MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES

Report Date: November 27, 2019
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TECHNICAL REPORT WITH UPDATED ESTIMATE OF MINERAL RESOURCES FOR THE IRON CREEK COBALT-COPPER PROJECT, LEMHI COUNTY, IDAHO, USA

Completed for and submitted to:

FIRST COBALT

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1.0 SUMMARY (ITEM 1)

Mine Development Associates ("MDA") has prepared this Technical Report on the Iron Creek cobalt and copper project, located in Lemhi County, Idaho, at the request of First Cobalt Corp. ("First Cobalt"), a Canadian company based in Toronto, Ontario, that is listed on the TSX Venture exchange (TSX-V: FCC) and is also traded over the counter (OTCQB: FTSSF). The purpose of this report is to provide a technical summary of the Iron Creek cobalt and copper project and public disclosure of an updated mineral resource estimate for the project prepared by MDA.

This report and the resource estimates have been prepared in compliance 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, as well as with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Definition Standards - For Mineral Resources and Reserves, Definitions and Guidelines" ("CIM Standards") adopted by the CIM Council on May 10, 2014. The authors are qualified persons under NI 43-101 and have no affiliations with First Cobalt or the property, except that of independent consultant-client relationships. The Effective Date of this report is November 27, 2019.

1.1 Property Description and Ownership

The Iron Creek property consists of seven patented Federal lode claims and a surrounding group of 83 unpatented Federal lode claims located about 18 miles southwest of Salmon, Idaho, within the historic Blackbird cobalt-copper mining district. Together the patented and unpatented claims cover an area of 1,698 acres. As of the date of this report, First Cobalt owns a 100% interest in the 83 unpatented claims, 100% interest in the mineral rights of the seven patented claims, and 100% of the surface rights to all of the seven patented claims, all with no underlying royalties or lease payments. The total annual land-holding costs are estimated to be $13,801.

1.2 Exploration and Mining History

The first mining claims were staked in the Iron Creek area in 1967 on copper-stained material in what later became known as the "No Name" zone and is now considered the upper zone of the broader Iron Creek mineralization. In 1970, these claims were leased to Sachem Prospects Corporation ("Sachem") of Salt Lake City, Utah. Sachem drilled 11 diamond-core holes and drove three underground exploratory drifts. Hanna Mining optioned the property in 1972 through its wholly owned subsidiaries, Coastal Mining Co. and Idaho Mining Co., and acquired it outright in 1973 from Sachem.

From 1979 through 1996 the property was explored by Noranda Exploration, Inc., Inspiration Mines, Inc., Centurion Gold, and Cominco American Resources Inc. Various campaigns of drilling, geophysical surveys, and surface and underground geochemical sampling were conducted. Between all these programs, a total of 57 holes were drilled on the property prior to 1996.

Between 1996 and 2016 the patented and unpatented claims were acquired by the Chester Mining Company ("Chester"). Scientific Metals Corp. ("STM") optioned the Iron Creek patented property from Chester in 2016 and staked claims surrounding the Iron Creek patents. STM changed its name to U.S. Cobalt in 2017. U.S. Cobalt conducted exploration drilling in 2017 and 2018 prior to being acquired by First Cobalt in 2018. First Cobalt acquired the patented claims and continued the exploration drilling into 2019.

1.3 Geology and Mineralization

The Iron Creek property is situated in the Blackbird copper-cobalt ± gold district, in the eastern part of the Salmon River Mountains. The project area is underlain mainly by mid-Proterozoic metasedimentary siltite and quartzite of the Apple Creek Formation, which is part of the Belt Supergroup. Bedding and foliation generally strike northwest and dip 60° to 80° northeast. Ash-flow tuff of the Eocene Challis Volcanic Group unconformably caps the Apple Creek units that host the cobalt and copper mineralization within the property.

Five zones of stratabound cobalt and copper mineralization have been identified on surface within the property. That mineralization occurs within sequences of dominantly argillite and siltite enveloped by quartzite-rich units of the Apple Creek Formation. Specifically, mineralization is associated with thin quartzite layers cross bedded within the argillite-siltite units. The main zone in which the resources reported herein occur is at Iron Creek. The other zones on the property are the Sulfate, Footwall, Magnetite and Ruby zones, which are now exploration targets.

The principal mineral assemblage consists of pyrite, chalcopyrite, pyrrhotite, and magnetite with much lesser quantities of native copper and arsenopyrite locally. Scanning-electron and microprobe tests indicate the cobalt occurs largely or entirely within pyrite and there is a distinct lack of cobaltite. Drill results demonstrate that the cobalt and copper mineralization are in part separated from each other spatially, and in part overlapping.

1.4 Metallurgical Testing and Mineral Processing

Preliminary flotation tests have been completed by First Cobalt using three bulk underground samples: two extracted from Adit-1 (East adit) and one from Adit-2 (West adit). Two samples had copper grades close to 1.0% and all three had cobalt grades in the range of 0.25 to 0.040%. All three samples responded very well when subjected to rougher flotation using standard conditions at the natural pH of 6 to 8. Copper recovery into the bulk concentrate averaged over 97% for the two high-grade samples and 92.5% for the low-grade sample. Cobalt recovery averaged 96% for the three samples.

Cleaner flotation tests performed on the sulfide rougher concentrates showed optimum performance was achieved by regrinding the rougher concentrate and floating at pH 12 to depress the pyrite. For the two high-grade copper samples, 75% to 85% of the copper was recovered into copper concentrates that would be suitable for conventional copper smelting. The unrecovered copper was split between losses in the pyrite product and a middling stream that would be recycled back to the rougher circuit in an actual operation. The low-grade copper sample appears to need some further flotation optimization in order to produce acceptable smelter feed.

The cobalt was recovered in the pyrite product that represents the cleaner flotation tailings. For all three samples this product contained more than 90% of the cobalt in the pyrite at grades of 1.2% to 1.8% Co. Higher grades may be difficult to obtain, as the cobalt appears to be bound up within the pyrite crystal structure. The unrecovered cobalt was split between the copper concentrate and the middling stream.

Following completion of the flotation tests, mineralogical studies were performed on four cleaner flotation products. These confirmed that pyrite and chalcopyrite are the principal sulfide minerals and that the pyrite is also the major carrier for both cobalt and arsenic. Other findings suggest that optimization of the flotation parameters should improve both metal recovery and concentrate quality.

No testwork has yet been done on recovery of the cobalt from the pyrite concentrates. However, two approaches appear to be technically viable. One is to roast the concentrate, then leach the cobalt from the resulting cinder and concentrate the cobalt using solvent extraction. Final recovery of the cobalt would be as a salt or electrowon metal. The other approach is to use an autoclave to oxidize the pyrite and solubilize the cobalt, and then use solvent extraction.

1.5 Mineral Resource Estimate

Following the initial Inferred resource published October 15, 2018, First Cobalt completed an infill drilling campaign to improve the confidence of mineralization continuity as well as to test the extensions of mineralization.

The geochemical database contains 21,456 assay records, all of which were deemed usable in modeling metal domains and density, but only those from core holes drilled by First Cobalt were used to estimate cobalt and copper resources at Iron Creek. Historical drilling was excluded due to lack of original source data and sometimes conflicting collar locations and no down-hole survey data. Inverse distance was used to estimate the block-diluted Indicated and Inferred resources shown in Table 1.1. These are reported at a cutoff of 0.18%CoEq for potentially underground minable material.

Table 1.1 Iron Creek Resources

Indicated						
Cutoff	**Tons**	**Grade**	**Grade**	**Pounds**	**Grade**	**Pounds**
%CoEq		**%CoEq**	**%Co**	**Cobalt**	**%Cu**	**Copper**
0.18	2,374,000	0.32	0.26	12,250,000	0.61	29,058,000
Inferred						
Cutoff	**Tons**	**Grade**	**Grade**	**Pounds**	**Grade**	**Pounds**
%CoEq		**%CoEq**	**%Co**	**Cobalt**	**%Cu**	**Copper**
0.18	2,950,000	0.28	0.22	12,685,000	0.68	39,943,000

Cobalt equivalent was calculated from: %CoEq = %Co + (%Cu / 10)

More drilling internally will upgrade these resources. Importantly, the deposit is open along strike in both directions and at depth. Infrastructure is currently in place to test for extensions to mineralization and potentially expand the resources.

1.6 Conclusions and Recommendations

The exploration conducted by First Cobalt has produced information on which important interpretations, conclusions and decisions can be made. All historical information on the other hand cannot be used for more than an indication of mineralization.

First Cobalt's drilling has encountered stratabound cobalt zones with highly variable thickness, but up to 70ft thick, and copper zones, also with highly variable thickness and up to 100ft thick. That drilling has extended the cobalt and copper mineralization for 3,000ft along strike and 2,200ft vertically. Cobalt and copper occupy separate mineralized domains that are in part overlapping, and both metals commonly occur in economic grades separate from each other.

Thicker zones can be correlated with the present drill spacing only with confidence. External to the thicker zones, infill drilling will be required for upgrading the Inferred resources to Indicated or Indicated to Measured classifications due to a lack of distinct marker horizons to confidently make correlations. The thicker zones can, however, be correlated with confidence.

The authors believe that the Iron Creek project is a project of merit; the property requires and deserves substantial additional drilling. The next phase of proposed work will test the strike and dip extensions that remain open. Further work is recommended should these tests be successful. Infill drilling should also continue beyond this work to advance the confidence in resources. Exploration drilling outside the main resource area at the other surface mineralized zones is also justified. The recommended work program of $2.3 million, as shown in the budget in Table 1.2, includes a total of around 15,500ft of core drilling. All the drilling will be core and will be drilled from the surface. The total drill budget comes to $1.655 million with assaying and sampling, geology, managing, road/pad construction, and maintenance of the underground workings included. Metallurgical test work should continue. Environmental monitoring programs should also continue as part of the permitting program.

Table 1.2 Recommended Iron Creek Work Program

Item	Estimated Cost
Project management and set up and tear down	$100,000
Drilling total	$1,655,000
Resource estimate updated	$80,000
Metallurgy	$50,000
Geophysics	$150,000
Permitting and legal	$50,000
Reporting	$50,000
Contingency of 10% (rounded)	*$200,000*
***Total** (rounded)*	***$2,300,000***

2.0 INTRODUCTION AND TERMS OF REFERENCE (ITEM 2)

Mine Development Associates ("MDA") has prepared this Technical Report on the Iron Creek cobalt and copper project, located in Lemhi County, Idaho, at the request of First Cobalt Corp. ("First Cobalt"), a Canadian company based in Toronto, Ontario, that is listed on the TSX Venture exchange (TSX-V: FCC), the Australian Stock Exchange (ASX: FCC) and is also traded over the counter (OTCQB: FTSSF). The purpose of this report is to provide a technical summary of the Iron Creek cobalt-copper project and updated estimate of mineral resources for the project. This updated estimate of resources supersedes the estimated resources reported by Ristorcelli and Schlitt (2018; 2019).

The cobalt and copper mineral resources were estimated and classified under the supervision of Steven J. Ristorcelli, Principal Geologist for MDA, and include the results of all drilling conducted. Mr. Ristorcelli is a qualified person under the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101") and has no affiliations with U.S. Cobalt, First Cobalt or the property, except that of independent consultant-client relationship. Section 13 of this report was prepared under the supervision of Dr. W. Joseph Schlitt, MMSA-QP of McClelland Laboratories, Inc. Dr. Schlitt is a qualified person under NI 43-101 and has no affiliations with First Cobalt or the property, except that of independent consultant-client relationship. Portions of this report were modified from Ristorcelli and Schlitt (2019) and a Technical Report prepared by Cullen (2016) that did not include estimated mineral resources.

This report has been prepared in accordance with the disclosure and reporting requirements set forth in the NI 43-101, Companion Policy 43-101CP, and Form 43-101F1. The mineral resources reported herein have been estimated and classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Definition Standards - For Mineral Resources and Reserves, Definitions and Guidelines" ("CIM Standards") adopted by the CIM Council on May 10, 2014.

The Effective Date of this report is November 27, 2019. The Effective Date of the mineral resource estimate is October 23, 2019. The Effective Date of the database is February 18, 2019.

2.1 Project Scope and Terms of Reference

The scope of this study included a review of pertinent technical reports and data provided to MDA by First Cobalt relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. The authors have relied fully on the data and information provided by First Cobalt for the completion of this report, including the supporting data for the estimation of the mineral resources.

Mr. Ristorcelli visited the Iron Creek project June 18th and 19th, 2018. This site visit included reviewing sampling and exploration procedures, visiting and inspecting surface outcrops and underground workings, reviewing core and taking independent samples. Dr. Schlitt has not visited the project.

The author has relied almost entirely on data and information derived from work done by First Cobalt and its predecessor operators of the Iron Creek project. Mr. Ristorcelli has reviewed much of the available data, made a site visit, and has made judgments about the general reliability of the underlying data. Where deemed either inadequate or unreliable, the data were either eliminated from use, or procedures were modified to account for lack of confidence in that specific information. The authors have made such independent investigations as deemed necessary in their professional judgment to be able to reasonably present the conclusions discussed herein.

The term Iron Creek is taken from the creek that drains the area. The term "Iron Creek zone" is the main zone in which the resources reported herein occur. The upper zone of mineralization has been called the No Name zone, while the lower zone of mineralization, previously and informally referred to as the Footwall No Name zone, has occasionally been referred to as the Waite zone. Because the distinction between these two is vague, the deposit is now broken into an upper and a lower zone of mineralization. The No Name zone and the Waite zone are only being used to refer to historical work and references.

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

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

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

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 tonne	= 1.1023 short tons	= 2,205 pounds
1 kilogram	= 2.205 pounds	

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

<u>Frequently used acronyms and abbreviations</u>

AA	atomic absorption spectrometry
Ag	silver
Au	gold
b.y.o	billion years ago
cm	centimeters
Co	cobalt
core	diamond core-drilling method
Cu	copper
ºC	degrees centigrade
°F	degrees Fahrenheit
ft	foot or feet

g/t	grams per tonne
ha	hectares
ICP	inductively coupled plasma analytical method
in	inch or inches
kg	kilograms
km	kilometers
l	liter
lbs	pounds
µm	micron
m	meters
Ma	million annum
mi	mile or miles
mm	millimeters
m.y.o.	million years ago
NSR	net smelter return
oz	ounce
ppm	parts per million
ppb	parts per billion
QA/QC	quality assurance and quality control
RC	reverse-circulation drilling method
RQD	rock-quality designation
t	metric tonne or tonnes
ton	Imperial short ton (2,000lb)

3.0 RELIANCE ON OTHER EXPERTS (ITEM 3)

The authors are not experts in legal matters, such as the assessment of the legal validity of mining claims, private lands, mineral rights, and property agreements in the United States. The authors did not conduct any investigations of the environmental or permitting issues associated with the Iron Creek project, and the authors are not experts with respect to these issues.

The authors have relied fully on First Cobalt to provide full information concerning the legal status of First Cobalt and related companies, as well as current legal title, material terms of all agreements, and material environmental and permitting information that pertain to the Iron Creek project.

Section 4 in its entirety is based on information provided by First Cobalt, including a title opinion report on the patented and unpatented claims by Stoel Rives LLP dated November 8, 2017. Although Mr. Ristorcelli is responsible for Section 4, Mr. Ristorcelli offers no professional opinions regarding the provided information.

4.0 PROPERTY DESCRIPTION AND LOCATION (ITEM 4)

This Section 4.0 is based on information provided to MDA by First Cobalt. Mr. Ristorcelli presents this information in the interest of full disclosure to fulfill reporting requirements of NI 43-101 but expresses no opinion regarding the legal or environmental status of the Iron Creek project. Mr. Ristorcelli is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform work on the property beyond those summarized below.

4.1 Location and Land Area

The Iron Creek project is located about 18 miles southwest of Salmon, Idaho, within the historic Blackbird cobalt-copper district of the Idaho cobalt belt (Figure 4.1). The property consists of seven patented Federal lode claims that straddle Iron Creek, and a surrounding group of 83 unpatented Federal lode claims (Figure 4.2). Together the patented and unpatented claims cover an area of 1,698 acres. The center of the property is located at approximately 44° 57′ 42″ North, and 114° 06′ 57″ West.

Figure 4.1 Location of the Iron Creek Cobalt – Copper Project

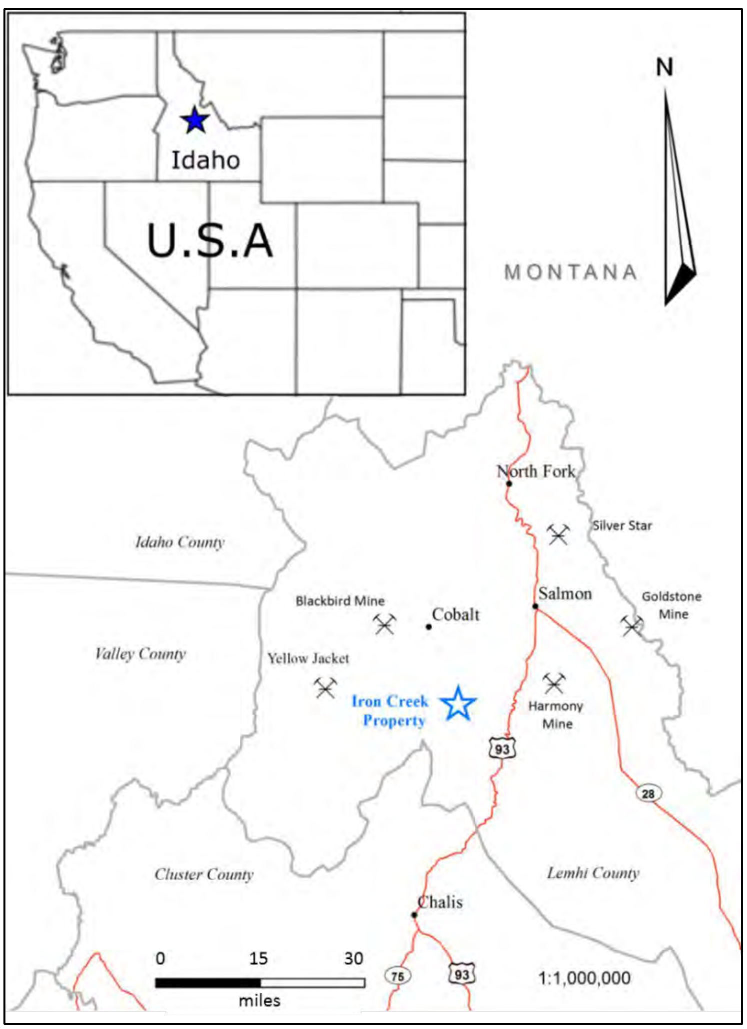
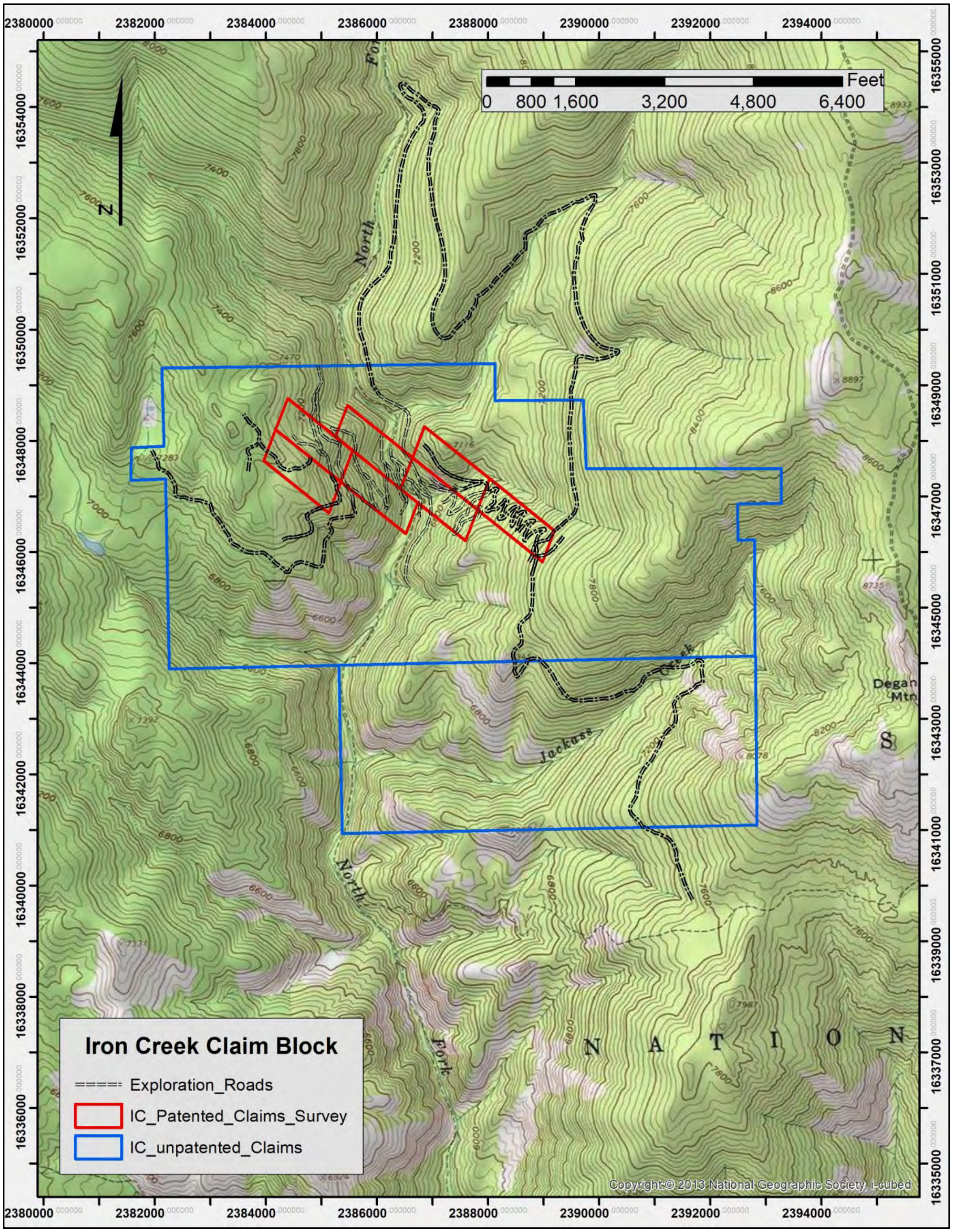


Figure 4.2 Iron Creek Property Map
(from First Cobalt, October 15, 2018)



The unpatented BR-1 to BR-58 claims are held 100% in good standing by the Idaho Cobalt Co. ("Idaho Cobalt"), of Boise, Idaho, a wholly owned subsidiary of First Cobalt. The unpatented claims NBR1 to NBR25 are held 100% in good standing by Scientific Metals (Delaware Corp), of Midvale, Utah, a wholly owned subsidiary of First Cobalt. The unpatented claims are listed in Appendix A.

The seven patented claims were acquired from the Chester Mining Company (OTC: CHMN) ("Chester") in 2018. The patented claims are described as: Iron #118, Iron #135, Iron #136, Iron #143, Iron #144 Iron #182, and Iron #189, of the Idaho Mineral Survey No. 3613, located in portions of Section 20 and Section 21, Township 19 North, Range 20 East, B.M., Parcel #RP9900000109A, Blackbird Mining District, Lemhi County, Idaho. Idaho Cobalt holds 100% of the patented claims.

The unpatented claims are on Federal public lands administered by the United States Forest Service ("USFS"). 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 USFS. 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. Currently, annual claim-maintenance fees are the only Federal payments related to unpatented mining claims, and these fees have been paid in full to September 1, 2020. The unpatented claims have no expiration date as long as the annual claim-maintenance fees are paid by August 31 of each year. For the patented claims, which are real property, annual property taxes are paid to Lemhi County, Idaho.

Other annual land holding costs, including county taxes for the patented claims, are listed in Table 4.1. The total annual land-holding costs are estimated to be $13,801.

Table 4.1 Annual Land Holding Costs for the Iron Creek Property

Item	Cost (US$)
Unpatented Claim Fees	$ 13,665
County Recording Fees	$ 19
Patented Claim Taxes	$ 117
Total Annual Cost	***$ 13,801***

The corners of the mining claims have been surveyed professionally, most recently in 2018 by Wade Surveying of Salmon, Idaho. An RTK Total Station survey instrument was used.

4.2 Agreements and Encumbrances

Scientific Metals Corp. ("STM"), later known as U.S. Cobalt, and now First Cobalt, entered into a Mining Lease Agreement with Chester dated August 23rd, 2016, with an option to purchase a 100% interest in the seven patented claims. Under the terms of the lease agreement, STM was required to pay Chester the sum of US$45,000 upon signing of the lease agreement and Chester retained a 4.0% net smelter return ("NSR") royalty. The terms of the agreement also required STM to make advance royalty payments on the NSR of US$3,000 per month for the first two years of the lease agreement, increasing to US$4,000 per month for the subsequent two years, and US$5,000 per month for subsequent years. At any time during the term of the lease, STM held the right to purchase a 100% interest in the seven claims and reduce the NSR held by Chester from 4.0% to 1.0%, all for consideration of a cash payment US$1,500,000. The NSR may subsequently be purchased for a cash payment of US$500,000 for every 1.0% of the NSR elected to be acquired by STM (now First Cobalt).

On September 4, 2018 First Cobalt announced an agreement had been reached to eliminate the advance royalty payments, purchase the patented claims, and eliminate the 4.0% NSR royalty for $1.07 million, which has been paid in full. As of the date of this report, First Cobalt owns a 100% interest in the seven patented claims and the 83 unpatented claims.

4.3 Environmental Liabilities

Mr. Ristorcelli is not aware of any existing environmental liabilities within the property. Because the property is located within the Salmon National Forest, First Cobalt is in communication with United State Forest Service ("USFS") personnel for guidance in ensuring that work is done in compliance with all existing environmental regulations. It is understood that water and particulates from any drilling or other work should be prevented from entering any body of water, such as Iron Creek, without first being treated so that there is no sediment or other contaminants entering the water.

The North Fork of Iron Creek, a perennial regional drainage discharging to the Salmon River, bisects the property, and cuts the sulfide-mineralized stratigraphic section. Adit-1 (East Adit) is excavated approximately 40ft above the elevation of the creek on the east side, and the lay-down and parking area is partially built on waste rock from driving the small adit. The waste rock contains a small amount of pyrite and chalcopyrite and is potentially an isolated point-source of acid mine drainage if it were to become oxidized and enter the creek. This material has a solid covering of clay, soil and rip-rap rock down to the creek level, and there is no evidence of erosion of the pile by the creek during the 40+ years since the original excavation.

First Cobalt has collected water samples from Iron Creek at nine established points upstream, within, and downstream of the property beginning in June 2017, prior to rehabilitating Adit-1 (East adit) and Adit-2 (West adit), and before commencing the surface drill program in 2017. This sampling program is ongoing and has had no samples with acidic values (pH < 6), and only rare isolated samples contain base-metal (Cu, Ni, As, Co, Pb, Zn) values above detection limits. This sampling program has shown that First Cobalt's exploration activities have had no deleterious effects on the water quality of Iron Creek, and that there is not any acidic material entering the creek from the project area.

4.4 Environmental Permitting

The zones of cobalt-copper mineralization are entirely contained within private ground on patented claims, including projected strike and dip extensions of the zones and indications of mineralization along additional stratigraphic horizons. No environmental permits are needed from any governmental agencies for the current and planned exploration disturbances within the patented claims, including drilling to delineate and extend these two zones.

Surface and underground activities must conform to applicable Mine Safety and Health Administration ("MSHA") standards and regulations. Drilling and underground mapping and sampling are performed in accordance with these regulations. The project is subject to quarterly compliance inspections by MSHA.

A snow removal permit is required by the USFS if plowing is needed to access the project. First Cobalt first received this permit during the winter of 2017-2018 and it was extended to complete the 2019 program. An extension will be applied for winter 2020 if warranted.

A separate exploration program is planned for the Ruby zone within the unpatented claims. This will require a permit from the USFS. The planned exploration work will create less than five acres of total new disturbance on USFS ground within the contiguous block of unpatented claims, and therefore requires the Notice of Intent ("NOI") level of permitting. The NOI application has not yet been submitted. Issuance of the NOI will require First Cobalt to post a reclamation bond with the USFS. The USFS District Ranger has 15 days from receipt of the completed application to approve the permit or notify First Cobalt of any required changes in the plan or additional levels of permitting.

The majority of the new access roads required to drill at the Ruby zone will be built on the patented claims and not count against the five-acre NOI disturbance limit. Drill pads will be constructed well outside of the active drainage area, and drilling will be conducted with small track-mounted core rigs to minimize disturbance and avoid travel in ecologically sensitive areas. First Cobalt is not aware of any cultural or environmental factors which would hinder issuance of the NOI permit.

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

5.1 Access to Property

Access to the property is via the paved, all-weather U.S. Highway 93 ("US 93"), and County Road 45 ("Iron Creek Road") located 23mi south of the town of Salmon, Idaho. The Iron Creek Road is a well-maintained gravel road that traverses the central part of the claim group approximately 11mi west of US 93. Access throughout the claim group is good because of a network of logging roads and previously constructed drill roads.

Salmon is a town of about 3,000 inhabitants, with the main industries being tourism, ranching and agriculture, and some logging and mining. There are a number of small mining contractors in the region, with easy access via paved highways to larger urban centers such as Butte, Montana, about 150mi away, and Pocatello and Boise, Idaho, located 210 and 250mi away, respectively.

5.2 Climate

The climate can be described as a temperate, continental-montane type. Annual precipitation ranges from 24in per year in the lower elevations, to 30in per year in the upper elevations. Of this, 70% falls as snow. Average winter snowpack is three to four feet in depth. Mining and exploration can be conducted year-round, assuming snow removal is conducted to maintain road access during the winter. Road access for exploration may be limited or interrupted by snow during December through April.

5.3 Physiography

The project area consists of hilly to mountainous terrain with broadly rounded ridges surrounded by deeply incised stream valleys, the principal valley being that of Iron Creek and its tributaries. Elevations within the project area range from 6,600ft along Iron Creek to over 8,300ft near the north end of the claim group. Much of the property is forested, with abundant Douglas fir at the lower elevations and lodgepole pine increasing in abundance at higher elevations. Underbrush includes Ninebark brush on the north-facing slopes and pine grass on the south-facing slopes.

5.4 Local Resources and Infrastructure

The patented claims are real property with complete surface rights for exploration and mining held by the owner, subject to state and federal environmental regulations. For the unpatented claims, the Mining Law of 1872 provides surface rights to the claim holder, subject to state and federal environmental regulations. The project area is mountainous and rugged with few localities for permanent structures. Potential ore would likely be transported to an undefined off-site processing plant.

The nearest electrical power line is located approximately 11mi from the project. Water for exploration drilling and dust control is available from the Little No Name Creek, a tributary of Iron Creek. Water for potential mining and mineral processing operations has not been identified and no water rights in the project area are held by First Cobalt.

Fuel, groceries, hotels, restaurants, communications, schools, automotive parts and service, a health clinic, and emergency services are available in Salmon, within an hour's drive from the property. Highly trained mining and industrial personnel are available in Butte, Montana, and Boise and Pocatello, Idaho. Engineering, banking and construction services, as well as heavy equipment sales and maintenance are also available in these cities, as well as in Salt Lake City, Utah, approximately 370 miles from the project.

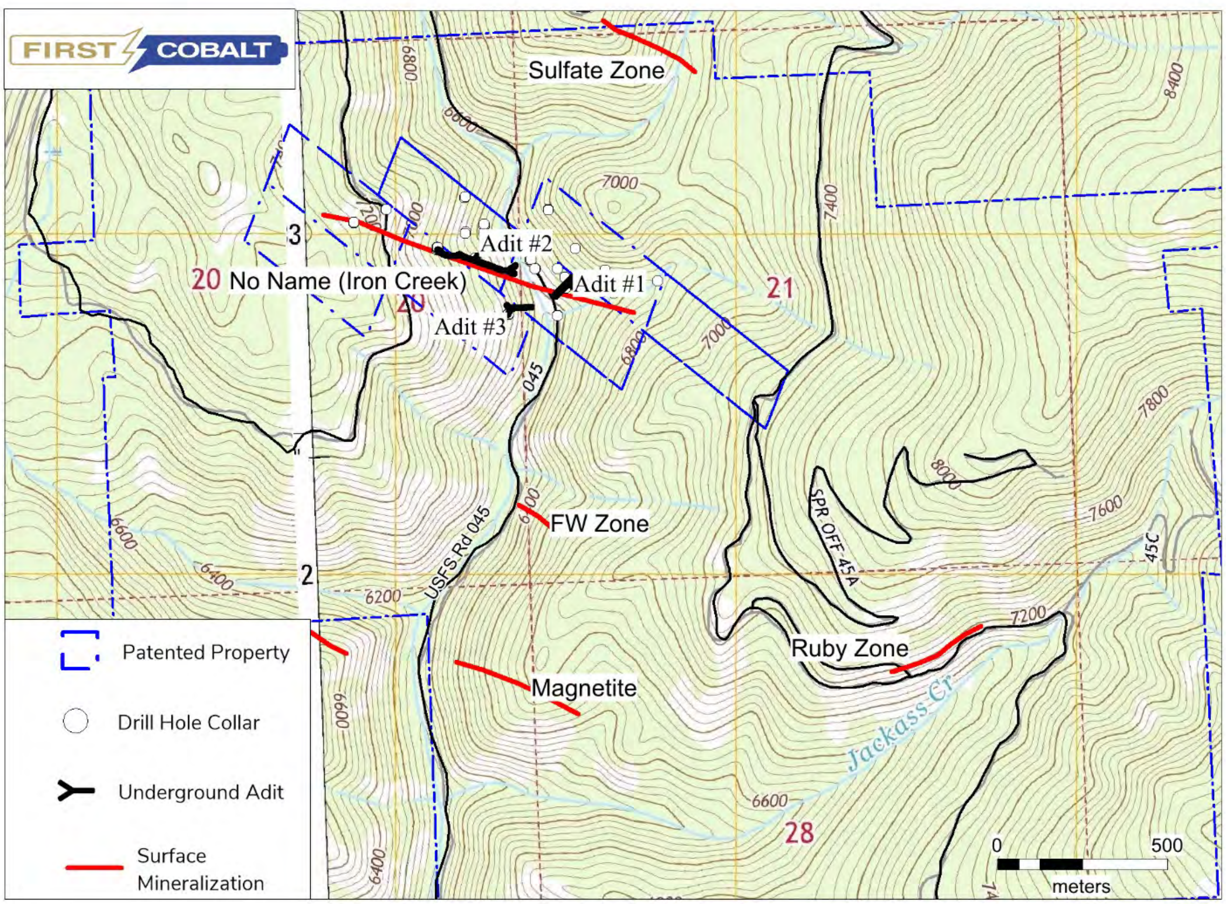
6.0 HISTORY (ITEM 6)

The information summarized in this section is derived from multiple sources, as cited. Mr. Ristorcelli has reviewed this information and believes this summary accurately represents the history of the Iron Creek property. Details of drilling are presented in Table 10.1.

6.1 Exploration History

Much of the following has been modified from Cullen (2016) and references cited therein. According to Park (1973), the area of the Iron Creek property initially drew interest as an iron prospect in 1946. In 1967, during construction of a logging road, a Mr. L. Abbey staked 14 claims on copper-stained material in what later became known as the No Name zone (Figure 6.1). In May of 1970, these claims were leased to Sachem Prospects Corporation ("Sachem"), a division of the POM Corporation of Salt Lake City, Utah.

Figure 6.1 Iron Creek Property Mineralized Zones



Sachem carried out claim staking, geologic mapping, aerial photography, and induced polarization, self-potential, magnetic and geochemical surveys of the No Name zone. In addition, they drilled 11 diamond-core holes and drove three underground exploratory drifts known as the Adit-1 (East Adit), Adit-2 (West Adit) and an unnamed adit.

Hanna Mining ("Hanna") optioned the property in 1972 through its wholly owned subsidiaries, Coastal Mining Co. ("Coastal") and Idaho Mining Co. ("Idaho Mining") and acquired it outright though a legal action in 1973. During 1972 through 1974, Hanna conducted a preliminary evaluation of the No Name zone for copper ("Cu") and cobalt ("Co"), and reconnaissance exploration of the Ruby (formerly Jackass" zone), Footwall, and Sulfate zones (Figure 6.1), as well as areas outside the current property controlled by First Cobalt.

Coastal's work for Hanna included construction of topographic base maps, a soil-geochemical survey for cobalt and copper, a reconnaissance induced-polarization and resistivity survey, a stream sediment survey, an aeromagnetic survey, geologic mapping, diamond-core drilling, underground development and metallurgical testing. A total of 3,000 soil samples were collected at depths of less than 12in, with spacing between samples of 100ft over the "No Name" zone and every 400ft away from the zone (Park, 1973, cited by Ristorcelli, 1988). The soil samples contained as much as 105 ppm Co and 1,900 ppm Cu (Ristorcelli, 1988).

Coastal drilled a total of 13,250ft of core, principally in the No Name zone, and one hole was drilled in each of the Sulfate and Ruby zones. That drilling substantially outlined the mineralization currently defined by First Cobalt's drilling. The 6500 Level adit was driven in Iron Creek, bringing the total drift footage to about 1,500ft. Bench-scale metallurgical tests were done on drill core and samples from the underground drifts. Hanna subsequently calculated "reserves" for the No Name zone (see Section 6.2).

In 1979, Noranda Exploration, Inc. ("Noranda") optioned the nearby Blackbird mine from Hanna; this option included a 75% interest in the Iron Creek property. Noranda conducted geologic mapping, re-logged three of the Coastal drill holes, conducted a soil-sample orientation survey, sampled the overlying Challis volcanic rocks, and mapped the underground workings. Noranda also drilled two core holes within the current property.

Noranda geologists described the stratiform nature of the cobalt and copper mineralized lenses, more than one of which were recognized, and calculated tons and grade for the No Name zone (Webster and Stump, 1980; see Section 6.2, below). Webster and Stump (1980) stated that in some locations the copper mineralization was "*generally overlying cobalt mineralization*".

Noranda subleased the Iron Creek property to Inspiration Mines, Inc ("Inspiration") in 1985. Inspiration's activities are poorly documented and MDA has no information on their exploration work. Later in 1985, Noranda and Inspiration terminated their interest in the property, following which Hanna rehabilitated the underground workings and drove a new portal into the 6500 Level adit, because the original portal had collapsed.

In January 1988, Centurion Gold ("Centurion") acquired the property from Hanna. Centurion drilled three short holes in the Ruby zone in 1989 and completed silt and heavy mineral surveys throughout the property with the objective of finding gold mineralization. Additional geologic mapping was done at surface during this time.

Cominco American Resources Inc. ("Cominco") leased the property from Centurion in 1991. Cominco's goal was to significantly upgrade and enlarge the mineralized material in the No Name zone. During

1991, Cominco compiled and reviewed existing data in an attempt to identify targets to be drilled in 1992. Based on this review, Cominco carried out the following exploration in 1991 and possibly into early 1992:

- Re-analyzed 111 stream-silt samples collected by Centurion;
- Carried out 1:4,800-scale geologic mapping;
- Had a grid of about 16.6 line-miles cut and surveyed by Wilson Exploration;
- Commissioned an EM survey of 15.2 line-miles by Blackhawk Geosciences using the newly surveyed grid;
- Commissioned VLF and ground magnetic surveys of 1.6. line-miles each by Gradient Geophysics;
- Collected 514 soil and 231 rock-chip samples;
- Re-logged approximately 14,600ft of drill core; and
- Created 1:600-scale cross sections through the No Name and Ruby zones

MDA has no information on the types of equipment, spacing between stations, or operating parameters used for the geophysical and geochemical surveys done by Cominco during the early 1990s. A decision was reached by Cominco to terminate their lease of the property in early 1992 (Hall, 1992). However, a report by Tureck (1996) indicates that Cominco drilled two core holes that totaled 2,308ft in 1996.

First Cobalt has provided no information on exploration work, if any, done between 1992 and 1996, or when Cominco returned the property to Centurion, which later changed its name to Siskon Gold. MDA has been provided no information on the ownership or work done on the property from 1996 to 2016. At a presently unknown time during that period, the patented and unpatented claims were acquired by Chester from an unknown owner. Mr. Ristorcelli has no information on the ownership of the claims during this period.

STM acquired the Iron Creek Property from Chester Mining Company in 2016 and changed its name to U.S. Cobalt in 2017. U.S. Cobalt conducted surface exploration drilling in 2017, and underground drilling from the 6500 Level Adit (Adit-2) during the winter of 2017 and into 2018. The 2017 drilling results drew the interest of First Cobalt. In March 2018, First Cobalt entered into a definitive agreement with U.S. Cobalt to acquire all of the issued and outstanding shares of U.S. Cobalt and the Iron Creek property. Completion of the acquisition was announced by First Cobalt on September 4, 2018.

First Cobalt continued the surface- and underground-drilling campaign to expand the deposit along strike. Drilling was suspended in August 2018 due to the threat of an advancing wildfire within the Salmon-Challis National Forest, which required the evacuation of the Iron Creek project personnel.

6.2 Historical Mineral Resource Estimates

Several historical estimates of "reserves" have been made for mineralized zones in the No Name zone as summarized in Table 6.1. These historical estimates are considered relevant for historical interest with respect to the exploration history at Iron Creek, and they are superseded by the current mineral resource estimates summarized in Section 14.0 of this report. The classification terminology is presented as described in the original references, but it is not known if they conform to the meanings ascribed to the measured, indicated, and inferred mineral resource classifications, or proven and probable reserve classifications, by the CIM Definition Standards. Mr. Ristorcelli has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves, and First Cobalt is not treating these historical estimates as current mineral resources or mineral reserves. Accordingly, these estimates should not be relied upon. The current mineral resources for the Iron Creek project are discussed in Section 14.0 of this report.

Five sets of "reserves" were calculated by Hanna in 1974 for underground and open-pit mining (Table 6.1) based on 24 core holes spaced at an average distance of about 200ft apart and using a tonnage factor of 11ft^3/ton (Markland, 1974). In 1980, Noranda estimated a "tentative reserve" of 1.279 million tons at an average grade of 0.59% cobalt, and later estimated a "high cobalt" portion at 1.0 million tons with an average grade of 0.61%Co and 0.3%Cu (Webster and Stump, 1980; Snow, 1983). It is not known if cutoff grades were applied to any of the historical estimates, other than those of Markland (1972) and Centurion (Ristorcelli, 1988). These estimates were done using then-current but still-appropriate polygonal sectional techniques. The wide range of results does not indicate errors or improper procedures, but rather differences in projection distances of mineralized material, different cutoff grades, different assumptions as well as the early stages of development drilling and exploration. Consequently, these results could have been used for preliminary indications of the size and grade of mineralization, as they were by U.S. Cobalt, but are not considered resources as defined today.

Cobalt and copper resources for the Iron Creek project were first estimated in accordance with NI 43-101 and the CIM Definitions Standards in 2018 (Ristorcelli and Schlitt, 2018 and 2019) taking into consideration the drilling done by First Cobalt through mid-2018. These historical resources were classified as Inferred resources (Table 6.2). All these historical estimates are superseded by the mineral resources estimated in Section 14.0 of this report.

Table 6.1 Historical Estimates of "Reserves" in the No Name Zone

Year	Company	Tons (000s)	CutOff %	Grade Co %	Grade Cu %	Grade CuEq %	Type, Source of Estimate
1972	Hanna	32,100	0.4% Cu Equiv	0.06	0.5		Open Pit; Markland (1972); based on IP
1973	Hanna	2,100		0.17	0.82		Underground; Akins (1973)
		20,000		0.088	0.606		Open Pit; Akins (1973)
1974	Hanna	250		0.3	1.24		Underground East; Markland (1974)
		4,570		0.03	1.84		Underground West; Markland (1974)
		2,400		0.24	0.47		Open Pit East; Markland (1974)
		410		0.11	2.55		Open Pit West; Markland (1974)
		32,100		0.06	0.52		Low Grade Open Pit; Markland (1974)
1980	Noranda	1,279		0.59			Webster and Stump (1980)
1983	Noranda	1,000		0.61	0.3		Snow (1983); high cobalt portion
1988	Centurion	10,000	1% Cu Equiv			2.0	reviewed by Ristorcelli (1988)

1 *The above estimates are relevant only for historical context, should not be relied on, and are not being treated as current mineral resources by U.S. Cobalt.*

2 *The key assumptions, paramters and methods used to prepare the above estimates are not known.*

3 *The historical estimates above use categories other than those of the CIM Definitions stipulated in NI 43-101, but it is not known how they differ.*

4 *The authors have not done sufficient work to classify the above estimates as current mineral resources or reserves.*

5 *The historical estimates above are superceded by the current mineral resources summarized in Section 14 of this report.*

Table 6.2 2018 MDA Estimated Iron Creek Resources (Inferred)

Cutoff %CoEq	Tons	Grade %CoEq	Grade %Co	Pounds Cobalt	Grade %Cu	Pounds Copper
0.03/0.18*	**29,630,000**	**0.11**	**0.08**	**45,352,000**	**0.30**	**175,448,000**
0.18	4,858,000	0.30	0.23	22,250,000	0.69	66,749,000
0.20	4,100,000	0.32	0.25	20,172,000	0.71	58,384,000
0.35	1,144,000	0.47	0.39	8,923,000	0.84	19,219,000

*Note: the above Inferred mineral resources are relevant only for historical context and are not being treated as current mineral resources. The historical estimates above are superseded by the current mineral resources summarized in Section 14 of the report. * "0.03/0.18" represent open pit/underground resources combined*

There has been no historical commercial production of cobalt or copper from the Iron Creek 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. Mr. Ristorcelli has reviewed this information and believes this summary accurately represents the geology and mineralization of the Iron Creek property as presently understood.

7.1 Regional Geologic Setting

The Iron Creek property is situated in the Blackbird copper-cobalt ± gold mining district, the Idaho Cobalt Belt ("ICB"), in the eastern part of the Salmon River Mountains, central Idaho. The host rocks to the ICB are part of the Belt-Purcell Supergroup, a Mesoproterozoic meta-sedimentary sequence extending across the Idaho-Montana border into southern Canada. Stratigraphic correlations within the ICB and surrounding area are somewhat contentious, complicated by the gradational and repetitious nature of the metasedimentary rocks and by later thrust faulting. Tertiary-age volcanism has also covered significant portions of the Mesoproterozoic sequence making correlations difficult in places.

In the mid-1970s, host rocks for the entire ICB were assigned to the mid-Proterozoic Yellowjacket Formation by Ruppel (1975). Overall, metamorphism of the sedimentary sequence is to lower greenschist facies, such that primary textures are relatively well preserved. Consequently, Hughes (1983) described the Yellowjacket Formation as a 17,000ft sequence of shallow marine sediments deposited in playa and alluvial environments. Based on detailed cross sections and regional mapping, Winston et al. (1999) re-assigned the ICB rocks to the Apple Creek Formation, a premise supported by Tysdal (2000) at a broader scale to also include rocks outside of the ICB (Figure 7.1). A consistent sub-division of the Apple Creek Formation is defined as four conformable units of siltite and interbedded quartzite, including a unit described as diamictite (Bookstrom et al., 2016; Burmester et al., 2016). Subdivisions are based on the relative thickness of quartzite-siltite couplets. Connor (1990) recognized iron-rich marker horizons that could be correlated across the Apple Creek Formation, although at that time these rocks were still considered to be part of the Yellowjacket Formation (Figure 7.2). In the upper portions of the Apple Creek Formation, iron occurs in biotite along this horizon, in contrast to the lower portions of the stratigraphic sequence where iron occurs in magnetite. The majority of stratabound cobalt-copper mineralization, including that at the Blackbird Mine, occurs along the biotite-rich horizon. Other cobalt-copper prospects, such as Iron Creek, are located along the iron-oxide horizon considered to be lower in the stratigraphic sequence. Detrital zircons within the upper portion of the Apple Creek Formation were dated at 1,409 ± 10Ma, an age regarded as the maximum age of deposition (Aleinikoff et al., 2012). The same sequence of rocks is intruded by a composite igneous pluton dated between 1,377-1,359 Ma and considered to be post-Apple Creek sedimentation (Evans and Zartman, 1990; Aleinikoff et al., 2012).

Overall, deformation of the Mesoproterozoic rocks in the area is relatively minor and largely restricted to brittle fault zones. Lund et al. (2011) re-interpreted northwest-trending and subparallel folds as late Cretaceous thrust faults that subdivide the area into distinct structural blocks that were further displaced by younger, north-south and northeast-southwest striking, extensional normal faults. The most prominent thrust faults affecting the ICB rocks are the Iron Lake fault and the Poison Creek fault (Figure 7.1 and Figure 7.2). More recent work has emphasized that the Poison Creek fault acted as the axial plane of a regional fold structure (Reed Lewis, 2019 personal communication).

Figure 7.1 Regional Geologic Setting of the Iron Creek Project

(after Tysdal, 2000; north is up)

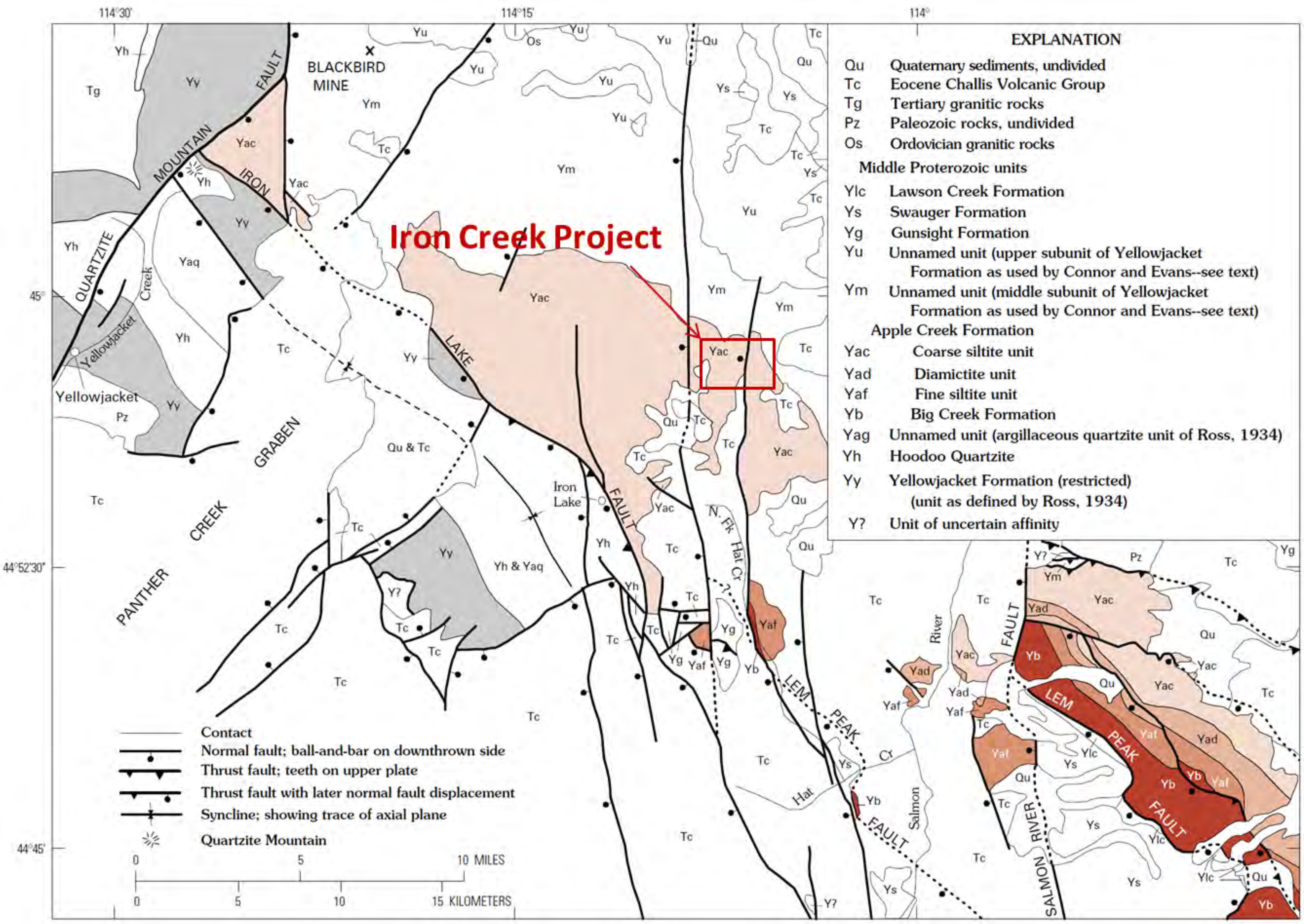
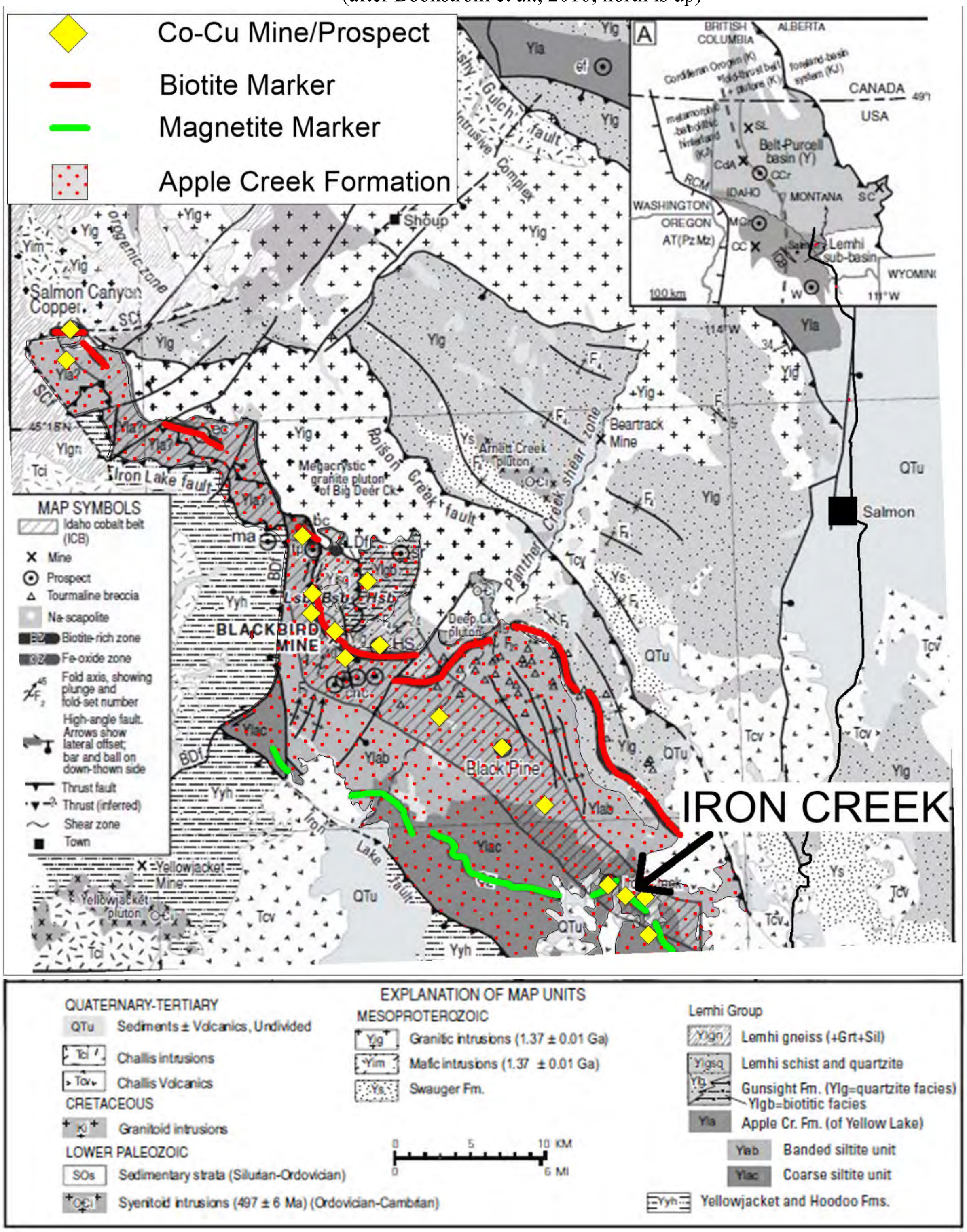


Figure 7.2 Bedrock Geology Map of the Idaho Cobalt Belt
(after Bookstrom et al., 2016; north is up)



The protracted sequence of events for the district also adds to the complexity of cobalt-copper metallogenesis for the ICB deposits and prospects, discussed further below and in Section 8, but the following sequence of regional events has been recognized (Bookstrom et al., 2016):

- Sediment deposition within a rift basin >1,470 Ma to 1,379 Ma;
- Intrusion of composite mafic-felsic plutons and development of metamorphic/ hydrothermal activity 1,379 to 1,325 Ma;
- Metamorphism related to continental-scale accretion (Rodinia) 1,200 to 1,000 Ma;
- Intrusion of mafic dikes and/or sills 665 to 485 Ma; and
- Metamorphism and development of Mesozoic fold-thrust belt, intrusion of the Idaho Batholith at 155 to 55Ma.

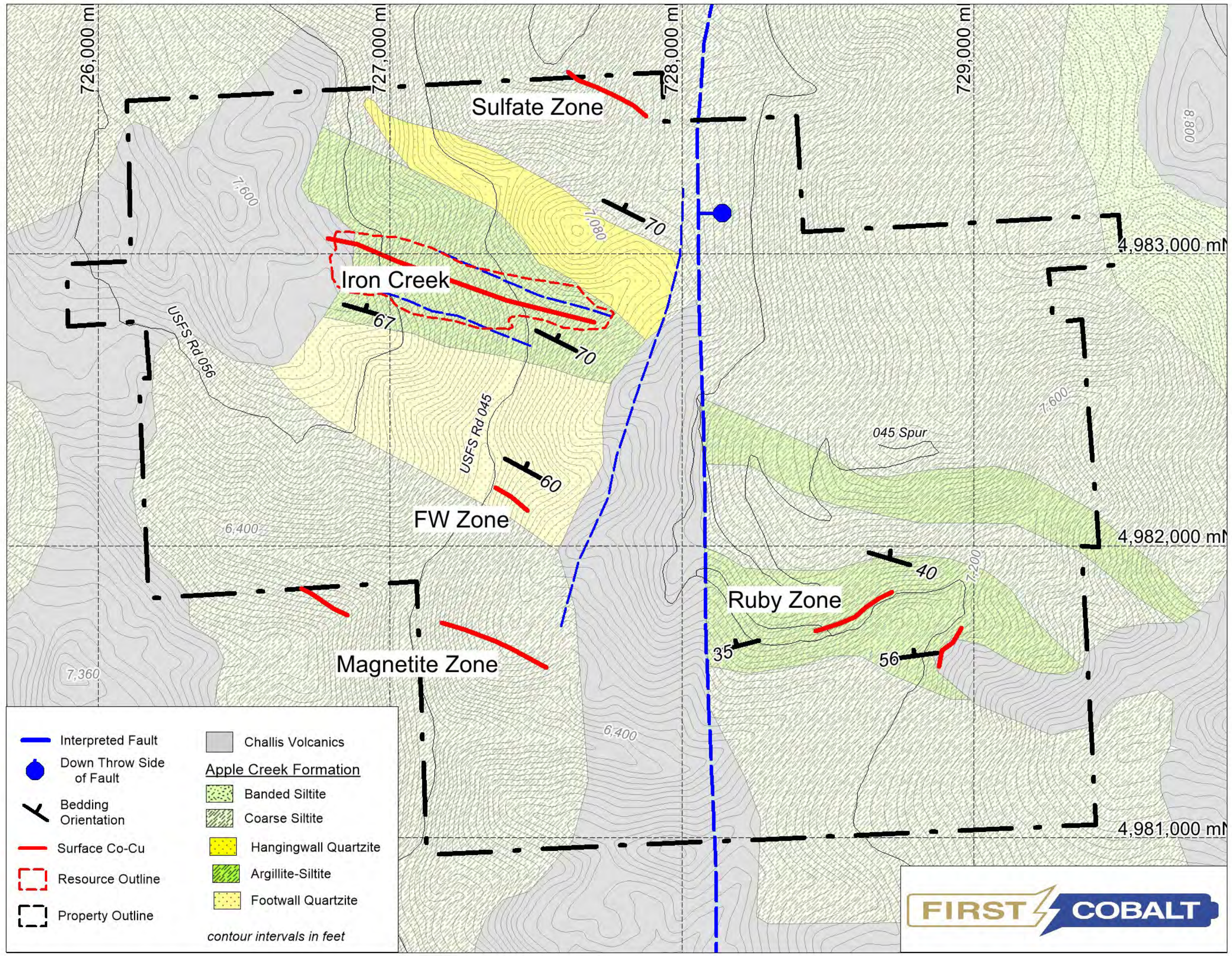
7.2 Property Geology

The bedrock geology of the Iron Creek project area has been mapped by Noranda Exploration (Chevillon, 1979) and more recently by Chadwick (2019) as shown in Figure 7.3, providing a more detailed interpretation than the published maps. In general, the meta-sedimentary rocks that host the Iron Creek cobalt-copper mineralization are fine grained, interbedded siliciclastic rocks. Overall, the metamorphic grade is lower greenschist facies such that most of the primary grain size and sedimentary textures have been preserved, but metamorphic names are used to classify the rock type, staying consistent with published names and descriptions within the ICB.

The clastic rocks range in grain size from mudstone (argillite) to sandstone (quartzite), but the dominant rock type is siltstone (siltite). Individual beds are identified by distinct color variations that reflect both grain-size and compositional variations. In places, individual beds are calcareous, recognized by metamorphic porphyroblasts. Carbonate-rich rocks, such as limestone or dolostone, are absent in the meta-sedimentary sequence at the Iron Creek project.

Chevillon (1979) identified an argillite-siltite unit as the host to cobalt-copper mineralization at Iron Creek. Above all, Chadwick (2019) recognized a mappable variation within the argillite-siltite based on re-logging of 23 of the First Cobalt drill holes. This variation includes: 1) siltite-argillite dominated strata with minor interbedded meta-sandstone beds of less than 2in, and 2) strata with meta-sandstone interbeds of greater than 2in.

Figure 7.3 Property Geologic Map
(from First Cobalt, 2019; north is up)



7.2.1 Local Units in Drill Core

First Cobalt continues to study the stratigraphy at Iron Creek to develop a 3D geological model (Santaguida and Kirwin, 2019). Descriptions of the major rock types logged in diamond drill core are presented below.

Siltite (SLTT)

The most prominent rock type at Iron Creek is siltite; composed of chlorite, quartz and biotite. Bedding is generally well-preserved and in places color variations occur that likely reflect variable concentrations of clay to coarse silt grains. Several lithological variations of siltite have been logged, but are grouped together for correlation:

bedded siltite (BDST);

sheared siltite (discontinued after logging drill hole IC18-09 in 2018) (SHST); and

argillite (ARG).

The definition of these codes has not been well established, so consistency of the logging has been variable during the drilling program. A relatively thick (up to 250ft) siltite unit does comprise the hanging wall to the cobalt-copper mineralization across the strike length of the resource. This unit is distinguished by the lack of quartzite beds and fine-grained nature (mudstone) giving a massive appearance to the rock. More prominent bedding within siltite is logged as BDST.

Bleached Scapolite Unit (BSU)

A distinct unit of siltite is defined by the presence of relatively coarse scapolite crystals and the bleached color of the fine-grained clastic matrix compared to other siltite units. Scapolite is easily recognized by prismatic crystal aggregates that are 0.05 to 0.2in. in diameter and comprise 5-10% of the rock. Scapolite crystals are often concentrated and aligned along specific beds within the siltite. Twinned crystals that appear to be siderite also occur within the scapolite aggregates.

Scapolite logged by First Cobalt has not yet been verified by petrology or mineral chemistry and the composition of scapolite at Iron Creek is presently unknown. These crystals are interpreted as porphyroblasts. Scapolite forms under greenschist metamorphic conditions possibly from evaporites and carbonate rocks, which are chemically susceptible and reactive to hydrothermal fluids, and often are associated with base metal deposits. As such, the BSU is considered to be a meta-sedimentary stratigraphic unit where primary carbonate minerals or salts had accumulated. Thus, correlations are considered to represent paleo-bedding.

Rhythmically Banded Unit (RBU)

Rocks with distinct quartzite bands interlayered with siltite occur throughout the resource area. These have been typically logged as RBU where regular intervals of quartzite to siltite are consistently repeated. In many drill holes, where the quartzite layers are relatively thick (1-2cm) and relatively abundant (>5% over 10ft intervals) these rocks were also logged as "Quartzite (QTZT)" since a strict, quantitative quartzite content has not been designated for logging. In places, a gradation from sandstone to fine siltstone has been preserved and these have been called "couplets" by most geoscientists mapping in the ICB (Bermester et al., 2016).

Quartzite as a rock type name still applies in the Iron Creek resource area, particularly in reference to the major rock units mapped north and south of the mineralized zone on surface (Chevillon, 1979; Chadwick, 2019). These informal map units are termed the "Hangingwall Quartzite" and "Footwall Quartzite", respectively, both containing quartzite interbeds up to one-foot thick.

Brecciated Quartzite

All brecciated meta-sedimentary rocks contain an appreciable amount of pyrite within the matrix, greater than 5%, and up to 60%, over several feet in places. Consequently, this was often originally logged by First Cobalt as Mineralized Zones ("MZ"). Clasts of quartzite are prominent so this rock type likely correlates with the RBU units. When well-mineralized, pyrite wraps around the resistive clasts that in places are rotated and aligned as boudins. Chalcopyrite and quartz crystal "flames" occur in the pressure shadows of the quartzite clasts and likely represent post-mineralization shearing.

Mafic Dikes

Mafic (or diabase) dikes are easily recognized in drill core contrasting in texture, density, composition and degree of alteration compared to the clastic sedimentary rocks. The dikes are typically 3 to 6ft in true width. Unaltered mafic dikes in places are porphyritic with euhedral plagioclase phenocrysts up to 0.1in. in diameter.

The mafic dikes cut the meta-sedimentary rocks and mineralization at various orientations, but in general are steeply dipping. The exact age of these dikes is unknown, but they are considered to have preferentially intruded along bedding planes. In places, the dikes are highly altered and, where chloritized, they are foliated. The dikes are late with respect to mineralization. Correlations of the dikes from hole to hole indicate that faulting offset of the strata is minimal.

7.2.2 Structure

In general, brittle deformation in the area drilled at Iron Creek is minor. Several fracture zones where core competency and core recovery are poor have been intersected by drilling. Most of these are minor, less than 3ft in drilled width, but in places are greater than 6ft and can be correlated between drill holes. In places, shearing is interpreted to have occurred where core angles to bedding abruptly change within a single drill hole. Chadwick (2019) recognized folding in drill core but did not correlate folded rocks between holes. Instead, his interpreted lithological contacts on cross-sections illustrate folds at the local scale (3 to 6ft). Based on the continuity of the BSU, the pyrite mineralized units, and the mafic dikes, it is deemed that folding is not significant across the Iron Creek resource area.

Previous work on historical drill core by Jones and Reeve (1989) and Hall (1992) concluded small, recumbent, isoclinal drag folds are common among the strata and compose fields of unique orientation and drag sense that can imply only the presence of much larger isoclinal folds. This conclusion is not supported by the more recent mapping and core logging by First Cobalt geologists described above.

Folding is local and likely associated with sedimentary features rather than represent regional deformation events. The sedimentary structures preserved regionally throughout the Apple Creek Formation rocks such as cross bedding may appear as local folding in drill core.

Fault offset within the drilled area of the property is considered minor. Chadwick (2019) identified two sets of faults. One set trends west-northwest and is roughly parallel to bedding. The northern of these faults occurs up-section from the mineralization and appears to be nearly conformable with the regional bedding, dipping steeply to the north. This fault coincides with the northern edge of the quartzite breccia. The southern west-northwest-trending fault is a distinct boundary between rocks up-section that are chlorite-dominated and contain interbedded meta-sandstones (RBU), and the siltite-dominated rocks below, interpreted as stratigraphically lower, with increased biotite content relative to the RBU. Offset is limited to <1m based on the continuity of mafic dikes that cross the west-northwest-trending faults.

The second set is known regionally and strikes north and east-northeast. The fault on the eastern side of the drilled area is part of this set. These faults are interpreted as normal faults with displacement down to the east (Bookstrom et al., 2016). The amount of offset on the fault shown is not known since outcrops are sparse and no drilling has yet been conducted on the east side of the fault.

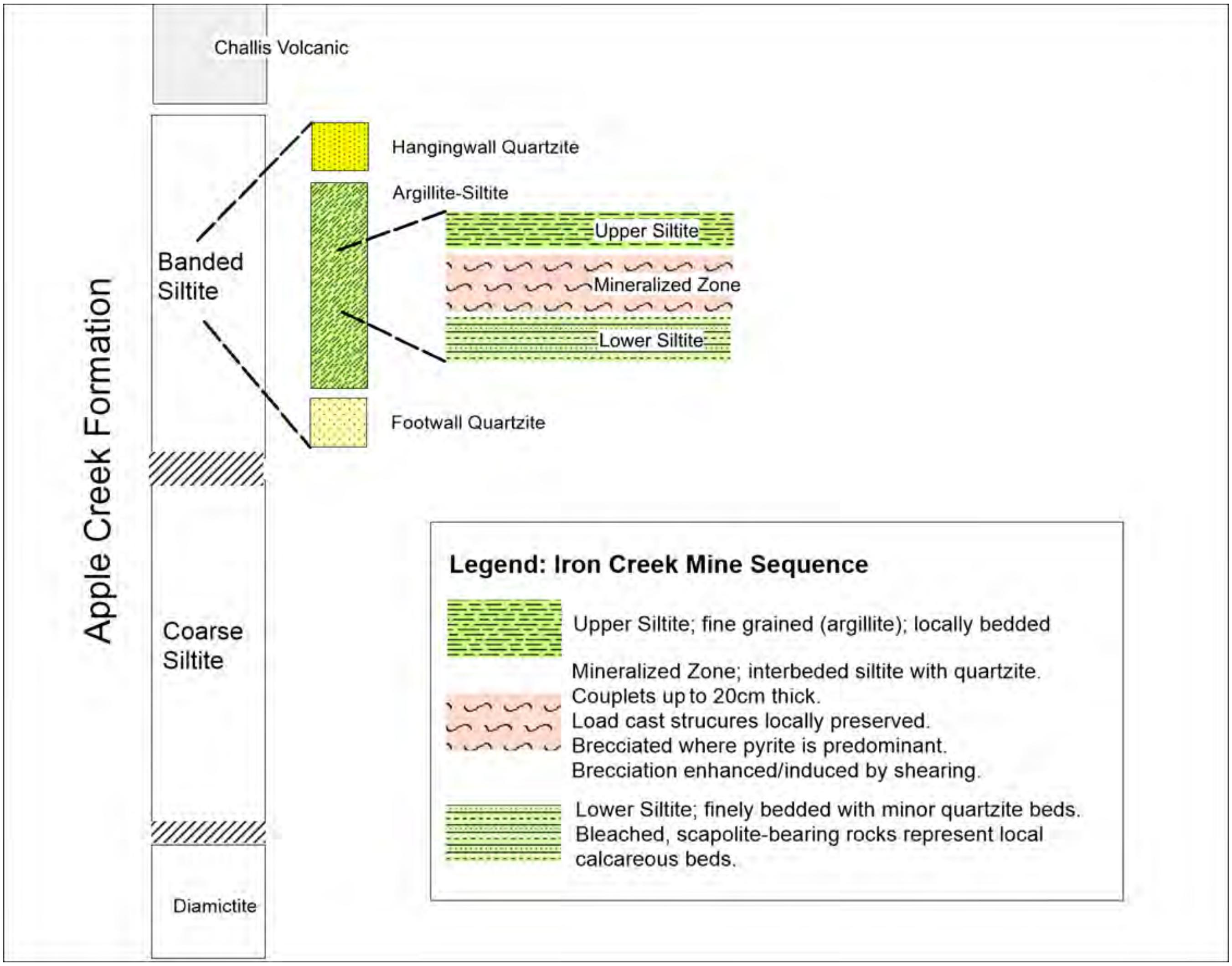
7.2.3 Discussion of Property Rocks in Relation to Regional Stratigraphy

Correlating units between drill holes remains difficult but still an initial stratigraphic sequence, here referred to by First Cobalt as the Iron Creek mine sequence, is proposed within the context of the regional setting and the Apple Creek Formation as summarized in Figure 7.4. The drill data from the 2017-2018 programs have supported the previous interpretations of a north-east younging direction. The relatively thick sequence of siltite without interbedded quartzite above the mineralized zone is considered a distinct unit referred to as the "Upper Siltite". The Iron Creek zone, host to the resources, is set where quartzite layers are prominent and where pyrite mineralization has developed. The "Lower Siltite" is recognized by the occurrence of the BSU, and, in some places, BSU occurs along the footwall to cobalt mineralization. This relationship is developed in the western portion of the drilled area where holes have intersected lower portions of the strata. The BSU units have not been encountered in the eastern part of the drilled area because the drill holes may not have penetrated as deeply into the footwall strata. The three units: Upper Siltite, Iron Creek zone and Lower Siltite, all correspond to the Argillite-Siltite unit shown in the historical bedrock map by Noranda (Chevillon, 1979). The thickness of the siltite-quartzite couplets of less than two inches in the Iron Creek zone is comparable to descriptions of the Banded Siltite of the Apple Creek Formation.

The Iron Creek zone contains brecciated meta-sedimentary rocks that may have been formed by debris flow and dewatering (Webster and Stump, 1980; Nash, 1989), but post-depositional shearing is also present, as shown by secondary minerals developed in pressure shadows around quartzite clast augens. Regardless of the origin, these "disrupted", internally folded beds are stratabound and can still be regarded as stratigraphic horizons.

Chevillon (1979) described the sequence of rocks similarly, but contacts were not defined. In fact, the contacts are loosely defined except in the west where the first occurrence of BSU is encountered downhole and in the east where the brecciated quartzites occur. The composition of the individual quartzite interbeds may be indicative of stratigraphic sequencing, therefore future work may focus on this in detail.

Figure 7.4 Interpreted Sequence of the Iron Creek Project Area Strata
(from First Cobalt, 2019)



7.3 Mineralization

Within the project boundary there are five zones of stratabound cobalt and copper mineralization exposed at the surface (Figure 7.3). These mineralized zones are discussed in detail in Section 7.3. In all cases, mineralization conforms to the bedding in the host meta-sedimentary rocks generally striking north-northwest and dipping between 60° and 80° northeast. The following descriptions on the metallic minerals are largely based upon observations within drill core by the First Cobalt geology team as well as consideration of previous descriptions in unpublished reports (Chevillon, 1979; Hall, 1992).

The primary mineral assemblage observed consists of pyrite, chalcopyrite, pyrrhotite, and magnetite. Typically but not exclusively, the distribution of sulfide and magnetite mineralization is coincident with zones of moderate to intense shearing. Such shear zones are interpreted as zones of weakness through which mineralizing solutions flowed and/or were remobilized. However, some zones of disseminated, very fine-grained pyrite are present within unsheared beds and laminations of the siltite units. The presence of shear strain has also led to some distinct styles of mineralization, such as pyrrhotite formed within pressure shadows around pre-existing pyrite grains. Such paragenesis indicates the possibility of multiple stages of mineralization.

Pyrite is the most widespread of the sulfide minerals observed at the Iron Creek project. In the drill core, pyrite varies from massive to blebby, and from coarse-grained disseminated crystals to very fine-grained patches and disseminations. It is typically subhedral to euhedral with octahedral pyrite more abundant than cubic pyrite.

Chalcopyrite varies from streaks and wisps to large blebs, is entirely anhedral to subhedral, and occurs intergrown with pyrite and pyrrhotite when the minerals are observed together. The bulk of the chalcopyrite occurs to the west of the North Fork of Iron Creek in the upper portion of the upper zone (previously named No Name zone), with fewer occurrences and lower concentrations to the east of the creek and in the lower zone down section to the south.

While the pyrite mineralization can be regarded as stratabound, chalcopyrite mineralization cross-cuts the sequence in the Iron Creek.

Pyrrhotite occurs in two distinct habits which are both anhedral. One variant has a dull, metallic brownish-purple color and is weakly magnetic. The second variant has a lustrous, metallic reddish-brown color and is highly magnetic.

Magnetite is relatively uncommon in the Iron Creek zone and occurs in either a massive or fine-grained, disseminated habit. Massive magnetite within the Iron Creek zone is typically found in highly sheared rocks and accompanies moderate to strong sulfide mineralization in bands and pods up to four inches thick in drill core. Fine-grained magnetite occurs in disseminated blebs and patches, typically within bedded to weakly sheared siltite and quartzite. This particular habit is much more widespread than the massive bands seen in highly mineralized zones and does not appear to be associated with greater amounts of sulfide mineralization.

Native copper and arsenopyrite are essentially trace minerals that have been observed in the drill core and underground exposures. Dendritic native copper is almost exclusively fracture controlled with grains from <0.04in to 1.6in in length and is intimately associated with a brecciated diabase dike in Adit-1. Arsenopyrite is quite rare and was observed mostly within the hanging wall quartzite of the upper zone occurring as very small clusters of anhedral grains.

Oxidation and weathering have formed shallow surficial zones of residual quartz, jarosite, goethite and hematite ± brochantite ± chalcanthite, as well as erythrite ($Co_3(AsO_4)_2 \cdot 8(H_2O)$), which has been observed around the portal of Adit-1 and at the massive magnetite exposure at the Ruby zone. The copper sulfate minerals occur as thin fracture coatings and weak disseminations in and adjacent to highly mineralized zones in Adit-1 and Adit-2 and in nearby drill holes. Oxidation levels are shallow across the property, generally less than 50ft deep, increasing to 80 to 100ft deep under North Fork of Iron Creek.

Both Hanna and Noranda conducted mineralogical and metallurgical studies on samples from the No Name zone (now called the upper zone). Hanna's microscopic and X-ray studies indicated that cobalt dominantly occurs in cobaltian pyrite (Mattson, 1972; Mattson, 1973). Noranda studied core from a high–cobalt zone with a scanning-electron microscope ("SEM") and found that the cobalt occurs almost entirely in the pyrite (Snow, 1983). Noranda recognized two varieties of pyrite: a cobalt-rich variety, containing from 2.5% to 4.5% cobalt, and a cobalt-free type of pyrite.

First Cobalt commissioned SEM tests at American Assay Labs in Sparks, NV, and quantitative evaluation of materials by scanning electron microscopy ("QEMSCAN") tests at SGS Minerals ("SGS) in Lakefield, Ontario in 2018 (see Section 13.3). The results of these recent tests agree with the work performed by Hanna and Noranda that cobalt is present largely or entirely within pyrite at Iron Creek. These tests also concluded that there is a distinct lack of cobaltite. Relatively low levels of arsenic in assays from drill core support this conclusion, although a small amount of arsenic occurs with cobalt in highly mineralized zones. An anomalous mineral seen in drill core with a steel-grey to violet color with an isometric crystal form has yielded cobalt values upwards of 5% during handheld X-ray-fluorescence ("XRF") spot tests. That mineral is tentatively identified as the cobalt sulfide linnaeite ($Co^{2+}Co^{3+}{}_2S_4$).

7.3.1 Iron Creek Zone

Mineralization at Iron Creek has previously been described as conformable zones interspersed within the sedimentary strata. The host rock to mineralization is a fine-grained argillite-siltite lithologic. The zone explored and drilled by Sachem Prospects Corporation and Coastal Mining Corporation between 1970 and 1972 was called the No Name zone (now called the upper zone). The First Cobalt drilling program in 2017-2018 has been more extensive than the 1970s work outlining a second continuous zone stratigraphically below the upper zone called the lower zone (informally called the Waite zone). Several sulfide lenses and stringer zones were also intersected between these two horizons and in the hanging wall of the upper zone such that naming all of them is confusing. Therefore, the name Iron Creek is used to refer to all mineralized horizons contained in the estimated resources.

Individual mineralized lenses are steeply dipping, tabular zones containing variably continuous layers and lenses of sulfide minerals along bedding planes in a sequence of interbedded siltite, fine-grained siltite, quartzite, and in places argillite. The overall length of mineralization defined to date is ~2,500ft, and the overall dip extent is ~2,000ft. Pyrite mineralization containing cobalt in places is massive to semi-massive up to 65ft true thickness whereas elsewhere is fine-grained and disseminated. Lenses of disseminated pyrite mimic the shape and orientation of the metasedimentary rocks following bedding planes and stratigraphic structures. Locally, pyrite is contained in narrow, rough veins or fracture fillings cutting bedding. The mineralization consists of pyrite, chalcopyrite, pyrrhotite, magnetite and quartz with traces of native copper and possibly linnaeite. Oxidation and weathering of pyrite mineralization have formed surficial zones of residual quartz, jarosite, goethite, hematite, brochantite, chalcanthite and rare erythrite.

Copper-rich mineralization is specifically found in the western portion of the drilled area at Iron Creek and mostly in the upper zone. Zones of chalcopyrite stringers over 30ft wide (interpreted true width) cut the sedimentary strata at shallow angles (<15°) to bedding. Individual stringers are < ½in. wide. The stringer zones are developed concordant to the pyrite-rich horizons, but a discrete zone is well developed in the hanging wall siltite extending over 1,000ft of strike length. Pyrite is conspicuously sparse in the copper-rich zones. Pyrrhotite is locally associated with chalcopyrite.

Currently available drill data show that cobalt and copper mineralization in the upper zone are distinctly zoned with respect to each other and form separate but overlapping mineral domains. Cobalt is the principal metal to the east and copper is the principal metal to the west in the upper zone. The cobalt and copper mineralization overlap in the central part.

7.3.2 Ruby Zone

The second most significant zone of known mineralization containing cobalt is the Ruby zone (historically known as the Jackass zone after the nearby creek) exposed approximately 5,000ft southeast of Iron Creek. Little is known about the Ruby zone subsurface because drill holes collared above the zone were abandoned before penetrating the projection of the main mineralized horizon. Hole NIC-22 did encounter an estimated 100ft of disseminated chalcopyrite before it was abandoned in a "squeezing fault zone" (Chevillon, 1979). Centurion's holes (1989 to 1990) were at convenient spots along the road for assessment purposes and did not test the zone.

The Ruby zone may be a separate stratigraphic unit or may be structurally offset from the Iron Creek mineralized horizon by a north-south trending fault based on bedrock mapping. Younger volcanic rocks are bound by two mapped branches of the fault, and partially cover the host rocks of Iron Creek- and Ruby zones. The Ruby zone host rock to mineralization is a fine-grained argillite-siltite lithologic unit similar to the host rocks at Iron Creek. Massive magnetite horizons at Ruby extend across the full extent of the exposed mineralization. At Iron Creek, massive magnetite lenses occur within the higher-grade cobalt mineralization zones.

Outcrop mapping (Noranda field team outcrop map) indicates there is mineralogic zoning similar to that of the Iron Creek deposit in that a magnetite-pyrite assemblage is confined to the footwall, and pyrite increases and magnetite decreases in abundance higher in the stratigraphic sequence. Unlike the upper zone, there is an upper magnetite body in the hanging wall, which crops out along the road. Conformable magnetite-pyrite lenses are exposed over strike lengths of up to ~500ft and appear to grade laterally into unmineralized, chloritic rocks. These gradational zones appear to be relatively richer in pyrite and are characterized by interfingering lenses of pyrite, magnetite and chloritic rock. The chloritic rock has locally been strongly silicified. Crusts of what has been tentatively identified as erythrite are common on the magnetite outcrops.

Discordant lenses of magnetite breccia are also present in the footwall of the Ruby zone. These breccias are composed of 80% to 95% magnetite, up to 15% pyrite and 5% to 15% angular, spindle-shaped, lithic clasts.

Hanna's soil surveys and Noranda's grab rock-chip samples revealed that cobalt values appear to be associated with magnetite-rich rocks. Copper values are associated with veinlets and disseminations of chalcopyrite, which are locally anomalous in the contact zone of mafic dikes. (Chevillon,1979). The soil anomaly associated with the Ruby zone is down slope from the actual exposure of mineralization.

7.3.3 FW Zone

Identified in the Noranda outcrop maps as the "F.W. No Name Zone" over 2,000ft south of the Iron Creek zone. Chevillon (1979) describes this zone as stratabound. Conformable lenses of magnetite and pyrite occur within chloritized argillite-siltite and are cut by veinlets of quartz-carbonate and secondary pyrite. The magnetite mineralization is traced over 300ft and the zone of chloritization is mapped along strike westward for over 2,000ft. The FW zone is considered a separate stratigraphic horizon to the Iron Creek zone.

7.3.4 Sulfate Zone

The Sulfate zone is located north of the Iron Creek zone (Figure 7.3). Chevillon (1979) described the Sulfate zone as another example of stratabound, magnetite-rich mineralization. Conformable, narrow bodies of magnetite and pyrite resemble the mineralization in the Ruby and Iron Creek zones, but no distinct mineralogical zoning is evident. Malachite is found in chloritic rocks in the area and a 7 to 10ft wide quartz vein with sparse pyrite and chalcopyrite is situated toward the footwall of the zone and is generally conformable with stratigraphy.

According to Bruce (1972):

> *"The original showing was found on the west wall of Big No Name Creek canyon. There, chloritic phyllite is heavily stained with malachite over a width of about 150 feet. Small 1/8 in.-1 in. quartz-iron oxide (boxwork) veinlets are common both parallel to and oblique to the foliation. In a few veinlets, scattered remnants of chalcopyrite are present. The name "Sulphate Zone" is apparently due to the presence of a secondary, greenish gray mineral that might be melanterite ($FeSO4{\cdot}7H2O$).*
>
> *Approximately 800 ft southwest of the main showing, a large block (20 ft x 20 ft) of "bull" quartz was discovered. It appears to represent nearly complete replacement of the country rock by Sulphate[?]. Small patches of badly altered phyllite can be seen within the block. The outcrop is laced with small iron oxide, boxwork veinlets, but no sulfides or secondary copper minerals were noted.*
>
> *The geochem samples suggest that cobalt is not important in this zone.*
>
> *In summary, geological, geochemical, and geophysical data suggest a (discontinuous?) zone of mineralization at least 150 ft wide and at least 1,600 ft long. Chalcopyrite noted by L.H. Green near the collar of IC-4 O.D.H. is right on strike to the south and might lengthen the zone. The writer feels that the zone definitely merits further work similar to that already done, and that a drill hole is probably justified."*

The recommended hole was drilled and apparently yielded disappointing results (Centurion, 1990).

7.3.5 Magnetite Zone

Magnetite-rich breccias occur conformable to local bedding over a strike length of 600ft in the southern portion of the Property. The breccias were first shown on the Noranda outcrop maps, but not regarded as a separate mineralized zone (Chevillon, 1979). Subsequent maps show the Magnetite zone as the western extension of the Ruby zone, but a thick cover of Challis Volcanic rocks prevent true correlation. No sampling on these breccias has been recorded.

7.4 Hydrothermal Alteration

Extensive work has been done on understanding the hydrothermal alteration associated with mineralization at the Iron Creek zone, and the following was principally derived from First Cobalt's work.

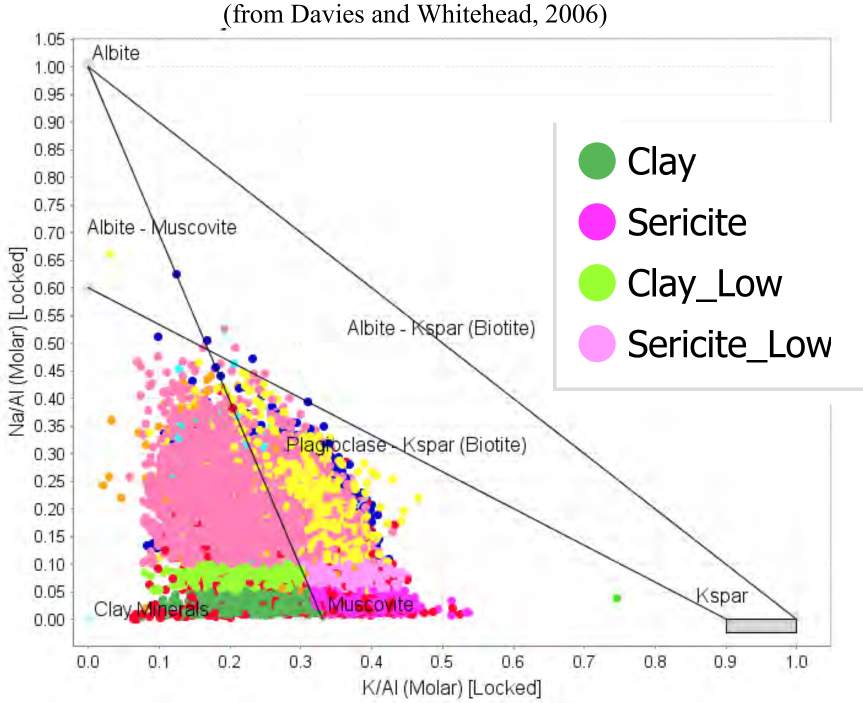
The effects of hydrothermal alteration such as: (i) selvages to sulfide veins, (ii) replacement of primary minerals or sedimentary structures, or (iii) infilling of open spaces by secondary minerals are not prominent in the rocks hosting mineralization at Iron Creek. Secondary silicate minerals typically associated with hydrothermal alteration such as biotite, chlorite, sericite, clay minerals or carbonate minerals are present but obvious zones cannot be mapped on observation alone.

The multi-element dataset (over 10,000 samples) available for Iron Creek has been reviewed to determine if distinct geochemical units can be recognized and/or define spatial zones related to hydrothermal alteration (Santaguida and Kirwin, 2019).

Chemical discrimination of the meta-sedimentary rocks cannot be made because trace element (Ti, V, Sc, Cr, Y, Zr) distributions show a similar provenance for all of the sedimentary rocks. Chemical variations in major elements (Si, Al, Fe, Mg, Na, K) are related to hydrothermal alteration. In general, alteration can be recognized by sodium depletion rather than specific enrichment of other major elements that typically reflects feldspar destruction. (Figure 7.5)

Figure 7.5 Standardized Alteration Mineral Diagram Using K-Na Versus Al Molar Ratios

(from Davies and Whitehead, 2006)



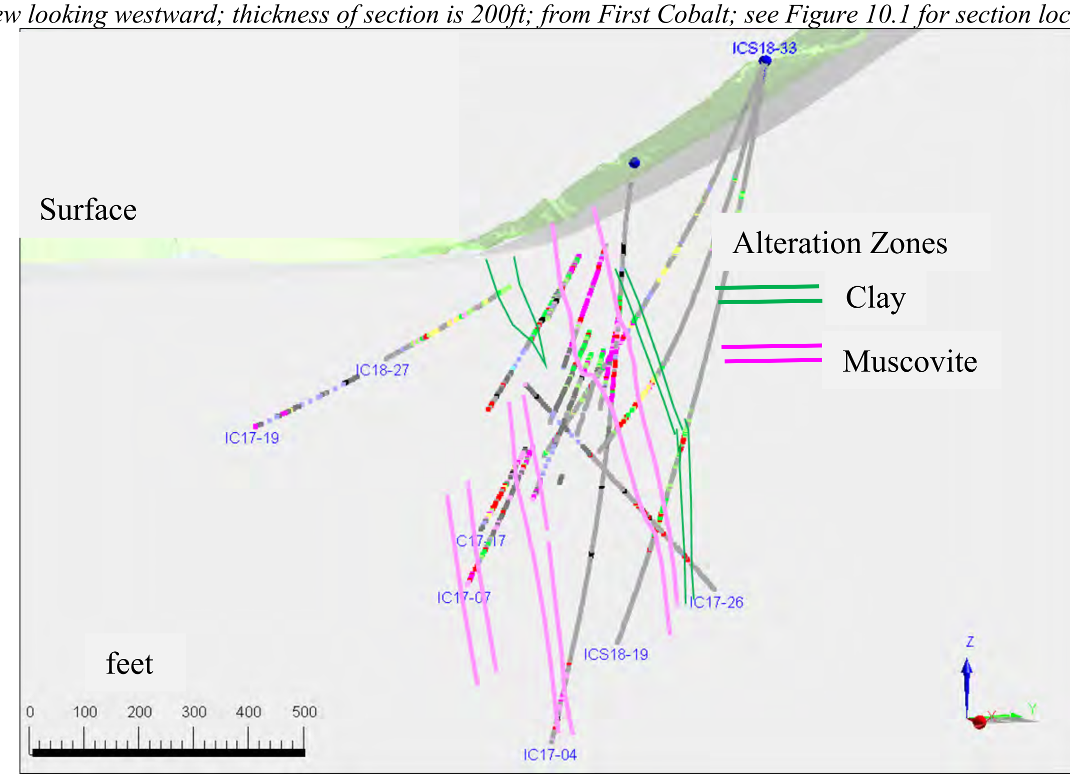
Iron Creek samples with high Al and low Na contain clay minerals (e.g., kaolinite). High K and low Na are considered to contain muscovite (sericite). Since hard boundaries are not defined in the diagram for the clay and muscovite fields, "low" is used to reflect weak alteration intensity. Most mineralized rocks also plot within the clay and muscovite fields.

Mapping the samples identified as "Clay-Altered" or "Muscovite-Altered" has shown that discrete zones can be grossly correlated hole-to-hole (Figure 7.6). Clay and muscovite alteration zones envelope sulfide mineralization but sericite (muscovite) is more directly associated spatially with mineralization. In places where sericite and clay alteration are developed spatially close to mineralization it suggests a direct relationship. Sericite alteration zones are also prevalent within the quartzite breccia hosting mineralization. Sericite alteration away from the mineralization appears as selective replacement of individual beds preferentially occurring in fine-grained siltite that may be more permeable and reactive to hydrothermal fluids.

The most spatially consistent and distinct clay alteration occurs in the siltite above the mineralization. It can be traced across the strike length of the drilled area. The zone is discrete and is typically 15 to 30ft in width (true thickness). In the thicker portion of the mineralized zone the clay alteration zone forms the immediate hanging wall. Along strike, where mineralization is thinner the clay alteration zone persists. This zone is not specifically associated with post-mineralization deformation (shearing or faulting), therefore may represent hydrothermal fluid migration during the mineralizing event, but where metals were not deposited.

Figure 7.6 Representative Drill Section Showing Alteration Zones

(*view looking westward; thickness of section is 200ft; from First Cobalt; see Figure 10.1 for section location)*

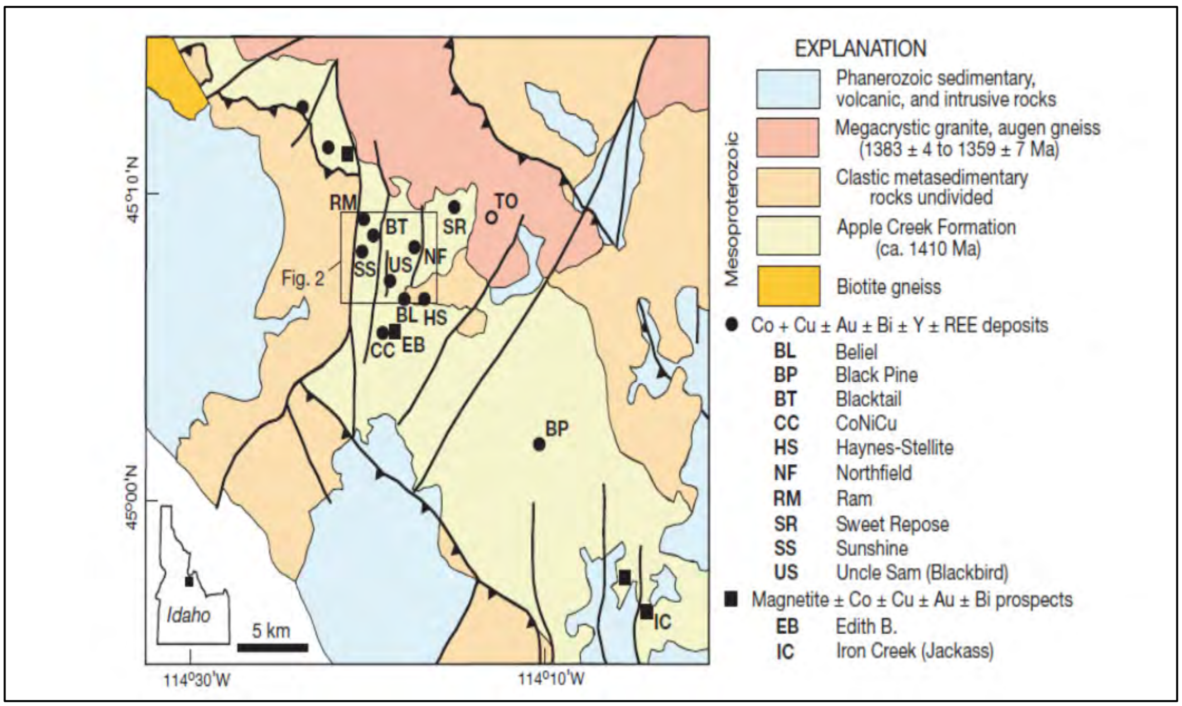


8.0 DEPOSIT TYPES (ITEM 8)

The following discussion is taken from publications cited within the text, with additional information from First Cobalt. Mr. Ristorcelli has reviewed this information and believes this summary accurately represents the Iron Creek project.

The cobalt and copper mineralization at Iron Creek belong to a class of deposits variably described as "Blackbird Co-Cu" (Evans et al., 1986) or "Blackbird Sediment-hosted Cu-Co" (Hõy, 1995) in and adjacent to the Blackbird mining district of Idaho. The Blackbird mining district contains several cobalt-copper ±gold deposits and prospects in proximity that are hosted in similar meta-sedimentary rocks. These deposits and prospects define the Idaho Cobalt Belt as shown in Figure 8.1.

Figure 8.1 Idaho Cobalt Belt with Simplified Regional Geology
(from Slack, 2012; north is up)



According to Evans et al. (1986), "*These deposits are stratabound iron-, cobalt-, copper-, and arsenic-rich sulfide mineral accumulations in nearly carbonate-free argillite/siltite couplets and quartzites*".

There has been disagreement about the "Black-bird-type" origin and deposit formation processes, with some workers attributing the mineralization to sea-floor hydrothermal activity and associated, syn-sedimentary style ("SEDEX") or volcanogenic massive sulfide ("VMS") deposition (e.g., Nash, 1989; Nash and Hahn 1989, Connor, 1990). In the Blackbird deposits, the biotite-rich host rocks are considered pyroclastic tuff accumulations, but these micaceous rocks are not found without sulfide mineralization.

Thus, First Cobalt believes the deposits were likely formed by hydrothermal fluid-rock interaction and do not represent volcanic activity. The brecciated host rocks to the Co-rich pyrite mineralization at Iron Creek have been interpreted by First Cobalt to have formed by slump folding and debris flow deposition, permitting syn-sedimentary hydrothermal fluids to circulate. Chalcopyrite stringer mineralization is considered to reflect hydrothermal "feeders" akin to a VMS-style of mineralization.

Slack et al. (2017) proposed that the origin of the Blackbird cobalt-copper deposits is varied with a range of mineralizing processes, from diagenetic to epigenetic (the latter occurring both before and during metamorphism). At the Blackbird deposits, geochronological and geochemical evidence suggests links to the post-sedimentary composite granite-gabbroic plutons dating the main stage of cobalt mineralization at younger than 1,370Ma, approximately 30Ma later than the host rocks (Slack, 2012; Aleinikoff et al, 2012). Cobalt mineralization hosted by tourmaline-rich breccias and veins that are also prevalent throughout the Blackbird area has also been connected to the later metamorphic events discussed above: (1) 1,200 to 1,000 Ma and (2) 155 to 55Ma (Lund et al., 2011; Slack, 2012; Bookstrom et al, 2016; Saintilan et al., 2017). Iron Creek mineralization is considered to have formed due to metamorphism during the Sevier orogeny at 112-85 Ma according to Bookstrom et al. (2016).

The evidence for epigenetic style cobalt-copper mineralization has led to the comparison to iron oxide copper gold deposits ("IOCG") by Slack (2017) and Hitzman et al. (2017). The widespread occurrence of magnetite at Iron Creek, specifically, supports this possible IOCG connection.

Interestingly, Chevillon (1979) drew similarities between the Iron Creek zone, Ruby zone, and Magnetite zone to the copper-gold deposits at Tennant Creek that are now considered as IOCG deposits, rather than syn-genetic deposits (Skirrow and Walshe, 2002).

Regardless of genetic models for cobalt and copper, at Iron Creek both metals are generally stratabound on a local scale.

9.0 EXPLORATION (ITEM9)

9.1 General

First Cobalt (formerly STM, and U.S. Cobalt) commenced exploration of the Iron Creek property in 2016 with the compilation of historical geological, drilling, geophysical and geochemical data. In 2017 and 2018, First Cobalt rehabilitated about 1,260ft of underground workings in Adit-1 (East adit) and Adit-2 (West adit), which provide subsurface access to portions of the upper (previously called the No Name) zone within the Iron Creek mineralized zone. The objectives for U.S. Cobalt in 2017 were as follows:

- Diamond-core drill approximately 35,000ft from surface along a 1,500ft strike length of the upper zone (previously the No Name), twinning historical holes in an effort to confirm and increase confidence in historical estimates of cobalt mineralization; and
- Re-habilitate the underground workings of the Adit-1 (East Adit) and Adit-2 (West adit; 6500-level Adit) for underground diamond drilling and channel sampling.

During 2017, First Cobalt drilled 40 diamond-core holes from the surface, for a total of 34,704ft of core drilling (MDA resource database; see Section 10.0 for details). The aforementioned surface drill program was completed in December of 2017. In addition to twinning previous holes, the drilling further delineated portions of the upper zone and left the mineralized zone open to further expansion along strike. The 2017 drilling also identified a second mineralized zone stratigraphically lower than the upper zone now called the lower zone, which may have been previously referred to as the Footwall No Name zone. This drilling also encountered diabase dikes that cross-cut the Apple Creek Formation host rocks. Adit-1 was fully rehabilitated and both of the portals for Adit-2 were excavated and partly rehabilitated during 2017.

In the first quarter of 2018, the rehabilitation of Adit-2 was completed. A total of 18,507ft were drilled in 29 core holes collared at surface and from underground locations in Adit-2 and Adit-1. The details of this drilling are summarized in Section 10.0 and the results have been incorporated in the estimated mineral resources presented in Section 14.0. Of the 29 holes, 25 were drilled in Adit-2 and four were drilled in Adit-1. All but two of the holes in Adit-2 were collared in a drill bay at the western face of the adit and were intended to extend the Iron Creek deposit to the west, as well as explore possible copper targets to the north-northwest. The other two holes were drilled in a secondary bay approximately 300ft inside the portal and targeted the lower
zone to the south. The four holes drilled in Adit-1 were designed to be collared in the upper zone and further explore the lower zone.

The entire length of Adit-1 was channel sampled and geologically mapped in detail by First Cobalt geologists. A total of 133 channel samples (each five feet in length) were collected from both ribs along the crosscut and drift in Adit-1. The samples were collected using air-powered chisels, with average sample weights of about 7.3lb. The underground channel samples were transported by a First Cobalt geologist from Adit-1 to the laboratory of American Assay Laboratories ("AAL") in Sparks, Nevada.

Road-cut sampling was started but not completed along the roads cross-cutting the Iron Creek deposit on the west side of the North Fork of Iron Creek.

During 2018, First Cobalt initiated mineralogical and petrographic studies of mineralized material from the upper zone. A total of 20 samples of drill core from 13 of the 2017 and 2018 drill holes were sent to SGS Minerals in Lakefield, Ontario for detailed mineralogical descriptions. The purpose of the study was to identify and quantify metallic mineral species over a range of cobalt grades as identified by geochemical analyses. Specific attention was made in this study to identify cobalt-bearing minerals. Core logging and underground mapping found a diversity of pyrite textures and a range of grain sizes that had not been systematically analyzed for cobalt content.

The SGS samples were derived from drill core and underground grab samples of pyrite-rich material. SGS prepared polished mounts of each sample for analysis using QEMSCAN, a standard method to derive high-resolution mineralogic images. Individual minerals are identified on each image manually by a mineralogist.

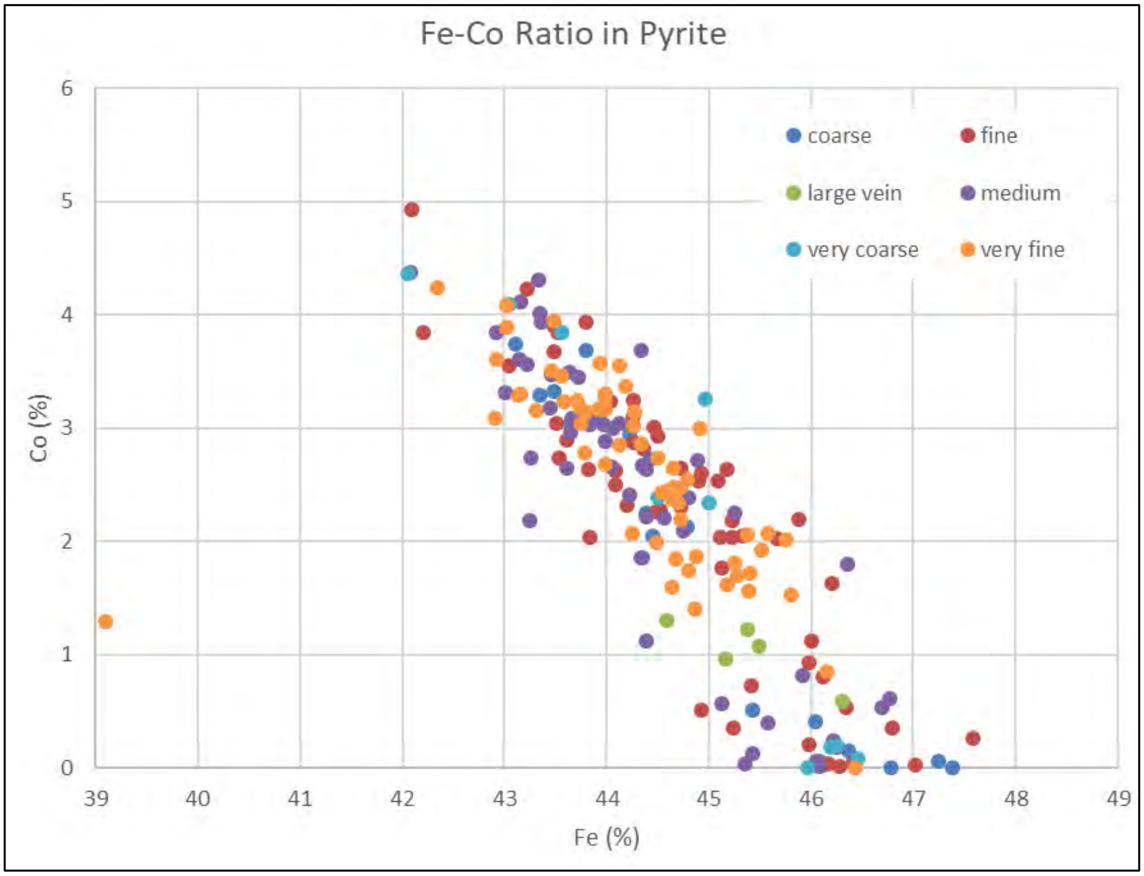
The principal metallic mineral in all 20 samples was pyrite. In six samples, chalcopyrite was identified to a maximum of over 14% in one sample. Pyrrhotite was identified in one sample. Magnetite and/or hematite are present in all samples; one sample contains over 75% iron oxide. The cobalt-bearing minerals cobaltite, glaucodot, and gersdorffite were identified in four samples, but generally are in minor concentrations (maximum of 0.33%). Arsenopyrite was not found in any of the 20 samples.

Further electron microprobe work was done to determine the cobalt concentration within pyrite relating to texture and grain size. Based on the QEMSCAN maps, pyrite grains were sub-divided as:

- Very fine grained - <50 µm;
- Fine grained – 50 to 200 µm;
- Medium grained – 200 to 700 µm;
- Coarse Grained – 700 µm to 1500 µm; and
- Very Coarse Grained - >1500 µm.

Based on the microprobe results, iron and cobalt demonstrate an inverse relationship (Figure 7.4) that reflects direct substitution within pyrite. High levels of cobalt occur in all sub-divisions of grain sizes. Images of cobalt concentration within pyrite show cobalt is entrained within the pyrite grain lattice appearing as “growth bands”.

Figure 9.1 Cobalt in Pyrite by Grain Size
(from First Cobalt, 2018)

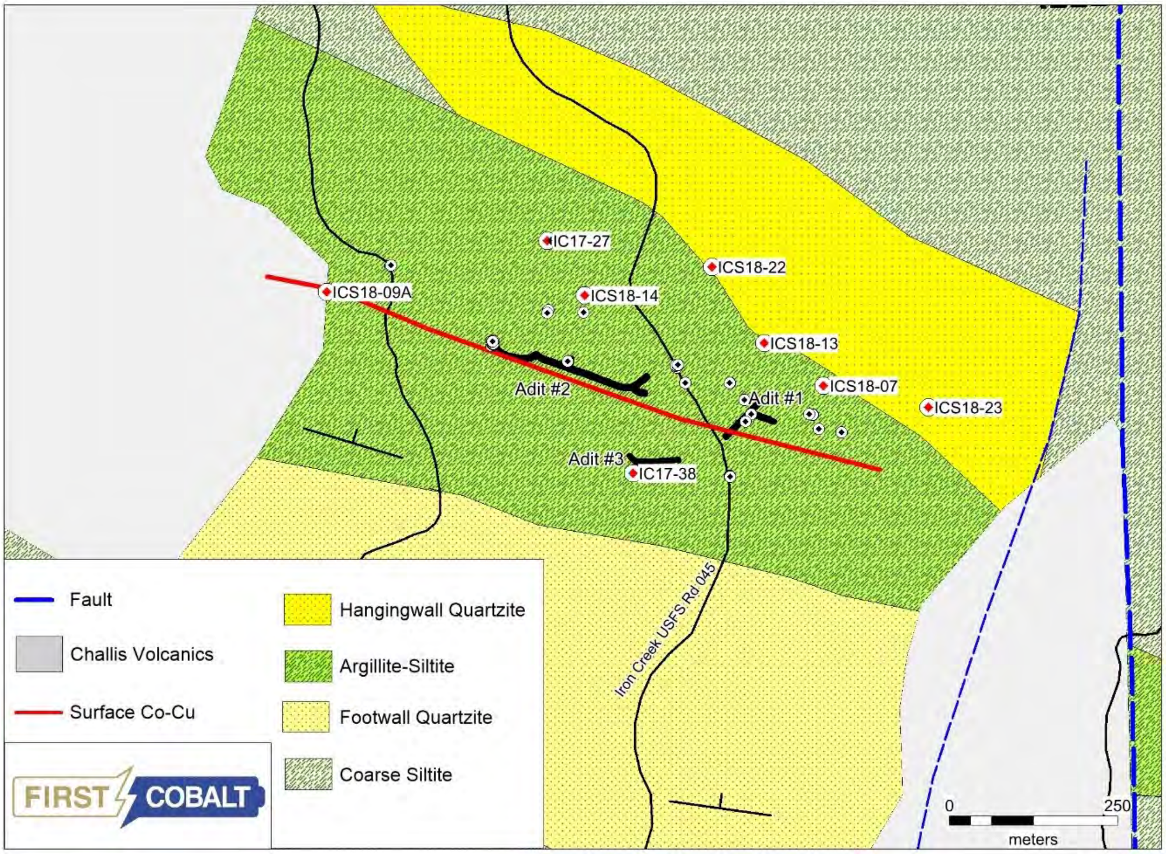


Mr. Ristorcelli has not analyzed the sampling methods, quality, and representativity of surface samples from the Iron Creek property because drilling results form the basis for the mineral resource estimate described in Section 14.0.

9.2 Geophysics

Borehole electromagnetic ("EM") measurements were completed on eight diamond-drill-holes at Iron Creek to: (a) identify "off-hole" EM responses and (b) determine the conductivity of both pyrite-rich and chalcopyrite-rich mineralization to plan airborne or ground geophysical surveys for future exploration. The geophysical surveys were conducted in November 2018 by Abitibi Geophysics (Abitibi Geophysics, 2019). The eight surveyed drill holes are well distributed across the strike extent of mineralization (Figure 9.2). The holes intersected a range of pyrite and chalcopyrite abundance from massive sulfides (IC17-27 and IC17-38) to disseminated mineralization (ICS18-09A).

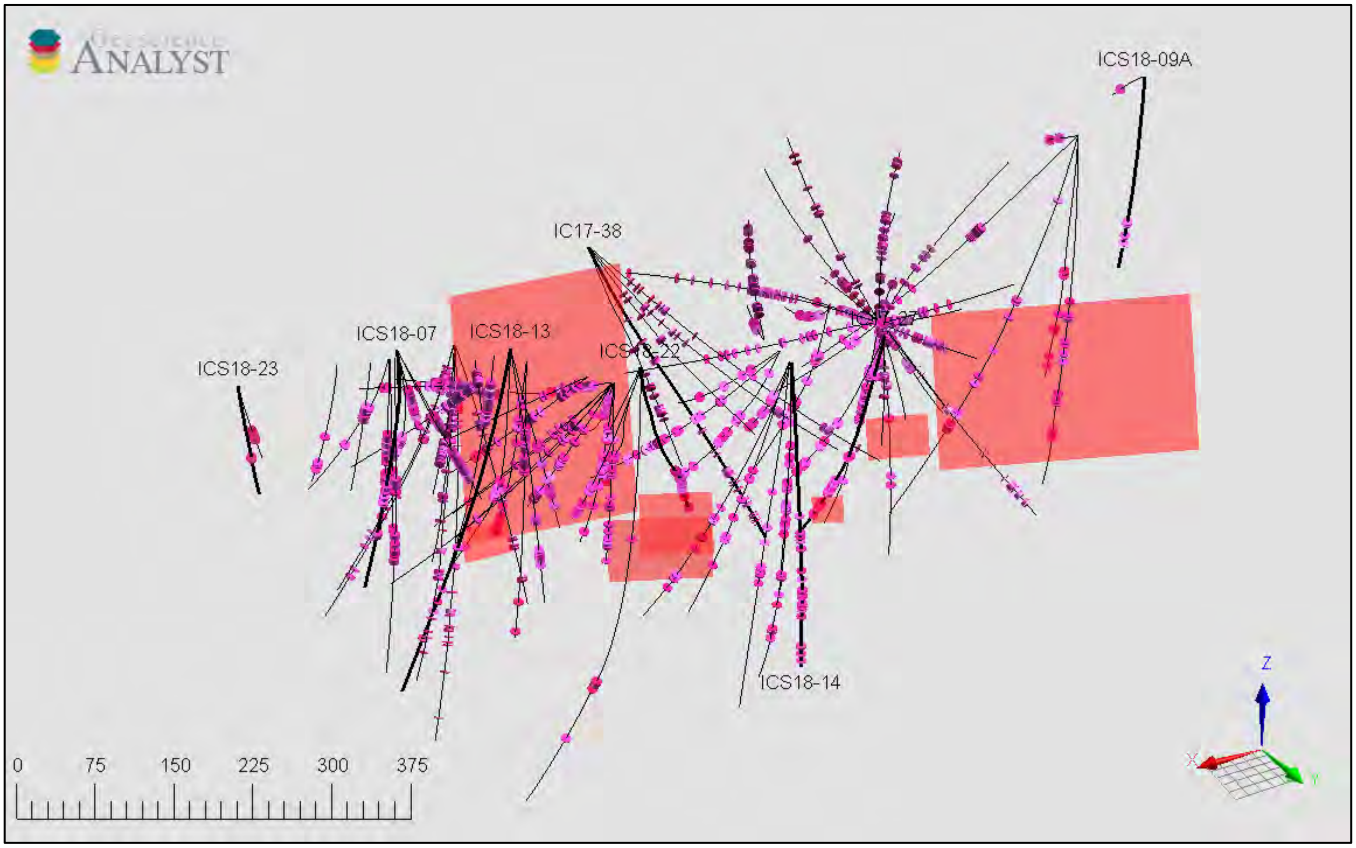
Figure 9.2 Map of Eight Drill Holes Surveyed for EM



(from First Cobalt, 2019; all holes drilled southward except for hole IC17-38 that is drilled northward; the red line marks the surface trace of Co-Cu mineralization drilled to date. North is up)

The EM data for each hole were modeled to identify in-hole and off-hole conductors. Conductors are modeled as "plates" to match the measured EM responses. Plates were modeled for seven of the eight holes where conductors were interpreted to occur off-hole (Figure 9.3). The strongest responses, highest conductivity, were encountered in holes IC17-27 (300 Siemens) and ICS18-13 (250 Siemens), likely detecting nearby massive-pyrite and stringer-chalcopyrite mineralization that had been drilled nearby. The most compelling plate modeled from the data was derived from ICS19-09A. Conductivity is not high, calculated at only 60 Siemens, but is broad and may be due to the down-dip extension of mineralization intersected in this hole as well as others farther east suggesting continuity of resources not yet drilled.

Figure 9.3 3D View of Modeled EM-Response Plates



(from First Cobalt; red planes are modeled from EM data; dipping towards viewer; looking southeast)

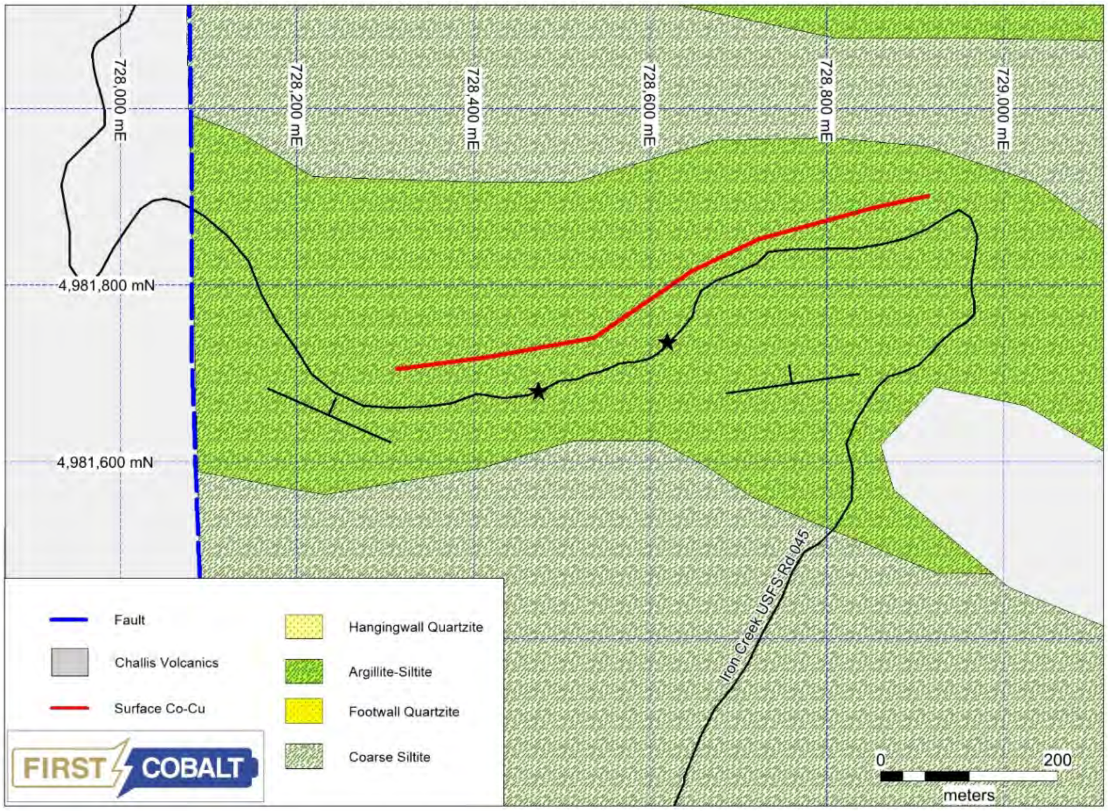
The conductivity of both pyrite and chalcopyrite mineralization estimated from the EM data is sufficient to be detected from ground or airborne EM surveys to depths at least 100m below cover. Follow-up surveys are being considered to improve exploration drill targeting along the strike extent of the Iron Creek mineralization specifically beneath the Tertiary Challis Volcanic Group cover rocks.

9.3 2018 Surface Sampling at Ruby

Surface samples were collected from the Ruby zone (Figure 9.4). The Ruby zone occurs along Jackass Creek as a series of large gossanous outcrops containing a 3ft- to 50ft-thick interval of massive magnetite and pyrite mineralization. Previous work in the Ruby zone by Cominco (Hearn, 1992) included bedrock sampling across the exposures highlighting anomalous cobalt, but the exact locations of the sampling and the quality of geochemical data could not be verified so was re-done by First Cobalt.

Figure 9.4 Surface sampling at the Ruby Zone

(north is up)



(from First Cobalt; sampling was conducted between the two black stars; the western-most star is sampling point 0 and the eastern most is point 500; the red line marks the surface extent.)

Ninety-six discontinuous samples were collected along 1575ft of strike to test the metal content of mineralization and to examine the nature of the host rocks (Figure 9.4). Samples were not collected where breaks in the outcrops occur. Sampling was conducted using a rock saw along at a constant height. Sampling was started in gossanous rock and individual samples were demarcated every five feet from the start point (0). Assay results returned 35ft of 0.24%Co, including 4.0ft of 0.43%Co, and 24.9ft (7.6m) of 0.26% Co in a similar setting to Iron Creek. Assay results from selected samples are listed in Table 9.1.

Table 9.1 Selected Surface Samples from the Ruby Zone 2018

From (ft)	To (ft)	Length (ft)	Length (m)	Co (%)
40	50	10	3.0	0.19
85	110	25	7.6	0.26
120	125	5	1.5	0.14
210	245	35	10.7	0.24
	including	5	1.5	0.48
375	380	5	1.5	0.14

For the purpose of geochemical sampling of rock, First Cobalt has implemented a quality control program to comply with industry best practices for sampling, chain of custody and analyses. Blanks, duplicates and standards are inserted with the field samples in at First Cobalt's office in Challis, Idaho as part of the QA/QC program. Over 15% of the total number of samples analyzed are control samples separate from the laboratory standards. Samples are prepared and analyzed by American Assay Laboratories (AAL) in Sparks, Nevada. The rock samples are dried, weighed crushed to 85 % passing -6 mesh, roll crushed to 85% passing -10 mesh, split 250g pulps, then pulverized in a closed bowl ring pulverizer to 95 % passing -150 mesh, then analyzed by a 5 acid digestion for ICP analysis.

10.0 DRILLING (ITEM 10)

The information presented in Section 10 is derived from multiple sources, as cited. Mr. Ristorcelli has reviewed this information and believes this summary accurately represents the drilling conducted at the Iron Creek property. The Effective Date of the drill database is February 28, 2019.

10.1 Summary

The project database has had 169 holes drilled from 1969 through to January 2019. That total includes five sets of underground channel samples entered into the database as "drill holes". Of the 169 drill holes, 115 (including the five sets of underground channel samples) were drilled and/or sampled by First Cobalt and were used in the estimate in some fashion (as summarized in Table 14.2). Five holes were lost and drilled again. The collar locations are shown in Figure 10.1. Records for the historical drill holes are incomplete, but all are believed to have been drilled with diamond-core methods. The total footage drilled within the property is at least 130,535ft. Five of the holes were vertical (four historical and one drilled in 2017) and the balance were inclined with dips of +40° to -85°. None of the drill holes completed before First Cobalt were used.

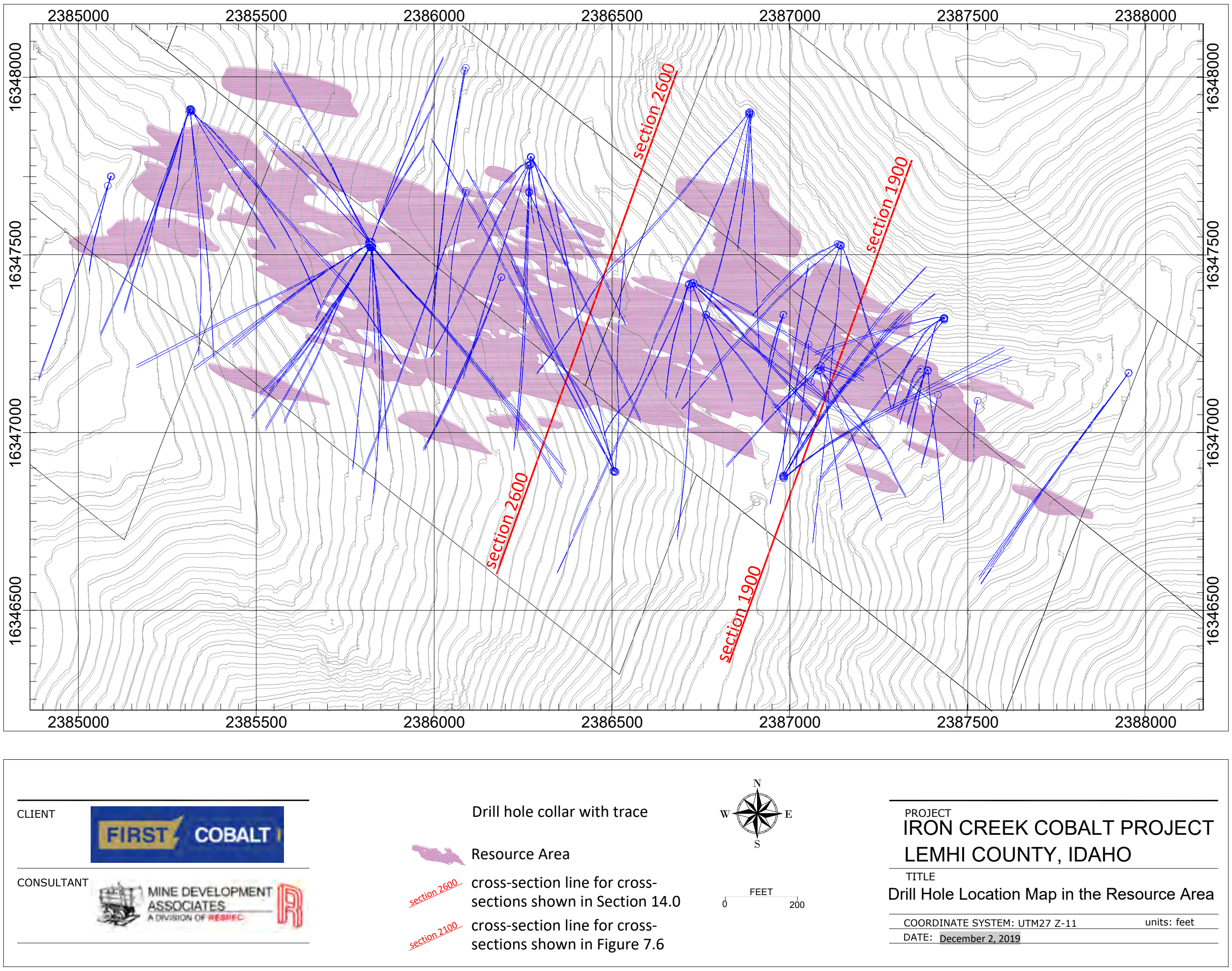
Table 10.1 Iron Creek Drilling Summary

Year	Company	Holes	Feet	Comment
unknown	Historic	20	12,727	historical holes by unknown companies
1969 or 1970	Wilson	4	623	
1970 - 1971	Sachem	7	4,161	4 more holes not in MDA database
1972 - 1974	Hannah/Coastal	15	12,736	reports indicate 13,250ft drilled
1978 - 1979	Noranda	1	579	
1985	Inspiration	1	467	not in MDA database
1989 - 1990	Centurion	4	1,398	not in MDA database
1996	Cominco	2	2,308	not in MDA database
2017 - 2019	First Cobalt	115	95,537	Includes 5 lost holes and UG samples
	Grand Total	**169**	**130,535**	

10.2 Historical Drilling

Records of the historical drilling are limited to references in historical reports and plotted on historical cross sections. Although all the drilling is believed to have been done with diamond-core methods, no information is available on the drilling contractors or rig types used, or the exact drilling and sampling procedures. Maps and sections in historical reports indicate that many of the holes were surveyed for down-hole deviation, but the type(s) of instruments and methods used are not known, and none of the down-hole deviation data are available. The results of the historical drilling were used by Hanna, Noranda and Centurion to estimate cobalt and copper "reserves" as summarized in Section 6.2, but were not used in any way for the work described in this Technical Report.

Figure 10.1 Map of Drill Holes in the Iron Creek Property



10.3 First Cobalt Drilling 2017 - 2019

First Cobalt began drilling in July of 2017 and by the end of the program in 2019, a total of 94,870ft (MDA resource database; Table 14.2) was drilled in 110 holes. All the holes were drilled from the surface or from underground using diamond-core and wireline methods to recover HQ- and NQ-diameter core.

The 2017 drilling was focused on the upper zone to confirm, in fill and potentially expand the mineralized zones known from the historical drilling. The drilling did substantially confirm what was indicated in the pre-First Cobalt drilling. The drilling contractor was Timberline Drilling ("Timberline") of Hayden Lake, Idaho. Two modular Atlas Copco U8 underground type core drills were used. Both drills were operated on two 12-hour shifts each day.

In 2018, First Cobalt commenced underground core drilling in Adit-2 with Timberline as the drilling contractor. A single Sandvik DE-130 underground drill was used to drill 26 NQ-diameter diamond-core holes in Adit-2. A total of four core holes were drilled in Adit-1. Timberline also drilled 14 HQ-diameter diamond-core holes from the surface before being evacuated from the project area due to a wildfire. Another 18 surface core holes were drilled later in 2018. The 2018 surface drilling was carried out by Timberline with two Atlas Copco CS-14 track-mounted rigs, one modular Atlas Copco U8 underground rig and one UDR track-mounted rig.

First Cobalt did use AK Drilling of Butte, Montana who completed two drill holes (ICS18-20 and ICS18-23). They used an LF90 drill rig coring HQ-size core.

Core drilling from the surface was also conducted in 2019. Four holes were drilled for a total of 3,790ft.

The results of the 2017, 2018 and 2019 drilling have generally confirmed the cobalt and copper mineralization encountered by historical drilling in the Iron Creek deposit and also confirmed the known orientation and general thickness of mineralization. Most importantly, the drilling has enabled First Cobalt to recognize that the cobalt and copper mineralized zones are distinct from each other but overlap spatially in some areas.

Sampling procedures for drill programs conducted by First Cobalt are discussed in detail in Section 11.0 of this report. Modeling of mineral domains for cobalt and copper is presented in Section 14 including a discussion of explicit modeling to control higher grade sample intervals within lower grade intersections.

10.4 Drill-Hole Collar Surveys

MDA has no information on how the historical collar locations were surveyed by the historical operators. First Cobalt geologists were able to measure the locations of five or six historical drill collars with a hand-held GPS. The balance of the historical collar locations was taken from historical aerial photographs, maps and cross-sections. First Cobalt geologists identified these sites in the field and observed evidence of historical drilling. The collar locations of the 2017 and 2018 surface and underground core holes were surveyed by Wade Surveying with an RTK Total Station.

10.5 Down-Hole Surveys

Drill hole maps compiled by Cominco (Hall, 1992) show curved traces for many of the historical holes. MDA has no information on the methods and procedures or equipment used for the down-hole deviation measurements made for the historical drill holes.

For the First Cobalt core drilling, down-hole measurements were made by the drilling contractor using a REFLEX tool. The 2017 drill holes were sighted in by First Cobalt geologists using Brunton compasses and hand-held GPS, with front and back sights set before moving the drill to the pad A REFLEX TM14 Gyro Compass was used to orient all of the 2017, 2018 and 2019 drill holes at the collar prior to and while starting the drill hole. All holes, surface and underground, were surveyed down-hole using a REFLEX multi-shot instrument and later corrected for magnetic declination of 12.9° East.

10.6 Summary Statement

Mr. Ristorcelli believes that First Cobalt's drilling and sampling procedures provided samples that are representative and of sufficient quality for use in the resource estimations discussed in Section 14.0. Mr. Ristorcelli is unaware of any sampling or recovery factors that materially impact the mineral resources discussed in Section 14.0.

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

11.1 Historical Sample Preparation, Analysis and Security

Mr. Ristorcelli has no information on the methods and procedures used by historical operators for sampling, sample preparation, analysis and security. Because of this, combined with some doubt in actual locations of drill holes at the surface and at depth, the historical drill holes have been excluded from use in the estimation of mineral resources presented in Section 14.0.

11.2 First Cobalt Sample Preparation, Analysis and Security

First Cobalt's drill core was transported by company geologists from the drill sites to First Cobalt's core-processing facility in Challis, Idaho. Core recovery, rock quality designation ("RQD"), and bulk density were measured by First Cobalt geologists, and recorded in spreadsheets on notebook computers. Then whole-core digital photographs were taken. Following the photography, the core was sawn into two equal halves using an Almonte core saw and returned to the core boxes by technicians employed by First Cobalt's mining contractor, Earl Waite and Sons Mining Contractors.

After being sawn, First Cobalt geologists logged the core and inserted wooden core blocks to mark sample intervals taking into consideration lithological contacts and degrees of observed mineralization. Sample intervals varied from 1.0ft to 5.0ft. The log information was recorded directly into spreadsheets in notebook computers. After the completion of the logging, the geologists removed the half-core sample intervals and placed them in pre-numbered sample bags which were closed with ties. The bagged samples were then placed in either plastic super sacks, or plastic collapsible bins, along with blanks, certified reference materials (standards) and duplicate half-core samples. The duplicates, blanks and standards were inserted at a frequency of one for every five regular samples and were alternated throughout the length of the hole.

Beginning in mid-2018, after logging and sampling of the entire hole were completed, a second set of photographs was then taken of the sawn half core, with the sample intervals marked and visible. All of the samples were then removed from the corresponding super sack or bin and inventoried prior to shipment. The samples ready for shipment were stored at the First Cobalt core facility and then transported by truck to AAL in Sparks, Nevada. AAL is an independent commercial assay laboratory that is accredited under ISO/IEC 17205:2005 and is independent of First Cobalt. The core boxes containing the remaining core are stored at the secure core facility for future reference.

At the AAL laboratory, the drill core samples were oven dried, weighed, crushed in their entirety to 85% passing 6 mesh, and roll crushed to 85% passing 10 mesh. The crushed samples were then split to obtain 250g sub-samples that were pulverized to 95% passing 150 mesh.

AAL analyzed some of the drill samples by inductively-coupled plasma atomic-emission spectrometry ("ICPAES") using a 5-acid digestion of 2.0g aliquots of the sample pulps to determine Co, Cu, and 43 major, minor and trace elements (AAL method code ICP-5A; for Ag, Al, Ba, Be, Ca, Cd, Ce, Cr, Ga, Hf, Hg, Fe, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, S, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn, and Zr). Early on and for only a few certificates, samples were analyzed by ICPAES using a 4-acid digestion of a 0.5g aliquot of the sample pulps to determine Co, Cu, and 32 major, minor and trace elements (AAL method code ICP-4A). For many of the samples analyzed by ICP-4A, a separate 2.0g aliquot was analyzed by ICP-5A for Co that was in excess of the upper limit of detection of the ICP-4A analyses. In some cases, Cu and Zn were also determined by ICP-5A. In yet other cases, drill samples that were analyzed by ICP-4A were also analyzed by ICPAES using a 2-acid (aqua regia) digestion of 0.5g aliquots of the sample pulps to determine Cu plus Ag, As, Ca, Fe, Hg, Mo, Pb, S, Sb, U and Zn (AAL method code ICP-2A), and Co was also determined by 4-acid digestion ICPAES of a 2.0g aliquot (ICP-5A).

Channel samples were taken from the ribs of the underground workings in Adit-1 by First Cobalt geologists in continuous 5ft intervals using air-powered chisels. Depending on their locations, the channel samples were taken either perpendicular to layering of the host rock sequence and stratiform mineralization, or oblique to the mineralization. Blanks, duplicates and certified reference materials were inserted at the rate of about one for every five channel samples. The closed sample bags were transported by First Cobalt geologists to AAL in Sparks, Nevada.

At AAL, the channel samples were prepared with methods similar to those for the drill core described above. From each sample pulp, aliquots were extracted and analyzed for Au, Pd and Pt by fire assay with an ICPOES finish. Separate aliquots of 0.5g of each sample pulp were subjected to a 4-acid digestion followed by ICPAES determinations of Co, Cu, and 32 major, minor and trace elements (AAL method code ICP-4A). Co was also analyzed by ICPAES following 4-acid digestion of another 2.0g aliquot (AAL method code ICP-5A). Two-acid (aqua regia) digestions on 0.5g aliquots followed by ICPAES determinations of Ag, As, Ca, Co, Cu, Fe, Hg, Mo, Pb, S, Sb, U, and Zn, were also done on all of the channel samples.

In 2019, pulps of samples prepared and analyzed at AAL were sent to ALS Laboratory Group ("ALS") in Reno, Nevada for check assays (see Section 12.3.4). These pulps were analyzed for cobalt and copper.

11.3 Quality Assurance/Quality Control

MDA has no information on the quality control/ quality assurance ("QA/QC") methods and procedures used by historical operators, but the historical drill data has been excluded from use in modeling and estimation of the Mineral Resources presented in Section 14.0. The QA/QC procedures and methods used by First Cobalt are summarized and discussed in Section 12.3, along with Mr. Ristorcelli's evaluation of the QA/QC data. Mr. Ristorcelli concludes that the sample preparation, security and analytical procedures, as well as the QA/QC (see Section 12.5), are acceptable and the drilling samples can be used in resource estimation. However, the underground sample assays should not be used in estimation but can be- and were used for domain modeling.

12.0 DATA VERIFICATION (ITEM 12)

Data verification, as defined in NI 43-101, is the process of confirming that data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used. There were no limitations on, or failure to conduct, the data verification for this report. Additional confirmation of the drill data's suitability for use are the analyses of the Iron Creek project QA/QC procedures and results as described in Section 12.3.

12.1 Site Visit

Mr. Ristorcelli visited the Iron Creek project office and field site on the 18th and 19th of June 2018. During this site visit, the project geology was reviewed, which included: a) a field tour of the deposit area; b) visual inspection of core holes; and c) discussion with First Cobalt personnel of the current geologic interpretations. Drill-site and mineralization verification procedures were conducted, and core drilling and sampling procedures were appraised. Mr. Ristorcelli has also maintained a relatively continual line of communication through telephone calls and emails with First Cobalt project personnel in which the project status, procedures, and geologic ideas and concepts have been discussed. The result of the site visits and communications is that Mr. Ristorcelli has no significant concerns with the project procedures.

12.2 Database

First Cobalt tasked MDA with initializing and maintaining a GeoSequel® relational database of drill, sample, assay, survey and QA/QC data at the Iron Creek property. After validating the early 2018 and older project data, MDA organized it and imported it into GeoSequel. Information imported included collar data, down-hole survey data, coordinates, and all down-hole sample intervals taken. MDA then created Transmittal import sheets and imported the assay data directly from the laboratory certificates supplied by First Cobalt. For the remainder of 2018 and 2019, laboratory certificates were downloaded directly from AAL.

All the drill-hole geology was imported from spreadsheets supplied by First Cobalt personnel, as well as the core recovery and density data, and checked for reasonableness. After each round of importing data, a series of data validations were run to check for unlikely or erroneous data. Any issues found were corrected within the database in an iterative process. Data was output for modeling directly from GeoSequel.

The 2018 down-hole and collar survey data were received directly from the drillers and surveyors, respectively.

12.3 Quality Assurance/Quality Control

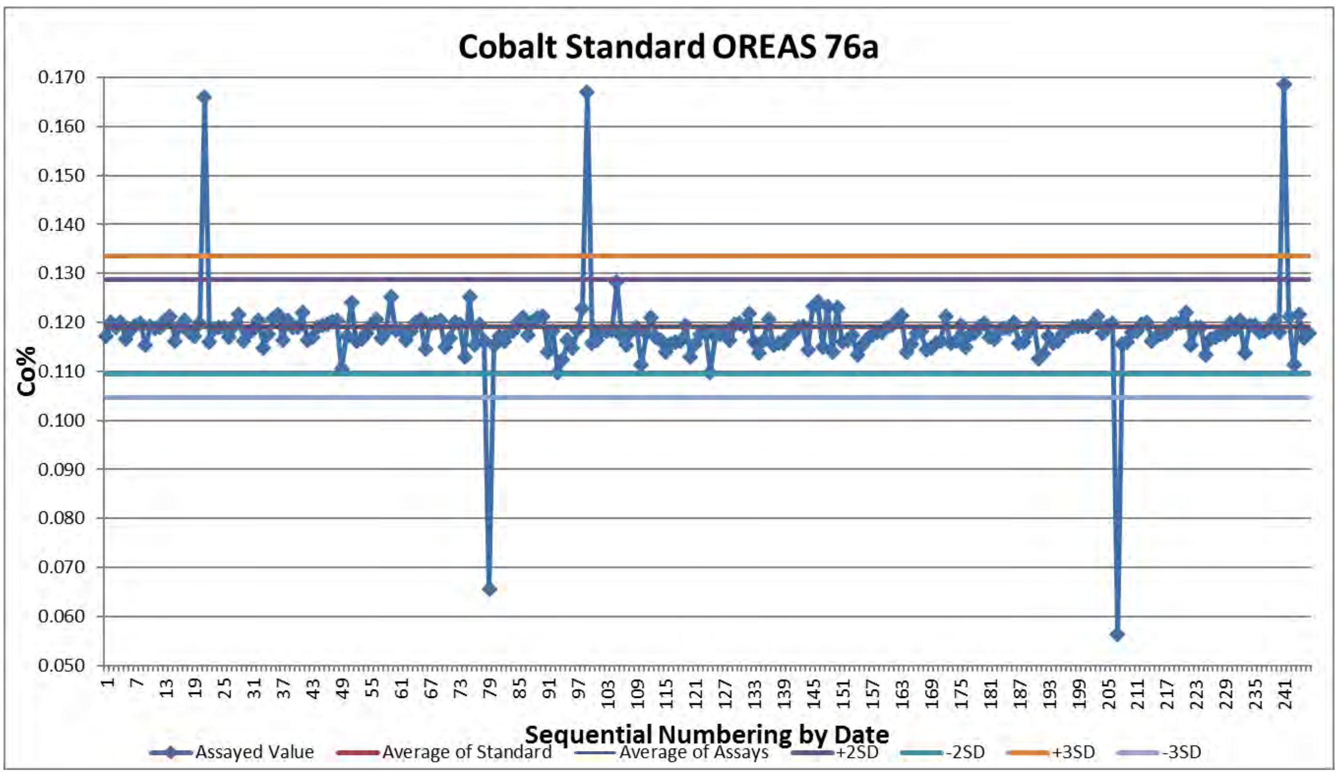
First Cobalt inserted blanks, certified reference materials ("CRMs" or "standards") and duplicate core samples into the sample stream. In addition to those samples, the laboratory also inserted internal QA/QC samples, and those data were evaluated, but were used more by MDA for defining material heterogeneity rather than QA/QC. Duplicate core samples and internal-lab QA/QC samples do not provide for full or independent QA/QC evaluations, but they do provide valuable information. MDA used the standards for evaluating the reliability of the assay data and used the duplicate core and internal laboratory duplicate assays on the same pulps to evaluate material heterogeneity, as well as to gain some insight into sample reliability.

During the drill program, there were three QA/QC samples inserted per 15 core samples in each submittal: one blank, one standard, one duplicate. The blanks were generally inserted in and around visually mineralized zones, the duplicates were biased towards competent zones preferably in and around mineralization, and the standards were inserted to make up the 1:5 ratio on the submittal.

12.3.1 Standards (CRMs)

Eight different CRMs have been used in First Cobalt's drilling programs. An example of the graphs made to evaluate the results of the Co and Cu CRMs is shown in Figure 12.1. It was noted that the failures shown on the graph have similar grades to other CRMs: OREAS 77a at 0.1714%Co, OREAS_112 at 0.0547%Co and OREAS_162 at 0.0660%Co.

Figure 12.1 Cobalt Standard OREAS 76a Results



All eight CRMs have certified cobalt values, but only five have certified copper values. There were 1,142 assays of CRMs for each Co and Cu. Of those 1,142 assays of CRMs, 18 are considered failures for Co and 15 are considered failures for Cu, for a failure rate of 1.6% and 1.3% for Co and Cu, respectively. Mr. Ristorcelli uses the term failure because the cobalt or copper values fell outside of three standard deviations of the mean. Upon closer inspection, 10 of the Co "failures" and 9 of the Cu "failures" likely were caused by mishandling or mis-recording CRMs because the values match other CRM values, they still represent failures in the database because they are errors, but they are not analytical errors.

Eliminating those samples that we most likely mislabeled, the error rates drop to 0.7% and 0.5% for Co and Cu, respectively.

Of the remaining eight failures, seven were from one CRM: OREAS 77a. There is drift in the mean grade returned for two cobalt CRMs beginning around June 2018, one drifting positive and one negative. Overall, MDA finds that the CRMs inserted into the sample stream demonstrate that the assay values returned from the laboratory have enough accuracy to be used in resource estimation, but more care must be used in sample handling and recording, as well as an investigation into the reliability of CRMs OREAS 77a and OREAS 165. None of the failures were sent in for re-assay.

12.3.2 Duplicate Samples

Duplicate samples were evaluated by comparing the duplicate sample to the original sample using the equation given below:

$$\textbf{Equation 1} \qquad 100\ x\ \frac{(Duplicate - Original)}{Lesser\ of\ (Duplicate, Original)}$$

Plots made using this equation show the maximum differences to better find relationships that might otherwise be too subtle to recognize.

12.3.2.1 Core Duplicates

There were 1,139 cobalt and 1,132 copper duplicate-core-sample results. The duplicate-core samples consisted of ¼ core sawed from the same half of the core. While assays on the duplicate core do not necessarily provide specific quality-control information, they do provide insight into material heterogeneity, and they define reproducibility of values which provide a sense of reliability.

Figure 12.2 shows the relative difference plot for cobalt. For the most part, the differences of the duplicate sample were not biased compared to the original assay. However, with a cluster of samples that had cobalt grades between 0.02 to 0.04% the duplicate samples were biased. This cluster of biased samples was not observed in the copper assays from duplicate-core samples. MDA does not have an explanation for what seems to be a unique non-systemic difference between duplicate and original sample grades, nor does MDA feel this is significant.

As shown in Figure 12.3, the reproducibility of cobalt grades increases at grades greater than 0.04% Co. This magnitude of difference is expected because the cobalt occurs in pyrite, which is evenly disseminated through the rock but with blebs of coarser-grained pyrite that may account for the higher grades.

Copper grades are for the most part unbiased, as demonstrated by the relative difference plot (Figure 12.4). The relative difference plot was made after removing eight extreme outlier samples (0.71%) from the copper data set because they skewed the results sufficiently to mask finding actual relationships. Reproducibility is more variable in copper (Figure 12.5) than in cobalt by a factor of about two, likely because chalcopyrite grains are larger and more variable than the generally finer-grained cobaltiferous pyrite. Figure 12.5 shows systematic changes in variability (not bias) as the grade changes. MDA can not explain this currently but does not think this is material to the resource estimate.

12.3.2.2 Pulp Samples

There were 3,195 duplicate-pulp cobalt results and 3,170 duplicate-pulp copper results from the same laboratory (AAL). The reproducibility of cobalt in pulps is ~3.5% (Figure 12.6) and that of copper is ~8% at meaningful grade ranges (Figure 12.7).

Figure 12.2 Cobalt in Duplicate Core Samples: Relative Difference

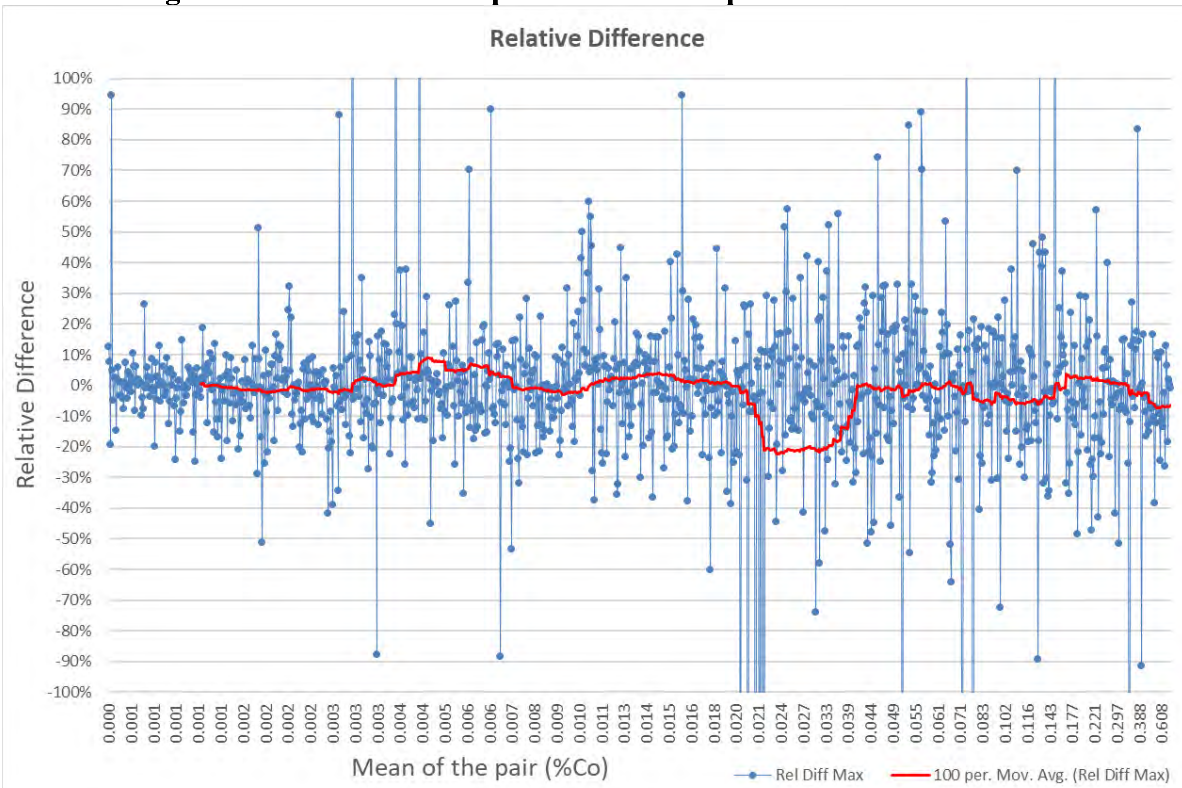


Figure 12.3 Cobalt in Duplicate Core Samples: Absolute Value of Relative Difference

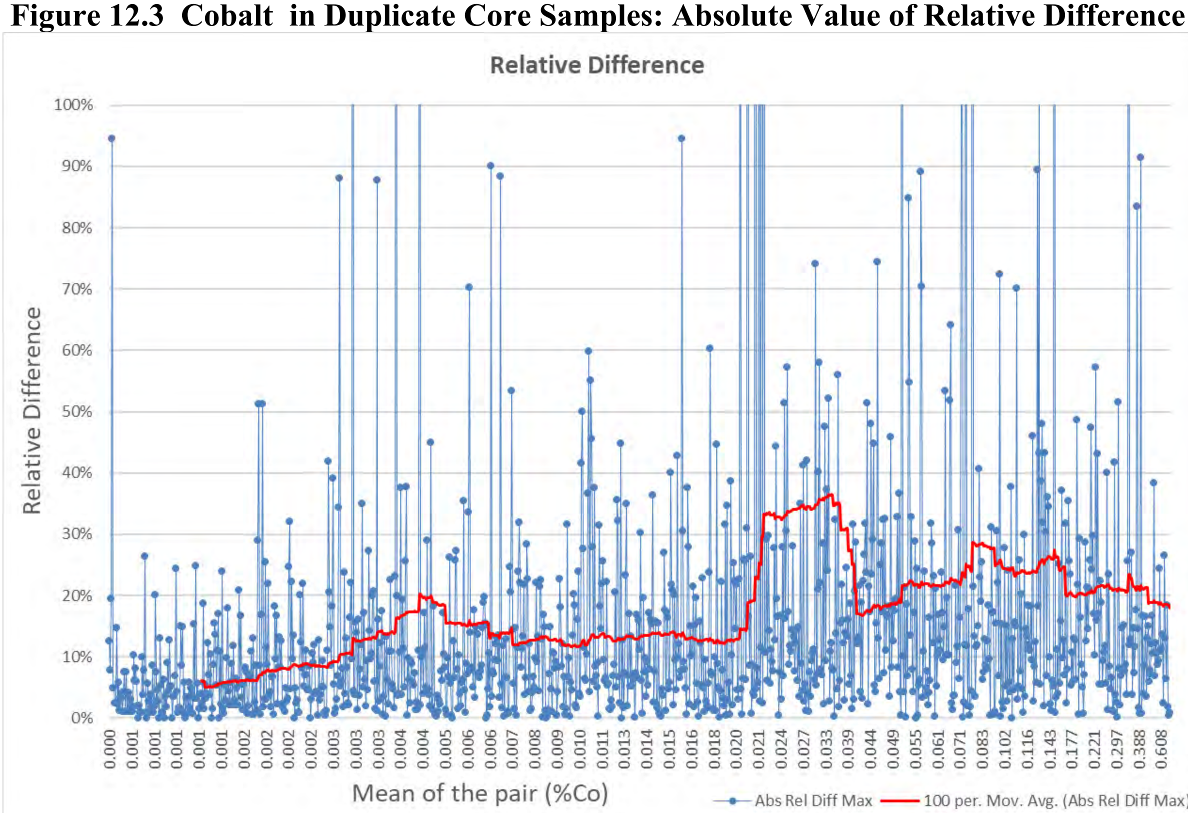


Figure 12.4 Copper in Duplicate Core Samples: Relative Difference

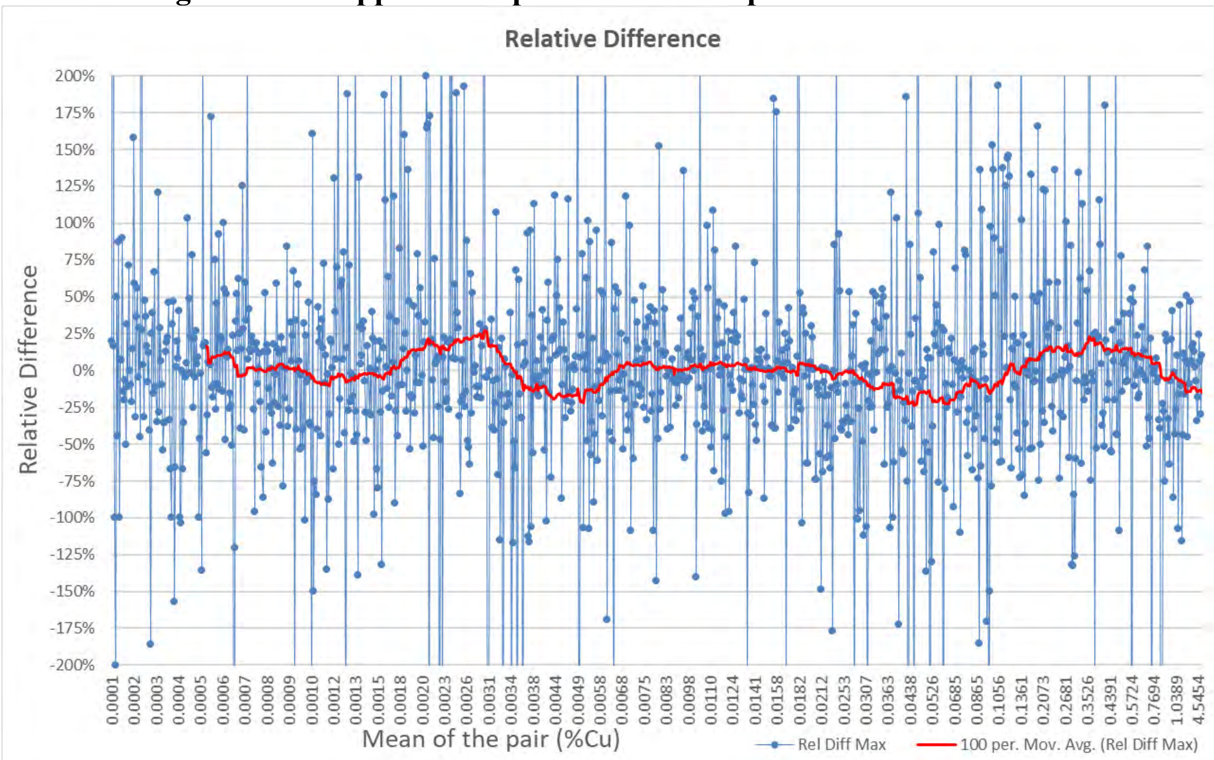


Figure 12.5 Copper in Duplicate Core Samples: Absolute Value of Relative Difference

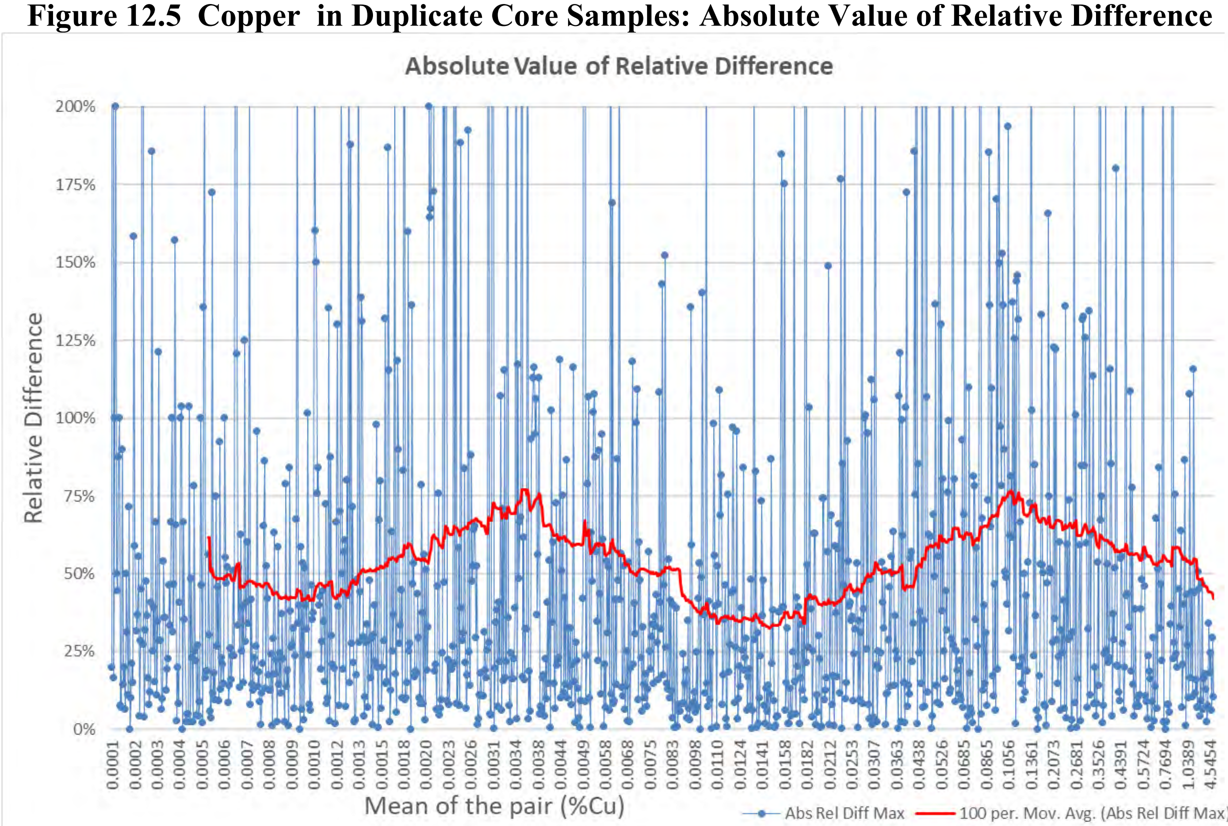


Figure 12.6 Cobalt Assays in Duplicate Pulp Samples

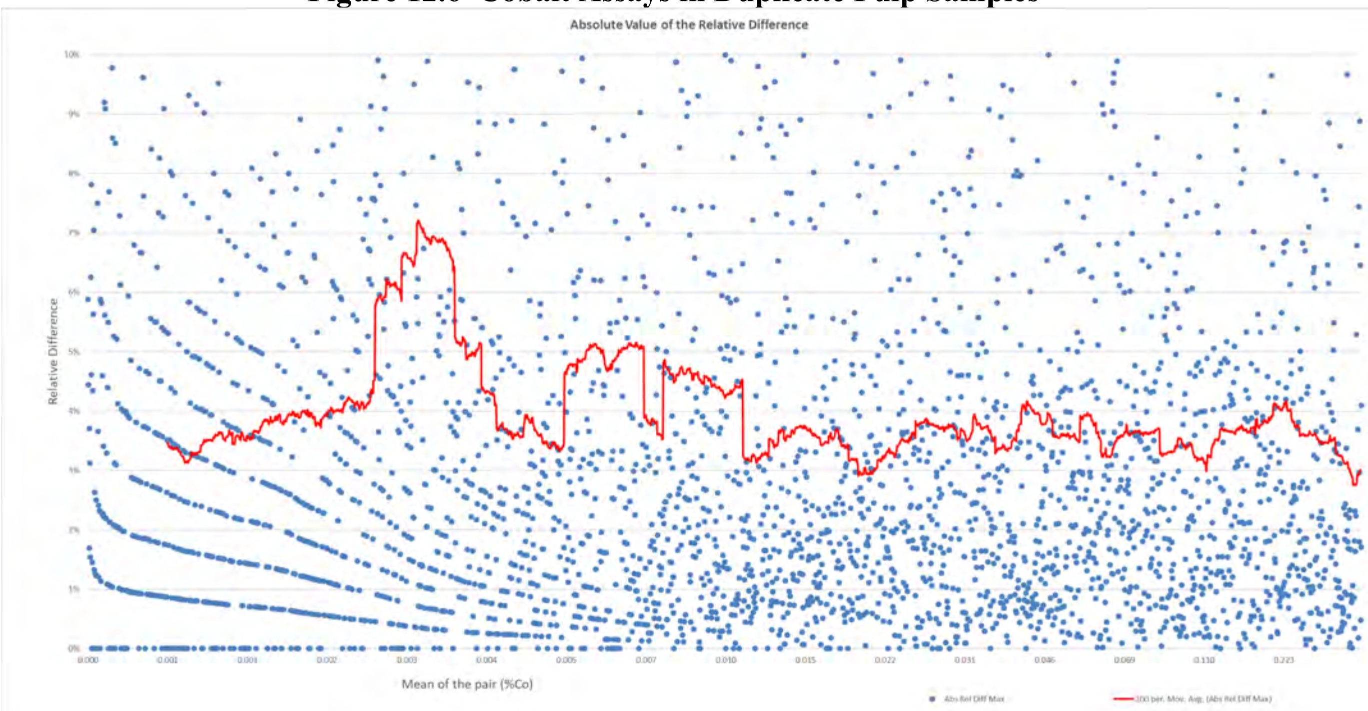
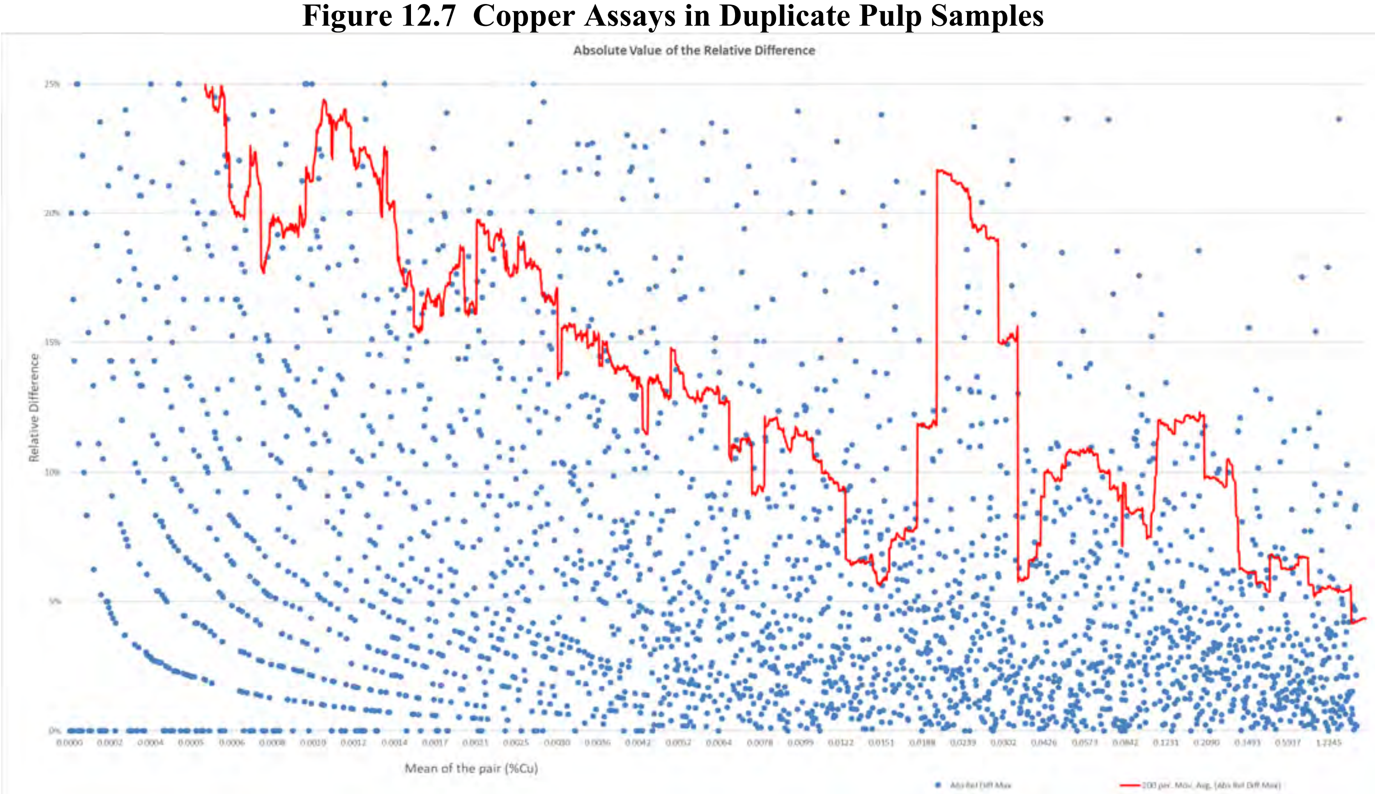


Figure 12.7 Copper Assays in Duplicate Pulp Samples

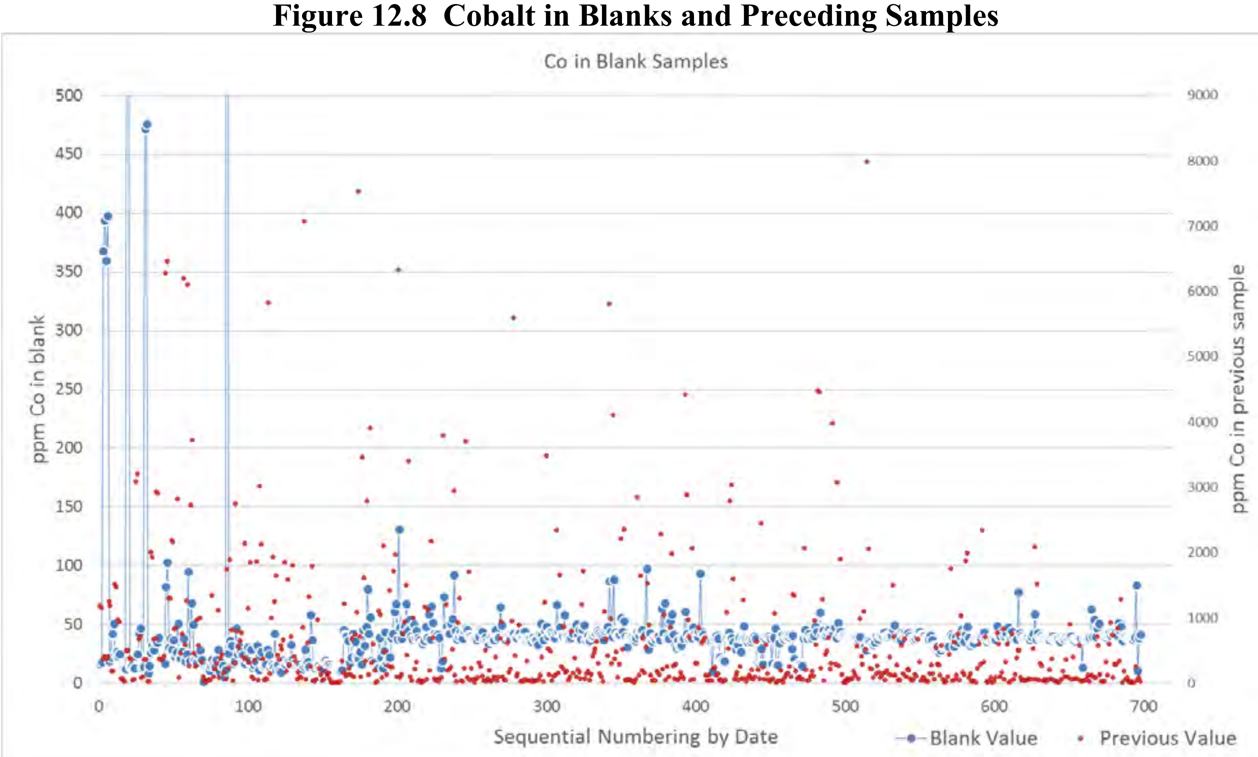


12.3.3 Blanks

First Cobalt initially used fine-grained siliciclastic rock of the Yellowjacket Formation taken from the property for coarse blank material to monitor the possibility of contamination during sample preparation and analysis. Note the change in grade of the blank at around sequence number 150 in Figure 12.8. In the data available to MDA, there were 1,198 Co analyses of blanks and 1,214 analyses of Cu in blanks. The blanks were generally inserted into the sample stream around visibly mineralized zones.

Nine of the 1,198 cobalt assays in the blanks were distinctly anomalous with grades higher than the previous sample in the sample stream. Those nine blank samples ranged in grade from 360ppm Co to 2,106ppm Co. It is possible that these blank samples were in fact not blank, and/or there were some sample-handling or mis-labeling issues. The great majority of cobalt assays on the blanks were at or below 60ppm Co, which is about three times the average for shale and siltstone, and about 10 times the average for rhyolite or granite. Most of the anomalous samples were from early in the program. Figure 12.8 is a chart showing the cobalt analyses in the blanks, and in the previous drill samples in the sample stream. There is no meaningful evidence that the grades reported for the blanks are related to the grades in the preceding samples, so between-sample contamination is considered insignificant.

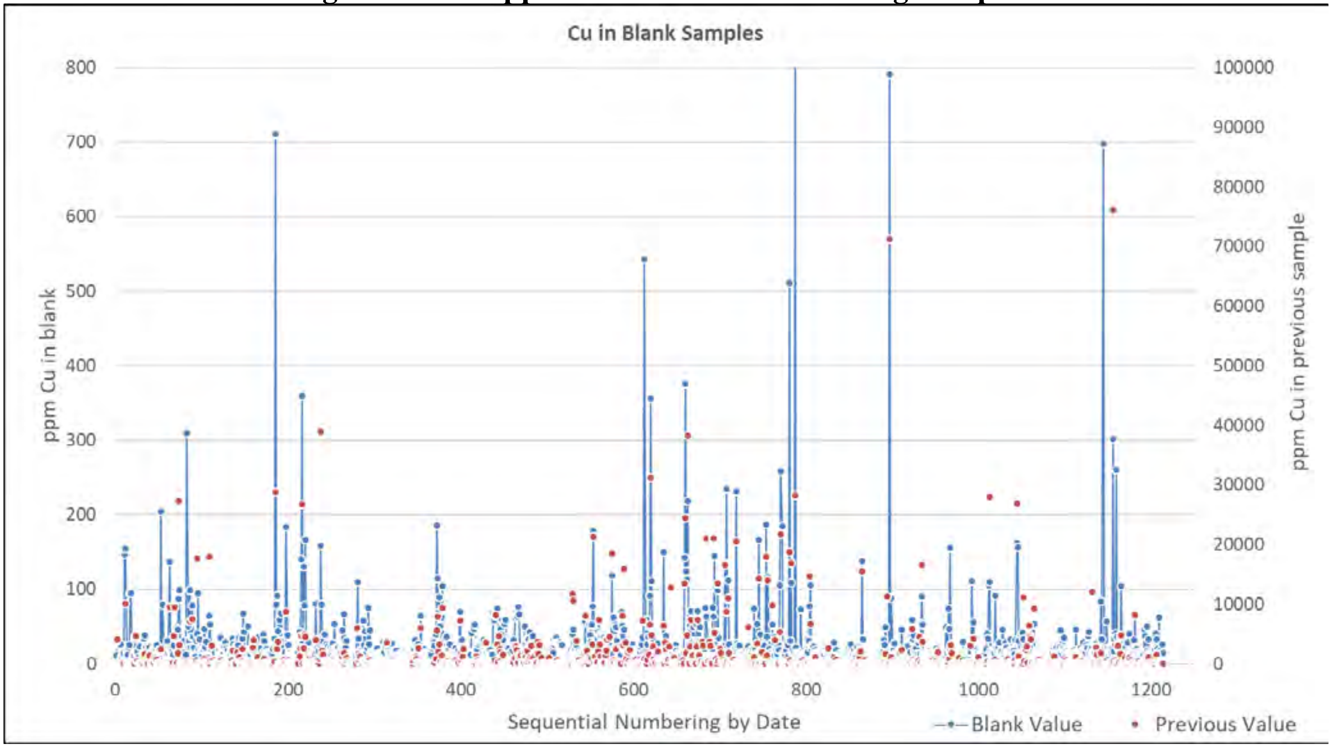
Figure 12.8 Cobalt in Blanks and Preceding Samples



(three blank samples not shown)

There are some distinctly anomalous values in the copper assays of blank samples and some evidence of minor but insignificant carry-over sample contamination. The great majority of copper assays on the blanks were at or below 50ppm Cu. There is a moderate relationship between grades of the blanks and previous samples (Figure 12.9). While there is some evidence of grade carryover between samples, the amount is negligible.

Figure 12.9 Copper in Blanks and Preceding Samples



12.3.4 Different-Laboratory Check Assays

Two sets of pulp duplicate assays were sent to a second laboratory. The first set showed a strong bias with AAL being higher. The second lab, ALS in Reno, Nevada ("ALS") was as asked to evaluate the discrepancy and evaluate what might have caused the bias. The second lab reran the analyses and the bias was removed and explained. Both sets of check assays are presented for completeness, but MDA considers the second set more appropriate and validates the cobalt values in the database.

In March of 2019, First Cobalt submitted 296 pulps to ALS for check assays. These pulps had been prepared and assayed initially at AAL. Fourteen CRMs were shipped with the pulps sent to ALS for check assays. Five separate CRMs were used, and there were two to three instances of each in the check samples shipment. MDA elected to exclude one analysis of a CRM from the data set, because the analyses suggest a sample mix-up.

Relative differences of the check vs. original assay pairs were calculated using Equation 1. Eleven pairs were deemed outliers whose differences were so great that they are atypical of the data set, and would skew statistical calculations, obscuring the relationships of the majority of pairs. Large numbers of outliers could indicate problems. The results of the check assay relative differences are summarized in Table 12.1.

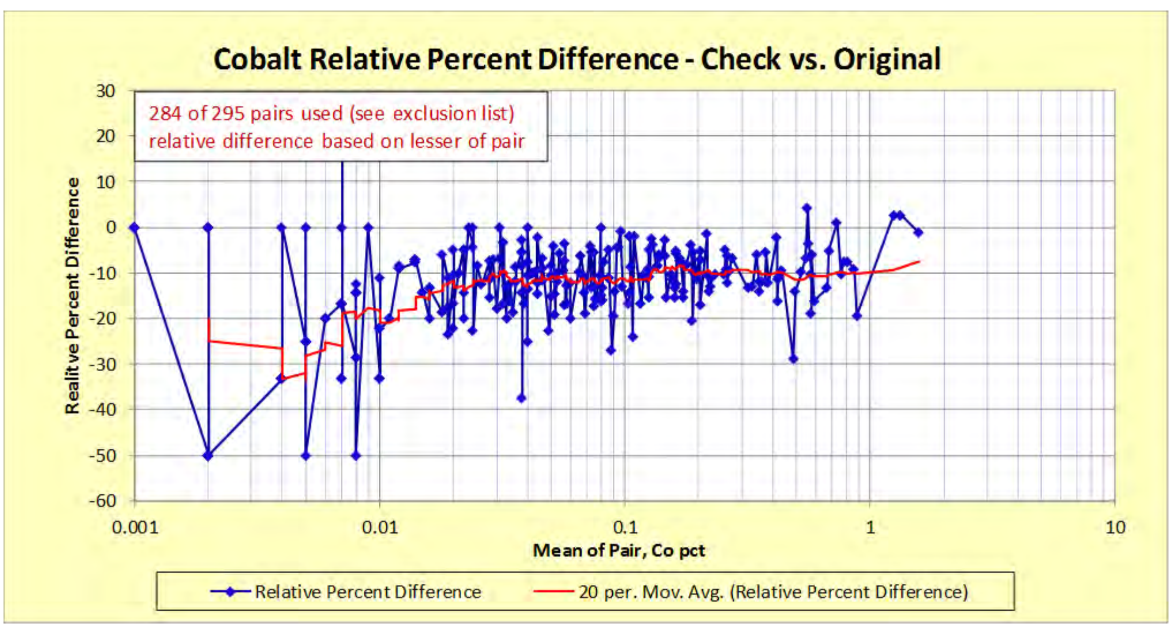
Table 12.1 Comparison of 2019 Check Assays: ALS vs. Original AAL

Element	Counts			Average Grades (%)		Averages of Relative Differences (%)		Correlation Coeff.	CRMs* (Averages)	
	All Pairs	Pairs Used	Outliers	Mean of Pair	Check - Original	Rel. Diff	Abs. Rel. Diff		Z score	Bias (%)
Cobalt	295	284	11	0.131	-0.011	-13.0	13.2	0.997	-1.3	-6.5
Copper	284	270	14	0.5	-0.013	-2.6	7.3	0.999	-1.0	-3.5

**14 instances of standards were included with the shipment of pulps to ALS for check assays. 13 were used in this analysis. Relative Differences calculated using Equation 1.*

The relative differences in Table 12.1 show the ALS check assays for both cobalt and copper are biased low compared to the original AAL assays. The average relative difference for copper, at -2.6%, is well within the range that MDA typically observes for bias between laboratories and is not of concern. However, the average relative difference for cobalt, at -13%, is greater than would be expected. The ALS analyses of the CRMS were also biased low, at -6.5%, but that might only account for about half of the bias of the samples. The 13% bias between the two laboratories exceeds the normal range and should be investigated. The relative difference chart for cobalt, illustrating the strong negative bias in the ALS check assays is shown in Figure 12.10. These biases are discussed further later in this section of the report using different analytical procedures.

Figure 12.10 ALS Check vs. AAL Original Cobalt Assays



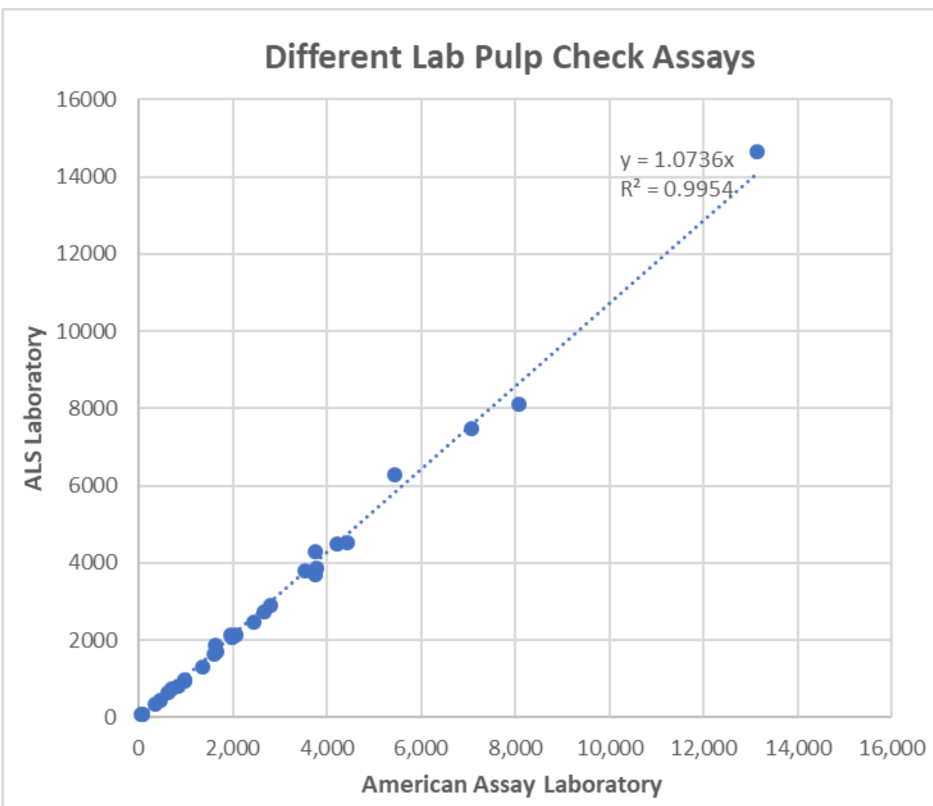
Because there were few instances of each CRM in this data set, MDA elected to "normalize" the results to produce 14 comparable statistics, by means of "Z-scores". These were calculated as shown in Equation 2.

Equation 2 $$\frac{\textbf{analysis obtained} - \textbf{expected value}}{\textbf{expected standard deviation}}$$

Average Z-scores for the CRMs are listed in Table 12.1. A Z-score of more than 3.0 or less than -3.0 would be considered a failure. No such failures occurred except the probable sample mix-up previously mentioned and which MDA excluded from the evaluation. The average biases listed in Table 12.1 were calculated using Equation 1. Both the average Z-scores and the average biases suggest that ALS' analyses for the CRMs are biased low, similar to the results of the check assays. However, the 13 analyses for CRMs, with at most three instances of any one CRM, is too small of a data set on which to base definitive statistical conclusions.

ALS was asked to comment on the discrepancy between the cobalt check-sample grades noted above. ALS changed the method of analysis to their Co062 4-Acid digestion and reran 30 pulps. Figure 12.11 compares the American Assay values (horizontal axis) to the ALS Laboratory assays (vertical axis). The comparison is very good, and the mean grade for American values – 2,828ppm Co – compares will to the mean ALS Laboratory assays – 2,904ppm Co. The difference in mean is 3% with ALS higher. The R^2 is 0.995.

Figure 12.11 ALS Co062-Method Check vs. AAL Original Cobalt Assays



12.3.5 Discussion of QA/QC Results

The QA/QC samples inserted in the sample stream demonstrate that sampling, sub-sampling and analyses yield results suitable for reliable resource estimation. However, some additional care must be used when handling samples and recording sample numbers. The suitability of one of the CRMs should be checked. First Cobalt can use a blank material with lower concentrations of cobalt. Rhyolite of the Challis Volcanic Group exposed within the property should contain less than 10ppm Co.

The Iron Creek cobalt database is made up of cobalt values derived from AAL's cobalt results using their five acid-digestion ICP-5A method. ALS was sent duplicate pulps for analysis and once they optimized their procedures for Iron Creek's material and improved digestion, the differences were much reduced (discussed in Section 12.3.4). All future work, including metallurgical tests, must use the same procedures.

12.4 MDA Independent Verification of Mineralization

Mr. Ristorcelli collected six samples of ¼ core for independent analysis. The samples were sent to ALS in Reno, Nevada. ALS used their ME-ICP61 4-acid "near total" digestion with inductively coupled plasma and mass spectrometry ("ICP-MS") finish. The results show that the grades in the database are substantially the same as those received with MDA's independent samples (Table 12.2). While not a statistically significant data set, five of the six samples returned lower cobalt grades. This is probably a reflection of the analytical procedures more than a reflection of sample biases.

Table 12.2 Cobalt and Copper Assays from MDA Verification Samples 2018

				Original		Diff. (Dup/Orig)		MDA Duplicate	
Sample	Hole	from (ft)	to (ft)	Co%	Cu%			Co%	Cu%
ICMDA-1	IC18-19	164.0	167.0	0.008	5.092	-28%	-41%	0.006	3.010
ICMDA-2	IC17-06	415.0	420.0	0.221	0.025	-44%	-49%	0.123	0.013
ICMDA-3	IC17-23	360.0	364.0	0.036	0.071	-23%	32%	0.028	0.094
ICMDA-4	IC17-39	829.6	831.3	0.524	0.002	25%	65%	0.657	0.003
ICMDA-5	IC17-39	826.6	829.6	0.146	0.001	-36%	0%	0.094	0.001
ICMDA-6	IC17-06	315.0	320.0	0.460	0.108	-16%	-33%	0.387	0.073

12.5 Summary Statement on Data Verification

Data verification, as defined in NI 43-101, is also the process of confirming that data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used. There were no limitations on, or failure to conduct, the data verification for this report. The database was constructed by MDA from original or near original data sources. A site visit was made which showed that reasonable exploration procedures are in place. Mr. Ristorcelli's evaluation of QA/QC data found that samples and analytical procedures are sufficiently reliable to be used in support of a resource estimate at any level of the CIM classifications. It is critical however that any future work at Iron Creek that assays for cobalt must use at least similar procedures to what were used by AAL or ALS's second set of assays.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING (ITEM 13)

This section was prepared under the supervision of Dr. W. Joseph Schlitt of Hydrometal Inc. and McClelland Laboratories Inc. in Sparks, Nevada. The information presented in this section is derived from multiple sources, as cited. Dr. Schlitt has reviewed this information. He believes this summary accurately represents the mineral processing and metallurgical testing conducted with mineralized material from the Iron Creek property.

13.1 Historical Testing

Metallurgical testwork dates to the early 1970s when studies were done by Hanna and its subsidiary Coastal. Apparently, Noranda also undertook some metallurgical testing at a later date. The original metallurgical files or reports have not been made available. The only sources of metallurgical information are summaries by others (e.g., Ristorcelli, 1988; Centurion Gold, 1990).

Work done by Hanna/Coastal showed that the coarse sulfides were well liberated and could be floated as a bulk concentrate. A copper concentrate was then produced with excellent recovery. This concentrate contained about 0.5oz Ag/ton and 0.2% arsenic. The cobalt was rejected with the pyrite in the tailings. Concurrent mineralogical examination showed that the bulk of the copper was present as chalcopyrite. Little discrete cobalt mineralization was detected, indicating that most cobalt was contained within the pyrite structure as cobaltian pyrite. The cobalt content ranged from about 2.0 to 4.0%. Additional pyrite, probably from a different depositional event, was found that was completely devoid of cobalt. These observations strongly suggest that the maximum cobalt content in the concentrate will be limited by the solubility of the cobalt in the pyrite structure.

13.2 Metallurgical Testing by First Cobalt 2018 (McClelland Laboratories)

McClelland Laboratories Inc. ("McClelland") in Sparks, Nevada, was commissioned by First Cobalt to undertake metallurgical testing commencing in 2018. McClelland received samples of drill core from four holes drilled in 2017, but the cobalt and copper contents were low and the core was not tested. First Cobalt then extracted two bulk samples from Adit-1(East adit) and one from Adit-2 (West adit), which were received by McClelland in May of 2018. At McClelland the sample identifications of ICA1-SE, ICA1-SW and ICA2 were checked against First Cobalt's sample manifest. Then each sample was weighed, photographed and given a unique laboratory number so that the sample chain of custody could be maintained until the material was either returned to First Cobalt or was disposed of. If two or more samples are to be combined to produce a composite for testing, that composite will be given a new laboratory number for tracking purposes. Once the samples were logged in, they were placed in a freezer to prevent any possibility of sulfide oxidation during storage.

The three adit samples were found to be mostly greater than 2in. in fragment size. As a result, after each sample was thoroughly blended sufficient material was split out and set aside for eventual comminution tests. Then material was split out for head assays. Each sample was assayed in triplicate for cobalt and copper, with single assays for Ag, As, C-Total, C-Organic, S-Total and S-Sulfide. For the triplicate assays, precision exceeded 98% for five of the six sets of assays. Precision exceeded 96% for the sixth set of assays. The head assays for the three bulk samples are summarized in Table 13.1, with sulfate sulfur calculated as the difference between the total and sulfide sulfur values. A single ICP metals analysis was done on each of three samples for the remaining metals, including iron.[1] Results for the latter element are included in Table 13.1. Complete ICP results are provided in Appendix B.

Table 13.1 Adit Bulk Sample Head Assays

Analyte, Units	McClelland Bulk Sample Identification		
	4313-001	4313-002	4313-003
Ag, ppm	5	5	<1
As, ppm	619	426	713
Ave. Co, ppm	4,287	2,596	2,653
Ave. Cu, ppm	8,659	9,966	1,250
C – Total, %	0.15	0.13	0.09
C – Organic, %	0.06	0.02	0.04
Fe – Total % (ICP result)	14.60	11.55	12.00
S – Total, %	11.4	7.84	10.3
S – Sulfide, %	8.63	4.47	6.06
S – Sulfate, %	2.77	3.37	4.24

Note: sample 4313-001 is ICA1-SE; sample 4313-002 is ICA1-SW; and sample 4313-003 is ICA2.

Two of the bulk samples have head grades approaching 1% copper, while the third has a much lower copper content. All three have cobalt values in the range of 0.25 to about 0.40%. There was agreement with First Cobalt that these three samples would be suitable for the initial flotation testing.

The first step in the initial flotation testing was to determine the optimum grind size for each bulk sample. This involved running several rougher flotation tests where 80% of the feed passed grind sizes of 212, 106, 75, 53 or 45 microns. The optimum grind size was determined by plotting cobalt recovery and concentrate grade vs. feed size. A typical grind size plot is shown in Figure 13.1.

The grind size optimization tests were very consistent. All three bulk samples produced the same result, with the optimum grind size being 80% of the material passing a screen size of 75 microns, i.e. a P_{80} of 75µm.

The first set of flotation tests involved a series of rougher floats to determine if bulk sulfide concentrates could be recovered that contained high percentages of both cobalt and copper. Two rougher tests were conducted on each bulk sample. All tests utilized a consistent set of reagents (with or without copper sulfate additions) and were performed at 33wt. % solids and the natural pH (pH 6 to 8). Results are summarized in Table 13.2.

All three bulk samples responded well in the rougher flotation tests. The mass pull averaged about 28% with more than 96% of the sulfide sulfur contained in the resulting concentrate. About 96% of the cobalt also reported to the sulfide concentrate.

[1] The ICP analyses were performed by ALS USA Inc.

Figure 13.1 Grind Size Optimization Plot for 2018 Bulk Samples

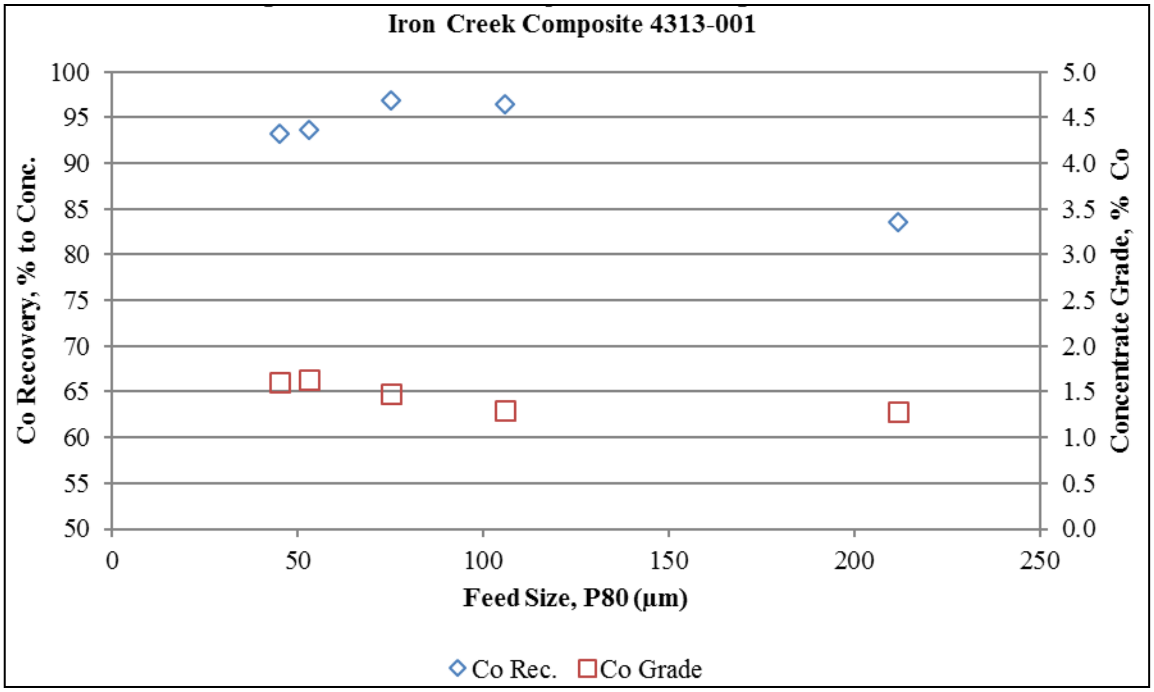


Table 13.2 Summary of 2018 Rougher Flotation Tests

Sample	4313-001		4313-002		4313-003	
Test No.	F-1	F-2	F-3	F-4	F-5	F-6
Wt. %						
Concentrate	28.1	30.4	32.3	23.0	25.9	26.9
Tail	71.9	69.6	67.7	77.0	74.1	73.2
Cu ppm						
Concentrate	30,876	29,093	30,758	42,871	4,641	4,498
Tail	621	385	206	164	170	88
Cu Distribution %						
Concentrate	95.1	97.1	98.6	98.7	90.5	94.9
Tail	4.9	2.9	1.4	1.3	9.5	5.1
Co ppm						
Concentrate	15,270	14,736	7,854	10,891	10,510	10,419
Tail	247	211	126	146	157	174
Co Distribution %						
Concentrate	96.0	96.8	96.7	95.7	95.9	95.6

Sample	4313-001		4313-002		4313-003	
Test No.	F-1	F-2	F-3	F-4	F-5	F-6
Tail	4.0	3.2	3.3	4.3	4.1	4.4
S Distribution %						
Concentrate	96.3	97.4	98.2	97.6	96.6	96.2
Tail	3.7	2.6	1.8	2.4	3.4	3.8

Copper recovery into the sulfide rougher concentrate showed somewhat more variability, averaging over 97% for the two high-grade samples but less than 93% for the lower grade sample. It does not appear that the addition of the copper sulfate had a significant impact on the flotation responses.

Following successful completion of the rougher tests, additional bulk rougher tests were conducted to produce enough sulfide concentrate to perform the cleaner flotation tests. These involved three different flotation conditions for each bulk sample: 1) Cleaning at the natural pH without regrinding, 2) Adding lime to pH 12 without regrinding, and 3) Adding lime to pH 12 with regrinding. The results from the cleaner tests are shown in Table 13.3, Table 13.4 and Table 13.5. Except as noted, the cleaner flotation tests were conducted under the same conditions as the rougher tests.

Table 13.3 Cleaner Test Results for Bulk Sample 4313-001

Test No.	F-22	F-25	F-28
Test Conditions	No Regrind/ Nat. pH	No Regrind/pH 12	Regrind/ pH 12
Weight %			
Recleaner Conc.	22.7	3.4	2.5
Cleaner Tail #2	1.9	4.5	0.8
Cleaner Tail #1	4.5	21.2	25.8
Rougher Tail	70.9	70.9	70.9
Cu Content, ppm			
Recleaner Conc.	35,600	117,000	275,000
Cleaner Tail #2	12,300	34,400	107,000
Cleaner Tail #1	6,100	16,700	4,470
Rougher Tail	347	347	347
Cu Distribution, %			
Recleaner Conc.	91.5	42.7	75.3
Cleaner Tail #2	2.6	16.6	9.4
Cleaner Tail #1	3.1	38.0	12.6
Rougher Tail	2.8	2.7	2.7
Co Content, ppm			

Test No.	F-22	F-25	F-28
Test Conditions	No Regrind/ Nat. pH	No Regrind/pH 12	Regrind/ pH 12
Recleaner Conc.	19,500	15,800	3,400
Cleaner Tail #2	12,600	19,700	12,800
Cleaner Tail #1	6,610	16,900	18,100
Rougher Tail	225	225	225
Co Distribution, %			
Recleaner Conc.	86.0	10.4	1.7
Cleaner Tail #2	4.7	17.2	2.0
Cleaner Tail #1	5.8	69.4	93.1
Rougher Tail	3.1	3.0	3.2

.

Table 13.4 Cleaner Test Results for Bulk Sample 4313-002

Test No.	F-23	F-26	F-29
Test Conditions	No Regrind/ Nat. pH	No Regrind/pH 12	Regrind/ pH 12
Weight %			
Recleaner Conc.	12.9	3.8	3.0
Cleaner Tail #2	3.3	3.8	0.7
Cleaner Tail #1	7.4	16.0	19.9
Rougher Tail	76.4	76.4	76.4
Cu Content, ppm			
Recleaner Conc.	60,000	127,000	303,000
Cleaner Tail #2	40,800	40,500	55,400
Cleaner Tail #1	15,900	24,100	4,900
Rougher Tail	253	253	253
Cu Distribution, %			
Recleaner Conc.	74.0	46.3	85.4
Cleaner Tail #2	12.9	14.8	3.6
Cleaner Tail #1	11.3	37.0	9.2
Rougher Tail	1.8	1.9	1.8
Co Content, ppm			
Recleaner Conc.	15,700	12,900	2,180
Cleaner Tail #2	13,000	16,000	13,000

Test No.	F-23	F-26	F-29
Test Conditions	**No Regrind/ Nat. pH**	**No Regrind/pH 12**	**Regrind/ pH 12**
Cleaner Tail #1	5,100	11,900	14,500
Rougher Tail	190	190	190
Co Distribution, %			
Recleaner Conc.	68.0	15.6	2.1
Cleaner Tail #2	14.4	19.3	2.9
Cleaner Tail #1	12.7	60.5	90.5
Rougher Tail	4.9	4.6	4.6

Table 13.5 Cleaner Test Results for Bulk Sample 4313-003

Test No.	F-24	F-27	F-30
Test Conditions	**No Regrind/ Nat. pH**	**No Regrind/pH 12**	**Regrind/ pH 12**
Weight %			
Recleaner Conc.	12.0	1.6	0.5
Cleaner Tail #2	4.8	1.3	1.3
Cleaner Tail #1	8.7	22.6	23.7
Rougher Tail	74.5	74.5	74.5
Cu Content, ppm			
Recleaner Conc.	7,700	62,800	107,000
Cleaner Tail #2	5,200	10,400	29,700
Cleaner Tail #1	2,060	1,000	1,200
Rougher Tail	142	142	142
Cu Distribution, %			
Recleaner Conc.	63.3	68.3	40.8
Cleaner Tail #2	17.1	9.2	29.4
Cleaner Tail #1	12.3	15.3	21.7
Rougher Tail	7.3	7.2	8.1
Co Content, ppm			
Recleaner Conc.	15,700	13,200	7,190
Cleaner Tail #2	15,000	15,300	10,200
Cleaner Tail #1	6,240	13,200	12,600
Rougher Tail	190	190	190

Test No.	F-24	F-27	F-30
Test Conditions	No Regrind/ Nat. pH	No Regrind/pH 12	Regrind/ pH 12
Co Distribution, %			
Recleaner Conc.	57.4	6.0	1.1
Cleaner Tail #2	22.0	5.6	4.0
Cleaner Tail #1	16.6	84.6	90.8
Rougher Tail	4.0	3.8	4.0

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Overall the fine regrind followed by flotation at pH 12 gave the best results. For the two higher-grade samples, copper recovery ranged from 75 to 85% and the resulting cleaner concentrates varied from 27.5 to 30.0% copper. In this grade range the concentrate should be readily accepted as smelter feed. Since most of the arsenic appears to associate with the pyrite, no impurities are expected to reach smelter penalty levels.

Bulk sample 003 had a much lower copper head grade and did not respond as well as the others when the pH was raised and the sample was reground. Under these conditions the recleaner concentrate contained only about 40% of the copper at a grade below that required for smelting. Over 20% of the copper also reported to the pyrite concentrate, along with the cobalt. Thus, this material will require further optimization to produce an acceptable flotation response.

The cleaner tail #1 represents the pyrite that was depressed by increasing the pH to 12. For all three bulk samples this product contains more than 90% of the cobalt at grades of 1.2% to 1.8%. Higher grades may be difficult to achieve, as most of the cobalt appears to substitute for iron in the pyrite crystal structure. Post-flotation mineralogical studies on various products from the flotation studies have now been completed to confirm this as reported by Ma (2018). Results from these studies are discussed below in more detail.

During the flotation testing it was realized that the adits had been open to the atmosphere for years. Thus, there was an initial concern that the exposed sulfide mineralization could have undergone surface oxidation, which might adversely affect flotation recovery. Therefore, a short analytical program was undertaken to investigate this possibility. Since the copper sulfides are more readily oxidized than pyrite, the focus was on the former. If oxidation had occurred, the result would be the formation of copper oxide on the exposed mineral surfaces. Since any copper oxides, such as cuprite, are acid soluble, splits from the head samples of all three bulk samples were analyzed for acid-soluble copper. The results are shown in Table 13.6.

Table 13.6 Acid-Soluble Copper Content of the Adit Material

Sample ID	Total Cu ppm	Acid-Soluble Cu ppm	Acid-soluble Cu % of Total Cu
Adit Sample #1	8,659	306.5	3.54
Adit Sample #2	9,966	232.5	2.33
Adit Sample #3	1,250	41.5	3.32
Average	6,625	193.5	3.06
* *The values shown are averages of multiple assays.*			

As can be seen, the acid-soluble copper is far lower than the total copper content of each sample. In addition, only trace amounts of copper oxide were detected in the mineralogical program discussed below and 99% of the copper was carried in the chalcopyrite. These results suggest that any impact of sample oxidation should be small. An additional factor is that the bulk samples were quite coarse so that most mineral surfaces would not be exposed to air until the material was crushed and ground for flotation. At this point the samples were stored in a freezer.

It is worth noting that the current flotation results parallel those obtained in the earlier studies done by Hanna/Coastal. Both programs produced acceptable copper concentrates and showed that the bulk of the cobalt reported with the pyrite. However, the cobalt grade was generally low.

The fact that the cobalt content of the pyrite probably will not exceed 2 to 4% will likely prohibit shipment of the material to a remote site for processing. At this point, no treatment methods have been tested for processing the cobalt-bearing pyrite concentrate. However, two process approaches have been identified, which appear to be technically viable for on-site production of a cobalt product. One is to oxidize the pyrite concentrate in a roaster. The other is to use an autoclave to oxidize the concentrate.

The roasting approach, probably using a fluid bed roaster, will provide a controlled oxidation of the pyrite. This will produce a calcine containing iron oxide and either cobalt oxide or sulfate. The calcine would then be leached with acid to solubilize the cobalt, leaving the more refractory iron oxide as a solid inert residue for disposal. The leach solution would then be processed and the cobalt removed using solvent extraction ("SX"). The cobalt-rich organic phase in the SX circuit can then be processed to recover the cobalt by either electrowinning to produce metallic cobalt or precipitating a salt such as cobalt carbonate or hydroxide. If there is any residual copper in the pyrite concentrate it will also be solubilized in the leach and can be separated from the cobalt using differential solvent extraction.

During the roasting step the sulfur in the pyrite would be oxidized to form gaseous sulfur dioxide. The SO_2-bearing gas stream can be sent to an acid plant to produce 98% sulfuric acid. This would be a salable commodity if there is a demand for acid in the area. Any arsenic contained in the pyrite concentrate will also be volatilized and will have to be condensed or scrubbed from the gas stream ahead of the acid plant.

The autoclave would oxidize the pyrite, including the cobalt, and precipitate the resulting iron and arsenic in a single step. The cobalt would remain in solution and then be concentrated using SX after the solution has been clarified. The remaining cobalt recovery steps would be the same as described for roasting. One problem with autoclaving is that the precipitated iron product will be an acidic sludge and will require impoundment in an environmentally acceptable manner. In addition, the remaining barren autoclave solution will be a low-grade acid and will require treatment. Any sludge formed by this treatment would also require suitable impoundment.

13.3 Mineralogical Evaluation

Once the initial flotation tests were completed and a variety of flotation products were available, a suite of products was selected for mineralogical evaluation. This work was done at BV Minerals – Metallurgical Division of Bureau Veritas Commodities Canada Ltd., in Richmond, British Columbia, and documented in the report of Ma (2018). Four samples were studied including at least one product from each bulk sample and at least one sample of each cleaner flotation product. The samples included the cleaner concentrate from Test F23 (bulk sample 002), the cleaner tail #2 from Test F25 (bulk sample 001), and the cleaner tail #1 from Tests F26 (bulk sample 002) and F30 (bulk sample 003).

Pyrite was the dominant sulfide in all samples, followed by chalcopyrite. Together these accounted for 56% to 82% of the total sample mass, respectively. Copper oxide and other sulfides, including the cobalt-bearing jaipurite/siegenite, were found in only trace amounts. In descending order, the principal non-sulfide gangue minerals were quartz, muscovite/illite and biotite/phlogopite. All other gangue minerals were present at levels below 1%.

The mineralogical investigation included QEMSCAN particle mineral analysis, x-ray diffraction analysis (to help calibrate the QEMSCAN results) and electron microprobe analysis. Results from these analyses support the following conclusions:

1. The deportment of cobalt, copper and arsenic is very similar in all samples;
2. Pyrite is the main carrier for cobalt, carrying over 90% of the total sample cobalt, with cobalt levels ranging from <0.1% to more than 5%. This cobalt likely substitutes for iron in the pyrite structure;
3. Pyrite is also the major carrier of the arsenic, with arsenic concentrations to nearly 7,000ppm. However, the reconciliation of the QEMSCAN and chemical assays suggests there may be other arsenic-bearing minerals unaccounted for;
4. A smaller amount of cobalt, up to 700 ppm, is carried in the chalcopyrite, probably also substituting for iron. This cobalt is not recoverable and would be lost in the copper concentrate sent to the copper smelter. The cobalt-bearing sulfides may also float with the chalcopyrite and be lost as well. Any cobalt that reports to the smelter would likely be recovered in the electrolyte purification section of the copper refinery. It is not clear if this would be considered as a payable by-product;
5. The main contaminants in the low-grade copper concentrate are liberated pyrite grains and non-sulfide gangue;
6. Most of the copper lost in the cleaner tails (up to 81%) is contained in liberated sulfide grains; and
7. The majority of the pyrite lost in the cleaner tails is also liberated.

The last three conclusions suggest that flotation optimization should improve both metal recovery and concentrate quality.

13.4 Summary

First Cobalt's metallurgical testing has been limited to work on two bulk samples obtained from adjacent spots in Adit-1 and one bulk sample from a nearby single location in Adit-2. It is not clear how closely they represent the average life-of-mine cobalt and copper levels. However, both the cobalt and copper levels in the samples do fall within the expected grade ranges, so are representative in that sense.

All three samples responded very well when subjected to rougher flotation using standard conditions at the natural pH of 6 to 8. More than 96% of the sulfide sulfur reported to the bulk concentrate and cobalt recovery also averaged over 96%. Copper recovery into the bulk concentrate averaged over 97% for the two high-grade samples and 92.5% for the low-grade sample.

An initial round of cleaner flotation tests was performed on the sulfide rougher concentrates. Optimum performance was achieved by regrinding the rougher concentrate and floating at pH 12 to depress the pyrite. For the two high-grade copper samples, 75% to 85% of the copper was recovered into copper concentrates that would be suitable for conventional copper smelting. The low-grade copper sample appears to need some further flotation optimization in order to produce acceptable smelter feed.

The cobalt was recovered in the pyrite product that represents the cleaner flotation tailings. For all three bulk samples this product contained more than 90% of the cobalt at grades of 1.2% to 1.8% Co. Higher grades may be difficult to obtain, as the cobalt is bound up within the pyrite crystal structure.

Following completion of the flotation tests, mineralogical studies were performed on four cleaner flotation products. These confirmed that pyrite and chalcopyrite are the principal sulfide minerals and that the pyrite is also the major carrier for both cobalt and arsenic. The main contaminants in the low-grade concentrate are liberated pyrite grains and non-sulfide gangue. Most of the copper losses in the cleaner tails are liberated grains of chalcopyrite. Most of the pyrite lost in the cleaner tails is also liberated. These findings suggest that optimization of the flotation parameters should improve both metal recovery and concentrate quality.

No testwork has yet been done on recovery of the cobalt from the pyrite concentrates. However, two approaches appear to be technically viable. One is to roast the concentrate, then leach the cobalt from the resulting cinder and concentrate the cobalt using solvent extraction. Final recovery of the cobalt would be as a salt or electrowon metal. In this case the roaster off-gas would be treated to recover the contained sulfur as commercial-grade sulfuric acid. The other approach is to use an autoclave to oxidize the pyrite and solubilize the cobalt, then use solvent extraction as with roasting. With this approach a sludge containing the iron and arsenic would be produced requiring an environmentally sound treatment.

13.5 Discussion and Recommendations

The main objective of the ongoing metallurgical program should be to advance the testwork to the point where it supports preparation of economic and engineering studies. Testing has shown that the Iron Creek mineralized material generally responds well to conventional milling and flotation with 92% to 97% of both cobalt and copper. Production of a copper concentrate suitable for conventional copper smelting has been achieved. More than 90% of the cobalt has been recovered in the pyrite concentrate, along with most of the arsenic.

However, so far samples have been limited to material from the existing adits, so are not representative of the entire mineralized deposit. The main contaminants in the copper concentrates are liberated pyrite grains and non-sulfide gangue. Most of the copper and pyrite losses are present as liberated grains. Both suggest that further optimization would be beneficial. Also, there has been no testing yet on treatment of the pyrite product to extract and recover the cobalt and any residual copper.

In view of the foregoing results, further optimization of the flotation parameters is needed to improve both metal recovery and concentrate grades. This should include locked-cycle flotation testing, along with supporting mineralogy. Additional samples from throughout the mineralized areas are also needed to confirm that these also respond well to flotation. A few tests on an alternate processing approach should be conducted to determine if additional improvements in recovery or a lower processing cost can be achieved.

Once flotation has been optimized, additional samples should be floated to produce sufficient cobalt concentrate for testing pyrite treatment options. These would involve both roasting and autoclaving, followed by solvent extraction to recover the cobalt in either metallic form or as a salt.

In addition, comminution testing should be performed to determine crushing and ball mill work indices and abrasion indices, to aid in circuit design. Some supporting mineralogical studies may also be beneficial.

14.0 MINERAL RESOURCE ESTIMATES (ITEM 14)

14.1 Introduction

The mineral resource estimation for the Iron Creek project was completed in accordance with the guidelines of Canadian National Instrument 43-101 ("NI 43-101"). The modeling and estimation of the mineral resources were completed on October 23, 2019 under the supervision of Mr. Steven J. Ristorcelli, a qualified person with respect to mineral resource estimations under NI 43-101. The Effective Date of the resource estimate is October 23, 2019. The Effective Date of the Iron Creek database on which this Resource estimate is based is February 18, 2019.

Mr. Ristorcelli is independent of First Cobalt by the definitions and criteria set forth in NI 43-101; there is no affiliation between Mr. Ristorcelli and First Cobalt except that of independent consultant/client relationships. Mr. Ristorcelli is not aware of any unusual environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that may materially affect the Iron Creek project mineral resources as of the date of this report.

The Iron Creek project mineral resources are classified in order of increasing geological and quantitative confidence into Inferred, Indicated, and Measured categories in accordance with the "CIM Definition Standards - For Mineral Resources and Mineral Reserves" (2014) and therefore NI 43-101. CIM mineral resource definitions are given below, with CIM's explanatory text shown in italics:

Mineral Resource

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of Modifying Factors. The phrase 'reasonable prospects for eventual economic extraction' implies a judgment by the Qualified Person in respect *of the technical and economic factors likely to influence the prospect of economic extraction. The Qualified Person should consider and clearly state the basis for determining that the material has reasonable prospects for eventual economic extraction. Assumptions should include estimates of cutoff grade and geological continuity at the selected cut-off, metallurgical recovery, smelter payments, commodity price or product value, mining and processing method and mining, processing and general and administrative costs. The Qualified Person should state if the assessment is based on any direct evidence and testing.*

Interpretation of the word 'eventual' in this context may vary depending on the commodity or mineral involved. For example, for some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage 'eventual economic extraction' as covering time periods in excess of 50 years. However, for many gold deposits, application of the concept would normally be restricted to perhaps 10 to 15 years, and frequently to much shorter periods of time.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Pre-Feasibility Study which can serve as the basis for major development decisions.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

Mr. Ristorcelli reports resources at cutoffs that are reasonable for deposits of this nature given anticipated mining methods and plant processing costs, while also considering economic conditions, because of the regulatory requirements that a resource exists "*in such form and quantity and of such a grade or quality that it has reasonable prospects for eventual economic extraction*."

The resource block model is rotated 20º clockwise and the blocks are 5ft northeast across strike, by 10ft vertical, by 10ft east-southeast. Cobalt and copper resources are reported based on cobalt-equivalent cutoff grades.

14.2 Database

Mr. Ristorcelli considers the drilling in two categories: historical drilling and First Cobalt drilling. The historical drill data are not used in modeling or estimation because the historical source data is rare to non-existent, and because many assumptions had to be made when compiling the historical data. Qualitatively, the historical drilling has intersected widths and grades of mineralization in generally similar locations as to what has been intersected with First Cobalt's drilling. However, explicit modeling in detail shows enough differences to exclude that historical drilling. If additional supporting information, particularly survey data, is found, those historical data may be able to be used. Consequently, all statistics and all descriptions and discussions that follow are based solely on First Cobalt's drilling. First Cobalt also sampled underground in the exploration adits. Those samples are in the database and were used for modeling metal domains but were not used for estimation.

The Iron Creek resource database – First Cobalt data only – has 110 drill holes with 94,870ft of drilling, excluding historical drill holes not used for this study (Table 14.1). All drill holes are core. There are also 667ft of underground adit samples used for modeling cobalt and copper domains but not for estimation.

Table 14.1 Resource Drill-Hole Database

Year	Company	Holes	Feet	Type
2017 - 2019	First Cobalt	110	94,870	Core
2017	First Cobalt	5	667	UG channels
Total		115	**95,537**	All

Table 14.2 presents descriptive statistics for the First Cobalt data in the Iron Creek database that was audited by MDA and imported into MineSight. The database contains 21,456 assay records, all of which were deemed usable in modeling metal domains and density, but only those used in estimation are described later in this section.

Table 14.2 Descriptive Statistics - Resource Drill-Hole Database
(accepted sample data only)

Resource Database (First Cobalt's data only)								
	Valid	Median	Mean	Std. Dev.	CV	Minimum	Maximum	Units
Length	21,456	4.5	4.0			0.1	19.7	ft
Co	21,456	0.008	0.043	0.099	2.3	0.000	1.590	%
Cu	21,456	0.007	0.112	0.452	4.0	0.000	19.997	%
Core recovery	19,783	100	97	8	0.1	10	300	%
RQD	19,670	54	52	28	0.5	0	228	%
As	21,071	8	62	165	2.7	0.2	3641	ppm
Fe	21,456	6.24	6.89	3.10	0.5	0.001	50	%
S	21,456	0.25	1.04	1.89	1.8	0.001	10	%
Specific gravity	2,474	2.76	2.78	0.12	0.0	2.00	4.76	g/cm3

*Core recovery and RQD data were neither audited nor corrected

Logged core recovery and RQD were loaded into the database but were not audited. A few impossible core-recovery and RQD values >100% exist, as noted in Table 14.2. The database also contains logged geologic features, of which rock types, pyrite, chalcopyrite, arsenopyrite, pyrrhotite, covellite, magnetite, iron oxide, copper oxide, native copper, chlorite, sulfides were imported and at least reviewed.

The average drill spacing is presently slightly less than 100ft within the mineralized zones (that changes to 40ft for Indicated), but because of fan-drilling and hole locations collared in or near mineralization in underground drifts, the average changes significantly throughout the deposit.

14.3 Models

First Cobalt built 3D interpretations for faults, quartzite beds, mineralized trends, and some bedding structure. MDA used these to guide the explicit modeling of cobalt and copper domains on cross-sections oriented N20ºE, looking northwest and spaced 100ft apart. First Cobalt then spent significant time modeling rock types searching for marker units to help with structural interpretations. None were found, but very general guides to stratigraphy based on scapolite-bearing units and occurrence of quartzite-rich interbeds indicated that the strike of the mineralization may be oriented about 10º off of the strike of the stratigraphy (see Section 7.0 for discussion).

The first post-NI 43-101 estimate was completed in September 2018. All resources were classified as Inferred. The estimate reported herein includes all drill data collected since then and currently also has Indicated material. Drilling continued and the estimate reported herein had the benefit of post-2018 drilling. This provided insight into the reliability of the domain modeling and into the predictability of the deposit (see Section 14.8).

The host rock is a relatively homogenous sequence of argillite-siltite and finely interbedded quartzite. Sedimentary structures are generally well preserved indicating a general younging direction toward the northwest. Due to the lack of true marker horizons, a general sequence of stratigraphy is based on the occurrence of quartzite beds. Locally, foliation is well developed and generally is bedding-parallel. Metal domains follow the bedding and foliation orientations. Though rare, diabase dikes are easily recognized. When weakly or unmineralized samples coincided with logged diabase dikes, these areas were explicitly excluded from the modeled metal domains. Alluvial cover is minimal to non-existent and was not modeled.

Core photos were reviewed and used for metal-domain interpretations. Cobalt and copper domains were defined based on population breaks in assay data on cumulative probability plots. After sectional interpretations were completed, the cobalt and copper domains were snapped to the drill holes and sliced for modeling on horizontal plans at 20ft spacing. Cobalt and copper mineralization do not necessarily occur together therefore are modelled separately.

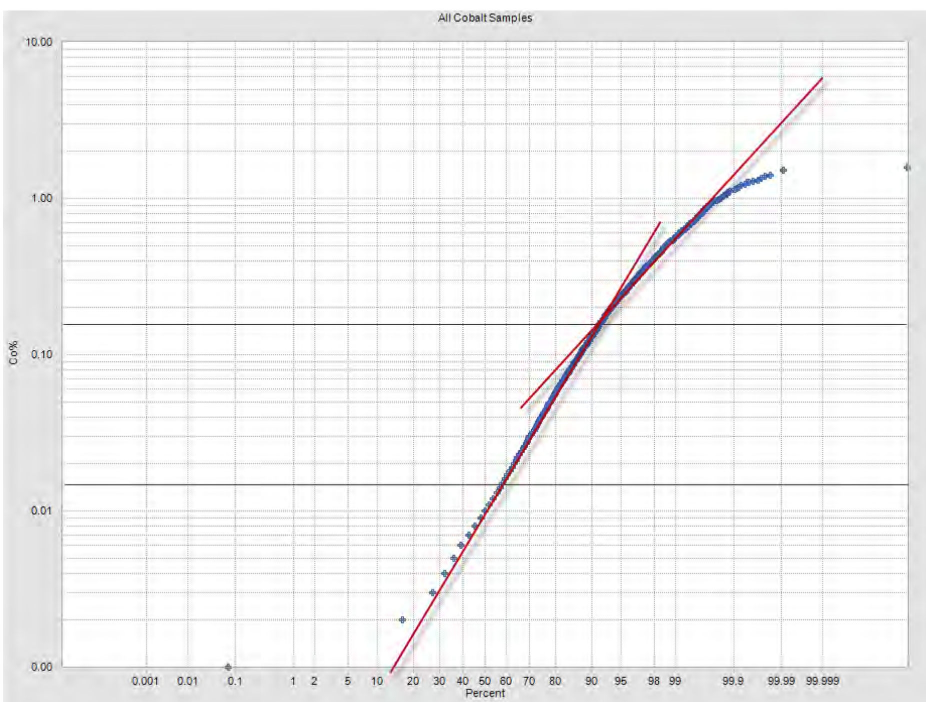
14.3.1 Cobalt Model

Two cobalt domains with the following characteristics were defined based on cumulative probability plots ("CPPs"; Figure 14.1):

- Greater than ~0.015% Co: low-grade domain, trace to one percent finely disseminated pyrite.
- Greater than ~0.15% Co: mid-grade domain, abundant disseminated pyrite to massive lenses of very fine-grained pyrite, to blebs and massive replacements of medium- to coarse-grained, light-colored subhedral pyrite. Samples with grades greater than 1% Co have massive pyrite and/or chalcopyrite occurring in about half of the sample.

Descriptive statistics are presented in Table 14.3.

Figure 14.1 Cumulative Probability Plot of Cobalt Assays



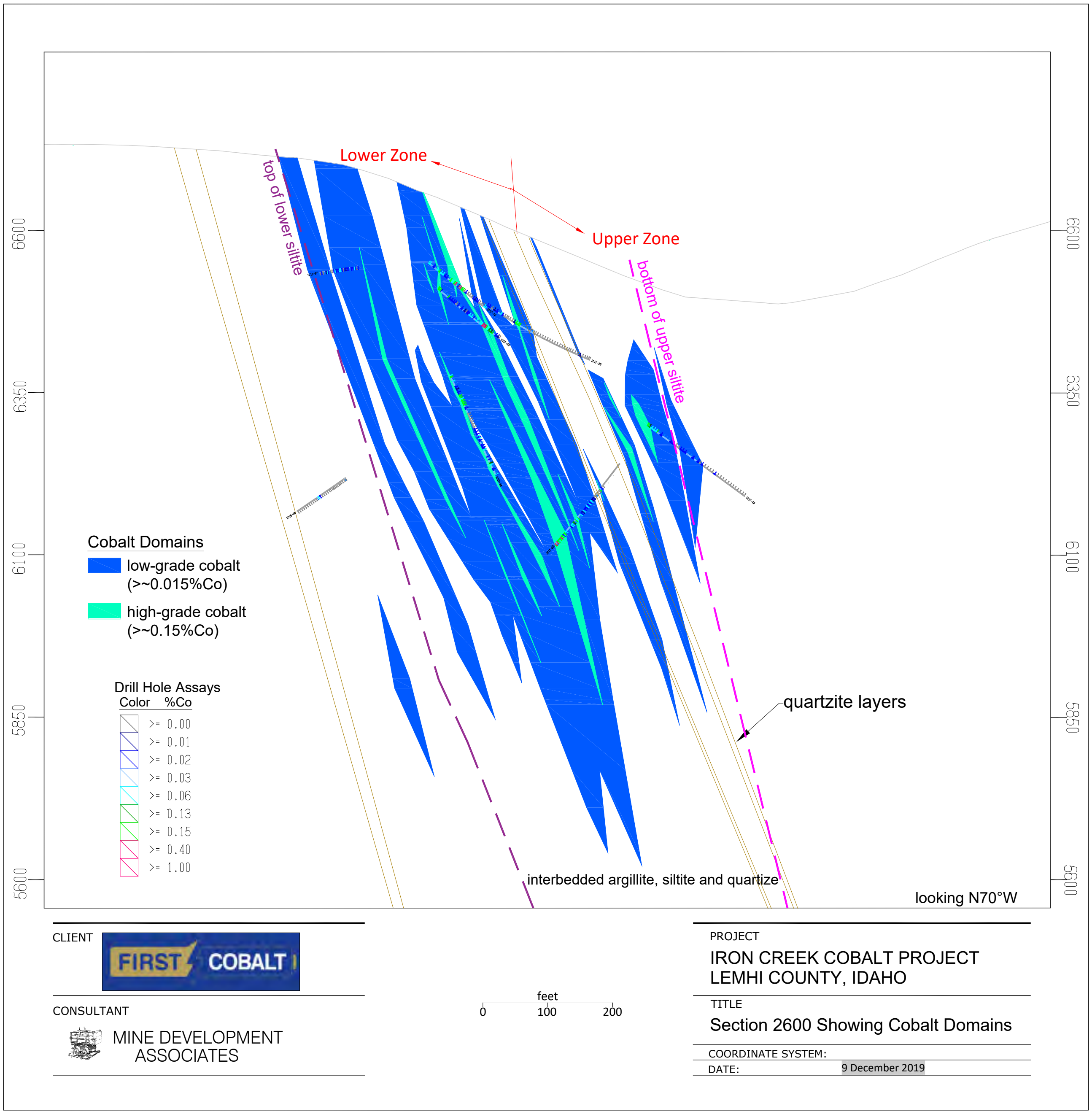
The cobalt mineralization largely occurs parallel to layering and is grossly parallel to the stratigraphy. A representative cross section is given in Figure 14.2. Overall the continuity seems to be grossly predictable. Correlating the thinner intervals between widely spaced holes of around 100ft is tenuous due to local-scale variability of individual beds and lack of unique characteristics. This is the principal reason that much of the resource is classified as Inferred. Most Indicated material generally lies within thick zones of mineralization.

Table 14.3 Descriptive Statistics by Cobalt Domain

Low-grade cobalt domain								
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	5,366	4.2	3.899			0.2	8.7	ft
Co	**5,366**	**0.042**	**0.053**	**0.040**	**0.763**	**0.000**	**0.962**	**%**
Capped Co	**5,366**	**0.042**	**0.053**	**0.039**	**0.733**	**0.000**	**0.400**	**%**
Cu	5,366	0.008	0.108	0.378	3.491	0.000	10.246	%
Core Rec.	4,680	100	98	9	0	14	524.29	%
RQD	4,627	56	54	27	0	0	113.47	%
As	5,305	33	57	83	1	0.5	2614.9	ppm
Fe	5,366	7.35	7.59	2.17	0.29	0.005	35.955	%
S	5,366	1.11	1.39	1.09	0.78	0.002	10	%
Sp. Grav.	444	2.80	2.82	0.11	0.04	2.53	4.76	g/cm3
High-grade cobalt domain								
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	2,300	3.5	3.488			0.5	9.2	ft
Co	**2,300**	**0.217**	**0.272**	**0.195**	**0.718**	**0.013**	**1.590**	**%**
Capped Co	**2,300**	**0.217**	**0.272**	**0.195**	**0.718**	**0.013**	**1.590**	**%**
Cu	2,300	0.025	0.272	0.840	3.086	0.000	19.997	%
Core Rec.	1,957	100	98	6	0	40	166.67	%
RQD	1,945	62	59	26	0	0	108.7	%
As	2,255	300	390	336	1	4.6	3641.2	ppm
Fe	2,300	10.97	12.21	5.33	0.44	3.051	50	%
S	2,300	5.23	5.65	2.63	0.47	0.243	10	%
Sp. Grav.	185	2.89	2.96	0.24	0.08	2.71	4.20	g/cm3
Outside cobalt domains								
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	13,790	4.7	4.122			0.1	19.7	ft
Co	**13,790**	**0.003**	**0.007**	**0.012**	**1.811**	**0.000**	**0.461**	**%**
Capped Co	**13,790**	**0.003**	**0.006**	**0.006**	**0.965**	**0.000**	**0.020**	**%**
Cu	13,790	0.005	0.091	0.390	4.276	0.000	14.481	%
Core Rec.	13,146	100	96	9	0	9.804	209.09	%
RQD	13,098	52	50	28	1	0	228.28	%
As	13,511	4	17	73	4	0.2	3060.4	ppm
Fe	13,790	5.56	5.88	1.90	0.32	0.001	25.094	%
S	13,790	0.07	0.25	0.57	2.22	0.001	10	%
Sp. Grav.	1,845	2.75	2.75	0.07	0.02	2.00	3.38	g/cm3

Figure 14.2 Iron Creek Zone Cobalt Domains– Section 2600

(see Figure 10.1 for cross-section location)



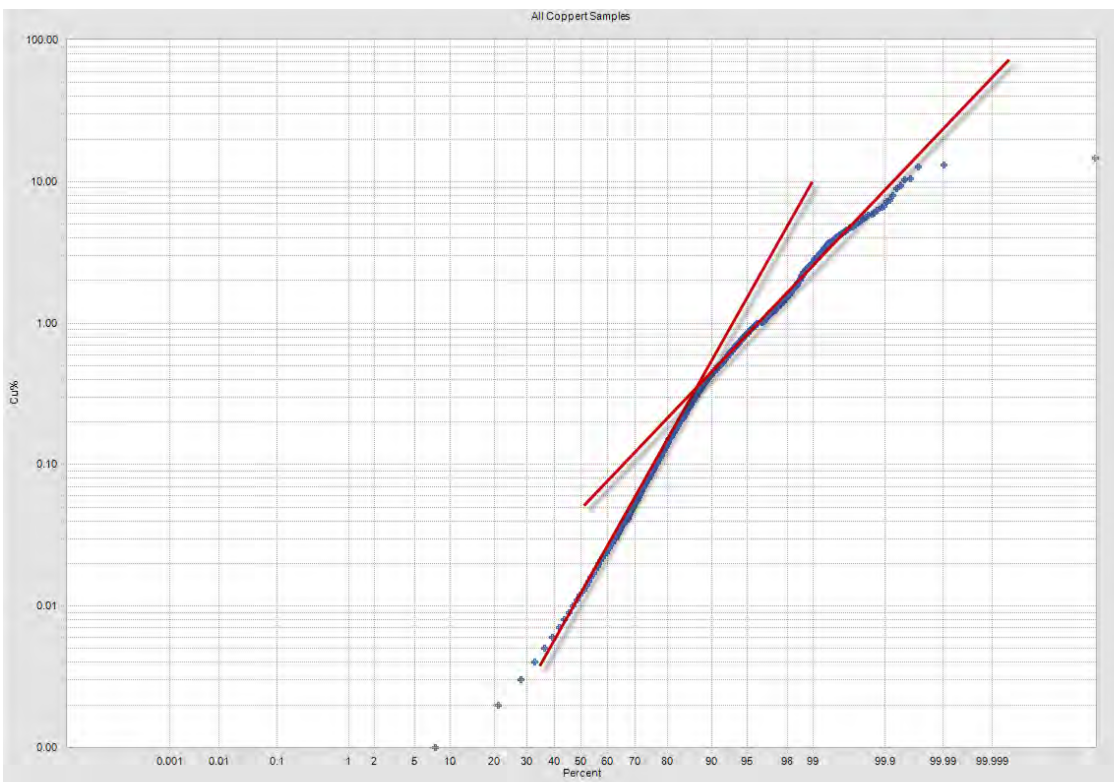
14.3.2 Copper Model

The geologic model guided the explicitly modeled copper domains. Two copper domains with the following characteristics were defined based on population breaks on cumulative probability plots (Figure 14.3):

- Greater than ~0.05% Cu: low-grade domain, chalcopyrite in blebs, often irregular and somewhat fracture-controlled.
- Greater than ~0.35% Cu: mid-grade domain, chalcopyrite in abundant blebs and some disseminated, locally massive replacements of medium- to coarse-grained chalcopyrite. The highest grades in the mid-grade domain are not continuous at current drill spacing and are greater than 5% Cu; these would be massive sulfides occurring as 50% of the sample.

Descriptive statistics are presented in Table 14.4.

Figure 14.3 Cumulative Probability Plot of Copper Assays



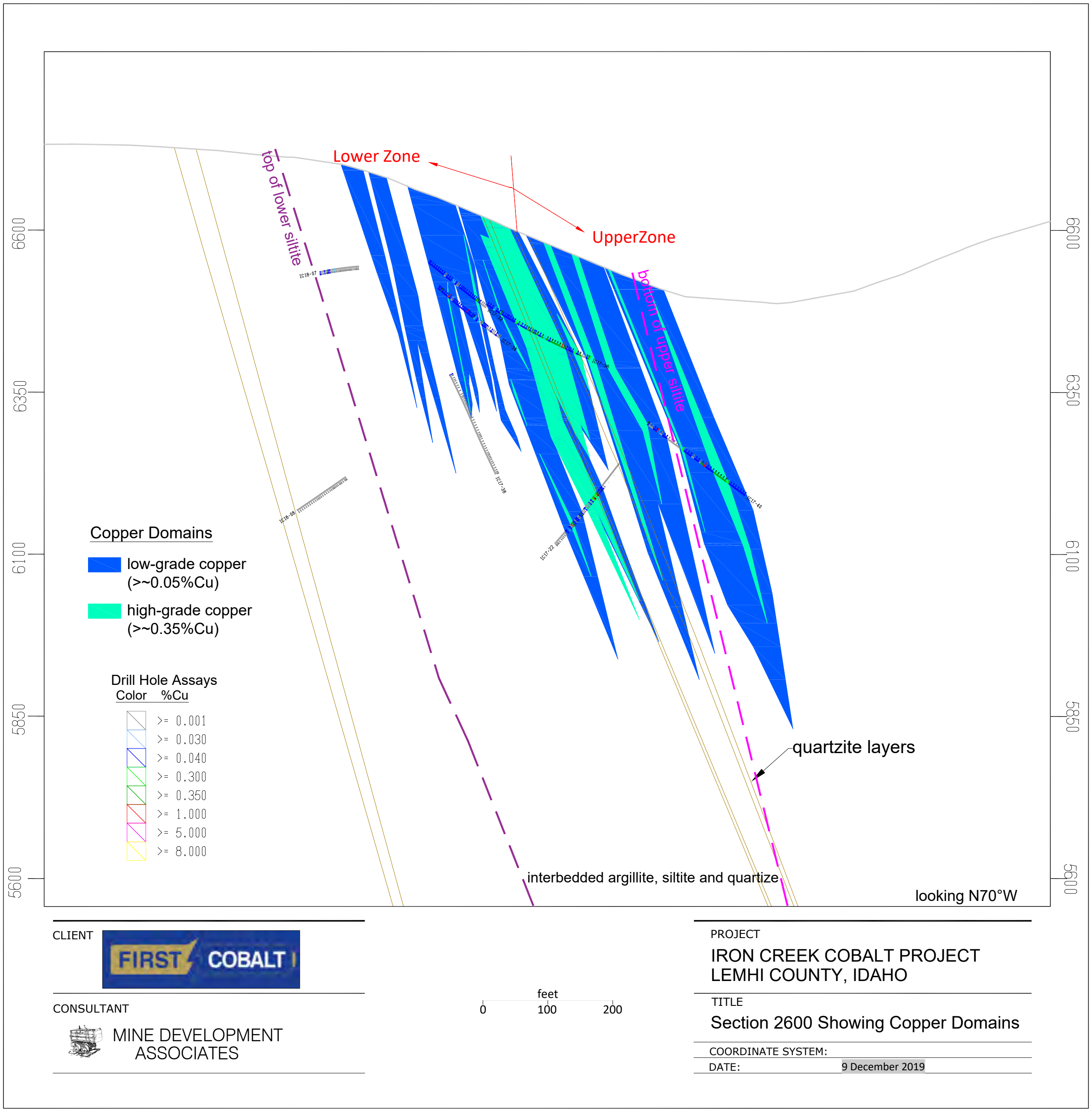
Like the cobalt mineralization, the copper mineralization mostly occurs parallel to presumed bedding and is generally stratabound. A representative cross section is given in Figure 14.4 . Overall the continuity is grossly predictable but correlating the thinner intervals from hole to hole is tenuous, in part because there are no unique characteristics. This is the principal reason that the entire resource is classified as Inferred.

Table 14.4 Descriptive Statistics by Copper Domain

Low-grade copper domain								
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	3,672	4.1	3.861			0.2	5.7	ft
Cu	**3,672**	**0.084**	**0.134**	**0.209**	**1.562**	**0.001**	**6.695**	**%**
Capped Cu	**3,672**	**0.084**	**0.132**	**0.167**	**1.269**	**0.001**	**2.000**	**%**
Co	3,672	0.014	0.062	0.129	2.074	0.001	1.590	%
Core Rec.	3,444	100	97	7	0	10	167	%
RQD	3,438	54	52	28	1	0	110	%
As	3,609	9	84	201	2	0.2	2212	ppm
Fe	3,672	6.84	7.48	3.16	0.42	2.17	39.833	%
S	3,672	0.43	1.40	2.19	1.56	0.004	10	%
Sp. Grav.	339	2.78	2.79	0.12	0.04	2.264	4.153	g/cm3
High-grade copper domain								
	Valid	**Median**	**Mean**	**Std.Devn.**	**Co.of Variation**	**Minimum**	**Maximum**	**Units**
Length	1,865	3.8	3.659			0.5	6	ft
Cu	**1,865**	**0.651**	**1.018**	**1.234**	**1.212**	**0.003**	**19.997**	**%**
Capped Cu	**1,865**	**0.651**	**1.001**	**1.092**	**1.090**	**0.003**	**8.000**	**%**
Co	1,865	0.019	0.081	0.144	1.775	0.001	1.582	%
Core Rec.	1,800	100	96	9	0	13	151	%
RQD	1,796	59	55	28	1	0	104	%
As	1,843	10	111	246	2	0.3	3641	ppm
Fe	1,865	8.49	9.05	3.31	0.37	2.471	36.252	%
S	1,865	1.37	2.55	2.68	1.05	0.008	10	%
Sp. Grav.	155	2.83	2.87	0.20	0.07	2.264	4.195	g/cm3
Outside copper domains								
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	15,919	4.6	4.07			0.1	19.7	ft
Cu	**15,919**	**0.003**	**0.012**	**0.066**	**5.338**	**0.000**	**3.357**	**%**
Capped Cu	**15,919**	**0.003**	**0.008**	**0.011**	**1.345**	**0.000**	**0.040**	**%**
Co	15,919	0.007	0.034	0.083	2.423	0.000	1.314	%
Core Rec.	14,539	100	97	9	0	13	524	%
RQD	14,436	53	51	28	1	0	228	%
As	15,619	7	51	142	3	0.2	3475	ppm
Fe	15,919	5.94	6.54	2.95	0.45	0.001	50	%
S	15,919	0.15	0.80	1.61	2.02	0.001	10	%
Sp. Grav.	1,980	2.76	2.77	0.10	0.04	1.999	4.761	g/cm3

Figure 14.4 Iron Creek Copper Domains– Section 2600

(see Figure 10.1 for cross-section location)



Cobalt and copper are zoned and occur in part separately and in part overlapping. Figure 14.5 shows the distributions of cobalt and copper in three dimensions. Figure 14.6 presents the copper and cobalt domains as interpreted and explicitly modeled. Mineralization remains open along strike, albeit low grade, and to depth. Cobalt-rich versus copper-rich zones are apparent. Cobalt dominates in the eastern part of the upper zone (previously called the No Name zone) and deeper in the western portion of the lower zone (previously called the Waite zone). In general, the best and most pervasive copper grades occur in the hanging wall of the mineralization to the west, but copper is also relatively strongly mineralized in the footwall mineralization to the west and near surface. Throughout the Iron Creek mineralized zones, copper grade correlates with silver (~3.5g Ag/t in the domain) and cobalt correlates with arsenic (~300ppm average in the high-grade cobalt domain).

Figure 14.5 Perspective View of Iron Creek Cobalt and Copper Grade Shells

(*looking roughly southwest at -20º; red are copper grades >1%; blue are cobalt grades >0.1%; thick black lines are underground adits; thin black lines are First Cobalt drill holes; purple lines are the bounding box of the block model*)

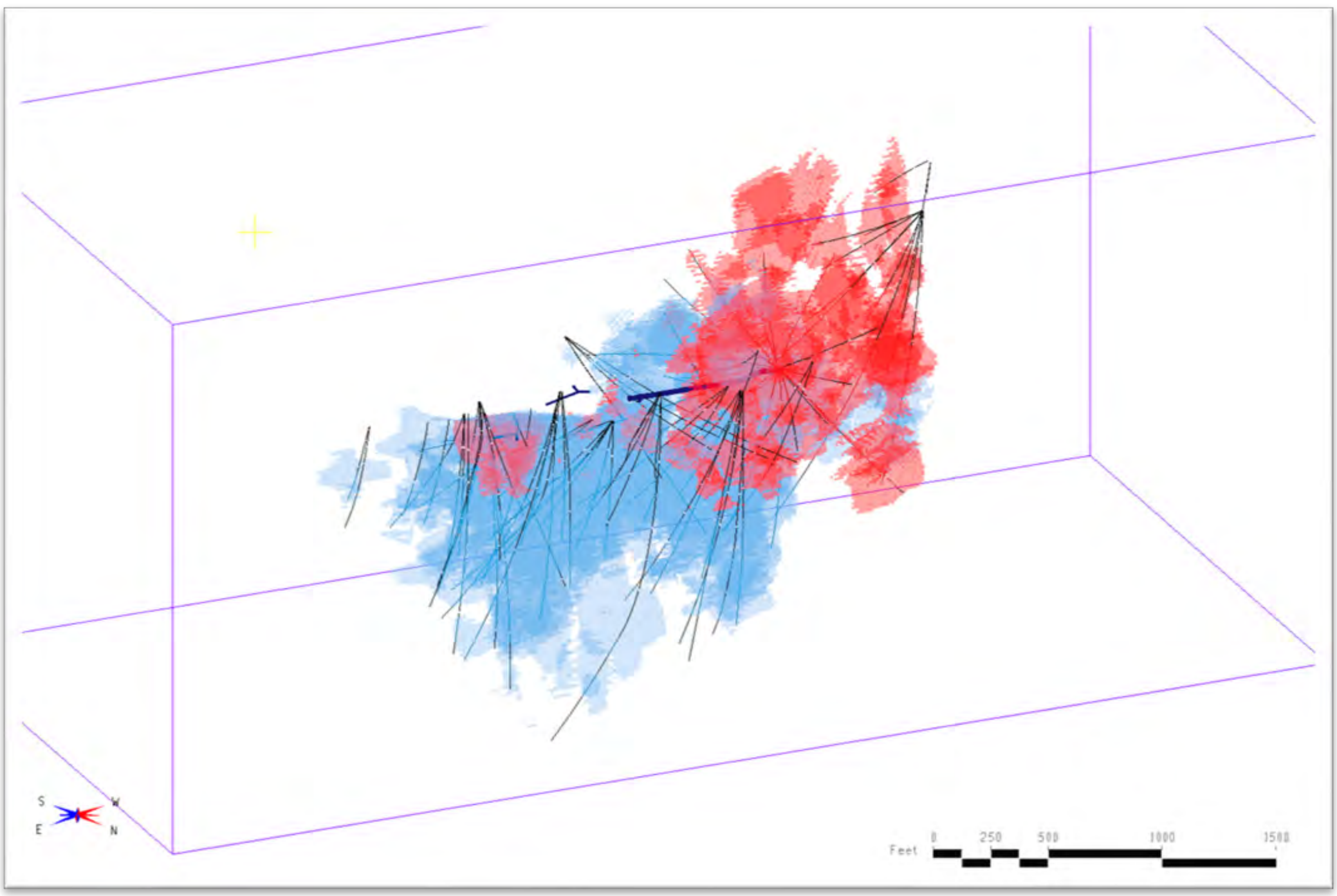
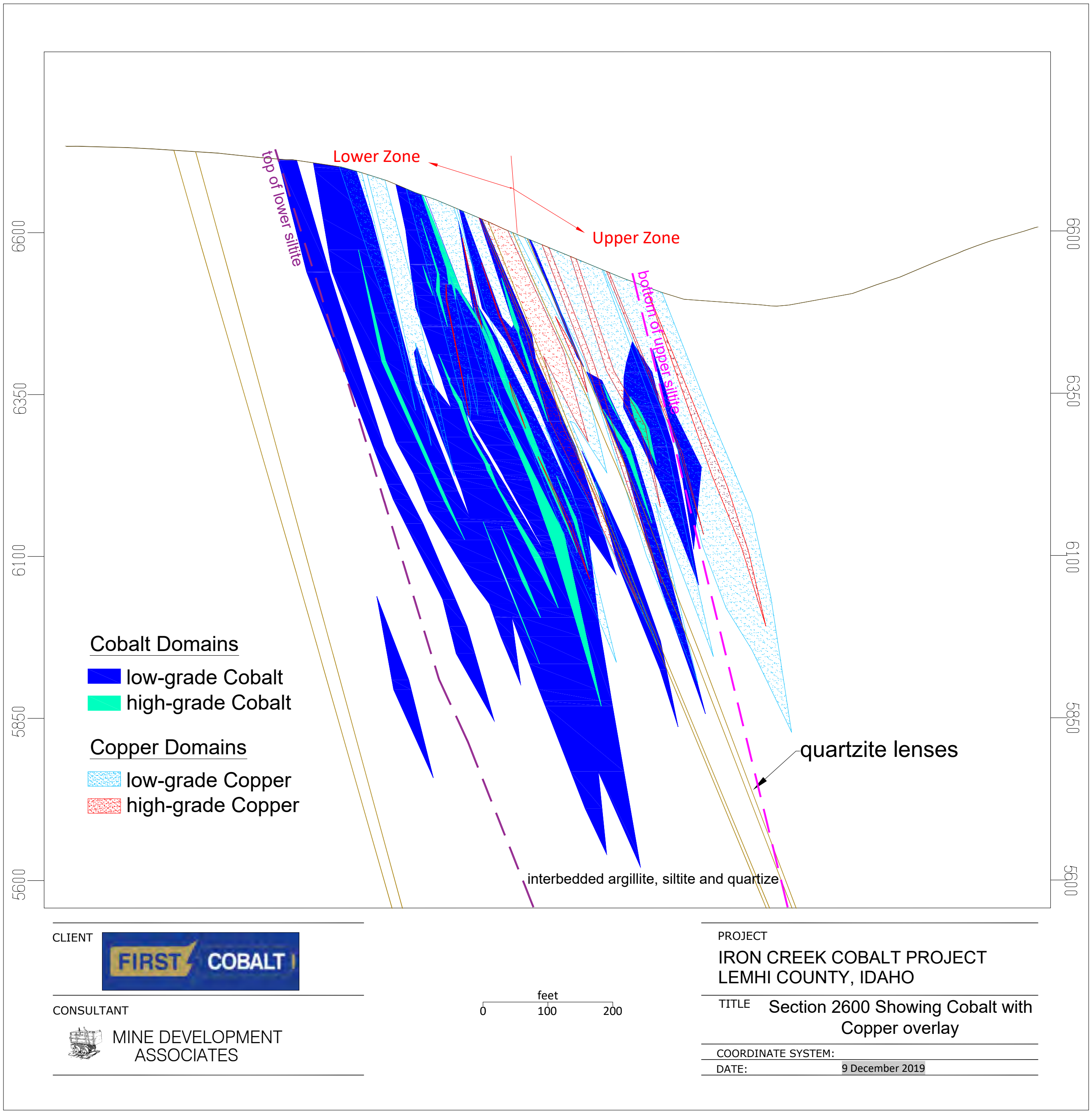


Figure 14.6 Iron Creek Cobalt and Copper Domains– Section 2600

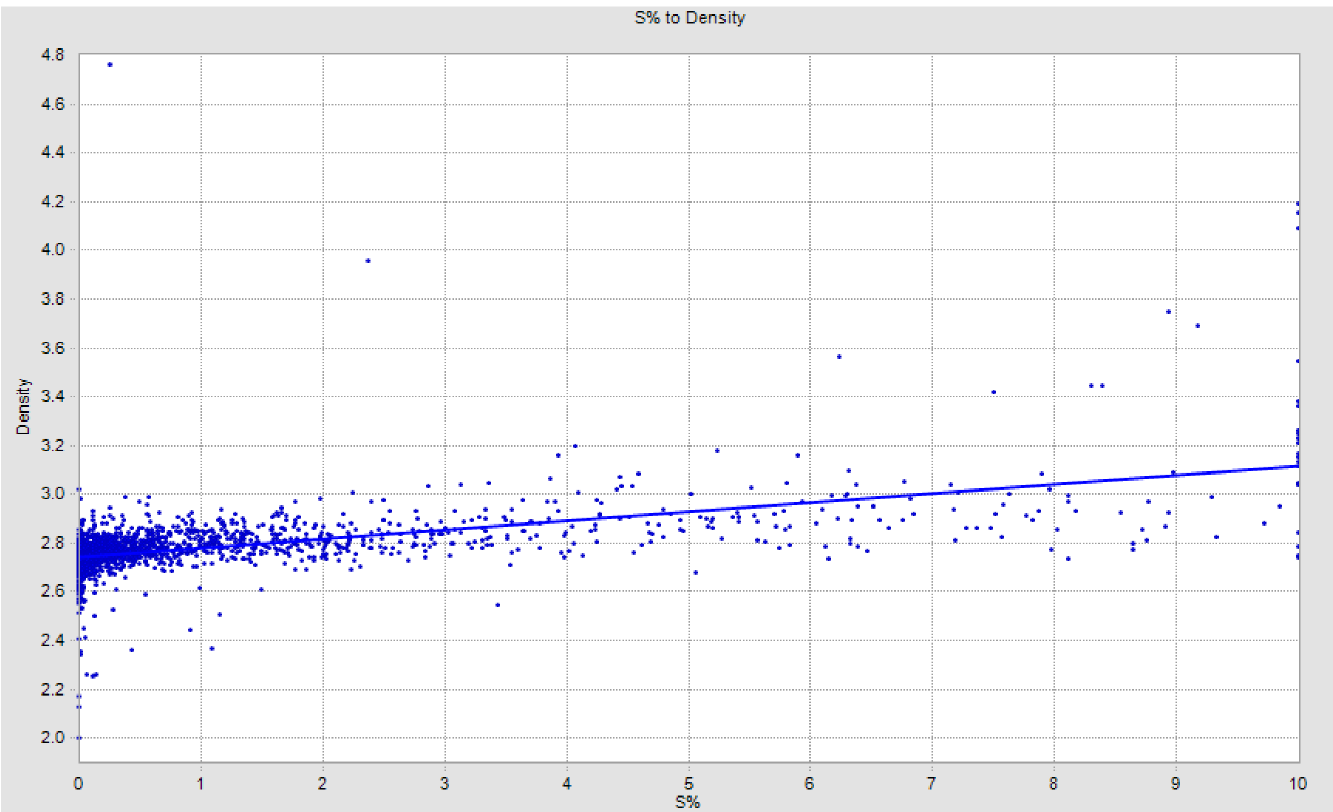
(see Figure 10.1 for cross-section location)



14.4 Density

There are 2,474 density measurements in the Iron Creek resource database within assayed intervals. Density measurements were made on site by First Cobalt geologists. Measurements are well-distributed throughout the entire deposit. The rock is dense and not porous, so the immersion method was deemed appropriate and was used without sample coating. First Cobalt did not check for moisture content of the rock but did at least partially dry the samples by placing them in front of a "*space heater blowing hot air around them for a decent duration*". Because the deposit lies within argillite-quartzite, the geologic characteristic that would most affect density is the amount of sulfide minerals present. Figure 14.7 is a scatterplot showing the relationship of analyzed total sulfur, which is a proxy for sulfide minerals, and measured density. The data clearly show a positive trend.

Figure 14.7 Scatterplot of Analyzed S% to Measured Density



(the blue line is a best-fit line; the red line is the conditional expectation line)

The cobalt and copper domains were used as a proxy for the amount of sulfides and therefore were used for coding intervals with density measurements. The average density values, and the values assigned to the units in the model, are summarized in Table 14.5.

Table 14.5 Density Values Applied to the Iron Creek Block Model

High-grade	High-grade	High-grade	Low-grade	Low-grade	Outside	Units	Comments
Co and Cu	Co	Cu	Co	Cu			
40	185	155	444	339	1546	number	
2.98	2.93	2.85	2.81	2.78	2.75	g/cm^3	density
10.74	10.92	11.23	11.39	11.51	11.64	ft^3/ton	TF
10.70	10.90	11.20	11.40	11.50	11.60	ft^3/ton	TF assigned

TF is tonnage factor

14.5 Sample and Composite Statistics

Once the mineral domains were defined and modeled on the 100ft-spaced cross sections, the samples were coded to the cobalt and copper domains by the polygon interpretations on those sections. Quantile plots were made of the coded assays. Capping for each domain was determined by first assessing the grade above which the outliers occur and then the outlier grades were reviewed on screen to determine materiality, grade and proximity of the closest samples, and general location. Capping levels and number of samples capped are presented in Table 14.6 and Table 14.7 for cobalt and copper, respectively. Descriptive statistics of each domain were generated and then considered when deciding capping levels. Capping values were determined for each of the cobalt and copper domains separately.

Table 14.6 Capping Levels for Cobalt by Domain

Domain	Number	%Co
Low-grade	12	0.4
High-grade	None	None
Outside	13	0.2

Table 14.7 Capping Levels for Copper by Domain

Domain	Number	%Cu
Low-grade	11	2.0
High-grade	15	8.0
Outside	868	0.04

Once the capping was completed, the drill holes were down-hole composited to 5ft intervals honoring domain boundaries. Five feet was chosen because the majority of samples are 5ft in length. Descriptive statistics of the composite database are given in Table 14.8 and Table 14.9 for cobalt and copper, respectively.

Correlograms were built from the composited cobalt grades in order to evaluate grade continuity. Correlogram parameters were used in the kriged estimate, which was used as a check on the reported inverse distance estimate, and also to give guidance to classification of resources. The correlogram results by area and domain are summarized as follows:

<u>Low-grade cobalt domain</u> - The nugget is 75% of the total sill. The first sill is 85% of the total sill with a range of 30ft to 35ft depending on direction but little anisotropy. The remaining sill (15%) has a range of around 150ft to 170ft depending on direction, with the shortest being perpendicular to bedding and no anisotropy along bedding.

<u>High-grade cobalt domain</u> - The nugget is 65% of the total sill. The first sill is 80% of the total sill with a range of 28ft to 60ft depending on direction. The remaining sill (20%) has a range of around 60ft to 330ft depending on direction. The longest range is along strike; the shortest is perpendicular to bedding. There is an indication of cyclicity at around 150ft.

<u>Low-grade copper domain</u> - The nugget is 70% of the total sill. The first sill is 95% of the total sill with a range of 8ft to 50ft depending on direction. The remaining sill (5%) has a range of around 100ft, with little anisotropy evident.

<u>High-grade copper domain</u> - The nugget is 50% of the total sill. The single sill is the remaining 50% of the total sill with a range of 50ft to 80ft depending on direction.

Table 14.8 Descriptive Composite Statistics by Cobalt Domain

				Low-grade cobalt domain				
	Valid	**Median**	**Mean**	**Std. Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	4639					0.1	5	ft
Co	**4639**	**0.044**	**0.053**	**0.034**	**0.637**	**0.003**	**0.454**	**%**
Capped Co	**4639**	**0.044**	**0.053**	**0.033**	**0.623**	**0.003**	**0.400**	**%**
Cu	4639	0.008	0.108	0.346	3.188	0.000	10.246	%
				High-grade cobalt domain				
	Valid	**Median**	**Mean**	**Std. Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	1878					0.1	5	ft
Co	**1878**	**0.225**	**0.272**	**0.168**	**0.617**	**0.015**	**1.305**	**%**
Capped Co	**1878**	**0.225**	**0.272**	**0.168**	**0.617**	**0.015**	**1.305**	**%**
Cu	1878	0.028	0.272	0.789	2.898	0.000	19.997	%
				Outside cobalt domains				
	Valid	**Median**	**Mean**	**Std. Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	11720					0.1	5	ft
Co	11720	0.004	0.007	0.010	1.472	0.000	0.263	%
Capped Co	**11720**	**0.004**	**0.006**	**0.005**	**0.924**	**0.000**	**0.020**	**%**
Cu	11720	0.006	0.091	0.349	3.824	0.000	9.286	%

Table 14.9 Descriptive Composite Statistics by Copper Domain

				Low-grade copper domain				
	Valid	**Median**	**Mean**	**Std. Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	3141					0.1	5	ft
Cu	**3141**	**0.095**	**0.134**	**0.165**	**1.234**	**0.003**	**6.695**	**%**
Capped Cu	**3141**	**0.095**	**0.132**	**0.127**	**0.969**	**0.003**	**2.000**	**%**
Co	3141	0.015	0.062	0.120	1.925	0.001	1.259	%
				High-grade copper domain				
	Valid	**Median**	**Mean**	**Std. Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
Length	1528					0.2	5	ft
Cu	**1528**	**0.699**	**1.018**	**1.059**	**1.041**	**0.011**	**19.997**	**%**
Capped Cu	**1528**	**0.699**	**1.001**	**0.946**	**0.944**	**0.011**	**8.000**	**%**
Co	1528	0.021	0.081	0.134	1.658	0.001	1.415	%
				Outside copper domains				
	Valid	**Median**	**Mean**	**Std. Dev.**	**CV**	**Minimum**	**Maximum**	**Units**
LNGTH	13250					0.1	5	ft
CU	13250	0.004	0.012	0.050	4.094	0.000	3.357	%
CUC	**13250**	**0.003**	**0.008**	**0.010**	**1.234**	**0.000**	**0.040**	**%**
CO	13250	0.007	0.034	0.076	2.196	0.000	1.242	%

14.6 Estimation

Three types of estimates were completed: nearest neighbor, inverse distance, and kriged, with the inverse-distance estimate being reported. A polygonal estimate was done in 2018 and the results were used as a check on the global estimated resources at a cutoff of zero. The nearest neighbor, inverse distance and kriged estimates were run several times in order to determine sensitivity to estimation parameters, and to evaluate and optimize results. The inverse distance power was three ("ID^3") for all domains except the low-grade copper domain where the power was two ("ID^2").

One estimation pass was run for each domain ranging up to 600ft along the primary axes. That first long pass did not estimate many blocks but was used to fill in distal parts of the domain model. Only 1.4% of the blocks estimated for cobalt were farther than 300ft from a composite, 9.2% of the blocks estimated for copper were farther than 200ft from a composite. The longest distance from a composite allowed for Indicated was 75ft. All estimates and estimation runs weighted the samples by the sample lengths. Estimation parameters are given in Table 14.10.

The estimate was complicated by sample clustering in well-mineralized cobalt material. The underground drill holes were, by necessity, collared near good cobalt mineralization and the fans drilled from underground introduced an inordinate number of well-mineralized samples. In those areas though, the copper is more weakly mineralized and so clustering is not an issue for copper.

Table 14.10 Estimation Parameters

Description	Parameter
Low-grade Cobalt Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Search orientations: Major, dip and rotation	20º / -72º / 0º
Search distances: major/semimajor/minor (ft): first pass; second pass	500/500/125; 200/200/50
Inverse distance power	3
High-grade restrictions (grade in %Co and distance in ft)	0.15 / 50 (on short pass)
High-grade Cobalt Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Search orientations: Major, dip and rotation	20º / -72º / 0º
Search distances: major/semimajor/minor (ft): first pass; second pass	500/500/125; 200/200/50
Inverse distance power	3
High-grade restrictions (grade in %Co and distance in ft)	None
Outside Modeled Cobalt Domains	
Samples: minimum/maximum/maximum per hole	2 / 12 / 3
Search orientations: Major, dip and rotation	20º / -72º / 0º
Search distances: major/semimajor/minor (ft)	100 / 100 / 20
Inverse distance power	2
High-grade restrictions (grade in Co% and distance in ft)	0.02 / 10

Description	Parameter
Low-grade Copper Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Search orientations: Major, dip and rotation	20º / -72º / 0º
Search distances: major/semimajor/minor (ft): first pass; second pass	600/600/150; 200/200/50
Inverse distance power	2
High-grade restrictions (grade in %Cu and distance in ft)	0.9 / 50 (on short pass)
High-grade Copper Domain	
Samples: minimum/maximum/maximum per hole	1 / 10 / 2
Search orientations: Major, dip and rotation	20º / -72º / 0º
Search distances: major/semimajor/minor (ft): first pass; second pass	600/600/150; 200/200/50
Inverse distance power	3
High-grade restrictions (grade in %Cu and distance in ft)	6.0 / 50 (on short pass)
Outside Modeled Copper Domains	
Samples: minimum/maximum/maximum per hole	2 / 12 / 3
Search orientations: Major, dip and rotation	20º / -72º / 0º
Search distances: major/semimajor/minor (ft)	100 / 100 / 20
Inverse distance power	2
High-grade restrictions (grade in Cu% and distance in ft)	0.02 / 10

14.7 Mineral Resources

Mr. Ristorcelli reports resources at cutoffs that are reasonable for deposits of this nature given anticipated mining and processing methods and approximate though current operating costs, while also considering economic conditions, because of the regulatory requirements that a resource exists "*in such form and quantity and of such a grade or quality that it has reasonable prospects for eventual economic extraction*." Mr. Ristorcelli classified the Iron Creek resources giving consideration to the confidence in the underlying database, sample integrity, analytical precision/reliability, QA/QC results, and confidence in geologic interpretations. Material is classified as Indicated and Inferred because the underlying database, sample integrity, analytical reliability as shown by QA/QC results are sufficient to classify the material at a higher level of confidence than Inferred. The broad mineralized zones in the hanging wall of the upper zone are sufficiently predictable to support substantial amounts of Indicated. Outside the thick mineralized zones, classification of Indicated is more stringent requiring more closely spaced sample separation.

A sense of model reliability was obtained because several iterations of sectional models were done with the benefit of receiving additional drill data. All material within either cobalt or copper domains is classified as Inferred if it isn't Indicated. No material outside the domains is reported as a resource, though there is mineralization outside the domains albeit without recognized continuity. Below the thick zones of mineralization, the nature of mineralization as lenses and pods interbedded within the siltite-quartzite layers are difficult to correlate with certainty at the current drill spacing.

All Resources tabulated in this Technical Report are based on the presumption that the most likely method of exploitation will be from underground. Technical and economic factors likely to influence the "*reasonable prospects for eventual economic extraction*" were evaluated using the best judgement of the author responsible for this section of the report. Potential for underground mining was assessed by running stope optimizations in 2018. Having passed that test and after updating the resource estimate, a grade shell with grades above 0.10%CoEq were made. Isolated and discontinuous zones were eliminated, and then that solid was used to constrain the reported resources. The reporting cutoff 0.18%CoEq is fractionally lower than what was determined by using mining costs ($100/ton), processing costs ($22/ton), anticipated metallurgical recoveries (81% for copper and 88% for cobalt), and appropriate G&A ($10/ton) costs for similar size operations in the western United States. The cutoff grades are based on US$30/lb Co and US$3/lb Cu as they were in 2018.

The Iron Creek reported mineral resources are the fully block-diluted estimates. The blocks are 10ft long along strike, 5ft across, and 10ft high. The resources are reported at a cutoff of 0.18%CoEq for potentially underground minable material. Cobalt equivalent was based on the simple formula of:

$$\%CoEq = \%Co + (\%Cu / 10)$$

No metallurgical recoveries were applied to either metal because it is expected that the metallurgical recoveries will be similar for both metals.

Table 14.11 and Table 14.12 present the tabulation of Indicated and Inferred cobalt and copper Mineral Resources at Iron Creek, respectively. The bolded lines in the tables report the current Iron Creek resources. Those resources are all material within contiguous bodies most likely minable underground and at a cutoff of 0.18%CoEq with "*reasonable prospects for eventual economic extraction*".

Table 14.11 Iron Creek Indicated Resources

Cutoff %CoEq	Tons	Grade %CoEq	Grade %Co	Pounds Cobalt	Grade %Cu	Pounds Copper
0.10	4,318,000	0.24	0.19	16,322,000	0.47	40,157,000
0.12	3,632,000	0.26	0.21	15,109,000	0.51	37,192,000
0.14	3,124,000	0.28	0.23	14,120,000	0.55	34,114,000
0.15	2,914,000	0.29	0.23	13,638,000	0.56	32,812,000
0.16	2,716,000	0.30	0.24	13,145,000	0.58	31,451,000
0.18	**2,374,000**	**0.32**	**0.26**	**12,250,000**	**0.61**	**29,058,000**
0.20	2,074,000	0.34	0.27	11,324,000	0.65	26,879,000
0.25	1,469,000	0.39	0.31	9,137,000	0.74	21,653,000
0.30	1,064,000	0.43	0.34	7,320,000	0.83	17,705,000
0.35	759,000	0.47	0.38	5,753,000	0.91	13,783,000
0.40	504,000	0.52	0.42	4,244,000	0.97	9,788,000

Table 14.12 Iron Creek Inferred Resources

Cutoff %CoEq	Tons	Grade %CoEq	Grade %Co	Pounds Cobalt	Grade %Cu	Pounds Copper
0.10	6,736,000	0.20	0.15	19,804,000	0.51	68,842,000
0.12	5,377,000	0.22	0.17	17,744,000	0.56	60,330,000
0.14	4,379,000	0.24	0.18	15,940,000	0.60	52,460,000
0.15	3,961,000	0.25	0.19	15,052,000	0.62	49,037,000
0.16	3,589,000	0.26	0.20	14,212,000	0.64	45,867,000
0.18	**2,950,000**	**0.28**	**0.22**	**12,685,000**	**0.68**	**39,943,000**
0.20	2,429,000	0.30	0.23	11,222,000	0.71	34,492,000
0.25	1,541,000	0.35	0.27	8,321,000	0.78	24,070,000
0.30	965,000	0.39	0.31	6,022,000	0.82	15,749,000
0.35	583,000	0.44	0.36	4,174,000	0.82	9,538,000
0.40	305,000	0.50	0.42	2,574,000	0.79	4,831,000

Representative cross sections for the cobalt and copper block models are shown in Figure 14.8 and Figure 14.9, respectively. A little over half of the resources lie within the upper zone; the remainder is in the lower zone.

Figure 14.8 Iron Creek Cobalt Domains, Geology and Block Model– Section 2600

(see Figure 10.1 for cross-section location)

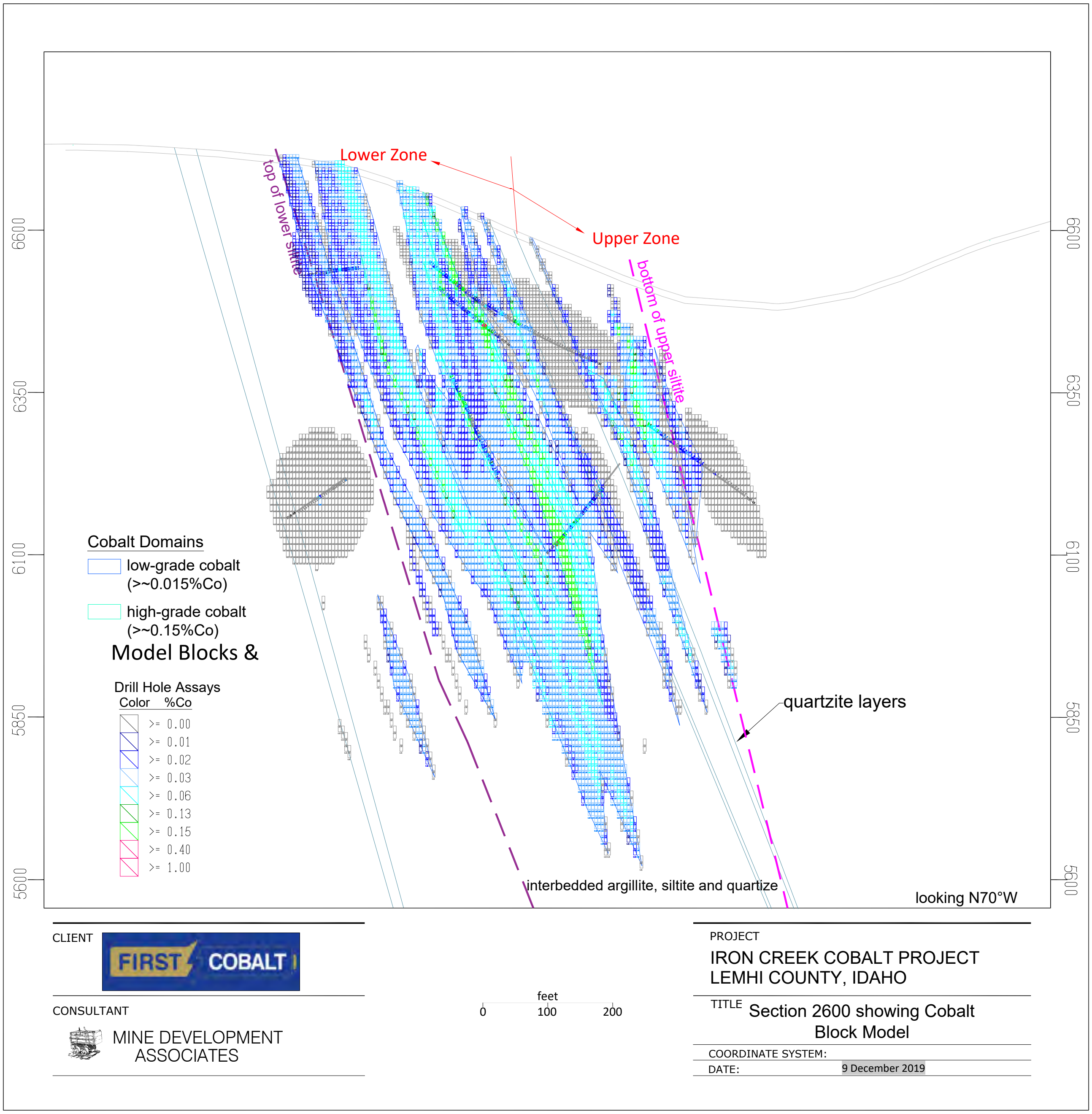
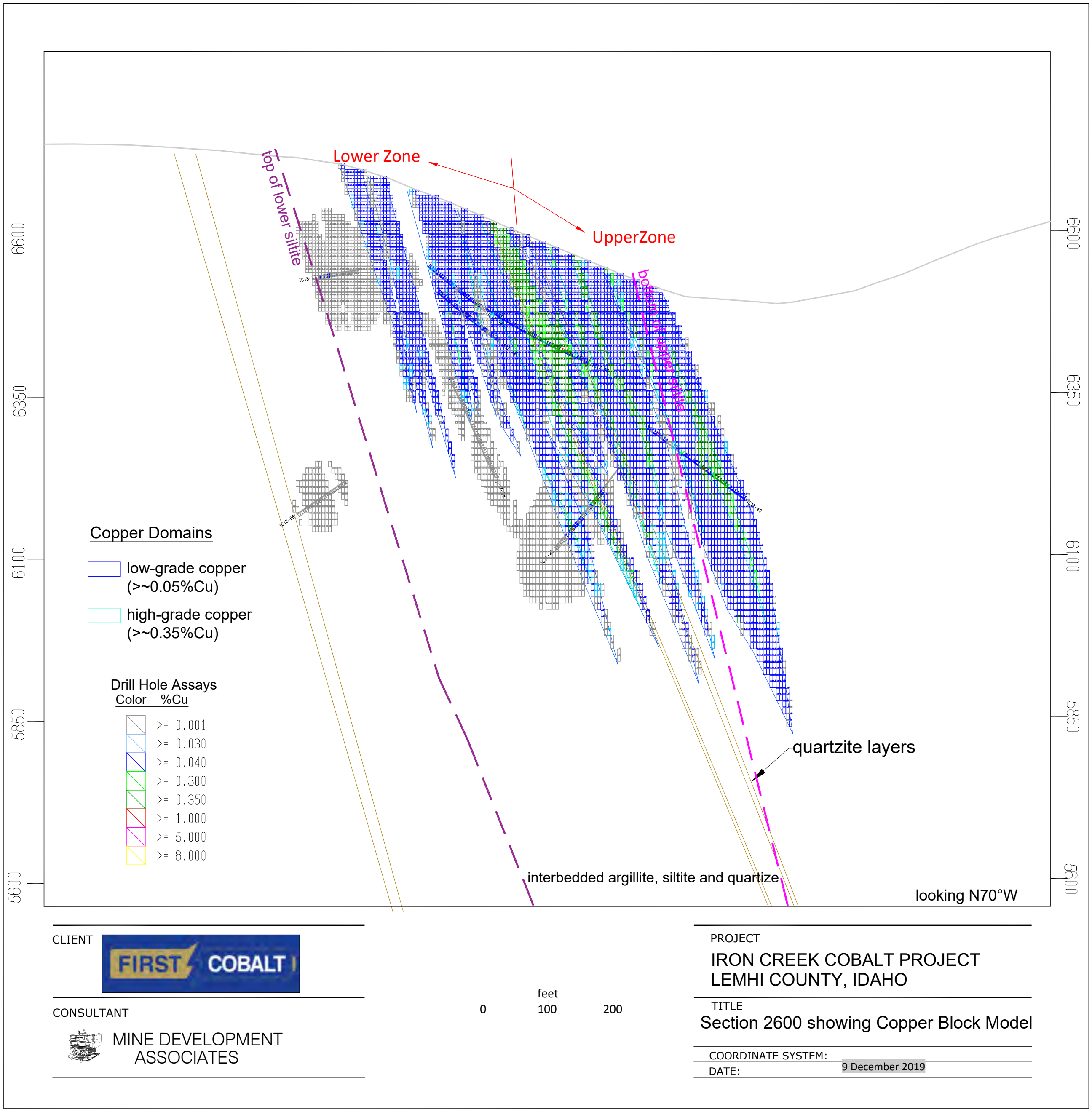


Figure 14.9 Iron Creek Copper Domains, Geology and Block Model– Section 2600

(see Figure 10.1 for cross-section location)



14.8 Discussion of Resources

First Cobalt has shown that important cobalt and copper resources exist at Iron Creek. The First Cobalt drilling has extended the cobalt and copper mineralization for 3,000ft along strike and 2,200ft vertically. MDA considers the deposit to be open along strike, albeit at low grades, and at depth, and therefore the resources reported herein have potential to increase.

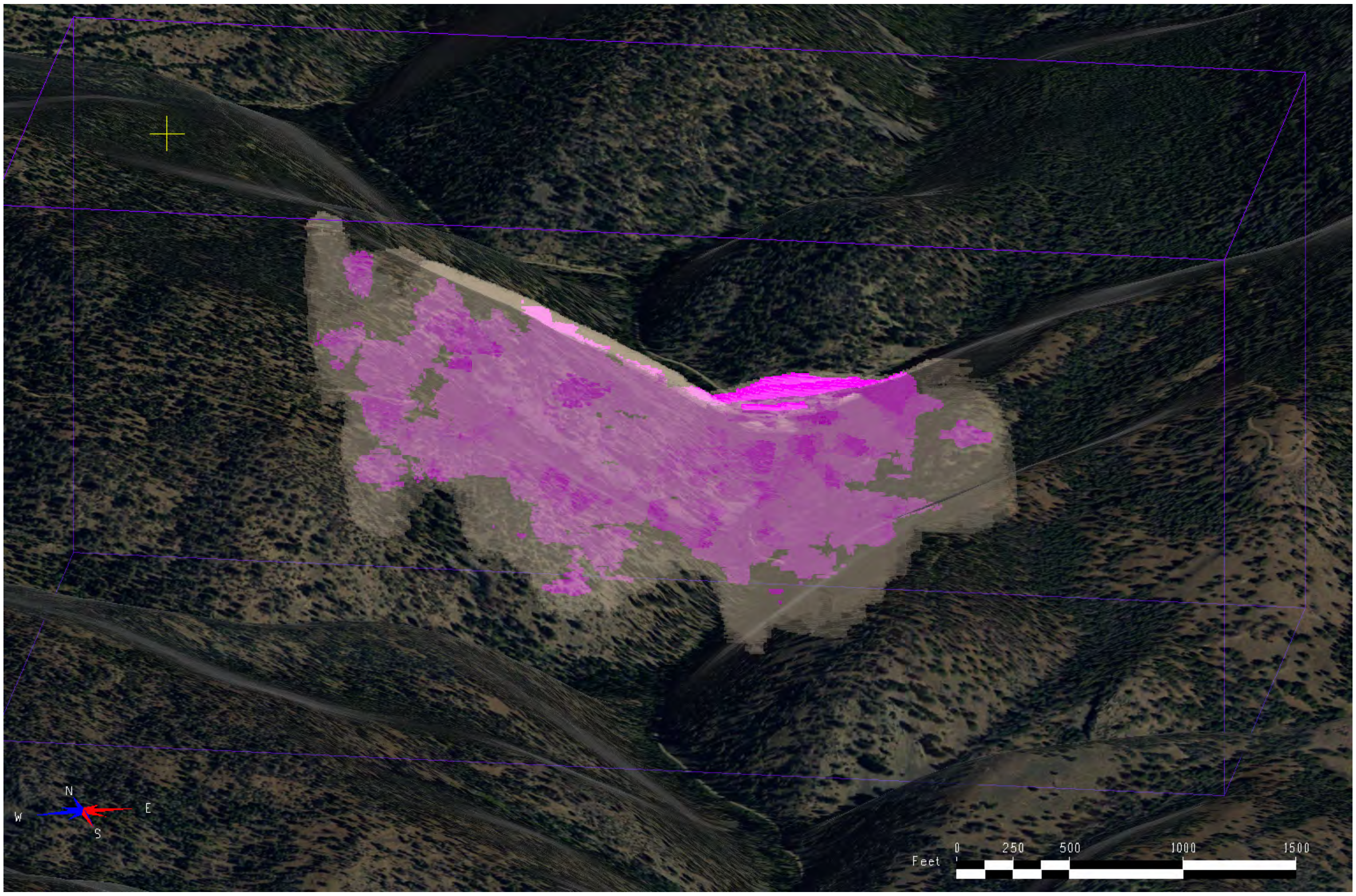
While the resources were classified only as Inferred in 2018, additional drilling upgraded some of those resources to Indicated. Infill drilling has shown that mineralization occurs as a broad zone of mineralization with higher-grade discrete tabular bodies within it. Importantly, the more recent drilling has shown the deposit is open along strike albeit at modest to low grades in both directions. Mineralization is also open down-dip so this estimate is only a snap-shot in time with expectations that it will increase in size with more drilling. Tertiary volcanic rock covers surface expressions of the strike extensions in both directions, although the argillite-siltite host to mineralization crops out beyond that Tertiary volcanic rock cover with some cobalt mineralization.

Insight into the reliability of the domain model and the predictability of the deposit were gained from the four iterations of modeling performed with successively increased amounts of drill data. In general, the strike and dip of the deposit(s) are consistent, the thicker mineralized zones are predictable, but the smaller lenses are difficult to predict reliably. It is this yet-to-be proven continuity in the narrower zones that requires Inferred classification for the majority of the resources reported and most of those are outside the broad hanging wall zones. The thicker mineralized zones, which reach up to 70ft for cobalt zones and over 100ft for copper zones, are more continuous. Infill drilling will certainly upgrade these Inferred resources to Indicated and, potentially, Indicated resources to Measured.

Regulatory guidelines require that resources meet "*reasonable prospects for eventual economic extraction*", so it is often the case that total mineralization is not presented. In 2018 First Cobalt considered an open-pit mining scenario and reported resources at 0.03%CoEq so Figure 14.10 shows the mineralization estimated within a larger grade shell of 0.03%CoEq. In comparison, the 2019 open-pit mining scenario would be 19% larger than the 2018 estimate. At the current cutoff grade of 0.18%CoEq for an underground mining scenario, the resource expanded in the 2019 estimate modestly by 10% but converted Inferred resources to Indicated for almost 50% of the deposit.

First Cobalt has decided that the most likely scenario for exploitation will be by underground methods so this Technical Report is reporting only those resource that would meet the requirement of "*reasonable prospects for eventual economic extraction*" by underground mining. A large volume of mineralization exists that would, if deemed more reasonable, be potentially exploitable by open-pit mining methods (Figure 14.10).

Figure 14.10 Confining Volumes and Additional Mineralization



Note: looking south at -36°; scale bar in feet in bottom right; magenta shows the 0.18%CoEq grade shells; light brown to tan is the 0.03%CoEq grade shell; purple lines are the bounding box of the block model)

15.0 MINERAL RESERVE ESTIMATES (ITEM 15)

There are no estimated mineral reserves for the Iron Creek project as of the date of this report.

Item 16 through Item 22 are not applicable to this report and are omitted.

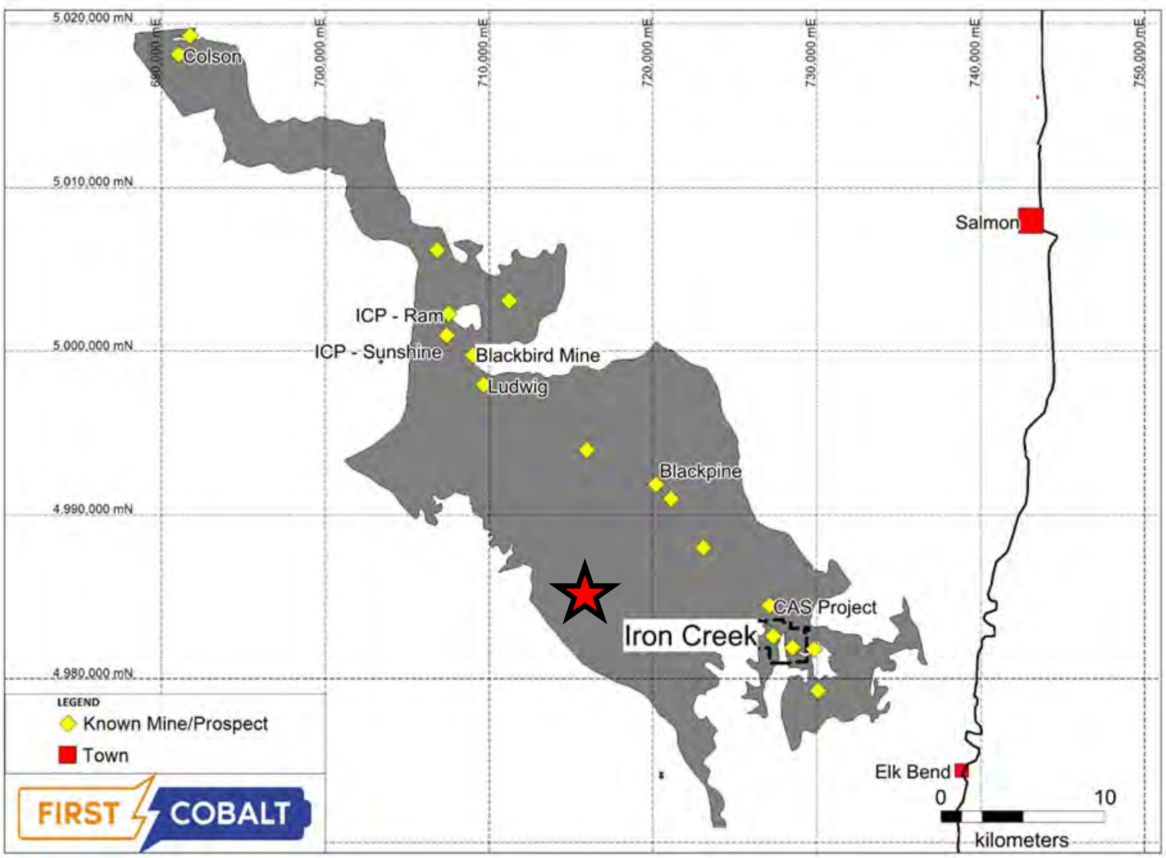
23.0 ADJACENT PROPERTIES (ITEM 23)

The following information is derived from company websites regarding locations and activities that have not been validated by title searches. These activities have been disclosed publicly through press releases. The authors of this report have not verified the information; the information is not necessarily indicative of the mineralization on the Iron Creek property that is the subject of this technical report.

Since 2017, several junior exploration companies have become active within the Idaho cobalt belt. Activity decreased in 2019, but most properties remain in good standing (Figure 23.1). For the most part, exploration has been restricted to surface soil and bedrock sampling of existing surface exposures at cobalt-bearing mineral occurrences. High grades of cobalt are reported, but most samples are grabs from mine dumps or talus debris, and therefore are not representative or indicative of new cobalt resource potential.

Figure 23.1 Exploration Projects within the Idaho Cobalt Belt

(Grey shaded area shows Apple Creek Formation within the ICB. Co-ordinate system for grid is UTM NAD83 Zone 11)



Exploration drilling has been reported by New World Cobalt at the Colson property at the northern most extension of the Idaho Cobalt Belt. A drilling program of 12 diamond drill holes was reported in 2018 targeting known mineralization as well as interpretations from induced polarity geophysical surveys. Cobalt and copper mineralization were intersected in several holes including 5.5m of 0.20%Co and 0.69g Au/t.

Geophysical surveys have been reported by Hybrid Minerals and International Cobalt. Hybrid Minerals has explored the "Cas Property" immediately north of the Iron Creek property. In 2014, ground self-potential gradient surveys were completed over an area including known cobalt-copper prospects. Anomalies indicative of potential for mineralization were identified, and follow-up trenching to bedrock was completed. Results were not disclosed. In 2019, Hybrid Minerals terminated their property option.

In 2017, International Cobalt completed an airborne EM survey over their Ludwig property south of the historic Blackbird mine site. No drilling has been done as follow up despite identifying EM and magnetic anomalies considered to be associated with cobalt-copper mineralization. Soil geochemical surveys and bedrock sampling have revealed new areas of mineralization.

The most advanced property with respect to development is the Idaho Cobalt Project that was acquired in August 2019 by Jervois Mining Limited. Two resources have been drilled and estimated: Ram and Sunrise. Ram has been targeted for production in 2021. The 2017 resource estimate for Ram is given below in Table 23.1. In October 2019, Jervois announced the results of two exploration holes that intersected copper mineralization in the footwall at Ram. The best result was 4.0m at a grade of 0.48% Cu and 0.05% Co from 321.6m down-hole, highlighting further potential in this area.

Table 23.1 eCobalt Solutions Reported Resources
(from Foo et al., 2017)

eCobalt 2018 Resource Model (0.20% cut-off grade)							
Category	**M Tons**	**Co%**	**Co (M lbs)**	**Cu%**	**Cu (M lbs)**	**oz Au/ton**	**Au (oz)**
Measured	1.50	0.66	19.9	0.78	23.6	0.017	26,000
Indicated	2.37	0.54	25.8	0.89	42.2	0.018	42,000
M + I	3.87	0.59	45.7	0.85	65.8	0.017	68,000
Inferred	1.82	0.46	16.7	0.81	29.4	0.015	27,000

For perspective of deposit size in the Idaho Cobalt Belt, the Blackbird district has combined historical production plus current reserves that total 17,000,000t at 0.7% Co, 1.4% Cu, and 1g Au/t (Hitzman, et. al., 2017). The historic Blackbird Mine property is held by Glencore plc with reported remaining reserves of 3.5 Mt at 0.73% Co and 1.67% Cu. Individual deposits are open at depth.

24.0 OTHER RELEVANT DATA AND INFORMATION (ITEM 24)

MDA is not aware of any other data or information relevant to the mineral resource estimate described in this report.

25.0 INTERPRETATION AND CONCLUSIONS (ITEM 25)

Mr. Ristorcelli has reviewed the Iron Creek project data and Mr. Ristorcelli has visited the project site. The author believes that the data provided by First Cobalt are an accurate and reasonable representation of the Iron Creek project. As well, the exploration conducted by First Cobalt has produced information on which important interpretations, conclusions and decisions can be made with reasonable confidence. All historical information, on the other hand, cannot be used in this report for anything more than an indication of mineralization.

The only factor that keeps more Indicated and any Measured material from being classified higher is the inability to confidently correlate mineralized zones from one drill hole to another with the present drill spacing. Certainly, the thicker zones can be correlated presently with moderate confidence, but because there is nothing unique yet known about any of the zones to definitively make correlations, and until there is something unique defined to make the correlations, infill drilling will be required for upgrading the resources. The thicker mineralized zones, which reach up to 70ft for cobalt zones and over 100ft for copper zones are more continuous and will most likely require less infill drilling.

The cobalt occurs largely within pyrite but with minor amounts in the chalcopyrite, there is no cobaltite, and the cobalt and copper mineralization are not necessarily spatially coincident. Both metals are distributed independently from each other and occupy separate mineralized domains that are, in part, overlapping. Cobalt and copper commonly occur in economic grades separate from each other.

Cobalt zones up to 70ft thick and copper zones up to 100ft thick have been encountered in the drilling. That drilling has extended the cobalt and copper mineralization for 3,000ft along strike and 2,200ft vertically. MDA considers the deposit to be open along strike, albeit at low grades, and at depth, except for copper in the eastern half of the deposit which seems to be closed off at depth. The Iron Creek project is a project in early stages of development and exploration. The Mineral Resources presented in this Report are considered only a snapshot in time of what ultimately should become larger resources.

The composition of scapolite (BSU logged unit) at Iron Creek is presently unknown but it is understood that Na-rich varieties typically reflect evaporite source rocks, whereas Ca-rich compositions are diagnostic of carbonate source rocks. Evaporites and carbonate rocks are chemically susceptible and reactive to hydrothermal fluids, and often are associated with base metal deposits. As such, the BSU is considered to be a meta-sedimentary stratigraphic unit where primary carbonate minerals or salts had accumulated.

26.0 RECOMMENDATIONS (ITEM 26)

Iron Creek is a property of merit deserving substantial additional exploration and development. Most importantly, work to date has shown that cobalt-copper mineralization is open along strike and down-dip that should continue to be explored. Exploration outside the main resource area to consider other known zones of surface mineralization is also justified. Drilling at Ruby is important to determine if other resources exist that may affect mine planning if Iron Creek is developed.

It is recommended that the following objectives be tested in a phased approach. Costs and an outline of Phase I work of the recommended program are given in Table 26.1. The drilling at Iron Creek is designed to utilize existing surface infrastructure, specifically drill roads and drill pads, to minimize costs as well as assess the down-dip potential from surface. A more costly program will be required to continue exploring at depth which would be considered as Phase 2 if Phase 1 is successful. A 10% contingency is included to cover the unexpected.

Table 26.1 Cost Estimate for the Recommended Program

Item		Estimated Cost
Project management and set up and tear down		**$100,000**
Direct drilling (expansion at Iron Creek)	$810,000	
Assaying and Sampling	$160,000	
Roads, pads and underground maintenance	$75,000	
Geology (drilling related and some surface)	$250,000	
Direct drilling (exploration Ruby)	$200,000	
Assaying and Sampling	$50,000	
Roads, pads and underground maintenance	$50,000	
Geology (drilling related and some surface)	$60,000	
Drilling sub-total		**$1,655,000**
Resource estimate update		**$80,000**
Metallurgy		**$50,000**
Geophysics		**$150,000**
Permitting and Legal		**$50,000**
Reporting		**$50,000**
Contingency of 10% (rounded)		***$200,000***
***Total** (rounded)*		***$2,300,000***

*Expansion at Iron Creek; **exploration at Ruby

The program includes a total of around 15,500ft of core drilling, of which approximately 3,000ft are exploration drilling in the Ruby zone.

Metallurgical studies are recommended to advance the testwork in support of future economic and engineering studies. Since the preliminary samples were collected from underground, additional sampling should be conducted that is representative of all mineralized areas to confirm that these also respond well to flotation. Further optimization of the flotation parameters is needed to improve both metal recovery and concentrate grades. This should include locked-cycle flotation testing, along with supporting mineralogy. A few tests on alternate processing approaches should be conducted to determine if these would provide an improvement in recovery or concentrate grade or lower processing costs. Additional samples should be floated to produce sufficient cobalt concentrate for testing pyrite treatment options. Comminution testing should be performed to determine crushing and ball mill work indices, and abrasion indices, to aid in circuit design.

For exploration, additional geophysics should also be done. Based on the borehole program, electrical geophysical programs are recommended to explore for the extensions of mineralization at Iron Creek as well as to identify others on the property.

As with all projects, ongoing permitting and legal work, as well as reporting, are necessary and have been included in the budget.

If Phase I is successful, a Phase II budget would be similar to, but potentially substantially larger than, Phase I, and it would emphasize more engineering

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28.0 DATE AND SIGNATURE PAGE (ITEM 28)

Effective Date of report: November 27, 2019

The data on which the contained resource estimates are based was current as of the Effective Date.

Completion Date of report: November 27, 2019

"Mr. Steven J. Ristorcelli" Date Signed:

Steven Ristorcelli, C. P. G. November 27, 2019

"Mr. Joseph Schlitt" Date Signed:

Joseph Schlitt, MMSA-QP November 27, 2019

29.0 CERTIFICATE OF QUALIFIED PERSONS (ITEM 29)

STEVEN RISTORCELLI, C. P. G.

I, Steven Ristorcelli, C. P. G., do hereby certify that I am currently employed as Principal Geologist by: Mine Development Associates, Inc., 210 South Rock Blvd., Reno, Nevada 89502.

1. I am co-author of the report entitled "Technical Report with Updated Mineral Resources, Iron Creek Cobalt Project, Lemhi County, Idaho, USA" prepared for First Cobalt Corp. with an Effective Date of November 27, 2019, 2019 and a Report date of November 27, 2019. I am the principal author for all sections of this report except Section 13.0 of this Technical Report. I have reviewed and participated in the editing of the remaining sections of the report, and I concur with their contents. I have relied on other experts as described in Section 3.

2. I graduated with a Bachelor of Science degree in Geology from Colorado State University in 1977 and a Master of Science degree in Geology from the University of New Mexico in 1980. I am a Registered Professional Geologist in the state of California (#3964) and a Certified Professional Geologist (#10257) with the American Institute of Professional Geologists.

3. I have worked as a geologist continuously for 40 years since graduation from undergraduate university. During that time, I have been engaged in the exploration, definition, and modeling of multiple base-metal deposits in North America and South America and have estimated the mineral resources for those deposits.

4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I had prior involvement with the property in the mid-1980s having worked on Iron Creek for the company that was the owner at the time. I had no direct ownership then, nor do I have any now. I visited the project and worked with company files and reviewed core on the 18th of June through the 19th of June 2018.

6. I am independent of First Cobalt Corp. and all their subsidiaries as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.

7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

8. As of the Effective Date of this report, to the best of my knowledge, information and belief, this Technical Report contains all the scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

Dated this 18th day of November 2019

"*S. Ristorcelli*"
Signature of Qualified Person
Steven Ristorcelli, C. P. G.

Hydrometal, Inc.

CERTIFICATE OF QUALIFIED PERSON – William Joseph Schlitt

I, W. Joseph Schlitt, do hereby certify that I am currently employed as president by:
Hydrometal, Inc., P.O. Box 309, Knightsen, California 94548, U.S.A.

1. I am a co-author of the report entitled "*Technical Report with Updated Mineral Resources, Iron Creek Cobalt Project, Lemhi County, Idaho, USA*" prepared for First Cobalt Corp. with an Effective Date of November 27, 2019 and a report date of November 27, 2019. I am the principal author of Sections 1.4 and 13.0 of this technical report. I have not relied on other experts in preparing these sections.
2. I graduated with a Bachelor of Science degree in Metallurgical Engineering (with highest honors) from Carnegie Institute of Technology, Pittsburgh, Pennsylvania in 1964 and with a Doctor of Philosophy in Metallurgy (with honors) from The Pennsylvania State University, University Park, Pennsylvania in 1968. I am a Qualified Professional member of the Mining and Metallurgical Society of America No. 01003QP and a Registered Professional Metallurgical Engineer (Texas No. 53603).
3. I have worked as a Metallurgist for more than 50 years since my graduation from university. During this time I have developed and managed numerous testwork programs involving the beneficiation of both base and precious metal ores and the extraction and refining of the contained metal values.
4. I have read the definition of "qualified person" set out in National Instrument 43-101(NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I have had no prior involvement with the property and have not yet visited the site. However, I have made visits to the laboratory facility where the current testwork is being conducted.
6. I am independent of First Cobalt Corp. and all its subsidiaries as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.
7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
8. As of the Effective date of this report, to the best of my knowledge, information and belief, this Technical Report contains all the scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

Dated this 27th Day of November 2019

/s/ W. Joseph Schlitt
(signed and sealed)

W. Joseph Schlitt, President
Hydrometal, Inc.

W. Joseph Schlitt
01003QP
Mining & Metallurgical Society of America

APPENDIX A

List of Iron Creek Unpatented Claims

Located within Township 19 North, Range 20 East, B.M.,
Blackbird Mining District, Lemhi County, Idaho.

Claim Name	BLM Serial Number
BR 1	IMC 215857
BR 2	IMC 215858
BR 3	IMC 215859
BR 4	IMC 215860
BR 5	IMC 215861
BR 6	IMC 215862
BR 7	IMC 215863
BR 8	IMC 215864
BR 9	IMC 215865
BR 10	IMC 215866
BR 11	IMC 215867
BR 12	IMC 215868
BR 13	IMC 215869
BR 14	IMC 215870
BR 15	IMC 215871
BR 16	IMC 215872
BR 17	IMC 215873
BR 18	IMC 215874
BR 19	IMC 215875
BR 20	IMC 215876
BR 21	IMC 215877
BR 22	IMC 215878
BR 23	IMC 215879
BR 24	IMC 215880
BR 25	IMC 215881
BR 26	IMC 215882
BR 27	IMC 215883
BR 28	IMC 215884
BR 29	IMC 215885
BR 30	IMC 215886
BR 31	IMC 215887
BR 32	IMC 215888
BR 33	IMC 215889
BR 34	IMC 215890
BR 35	IMC 215891
BR 36	IMC 215892
BR 37	IMC 215893
BR 38	IMC 215894
BR 39	IMC 215895
BR 40	IMC 215896
BR 41	IMC 215897
BR 42	IMC 215898
BR 43	IMC 215899

Claim Name	BLM Serial Number
BR 44	IMC 215900
BR 45	IMC 215901
BR 46	IMC 215902
BR 47	IMC 215903
BR 48	IMC 215904
BR 49	IMC 215905
BR 50	IMC 215906
BR 51	IMC 215907
BR 52	IMC 215908
BR 53	IMC 215909
BR 54	IMC 215910
BR 55	IMC 215911
BR 56	IMC 215912
BR 57	IMC 215913
BR 58	IMC 215856
NBR 1	IMC 216158
NBR 2	IMC 216159
NBR 3	IMC 216160
NBR 4	IMC 216161
NBR 5	IMC 216162
NBR 6	IMC 216163
NBR 7	IMC 216164
NBR 8	IMC 216165
NBR 9	IMC 216166
NBR 10	IMC 216167
NBR 11	IMC 216168
NBR 12	IMC 216169
NBR 13	IMC 216170
NBR 14	IMC 216171
NBR 15	IMC 216172
NBR 16	IMC 216173
NBR 17	IMC 216174
NBR 18	IMC 216175
NBR 19	IMC 216176
NBR 20	IMC 216177
NBR 21	IMC 216178
NBR 22	IMC 216179
NBR 23	IMC 216180
NBR 24	IMC 216181
NBR 25	IMC 216182

APPENDIX B

ICP Metals Analyses

Analysis	Unit	Composite		
		4313-001	4313-002	4313-003
Ag	mg/kg	4.47	4.62	0.78
Al	%	5.07	5.61	7.28
As	mg/kg	716	406	713
Ba	mg/kg	580	490	140
Be	mg/kg	0.34	0.27	1.65
Bi	mg/kg	31.7	15.65	35.9
Ca	%	0.13	0.11	0.12
Cd	mg/kg	0.27	0.33	<0.02
Ce	mg/kg	128.5	181	35.5
Co	mg/kg	5,510	3,190	3,550
Cr	mg/kg	33	37	43
Cs	mg/kg	2.86	3.22	1.95
Cu	mg/kg	9,160	10,200	1,315
Fe	%	14.60	11,55	12.00
Ga	mg/kg	21.1	26.0	26.9
Ge	mg/kg	0.41	0.37	0.31
Hf	mg/kg	2.0	2.1	2.6
In	mg/kg	0.855	1.130	0.267
K	%	2.8	3.39	3.36
La	mg/kg	57.6	81.5	15.2
Li	mg/kg	16.6	20.1	20.2
Mg	%	0.73	0.81	0.78
Mn	mg/kg	431	464	236
Mo	mg/kg	16.15	13.15	9.84
Na	%	0.24	0.12	0.52
Nb	mg/kg	16.4	11.0	11.7
Ni	mg/kg	91.1	57.3	149.0
P	mg/kg	400	370	540
Pb	mg/kg	83.7	43.2	21.6
Rb	mg/kg	85.7	98.8	153.5
Re	mg/kg	<0.002	<0.002	<0.002

ICP Metals Analyses[1]

Analysis	Unit	Composite[2]		
		4313-001	4313-002	4313-003
S	%	>10.0	7.82	>10.0
Sb	mg/kg	1.82	0.79	1.90
Sc	mg/kg	6.3	6.5	10.1
Se	mg/kg	67	41	66
Sn	mg/kg	1.8	1.7	9.8
Sr	mg/kg	18.6	14.3	30.9
Ta	mg/kg	0.85	0.78	1.00
Te	mg/kg	10.60	5.32	12.95
Th	mg/kg	7.76	8.81	9.22
Ti	%	0.264	0.250	0.306
Tl	mg/kg	0.44	0.45	0.46
U	mg/kg	3.8	4.0	6.3
V	mg/kg	28	25	43
W	mg/kg	5.1	5.6	10.5
Y	mg/kg	16.8	14.3	10.1
Zn	mg/kg	76	80	25
Zr	mg/kg	66.7	68.4	88.6

Note 1: ALS USA Inc. Report No. RE 18120478, June 13, 2018
Note 2: sample 4313-001 is ICA1-SE; sample 4313-002 is ICA1-SW; and sample 4313-003 is ICA2.