM - rifted continental margin, AT - oceanic accreted terranes, PL - Perry Line growth fault, GDM - Great Divide megashear, GFTZ - Great Falls tectonic zone. Chronostratigraphic units: A - Archean, XA - Archean-Paleoproterozoic. X - Paleoproterozoic, Y - Mesoproterozoic, Pz - Paleozoic, MZ - Mesozoic.

Modified from Bookstrom et al. (2016). Red star at Twin Peaks Project.

Figure 7-2 Regional Geology of the Twin Peaks Project

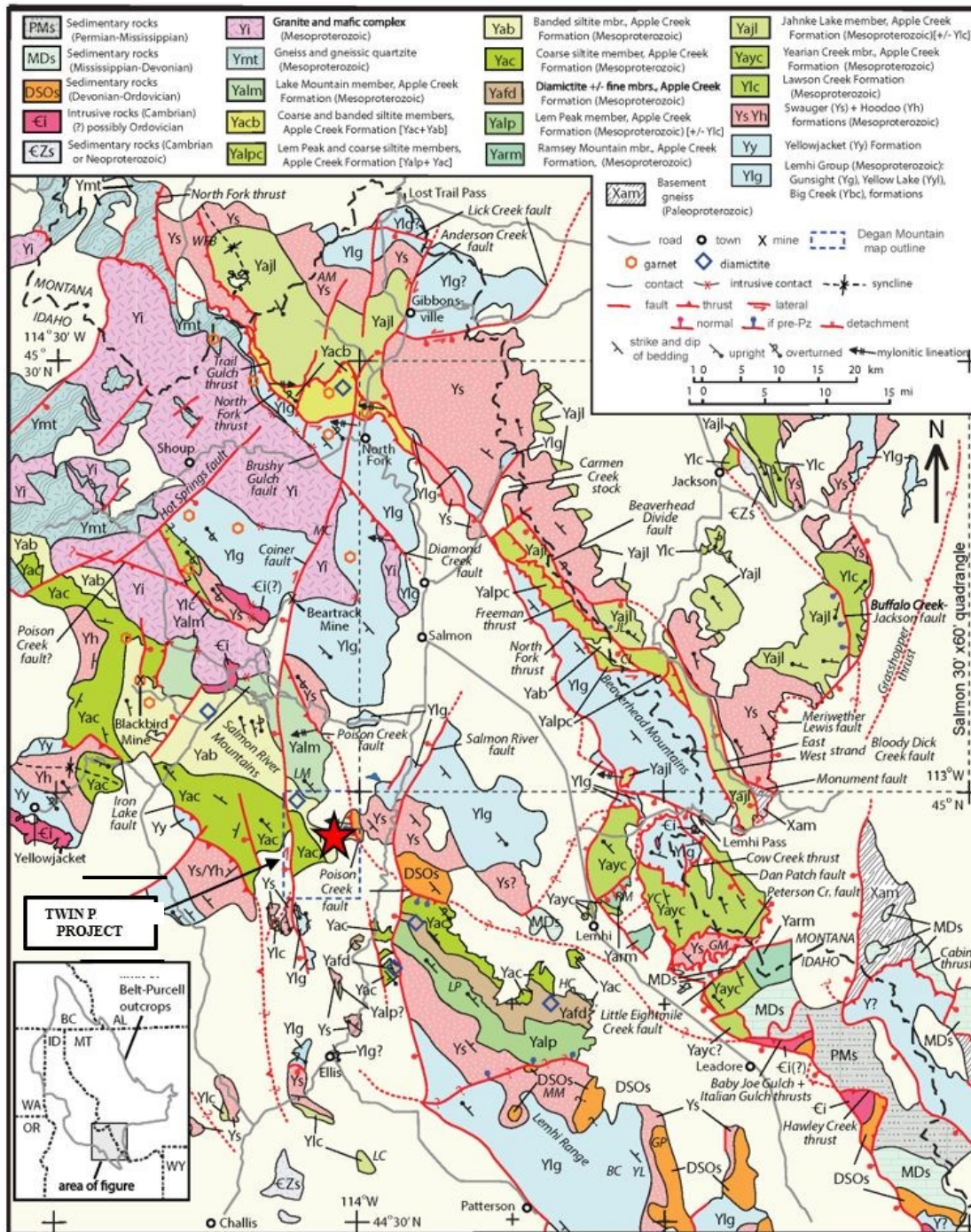


Figure 1. Pre-Mesozoic bedrock geology around Salmon, Idaho. The coarsest clastic unit (Ys = Yh) separates lower formations of the Lemhi Group (in blue) from higher Lawson Creek and Apple Creek formations (greens and yellows). Units are combined where scale or previous mapping makes separating them impractical. Geographic locations are in italics; those for type or reference sections have units in parentheses: AM—Allan Mountain; BC—Big Creek (Ybc); CL—Cowbone Lake; GM—Goat Mountain; GP—Gunsight Peak; HC—Hayden Creek (Yafd (Yaf+Yad), Yac); JL—Jahnke Lake (Yajl); LC—Lawson Creek (Ylc); LM—Lake Mountain (Yalm); LP—Lem Peak (Yalp); MC—Moose Creek; MM—Mogg Mountain (Ys); RM—Ramsey Mountain (Yarm); WFB—West Fork Bitterroot River; YC—Yearian Creek (Yayc); YL—Yellow Lake (Yyl). After Burmester and others (2020) modified to include insights from field work in 2020 and 2021.

Modified from Burmester et al. (2016). Red star at Twin Peaks Project.

Table 7-1 Tectonism and Mineralization in the Belt-Purcell Basin and Blackbird Co-Cu District

Age (Ma)*	Tectono-stratigraphic features and episodes		Key geologic features	Ore and gangue minerals <sup>a</sup>	Alteration & metam mins <sup>b</sup>	Stage
>1470–1454	Nuna— Belt-Purcell basin	Belt basin rift	Very thick sedimentary successions, local mafic sills and flows	Ccp, Py, Mrc, Bn, CoPy, Sg, Cob, Gn, Sp, Tn (Sheep Creek, sed-hosted diagenetic repl <sup>c</sup> deposit in lower Belt strata) <sup>d</sup>	Br, Dol, Qtz, Chl, Cal	
1454–1379		Belt basin sag, Lemhi subbasin rift-sag		Ccp, Cc, Bn, Dg, Py, Gn, Sp, Po, Tet, Mag, Hem, CoPy, Cob (Spar Lake, sed-hosted diagenetic repl deposit in Revett Fm) <sup>d</sup>	Ank, Chl, Ab, Cal, Qtz, Ksp, wMca	
1379–1325	Nuna to Rodinia— East Kootenay orogen		F <sub>1</sub> folds <sup>f</sup>	Open folds (>1370 Ma)	bBt	
		East Kootenay orogeny in western Belt-Purcell basin and Lemhi sub-basin	Bimodal plutonic suite	Granite (ca. 1370 Ma), Co-Cu-Ygeochem. (BZg) <sup>g</sup> Xtm <sub>1</sub> (ca. 1370–1320 Ma) (BB)	bBt, Scp, hf gBt	Y <sub>0</sub>
			Cob <sub>1</sub>	Stratabound Cob <sub>1</sub> —dissem, repl, bx (BB) <sup>h</sup>	Qtz, bx, gBt	
		F <sub>2</sub> folds in Cob <sub>1</sub> ore	Cob <sub>1</sub> dissem, repl—Cob <sub>1</sub> -Bt ore locally folded into F <sub>2</sub> folds (BB)	gBt > Tur	Y <sub>1</sub>	
1325–1270		Post-orogenic extension?	Cob <sub>2</sub> along S <sub>2</sub> cleavage	Cob <sub>2</sub> vn, repl + Xtm <sub>2</sub> (ca. 1320–1270 Ma) in Qtz-gBt bx (BB)	gBt > Tur	Y <sub>2</sub>
1200–1000	Rodinia to Laurentia	West margin, Rodinia (?)	Grenville-age metam.	Metamorphic homogenization of U/Pb <sup>h</sup> (ICB) Cob <sub>3</sub> + Xtm <sub>3</sub> (ca. 1060–990 Ma) in Qtz-Tur bx	Grt (N.ID) Tur > gBt	Y <sub>3</sub>
665–650		Windermere rift	Within-plate plutons and dikes that cut Cob ore (in BB district)	Qtz, Mag, Ccp, Au (Cu Camp, vn, repl) <sup>d</sup>	Bt	
550–485	Laurentia to Pangaea	Rifted margin, Laurentia (?)		Qtz, Cal, Sid, Py, Ccp, Gn, Tet, Hem, Au (Yellowjacket, vn, vnit, dissem) <sup>h</sup>	Qtz, Chl, Ser, Cla	
550–155		Westward-thickening sedimentary wedge across the rifted continental margin.				
155–142	Laurasia to N. America— Cordilleran Orogen	Nevadan orogeny—Salmon Canyon thrust, F <sub>3</sub> folds, Grt (ca. 150–93 Ma)			Grt, Bt	K <sub>0</sub>
142–112		Lull in orogenesis		Mnz <sub>1</sub> (ca. 144–110 Ma) (BB)	Grt, Bt, Ctd	
112–85		Sevier orogeny	Metamorphic-plutonic hinterland and fold-thrust belt with F <sub>4</sub> folds	Mnz <sub>2</sub> (ca. 110–92 Ma), Xtm <sub>2</sub> (ca. 104–93 Ma) (BB)	Grt, Sil (SC) <sup>g</sup>	K <sub>1</sub>
				Py, Mag, CoPy, Ccp vn, repl (IC) <sup>g</sup> Po, Py, Ccp, CoApy bx (BB) <sup>h</sup> Ccp, Qtz, Py, Po, Sid, CoApy vn (BB, BP) <sup>h</sup>	Chl (IC) Grt, Bt (BB) Ms, Chl	
85–55	Laramide orogeny	Basement-cored uplifts	Qtz, Au-Au-Bi vnit + Ser (ca. 83 Ma) (BB) Qtz-Py-Au-Ag vnit, dissem (Beartrack) <sup>h</sup>	Ser Ser	K <sub>2</sub>	

\*See text and Figures 3 and 4 for sources of age determinations and age ranges summarized in this table.  
 a. Ore- and gangue-mineral abbreviations: Apy—arsenopyrite, Au—gold, Bi—bismuth, or bismuthinite, Bn—bornite, Co—chalcocite, Ccp—chalcopyrite, CoApy—cobaltian arsenopyrite, Cob—cobaltite, CoPy—cobaltian pyrite, Dg—digenite, Gn—galena, Hem—hematite, Mag—magnetite, Mnz—monazite, Mrc—marcasite, Po—Pyrrhotite, Py—pyrite, Qtz—quartz, Sg—sienite, Sid—siderite, Sp—sphalerite, Tet—tetrahedrite, Tn—tennantite, Xtm—xenotime.  
 b. Alteration- and metamorphic-mineral abbreviations: Ank—ankerite, bBt—brownish biotite, Brt—barite, Bt—biotite, Cal—calcite, Chl—chlorite, Cla—clay minerals, Ctd—chloritoid, Dol—dolomite, gBt—greenish biotite, Grt—garnet, Ms—muscovite, Qtz—quartz, Scp—scapolite, Ser—sericite, Sil—sillimanite, Tur—Tourmaline.  
 c. Episode Y—Mesoproterozoic mineralization. Stage Y<sub>0</sub>—pre-ore dynamothermal metamorphism, bimodal plutonism (1370 ± 10 Ma), and contact metamorphism + Xtm<sub>1</sub> deposition (1370 ± 4 Ma); Stage Y<sub>1</sub>—stratabound Cob<sub>1</sub>-biotite ore (ca. 1370 to 1320 Ma); Stage Y<sub>2</sub>—Xtm<sub>2</sub> (ca. 1320 to 1270 Ma) with Cob<sub>2</sub> inclusions, and Cob<sub>2</sub> along S<sub>2</sub> cleavage of F<sub>2</sub> folds; Stage Y<sub>3</sub>—Xtm<sub>3</sub> (ca. 1060 to 990 Ma) + Cob<sub>3</sub> deposition in Qtz-Tur bx. Episode K—Cretaceous mineralization. Stage K<sub>0</sub>—metamorphic Bt, Grt, and Ctd (ca. 150 to 93 Ma) and early Mnz (ca. 144 to 110 Ma). Stage K<sub>1</sub>—Fe-Cu-sulfide deposition in quartz veins and breccias with associated Mnz (mostly ca. 110 to 92 Ma) and Xtm<sub>2</sub> (ca. 104 to 93 Ma). Stage K<sub>2</sub>—Qtz vnits, some with electrum + Bi minerals + Ser (ca. 83 Ma).  
 d. Deposit-style abbreviations: bx—breccia, dissem—disseminated, hnlfs—hornfels, vn—vein, vnit—veinlet, repl—replacement.  
 e. References: 1. Graham et al. (2012), 2. Aleinikoff et al. (2012a), 3. Panneersevam et al. (2012), 4. Cater et al. (1973), 5. Johnson et al. (1998), 6. Hawksworth et al. (2003).  
 f. Fold-set and cleavage-set abbreviations: F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>, F<sub>4</sub>—numbered fold sets, S<sub>2</sub>—axial-plane cleavage of the F<sub>2</sub> fold set. S<sub>2</sub> cleavage is transitional to shear-slip cleavage, and to transposed layering, related to the F<sub>2</sub> fold set.  
 g. Place-name abbreviations: (BB)—Blackbird district, (BP)—Black Pine, (BZg)—biotite-zone geochemical anomaly near Deep Creek, (IC)—Iron Creek, (ICB)—Idaho cobalt belt, (N. ID)—northern Idaho, (SC)—Salmon Canyon Copper.  
 h. In high-grade composite Co-Cu ore zones of the Blackbird district, minerals of the K<sub>2</sub> and K<sub>3</sub> assemblages are superimposed on minerals of the Y<sub>1</sub> and Y<sub>2</sub> mineral assemblages.

Modified from Bookstrom et al. (2016).

## 7.2 District and Property Area Geology

Outcropping Mesoproterozoic-Paleozoic sedimentary rocks in the vicinity of the Twin Peaks Project are divided into the footwall and hanging wall stratigraphic sequences of the regionally-extensive Poison Creek Fault. The footwall sequence comprises trough-bedded quartzite of Swauger Formation (Mesoproterozoic) unconformably overlain by Kinnikinic Quartzite (Ordovician) and dolomitic limestone of Saturday Mountain Formation (Ordovician-Silurian). A narrow portion of this footwall sequence outcrops within the Twin Peaks Project near the Twin Peaks Mine (Fig. 7-5a).

Siltite, argillite, and quartzite of the Coarse Unit and overlying Banded Unit of Apple Creek Formation constitute the stratigraphic sequence in the hanging wall of the Poison Creek Fault at the Twin Peaks Project. A Mesoproterozoic age for deposition of Apple Creek Formation is supported by detailed ion microprobe analyses by Aleinikoff et al. (2021). Microprobe analyses for detrital zircons from a sample of Apple Creek Formation in the Blackbird district indicate a maximum age of deposition of  $1409 \pm 10$  Ma. Similar analysis of xenotime associated with cobaltite mineralization yielded an oldest age of  $1370 \pm 4$  Ma, providing a minimum age for Apple Creek Formation and possibly dating the time of initial cobaltite mineralization in the Blackbird district.

The Coarse Unit of Apple Creek Formation comprises gray-green medium- to coarse-grained siltite with tabular 10-30 cm thick beds of fine-grained quartzite low in the section. Mud-cracked surfaces are common and ripple marks are locally present (Lewis et al., 2021). Magnetite is common in the Coarse Unit and occurs as millimeter- to centimeter-scale bedding-conformable zones and as narrow selvages at quartz vein-siltite contacts (both vein-wall rock contacts and as rims on siltite breccia fragments within narrow quartz veins). A thickness of 2,000-2,500 m for the Coarse Unit was estimated by Tysdal (2000). The Coarse Unit of Apple Creek Formation outcrops in the southwestern corner of the Twin Peaks Project.

The Banded Unit of Apple Creek Formation is the principal host rock for Cu-Co mineralization of the Idaho Cobalt Belt. It comprises centimeter- to decimeter-scale graded couplets of very fine-grained white quartzite and/or siltite and very dark-gray argillite. Quartzite and siltite bases commonly have intricate ripple and scour laminations and can be cross bedded (Fig. 7-3). Magnetite is typically absent although local concentrations are known (Gillerman et al., 2023). Lund et al. (2007) proposed turbidity current flow as the depositional mechanism for the Banded Unit. A minimum thickness of 2,750 m is estimated for the Banded Unit at the Twin Peaks Project (Lewis et al., 2021). The Banded Unit of Apple Creek Formation outcrops across a width of more than 6 km in the central portion of the Twin Peaks Project and is the host to mineralization at Twin Peaks Mine and additional prospects described in Section 6.

The contact between the Coarse and Banded Units is defined by contrasting sedimentary structure and texture, not by the presence or absence of magnetite in the two units. However, the sharp contrast in magnetite abundance is sufficiently close to the texturally-defined Coarse Unit-Banded Unit contact so that it serves as a useful first approximation for the position of the contact, particularly when examining aeromagnetic data.

Figure 7-3 Cross Bedding in Quartzite, Banded Unit of Apple Creek Formation



7

View to the west at 736312E 4982151N UTM, Twin Peaks Mine roadcut. Photo: J. Phinisey

Rocks of the Challis Volcanic Group were deposited on a regional scale during the Eocene (51-44 Ma). The Ellis Tuff and Mafic Lava members of the Challis Volcanic Group unconformably overlie Mesoproterozoic sedimentary rocks in the eastern third of the Twin Peaks Project and surround its northern, western, and southern borders. Ellis Tuff is a welded tuff comprising approx. 8% quartz, 4% biotite, 3% plagioclase phenocrysts, and 15% lithic fragments within a fine-grained ash matrix. Dark gray to black lavas overlie Ellis Tuff and include basaltic, latitic, and andesitic compositions (Hansen and Pearson, 2016). Eocene plutons and dikes related to the Challis Volcanic Group were emplaced in normal faults that cut Mesoproterozoic rocks in the district (Lund and Tysdal, 2007). Epithermal gold-silver mineralization is known in this volcanic rock package near Musgrove Creek (Breccia Project of Ophir Gold, approx. 11 km southwest of Cobalt, ID and 22 km northwest of the Twin Peaks Project, Fig. 4-1). Challis volcanism likely post-dates mineralization in Mesoproterozoic strata at the Twin Peaks Project.

**Figure 7-4 Stratigraphic Sections for Salmon River Mountains & Vicinity**  
 Modified from Burmester et al. (2016).

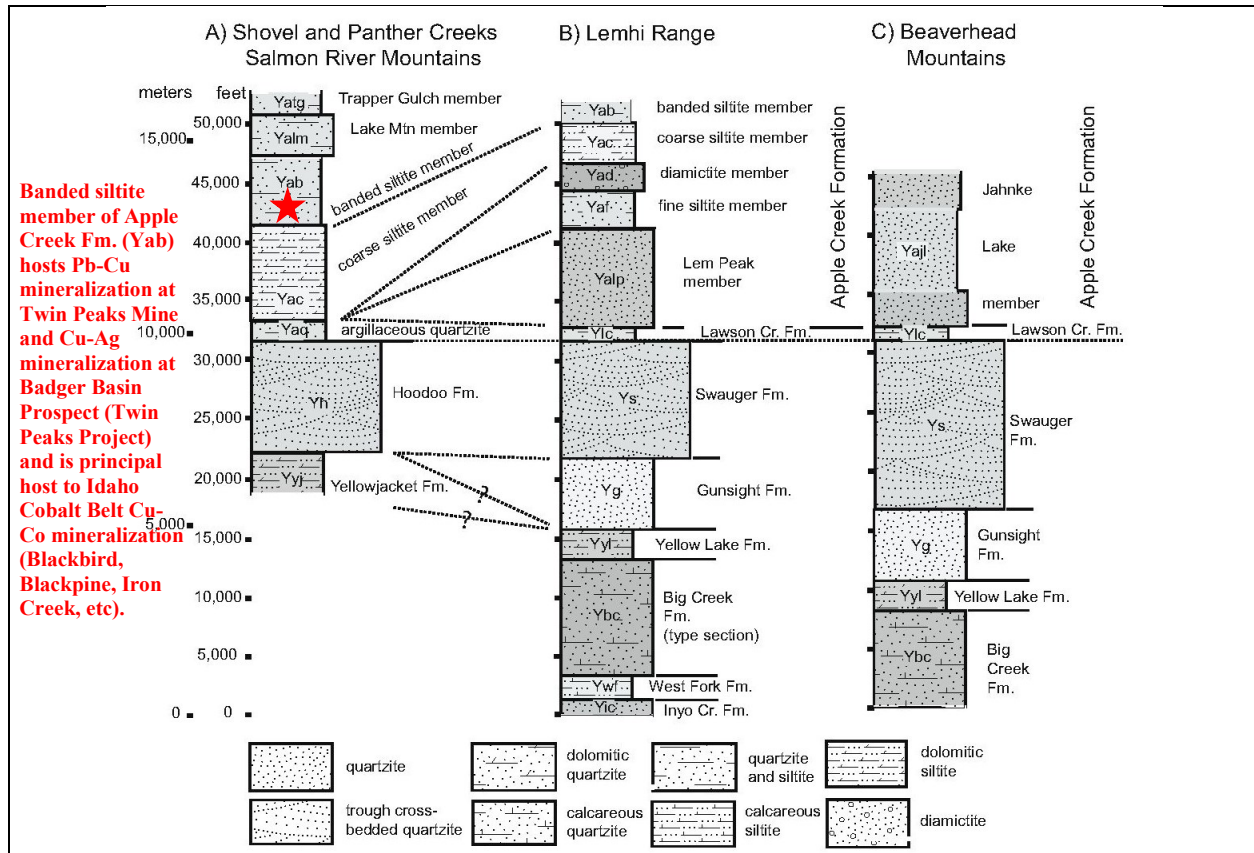


Table 7-2 Publications About the Blackbird District 1913-2014

Reference	Summary note*	Subject
Umpleby (1913)	Ore replaces schist (pC) near gabbro (KT?).	Blackbird district
Ross (1941)	Hypogene ore minerals occur in schistose rocks.	Blackbird district
Anderson (1947)	Ore is epigenetic, mafic-magmatic-hydrothermal and (T?).	Mineral sequence
Vhay (1948)	Ore is epigenetic, felsic-magmatic-hydrothermal and (K?).	Geologic maps
Canney et al. (1953)	Co and Cu contents in soil correlate with those in bedrock.	
Bennett (1977)	Ore is stratabound and remobilized, or epigenetic.	Geol., geochem.
Lopez (1981)	Ore may be remobilized from low-grade syngenetic protore.	Stratigraphy
Hughes (1983)	Ore is stratabound, submarine-volcanic-related, and (pC).	Stratabound ore
Modreski (1985)	Ore is stratabound, but variously remobilized.	Co-Cu deposits
Earhart (1986)	Ore is volcanigenic massive-sulfide of Besshi sub-type (pC).	Geologic model
Eiseman (1988)	Sunshine ore is silicic-exhalative with garnet overprint.	Sunshine ore
Nash and Hahn (1989)	Ore is of volcanic-related submarine-exhalative type (pC).	Blackbird district
Connor (1990)	OZ strata contain Fe-oxides, BZ strata are biotite-rich.	Geochem. survey
Nash and Connor (1993)	OZ and BZ strata contain submarine chemical exhalites.	OZ, BZ origin
Noid (1990)	ICB deposits are like those of the Zambian copper belt.	
Noid (1990)	Proterozoic ore is increasingly metamorphosed northwestward.	Idaho cobalt belt
Kissin (1993)	Ore minerals resemble those of epigenetic 5-element veins.	Classification
Banding and Scales (2001)	ICB deposits have many similarities to SEDEX deposits.	Idaho cobalt belt
Slack (2006)	Blackbird deposits contain REE minerals.	REE mineralogy
Bookstrom et al. (2007)	Blackbird includes both stratabound and discordant ores.	Blackbird Cu-Co
Lund and Tysdal (2007)	Ore is in deformed banded siltite below the Iron Lake thrust.	Blackbird Au-Co-Cu
Zirakparvar et al. (2007)	Post-cobaltite garnets yield Lu-Hf ages of 151 to 113 Ma.	Lu-Hf geochron.
Slack et al. (2013)	Blackbird is one of many more-or-less similar deposits.	Geologic model
Lund et al. (2011)	Structures related to Cretaceous thrusting host Blackbird ore.	Structural geology
Trumbull et al. (2011)	Source of B in tourmaline is sedimentary.	B isotopes
Slack (2012)	Blackbird deposits are variants of IOCG-type deposits.	Minerals, geochem.
Johnson et al. (2012)	Sources of S and O are metamorphic ± magmatic and reduced.	S, O isotopes
Landis and Hofstra (2012)	Fluid inclusions indicate hypersaline brine at 279°–347 °C.	Fluid inclusions
Alelnikoff et al. (2012)	Hydrothermal xenotime yields Y-aged cores and K-aged rims.	U-Pb geochron.
Panneerselvam et al. (2012)	Pb was derived from Y-aged sedimentary strata after 100 Ma.	Pb isotopes
Box et al. (2012)	Belt-Purcell strata host mineral deposits of Y to KT ages.	Belt-Purcell ores
Bookstrom (2013)	Mafic dikes cut Co ore but are cut by Cu veins and breccias.	Idaho cobalt belt
Bookstrom et al. (2014)	Cobaltite-biotite ore is Y-age, polymetallic veins are K-age.	Blackbird Co-Cu

\*Abbreviations: pC—Precambrian, Y—Mesoproterozoic, K—Cretaceous, T—Tertiary; BZ—biotitic Blackbird zone, OZ—oxide zone, ICB—Idaho cobalt belt, IOCG—Iron-oxide-copper-gold, NW—northwest, REE—rare-earth-element, SEDEX—sedimentary exhalative.

Modified from Burmester et al. (2016).



Figure 7-5a Geologic Map and Cross Section A-A' of the Twin Peaks Project

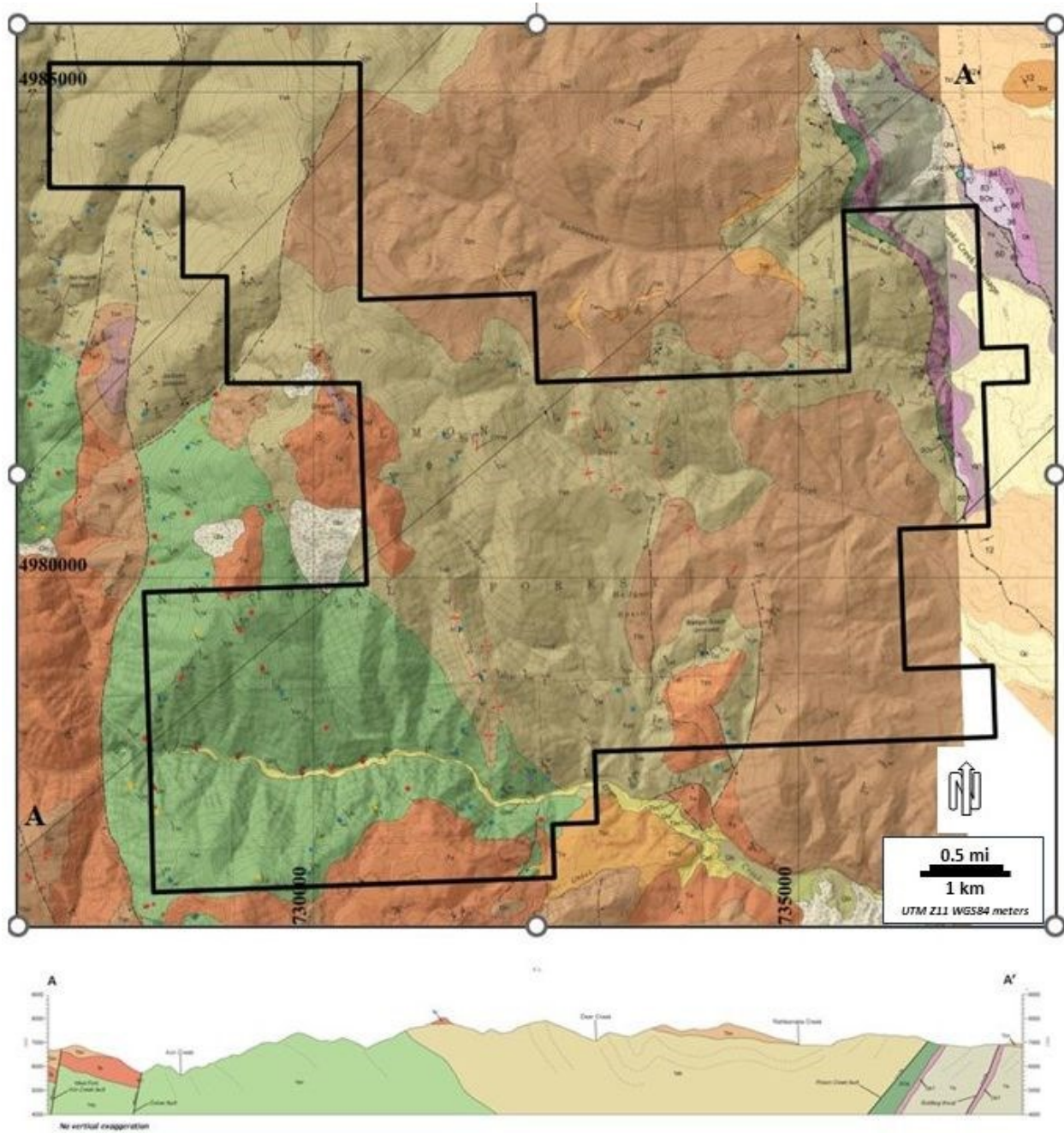
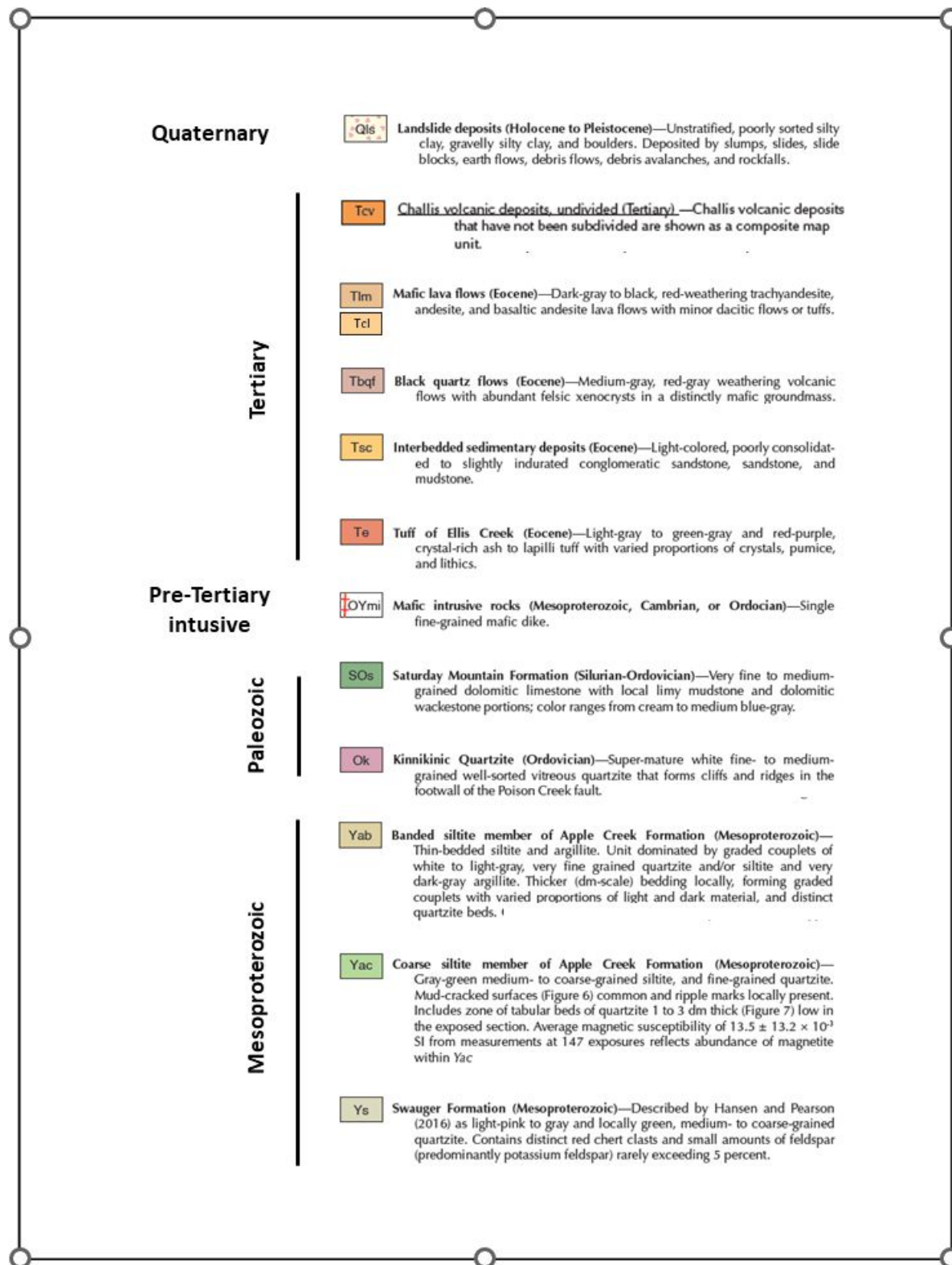
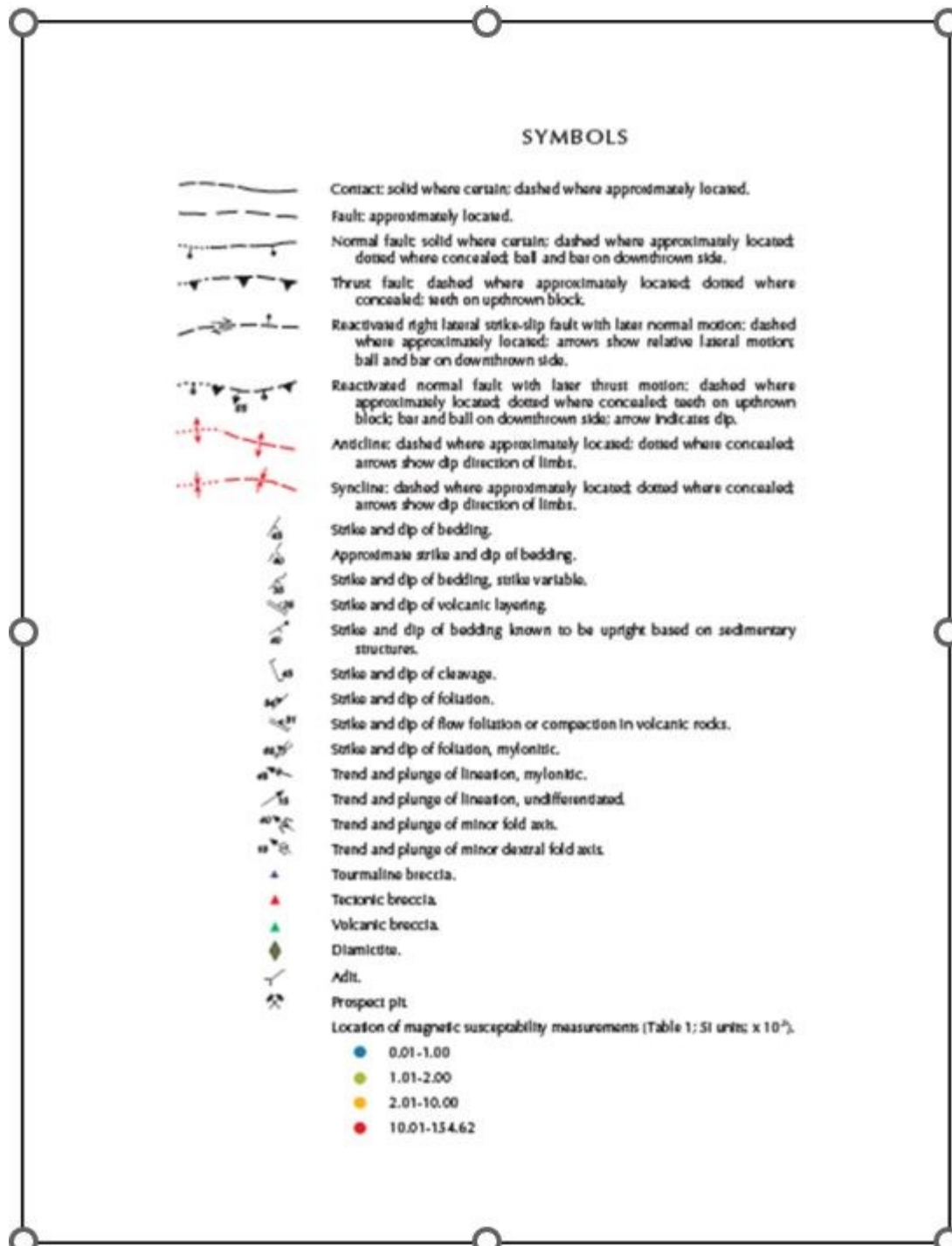


Figure 7-5b Lithologic Units for Twin Peaks Project Geologic Map



Modified from Lewis et al. (2021) and Hansen, C.M. and Pearson, D.M. (2016).

Figure 7-5c Symboly for Twin Peaks Project Geologic Map



Modified from Lewis et al. (2021) and Hansen, C.M. and Pearson, D.M. (2016).

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## 7.2 Structure

The regionally extensive Poison Creek Fault is the principal mapped structure at the Twin Peaks Project. A detailed consideration of rock geometries in the footwall and hanging wall of the Poison Creek Fault (Hansen, 2015) supports Neoproterozoic normal movement that preserves Apple Creek Formation strata in the hanging wall during early Paleozoic erosion. Subsequent thrust reactivation of the Poison Creek Fault is constrained to 68-57 Ma (Sevier orogeny) and results in emplacement of hanging wall Apple Creek Formation strata over footwall Ordovician Kinnikinic Quartzite. The steep dips and narrow shear zones of Apple Creek Formation strata are inferred to result from these fault movements.

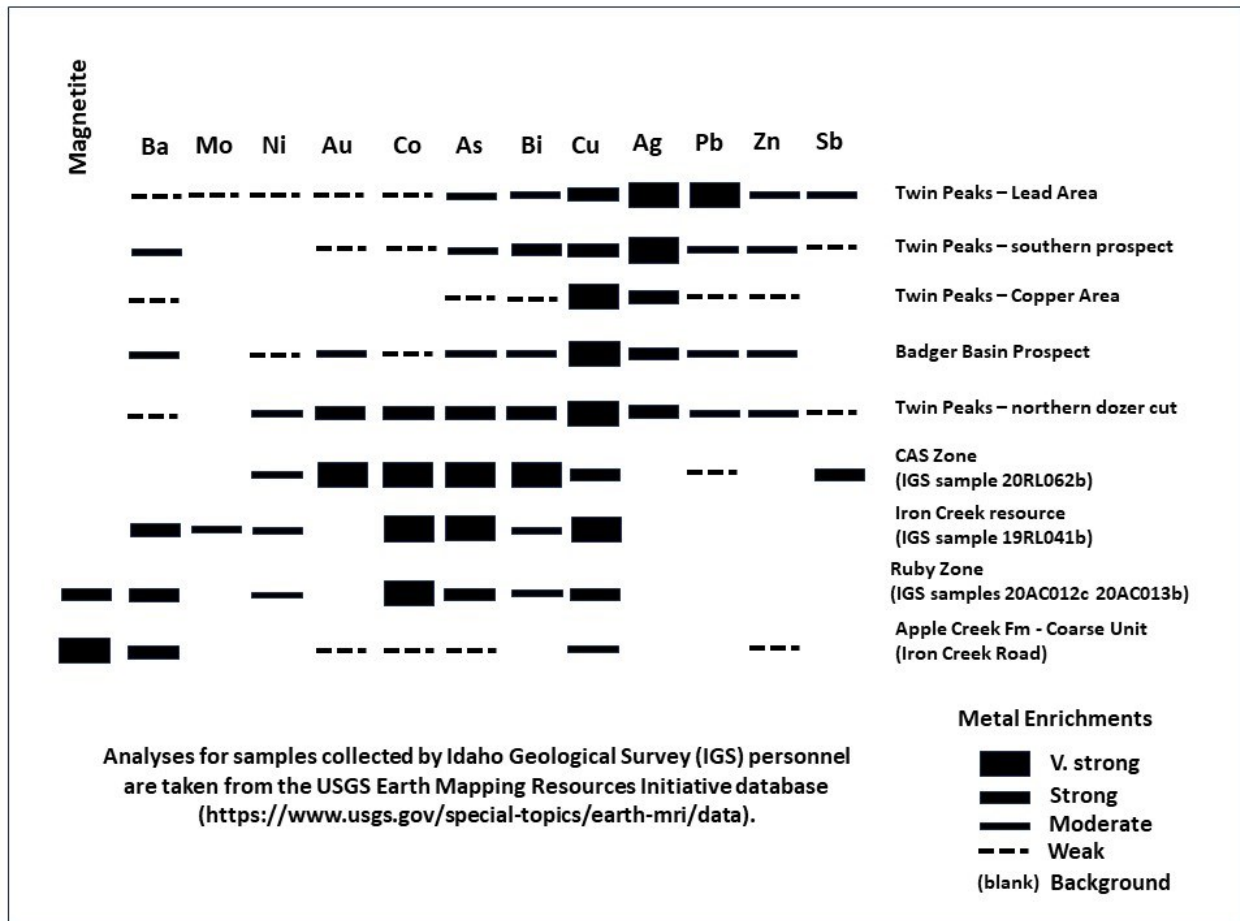
## 7.3 Mineralization and Alteration

Examination of outcropping mineralization with respect to the associated host rock at the Twin Peaks Project is limited to the Badger Basin Prospect (Fig. 6-4a). Strongest copper and silver values at this outcrop are hosted by thin siltite beds within a stratigraphic sequence dominated by quartzite. A weak shear fabric is observed and the siltite is silicified and moderately chlorite-altered. This association of sulfides in sheared and finer-grained beds with quartz and chlorite is consistent with descriptions made underground at Twin Peaks Mine (Starr, 1955), in two surface diamond drill holes (Tully, 1977 and Ellsworth, 1996), and in rocks observed in waste dumps and spoils piles.

Metal associations in mineralized zones are variable over short lateral distances, recognized from the earliest days of Twin Peaks Mine development with the discrimination of the Lead and Copper Areas. Metal associations across the Twin Peaks and Iron Creek Projects are compiled in an order to minimize differences between successive locations in the series (Fig. 7-6). High Ag-Pb±Zn values at Twin Peaks Mine Lead Area are readily discerned from high Bi-As-Co±Au values in the multiple mineralized zones of the Iron Creek Project. High Cu values are common to both of these two metal associations. The Badger Basin Prospect and the dozer cut north of Twin Peaks Mine may represent transitional locations. A third association of elevated barium with magnetite-bearing quartz veins in quartzite is also suggested. The relationships between these metal associations (e.g., multiple mineralizing events with possible remobilization of metals, metal zonation within a single long-lived hydrothermal system, etc.) await more rigorous examination of additional bedrock exposures of mineralization across the Project.

Mapping of secondary biotite in Apple Creek Formation is in an early stage across the Project. Biotite alteration may be the cause of the prominent potassium high identified in the UAV-based aeroradiometric test grid (Fig. 9-5).

Figure 7-6 Twin Peaks and Iron Creek Projects Metal Associations



Modified from Phinisey, J.D. (2023).

## 8.0 DEPOSIT TYPES (ITEM 8)

Determination of a genetic model for Idaho Cobalt Belt mineralization is complicated by evidence for multiple hydrothermal and metamorphic processes spanning more than one billion years of Earth history. Genetic models for Idaho Cobalt Belt mineralization have been proposed and modified for nearly 100 years (Table 7-2). A catalog of these models (Aleinikoff et al., 2012) includes volcanogenic massive sulfide and (or) sedimentary exhalative (Earhart, 1986; Eiseman, 1988; Nash and Hahn, 1989; Bending and Scales, 2001), sedimentary copper (Modreski, 1985), magmatic hydrothermal iron oxide copper-gold (IOCG) (Slack, 2006, 2012), synmetamorphic replacement (Panneerselvam et al., 2004), Cretaceous structurally controlled syn- to late metamorphic (Lund et al., 2011), and shear zone-hosted epithermal veins and replacement zones (Anderson, 1947; Vhay, 1948; Bennett, 1977).

A genetic model for cobalt-copper mineralization in the Blackbird District (and perhaps the Idaho Cobalt Belt generally) should honor the following observations:

- The depositional age of the metasandstone host to Co-Cu ± Au deposits in the central domain of the Blackbird district is constrained by SHRIMP U-Pb data for six detrital zircons to be younger than  $1409 \pm 10$  Ma. (Aleinikoff et al., 2012).
- Deposits are restricted to a narrow stratigraphic interval within the immense thickness of Belt sedimentary rocks. Deposits can demonstrate both stratabound and discordant geometries.
- The oldest age for xenotime ( $1370 \pm 4$  Ma), determined on oscillatory-zoned cores, provides a minimum age for the time of sedimentation and a provisional age for earliest cobalt mineralization (Aleinikoff et al., 2012).
- Large granite to granodiorite plutons north of the Blackbird district were emplaced between  $1383 \pm 4$  and  $1359 \pm 7$  Ma. The Big Deer Creek megacrystic granite ( $1377 \pm 4$  Ma) is located about 5 km north of Blackbird (Aleinikoff et al., 2012).
- Landis and Hofstra (2012) examined ore and gangue mineral fluid inclusion chemistry for the Blackbird district. Results permit genetic models involving magma-sourced heat and fluids and convection of basinal brine to form replacement and structurally controlled cobalt and copper sulfide bodies in a gangue of quartz, biotite, and tourmaline.
- Cretaceous Fe-Cu-sulfide vein, breccia, and replacement-style deposits contain various combinations of chalcopyrite ± pyrrhotite ± pyrite ± cobaltian arsenopyrite (not cobaltite) ± arsenopyrite ± quartz ± siderite ± monazite (ca. 144–88 Ma but mostly 110–92 Ma) ± xenotime (104–93 Ma) (Bookstrom et al., 2016). This mineralization may represent both remobilized and reprecipitated Mesoproterozoic sulfide ore and copper sulfide mineralization of Cretaceous age (Aleinikoff et al., 2012).
- Detailed geochemical and petrographic analyses have demonstrated previously unknown high concentrations of Y and REE in some samples from the Blackbird district. (Slack, 2006). Y and REE occur chiefly in monazite [(Ce,La,Th)PO<sub>4</sub>] and xenotime (YPO<sub>4</sub>). Both minerals can also contain significant concentrations of U and Th.

Earliest workers favored epigenetic processes to explain Blackbird-style mineralization. Syngenetic sedimentary-exhalative models dominated thinking starting in the 1970s. Recent advances support a magmatically-driven hydrothermal system that post-dates the bulk of sedimentation and that may have undergone late Mesoproterozoic and Cretaceous overprints. A consensus genetic model remains unresolved.

## 9.0 EXPLORATION (ITEM 9)

The Champion Electric exploration program (May-June, 2023) comprised completion of detailed UAV-based orthophotography and aeromagnetic data acquisition over the then-current 2,761 ha extent of the Twin Peaks Project, stream sediment sampling in actively flowing drainages across approx. 60% of then-current claim perimeter, and reconnaissance geologic mapping and rock sampling. An additional 84 unpatented mining claims were staked in June 2023 based on these results.

Follow-up exploration (July-September, 2023) comprised additional geologic mapping and rock sampling, collection of additional stream sediment samples on new claims and as in-fill to earlier coverage, and completion of two reconnaissance soil sample lines both north and south of the Twin Peaks Mine. An additional 99 unpatented mining claims were staked in August-September 2023 based on these additional results.

Champion Electric staked a total of 17 unpatented mining claims in January 2024 to fill two small gaps in claim groups, bringing the size of the Twin Peaks Project to its current size of approx. 4,376 ha.

### 9.1 UAV-based Orthophotography

Orthophotography was acquired by MWH Geo-Surveys to create a detailed digital surface model (DSM) that honored treetops and allowed for safe completion of the low-altitude flights for aeromagnetic data acquisition. Survey panels used to calibrate the DSM are carefully monumented on the ground (Fig. 9-1). If required in the future, a qualified surveyor can readily reoccupy the control points and re-examine the raw photography to create a fully engineered digital elevation model (DEM) of the ground surface.

**Figure 9-1 Orthophoto Survey Panel at Twin Peaks Mine Mill Site**



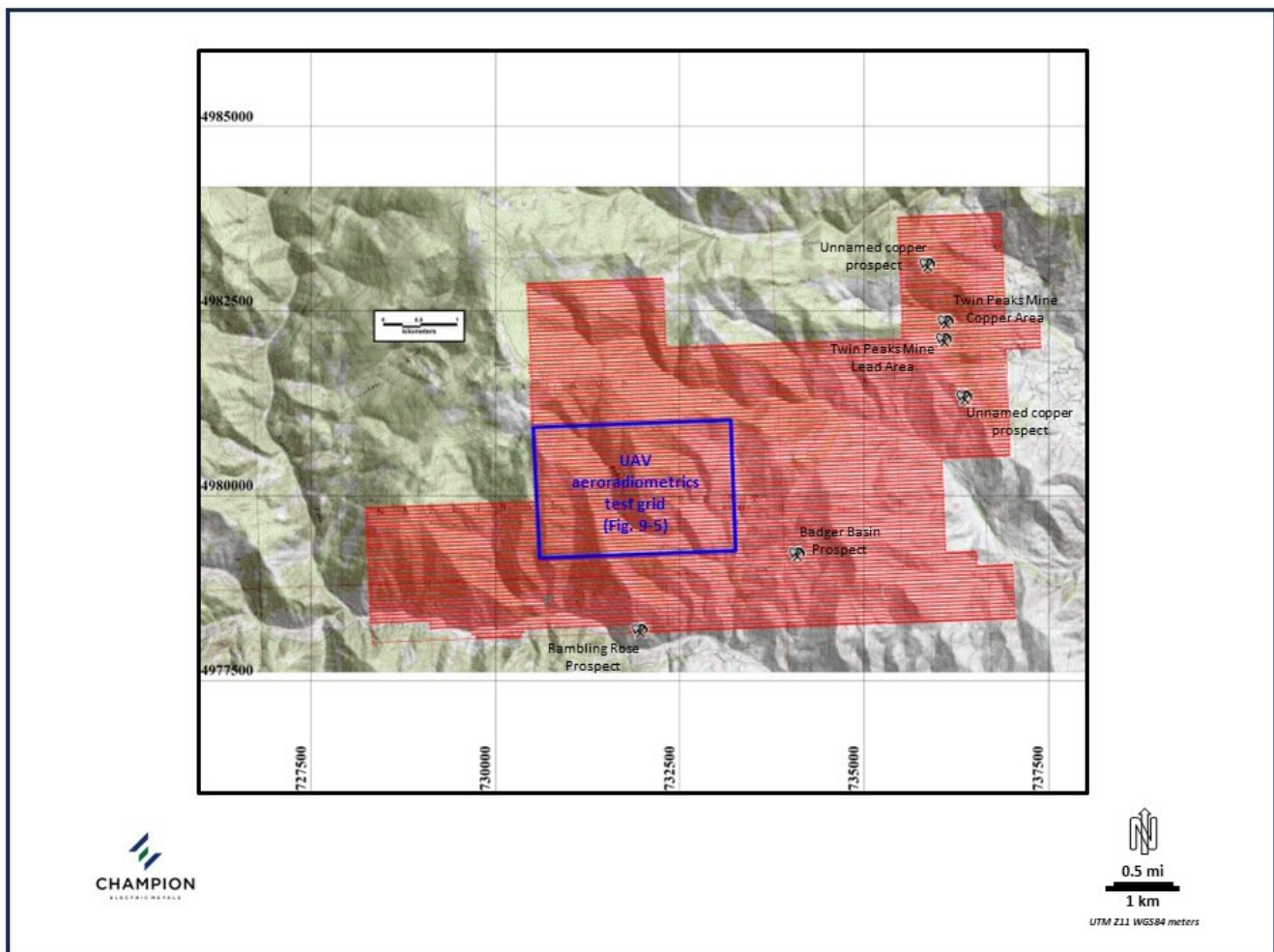
36387E 4982139N. Source: Champion Electric, 2023.

Orthophotography is delivered at both 10 cm and 3 cm pixel resolutions, providing a superior base map for geologic mapping and drill road design (3 cm resolution orthophotography is used in Fig. 6-3). The orthophotography further provides a highly accurate snapshot of existing ground disturbance captured prior to any earthwork associated with Champion Electric Metals exploration activities.

## 9.2 UAV-based Aeromagnetic Survey

MWH Geo-Surveys (Reno, NV) completed aeromagnetic data acquisition on east-west traverses and 50 m line spacing (Fig. 9-2). Data was acquired using an ArcSky X55 heavy lift UAV with suspended Geometrics MagArrow magnetometer (Fig. 9-3). Flightpaths and elevations were programmed into the UAV which maintained close adherence via communication with GPS satellites. Additionally, the UAV was equipped with a forward-looking LiDAR sensor serving as backup for collision avoidance. Sensor height averaged about 35 m.

Figure 9-2 Map of UAV Aeromagnetic Flight Lines with Inset for Aeroradiometric Test Grid



Source: Champion Electric.



Figure 9-3 ArcSky X55 Heavy Lift UAV with Suspended Geometrics MagArrow Magnetometer



Looking southwest at 728870E 4979310N. Source: Champion Electric.

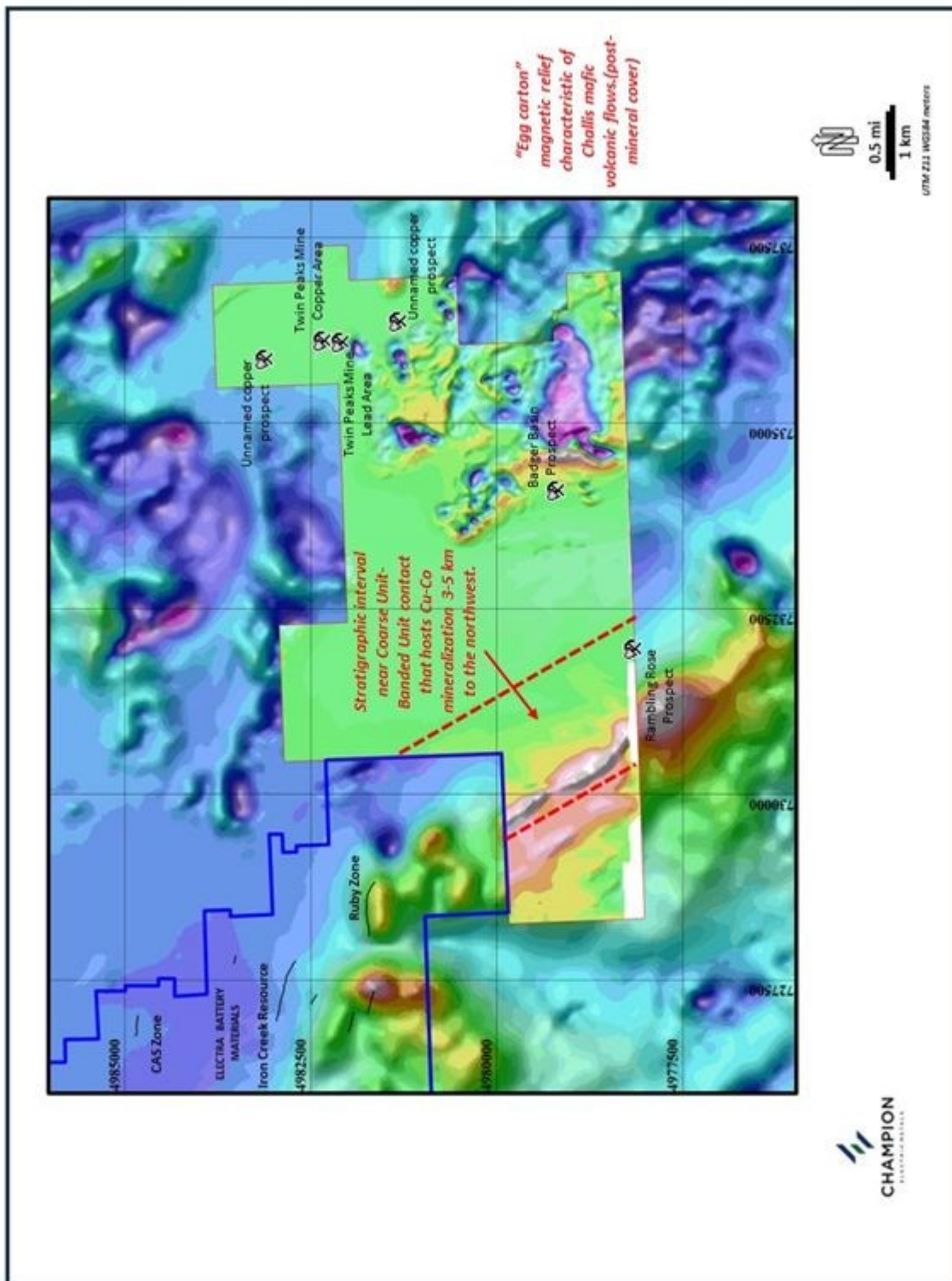
J. L. Wright, Wright Geophysics (Spring Creek, NV), performed QA-QC, data processing operations, and figure preparation for the data received from MWH Geo-Surveys.

The Apple Creek Formation consists of two subunits: the stratigraphically lower and magnetite-bearing Coarse Unit and the overlying and magnetite-deficient (or absent) Banded Unit that serves as the principal host to copper-cobalt mineralization in the Idaho Cobalt Belt. The stratigraphic position of such mineralization at the adjacent Iron Creek resource and Ruby Zone occurs near the base of the Banded Unit (Perron, 2023). This same stratigraphic position is inferred to be closely approximated by the sharp magnetic contrast identified in the western portion of the UAV aeromagnetic survey (Fig. 9-4).

### 9.3 UAV-based Aeroradiometric Test Grid

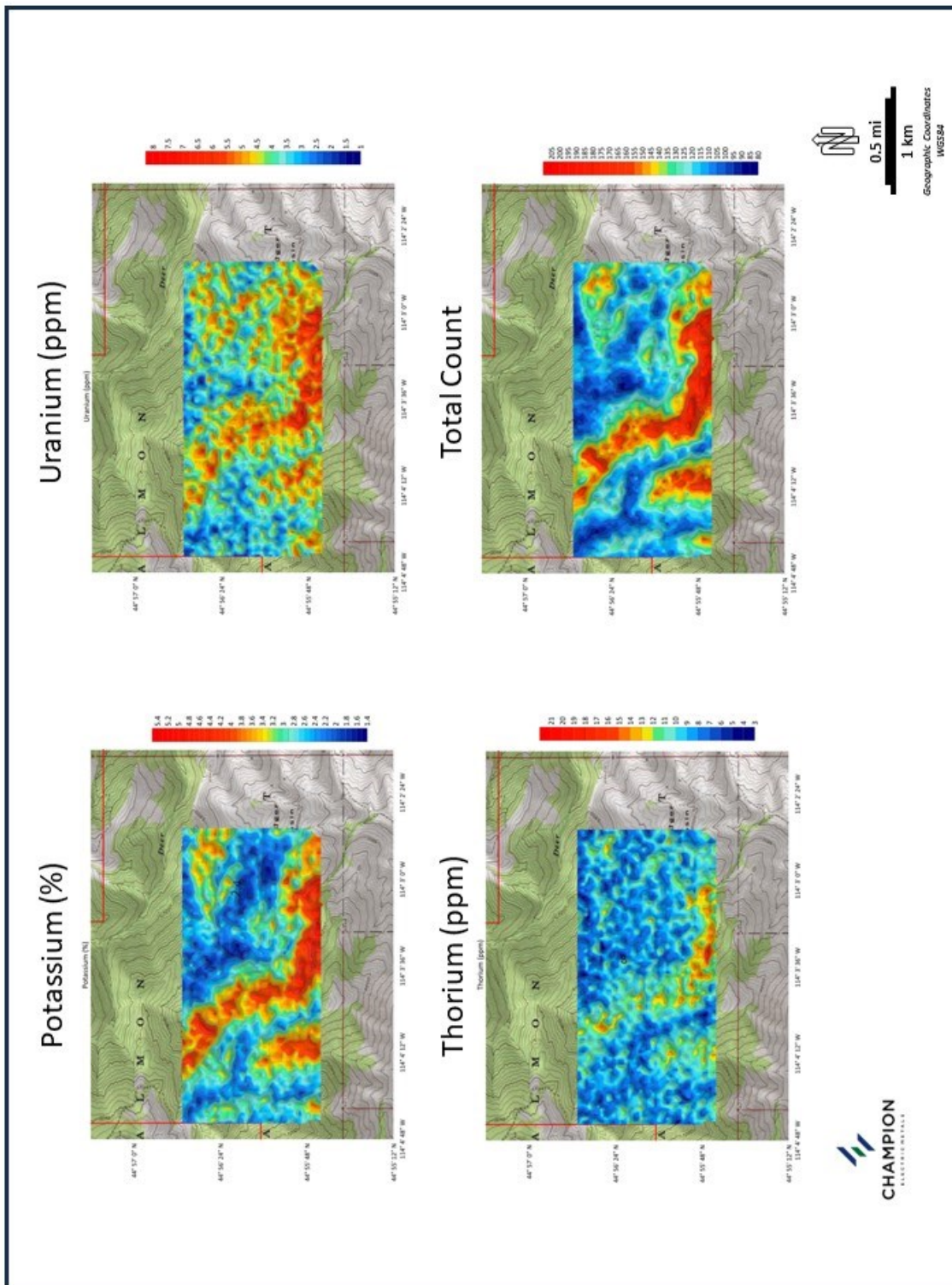
MWH Geo-Surveys completed gamma radiation data acquisition for potassium, uranium, and thorium for a 5 km<sup>2</sup> test area at the western boundary of the Twin Peaks Project (Fig. 9-2). The main features identified are the prominent potassium and lesser uranium and thorium anomalies that correlate strongly with topographic lows (Fig. 9-5). A possible parallel to the secondary biotite (K) and monazite-xenotime (U, Th) known at Blackbird Mine should be considered by Champion Electric.

Figure 9-4 UAV Aeromagnetic Survey (Total Magnetic Intensity, Reduced to Pole) for Twin Peaks Project, on USGS 2022 Regional Aeromagnetic Survey (differing color schemes)



Data: MWH Geo-Surveys. Processing: Wright Geophysics. Source: Champion Electric.

Figure 9-5 UAV Aeroradiometric Test Survey for Twin Peaks Project.



Data: MWH Geo-Surveys. Processing: Wright Geophysics. Source: Champion Electric.

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## 9.4 Stream Sediment Geochemistry

Watersheds for 47 stream sediment samples collected in May – September 2023 represent approx. 55% of the area of the Twin Peaks Project. Samples were collected from low energy pools in actively flowing drainages with notes taken on grain size, estimated percentage of organics, estimated rate of water flow, azimuth of the upstream direction, and additional comments as necessary for clarity.

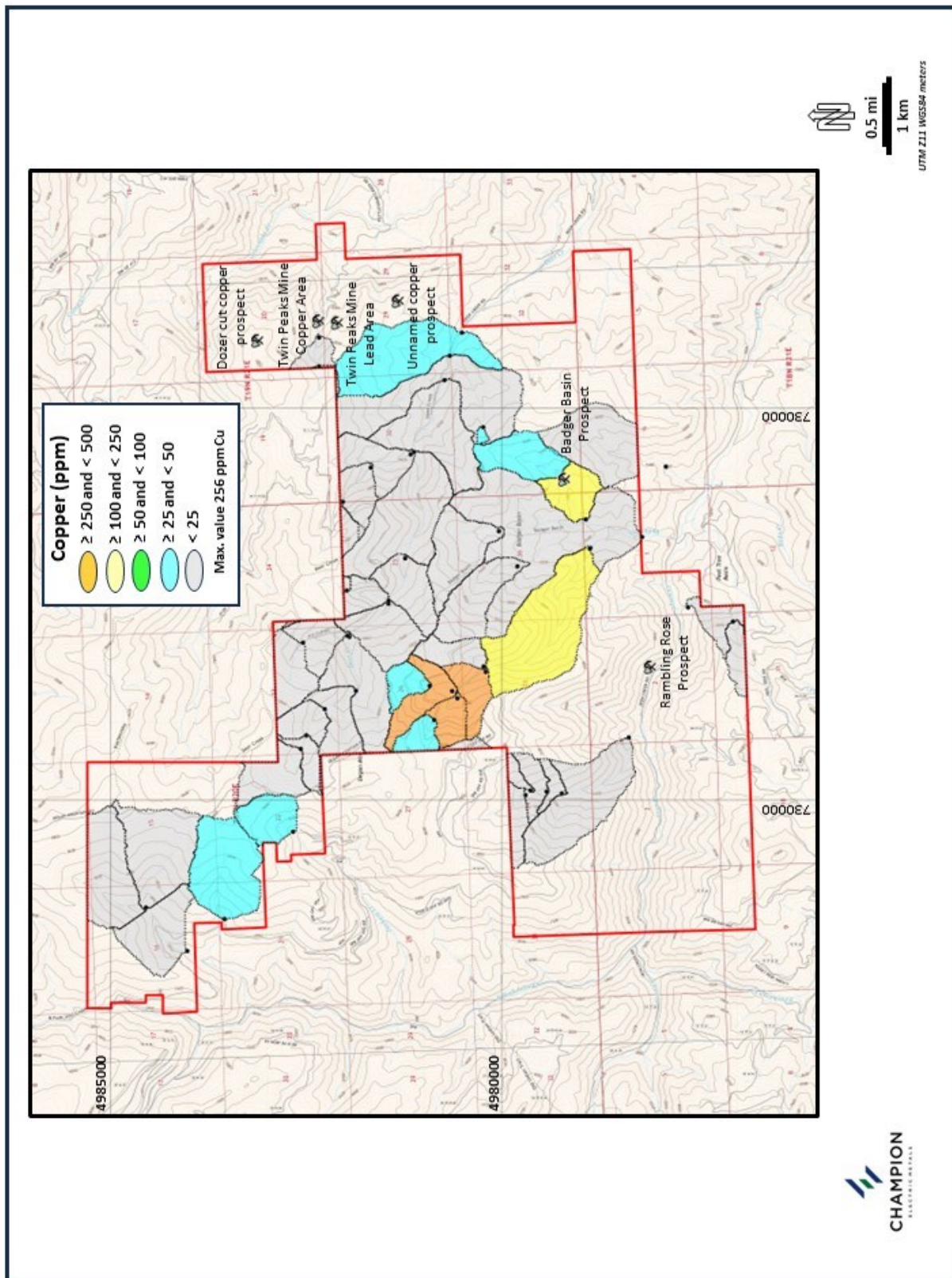
Copper values of 253 ppm and 256 ppm derive from adjacent and independent watersheds at the upper reaches of Badger Creek near the western claim boundary with the Iron Creek Project (Fig. 9-6a). Two stream sediment samples with copper values of 254 ppm and 130 ppm lie immediately downstream and may represent transport of mineralization from the headwater basins or derive from a local bedrock source. Spatial coincidence of this series of anomalous copper values from adjacent watersheds and the aeroradiometric  $K\pm U\pm Th$  anomaly along Badger Creek is noted (Fig. 9-5).

The stream sediment sample located 600 m downstream from the Badger Basin Prospect and its field duplicate yielded copper values of 125 ppm and 102 ppm, respectively (Fig. 9-6a).

The highest stream sediment sample cobalt values of 32 ppm and 30 ppm derive from adjacent samples on the same drainage proximal to the position of the Coarse Unit-Banded Unit contact that is inferred from the aeromagnetic survey (Fig. 9-6b).

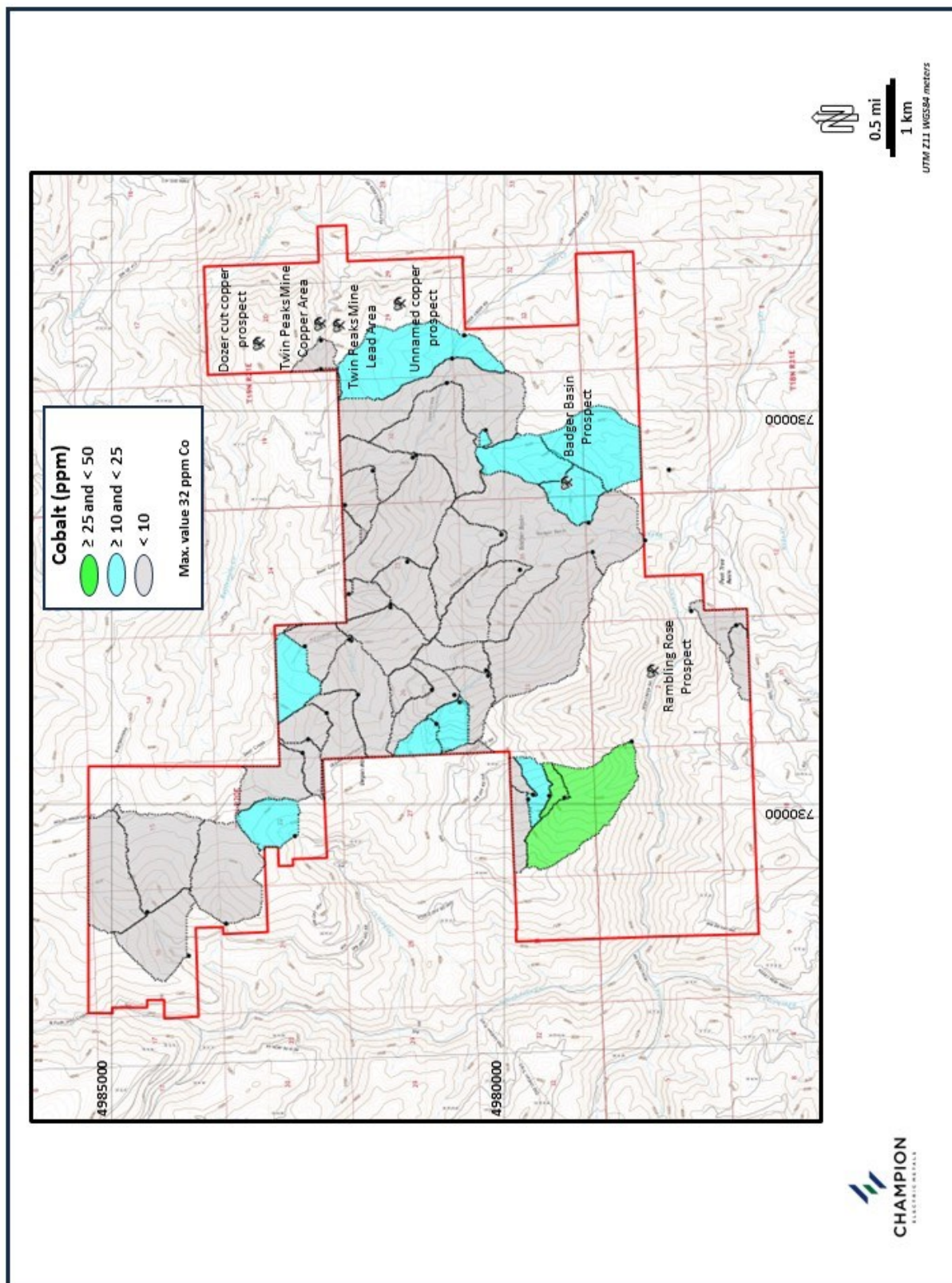
A nearly unbroken string of watersheds that yielded arsenic values 11-54 ppm extends for 6 km at the northwestern portion of the Twin Peaks Project (Fig. 9-6c). Watersheds in this string also yielded the highest values for silver (1.91 ppm), mercury (0.75 ppm), lead (68 ppm), and zinc (295 ppm).

Figure 9-6a Stream Sediment Geochemistry – Copper



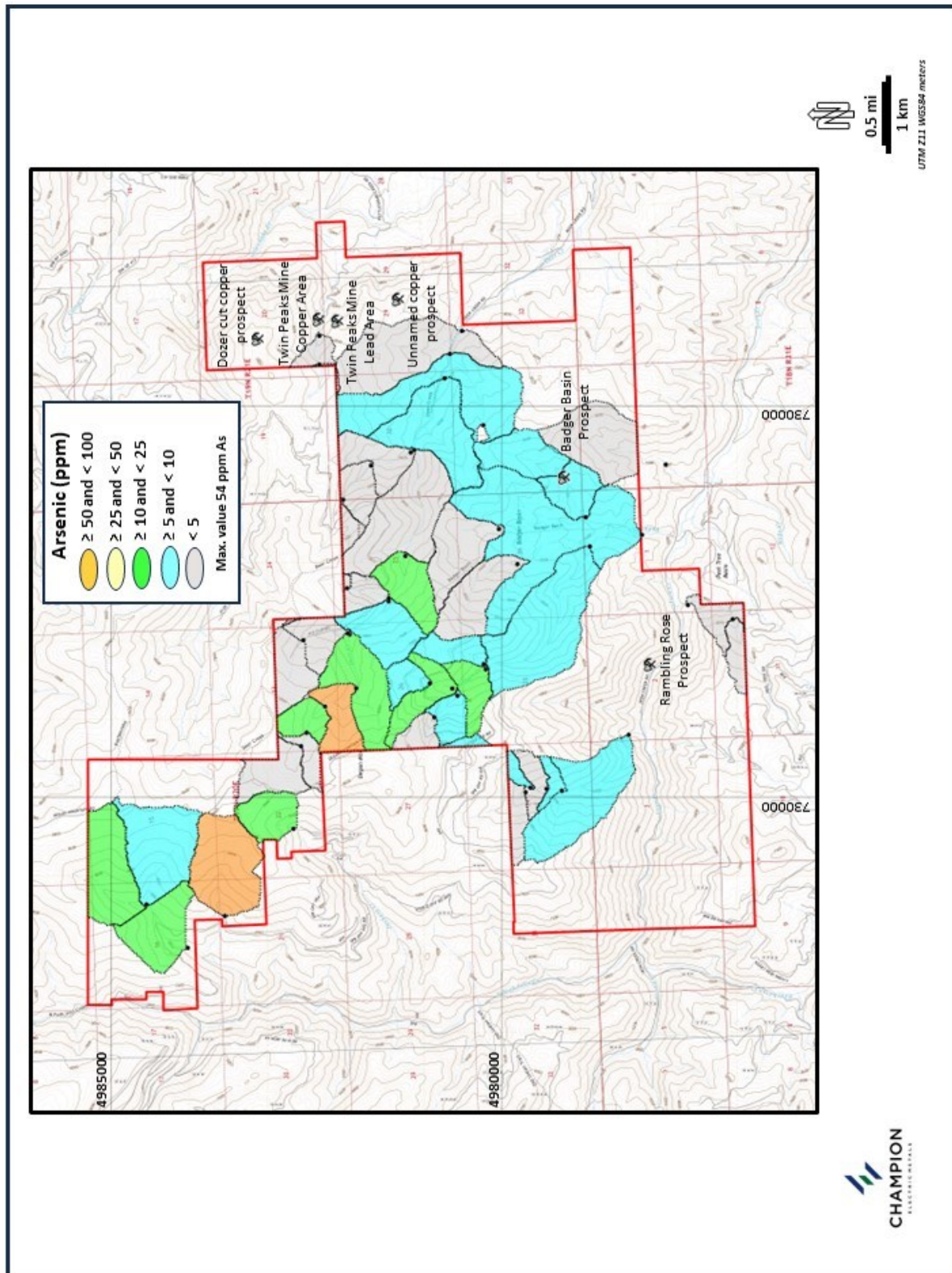
Source: Champion Electric

Figure 9-6b Stream Sediment Geochemistry – Cobalt



Source: Champion Electric

Figure 9-6c Stream Sediment Geochemistry – Arsenic



Source: Champion Electric

## 9.5 Rock Geochemistry

The rock geochemical database comprises 139 samples collected from outcrop, float, mine waste dumps, and prospect spoils piles. Sample locations represent focus on areas of historical mining/prospecting and watersheds determined to be geochemically anomalous from stream sediment sampling. Mapping and sampling traverses have examined approx. 10% of the area of outcropping Apple Creek Formation within the Twin Peaks Project perimeter.

Representative sampling is limited to the mineralized outcrop at the Badger Basin prospect (Fig. 6-4a). Select samples from mine dumps and prospect spoils piles were collected to characterize variations in mineralization styles. Samples from geochemically anomalous watersheds and along Iron Creek Road are mostly less selective grab samples of float and outcrop.

Copper values greater than 1% are readily found at Twin Peaks Mine and nearby prospects (Figs. 9-7a). Copper values up to 15% were found in select samples of quartz veins with secondary copper oxides from the dozer cut north of Twin Peaks Mine (Fig. 9-8a). This material also yielded elevated cobalt values to 2,580 ppm, silver values to 49 ppm, and gold values to 1.5 ppm. Trenching is proposed for this location to determine widths and geologic controls of mineralization.

Rocks exhibiting secondary copper oxides at the Badger Basin prospect can have values greater than 20% copper with significant silver credits (Fig. 6-4a). Elevated cobalt values are not known at this location.

Float samples from watersheds with stream sediment samples >250 ppm copper (Fig. 9-6a) have yielded up to 133 ppm copper (Fig. 9-7a). Similarly, float samples with up to 299 ppm cobalt lie upstream of the two stream sediment samples with cobalt values >30 ppm cobalt (Figs. 9-6b, 9-7b). Initial samples collected within the string of arsenic-anomalous watersheds (Fig. 9-6c) have yielded values up to 309 ppm arsenic (Fig. 9-7c).

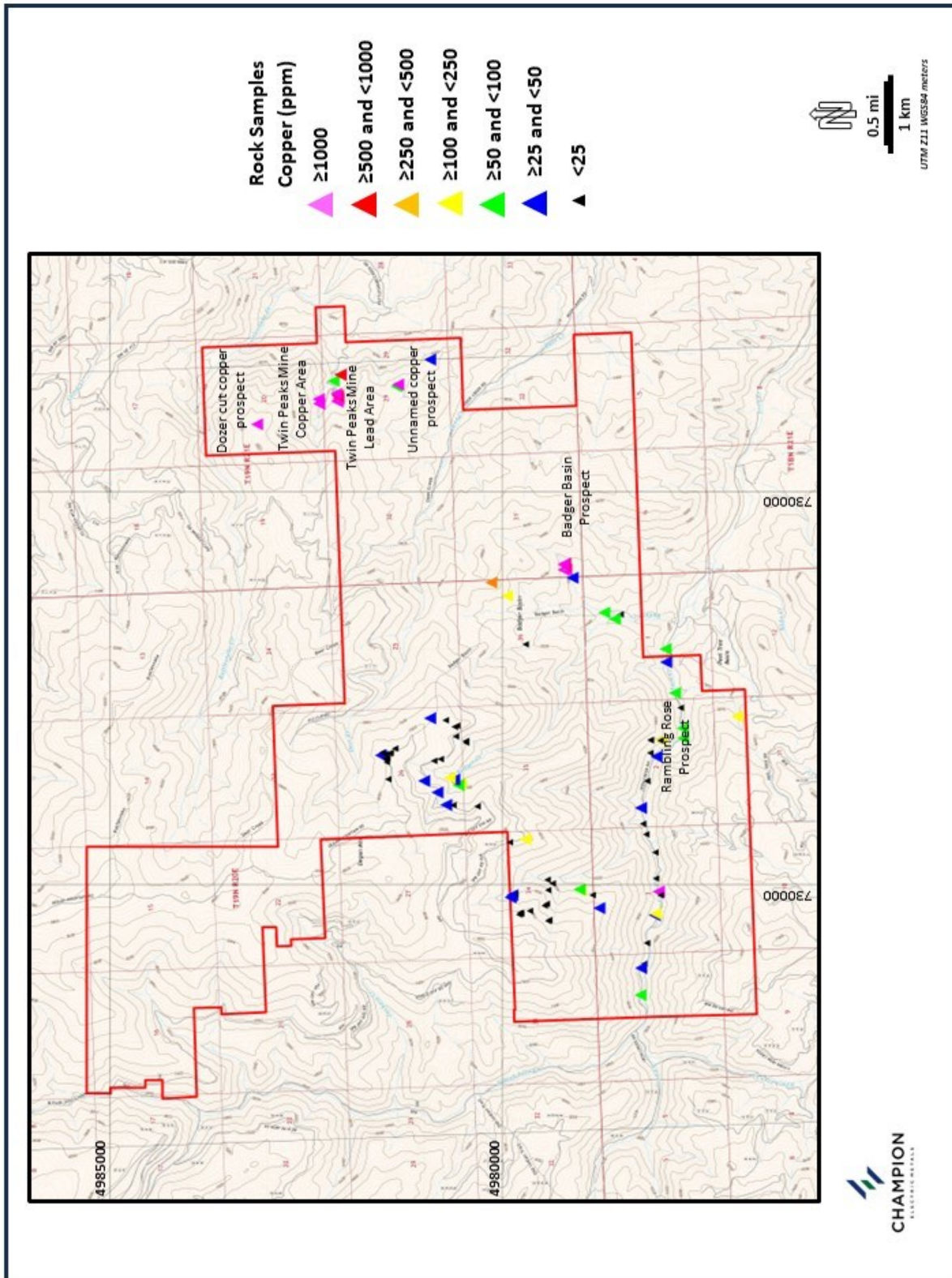
The metals association of Cu-Co-As that best describes mineralization at the neighboring Iron Creek Project is represented across the western portion of the Twin Peaks Project. This area is proposed for extensive induced polarization data acquisition.

Given the example of Blackbird Mine mineralization, the potential for significant REE concentrations should be evaluated by Champion Electric. The analytical suite selected by Champion Electric for rock samples does not include a full suite of REE. However, it does include lanthanum and this may serve as a proxy for initial consideration. The two samples from Twin Peaks Mine Lead Area that yielded lanthanum values of 480 ppm and 180 ppm are the only samples from the rock database with lanthanum values >100 ppm. It is recommended that Champion Electric complete an orientation study for the full suite of REE from trench and drill samples to include any samples with elevated lanthanum content.

No uranium or thorium enrichments are identified in the Twin Peaks Project rock database.

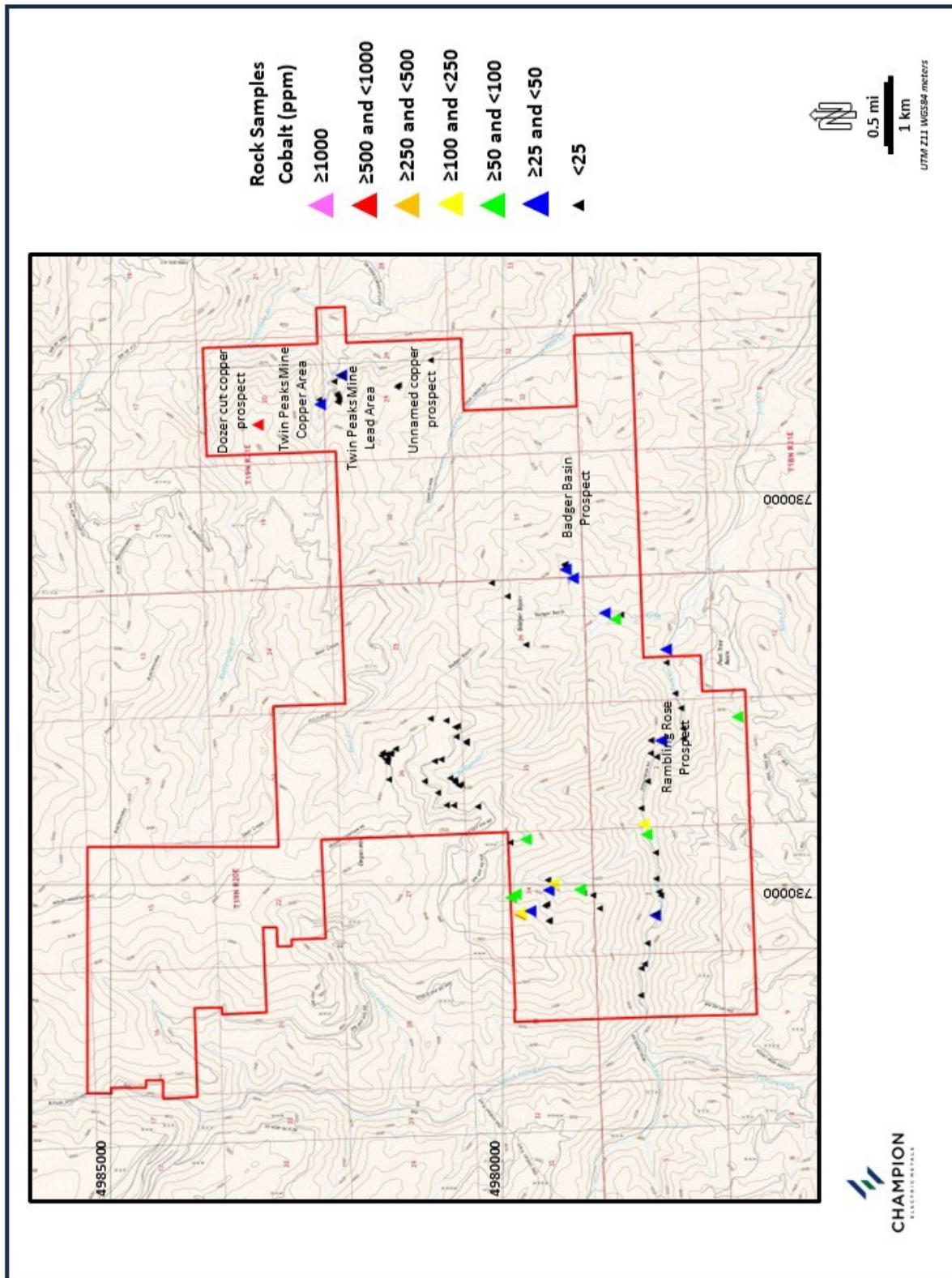


Figure 9-7a Rock Geochemistry – Copper



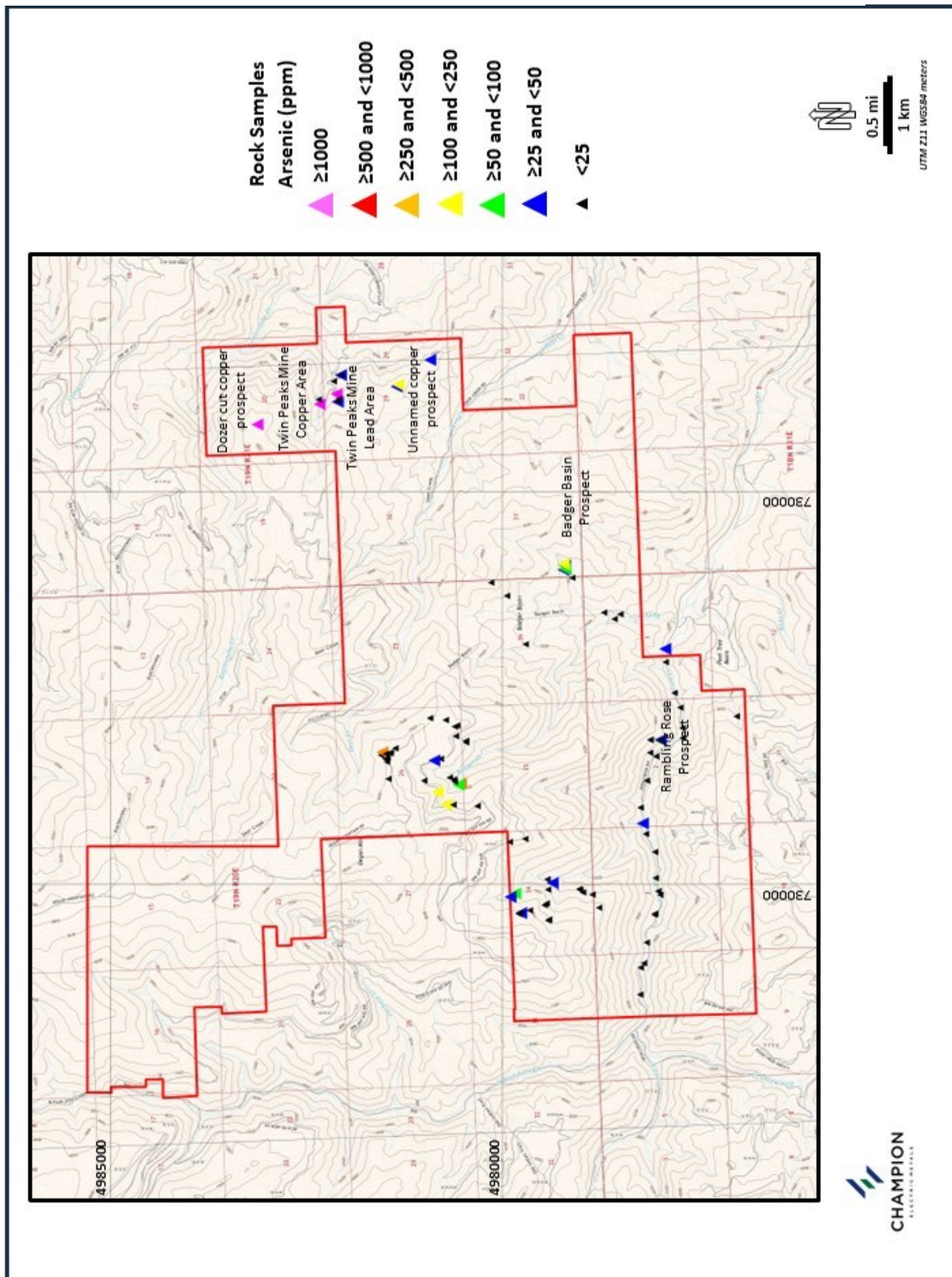
Source: Champion Electric

Figure 9-7b Rock Geochemistry – Cobalt



Source: Champion Electric

Figure 9-7c Rock Geochemistry – Arsenic



Source: Champion Electric

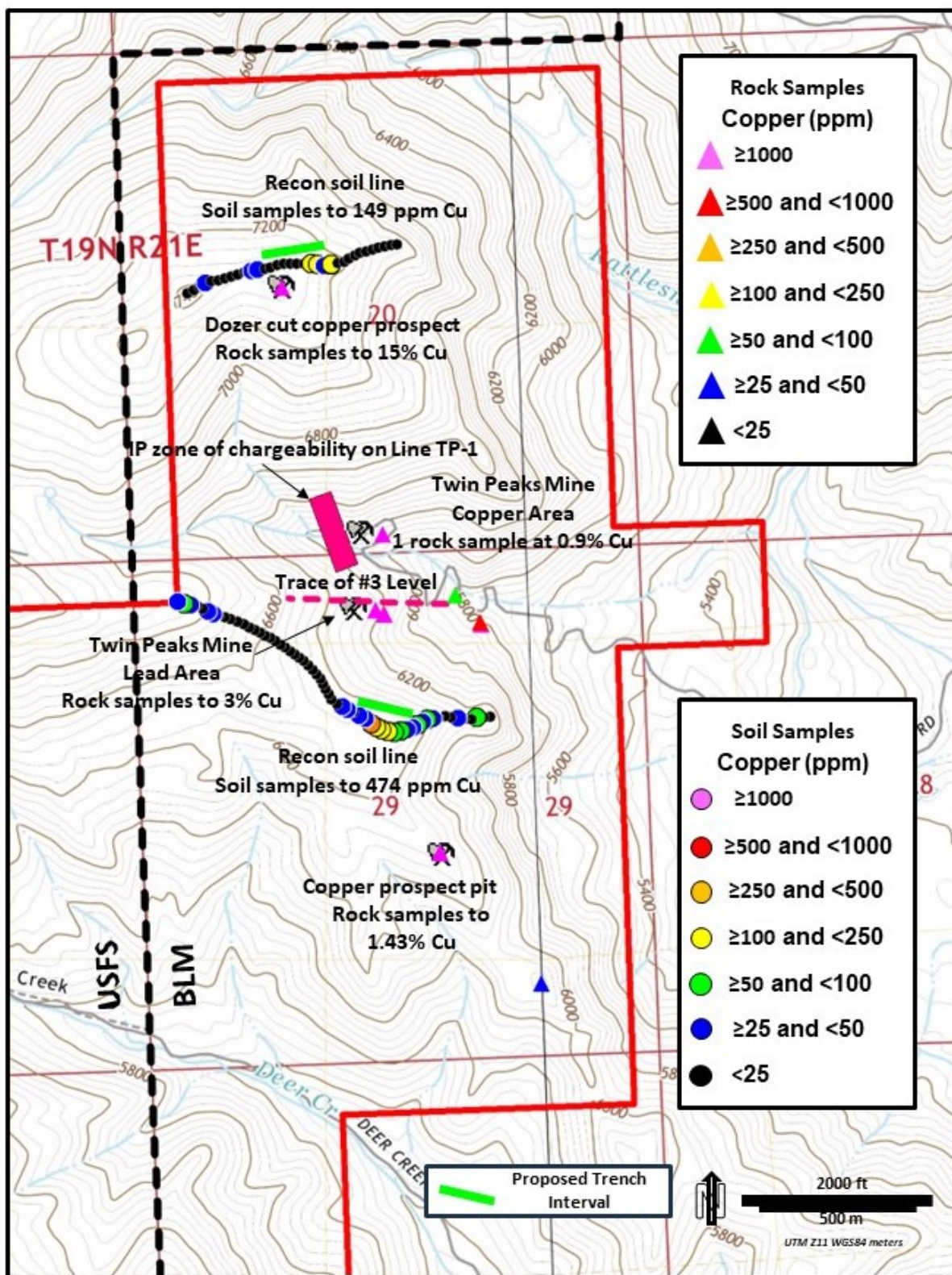
## 9.6 Soil Geochemistry

The soil geochemistry database for the Twin Peaks Project comprises 94 samples collected at 20 m spacing on two lines along topographic spurs north and south of the Twin Peaks Mine. The principal purpose of these soil sample lines was to refine length and position of proposed trenches on the strike projections of the Twin Peaks Mine hydrothermal system.

The northern soil sample line includes an 80 m wide interval with values to 149 ppm copper, 38 ppm cobalt, and 87 ppm arsenic. This interval lies approx. 125 east of the historical dozer cut and it is proposed to extend the proposed trench to include both locations.

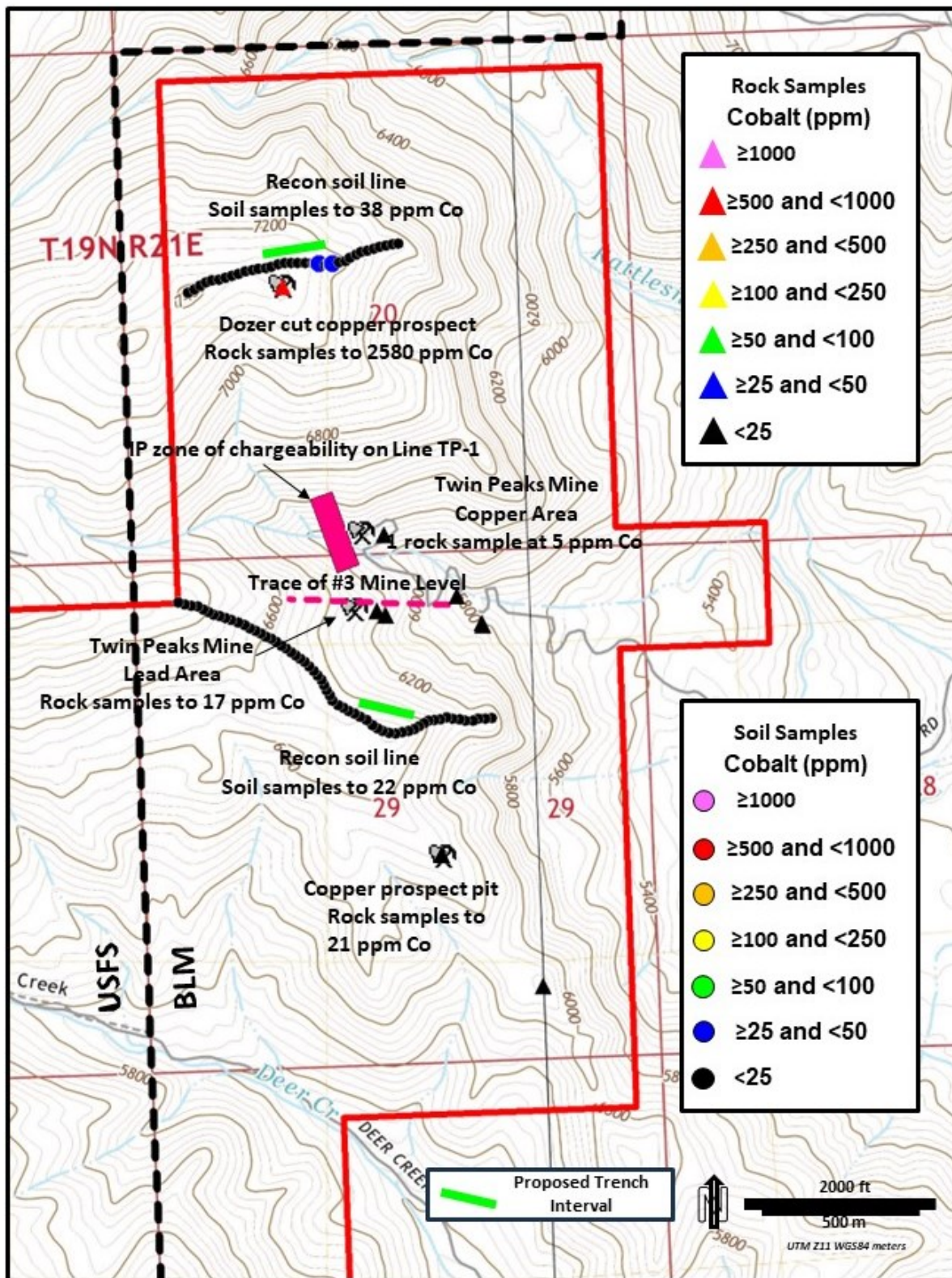
The southern soil sample line includes a 120 m wide interval with values to 474 ppm copper, 18 ppm cobalt, and 87 ppm arsenic. This interval is the principal target proposed for trenching along this soil sample line. An isolated sample near the eastern limit of this line carries 52 ppm copper, 12 ppm cobalt, and 132 ppm arsenic. This location may be considered as a secondary trenching target by Champion Electric.

Figure 9-8a Soil and Rock Geochemistry at Twin Peaks Mine – Copper



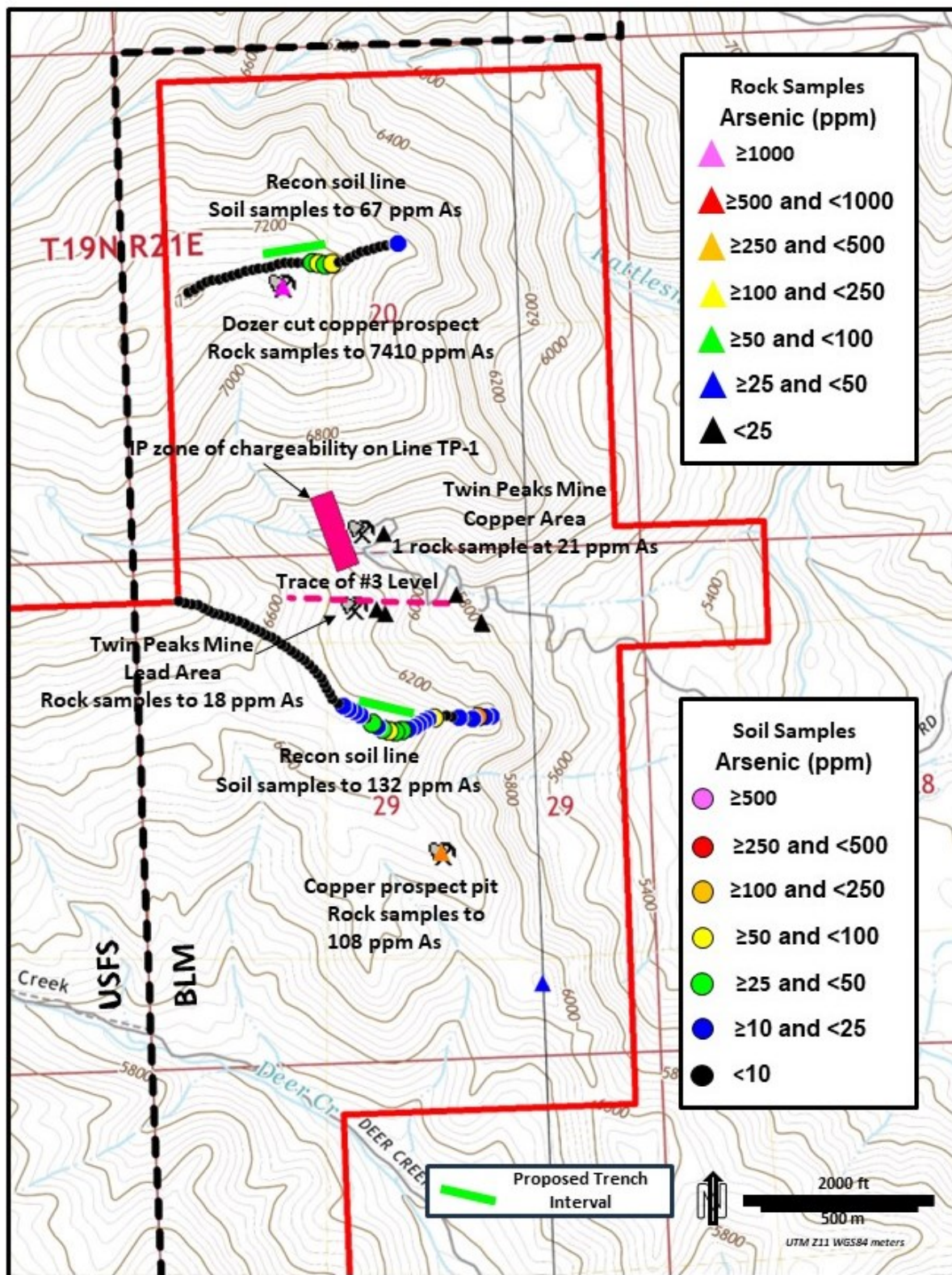
Source: Champion Electric (with modifications)

Figure 9-8b Soil and Rock Geochemistry at Twin Peaks Mine – Cobalt



Source: Champion Electric (with modifications)

Figure 9-8c Soil and Rock Geochemistry at Twin Peaks Mine – Arsenic



Source: Champion Electric (with modifications)

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## 10.0 DRILLING (ITEM 10)

Champion Electric has completed no drill holes at the Twin Peaks Project as of the Effective Date of this report.

The reader is cautioned that drilling data for the Twin Peaks Project is historical in nature, does not meet current reporting standards, and should not be relied upon.

No records are known for underground drill holes reported to have been completed at the Twin Peaks Mine Lead Area during the period 1955-1966.

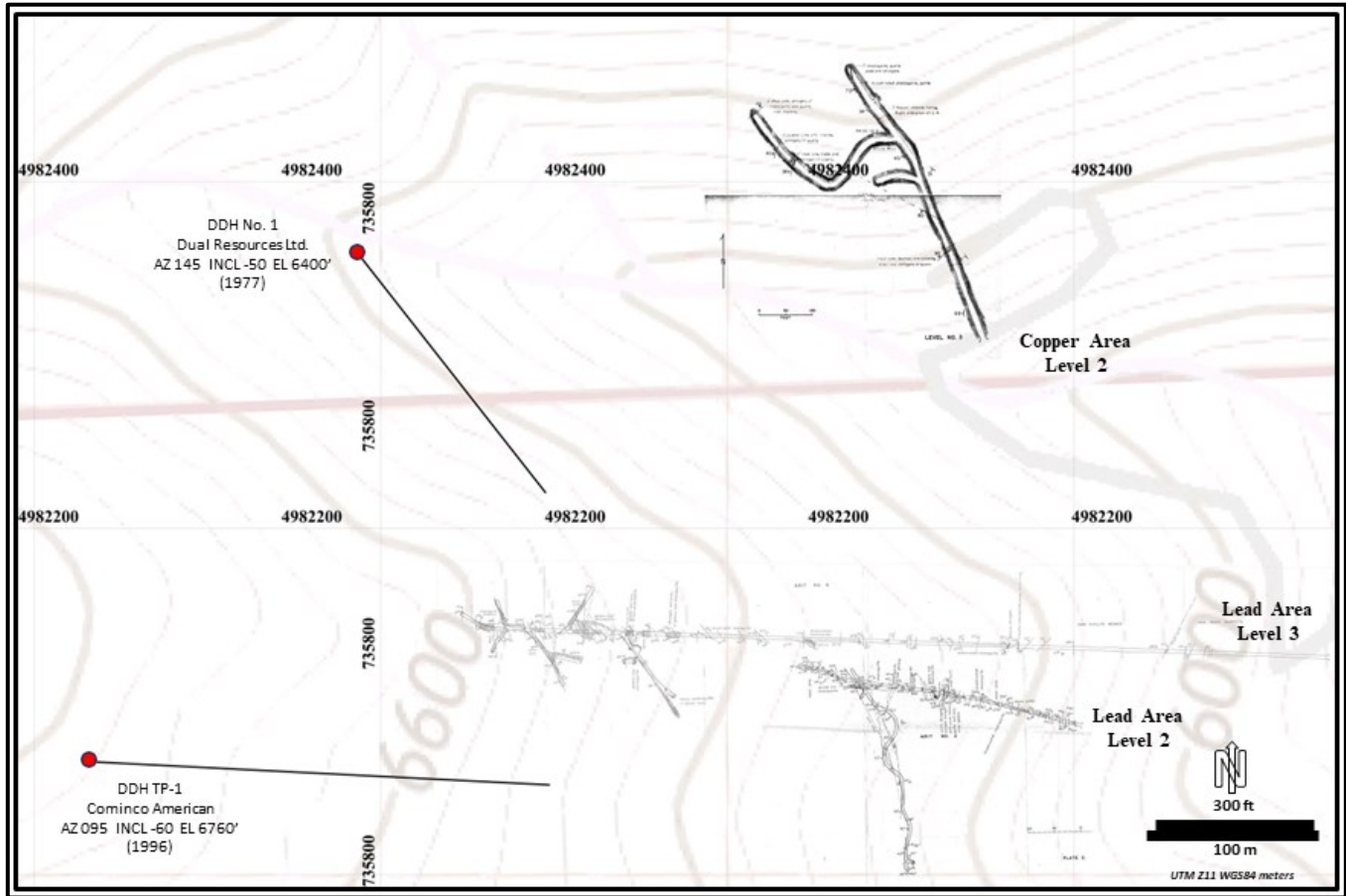
In 1977, Dual Resources Ltd completed diamond drill hole No. 1 to a total depth of 886 feet (270 m) at the Twin Peaks Mine (Fig 10-1). This hole is collared at Corral Creek approx. 200 m northwest of the western limit of underground development on the #3 level (Lead Area) at a reported elevation of 6,400 ft (1,950 m). Drill hole orientation at the collar is azimuth 145°/inclination -50°, an azimuth that is essentially parallel to the strike of mineralized shear zones mapped by Starr (1955). The geological log records metasedimentary rocks consistent with the Banded Unit of Apple Creek Formation with sparse scattered galena, pervasive chloritization, and shearing throughout the hole. A zone of disseminated pyrite was intersected for the interval 434-645 feet (132-197 m) that included sparse blebs of chalcopyrite, averaging 0.04% copper. Drilling difficulties in an interval of strong clay development forced the hole to be terminated (Tully, 1977).

In 1996, Cominco American completed diamond drill hole TP-1 to a total depth of 1,734.5 feet (529 m) at the Twin Peaks Mine (Fig. 10-1). Hole TP-1 is collared at a reported elevation of 6,760 feet (2,060 m) approx. 200 m southwest of the limit of underground development for the #3 level of the Lead Area. Drill hole orientation at the collar is azimuth 095°/inclination -60°, parallel to the azimuth of the # 3 level and nearly orthogonal to the strike of mineralized shear zones mapped by Starr (1955). The geological log records metasedimentary rocks consistent with the Banded Unit of Apple Creek Formation. The most significant interval of sulfide mineralization (trace-20% pyrite with minor chalcopyrite and galena) is reported for the interval 1527-1601 ft (465-488 m). The geologic log for this interval records annotated copper values nil to 7490 ppm and silver values nil to 26 ppm associated with narrow, silicified shear zones (Ellsworth, 1996).

No drill holes are known to have been completed at the Twin Peaks Project outside the immediate vicinity of the Twin Peaks Mine.



Figure 10-1 Approximate Locations for Historical Drill Holes No. 1 and TP-1 with Respect to Twin Peaks Mine Underground Workings Projected to Surface



Source: Champion Electric

## 11.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY (ITEM 11)

The Author has no direct knowledge of the historical sampling procedures or sample security measures used by previous operators other than the work completed by Champion Electric. Methods used by Champion Electric in 2023 were available through internal communications and were observed in the field by the Author.

### 11.1 Sample Preparation, Analysis and Sample Security

Geologists on contract to Champion Electric collected a total of 19 rock samples from outcrop, float, and mine/prospect dumps on October 23 and 31, 2022 (Lawrence, 2022). These samples were shipped on November 5, 2022 to the ALS Global preparation facility in Twin Falls, ID without inclusion of certified reference materials in the sample series. The entire mass of each sample was dried at a maximum temperature of 60° C (ALS method DRY-22) and was crushed in two stages to 70% < 2mm (ALS method CRU-21). A 1000 g aliquot of crushed material was collected using a riffle splitter (ALS method SPL-21) and pulverized to 85% <75 µm (ALS method PUL-32). A four-acid digestion with ICP-AES finish for 33 elements was completed on 0.25 g of pulverized material (ALS method ME-ICP61). Samples with overlimit values for copper, lead, or silver were reanalyzed for the specific element(s) by four acid digestion of 0.4 g of pulverized material and ICP finish (ALS methods \*-OG62).

Geologists on contract with Champion Electric collected a total of 116 rock samples from outcrop, float, and mine/prospect dumps during June-July, 2023. These personnel delivered samples in two submittals to the ALS Global preparation facility in Twin Falls, ID with inclusion of certified reference materials in the sample series. The entire mass of each sample was dried at a maximum temperature of 60° C (ALS method DRY-22) and was crushed in two stages to 70% < 2mm (ALS method CRU-21). A 1,000 g aliquot of crushed material was collected using a riffle splitter (ALS method SPL-21) and pulverized to 85% <75 µm (ALS method PUL-32). As a precaution against cross contamination from strongly mineralized samples, pulverizing equipment underwent processing of barren material between samples (ALS method WSH-22). Four-acid digestion with ICP-AES finish for 33 elements was completed on 0.25 g of pulverized material and included mercury analysis by a separate method (ALS methods ME-ICP61m and HG-MS42). Additionally, 50 g of pulverized material for each sample underwent analysis for gold by fire assay and AA finish with a detection limit of 0.001 ppm gold (ALS method Au-ICP22).

Technicians on contract to Champion Electric collected a total of 94 soil samples from two reconnaissance soil lines near the Twin Peaks Mine on July 6, 2023. These personnel delivered samples in one submittal to the ALS Global preparation facility in Twin Falls, ID with inclusion of certified reference materials in the sample series (Fig. 11-1). The entire mass of each sample was dried at a maximum temperature of 60° C (ALS method DRY-22) and sieved at 180 µm (ALS method SCR-41). Aqua regia digestion on 0.5 g of <180 µm material was completed with ICP-MS finish for 42 elements (ALS method ME-MS41). Additionally, 30 g of <180 µm material for each sample underwent analysis for gold by fire assay and ICP finish with a detection limit of 0.001 ppm gold (ALS method Au-ICP21).

Figure 11-1 Soil Samples Submittal to ALS Global, Twin Falls, ID, July 12, 2023



Source: Champion Electric

Geologists on contract to Champion Electric collected a total of 47 stream sediment samples from low energy pools within actively flowing drainages during June-July, 2023. These personnel delivered samples in two submittals to the ALS Global preparation facility in Twin Falls, ID with inclusion of certified reference materials in the sample series. The entire mass of each sample was dried at a maximum temperature of 60° C (ALS method DRY-22) and sieved at 180 µm (ALS method SCR-41). Aqua regia digestion on 0.5 g of <180 µm material was completed with ICP-MS finish for 42 elements (ALS method ME-MS41). Additionally, 30 g of <180 µm material for each sample underwent analysis for gold by fire assay and ICP finish with a detection limit of 0.001 ppm gold (ALS method Au-ICP21).

Geologists on contract to Champion Electric collected two large mass (> 4 kg) stream sediment samples from low energy pools within Deer Creek and Badger Creek during June, 2023. These personnel delivered the samples along with a packet of certified reference material in one submittal to the ALS Global preparation facility in Twin Falls, ID. The entire mass of each sample was dried (ALS method DRY-21) and sieved at 2 mm (ALS method SCR-41). A 1,000 g aliquot of <2 mm material was collected using a riffle splitter (ALS method SPL-21) and underwent bottle roll cyanide extraction and analysis for gold and silver (ALS methods Au-AA14 and Ag-AA14). The coarse sample fraction was crushed in two stages to 70% <2mm (ALS method CRU-21). A 1,000 g aliquot of crushed material was collected using a riffle splitter (ALS method SPL-21) and pulverized to 85% <75 µm (ALS method PUL-32). Four-acid digestion with ICP-AES finish for 33 elements was completed on 0.25 g of pulverized material and included mercury analysis by a separate method (ALS methods ME-ICP61m and HG-MS42). Additionally, 50 g of pulverized material for each sample underwent analysis for gold by fire assay and AA finish with a detection limit of 0.001 ppm gold (ALS method Au-ICP22).

## 11.2 Quality Assurance/Quality Control

All rock, soil, and stream sediment samples in the Twin Peaks Project database were prepared and analyzed by ALS Global. All certificates of analysis include details for the internal monitoring of QA/QC performance for standards, blanks, and duplicates. No QA/QC issues were reported by ALS Global.

Approximately 5% of samples submitted to ALS Global for analysis are certified reference materials and approximately 2% of samples submitted to ALS Global are field duplicates. Additionally, samples of common hardware store sand were submitted as the first sample in each submittal to serve as a buffer between Champion Electric samples and those of the preceding non-Champion Electric submittal.

## 11.3 Summary Statement

It is the Author's opinion that the sample collection, preparation, security, and analytical procedures as described are sufficient for the exploration program conducted by Champion Electric on the Property. Future exploration programs should continue to utilize standard industry sample collection procedures along with the insertion of blank material, certified reference material and field duplicates into the sample stream at an appropriate frequency.

## 12.0 DATA VERIFICATION (ITEM 12)

The Author, Brian T. Brewer, conducted a field visit of the Twin Peaks Property on 16 and 17 January 2024. The site visit was commissioned by Champion Electric and conducted on behalf of Champion Electric as part of their due diligence process and in preparation for preparing this report. During this site visit, the Author conducted a review of the Twin Peaks Property where he collected four rock samples from the property.

All samples collected by the Author remained under strict control of the Author until they were sent to Paragon Geochemical Laboratory (“Paragon”) of Sparks, Nevada via FedEx for Analysis. Paragon is an ISO/IEC 17025:2017 accredited laboratory.

The Author requested that the samples be prepared in the laboratory by drying at 100°C, crushed to 70% passing 10 mesh, then riffle split 250g and pulverized to 85% passing 200 mesh. The pulps were then analyzed for a 33-element suite utilizing a 0.25g multi-acid digestion with an ICP-OES finish and for gold by 30g fire assay with aqua regia digestion and AAS finish.

The following table highlights the assay results for selected elements of the Author’s samples.

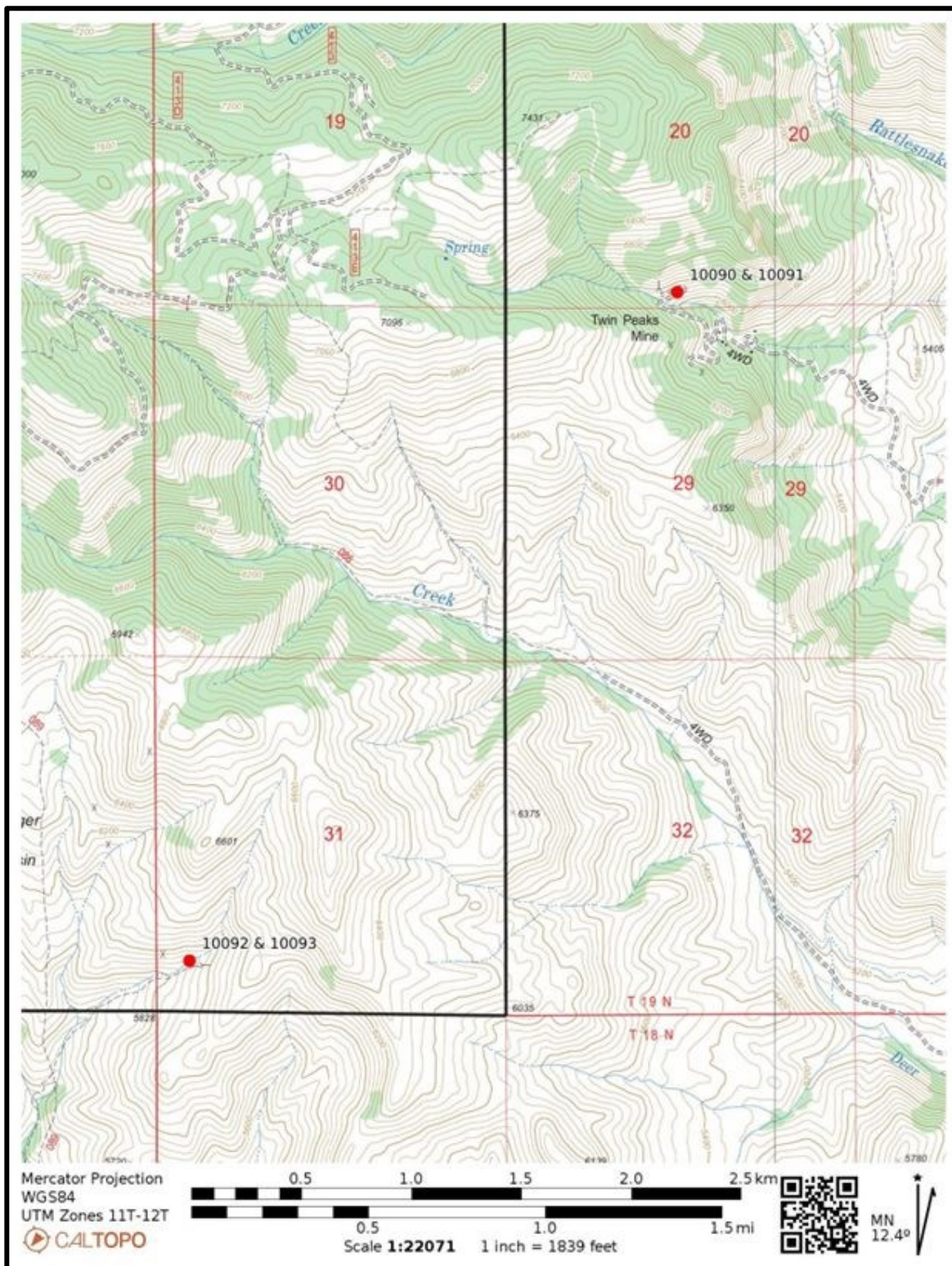
**Table 12-1 Confirmation Sample Analyses for Selected Elements (Paragon Geochemical)**

Sample Number	Assay Lab	Lab Certificate #	Cu (ppm) 33MA-OES	Cu (%) OLMAOES	Co (ppm) 33MA-OES	Ag (ppm) 33MA-OES	Ag (ppm) Ag-GR30	Au (ppm) Au-AA30
10090	Paragon Geoch.	B24-0011	>10000	1.25	4.5	2.0		0.011
10091	Paragon Geoch.	B24-0011	>10000	7.19	115	>100	253	0.450
10092	Paragon Geoch.	B24-0020	>10000	17.69	<1	>100	130	1.383
10093	Paragon Geoch.	B24-0020	>10000	16.06	2.4	91.3		0.517
Sample Number	Assay Lab	Lab Certificate #	As (ppm) 33MA-OES	Bi (ppm) 33MA-OES	La (ppm) 33MA-OES	Pb (ppm) 33MA-OES	Sb (ppm) 33MA-OES	Zn (ppm) 33MA-OES
10090	Paragon Geoch.	B24-0011	122	<2	20	557	10	164
10091	Paragon Geoch.	B24-0011	1120	272	200	1320	83	647
10092	Paragon Geoch.	B24-0020	292	231	<10	427	12	280
10093	Paragon Geoch.	B24-0020	163	320	<10	554	8	320

The Author’s samples numbered 10092 and 10093 are field duplicates taken from the same mineralized structure as previous samples collected by Champion Electric during their 2023 program (Fig. 6-4a). The assays from the Author’s samples correlate very well with the assay results from Champion Electric’s samples.

The Author’s samples confirm the presence of significant Co-Cu-Ag mineralization on the Property and their locations are shown in Figure 12-1.

Figure 12- 1 Sample Location Map for Confirmation Samples



## **12.1 Database Verification**

In conjunction with his on-site field review of the Property, the Author has conducted a thorough review of all technical data generated by Champion Electric during their October 2022 and June-July 2023 exploration programs and has found no reason to question the validity of their results.

## **12.2 Summary Statement on Data Verification**

The Author has conducted a site visit and data verification that included examination of the surface geology, review of access and infrastructure, collection of 4 rock samples in key areas. The Author concludes that the Twin Peaks Project data are acceptable as used in this report, most significantly to support the planning of further exploration activities.

### **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING (ITEM 13)**

The author is unaware of any modern records of metallurgical or mineral processing test work conducted for the Twin Peaks project.



#### **14.0 MINERAL RESOURCE ESTIMATES (ITEM 14)**

There are no estimated mineral resources for the Twin Peaks project.

**15.0-22.0 ITEMS 15-22 (NOT APPLICABLE)**

The Twin Peaks Project is not sufficiently advanced for Sections 15 through 22 to apply and these sections have been omitted.

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### 23.0 ADJACENT PROPERTIES (ITEM 23)

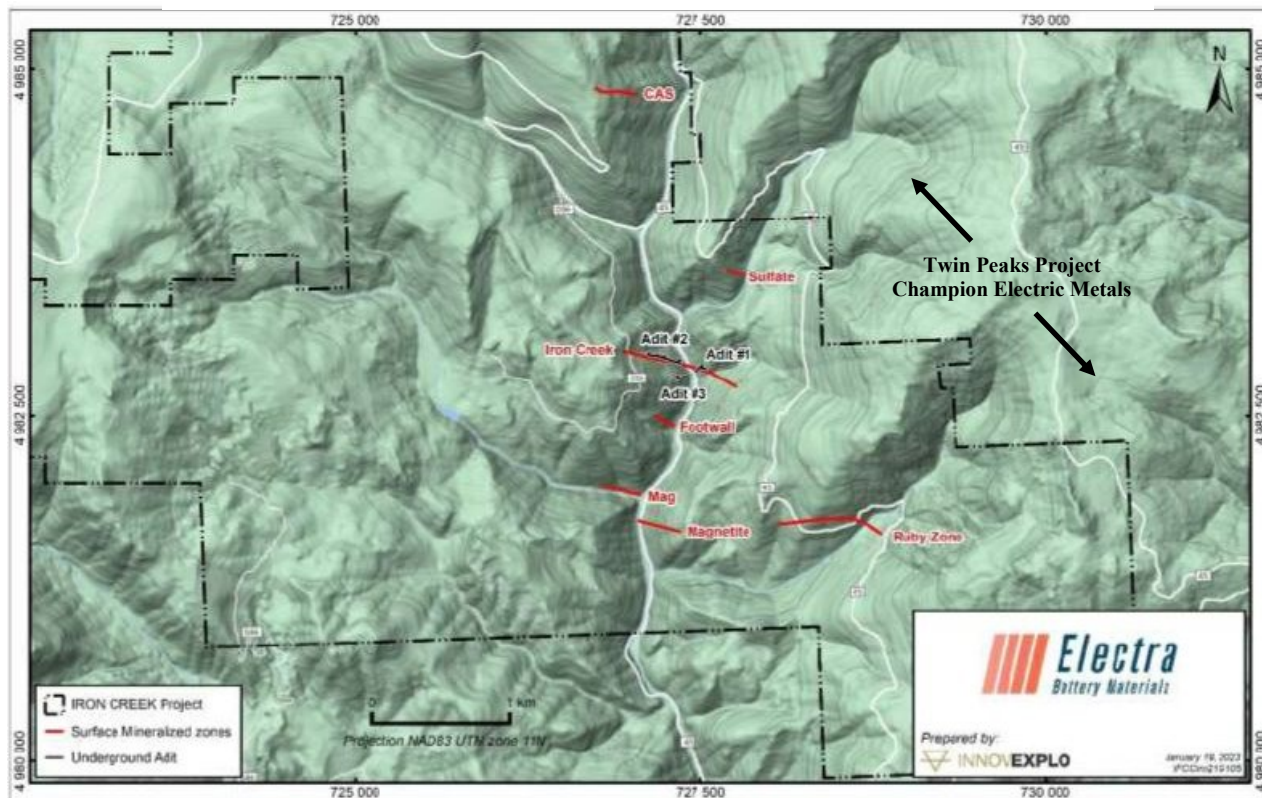
Electra Battery Materials' Iron Creek Project comprises approx. 3211 hectares of unpatented and 55 hectares of patented mining claims west of and contiguous with the Twin Peaks Project (Fig. 23-1). In-depth description and analysis of the Iron Creek Project is provided by *NI 43-101 Technical Report and Mineral Resource Estimate for the Iron Creek Cobalt-Copper Property, Lemhi County, Idaho, USA*, a technical report prepared for Electra Battery Materials by InnovExplo Inc. (Perron, 2023). The Author has not verified the information presented in the Electra Battery Materials technical report and the information is not necessarily indicative of mineralization at the Twin Peaks Project. Further, the reader is cautioned that proximity to cobalt-copper mineralization at the Iron Creek Project offers no assurance that the rock types or resources reported by Electra extend onto the Twin Peaks Project, nor should such proximity be assumed to imply similarity to mineralization and results reported by other companies in the district.

The Banded Unit of Apple Creek Formation hosts seven known mineralized zones within the Iron Creek Project: Iron Creek, Ruby, CAS, Sulphate, Footwall, MAG, and Magnetite (Fig. 23-1). The most important zone identified to date is the Iron Creek cobalt-copper resource (Table 23-1, Figs. 23-2 and 23-3). Additionally, mineralized drill intercepts have been reported for the Ruby Zone (Fig. 23-4), including 4.3 m at 0.25% cobalt in hole IC22-04 from 211.4 to 215.8 m (Electra Battery Materials press release dated December 14, 2022). In 2020, personnel of the Idaho Geological Survey sampled semi-massive arsenopyrite from bedrock at the CAS Zone that assayed 8220 ppm cobalt, 22.8% arsenic, 13.3 ppm gold, and 50 ppm copper (sample 20RL062, USGS Earth Mapping Resources Initiative Geochemistry Database, <https://mrdata.usgs.gov/earthmri/geochemistry/>).

In 2022, Electra Battery Materials submitted a Plan of Operations to the USFS to permit construction of up to 92 drill pads (up to 6 drill holes per pad) and approx. 5.6 km of associated access roads over a ten-year period (<https://www.fs.usda.gov/project/?project=63150>). The Plan of Operations application is under review by the USFS as of the Effective Date of this Technical Report.

The Iron Creek Project is the only active mineral exploration property known to lie adjacent to the Twin Peaks Project. The Author is not aware of any third-party claims internal to Champion Electric holdings at the Twin Peaks Project.

Figure 23-1 Iron Creek Property - Electra Battery Materials - Mineralized Zones and Existing Adits



Modified from Perron (2023)

Table 23-1 2023 Mineral Resource Estimate of the Iron Creek Co-Cu Project

Iron Creek Project	Mineral Resources	Tonnes (t)	Co (%)	Cu (%)	Lbs of Co	Lbs of Cu
	Indicated	4,451,000	0.19	0.73	18,364,000	71,535,000
	Inferred	1,231,000	0.08	1.34	2,068,000	36,485,000

Notes to the 2023 MRE

1. The effective date of the 2023 MRE is January 27, 2023.
2. The independent and qualified persons for the 2023 MRE are Martin Perron, P. Eng. and Marc R. Beauvais, P.Eng. all from InnovExplo Inc.
3. The 2023 MRE follows the CIM Standards.
4. These mineral resources are not mineral reserves, because they do not have demonstrated economic viability. The results are presented undiluted and are considered to have reasonable prospects of economic viability.
5. The estimate encompasses one large, mineralized envelope using the grade of the adjacent material when assayed or a value of zero when not assayed. Dilution zones encompassing all mineralized zones were created as part of the mineralized domain to reflect the dilution within the constraining shapes.
6. High-grade capping supported by statistical analysis was done on raw assay data before compositing and established on a per-metal basis, having a limiting value at 1% for cobalt and 10% for copper. Composites (1.5 m) were calculated within the zones using the grade of the adjacent material when assayed or a value of zero when not assayed.

Modified from Perron (2023) Effective date of January 27th, 2023

Figure 23-2 Panoramic Image at Adit #1, Iron Creek Resource



View to the southeast at center of image. Portal at 727421 E 4982750 N. Photo: J. Phinisey

**Figure 23-2 Massive Pyrite Mineralization, Iron Creek Resource**



*Photo: J. Phinisey*

**Figure 23-3 Roadcut Exposure of Ruby Zone, USFS Road 45**



*Photo: J. Phinisey*

## **24.0 OTHER RELEVANT DATA AND INFORMATION (ITEM 24)**

The author is not aware of any other data or information relevant to the Twin Peaks Project and the interpretations and conclusions presented in this report.

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## 25.0 INTERPRETATION AND CONCLUSIONS (ITEM 25)

The Twin Peaks Project is located within the Blackbird Mining District of the Idaho Cobalt Belt, the premier cobalt district of the United States. The Twin Peaks Project lies adjacent to Electra Battery Materials' Iron Creek Project and 4 km southeast of their Iron Creek Co-Cu resource.

The Twin Peaks Project hosts the historical Twin Peaks Mine, as well as several workings that were targets for Cu-Ag-Pb±Au mineralization. Historical reports for the Twin Peaks Mine reference copper and silver grades that are worthy of further investigation. Rock samples by Champion Electric and the Author have yielded similar values for copper and silver. Additionally, Champion Electric samples from the copper prospect north of the Twin Peaks Mine demonstrate elevated values for Cu-Co-As-Bi-Au. A possible genetic link between Twin Peaks-style mineralization and Co-Cu mineralization more typical of the Idaho Cobalt Belt should be evaluated.

The Ruby Zone and the Iron Creek resource are located near the stratigraphic base of the Banded Unit of the Apple Creek Formation. Geologic mapping by the Idaho Geological Survey and aeromagnetic mapping permit an inference that this key stratigraphic interval is likely to exist in the western portion of the Twin Peaks Project. In this same area, Champion Electric stream sediment and rocks samples demonstrate elevated values for Co-Cu-As, the metal association that characterizes Iron Creek Project mineralization.

It is the Author's opinion that the Twin Peaks Project has potential to host a significant cobalt-copper deposit and is a Property of Merit.

The Author is not aware of any environmental, permitting, legal, title, taxation, socio-economic, political or any other relevant factors that could materially prevent the Twin Peaks Project from being a Property of Merit. Nor is the Author aware of any significant risks or uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information, any possible future mineral resource or mineral reserve estimates or the project's potential economic viability or continued viability.



## 26.0 RECOMMENDATIONS (ITEM 26)

The Author recommends a two-phase exploration approach be taken on the Property where Phase II will follow Phase I and will be contingent on the successful outcome of Phase I. Phase I results and conclusions would be used to assist with the planning of Phase II exploration activities.

The Author recommends that Phase I consist of additional geological mapping and rock sampling along with approximately 54 km of IP data acquisition on 18 lines with nominal line spacing of 500 m. It is also recommended that Champion Electric budget for approximately 22 line km of IP for infill purposes on any zones of increased chargeability that are identified with the initial survey. Additionally, the Author recommends a trenching program of approximately 300 metres to the north and south of the Twin Peaks Mine. Proposed trenches should be oriented to cross the strike projection of the Twin Peaks Mine mineralized shear zones at areas of anomalous copper + cobalt values in rock and reconnaissance soil sample lines (Fig. 9-8 a-c). Concurrently with Phase I activities, the Author recommends initiating the permitting process for a diamond core drilling program.

Phase II activities are recommended to commence following the successful completion of Phase I and should consist of drill testing of Phase 1 targets. The first phase of drilling will focus on delineating and understanding the geological, structural, mineralization and geochemical characteristics of the Property, which should lead to new and better exploration targets.

The estimated budgets for the recommended Phase I and Phase II exploration programs are shown in Table 26-1.

**Table 26-1 Proposed Phased Exploration Program Cost Estimate**

Phase I	PERSONNEL MOBILIZATION/MILEAGE/ATV RENTAL/TRAVEL MISC		\$	24,000
	RECLAMATION BONDING		\$	27,500
	GEOLOGIC MAPPING & SAMPLING		\$	68,000
	TRENCHING - MAPPING/SAMPLING/ASSAYS		\$	41,000
	INDUCED POLARIZATION SURVEY		\$	597,000
Phase II	CORE DRILLING - DRILLING/LOGGING/SAMPLING/ASSAYS - 1000 m		\$	622,250
	TOTAL		\$	1,380,000
				(total rounded to nearest \$1000)

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## **28.0 DATE AND SIGNATURE PAGE (ITEM 28)**

This report, entitled “**Technical Report for the Twin Peaks Project, Lemhi County, Idaho, USA**” and with an effective date of August 1, 2024, was prepared on behalf of Champion Electric Metals, Inc., and is signed by the Author.

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Brian T. Brewer, M.Sc.  
CPG (AIPG # 11508) 26 Hay Hook Dr. Salmon, Idaho 83467  
October 15, 2024

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## 29.0 CERTIFICATE OF QUALIFIED PERSONS (ITEM 29)

I, Brian T. Brewer, CPG (AIPG # 11508), do hereby certify that:

- I am a Professional Geologist and the President of Brewer Exploration and Geological Services, Inc. with a business address at 26 Hay Hook Dr., Salmon, Idaho 83467 USA.
- I am the Author of the technical report entitled “**Technical Report for the Twin Peaks Project, Lemhi County, Idaho, USA**”, prepared on behalf of Champion Electric Metals, Inc. and with an effective date of August 1, 2024.
- I graduated with a Bachelor of Science degree in Geology from the University of Idaho in 1993 and with a Master of Science degree in Mining Engineering from the South Dakota School of Mines in 2017.
- I am a Certified Professional Geologist (CPG) with the American Institute of Professional Geologists (AIPG), registry number 11508, and a fellow member of the Society of Economic Geologists (SEG).
- I have worked continuously as a geologist for approximately 30 years. My experience has been focused on precious and base-metal exploration and mine pre-development throughout the western United States, Mexico, South America, Haiti and Honduras among other regions.
- I have read the definition of “Qualified Person” set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association (as defined by National Instrument 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of National Instrument 43-101.
- I inspected the Twin Peaks Project on 16 & 17 January 2024 during a site visit that lasted approximately two days.
- I am responsible for the preparation and take responsibility for all sections of the report entitled “**Technical Report for the Twin Peaks Project, Lemhi County, Idaho, USA**”, prepared on behalf of Champion Electric Metals, Inc. and with an effective date of August 1, 2024
- I am independent of the issuer of this report, the Vendor of the Property and the Property.
- I have not had prior involvement with the Property that is the subject of this report.
- I have read National Instrument 43-101 and the report entitled “**Technical Report for the Twin Peaks Project, Lemhi County, Idaho, USA**” has been prepared in compliance with this Instrument.
- I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Twin Peaks Project or securities of Champion Electric Metals, Inc.
- On the effective date of the report, August 1, 2024, to the best of my knowledge, information, and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

“Signed and Sealed”

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Brian T. Brewer, M.Sc.  
CPG (AIPG # 11508)  
26 Hay Hook Dr., Salmon, Idaho 83467, USA  
October 15, 2024



## APPENDIX A

List of unpatented lode mining claims comprising the Twin Peaks Project.

Lead File Number	Claim Name	Date Of Location	Next Pmt Due Date
ID101883292	BADGER 1	11/17/2017	9/3/2024
ID101883293	BADGER 2	11/17/2017	9/3/2024
ID101884055	BADGER 3	11/17/2017	9/3/2024
ID101884056	BADGER 4	11/17/2017	9/3/2024
ID101884057	BADGER 5	11/18/2017	9/3/2024
ID101884058	BADGER 6	11/18/2017	9/3/2024
ID101884059	BADGER 7	11/18/2017	9/3/2024
ID101884060	BADGER 8	11/17/2017	9/3/2024
ID101884061	BADGER 9	11/18/2017	9/3/2024
ID101884062	BADGER 10	11/18/2017	9/3/2024
ID101884063	BADGER 11	11/18/2017	9/3/2024
ID101884064	BADGER 12	11/18/2017	9/3/2024
ID101837630	BADGER 13	1/20/2018	9/3/2024
ID101837631	BADGER 14	1/20/2018	9/3/2024
ID101837632	BADGER 15	1/20/2018	9/3/2024
ID101837633	BADGER 16	1/20/2018	9/3/2024
ID101837634	BADGER 17	1/20/2018	9/3/2024
ID101837635	BADGER 18	1/20/2018	9/3/2024
ID101837636	BADGER 19	1/20/2018	9/3/2024
ID101837637	BADGER 20	1/20/2018	9/3/2024
ID101837638	BADGER 21	1/20/2018	9/3/2024
ID101837639	BADGER 22	1/20/2018	9/3/2024
ID101837640	BADGER 23	1/20/2018	9/3/2024
ID101837641	BADGER 24	1/20/2018	9/3/2024
ID101837642	BADGER 25	1/20/2018	9/3/2024
ID101838222	BADGER 26	1/20/2018	9/3/2024
ID101884065	BADGER 27	11/18/2017	9/3/2024
ID101884066	BADGER 28	11/17/2017	9/3/2024
ID101884067	BADGER 29	11/18/2017	9/3/2024
ID101884068	BADGER 30	11/18/2017	9/3/2024
ID101838223	BADGER 31	1/20/2018	9/3/2024
ID101838224	BADGER 32	1/20/2018	9/3/2024
ID101838225	BADGER 33	1/20/2018	9/3/2024
ID101884069	BADGER 34	11/17/2017	9/3/2024
ID101884070	BADGER 35	11/17/2017	9/3/2024
ID101838226	BADGER 36	1/20/2018	9/3/2024
ID106320419	DEGAN 1	6/25/2023	9/3/2024
ID106320419	DEGAN 2	6/25/2023	9/3/2024

Lead File Number	Claim Name	Date Of Location	Next Pmt Due Date
ID106320419	DEGAN 3	6/25/2023	9/3/2024
ID106320419	DEGAN 4	6/25/2023	9/3/2024
ID106320419	DEGAN 5	6/25/2023	9/3/2024
ID106320419	DEGAN 6	6/25/2023	9/3/2024
ID106320419	DEGAN 7	6/25/2023	9/3/2024
ID106320419	DEGAN 8	6/25/2023	9/3/2024
ID106320419	DEGAN 9	6/25/2023	9/3/2024
ID106320419	DEGAN 10	6/25/2023	9/3/2024
ID106320419	DEGAN 11	6/25/2023	9/3/2024
ID106320419	DEGAN 12	6/25/2023	9/3/2024
ID106320419	DEGAN 13	6/25/2023	9/3/2024
ID106320419	DEGAN 14	6/27/2023	9/3/2024
ID106320419	DEGAN 15	6/26/2023	9/3/2024
ID106320419	DEGAN 16	6/26/2023	9/3/2024
ID106320419	DEGAN 17	6/26/2023	9/3/2024
ID106320419	DEGAN 18	6/26/2023	9/3/2024
ID106320419	DEGAN 19	6/26/2023	9/3/2024
ID106320419	DEGAN 20	6/26/2023	9/3/2024
ID106320419	DEGAN 21	6/26/2023	9/3/2024
ID106320419	DEGAN 22	6/26/2023	9/3/2024
ID106320419	DEGAN 23	6/26/2023	9/3/2024
ID106320419	DEGAN 24	6/26/2023	9/3/2024
ID106320419	DEGAN 25	6/26/2023	9/3/2024
ID106320419	DEGAN 26	6/26/2023	9/3/2024
ID106320419	DEGAN 27	6/26/2023	9/3/2024
ID106320419	DEGAN 28	6/26/2023	9/3/2024
ID106320419	DEGAN 29	6/26/2023	9/3/2024
ID106320419	DEGAN 30	6/26/2023	9/3/2024
ID106320419	DEGAN 31	6/26/2023	9/3/2024
ID106320419	DEGAN 32	6/26/2023	9/3/2024
ID106320419	DEGAN 33	6/26/2023	9/3/2024
ID106320419	DEGAN 34	6/27/2023	9/3/2024
ID106320419	DEGAN 35	6/27/2023	9/3/2024
ID106320419	DEGAN 36	6/27/2023	9/3/2024
ID106320419	DEGAN 37	6/27/2023	9/3/2024
ID106320419	DEGAN 38	6/27/2023	9/3/2024
ID106320419	DEGAN 39	6/27/2023	9/3/2024
ID106320419	DEGAN 40	6/26/2023	9/3/2024
ID106320419	DEGAN 41	6/26/2023	9/3/2024
ID106320419	DEGAN 42	6/26/2023	9/3/2024
ID106320419	DEGAN 43	6/26/2023	9/3/2024
ID106320419	DEGAN 44	6/26/2023	9/3/2024
ID106320419	DEGAN 45	6/26/2023	9/3/2024
ID106320419	DEGAN 46	6/27/2023	9/3/2024

Lead File Number	Claim Name	Date Of Location	Next Pmt Due Date
ID106320419	DEGAN 47	6/27/2023	9/3/2024
ID106320419	DEGAN 48	6/27/2023	9/3/2024
ID106320419	DEGAN 49	6/27/2023	9/3/2024
ID106320419	DEGAN 50	6/27/2023	9/3/2024
ID106320419	DEGAN 51	6/24/2023	9/3/2024
ID106320419	DEGAN 52	6/24/2023	9/3/2024
ID106320419	DEGAN 53	6/24/2023	9/3/2024
ID106320419	DEGAN 54	6/24/2023	9/3/2024
ID106320419	DEGAN 55	6/24/2023	9/3/2024
ID106320419	DEGAN 56	6/24/2023	9/3/2024
ID106320419	DEGAN 57	6/24/2023	9/3/2024
ID106320419	DEGAN 58	6/24/2023	9/3/2024
ID106320419	DEGAN 59	6/24/2023	9/3/2024
ID106320419	DEGAN 60	6/24/2023	9/3/2024
ID106320419	DEGAN 61	6/24/2023	9/3/2024
ID106320419	DEGAN 62	6/24/2023	9/3/2024
ID106320419	DEGAN 63	6/24/2023	9/3/2024
ID106320419	DEGAN 64	6/24/2023	9/3/2024
ID106320419	DEGAN 65	6/24/2023	9/3/2024
ID106320419	DEGAN 66	6/24/2023	9/3/2024
ID106320419	DEGAN 67	6/24/2023	9/3/2024
ID106320419	DEGAN 68	6/24/2023	9/3/2024
ID106320419	DEGAN 69	6/24/2023	9/3/2024
ID106320419	DEGAN 70	6/24/2023	9/3/2024
ID106320419	DEGAN 71	6/24/2023	9/3/2024
ID106320419	DEGAN 72	6/24/2023	9/3/2024
ID106320419	DEGAN 73	6/24/2023	9/3/2024
ID106320419	DEGAN 74	6/24/2023	9/3/2024
ID106320419	DEGAN 75	6/24/2023	9/3/2024
ID106320419	DEGAN 76	6/24/2023	9/3/2024
ID106320419	DEGAN 77	6/24/2023	9/3/2024
ID106320419	DEGAN 78	6/24/2023	9/3/2024
ID106320419	DEGAN 79	6/24/2023	9/3/2024
ID106320419	DEGAN 80	6/24/2023	9/3/2024
ID106320419	DEGAN 81	6/24/2023	9/3/2024
ID106320419	DEGAN 82	6/24/2023	9/3/2024
ID106320419	DEGAN 83	6/24/2023	9/3/2024
ID106320419	DEGAN 84	6/24/2023	9/3/2024
ID101884850	TP 1	11/19/2017	9/3/2024
ID101884851	TP 2	11/19/2017	9/3/2024
ID101884852	TP 3	11/19/2017	9/3/2024

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ID101884853	TP 4	11/19/2017	9/3/2024
ID101884854	TP 5	11/19/2017	9/3/2024
ID101884855	TP 6	11/19/2017	9/3/2024
ID101884856	TP 7	11/19/2017	9/3/2024
ID101884857	TP 8	11/19/2017	9/3/2024
ID101884858	TP 9	11/19/2017	9/3/2024
ID101884859	TP 10	11/19/2017	9/3/2024
ID101884860	TP 11	11/19/2017	9/3/2024
ID101884861	TP 12	11/19/2017	9/3/2024
ID101838227	TP 13	1/20/2018	9/3/2024
ID101838228	TP 14	1/20/2018	9/3/2024
ID101884862	TP 15	11/19/2017	9/3/2024
ID101884863	TP 16	11/19/2017	9/3/2024
ID101884864	TP 17	11/19/2017	9/3/2024
ID101885643	TP 18	11/19/2017	9/3/2024
ID101838229	TP 19	1/20/2018	9/3/2024
ID101838230	TP 20	1/20/2018	9/3/2024
ID101885644	TP 21	11/19/2017	9/3/2024
ID101838231	TP 21A	1/20/2018	9/3/2024
ID101885645	TP 22	11/19/2017	9/3/2024
ID101838232	TP 22A	1/20/2018	9/3/2024
ID101838233	TP 23	1/20/2018	9/3/2024
ID101838234	TP 24	1/20/2018	9/3/2024
ID101838235	TP 25	1/20/2018	9/3/2024
ID101838236	TP 26	1/20/2018	9/3/2024
ID101838237	TP 27	1/20/2018	9/3/2024
ID101838238	TP 28	1/20/2018	9/3/2024
ID101838239	TP 29	1/20/2018	9/3/2024
ID101838240	TP 30	1/20/2018	9/3/2024
ID101838241	TP 31	1/20/2018	9/3/2024
ID101838242	TP 32	1/20/2018	9/3/2024
ID101838243	TP 33	1/20/2018	9/3/2024
ID101838822	TP 34	1/20/2018	9/3/2024
ID101838823	TP 35	1/20/2018	9/3/2024
ID101838824	TP 36	1/20/2018	9/3/2024
ID101838825	TP 37	1/20/2018	9/3/2024
ID101838826	TP 38	1/20/2018	9/3/2024
ID101838827	TP 39	1/20/2018	9/3/2024
ID101838828	TP 40	1/20/2018	9/3/2024
ID101838829	TP 41	1/20/2018	9/3/2024
ID101838830	TP 42	1/20/2018	9/3/2024
ID101838831	TP 43	1/20/2018	9/3/2024
ID101838832	TP 44	1/20/2018	9/3/2024
ID101838833	TP 45	1/20/2018	9/3/2024

Lead File Number	Claim Name	Date Of Location	Next Pmt Due Date
ID101838834	TP 46	1/20/2018	9/3/2024
ID101838835	TP 47	1/20/2018	9/3/2024
ID101838836	TP 48	1/20/2018	9/3/2024
ID101838837	TP 49	1/20/2018	9/3/2024
ID101838838	TP 50	1/20/2018	9/3/2024
ID101838839	TP 51	1/20/2018	9/3/2024
ID101838840	TP 52	1/20/2018	9/3/2024
ID101838841	TP 53	1/20/2018	9/3/2024
ID101838842	TP 54	1/20/2018	9/3/2024
ID101838843	TP 55	1/20/2018	9/3/2024
ID101839406	TP 56	1/20/2018	9/3/2024
ID101839407	TP 57	1/20/2018	9/3/2024
ID101839408	TP 58	1/20/2018	9/3/2024
ID101839409	TP 59	1/20/2018	9/3/2024
ID101839410	TP 60	1/20/2018	9/3/2024
ID101839411	TP 61	1/20/2018	9/3/2024
ID101839412	TP 62	1/20/2018	9/3/2024
ID101839413	TP 63	1/20/2018	9/3/2024
ID101839414	TP 64	1/20/2018	9/3/2024
ID101839415	TP 65	1/20/2018	9/3/2024
ID101839416	TP 66	1/20/2018	9/3/2024
ID101839417	TP 67	1/20/2018	9/3/2024
ID101839418	TP 68	1/20/2018	9/3/2024
ID101839419	TP 69	1/20/2018	9/3/2024
ID101839420	TP 70	1/20/2018	9/3/2024
ID101839421	TP 71	1/20/2018	9/3/2024
ID101839422	TP 72	1/20/2018	9/3/2024
ID101839423	TP 73	1/20/2018	9/3/2024
ID101839424	TP 74	1/20/2018	9/3/2024
ID101839425	TP 75	1/20/2018	9/3/2024
ID101839426	TP 76	1/20/2018	9/3/2024
ID101839427	TP 77	1/20/2018	9/3/2024
ID101830822	TP 78	1/20/2018	9/3/2024
ID101830823	TP 79	1/20/2018	9/3/2024
ID101830824	TP 80	1/20/2018	9/3/2024
ID101830825	TP 81	1/20/2018	9/3/2024
ID101830826	TP 82	1/20/2018	9/3/2024
ID101830827	TP 83	1/20/2018	9/3/2024
ID101830828	TP 84	1/20/2018	9/3/2024
ID101830829	TP 85	1/20/2018	9/3/2024
ID106332465	TP 86	9/5/2023	9/3/2024
ID106332465	TP 87	9/5/2023	9/3/2024
ID106332465	TP 88	9/5/2023	9/3/2024
ID106332465	TP 89	9/5/2023	9/3/2024

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ID106332465	TP 90	9/5/2023	9/3/2024
ID106332465	TP 91	9/5/2023	9/3/2024
ID106332465	TP 92	9/5/2023	9/3/2024
ID106332465	TP 93	9/5/2023	9/3/2024
ID106332465	TP 94	9/5/2023	9/3/2024
ID106332465	TP 95	9/5/2023	9/3/2024
ID101830830	TP 96	1/20/2018	9/3/2024
ID101831001	TP 97	1/20/2018	9/3/2024
ID101831002	TP 98	1/20/2018	9/3/2024
ID101831003	TP 99	1/20/2018	9/3/2024
ID101831004	TP 100	1/20/2018	9/3/2024
ID101831005	TP 101	1/20/2018	9/3/2024
ID101831006	TP 102	1/20/2018	9/3/2024
ID101831007	TP 103	1/20/2018	9/3/2024
ID101831008	TP 104	1/20/2018	9/3/2024
ID101831009	TP 105	1/20/2018	9/3/2024
ID101831010	TP 106	1/21/2018	9/3/2024
ID101831011	TP 107	1/21/2018	9/3/2024
ID101831012	TP 108	1/21/2018	9/3/2024
ID101831013	TP 109	1/21/2018	9/3/2024
ID101831422	TP 110	1/21/2018	9/3/2024
ID101831423	TP 111	1/21/2018	9/3/2024
ID101831424	TP 112	1/21/2018	9/3/2024
ID101831425	TP 113	1/21/2018	9/3/2024
ID101831426	TP 114	1/20/2018	9/3/2024
ID101831427	TP 115	1/20/2018	9/3/2024
ID101831428	TP 116	1/20/2018	9/3/2024
ID101831429	TP 117	1/20/2018	9/3/2024
ID101831430	TP 118	1/20/2018	9/3/2024
ID101831431	TP 119	1/20/2018	9/3/2024
ID101831432	TP 120	1/20/2018	9/3/2024
ID101831433	TP 121	1/20/2018	9/3/2024
ID101831434	TP 122	1/21/2018	9/3/2024
ID101831435	TP 123	1/21/2018	9/3/2024
ID101831436	TP 124	1/21/2018	9/3/2024
ID101831437	TP 125	1/21/2018	9/3/2024
ID106332465	TP 126	9/5/2023	9/3/2024
ID106332465	TP 127	9/5/2023	9/3/2024
ID101831438	TP 128	1/21/2018	9/3/2024
ID101831439	TP 129	1/21/2018	9/3/2024
ID101831440	TP 130	1/21/2018	9/3/2024
ID101831441	TP 131	1/21/2018	9/3/2024
ID101831442	TP 132	1/21/2018	9/3/2024
ID101831443	TP 133	1/21/2018	9/3/2024

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ID101832018	TP 134	1/21/2018	9/3/2024
ID101832019	TP 135	1/21/2018	9/3/2024
ID101832020	TP 136	1/21/2018	9/3/2024
ID101832021	TP 137	1/21/2018	9/3/2024
ID101832022	TP 138	1/21/2018	9/3/2024
ID101832023	TP 139	1/21/2018	9/3/2024
ID101832024	TP 140	1/21/2018	9/3/2024
ID101832025	TP 141	1/21/2018	9/3/2024
ID101832026	TP 142	1/21/2018	9/3/2024
ID101832027	TP 143	1/21/2018	9/3/2024
ID101832028	TP 144	1/21/2018	9/3/2024
ID101832029	TP 145	1/21/2018	9/3/2024
ID101832030	TP 146	1/21/2018	9/3/2024
ID101832031	TP 147	1/21/2018	9/3/2024
ID101832032	TP 148	1/21/2018	9/3/2024
ID101832033	TP 149	1/21/2018	9/3/2024
ID106332465	TP 150	9/5/2023	9/3/2024
ID106332465	TP 151	9/5/2023	9/3/2024
ID101832034	TP 152	1/21/2018	9/3/2024
ID101832035	TP 153	1/21/2018	9/3/2024
ID101832036	TP 154	1/21/2018	9/3/2024
ID101832037	TP 155	1/21/2018	9/3/2024
ID101832038	TP 156	1/21/2018	9/3/2024
ID101832039	TP 157	1/21/2018	9/3/2024
ID101832421	TP 158	1/21/2018	9/3/2024
ID101832422	TP 159	1/21/2018	9/3/2024
ID101832423	TP 160	1/21/2018	9/3/2024
ID101832424	TP 161	1/21/2018	9/3/2024
ID101832425	TP 162	1/21/2018	9/3/2024
ID101832426	TP 163	1/21/2018	9/3/2024
ID101832427	TP 164	1/21/2018	9/3/2024
ID101832428	TP 165	1/21/2018	9/3/2024
ID101832429	TP 166	1/21/2018	9/3/2024
ID101832430	TP 167	1/21/2018	9/3/2024
ID101832431	TP 168	1/21/2018	9/3/2024
ID101832432	TP 169	1/21/2018	9/3/2024
ID101832433	TP 170	1/21/2018	9/3/2024
ID101832434	TP 171	1/21/2018	9/3/2024
ID101832435	TP 172	1/21/2018	9/3/2024
ID101832436	TP 173	1/21/2018	9/3/2024
ID101832437	TP 174	1/21/2018	9/3/2024
ID101832438	TP 175	1/21/2018	9/3/2024
ID101832439	TP 176	1/21/2018	9/3/2024
ID101832440	TP 177	1/21/2018	9/3/2024

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ID101833022	TP 178	1/21/2018	9/3/2024
ID101833023	TP 179	1/21/2018	9/3/2024
ID101833024	TP 180	1/21/2018	9/3/2024
ID101833025	TP 181	1/21/2018	9/3/2024
ID101833026	TP 182	1/21/2018	9/3/2024
ID106332465	TP 183	9/4/2023	9/3/2024
ID106332465	TP 184	9/5/2023	9/3/2024
ID101833027	TP 187	1/21/2018	9/3/2024
ID101833028	TP 188	1/21/2018	9/3/2024
ID101833029	TP 189	1/21/2018	9/3/2024
ID101833030	TP 190	1/21/2018	9/3/2024
ID101833031	TP 191	1/21/2018	9/3/2024
ID101833032	TP 192	1/21/2018	9/3/2024
ID101833033	TP 193	1/21/2018	9/3/2024
ID101833034	TP 194	1/21/2018	9/3/2024
ID101833035	TP 195	1/21/2018	9/3/2024
ID101833619	TP 196	1/21/2018	9/3/2024
ID101833620	TP 197	1/21/2018	9/3/2024
ID101833621	TP 198	1/21/2018	9/3/2024
ID101833622	TP 199	1/21/2018	9/3/2024
ID101833623	TP 200	1/21/2018	9/3/2024
ID101833624	TP 201	1/21/2018	9/3/2024
ID101833625	TP 202	1/21/2018	9/3/2024
ID101833626	TP 203	1/21/2018	9/3/2024
ID101833627	TP 204	1/21/2018	9/3/2024
ID101833628	TP 205	1/21/2018	9/3/2024
ID101833629	TP 206	1/21/2018	9/3/2024
ID101833630	TP 207	1/21/2018	9/3/2024
ID101833631	TP 208	1/21/2018	9/3/2024
ID101833632	TP 209	1/21/2018	9/3/2024
ID101833633	TP 210	1/21/2018	9/3/2024
ID101833634	TP 211	1/21/2018	9/3/2024
ID101833635	TP 212	1/21/2018	9/3/2024
ID101833636	TP 213	1/21/2018	9/3/2024
ID101833637	TP 214	1/21/2018	9/3/2024
ID101833638	TP 215	1/21/2018	9/3/2024
ID101833639	TP 216	1/21/2018	9/3/2024
ID101833640	TP 217	1/21/2018	9/3/2024
ID101834243	TP 218	1/21/2018	9/3/2024
ID101834244	TP 219	1/21/2018	9/3/2024
ID101834245	TP 220	1/21/2018	9/3/2024
ID101834246	TP 221	1/21/2018	9/3/2024
ID101834247	TP 222	1/21/2018	9/3/2024
ID101834248	TP 223	1/21/2018	9/3/2024



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ID101834249	TP 224	1/21/2018	9/3/2024
ID101834250	TP 225	1/21/2018	9/3/2024
ID101834251	TP 226	1/21/2018	9/3/2024
ID101834252	TP 227	1/21/2018	9/3/2024
ID101834253	TP 228	1/21/2018	9/3/2024
ID106316154	TP 229	8/14/2023	9/3/2024
ID106332465	TP 230	9/4/2023	9/3/2024
ID106316154	TP 231	8/14/2023	9/3/2024
ID106332465	TP 232	9/4/2023	9/3/2024
ID106316154	TP 233	8/14/2023	9/3/2024
ID106332465	TP 234	9/4/2023	9/3/2024
ID106316154	TP 235	8/14/2023	9/3/2024
ID106332465	TP 236	9/4/2023	9/3/2024
ID106332465	TP 237	9/7/2023	9/3/2024
ID101834254	TP 239	1/21/2018	9/3/2024
ID101834255	TP 240	1/21/2018	9/3/2024
ID101834256	TP 241	1/21/2018	9/3/2024
ID101834257	TP 242	1/21/2018	9/3/2024
ID101834258	TP 243	1/21/2018	9/3/2024
ID101834259	TP 244	1/21/2018	9/3/2024
ID101834260	TP 245	1/21/2018	9/3/2024
ID101834261	TP 246	1/21/2018	9/3/2024
ID101834262	TP 247	1/21/2018	9/3/2024
ID101834263	TP 248	1/21/2018	9/3/2024
ID101834843	TP 249	1/21/2018	9/3/2024
ID101834844	TP 250	1/21/2018	9/3/2024
ID101834845	TP 251	1/21/2018	9/3/2024
ID101834846	TP 252	1/21/2018	9/3/2024
ID101834847	TP 253	1/21/2018	9/3/2024
ID101834848	TP 254	1/21/2018	9/3/2024
ID101834849	TP 255	1/21/2018	9/3/2024
ID101834850	TP 256	1/21/2018	9/3/2024
ID101834851	TP 257	1/21/2018	9/3/2024
ID101834852	TP 258	1/21/2018	9/3/2024
ID101834853	TP 259	1/21/2018	9/3/2024
ID101834854	TP 260	1/21/2018	9/3/2024
ID101834855	TP 261	1/21/2018	9/3/2024
ID101834856	TP 262	1/21/2018	9/3/2024
ID101834857	TP 263	1/21/2018	9/3/2024
ID101834858	TP 264	1/21/2018	9/3/2024
ID101834859	TP 265	1/21/2018	9/3/2024
ID101834860	TP 266	1/21/2018	9/3/2024
ID101834861	TP 267	1/21/2018	9/3/2024
ID101834862	TP 268	1/21/2018	9/3/2024

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ID101834863	TP 269	1/21/2018	9/3/2024
ID101834864	TP 270	1/21/2018	9/3/2024
ID101835443	TP 271	1/21/2018	9/3/2024
ID101835444	TP 272	1/21/2018	9/3/2024
ID101835445	TP 273	1/21/2018	9/3/2024
ID101835446	TP 274	1/21/2018	9/3/2024
ID101835447	TP 275	1/21/2018	9/3/2024
ID101835448	TP 276	1/21/2018	9/3/2024
ID101835449	TP 277	1/21/2018	9/3/2024
ID101835450	TP 278	1/21/2018	9/3/2024
ID101835451	TP 279	1/21/2018	9/3/2024
ID101835452	TP 280	1/21/2018	9/3/2024
ID106316154	TP 281	8/14/2023	9/3/2024
ID106316154	TP 282	8/14/2023	9/3/2024
ID106316154	TP 283	8/14/2023	9/3/2024
ID106316154	TP 284	8/14/2023	9/3/2024
ID106316154	TP 285	8/14/2023	9/3/2024
ID106316154	TP 286	8/14/2023	9/3/2024
ID106316154	TP 287	8/14/2023	9/3/2024
ID106316154	TP 288	8/14/2023	9/3/2024
ID101835453	TP 289	1/21/2018	9/3/2024
ID101835454	TP 290	1/21/2018	9/3/2024
ID101835455	TP 291	1/21/2018	9/3/2024
ID101835456	TP 292	1/21/2018	9/3/2024
ID101835457	TP 293	1/21/2018	9/3/2024
ID101835458	TP 294	1/21/2018	9/3/2024
ID101836042	TP 295	1/21/2018	9/3/2024
ID101836043	TP 296	1/21/2018	9/3/2024
ID101836044	TP 297	1/21/2018	9/3/2024
ID101836045	TP 298	1/21/2018	9/3/2024
ID101836046	TP 299	1/21/2018	9/3/2024
ID101836047	TP 300	1/21/2018	9/3/2024
ID101836048	TP 301	1/21/2018	9/3/2024
ID101836049	TP 302	1/21/2018	9/3/2024
ID101836050	TP 303	1/21/2018	9/3/2024
ID101836051	TP 304	1/21/2018	9/3/2024
ID101836052	TP 305	1/21/2018	9/3/2024
ID101836053	TP 306	1/21/2018	9/3/2024
ID101836054	TP 307	1/21/2018	9/3/2024
ID101836055	TP 308	1/21/2018	9/3/2024
ID101836056	TP 309	1/21/2018	9/3/2024
ID101836057	TP 310	1/21/2018	9/3/2024
ID101836058	TP 311	1/21/2018	9/3/2024
ID101836059	TP 312	1/21/2018	9/3/2024

Lead File Number	Claim Name	Date Of Location	Next Pmt Due Date
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ID101836646	TP 320	1/21/2018	9/3/2024
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ID101836648	TP 322	1/21/2018	9/3/2024
ID101836649	TP 323	1/21/2018	9/3/2024
ID101836650	TP 324	1/21/2018	9/3/2024
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ID101836657	TP 331	1/21/2018	9/3/2024
ID101836658	TP 332	1/21/2018	9/3/2024
ID101836659	TP 333	1/21/2018	9/3/2024
ID101836660	TP 334	1/21/2018	9/3/2024
ID101836661	TP 335	1/21/2018	9/3/2024
ID101836662	TP 336	1/21/2018	9/3/2024
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ID106332465	TP 602	9/4/2023	9/3/2024
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ID106332465	TP 604	9/4/2023	9/3/2024
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ID106332465	TP 615	9/4/2023	9/3/2024
ID106332465	TP 616	9/4/2023	9/3/2024
ID106332465	TP 617	9/4/2023	9/3/2024

Lead File Number	Claim Name	Date Of Location	Next Pmt Due Date
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ID106332465	TP 621	9/4/2023	9/3/2024
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ID106332465	TP 623	9/4/2023	9/3/2024
ID106332465	TP 624	9/4/2023	9/3/2024
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ID106332465	TP 626	9/4/2023	9/3/2024
ID106332465	TP 627	9/4/2023	9/3/2024
ID106332465	TP 628	9/4/2023	9/3/2024
ID106332465	TP 629	9/4/2023	9/3/2024
ID106316154	TP 630	8/14/2023	9/3/2024
ID106332465	TP 631	9/4/2023	9/3/2024
ID106316154	TP 632	8/14/2023	9/3/2024
ID106332465	TP 633	9/4/2023	9/3/2024
ID106316154	TP 634	8/14/2023	9/3/2024
ID106332465	TP 635	9/4/2023	9/3/2024
ID106316154	TP 636	8/14/2023	9/3/2024
ID106332465	TP 637	9/4/2023	9/3/2024
ID106332465	TP 638	9/4/2023	9/3/2024
ID106332465	TP 639	9/4/2023	9/3/2024
ID106332465	TP 640	9/4/2023	9/3/2024
ID106332465	TP 641	9/4/2023	9/3/2024
ID106332465	TP 642	9/4/2023	9/3/2024
ID106316154	TP 643	8/14/2023	9/3/2024
ID106316154	TP 644	8/14/2023	9/3/2024
ID106316154	TP 645	8/14/2023	9/3/2024
ID106316154	TP 646	8/14/2023	9/3/2024
ID106316154	TP 647	8/14/2023	9/3/2024
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ID106316154	TP 650	8/14/2023	9/3/2024
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ID106332465	TP 652	9/4/2023	9/3/2024
ID106332465	TP 653	9/4/2023	9/3/2024
ID106332465	TP 654	9/4/2023	9/3/2024
ID106332465	TP 655	9/4/2023	9/3/2024
ID106332465	TP 656	9/4/2023	9/3/2024
ID106332465	TP 657	9/4/2023	9/3/2024
ID106332465	TP 658	9/4/2023	9/3/2024
ID106332465	TP 659	9/4/2023	9/3/2024
ID106332465	TP 660	9/4/2023	9/3/2024
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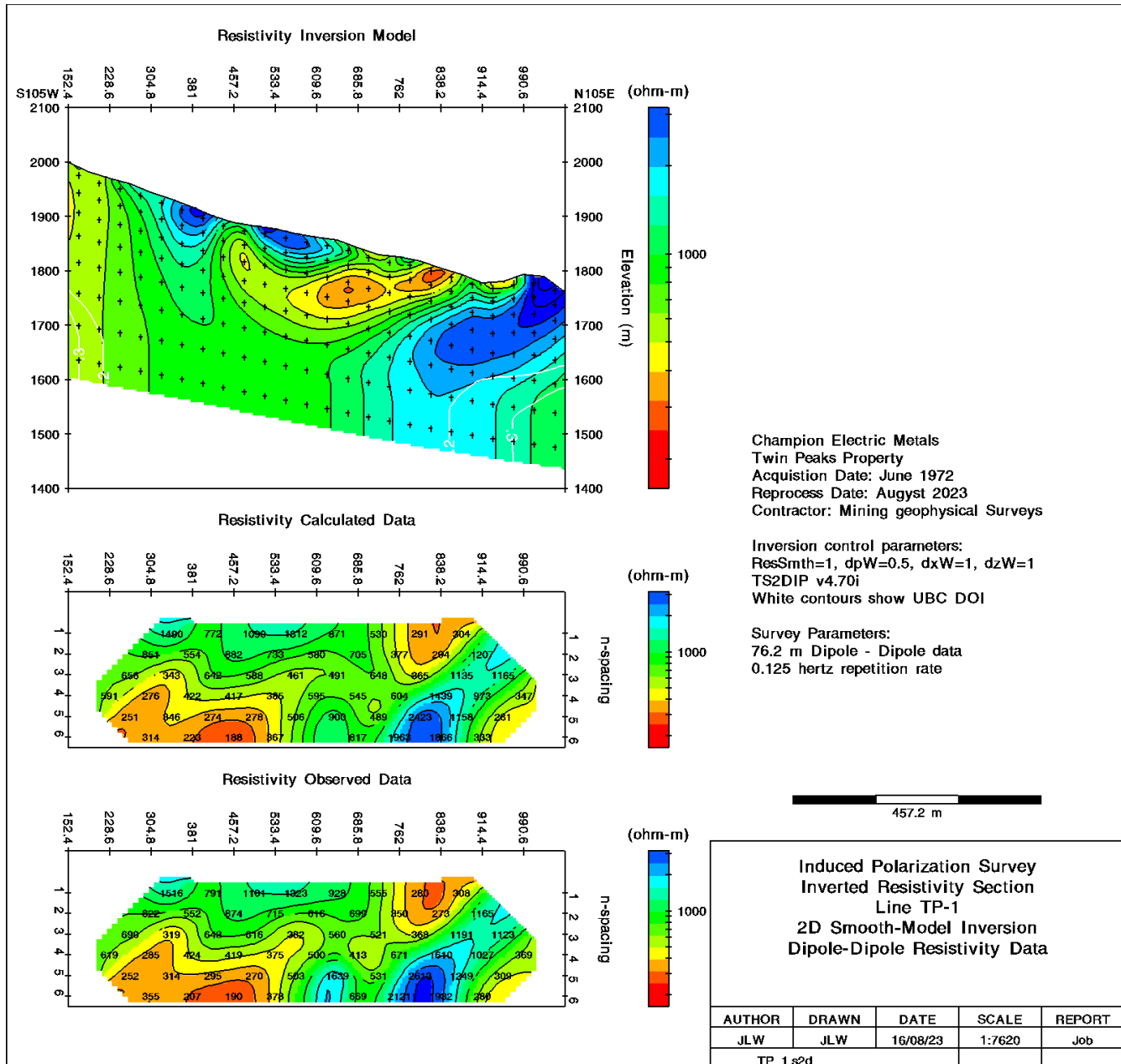
Lead File Number	Claim Name	Date Of Location	Next Pmt Due Date
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ID106332465	TP 664	9/4/2023	9/3/2024
ID106332465	TP 665	9/4/2023	9/3/2024
ID106332465	TP 666	9/4/2023	9/3/2024
ID106332465	TP 667	9/4/2023	9/3/2024
ID106332481	TP 185	9/7/2023	9/3/2024
ID106332482	TP 186	9/7/2023	9/3/2024
ID106332488	TP 238	9/7/2023	9/3/2024
ID106350499	BADGER 401	1/4/2024	9/3/2024
ID106350500	BADGER 402	1/4/2024	9/3/2024
ID106350501	BADGER 403	1/4/2024	9/3/2024
ID106350502	BADGER 404	1/4/2024	9/3/2024
ID106350503	BADGER 405	1/4/2024	9/3/2024
ID106350504	BADGER 406	1/4/2024	9/3/2024
ID106350505	BADGER 407	1/4/2024	9/3/2024
ID106350506	BADGER 408	1/4/2024	9/3/2024
ID106367609	DEGAN 91	1/23/2024	9/3/2024
ID106367610	DEGAN 92	1/23/2024	9/3/2024
ID106367611	DEGAN 93	1/23/2024	9/3/2024
ID106367612	DEGAN 94	1/23/2024	9/3/2024
ID106367613	DEGAN 95	1/23/2024	9/3/2024
ID106367614	DEGAN 96	1/23/2024	9/3/2024
ID106367615	DEGAN 97	1/23/2024	9/3/2024
ID106367616	DEGAN 98	1/23/2024	9/3/2024
ID106367617	DEGAN 99	1/23/2024	9/3/2024

## APPENDIX B

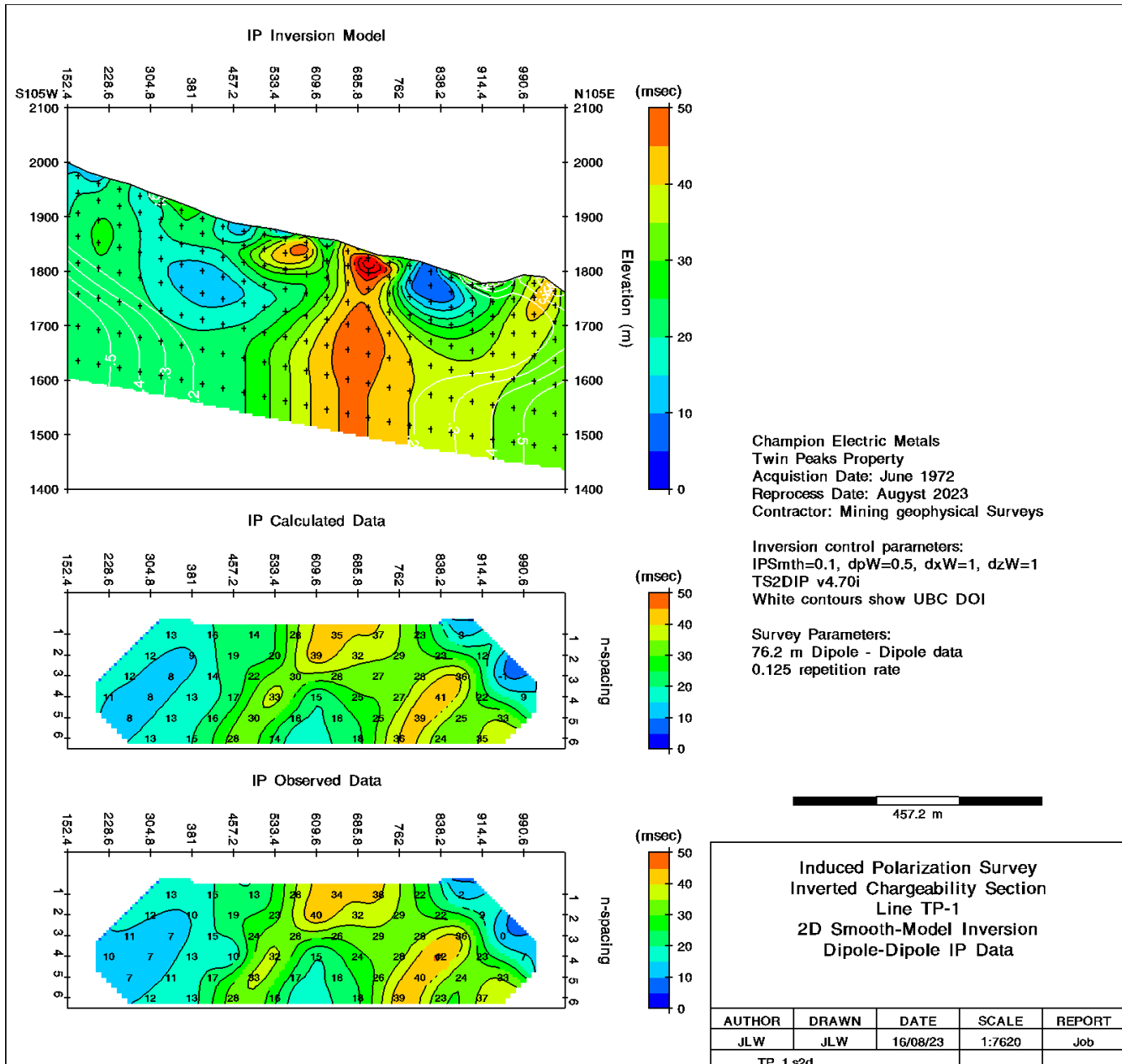
Induced polarization resistivity and chargeability pseudosections and inversion models for lines TP-1, BB-1, and IC-1, Mining Geophysical Surveys (1972). Line locations shown in Figure 6-5.

Source: Champion Electric, 2023.

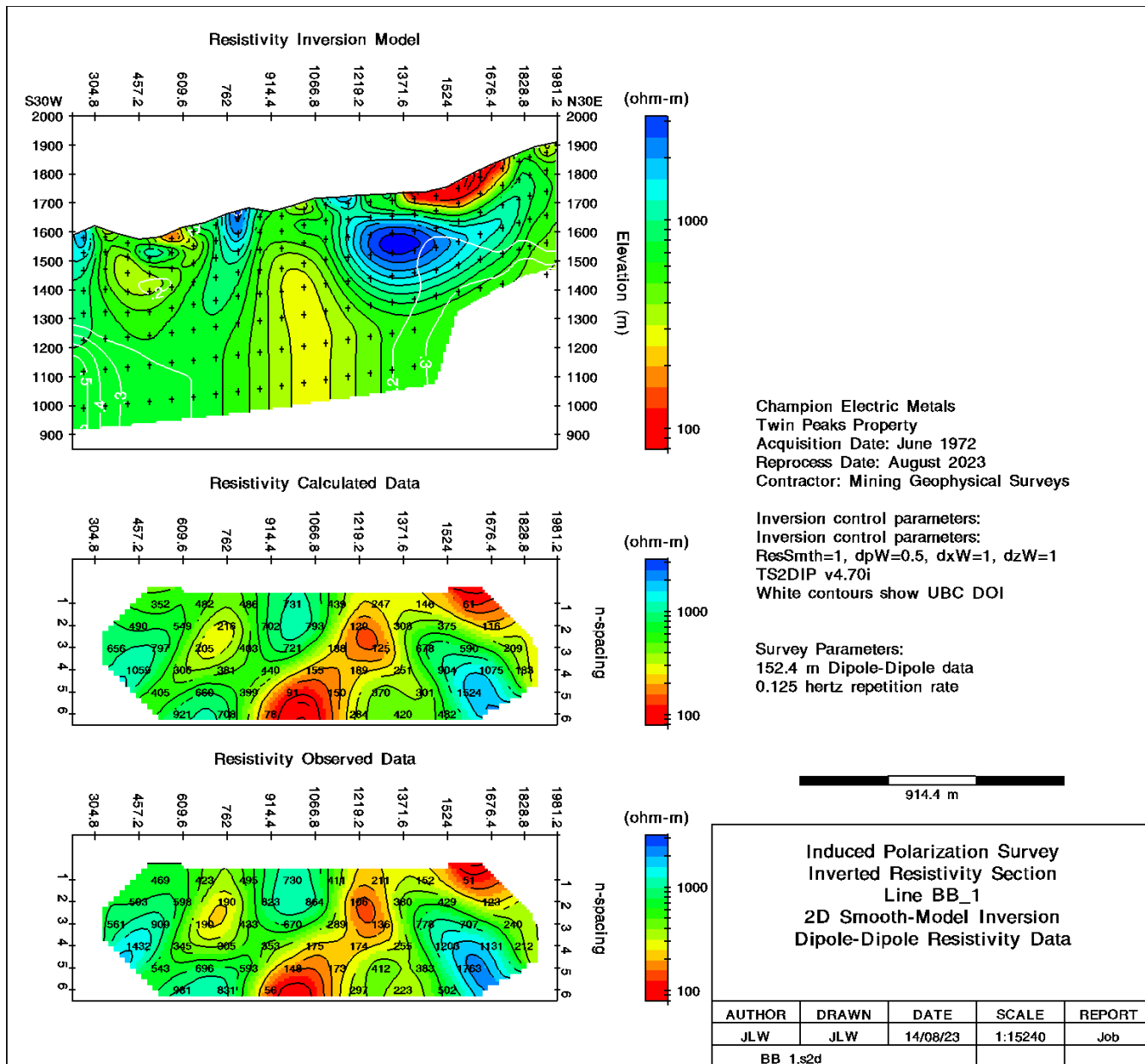
### Line TP-1 Resistivity Pseudosection and Inversion Model.



### Line TP-1 Chargeability Pseudosection and Inversion Model.

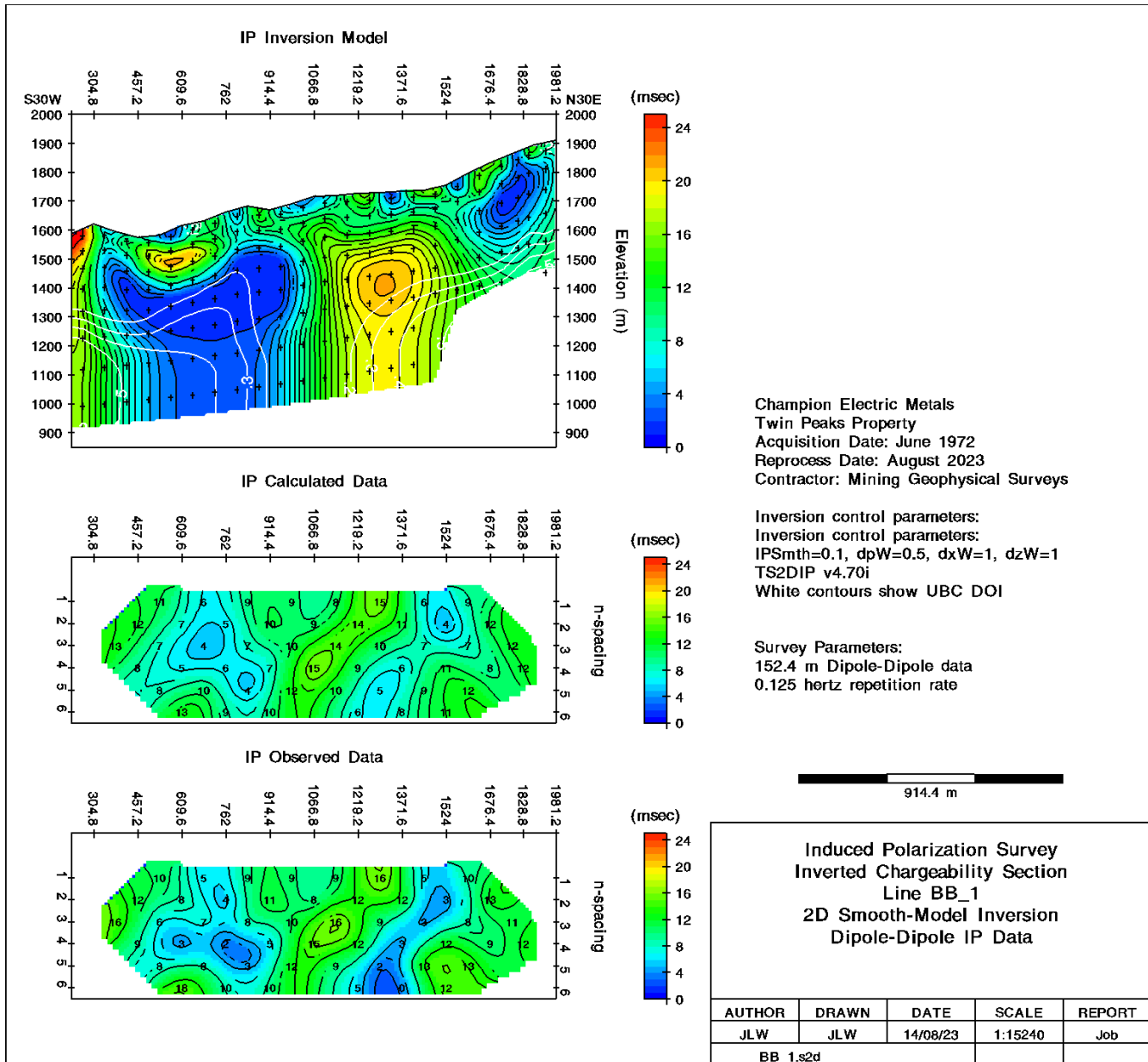


### Line BB-1 Resistivity Pseudosection and Inversion Model.

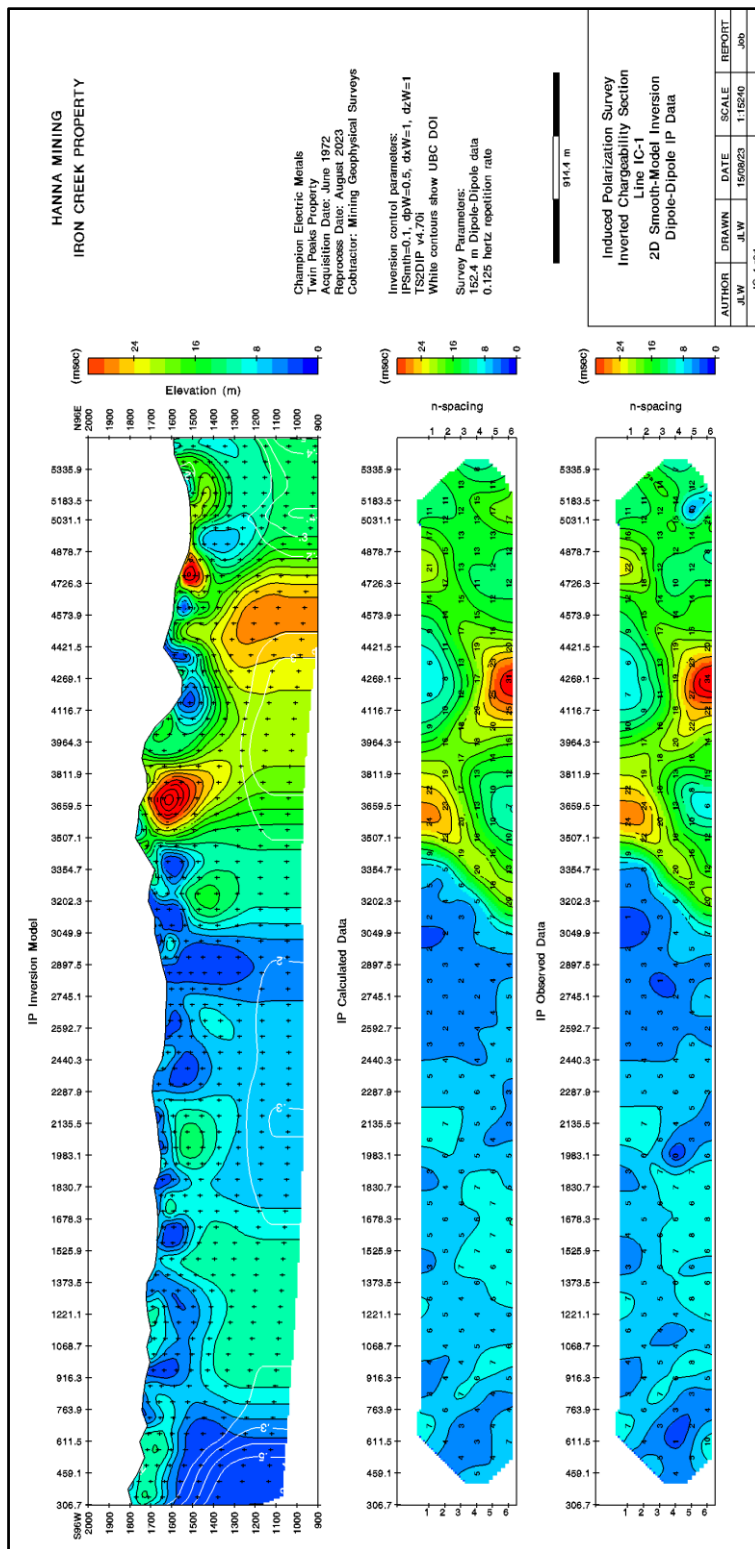




### Line BB-1 Chargeability Pseudosection and Inversion Model.



Line IC-1 Resistivity Pseudosection and Inversion Model.



Line IC-1 Chargeability Pseudosection and Inversion Model.

