National Instrument 43-101 Technical Report: Updated Mineral Resource Estimate for the Zonia Copper Project Yavapai County, Arizona USA

Report Date: December 20, 2022
Effective Date: September 1, 2022

Prepared for:

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Prepared by:

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Richard Schwering, P.G., SME-RM (No. 4223152RM)

IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 Technical Report for World Copper Ltd. ("World Copper", TSX.V:WCU | OTCQX:WCUFF | FRA:7LYO) by Hard Rock Consulting, LLC ("HRC"). The quality of information, conclusions, and estimates contained herein is consistent with the scope of HRC's services based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by World Copper subject to the terms and conditions of their contract with HRC, which permits World Copper to file this report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other use of this report by any third party is at that party's sole risk.

CERTIFICATE OF QUALIFIED PERSONS

I, Richard A. Schwering, P.G., SME-RM, do hereby certify that:

1. I am currently employed as Principal Resource Geologist by:

   Hard Rock Consulting, LLC
   7114 W. Jefferson Ave., Ste. 313
   Lakewood, Colorado 80235 U.S.A.

2. I am a graduate of the University of Colorado, Boulder with a Bachelor of Arts in Geology, in 2009 and have practiced my profession continuously since 2013.

3. I am a:
   - Registered member of the Society of Mining and Metallurgy and Exploration (No. 4223152RM)
   - Licensed Professional Geologist in the State of Wyoming (PG-4086)

4. I have worked as a Geologist for 13 years and as a Resource Geologist for a total of 8 years since my graduation from university; as an employee of a junior exploration company, as an independent consultant, and as an employee of various consulting firms with experience in structurally controlled precious and base metal deposits.

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

6. I am responsible for the preparation of the report titled "National Instrument 43-101 Technical Report: Updated Mineral Resource Estimate for the Zonia Copper Project Yavapai County, Arizona USA," dated December 20, 2022 with an effective date of September 1, 2022, with specific responsibility for Sections 1, 10 through 12, 14, 25 and 26 of this report.

7. I have not conducted a personal inspection of the property and have not had prior involvement with the Property.

8. As of the date of this certificate and as of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.

9. I am independent of the issuer, vendor, and property applying all of the tests in section 1.5 of NI 43-101.

10. 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.

Dated this 20th day of December 2022

Richard A. Schwering

Signature of Qualified Person

Richard A. Schwering; SME-RM
Printed name of Qualified Person

CERTIFICATE OF QUALIFIED PERSONS

I, Jennifer J. Brown, P.G., do hereby certify that:

1. I am currently employed as Principal Geologist by:

   Hard Rock Consulting, LLC
   7114 W. Jefferson Ave., Ste. 313
   Lakewood, Colorado 80235 U.S.A.

2. I am a graduate of the University of Montana and received a Bachelor of Arts degree in Geology in 1996.

3. I am a:
   - Licensed Professional Geologist in the State of Wyoming (PG-3719)
   - Registered Professional Geologist in the State of Idaho (PGL-1414)
   - Registered Member in good standing of the Society for Mining, Metallurgy, and Exploration, Inc. (4168244RM)

4. I have worked as a geologist for over 25 years since graduation from the University of Montana, as an employee of various engineering and consulting firms and the U.S.D.A. Forest Service. I have more than 10 collective years of experience directly related to mining and or economic and saleable minerals exploration and resource development, including geotechnical exploration, geologic analysis and interpretation, resource evaluation, and technical reporting.

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

6. I am responsible for the preparation of the report titled "National Instrument 43-101 Technical Report: Updated Mineral Resource Estimate for the Zonia Copper Project Yavapai County, Arizona USA," dated December 20, 2022 with an effective date of September 1, 2022, and I take specific responsibility for Sections 2 through 9, 15 through 24, and 27 of this report.

7. I personally inspected the property on August 10 and 11, 2022, but have had no previous involvement with the project.

8. As of the date of this certificate and as of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.

9. I am independent of the issuer, vendor, and property applying all of the tests in section 1.5 of NI 43-101.

10. 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.

Dated this 20th day of December 2022

Jennifer J. (J.J.) Brown

JJBrown

Jennifer J. (J.J.) Brown, SME-RM
Printed name of Qualified Person

CERTIFICATE OF QUALIFIED PERSONS

I, Jeffery W. Choquette, P.E., do hereby certify that:

1. I am currently employed as Principal Engineer by:

   Hard Rock Consulting, LLC
   7114 W. Jefferson Ave., Ste. 313
   Lakewood, Colorado 80235 U.S.A.

2. I am a graduate of Montana College of Mineral Science and Technology and received a Bachelor of Science degree in Mining Engineering in 1995

3. I am a:

   - Registered Professional Engineer in the State of Montana (No. 12265)
   - QP Member in Mining and Ore Reserves in good standing of the Mining and Metallurgical Society of America (No. 01425QP)

4. I have 25-plus years of domestic and international experience in project development, resource and reserve modeling, mine operations, mine engineering, project evaluation, and financial analysis. I have worked for mining and exploration companies for fifteen years and as a consulting engineer for seven years. I have been involved in industrial minerals, base metals and precious metal mining projects in the United States, Canada, Mexico and South America.

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

6. I am responsible for the preparation of the report titled "National Instrument 43-101 Technical Report: Updated Mineral Resource Estimate for the Zonia Copper Project Yavapai County, Arizona USA," dated December 20, 2022 with an effective date of September 1, 2022, and take specific responsibility for Section 13 of this report.

7. I have not personally inspected the property, and I have had no prior involvement with the project.

8. As of the date of this certificate and as of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.

9. I am independent of the issuer, vendor, and property applying all of the tests in section 1.5 of NI 43-101.

10. 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.

Dated this 20th day of December 2022

Jeffery W. Choquette

Jeff Choquette

Jeffery W. Choquette, P.E.
Printed name of Qualified Person

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ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
Ai	abrasion indices
APP	Aquifer Protection Permit
AsCu	copper-arsenic
ASMI	Arizona State Mining Inspector
AZPDES	Arizona Pollutant Discharge Elimination System
BLM	Bureau of Land Management
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimeters
CNCu	cuprous cyanide
Cu	copper
CuRes	residual copper
CuSOL	copper solution
CV	coefficient of variation
EA	Environmental Assessment
EDA	Exploratory Data Analysis
EIS	Environmental Impact Statement
Fe	iron
ft	feet
FRA	Frankfurt Stock Exchange
g/L	grams per liter
GRE	Global Resource Engineering
Grn	greenstone
H_2SO_4	sulfuric acid
HRC	Hard Rock Consulting, LLC
ID	inverse distance
JORC	Australian Joint Ore Reserves Committee
kg	kilograms
lbs	pounds
LYO	Lyondell Stock
mm	millimeters
µm	micron
MO	mined out
MRA	Mine Reserves Associates
MSRDI	Mountain States R&D International Lab
NEPA	National Environmental Policy Act
NI 43-101	Canadian National Instrument 43-101 Technical Report
NN	nearest neighbor

OK	ordinary kriging
OTCQX	Over-The-Counter Stock Market
ovbd	overburden
P.E.	Professional Engineer
PG	Professional Geologist
POO	Plan of Operation
QA/QC	quality assurance and quality control
Qmp	quartz monzonite porphyry
qmpf	quartz-sericite schist
QP	Qualified Person
QQ	quantile-quantile
RC	reverse circulation
R.G.	Registered Geologist
ROM	run of mine
RM	registered member
SAMREC	South African Mineral Resource Committee
SAP	sampling and analysis
SRF	surface
SME	Society for Mining, Metallurgy, and Exploration
SVG	Ste-Genevieve Resources Ltd.
T	ton
TCu	total-copper
Tpd	tons per day
TSX.V	Toronto Stock Exchange / TSX Venture Exchange
UG	underground
US$	U.S. dollars
USBM	U.S. Bureau of Mines
VMS	volcanogenic massive sulfide
WCU	World Copper Ltd. Stock
WCUFF	Complete World Copper Ltd. Stock
Wi	work index
WSE	Western States Engineering

1. EXECUTIVE SUMMARY

1.1 Introduction

World Copper LTD. ("World Copper", TSX.V:WCU | OTCQX:WCUFF | FRA:7LYO) is an oxide copper focused exploration and development company engaged in the acquisition, exploration, and development of North and South American mineral properties. World Copper has retained Hard Rock Consulting ("HRC") to prepare an updated mineral resource estimate and subsequent technical report for the Zonia Copper Project (the "Zonia Project" or "Project"), a historically productive oxide copper project located in the Walnut Grove Mining District of Yavapai County, Arizona, USA.

This report presents the results of the updated mineral resource estimate and associated work completed by HRC and is intended to fulfill the reporting Standards of Disclosure for Mineral Projects according to Canadian National Instrument 43-101 ("NI 43-101"). This report was prepared in accordance with the requirements and guidelines set forth in Companion Policy 43-101CP and Form 43-101F1 (June 2011). The mineral resource estimate presented herein is classified according to Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards for Mineral Resources and Mineral Reserves, prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 10, 2014. The mineral resource estimate reported herein is based on all available technical data and information as of September 1, 2022.

1.2 Property Description and Ownership

The Zonia Project is located approximately midway between Kirkland Junction and Walnut Grove, Arizona, within Sections 11, 12, 13, and 14, T11N, R4W, Gila and Salt River Meridians. The approximate geographic center of the property is 34°18'30"N and 112°37'45"W. Topographically, the Project is situated between French Gulch and Placerita Gulch in the northernmost Weaver Mountains. The Project area is comprised of 96 patented and 185 unpatented mineral claims with a combined surface area of 3712.7 acres, and an additional 566.85 acres of surface rights acquired from the State of Arizona, for a total surface area of 4,279.55 acres.

World Copper owns 100% of the Zonia Project via a 2021 business combination with Cardero Resource Corp. ("Cardero"). The merger was completed in February 2022, at which time All Cardero's right, title, and interest in the 291 patented and unpatented claims that comprise the Project area were acquired by World Copper. World Copper maintains legal, public access to the Project area via Zonia Road, which extends to the south from South Wagoner Road roughly 1 mile east of Kirkland Junction (State Highway 89).

1.3 Geology and Mineralization

The Zonia Project is located within the Central Volcanic Belt of central Arizona, a unified region of stratigraphically complex, highly deformed and metamorphosed basement rocks of Proterozoic age (1.8-1.6 Ga). Strata of the Central Volcanic Belt belong to the Yavapai Supergroup, which includes the older, more mafic rocks of the Prescott-Jerome volcanic belts to the northwest, and the younger, more felsic rocks of the New River-Cave Creek-Mazatzal Mountains-Diamond Butte volcanic belts to the southeast. The Zonia Project area is underlain by volcanic stratigraphy of the Bradshaw Group of the greater Prescott volcanic belt. Within the Project area, the Bradshaw group is represented by greenschist-grade metavolcanic and metasedimentary rocks and weakly to highly deformed granitic intrusive rocks.

World Copper presently considers mineralization at Zonia to be the product of a porphyry copper system, which is the conceptual deposit model on which current plans for future exploration are based. Copper mineralization occurs primarily within quartz-sericite schist, the protolith of which is presumed to be argillically altered quartz monzonite porphyry. Mineralization also occurs within undeformed to moderately foliated quartz monzonite porphyry, along contacts between the porphyry and various felsic units, and occasionally along contacts between the felsic units and mafic units. The latter occurrence is considered a late-stage effect of supergene, mobilized copper reacting with the more calcic mafic units.

Copper mineralization as it occurs in the present-day Zonia Project area is thought to represent the ultimate result of the following sequence of discrete, dynamic events:

- Deposition of disseminated pyrite-chalcopyrite sulfides in a subvolcanic porphyry setting, slightly post-dating intrusion of unit Qmp, approximately 1.75 Ga,
- Regional-scale vertical deformation imposed by the voluminous intrusion of the granitic batholiths around the greenstone belts, with greenschist facies metamorphism related to the Yavapai Orogeny from 1.75 to 1.69 Ga, followed by exhumation,
- Oxidation, mobilization, and supergene enrichment of primary copper sulfides along foliation and fracture plane controls, followed by burial, and
- Second exhumation and oxidation of the supergene-enriched sulfides and remobilization of the copper oxide minerals into structural anomalies, resulting in *in-situ* and transported copper oxides throughout the various lithologic units within the Project area.

Ore minerals primarily consist of chrysocolla, black copper oxides (tenorite, melaconite, pitch), cuprite, native copper, malachite and azurite.

Current interpretation proposes that regional deformation related to the Yavapai Orogeny sheared the originally disseminated and blebby pyrite-chalcopyrite mineralized horizons into folia-form mineralization, parallel to schistosity, and ranging from vertical to a dip of ~45°. Subsequent oxidation-remobilization of the copper from chalcopyrite (~35% Cu) followed the foliation down-dip to the groundwater table, where copper then reprecipitated as enriched sulfide minerals, primarily secondary chalcocite (~78% Cu). This chalcocite blanket was then itself oxidized during a second lowering of the water table and copper further mobilized into reactive units below.

1.4 Status of Exploration

Since 1910, at least 13 different operators have completed approximately 171,945 feet (52,409 meters) of drilling in a total of 613 drillholes throughout the Zonia Project area. The high-density drilling covers a strike length of 7,500 feet, a depth of approximately 600 feet below the current topography of the property and defines the current resource estimate. During the same time frame, the Project has been subject to a variety of other exploration activities, including chip and trench surface sampling and geologic mapping.

1.5 Mineral Resource Estimate

The mineral resource estimate for the Zonia Property was completed by Richard A. Schwering P.G., SME-RM, with HRC. Mr. Schwering is a Qualified Person as defined by NI 43-101 and is independent of World Copper, Ltd., the vendor of the property. Mr. Schwering estimated the mineral resource for the Project based on wireframe modeling and to a maximum search distance of 960 feet using an ordinary kriging interpolant. Geostatistics and mineral resource estimation were done with Leapfrog EDGE®. Three-dimensional wireframes and model visualization was done with Leapfrog Geo® software, and the mineral resources were constrained with a Lerch-Grossman pit optimization. The metal of interest at the Project is copper. The mineral resource estimate reported here was prepared in a manner consistent with the "CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines" adopted by CIM Council on November 29, 2019. The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves," prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the mineral resource reflects the relative confidence of the grade estimates. The effective date of the mineral resource estimate reported herein is September 1, 2022.

A variable copper cut-off was chosen for reporting the mineral resource based on the oxidation model. The cut-off grade for blocks was calculated based on the following assumptions: a long-term copper price of US$3.60/lb., assumed combined operating ore costs of US$6.25/ton (low grade re-handle, process, and general and administrative costs), refining & shipping costs of US$0.15/lb. of copper, and copper metallurgical recoveries of 73% for blocks coded as oxide and 70% for blocks coded as transition. The operating costs were determined based on the QPs industry knowledge and prior experience with similar sized projects.

Mineral resources that are not mineral reserves do not have demonstrated economic viability and may be materially affected by modifying factors including but not restricted to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated based on limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration. Table 1-1 shows the Mineral Resource Statement for the Zonia Project by oxidation state.

Table 1-1 Mineral Resource Statement for the Zonia Project

Classification (Oxidation State)	Copper Cut-off (%)	Short Tons (Million)	Grade (CuT %)	Cu. Lbs. (Million)
Indicated (Oxide)	0.125	71.3	0.30	425.1
Indicated (Transition)	0.130	4.4	0.29	25.4
Total Indicated	**Variable**	**75.7**	**0.30**	**450.5**
Inferred (Oxide)	0.125	100.1	0.23	463.7
Inferred (Transition)	0.130	21.9	0.25	111.7
Total Inferred	**Variable**	**122.0**	**0.24**	**575.4**

1.) The effective date of the 2022 Mineral Resource Estimate is September 1, 2022. The QP for the estimate is Richard A. Schwering P.G., RM-SME, of Hard Rock Consulting, LLC

2.) Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated on the basis of limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.

3.) Mineral resources are reported using a variable total-copper cut-off. The cut-off grade for blocks was calculated based on the following assumptions: a long-term copper price of US$3.60/lb., assumed combined operating ore costs of US$6.25/ton (low grade re-handle, process, and general and administrative costs), refining & shipping costs of US$0.15/lb. of copper, and copper metallurgical recoveries of 73% for blocks coded as oxide and 70% for blocks coded as transition.

4.) Mineral resources are captured within an optimized pit shell and meet the test of reasonable prospects for economic extraction by open pit. The optimization used mining costs of US$2.00/t mined, processing and G&A costs of $4.75/t processed and a 45° pit slope.

5.) Mineral resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

1.6 Conclusions and Recommendations

HRC considers World Copper's interpretation of the Zonia deposit as a porphyry copper deposit both reasonable and appropriate based on evidence available to date. While previous authors have presented compelling arguments for alternate interpretations, namely the VMS deposit model, the QP finds definitive supporting evidence (such as massive, banded sulfide deposition, rhyolite domes within the volcanic stratigraphy, and chlorite pipes in close proximity) for such an interpretation lacking, while supporting evidence for the porphyry copper model is relatively abundant. The primary guides to exploration in either case are structure, alteration, and oxide copper mineralization, and the current deposit model should be refined and/or modified based on the results of future surface and drilling exploration designed with these guides in mind.

Based on observations and conversation with World Copper personnel during the QP site visit, in conjunction with the results of QP's review and evaluation of current and historic geologic interpretations, historical sample handling, analytical procedures, and QA/QC, the QP recommends the following:

- An in-house effort to compile, organize, prioritize, digitize, and validate presently unavailable hard-copy historic data and documents.

- Comprehensive QA/QC analytical protocols and procedures should be applied during all future drilling or surface sampling programs, including formal and consistently applied acceptance/rejection tests. Each round of QA/QC analysis should be documented, and reports should include a discussion of the results and any corrective actions taken.
- Retained samples presently stored on-site should be properly inventoried and catalogued, including all existing drill core samples, pulp rejects, sonic and RC drill cuttings, and RC chip boards. Moving the core samples presently stored in the open-air shop building to a secure on-site storage facility or container should be considered a matter of high priority.

A significant amount of metallurgical test work has been conducted on the Zonia deposit. The results of the work are generally good, exhibiting relatively good copper extractions with moderate acid consumptions. The scope of the testing has been preliminary in nature and further work should be conducted in the following areas as the Project advances:

- Additional drillholes may be required to allow a better sample representation of the deposit to be developed. These samples would provide a higher degree of confidence for copper extraction across the entire deposit. Additional samples should be collected towards the upper northeast portion of the mineral resource pit shell as past studies have not included drilling from this area. Although this area has not been tested, the geology and mineralization is similar in this area to the rest of the deposit so no major differences in metallurgical properties are anticipated.
- Crushing options with respect to leach effectiveness, and of power and liner wear factors. The original test work shows a trend of increased copper extraction with reduced crush size, but that benefit is reduced if leach times are extended. The cost benefit analysis of coarser crush sizes should be investigated. Larger diameter drill core or surface trench sampling would need to be utilized to provide nominal 150-mm material.
- Large format column testing to evaluate the effect of full lift height on solution percolation and copper extraction.
- Lock-cycle testing with SX to determine acid balance and SX parameters.
- Evaluate saturation levels of the PLS grade on copper dissolution kinetics. Further evaluate cure dosages and cure times.
- Mineralogical studies and confirmation of various mineralization type densities should be completed.

Efforts to locate the missing documentation for the drilling completed by Copper Mesa and Redstone Resources should be continued. In addition to relocating missing documentation, a drill program with the primary purpose of geologic characterization is recommended. The new core drilling should infill areas of the deposit on roughly 300 foot spacing from existing, and appropriately oriented drilling core completed by Copper Mesa and Redstone Resources. The geologic characterization drilling campaign should be oriented perpendicular to the mineralization and completely intersect the oxide and transition zones into the primary sulfide copper mineralization. The QP estimates the geologic characterization drilling could be completed with 15 to 20 core drillholes at an average depth of 750 feet. The data captured should include:

- Geologic information (lithology, alteration, mineralization, oxidation, structure)
- Geotechnical information
- Copper analysis including sequential leaching
- Density
- Metallurgy

Once the geologic characterization drilling is complete and information is accurately and consistently logged, core photos from the Copper Mesa and Redstone Resource drilling can be used to re-log lithologic, oxidation, alteration, and mineralization. The end result should be a consistent geologic dataset along the strike length and depth of the Project, which can be used to refine the geologic model

1.7 Recommended Work Plan and Budget

In order to advance the Zonia Project, HRC recommends that World Copper initiate a drilling campaign designed to support completion of a Preliminary Economic Assessment ("PEA"). The drilling program will necessarily include both infill and exploration drilling with the intent of expanding and better defining known mineralization, and it should include infill drilling sufficient to refine the geological characterization of the deposit (deposit model). A carefully designed drilling program will allow for collection of the variety of data needed to support the PEA, including samples for both geotechnical and metallurgical test work. The anticipated cost of HRC's recommended scope of work, including completion of the PEA, is presented in Table 2-1.

Table 1-2 Estimated Cost for Recommended Scope of Work

Task	Estimated Cost
Drilling	
Resource expansion (Northeast extension)	$ 1,000,000.00
Geologic infill	$ 500,000.00
Preliminary Economic Assessment	
Metallurgical testing	$ 50,000.00
Study and reporting	$ 150,000.00
Total Estimate Cost	**$ 1,700,000.00**

2. INTRODUCTION

2.1 Issuer and Terms of Reference

World Copper LTD. ("World Copper", TSX.V:WCU | OTCQX:WCUFF | FRA:7LYO) is an oxide copper focused exploration and development company engaged in the acquisition, exploration, and development of North and South American mineral properties. World Copper has retained Hard Rock Consulting ("HRC") to prepare an updated mineral resource estimate and subsequent technical report for the Zonia Copper Project (the "Zonia Project" or "Project"), a historically productive oxide copper project located in the Walnut Grove Mining District of Yavapai County, Arizona, USA.

This report presents the results of the updated mineral resource estimate and associated work completed by HRC and is intended to fulfill the reporting Standards of Disclosure for Mineral Projects according to Canadian National Instrument 43-101 ("NI43-101"). This report was prepared in accordance with the requirements and guidelines set forth in Companion Policy 43-101CP and Form 43-101F1 (June 2011). The mineral resource estimate presented herein is classified according to Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards for Mineral Resources and Mineral Reserves, prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 10, 2014. The mineral resource estimate reported herein is based on all available technical data and information as of September 1, 2022, the effective date of this report.

Items 15 through 22 of Form 43-101F1 (Mineral Reserve Estimates, Mining Methods, Recovery Methods, Project Infrastructure, Market Studies and Contracts, Environmental Studies, Permitting and Social or Community Impact, Capital and Operating Costs, and Economic Analysis, respectively) are not required of a technical report for a property that is not an "advanced property" as that term is defined in NI43-101, and as such are not considered in this report.

2.2 Sources of Information

A portion of the background and technical information presented in this report was obtained from the following documents:

- Bryan, R., and Spiller, D., 2017. *Zonia Copper Project, Yavapai County, Arizona, USA*; NI43-101 Technical Report prepared for Cardero Resource Corp., October 2017.
- Lane, T., Harvey, T., and Bryan, R., 2018. *Preliminary Economic Assessment, Zonia Copper Project, Yavapai County, Arizona, USA*; NI43-101 Technical Report prepared for Cardero Resource Corp., March 2018.

The information contained in current report Sections 4 through 8 was largely presented in, and in some cases is excerpted directly from, the previously filed technical reports listed above. HRC has reviewed this material in detail, and finds the information contained herein to be factual and appropriate with respect to guidance provided by NI 43-101 and associated Form NI 43-101F1.

Additional information was requested from and provided by World Copper. In preparing Sections 9 through 13 of this report, the authors have sourced information from historical documents including exploration reports, technical papers, sample descriptions, assay results, computer data, maps and drill logs generated by previous operators and associated third party consultants. Historical documents and data sources used during the preparation of this report are cited in the text, as appropriate, and are summarized in current report Section 27.

2.3 Qualified Persons and Personal Inspection

This report is endorsed by the following Qualified Persons, as defined by NI 43-101: Ms. J.J. Brown, P.G., Mr. Jeffrey Choquette, P.E., and Mr. Richard Schwering, P.G., all of HRC.

Mr. Schwering, P.G., SME-RM, has 10 years of combined experience in mineral exploration and geologic consulting, including a variety of project work specifically related to structurally controlled gold and silver resources and reserves. Mr. Schwering is specifically responsible for report Sections 1, 10 through 12, 14, 25 and 26. As of the effective date of this report, Mr. Schwering has not visited the Zonia Project.

Ms. Brown, P.G., SME-RM, has 25 years of professional experience as a consulting geologist, including 10 years of geologic and geotechnical exploration, analysis, and reporting associated with mineral resource development. Ms. Brown is a licensed Professional Geologist in the states of Idaho and Wyoming and is recognized as a Qualified Person (QP) with regard to geology and mineral resources according to United States, Canadian (NI 43-101), Australian (JORC), and South African (SAMREC) standards. She has conducted site inspection, geologic field reconnaissance, and data verification as an independent QP for a variety of gold, silver, and multiple commodity projects throughout the western U.S., Mexico, Europe, and South America. Ms. Brown is specifically responsible for report Sections 2 through 9, 15 through 24, and 27.

Mr. Choquette, P.E., is a professional mining engineer with more than 25 years of domestic and international experience in mine operations, mine engineering, project evaluation and financial analysis, and has contributed to industrial minerals, base metals, and precious metals mining projects around the world. Mr. Choquette is responsible for current report Section 13. As of the effective date of this report, Mr. Choquette has not visited the Zonia Project.

HRC representative and QP J.J. Brown conducted an on-site inspection of the Zonia Project on August 10 and 11, 2022, in the company of World Copper representative Mr. Gene Schmidt. While on site, Ms. Brown conducted general site and geologic field reconnaissance including visual examination of available drill core and RC chip boards, examination of surface bedrock exposures, and ground-truthing of reported drill collar locations. Ms. Brown also reviewed with Mr. Schmidt the conceptual geologic model, exploration management protocols, and historic drilling and sampling procedures and associated quality assurance and quality control ("QA/QC") procedures.

2.4 Units of Measure

Unless otherwise stated, all measurements reported herein are Imperial units and currencies are expressed in constant 2022 US dollars ("US$"). Copper values are reported in percent Cu (Cu%). Tonnage is reported as short tons ("T"), unless otherwise specified.

3. RELIANCE ON OTHER EXPERTS

HRC has fully relied upon and disclaims responsibility for non-technical information provided by World Copper regarding property ownership, mineral tenure, and permitting and environmental aspects of the Zonia Project. Such information is presented in Section 4 of this report. Property title and mineral tenure details were provided by Mr. John Drobe, chief geologist of World Copper, in written format via the following documents:

- Arrangement Agreement Among World Copper Ltd. And Cardero Resources Corp. and 130172 B.C. Ltd., September 17, 2021.
- Final Order Made After Application: in the Matter of Sections 288 to 299 of the *Business Corporations Act*, S.B.C. 2022, Chapter 57, as amended; and in the Matter of a Proposed Arrangement Involving Cardero Resources Corp., World Copper Limited, and 1302172 B.C. Ltd., registered in the Supreme Court of British Columbia, December 14, 2021, Vancouver Registry No. S-219506.

Environmental and permitting information presented Section 4 was provided by World Copper via the following documents:

- *French Gulch TMDLs for Cadmium, Copper, and Zinc;* prepared by AZDEQ, June, 2005.
- *Technical Report on the Zonia Copper Deposit, Arizona, USA*; prepared for Ste-Genevieve Resources Ltd., prepared by Wilson, S., Roscoe Postle Associates Inc., 2006.
- *Zonia Mine, Copper Oxide Deposit, Property Resource Summary*; prepared by Davis, S.R., 2007.
- *Environmental and Permitting Considerations, Zonia Mine, Yavapai County, Arizona;* prepared by Mining & Environmental Consultants, Inc., May, 2007.
- *Zonia Project – Waste Rock Characterization;* prepared by Hydrogeologica, Inc., October, 2010.
- *Water supply assessment and aquifer characterization activities at the Zonia mine;* prepared by AquaLithos Consulting, October, 2010.
- *Existing Data and Sample Plan Review for French Gulch Creek;* prepared by Tetra Tech, Inc., 2010.
- *APP Application;* prepared by Mining & Environmental Consultants, Inc., 2010.
- *AZPDES MSGP-2019 SWPPP: Cardero Copper (USA) Ltd. Zonia Mine Sampling and Analysis Plan (SAP);* prepared by Courtney Consulting LLC, February, 2020.

Additional information regarding environmental and permitting aspects of the Zonia Project was obtained through personal communication with Mr. Gene Schmidt, World Copper representative, on August 10, 2022.

4. PROPERTY DESCRIPTION AND LOCATION

4.1 Project Location and Ownership

The Zonia Project is located in south-central Arizona in the Walnut Grove mining district of Yavapai County, approximately 81 miles northwest of the city of Phoenix (Figure 4-1). The Project area lies within Sections 11, 12, 13, and 14, T11N, R4W, Gila and Salt River Meridian. Topographically, the Project area is situated between French Gulch and Placerita Gulch in the northernmost Weaver Mountains. The approximate geographic center of the Project is located at 34°18’30”N latitude and 112°37’30”W longitude. Map coverage of the Project area is provided by the 1:24,000-scale Walnut Grove and Peeples Valley, Arizona 7.5-minute U.S.G.S. Topographic Quadrangles.

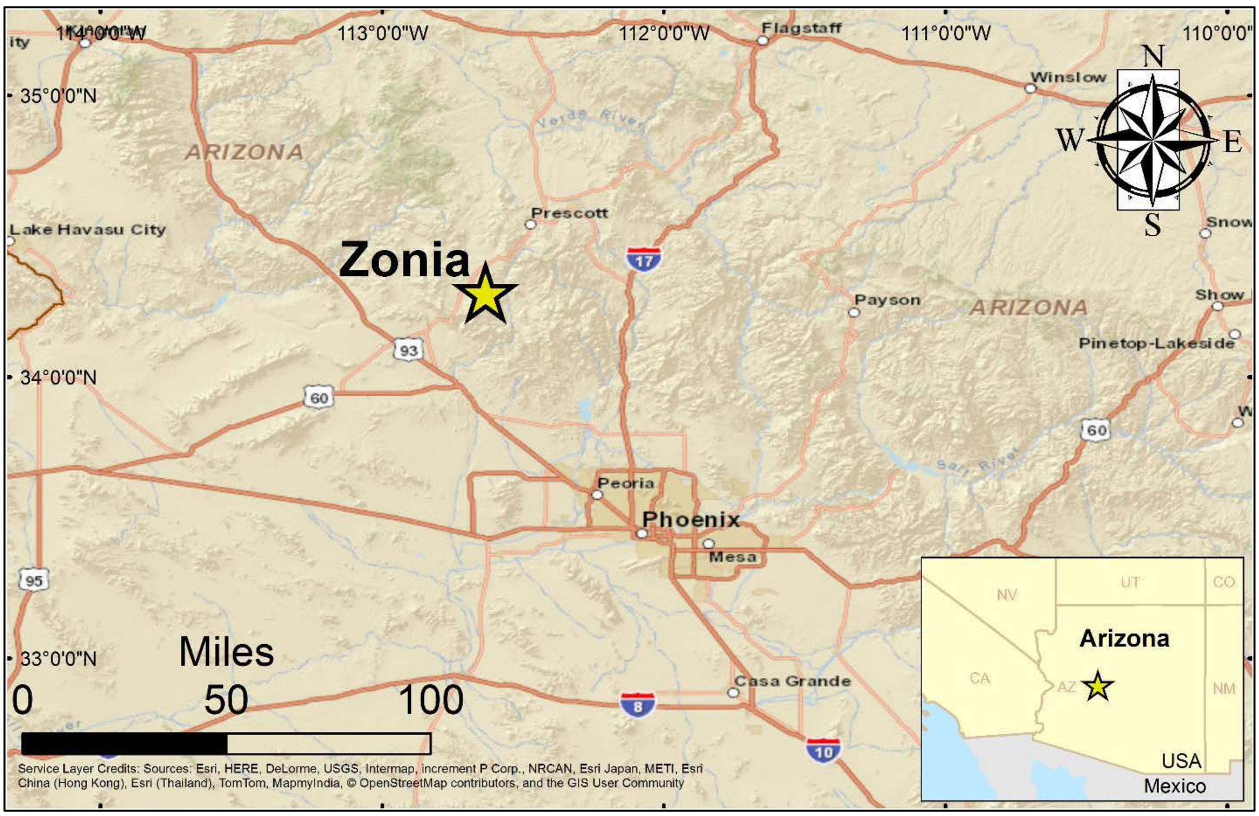

Figure 4-1 Zonia Project Location

World Copper owns 100% of the Zonia Project via a 2021 business combination with Cardero Resource Corp. (“Cardero”). The merger was completed in February 2022, at which time All Cardero’s right, title, and interest in the 291 patented and unpatented claims that comprise the Project area were acquired by World Copper. World Copper maintains legal, public access to the Project area via Zonia Road, which extends to the south from South Wagoner Road roughly 1 mile east of Kirkland Junction (State Highway 89).

4.2 Mineral Tenure, Agreements and Encumbrances

The Project area consists of 96 patented and 185 unpatented mineral claims as well as 566.85 acres of surface rights acquired from the State of Arizona. In total, the Zonia Project comprises a total surface area of 4279.55 acres (Figure 4-2). The unpatented mineral claims include lode mining claims and millsite claims, all of which have an associated survey description, and all patented claims have been surveyed by a registered land surveyor.

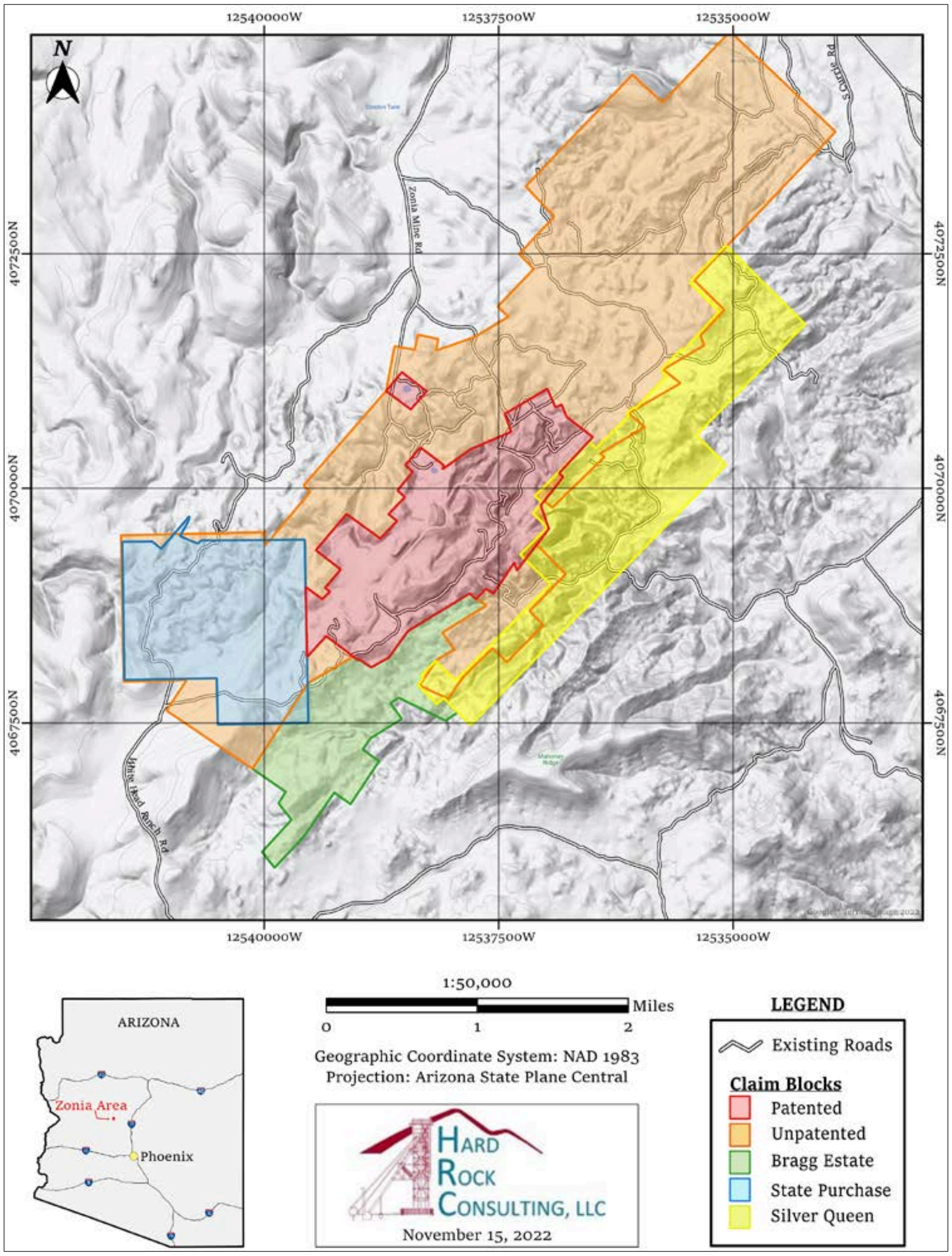

Figure 4-2 Zonia Project Claim Areas (Note: Bragg Estate claims are patented, Silver Queen are unpatented)

An annual assessment fee of $140 is required for each of the unpatented mining claims. World Copper reports that all fees for unpatented mineral claims are current as of 2022, and that all land title is in good standing as of the effective date of this report. HRC has reviewed historical title opinions but has not performed any title searches to validate the land title status reported by World Copper.

HRC is not aware of any other royalties, back-in rights, payments, or other agreements or encumbrances that the Project is subject to. Pertinent mining claim details, including names and serial numbers, are tabulated in Appendix A.

4.3 Permitting and Environmental Liabilities

4.3.1 Permitting

Mining activities on private lands within the State of Arizona are regulated by both the Arizona Department of Environmental Quality ("ADEQ") and the Arizona State Mine Inspector ("ASMI"). Mining activities carried out on federal lands typically fall under the primary regulatory authority of the Bureau of Land Management ("BLM"). The Zonia property consists of private land (patented mineral claims and other lands purchased by World Copper) and unpatented mineral claims located on BLM-administered public lands. Mining operations, at least in early years, can likely be carried out entirely on private land surface, which will negate the need for extensive environmental analysis under the National Environmental Policy Act ("NEPA"). Permits and certifications required for operations on private land include:

- ADEQ Aquifer Protection Permit ("APP")
- ADEQ Air Quality Control Permit
- Arizona Pollutant Discharge Elimination System ("AZPDES") permits (construction and Multi-Sector General Permit)
- ADEQ State of Arizona Clean Water Act Section 401 Water Quality Certification
- US Army Corps of Engineers Section 404 Permit
- Landfill permit (Solid Waste Disposal)
- Arizona Department of Water Resources ("ADWR") Dam Safety Permit to operate water containment structures over 25 feet high
- Possible ADWR Surface Water Appropriation Permit
- ASMI Reclamation Plan

The APP is the most critical of the authorizations to be acquired in the initial permitting phase. A second phase of permitting will be necessary if future operations extend onto public land. In addition to modification of existing permits to account for the expanded scale of mining activity, a Plan of Operations ("POO") for mining operations to be carried out on federal land surface must be submitted to the BLM. NEPA analysis in the form of either an Environmental Assessment ("EA") or Environmental Impact Statement ("EIS") will also be required. The POO and NEPA documents, along with the results of a variety of supporting environmental studies, must be approved by the BLM prior to advancing Project activities onto public land surface.

4.3.2 Environmental Liabilities

In October 1988, the Zonia Company acquired the property title to the Zonia Mine. In 1992, a lease agreement between the Zonia Company and Arimetco was in the process of being entered when the U.S. Environmental Protection Agency (EPA) cited the Zonia Company for violation of the Clean Water Act and ordered the company to perform certain measures to contain discharges. Arimetco agreed to conduct remediation activities under a Consent Order from the EPA which required them to do certain solution containment works, including a hydrological study, construction of pump-back wells and piping, installation of monitoring points, and on-going monitoring. Arimetco successfully completed this work in January 1993.

Historical water quality data collected from 1993 through 2006 identified copper, manganese, zinc, and cadmium exceedances over Arizona drinking water standards at various locations throughout the site. Arizona's Integrated 305(b) Assessment and 303(d) Listing Report describes the status of surface water in relation to state water quality standards. According to Appendix B of the "2012/14 Status of Water Quality in Arizona 305(b) Assessment Report," French Gulch is located within the Middle Gila Watershed Hassayampa River Drainage Area (HUC 15070103-239). French Gulch (from its headwaters to the Hassayampa River) is listed as "Not Attaining" water quality standards. The causes of impairment are listed as copper, zinc, and cadmium, which were first listed in the water body in 1994. The Total Maximum Daily Load ("TMDL") for this reach was completed in 2005. Cardero initiated a water quality sampling and analytical program in January 2020, in accordance with the formal Sampling and Analysis Plan (Courtney Consulting LLC, 2020) submitted as part of the Stormwater Pollution Prevention Plan required under Multi-Sector General Permit-2019. Water quality monitoring is currently carried out as specified in the Sampling and Analysis Plan, and the most recent Discharge Monitoring Report, filed with AZDEQ in June of 2022, returned no deficiencies detected.

The Zonia Project is not subject to any other known existing or potential environmental liabilities, and HRC knows of no other significant factors or risks which might impact World Copper's access, title to, or right or ability to perform work on the property.

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

5.1 Access and Climate

The Zonia property is readily accessible from Phoenix, Arizona via US Highway 60 to Wickenburg, US Highway 93 out of Wickenburg to the junction with US Hwy 89, then northeast on US Hwy 89 for 32 miles to Kirkland Junction. At Kirkland Junction, South Wagon Road, a well maintained, two-lane gravel surface, extends to the east for 3.5 miles to Zonia Road, which leads south for 2.5 miles to the primary Project entrance. Local access throughout the Project area, including to old workings and drill pads, is provided by an assortment of secondary gravel roads and jeep trails, most of which are suitable for two-wheel drive vehicles.

Rail access nearest to the Project is the Burlington Northern railroad siding in the town of Kirkland, roughly 16 miles to the northwest. Phoenix hosts the nearest major airport with regularly scheduled air service, and local charter air service is available in both Prescott (30 miles to the north) and Wickenburg (40 miles to the south).

The local climate is semi-arid to arid, characterized by low precipitation, high evaporation, and wide daily temperature fluctuations. Annual precipitation averages 18 inches, and surface water is limited to ephemeral lakes and streams and occasional significant, storm-related runoff. Exploration and mining activity can be carried out year-round, though local flooding during heavy rains in the late summer months can occasionally limit access to and throughout the Project site for short periods of time.

5.2 Local Resources and Infrastructure

The community nearest to the Project area is the town of Yarnell which hosts a population of about 700. Yarnell offers standard municipal amenities including lodging and services, and a limited supply of foodstuffs and hardware. The nearest major supply center is Phoenix, Arizona, roughly 80 miles to the southeast of the Project area. Ample skilled and unskilled labor can be found in Phoenix, as well as numerous smaller communities throughout the region.

Surface rights are sufficient to support all presently proposed exploration and mining activities, including future tailings and waste storage areas and processing facilities. Existing infrastructure in the immediate vicinity of the Project area includes the local network of roads and trails, historic leach pad and waste dumps, settlement pond, the mine office, a variety of storage facilities, and a small number of fuel and water storage tanks. Power is supplied to the mine site from the Arizona Public Service grid through a 33kV power line, with electrical substations located on the Project site.

Groundwater is the proposed water source for mining operations, which will require development of a production well. Hydrogeological characterization within the Project area was conducted in 2010 by AquaLithos Consulting, including an assessment of existing wells at the site and the performance of hydraulic testing in selected wells. The results of the hydraulic testing indicate that the fractured rock aquifer has a moderate hydraulic conductivity, with an average value of approximately 5×10^{-4} cm/sec, which is considered suitable for water supply purposes. The alluvial material surrounding French Gulch is more permeable, with an estimated hydraulic conductivity of 1×10^{-3} cm/sec.

5.3 Physiography

The Project area is situated between French Gulch and Placerita Gulch in the northernmost Weaver Mountains, which rise above the Sonoran Desert to the south. Elevations within the Project area range from 4,800 feet above mean sea level in the south to 4,100 feet in the north. Topographic relief varies from gently rolling to moderately steep with local rugged canyons. Vegetation is primarily comprised of low brush and grasses, with lesser cacti, manzanita, scrub oak, cat's claw, and piñon. A modest number of mature cottonwood trees are present along French Gulch and Zonia Creek.

6. HISTORY

6.1 Historical Ownership and Development

Significant exploration and development of the Zonia Project began in the early 1900's, when the Shannon Copper Company of Clifton, Arizona, completed six churn drillholes on the property. Results were not satisfactory, and work was stopped in 1911. From 1916 to 1920, a syndicate, reported to include the Anaconda Copper Company and Inspiration Consolidated Copper Company, explored the property and sank the Cuprite shaft to a depth of 874 feet. This syndicate developed five levels and approximately 4,000 feet of laterals and crosscuts but did not outline a mineralized body that could be considered economic at the time. The Cuprite shaft was reported to produce approximately 150 gallons of water per minute.

The Project was acquired by the Hammon Copper Company ("Hammon") in the 1920's. In 1927, Hammon rehabilitated part of the underground workings, explored adjacent gold-bearing zones, and built a pilot leach plant. Hammon planned to put the property in production at a rate of 600 tons per day (tpd) as a copper leaching operation, but the plan was terminated during the Great Depression.

The US Bureau of Mines ("USBM") evaluated the property for strategic copper reserves in 1942 and completed 2,035 feet of trenching and 2,960 feet of diamond drilling. USBM also carried out check sampling at the 210 underground level and conducted mill tests in cooperation with Gold Fields American Development Company.

A Mr. Gottbehut of Los Angeles, California, reportedly leased the property in 1947 and 1948, shipping a negligible amount of ore from the 210 level.

From about 1955 to 1957, the Miami Copper Company ("Miami Copper") conducted an exploration and evaluation program consisting of an aerial photogrammetric survey (black and white as well as color aerial photographs), topographic surveys, and geologic mapping and sampling. Miami Copper also completed 26 churn drillholes and 24 air rotary holes, but the results failed to meet their targets for tonnage and grade, and the program was subsequently terminated.

In 1964, the McAlester Fuel Company ("McAlester") purchased the Project and carried out a program of airborne reconnaissance, surface geologic mapping, and an extensive drilling program of short drillholes. After delineation of copper mineralization and favorable results of pilot leaching studies, open pit mining and heap-leaching was commenced in 1966. Approximately 17.1 million tons of material were mined from the pit, of which 7.1 million tons were stacked on leach heaps and 10 million tons were reportedly dumped as waste.

The material mined by McAlester for leaching was placed on three asphalt-lined leach pads and continuously leached by sprinkling with diluted sulfuric acid on the pads. The copper-bearing minerals dissolved, and the pregnant solution was then passed to the launder, where copper was precipitated from solution in the form of cement copper on scrap iron or salvaged de-tinned cans. The waste solution was then treated with additional sulfuric acid and recycled to the leach areas. The sulfuric acid was largely produced at the property from native sulfur. From 1966 to March 1975, McAlester reportedly produced 33.2 million pounds of cement copper from the Zonia Mine by heap leaching of 7.1 million tons placed on heaps. However, there is uncertainty about the achieved copper recovery because the grade of material placed on the heaps was never properly evaluated (Scott Wilson RPA, 2006).

In addition to the heap leaching operation, two areas containing about 7.7 million tons of broken material were reportedly blasted and in-situ leached by McAlester and the USBM. McAlester's blasting of material in the northern portion of the pit was at the time reported as the world's largest non-nuclear explosion. This area was then leached in-situ from mid-1972 to March 1975, when the mine ceased operation. In 1979, McAlester reported that 2.7 million pounds of copper had been recovered from the 7.7 million tons estimated to have been in-situ leached. They also estimated 20,500,000 tons of material at an average grade of 0.3 % total Cu (% CuT) remained, exclusive of the in-situ leached area.

In 1971, McAlester granted an option to the Homestake Mining Company ("Homestake") to explore and purchase the Zonia Project. Homestake subsequently conducted a two-phase exploration program designed to identify potential economic sulfide targets below the oxide zones. Homestake ultimately terminated their option over the property in 1975.

In 1977, the Phelps Dodge Corporation conducted an exploration program that reportedly returned favorable results, but apparently the company was unable to come to favorable terms with McAlester and ceased involvement in the Project shortly after.

In 1980, American Selco Ltd. ("Amselco") acquired an option on the property and conducted reconnaissance mapping, geochemical sampling, and drilling. Results of this work delineated two areas of interest with anomalous gold values in various samples, but drill results were less encouraging and Amselco subsequently returned the property to McAlester.

In 1981, the Nerco Minerals Company ("Nerco") acquired the property and evaluated the southern portion of the Project area, including drilling through the leach pads. Nerco returned the property to McAlester in 1982.

In 1982, Queenstake Resources Ltd. ("Queenstake") reportedly conducted an evaluation of the property with an emphasis on the gold potential indicated by the early Hammon data. Work completed by Queenstake was apparently restricted to the area north of the pit, though it is unclear what specific exploration activities were carried out.

In 1983, McAlester's interest in the Project was purchased by Antioch Resources Ltd. ("Antioch"). Antioch conducted exploration activities at the site with Queenstake as a joint venture partner. Queenstake transferred the title of the Project to the Zonia Company in October 1988.

The Project was leased by the Zonia Company to Arimetco, Inc. ("Arimetco") in late 1992, but Arimetco did not immediately take possession of the property due to environmental liability issues, with Arimetco to be held harmless with regard to past operating practices. In January, 1993, Arimetco began working on the site pursuant to a water quality remediation plan on behalf of the Zonia Company. Concurrent with the remediation work, Arimetco conducted exploration in an effort to determine the feasibility of reopening the mine and constructing a modern processing facility, and in August of 1993, Arimetco negotiated an option to purchase the Project.

In 1995, Western States Engineering ("WSE") prepared a feasibility study for Arimetco which concluded that the property appeared to be economically viable under market conditions at that time (Western States Engineering, 1995). Arimetco continued with plans to develop and build a new zero discharge, full containment, mine and plant unit. The concept for extracting the copper from the deposit was to mine, crush, acid-cure, then leach and recover copper by the electrowinning process, as opposed to the mine, stack, and leach method as done by McAlester.

Arimetco began liquidation proceedings in 1996 due to Arimetco went into liquidation proceedings due to concerns apparently unrelated to the Zonia Project, and in early 2000, Equatorial Mining North America, Inc ("Equatorial") optioned the property from the US Bankruptcy Court for the District of Arizona. Over the course of the following year, Equatorial completed 18,243 feet of reverse circulation ("RC") drilling in 39 drillholes. Equatorial terminated its option on the property in 2001.

In July 2004, Ste-Genevieve Resources Ltd. ("SGV") purchased the Project from the US Bankruptcy Court for the District of Arizona for $350,000. SGV assessed the economics of putting the Zonia Project back into production and followed that effort with preparation of a NI43-101 Technical Report (Wilson, 2006).

In March 2008, Copper Mesa Mining Corporation (known as Ascendent Copper Corporation at that time), completed an acquisition of SGV, which included the Zonia Project. In June 2008, Copper Mesa retained Tetra Tech to provide technical and engineering services with the objective of completing a formal feasibility study. In support of that effort, Copper Mesa acquired a comprehensive metallurgical data package pertaining to Zonia. This metallurgical data and descriptive report, generated by Metcon Research, Inc. ("Metcon") of Tucson, Arizona, in 2007 – 2008, consists of information from column tests performed on several tons of material collected from four trenches cut within the existing open pit, and bottle roll tests on both the same material and numerous samples of previously collected drill cuttings from the lower depths of the deposit. All tests were directed at determining the mineralized material's response to treatment by heap leaching and solvent extraction/electrowinning ("SX/EW") recovery of copper. Indicated recoveries, based on various material sizes and leach times, were between 71% and 81%.

Copper Mesa commenced two separate drill programs in late 2008. The first program consisted of 17 drillholes (approximately 1,800 feet) using sonic drilling to produce material for both assay and geotechnical testwork. Testing was conducted on historically mined and processed material located on existing leach pads to determine if remaining copper contents were sufficient to warrant reprocessing. Assays were conducted on cuttings from an area containing approximately 5 million tons of material blasted and leached by the USBM in the 1970s. The second drill program was comprised of 16 diamond drill holes (approximately 3,000 feet) intended to twin 16 historical drillholes to validate historically reported tonnage and grades and subsequently facilitate the re-estimation and reclassification of the copper resources. Core material from this program was saved for future metallurgical work.

Work was suspended by Copper Mesa after completion of the drilling programs due to a lack of funding. In August 2009, private investors who had invested in Copper Mesa called in a loan of $1.7 million, which was secured with all shares of Redstone Resources Corporation ("Redstone"), the Copper Mesa subsidiary which held the Zonia Project at that time. Being unable to meet loan repayment requirements, Copper Mesa subsequently transferred all ownership of Redstone to the lender in exchange for releasing Copper Mesa from all liabilities pertaining to Redstone.

On August 27, 2015, Cardero entered into an Option Agreement (as amended) with Redstone under which Cardero was granted an exclusive option to acquire 100% interest in the Project. Cardero and World Copper merged in February 2022, and 100% interest in the Project was transferred to World Copper at that time.

6.2 Historical Exploration

Modern exploration activities have been carried out within the Project area by at least 15 previous owners and operators. Detailed information regarding exploration procedures and parameters and sampling methods, quality, and representativeness for exploration programs carried out prior to 2008 is limited, and in many cases nonexistent. The following discussion provides a summary of known drilling and other exploration carried out by previous operators, but HRC cautions that the lack of supporting documentation in many cases presents a significant limitation to the data validation effort.

6.2.1 Historical Drilling Exploration

Since 1910, at least 12 operators have completed approximately 172,000 feet of drilling and sampling of various types on the Project. Table 6-1 summarizes the drilling included in the current drillhole database by Operator, Year, and Type. Detailed collar locations are presented in Appendix B.

Table 6-1 Summary of Drilling by Operator, Year, and Type within the Database

Operator	DH Prefix	Year	Type	Count	Length
Unknown	WW-08, WW-12, Z-3, DH-208	Unknown	Unknown	4	1,714.0
	UG-, UG-DH-, UGDH-, C-SHAFT		Underground	45	5,707.2
Shannon Copper Co.	S-	1910-1910	Churn	1	500.0
		1910-1911	Churn	2	1,360.0
U.S. Bureau of Mines	USBM-	1942-1943	Core	1	200.0
			Core	10	2,755.0
Miami Copper Company	M-	1956	Churn	25	10,062.0
	RH-		Air Rotary	24	6,972.5
Bunker Hill	BH-	1963-1964	Churn	11	4,170.0
Homestake Mining Co.	Z-	1964	Core	7	6,430.4
McAlester Fuel Co.	F-	1964	Air Rotary	211	42,450.0
		1970	Air Rotary	79	11,911.0
American Selco Ltd.	ZPS79-	1979	Unknown	4	1,140.0
Nerco Minerals Co.	N6-	1981-1982	Auger	3	355.0
	T6-	1982	Test Pits	6	120.0
Arimetco Inc	A-	1994	Core	5	2,406.0
		1994	Unknown	2	700.0
Equatorial Mining N.A.	E-	2000-2001	RC	40	18,243.0
	WW5, WW7	2001	Auger	2	485.0
Copper Mesa Mining Corp.	RRC-	2008	Core	16	2,971.8
Redstone Resources Corp.	RRC-09-	2009	Core	39	10,140.5
	RRC-10	2010	Core	22	12,163.0
	RRC-10		RC	54	28,989.0
Grand Total				**613**	**171,945.4**

Detailed reports on drilling contractors, equipment used, recovery, and methodology prior to Copper Mesa Mining Corp. ("Copper Mesa") 2008 drilling program are not currently available to HRC. Some of this information is recorded in the drillhole logs and is presented where appropriate. Collar locations, drilling orientations, and assay information is largely collected through historical information contained in drillhole logs and other historical reports. MRA's 1994 work included compilation of drilling and sampling data from earlier programs into a digital database. The MRA database was updated in 2001 by Equatorial. Mintec used the updated 2001 database to prepare its estimates (Mintec, 2001); Scott Wilson RPA (2006) used the same database for their estimate. Tetra Tech further updated the digital database with Copper Mesa and Redstone drilling. The following discussion presents what is known about the historical drilling prior to 2008 and sampling based on the information available to the QP. None of the drillholes in the database are surveyed down-hole. In general, the copper mineralization for the Project dips 85 degrees to the northwest and strikes N45E; therefore, intercepts from steeply dipping drillholes do not represent the true thickness of the deposit. Figure 6-1 shows the historic drillhole locations across the entire Project. Figure 6-2 shows the historic collar locations within the mineral resource area. Figure 6-3 shows the location of the underground sampling. Cross sections A-A', B-B', and C-C' show drillholes, total-copper assays, geology, and interpreted copper mineralization in Figures 6-4 through 6-6 respectively.

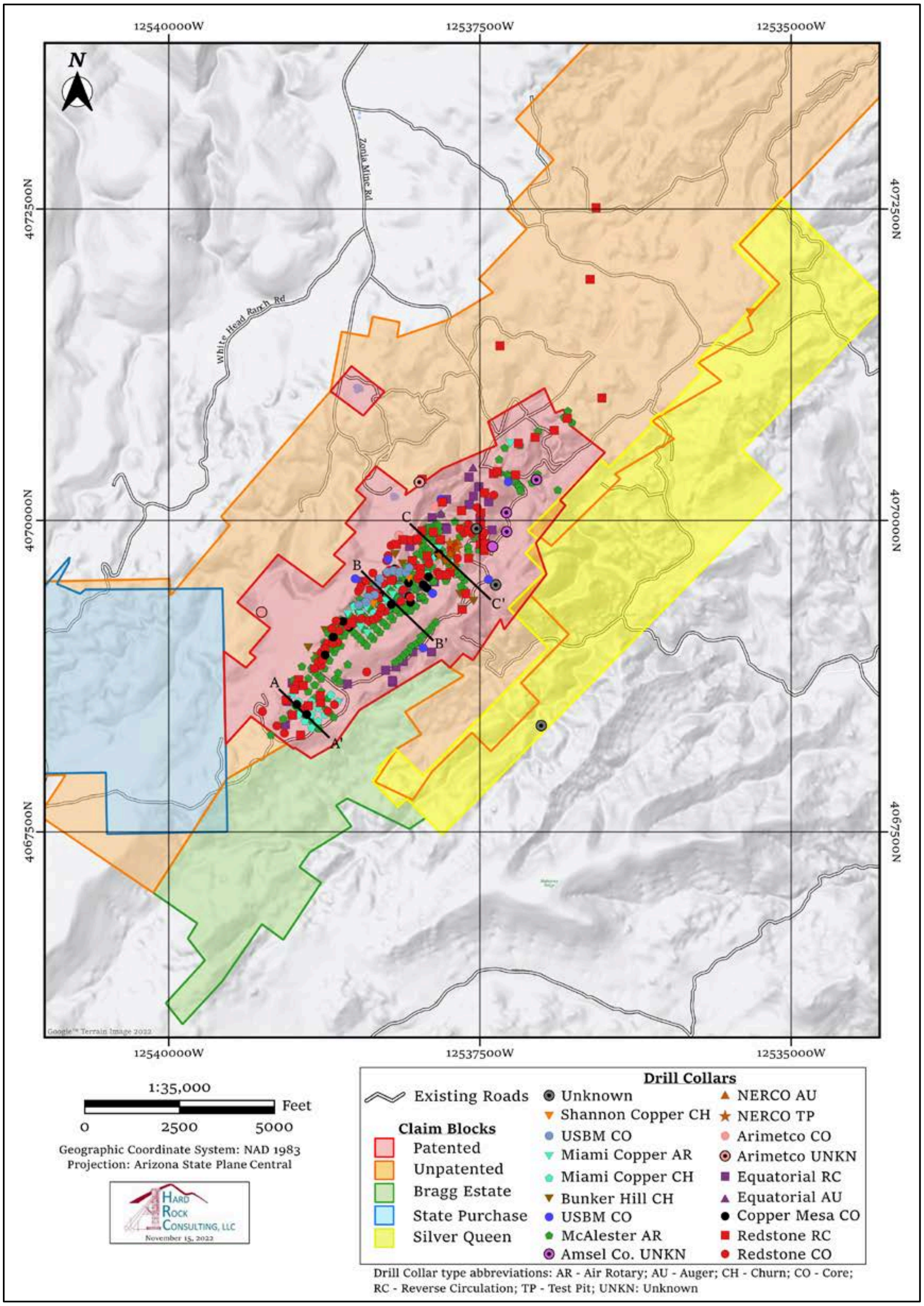

Figure 6-1 Collar Locations of Surface Drillholes

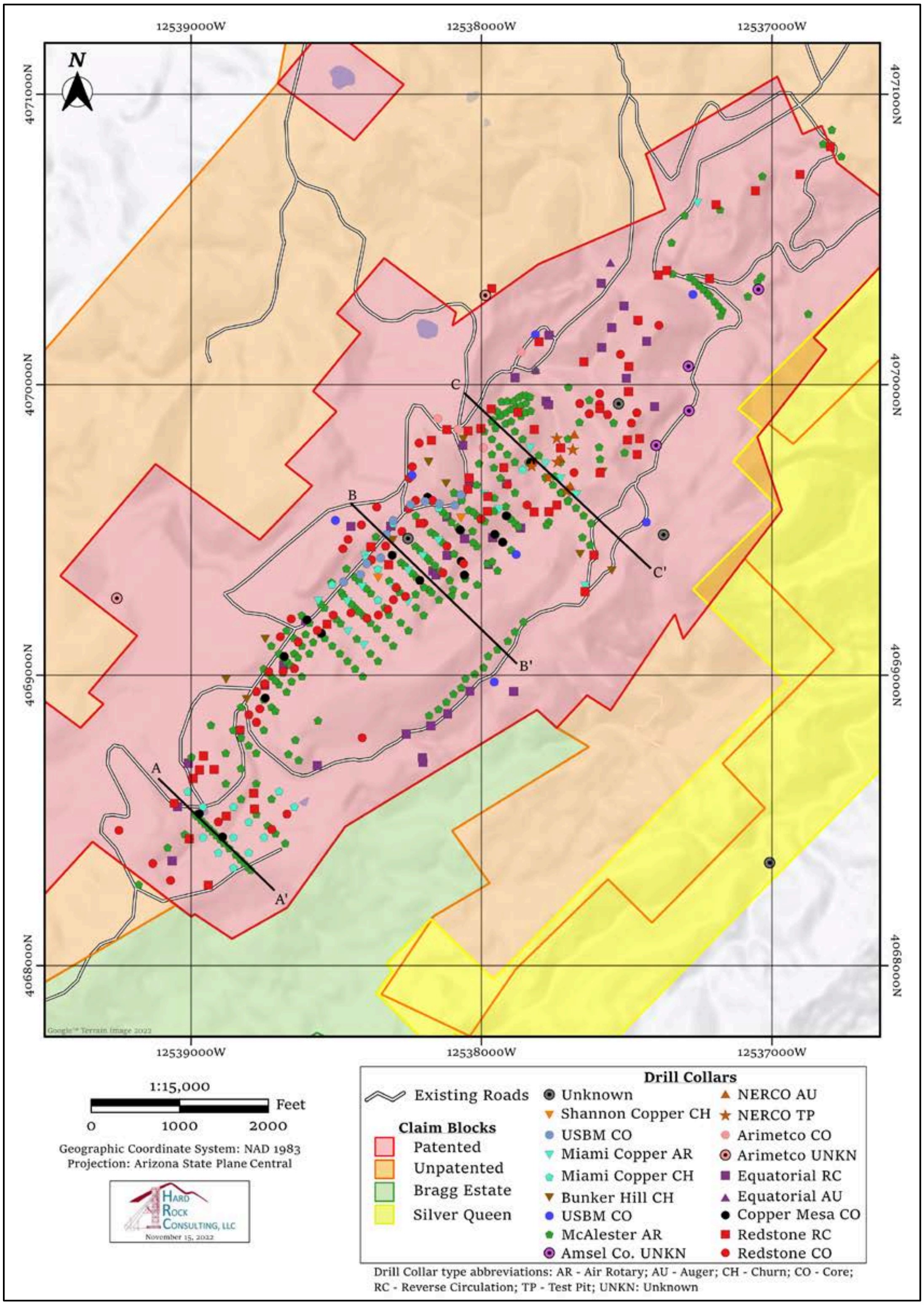

Figure 6-2 Collar Locations of Surface Drillholes Within the Patented Claims

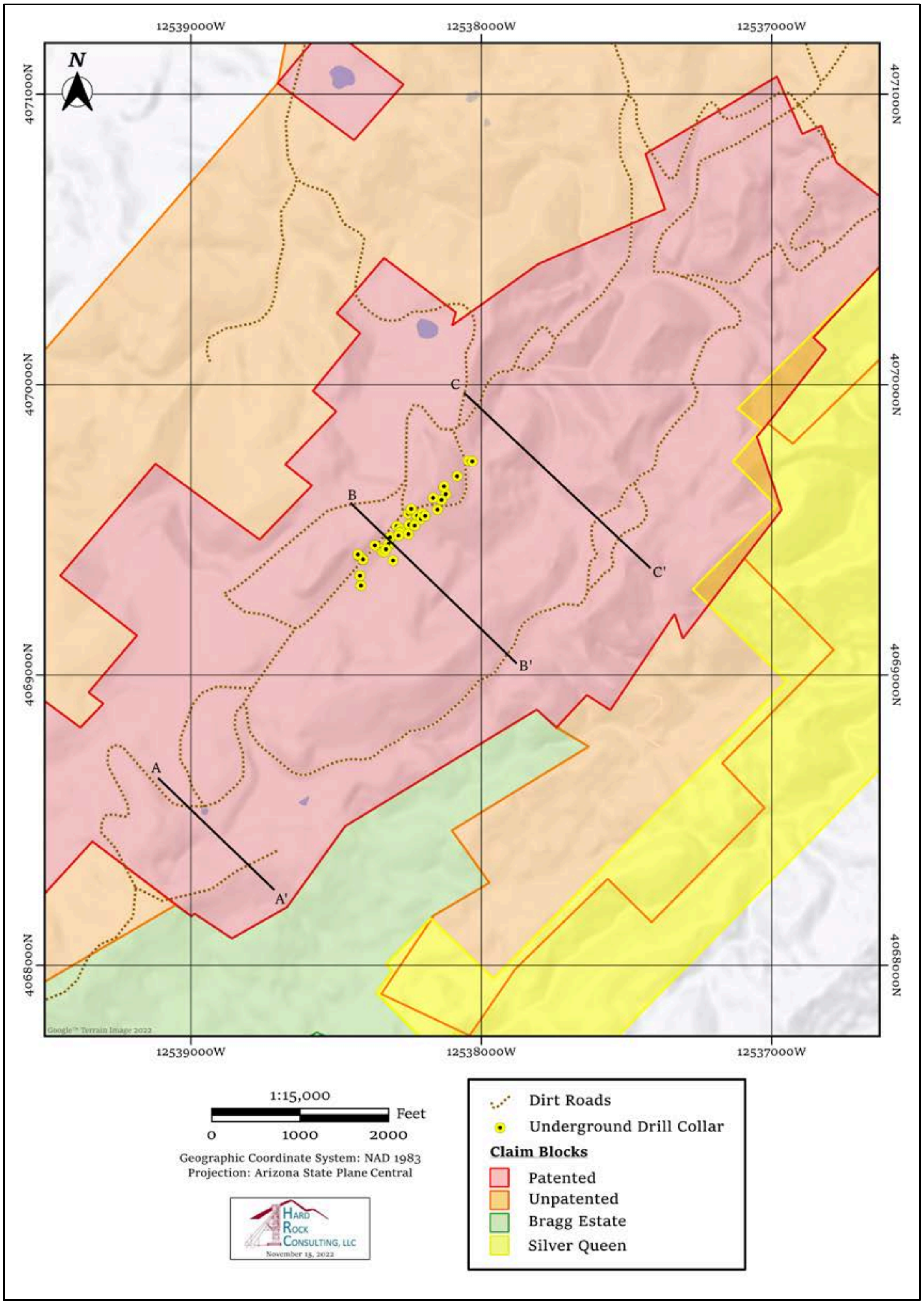

Figure 6-3 Collar Locations for Underground Drillholes and Channel Samples

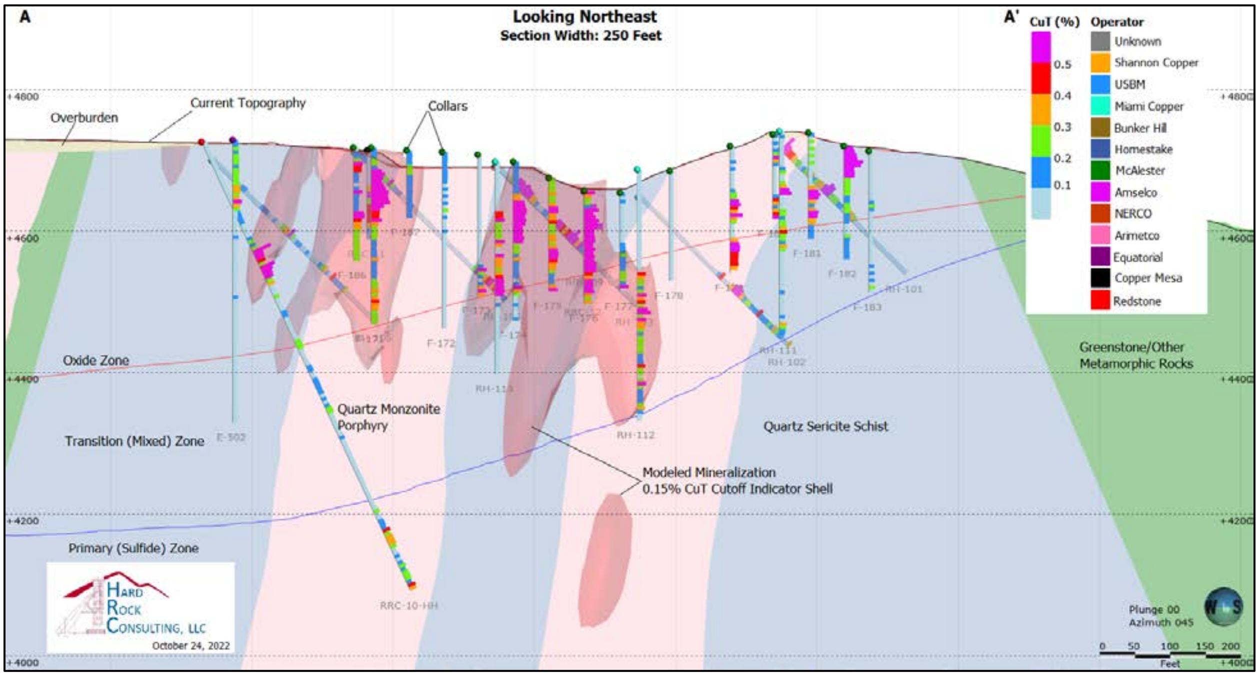

Figure 6-4 Cross Section A-A'

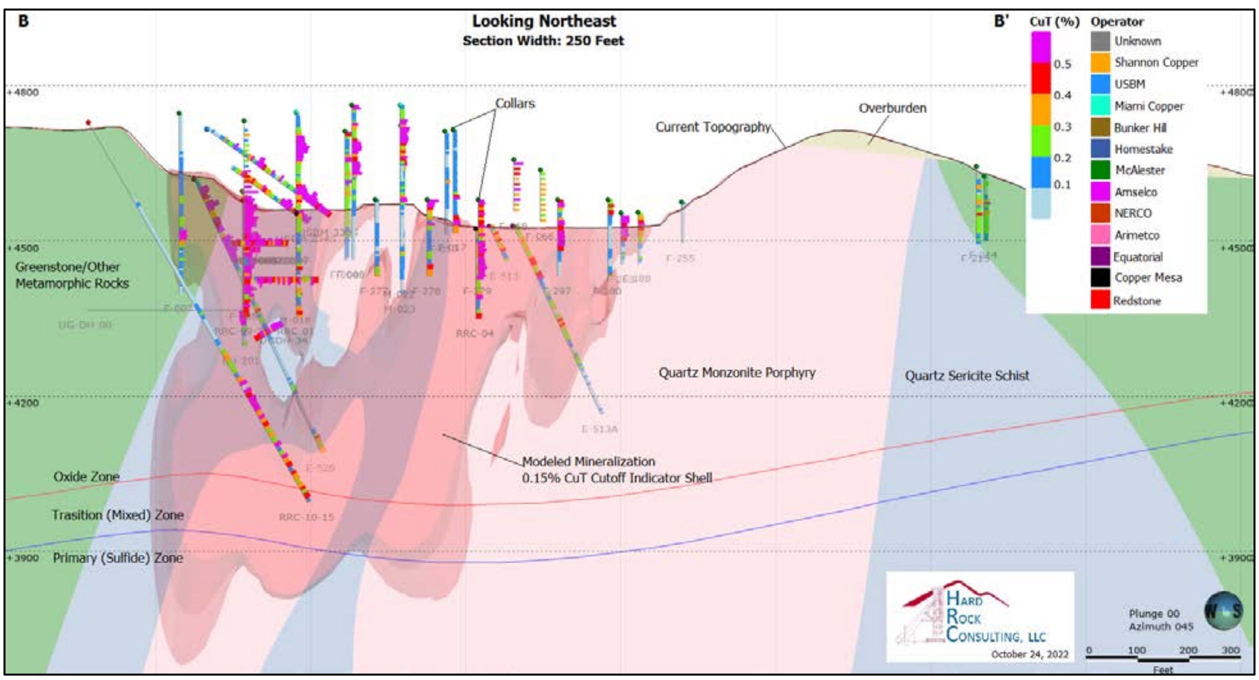

Figure 6-5 Cross Section B-B'

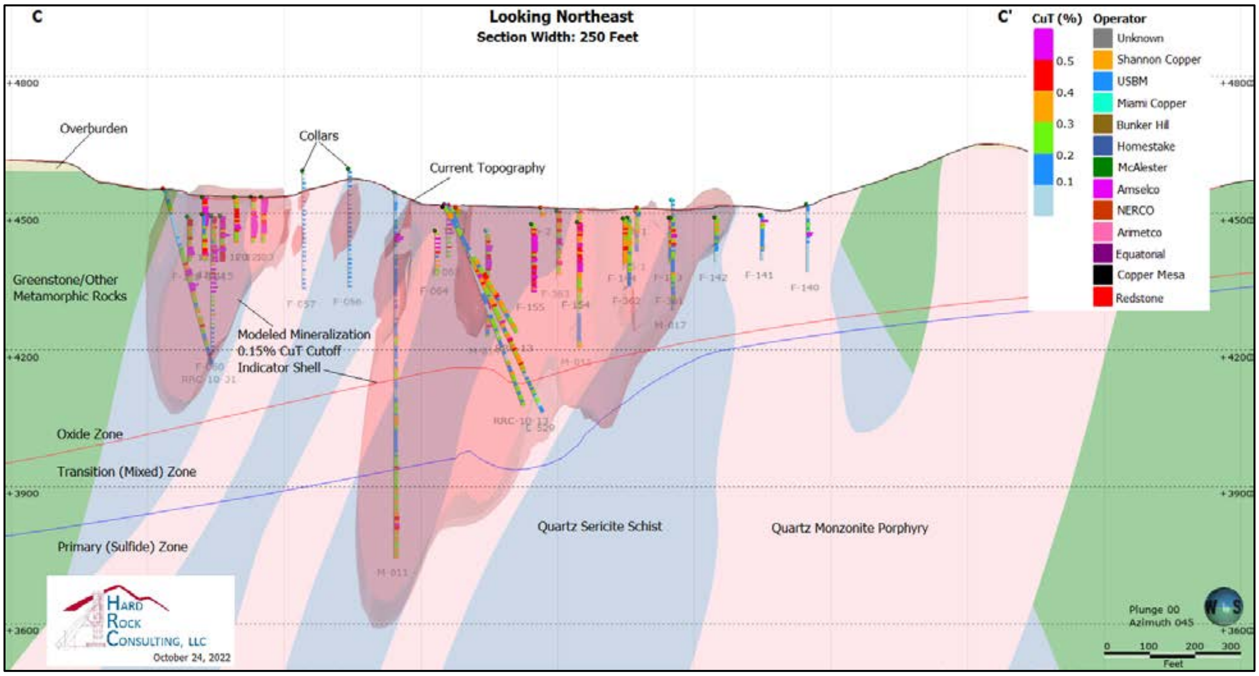

Figure 6-6 Cross Section C-C'

6.2.1.1 Drilling by Unknown Operators

The drillhole database contains four drillholes of unknown type and not associated with a company. These drillholes are WW-08, WW-12, Z-3 and DH-208. DH-208 is oriented southeast and inclined 45 degrees below horizontal. The average length of these drillholes is 430 feet with a maximum length of 952 feet in WW-12. 1,132 feet of drilling was analyzed for total-copper at an average sample length of 5 feet. Drillholes WW-08 and WW-12 could have been additional auger holes completed by Equatorial Mining North America in 2001.

6.2.1.2 Underground Drilling and Sampling

The drillhole database contains 45 underground sample locations totaling 5,707 feet. The collection date of these samples is unknown, but they are located below the north pit. The underground sampling consists of 14 underground drillholes totaling 2,575 feet with an average length of 184 feet. Nine of the underground drillholes are oriented horizontally in either northeast or southeast directions. The remaining drilling was oriented between 20 and 45 degrees above horizontal in various directions. 1,885 feet of drilling was analyzed for total-copper using an average sample length of 5 feet. Thirty channel samples totaling 2,258 feet were collected on the 210 and 335 levels and analyzed for total-copper using an average sample length of 5 feet. The cuprite shaft ("C-SHAFT") was sunk to a depth of 874 feet below surface and has total-copper assays for the entire length. However, the sample lengths recorded are greater than 50 feet and up to 250 feet.

6.2.1.3 Shannon Copper Company

The drillhole database contains three churn drillholes completed by Shannon Copper Co. totaling 1,860 feet with an average length of 620 feet in 1910-1911. One drillhole (S-2) is far to the northeast, while the other two are within the north pit. All the drillholes are oriented vertically. Total-copper was analyzed for 1,655 feet of the drilling at an average sample length of 5 feet. The QP notes the "Preliminary Economic Assessment, NI 43-101 Technical Report Zonia Copper Project Yavapai County, Arizona, USA" completed in 2018 lists a total of six drillholes completed by Shannon Copper Co. The QP has no information relating the three missing drillholes completed by Shannon Copper Co.

6.2.1.4 U.S. Bureau of Mines

From 1942 to 1943, the U.S. Bureau of Mines ("USBM") drilled eleven core drillholes totaling 2,955 feet with an average length of 670 feet. All the drillholes are in the north pit, oriented to the southeast, and are inclined between 35 and 40 degrees below horizontal. The core was analyzed for total-copper on 5-foot intervals.

6.2.1.5 Miami Copper Company

Miami Copper Company ("Miami Copper") completed 25 churn drillholes and 24 air rotary drillholes beginning April 30, 1956, and ending on December 15, 1956 (Allan,1957) totaling 17,035 feet. Total-copper was analyzed for 16,790 feet of the drilling using an average 5-foot interval and the database includes 3,655 feet of acid-soluble copper assay results. All samples were shipped from Prescott to Miami via greyhound bus (Allan, 1957). All but two drillholes are in either the north pit or southwest pit extension and the drilling represents the first attempt to define the mineralization at the Project.

The churn drilling by Miami Copper was oriented vertically and had an average depth of 400 feet. "Two churn drills were gasoline powered, crawler mounted, Bucyrus Erie 22T's belonging to the company (Allan,1957)." A third churn drill was contracted through J.T. Dugan Drilling Company and was a trailer mounted Bucyrus Erie 24L. All drillholes were collard with a 10-inch bit (Allan, 1957). Sampling for churn drillholes were completed in the following manner (Allan, 1957):

> "…all the sludge from a five-foot run was run through a three-deck splitter. The resulting one eighth split was then further split by hand in a Jones splitter to about one or one and a half gallons. The sample was then dried, rolled, and split in a smaller splitter to fit into a one-quart ice cream carton. A character and a panning sample were made from the reject of the last wet split from each run and were dried and sacked."

The air rotary drilling had an average depth of 290 feet and the drillhole database shows 15 drillholes were oriented 45 degrees below horizontal to the southeast and the remaining 9 drillholes were oriented vertically. The air rotary drilling was contracted through Minerals Engineering Company out of Grand Junction, Colorado. The drill was a Joy 22HD diamond drill mounted on a 4x4 truck. A separate 600 cfm compressor furnished the air. All holes were collared with a 6-1/4-inch bit to a depth of approximately 6 feet. Casing was then set, and the hole was finished with 4-1/4-inch bit (Allan, 1957). Sampling for rotary drillholes were completed in the following manner (Allan, 1957):

> "The rotary samples were also cut at the end of each five-foot run. In this case, the dry cuttings, carried up the hole by the air blast, entered a box at the collar of the hole and were diverted through a rubber hose to a Duncan dust collector. The entire sample was split by hand through a Jones splitter, usually to 1/32nd, and put in a one-quart paper carton for shipment. A character sample from the reject was washed and dried."

The QP notes two discrepancies present in the drillhole database compared to the Allan 1957 report. First, the report states a total of 50 drillholes were completed compared to the 49 in the drillhole database. The missing collar is churn drillhole M-26 and the drillhole was sampled. The location of the drillhole is listed in the log in mine grid coordinates and should be added to the drillhole database in subsequent technical report updates. Second, the report states that 21 of the air rotary drillholes are angled 45 degrees to the southeast. The drillhole database shows only 15 drillholes are not vertically oriented. There is no information to tell which holes might have an improper orientation, therefore no edits were made to the drillhole database.

6.2.1.6 Bunker Hill

Eleven churn drillholes totaling 4,170 feet with an average length of 380 feet were completed by Bunker Hill from 1963 to 1964. Nine drillholes are oriented southeast and inclined either 45 or 60 degrees. One drillhole is oriented 70 degrees to the southeast and one drillhole is oriented vertically. All but three drillholes are in either the north pit or south pit. The database includes 1,779 feet of total-copper assay results sampled on 10-foot intervals.

6.2.1.7 Homestake Mining Company

Homestake Mining Company ("Homestake") drilled seven vertically oriented core drillholes totaling 6,430 feet with an average length of 920 feet in 1964. Three drillholes are located on the margins of the north pit, the remaining drillholes are spread out across the patented claims for the Project. 4,920 feet of the drilling was analyzed for total-copper using an average sample length of 8 feet.

6.2.1.8 McAlester Fuel Company

In 1964 and 1970, McAlester Fuel Company ("McAlester") completed 290 vertically oriented air rotary holes totaling 54,360 feet (31.6% of the total drilling length on the Project). The average drillhole length was 185 feet. The primary purpose of the drilling appears to have been to define the copper mineralization for the Projects mining operations although some drilling does appear to be for the purpose of exploration. 43,120 feet of drilling was analyzed for total-copper on 5-foot intervals. The samples submitted in 1970 were analyzed at Iron King Assay Office in Humboldt Arizona.

6.2.1.9 American Selco Ltd.

The drillhole database contains four drillholes of unknown type completed by American Selco Ltd. ("Amselco") in 1979 totaling 1,140 feet at an average length of 285 feet. The drillholes are located in the northwest part of the patented claims of the Project. Three drillholes are oriented southeast and inclined between 45 and 60 degrees below horizontal. One drillhole was oriented south and inclined 50 degrees below horizontal. 310 feet of drilling was analyzed for total-copper on 5-foot intervals.

6.2.1.10 Nerco Minerals Company

From 1981 to 1982, Nerco Minerals Company ("NERCO") drilled three vertically oriented auger drillholes totaling 355 feet at an average drillhole length of 118 feet. 355 feet were analyzed for total-copper on 10-foot intervals. The drillhole database also includes six 20-foot test pits totaling 120 feet and analyzed for total-copper. The drillhole database does not include three additional HQ drillholes totaling 120 feet located in the area of the leach basin (Pfau, 2015). The drillholes and test pits are located near or on the leach pad northwest of the north pit.

6.2.1.11 Arimetco Inc

Arimetco Inc. ("Arimetco") completed five vertical core drillholes located north of the north pit in 1994. The average length of the drilling was 480 feet and totaled 2,406 feet. 2,306 feet of core was analyzed for total-copper on 10-foot intervals. Two additional drillholes of unknown type totaling 700 feet do not have surveys or assays.

6.2.1.12 Equatorial Mining North America

Between 2000 and 2001, forty Reverse Circulation ("RC") drillholes totaling 18,243 feet and two auger drillholes totaling 485 feet were completed by Equatorial Mining North America ("Equatorial"). The two auger drillholes are oriented vertically and are located north of the north pit. 370 feet of the drilling was sampled and analyzed for total-copper on 5-foot intervals. Additionally, the database contains 105 feet of acid-soluble copper assays in drillhole WW5. The RC drillholes are located within the patented claims surrounding the open pits in the Project and average 455 feet. Seventeen of the RC drillholes were oriented vertically, twenty-one drillholes were oriented 65 degrees below horizontal to the southeast, one drillhole was oriented east and inclined 60 degrees, and one drillhole was oriented south and inclined 65 degrees below horizontal. 17,860 feet of RC drilling was sampled on 5-foot intervals for total-copper. The database also includes 4,990 feet of acid-soluble copper assays.

6.2.1.13 Copper Mesa Mining Corp.

The drillhole database includes sixteen HQ size core drillholes totaling 2,972 feet completed by Copper Mesa Mining Corp. ("Copper Mesa") in 2008. All 16 drillholes were designed as twins of Miami Copper, McAlester, and Equatorial drillholes and had an average depth of 185 feet. All core, except for zones of no recovery, was sampled at an average length of 8 feet and analyzed total-copper, acid-soluble copper, and cyanide-soluble copper. Standards, duplicates, and blanks were inserted as QA/QC samples at a rate of approximately 4.5% for each QA/QC type. Sample lengths greater than 10 feet can be used as a proxy for zones of lower recovery. The assumption is largely confirmed with core photos. Zones of no recovery and long sample lengths total 353 feet. Based on that number, 88% of the drilling can be considered good recovery. Significant intercepts from the Copper Mesa drilling are shown in Table 6-2. Note, interval lengths from vertically angled drillholes do not reflect the true thickness of mineralization.

Table 6-2 Significant Total-Copper (CuT) Intercepts from Copper Mesa Drilling, 2008

Hole ID	Azimuth	Dip	From	To	Length	CuT%
RRC-01	0	-90	144.0	200.0	56.0	0.28
RRC-03	0	-90	54.0	201.0	147.0	0.43
including			62.0	96.0	34.0	0.59
also			114.5	123.0	8.5	0.76
also			147.0	163.4	16.4	0.65
RRC-04	0	-90	0.0	135.5	135.5	0.31
including			90.5	98.5	8.0	0.76
also			128.0	135.5	7.5	0.62
RRC-05	0	-90	53.5	150.5	97.0	0.31
including			64.0	71.5	7.5	0.58
also			135.8	145.5	9.7	0.60
RRC-06	0	-90	24.7	200.0	175.3	0.34
including			190.2	200.0	9.8	0.78
RRC-07	0	-90	0.0	61.5	61.5	0.28
RRC-08	0	-90	15.5	95.0	79.5	0.28
RRC-10	135	-60	7.0	217.0	210.0	0.33
including			204.5	217.0	12.5	0.63
RRC-11	0	-90	49.0	125.0	76.0	0.35
RRC-12	0	-90	0.0	106.7	106.7	0.71
including			17.5	72.0	54.5	1.11
RRC-13	135	-60	128.0	320.0	192.0	0.29
RRC-14	0	-90	0.0	200.0	200.0	0.38
RRC-15	0	-90	0.0	145.5	145.5	0.31
RRC-16	0	-90	0.0	200.0	200.0	0.42
including			0.0	39.5	39.5	0.87

6.2.1.14 Redstone Resources Corp.

The drilling completed by Redstone Resources Corp. ("Redstone") represents the most recent drilling completed on the Project to date. The drilling occurred in 2009 and 2010 and included HQ core, RC, and a limited sonic drillhole program.

The 2009 drilling campaign consisted of 39 HQ size core drillholes totaling 10,140 feet and an average depth of 260 feet. Thirty of those drillholes were designed to continue twinning drillholes by Miami Copper, McAlester, and Equatorial. The remaining nine drillholes targeted the northwest and southeast extensions of the copper mineralization for the purpose of resource expansion. The resource expansion drillholes were oriented southeast and inclined 60 degrees below horizontal. 9,660 feet of core was sampled and analyzed for total-copper at an average sample length of 7 feet. 4,220 feet of core was also analyzed for acid-soluble and cyanide-soluble copper. Core photos show evidence of a QA/QC procedure similar to the practice used by Copper Mesa, however the QP does not have any documentation to confirm and summarize the results. Like Copper Mesa, sample lengths greater than 10 feet can be used as a proxy for zones of lower recovery. Zones of no recovery and long sample lengths total 537 feet. Based on that number, 95% of the drilling can be considered good recovery. Significant intercepts from the 2009 Redstone drilling are shown in Table 6-3. Note, interval lengths from vertically angled drillholes do not reflect the true thickness of mineralization.

Table 6-3 Significant (CuT) Intercepts from Redstone Drilling, 2009

Hole ID	Azimuth	Dip	From	To	Length	CuT%
RRC-09-01	135	-45	26	200	174.0	0.33
including			55	60	5.0	0.84
also			134.5	148	13.5	0.69
RRC-09-02	315	-80	0	75.5	75.5	0.39
including			0	11	11.0	0.97
RRC-09-03	135	-80	58.5	155	96.5	0.20
And			158	200	42.0	0.48
RRC-09-04	0	-90	4	200	196.0	0.29
RRC-09-07	0	-90	0	200	200.0	0.73
including			0	43	43.0	1.34
also			107	155	48.0	0.83
RRC-09-08	0	-90	6	232	226.0	0.50
including			6	52	46.0	0.80
also			157	222	65.0	0.58
RRC-09-09	0	-90	4	173	169.0	0.35
including			117	137	20.0	0.55
RRC-09-10	0	-90	0	89	89.0	0.46
including			69	83	14.0	1.06
RRC-09-11	0	-90	93	250	157.0	0.29
RRC-09-12	0	-90	0	67	67.0	0.23
And			116	222	106.0	0.37
including			143	153	10.0	0.74
RRC-09-13	0	-90	0	62	62.0	0.45
including			0	12	12.0	0.62
also			49	62	13.0	0.58
And			87	183	96.0	0.42
including			92	113	21.0	1.04
RRC-09-14	0	-90	15	200	185.0	0.54
including			63	83	20.0	0.64
also			111	143	32.0	0.70
also			163	200	37.0	0.79
RRC-09-15	0	-90	17.5	189	171.5	0.29
including			26	46	20.0	0.80
RRC-09-16	0	-90	17.5	110	92.5	0.23
RRC-09-17	0	-90	27	87	60.0	0.77
including			45	82	37.0	1.09
And			129	200	71.0	0.24
RRC-09-18	0	-90	1.5	200	198.5	0.50
including			73	79	6.0	1.16
also			27	47	20.0	0.66
also			73	79	6.0	1.16
RRC-09-19	0	-90	2	93	91.0	0.32
including			83	93	10.0	0.80
And			118	192	74.0	0.30
RRC-09-20	0	-90	20	120	100.0	0.74
including			27	45	18.0	1.54
also			55	65	10.0	0.81
also			90	120	30.0	0.93
RRC-09-20	0	-90	140	250	110.0	0.49
including			145	165	20.0	1.04
also			185	205	20.0	0.52
RRC-09-21	135.5	-80	2	200	198.0	0.42

Hole ID	Azimuth	Dip	From	To	Length	CuT%
including			87	117	30.0	0.60
also			142	152	10.0	1.21
RRC-09-22	0	-90	0	195	195.0	0.51
including			40	104	64.0	0.82
also			114	150	36.0	0.59
RRC-09-23	0	-90	16	248	232.0	0.51
including			28	48	20.0	1.20
also			78	137	59.0	0.89
RRC-09-24	0	-90	28.5	141.5	113.0	0.39
including			50	60	10.0	0.59
also			105	120	15.0	0.54
RRC-09-25	0	-90	2.5	200	197.5	0.33
including		-90	166	200	34.0	0.53
RRC-09-26	0	-90	40	200	160.0	0.28
including		-90	101	113	12.0	0.55
RRC-09-27	0	-90	8	225	217.0	1.08
including			8	95	87.0	1.80
And			113	206.5	93.5	0.66
RRC-09-28	0	-90	0	145	145.0	0.58
including			20	70	50.0	1.07
RRC-09-29	0	-90	26	91	73.5	0.47
including			38	69	31.0	0.69
RRC-09-30	135	-45	5	110	105.0	0.45
including			25	38	13.0	1.68
And			125	300	175.0	0.36
including			195	227	32.0	0.63
RRC-09-X01	135	-60	0	89	89.0	0.41
And			129	199	70.0	0.23
And			289	452	163.0	0.30
RRC-09-X02	135	-60	64.5	217	152.5	0.35
including			162	174	12.0	0.86
And			321	453.5	132.5	0.23
RRC-09-X03	135	-60	61	143	82.0	0.35
And			185	281	96.0	0.24
And			304	415	111.0	0.23
RRC-09-X04	0	-90	140.5	390.5	250.0	0.31
including			226	266	40.0	0.54
RRC-09-X08	135	-60	100	192	92.0	0.40
including			100	119	19.0	0.63

Drilling in 2010 consisted of 22 HQ size core drillholes and 54 RC drillholes. The core drillholes total 12,163 feet and have an average depth of 550 feet. Original drillhole logs confirm, “Core drilling was contracted to Boart Longyear Diamond Drilling (“Boart Longyear”) of Peoria, Arizona, USA. The drilling crews ran two 12-hour shifts per day with two drill rigs, including a skid-mounted LF-70 and a truck-mounted LF-90” (GRE, 2018). Previous technical reports present Boart Longyear was contracted to complete both the Copper Mesa drilling as well as the Redstone drilling in 2009, however, the QP cannot confirm this was the case. The drillholes were located around the margins of the existing pit and oriented southeast and inclined between 60 and 80 degrees below horizontal. The purpose of the drilling appears to be to expand mineral resources at depth. 10,510 feet of core was sampled at an average sample length of 8 feet and analyzed for total-copper. 4,885 feet of core was analyzed for acid-soluble and cyanide-soluble copper. Standards, duplicates, and blanks were inserted as QA/QC samples at a rate of approximately 4.5% for each QA/QC type. Geotechnical logs show an average recovery of 95% and an average RQD of 37%. Significant intercepts from the 2010 Redstone core drilling are shown in Table 6-4.

Table 6-4 Significant CuT Intercepts from Redstone Core Drilling, 2010

Hole ID	Azimuth	Dip	From	To	Length	CuT%
RRC-10-01	135	-70	0	289	289	0.50
including			88	161	73	0.72
also			183	203	20	0.58
also			277	289	12	0.57
RRC-10-02	135	-60	3.5	300	296.5	0.43
including			95	110	15	0.60
also			261.5	282	20.5	0.58
RRC-10-03	135	-70	5	322	317	0.29
RRC-10-04	135	-55	138	362.5	224.5	0.32
RRC-10-05	135	-60	267	542	275	0.38
including			359	410	51	0.64
also			466	481	15	0.60
RRC-10-06	135	-70	42	254.5	212.5	0.30
including			111.5	129.5	18	0.60
also			166.5	182	15.5	0.57
RRC-10-07	135	-60	21	36	15	0.70
RRC-10-08	135	-60	1	151	150	0.20
RRC-10-09	135	-60	22.5	100	77.5	0.26
RRC-10-11	135	-60	1	153	152	0.25
And			212.5	319	106.5	0.29
RRC-10-13	135	-70	364.5	470	105.5	0.22
RRC-10-14	135	-70	59.5	220	160.5	0.30
And			265	327.5	62.5	0.26
RRC-10-15	135	-60	510	841.5	331.5	0.38
including	135	-60	582	647	65	0.60
RRC-10-16	135	-70	502	770	268	0.32
including			699	724.5	25.5	0.55
RRC-10-17	135	-70	0	67	67	0.35
And			92.5	238	145.5	0.29
RRC-10-18	135	-70	22	409.5	387.5	0.41
including			55	105.5	50.5	0.90
also			135	208	73	0.63
RRC-10-19	135	-80	22	183.5	161.5	0.38
including			122	158	36	0.57
And			237	398	161	0.63
including			273	378	105	0.78
RRC-10-20	135	-60	356	524.5	168.5	0.51
including			422	467	45	0.96
RRC-10-21	135	-80	541	820	279	0.34
including			696.5	739.5	43	0.82
RRC-10-22	135	-60	462	644.5	182.5	0.36
including			587.5	608	20.5	0.50
And	135	-60	827	895.5	68.5	0.23

Harris Exploration Drilling of Escondido, California and Preston Drilling of Tempe, Arizona were contracted to complete 54 RC drillholes totaling 28,989 feet at an average depth of 535 feet. Most of the drilling tests mineralization along strike to the northeast and southwest for the purpose of expanding mineral resources. Seven drillholes explore for copper mineralization along the same trend as the main copper mineralization to the northeast, and three drillholes were completed for purely exploration purposes. Thirty-two drillholes were oriented southeast and inclined between 55 and 75 degrees below horizontal. Thirteen drillholes were oriented northwest between 60 and 75 degrees below horizontal. Four drillholes were oriented south, two drillholes were oriented east and those drillholes were inclined 60 degrees below horizontal. Three drillholes were oriented vertically. The chips were sampled on 5-foot intervals for total-copper and 9,135 feet were analyzed for acid-soluble and cyanide-soluble copper. The QP does not have information regarding QA/QC for the RC drilling. Significant intercepts from the 2010 Redstone RC drilling are shown in Table 6-5.

Table 6-5 Significant CuT Intercepts from Redstone RC Drilling, 2010

Hole ID	Azimuth	Dip	From	To	Length	CuT%
RRC-10-26	315	-60	0	395	395	0.36
including			140	205	65	0.60
And			415	525	110	0.23
RRC-10-27	135	-75	270	395	125	0.38
RRC-10-28	135	-60	60	135	75	0.27
And			275	570	295	0.33
including			325	335	10	0.99
also			360	385	25	0.65
RRC-10-29	135	-75	84	319	235	0.37
including			144	159	15	0.86
also			179	199	20	0.96
RRC-10-30	315	-75	0	125	125	0.24
And			185	260	75	0.26
And			350	445	95	0.24
RRC-10-31	135	-75	135	360	225	0.35
including			185	200	15	0.76
also			215	235	20	0.87
RRC-10-35	135	-75	10	150	140	0.32
And			185	345	160	0.27
including			250	260	10	0.68
RRC-10-39	315	-75	0	230	230	0.30
including			145	165	20	0.65
RRC-10-40	135	-60	230	380	150	0.28
And			460	520	60	0.28
RRC-10-41	315	-75	0	60	60	0.22
And			85	155	70	0.23
And			210	320	110	0.25
And			340	440	100	0.22
RRC-10-42	0	-90	0	195	195	0.43
including			110	155	45	0.81
RRC-10-43	90	-60	0	240	240	0.27
including			15	25	10	0.54
And			255	490	235	0.29
including			320	330	10	0.60
And			525	610	85	0.31

Hole ID	Azimuth	Dip	From	To	Length	CuT%
RRC-10-44	180	-60	10	65	55	0.27
RRC-10-48	0	-90	10	95	85	0.42
including			50	60	10	1.13
RRC-10-57	135	-60	55	360	305	0.29
including			75	85	10	0.59
also			170	185	15	0.81
RRC-10-BB	135	-65	0	145	145	0.25
And			280	365	85	0.46
including			320	340	20	0.86
RRC-10-CC	135	-65	280	385	105	0.34
including			365	380	15	0.50
RRC-10-EE	315	-65	340	600	260	0.40
including			350	375	25	0.57
also			395	415	20	0.72
also			430	445	15	0.52
RRC-10-GG	135	-65	100	205	105	0.45
including			110	125	15	1.21
RRC-10-HH	135	-65	155	225	70	0.75
including		-65	170	185	15	1.54
also		-65	195	215	20	0.99
And	135	-65	605	700	95	0.23
RRC-10-I	315	-75	0	145	145	0.48
including			10	45	35	0.81
also			70	90	20	0.57
And			295	355	60	0.33
including			295	305	10	0.59
And			380	460	80	0.20
And			570	655	85	0.21
RRC-10-II	315	-60	0	185	185	0.61
including			10	25	15	0.79
also			65	125	60	0.82
also			150	170	20	1.21
And			430	535	105	0.30
RRC-10-N	315	-60	0	245	245	1.03
including			15	145	130	1.68
also			160	170	10	0.54
And			380	445	65	0.21
RRC-10-Q	135	-65	0	65	65	0.64
including			10	45	35	0.95
And			125	485	360	0.38
including			185	240	55	0.81
also			305	325	20	0.60
RRC-10-R	135	-65	370	480	110	0.32
RRC-10-S	315	-75	105	480	375	0.44
including			205	230	25	0.92
also			350	395	45	0.94
RRC-10-T	135	-65	0	95	95	1.01
including			30	85	55	1.50
And			420	605	185	0.29
including			440	450	10	0.81
also			515	525	10	0.52
And			630	700	70	0.29
And			730	765	35	0.34

Hole ID	Azimuth	Dip	From	To	Length	CuT%
including			750	760	10	0.55
RRC-10-T3	135	-60	25	225	200	0.67
including			105	130	25	2.13
also			140	170	30	0.64
also			180	215	35	0.95
RRC-10-T4	315	-60	20	155	135	0.34
RRC-10-U	135	-65	30	325	295	0.66
including			60	120	60	1.79
also			130	145	15	0.79
also			200	250	50	0.55
And			555	660	105	0.25
RRC-10-W	135	-65	390	475	85	0.30
RRC-10-Y	125	-60	10	180	170	0.34
including			40	50	10	0.60
And			195	345	150	0.46
including			290	320	30	0.83
RRC-10-50	180	-60	210	265	55	0.29
RRC-10-51	170	-60	125	215	90	0.30
RRC-10-53	135	-60	105	240	135	0.32
RRC-10-54	135	-60	240	335	95	0.39
including			265	275	10	0.77
also			310	330	20	0.57
And			385	580	195	0.32
including			435	450	15	0.60
RRC-10-55	315	-60	0	95	95	0.29
And			110	225	115	0.35
including			165	180	15	0.68
And			240	365	125	0.28
RRC-10-56	135	-60	415	555	140	0.27
including			440	450	10	0.66
RRC-10-58	135	-60	295	345	50	0.43
RRC-10-D	100	-60	0	70	70	0.26
RRC-10-G	135	-65	115	165	50	0.39
including			125	135	10	0.59
RRC-10-H	135	-60	0	95	95	0.22

6.2.2 Historical Surface Exploration

Mr. Gary Bender, R.G., was retained by Redstone in 2010 to map the geology of the 23 Bragg Estate patented claims at a scale of 1:400. These patented claims adjoin the southeast side of the patented Zonia Mine claims. The geological mapping was a requirement of the ADEQ's Aquifer Protection Permit process to identify lithologies and geological structures that might potentially be relevant to the understanding of the hydrology of the area. This program included surface lithologic and structural mapping, prospect pit evaluation, and extensive rock sampling of outcrops, pits, trenches, and shafts.

In July and August 2010, Redstone extended the mapping and sampling onto the 10 Newton Claims and 78 unpatented Copper Crown Claims adjoining to the north of the Zonia Mine. The mapping and sampling were designed to evaluate the potential for mineralization along and cross-strike to the main Zonia Mine mineralized zones and to assist with drillhole placement in target areas identified during reconnaissance by Redstone contract geologists.

A total of 234 grab samples were collected during the reconnaissance mapping and sampling program and submitted to Skyline Laboratories of Tucson, Arizona (Figures 6-7 and 6-8). Details and values of all samples and their locations are available in an internal report entitled “*Exploration Potential of the Zonia Deposit, Yavapai County, Arizona*”, available at the Zonia mine office. Reconnaissance sampling was wide spaced to maximize data coverage. Mineralized zones were easily accessed by roads and trails left over from the historical exploration, and the zones were well exposed in pits, trenches, shafts, and adits. Apparently barren areas were sampled to provide background information and to check for the possibility of disseminated mineralization that might not be visually obvious.

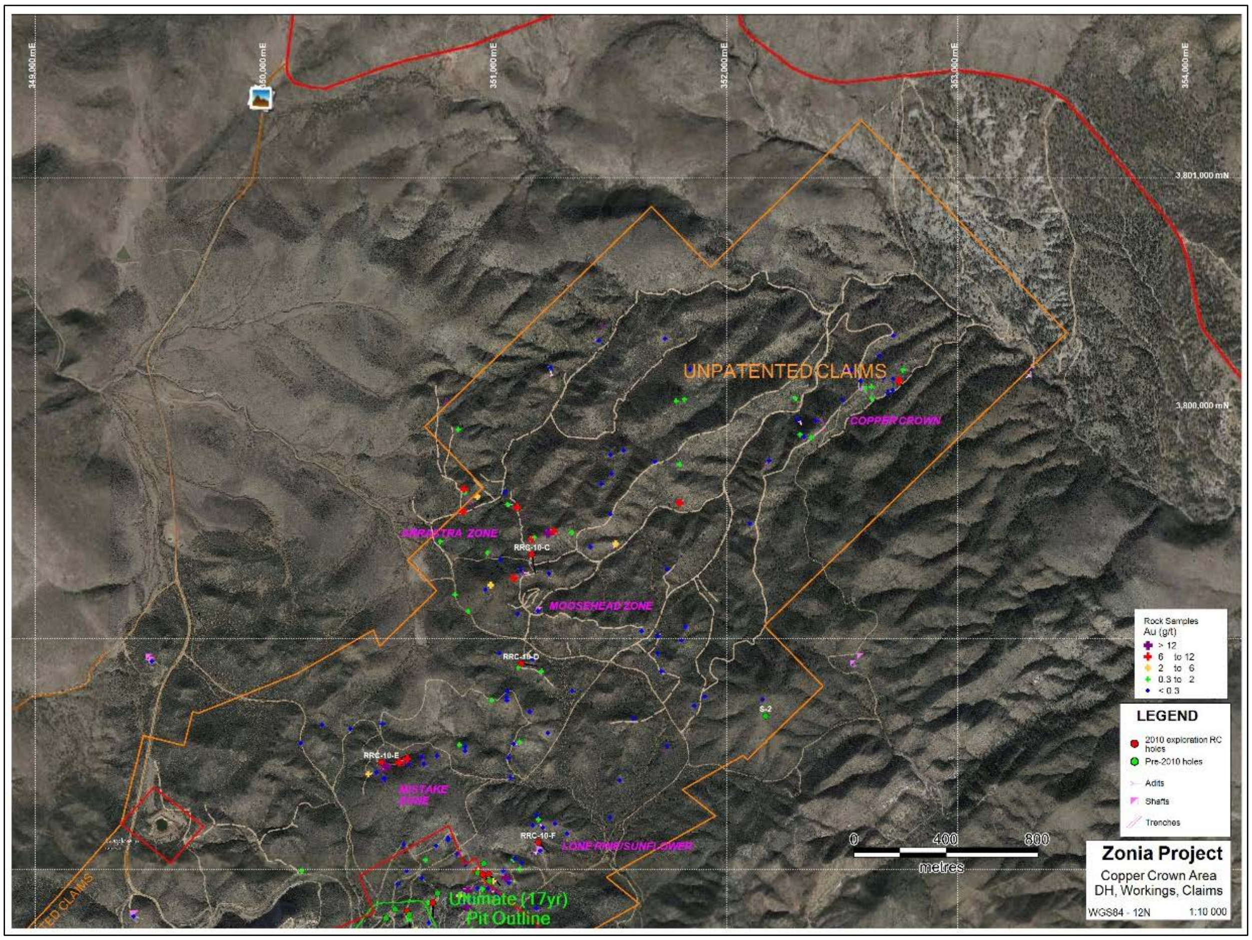

Figure 6-7 2010 Redstone Rock Sampling (North)

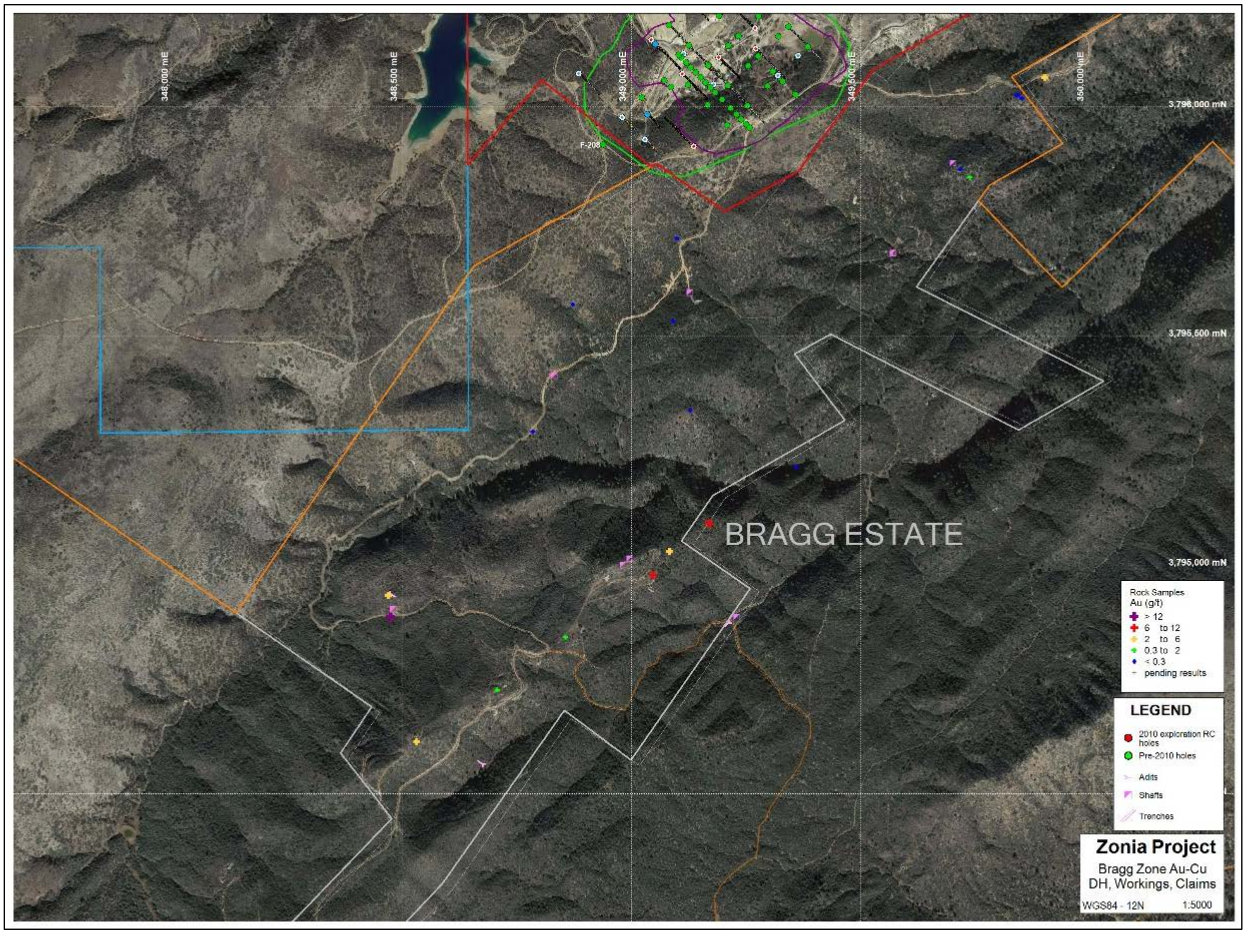

Figure 6-8 2010 Redstone Rock Sampling (South)

In 2017, Cardero reviewed the results of the 2010-2012 Redstone exploration and compiled geology and geochemical mapping into a single coherent map. Cardero staked the adjoining Silver Queen property, formerly held and explored by Alliance Mining Corp., and incorporated that geology and geochemical, and geophysical data into Zonia Project datasets. Since the previous exploration sampling was based on unrepresentative grab samples and focused on structurally controlled mineralization, a more systematic sampling approach was planned.

Property-wide rock geochemical sampling on a 150-meter spaced grid was completed in 2018. The grid sampling generated a new porphyry copper target based on coincident anomalous copper, molybdenum and manganese (Figure 6-9). The 2500- by 1000-meter anomaly, the "Northeast Porphyry Target", occurs two kilometers northeast of the drill-defined Zonia copper oxide deposit, and shares characteristics of its geochemical footprint. The anomaly marks a break in the northeast trend of the mineralization, with a narrow southern "tail" that opens northward to a broader northeast trend. The anomaly is truncated at the north end by younger, post-mineral cover rocks (Gila conglomerate, alluvium, and Tertiary basalt). The east margin of the anomaly contains some narrow high-grade copper bearing structures in the historical Copper Crown mine workings.

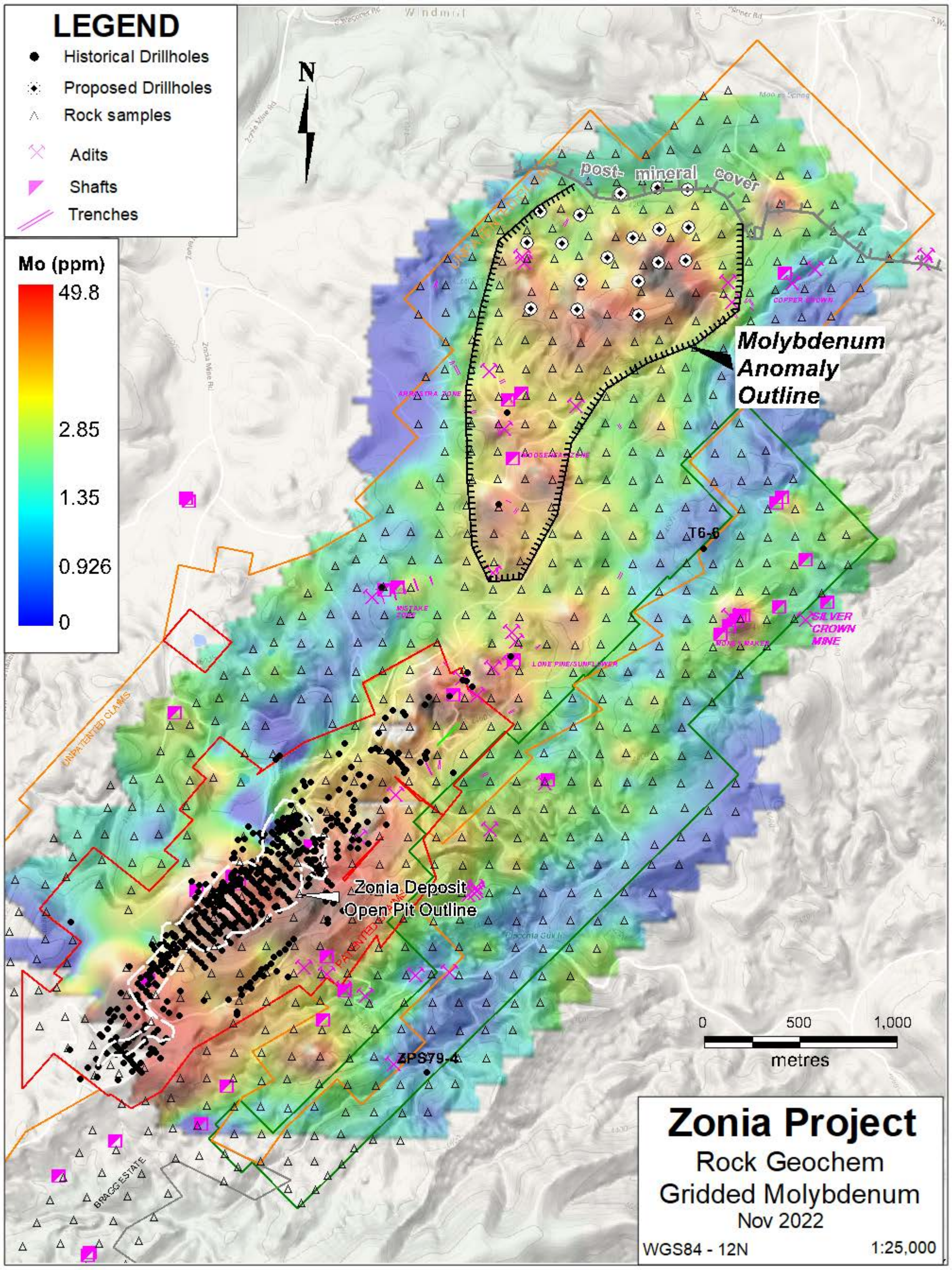

Figure 6-9 2018 Surface Sampling, Molybdenum Anomaly

6.2.3 Historical Sample Preparation and Analysis

Very little information is presently available regarding historical sampling procedures, QA/QC protocols, and sample security for operations. The following paragraphs summarize known sampling and associated analytical work completed at the Project under previous ownership, but HRC cautions that the lack of supporting documentation in many cases presents a significant limitation to the data validation effort.

6.2.3.1 2008 Copper Mesa Sample Preparation and Analysis

Core photos show the drilling completed by Copper Mesa was of an HQ diameter size. Core was placed into 10-foot capacity wax impregnated core boxes and photographed prior to logging and sampling. The QP has not received detailed reports regarding the sampling procedure, where samples were submitted, and what specific analytical techniques were used. A spreadsheet was found to contain results for QA/QC samples for nine out of 16 drillholes. The spreadsheet shows QA/QC samples including blanks, duplicates and standards were incorporated into Copper Mesa's sampling methodology. The QP believes it is reasonable to assume similar practices were applied for all of the drilling completed by Copper Mesa. QA/QC samples represent 13.5% of the samples submitted by Copper Mesa. Ideally, the percentage would be closer to 20%. 22 out of 27 QA/QC samples were determined to be within acceptable ranges, a failure percentage of 19%.

Nine results from three different standards (CU163, CU170, and CU171) were reviewed. No information is known about where these standards come from or what the acceptable limits are for verification. Given the small number of results available by standard type, plots are not particularly useful in evaluating the accuracy of the results. The results of the standards are presented in Table 6-6. Only two results are associated with CU163 and the difference in total-copper values are within 0.03% of each other. There were four results for CU170 and the difference in total-copper values are within 0.018% of each other. The result in sample 541177 appears high for the standard. There are three results for CU171 and the difference in total-copper values are within 0.025% of each other. The result in sample 541205 appears low for the standard.

Table 6-6 Results from Copper Mesa QA/QC Standards

Standard	HOLE	Sample ID	Cu
CU163	RRC-1	541003	1.000
	RRC-7	541153	1.030
CU170	RRC-2	541030	0.324
	RRC-3	541053	0.335
	RRC-5	541128	0.324
	RRC-8	541177	0.342
CU171	RRC-6	541102	0.180
	RRC-9	541205	0.155
	RRC-10	541229	0.176

Nine total-copper results from blanks were plotted (Figure 6-10). Two blanks were found to have total-copper limits exceeding 0.01%.

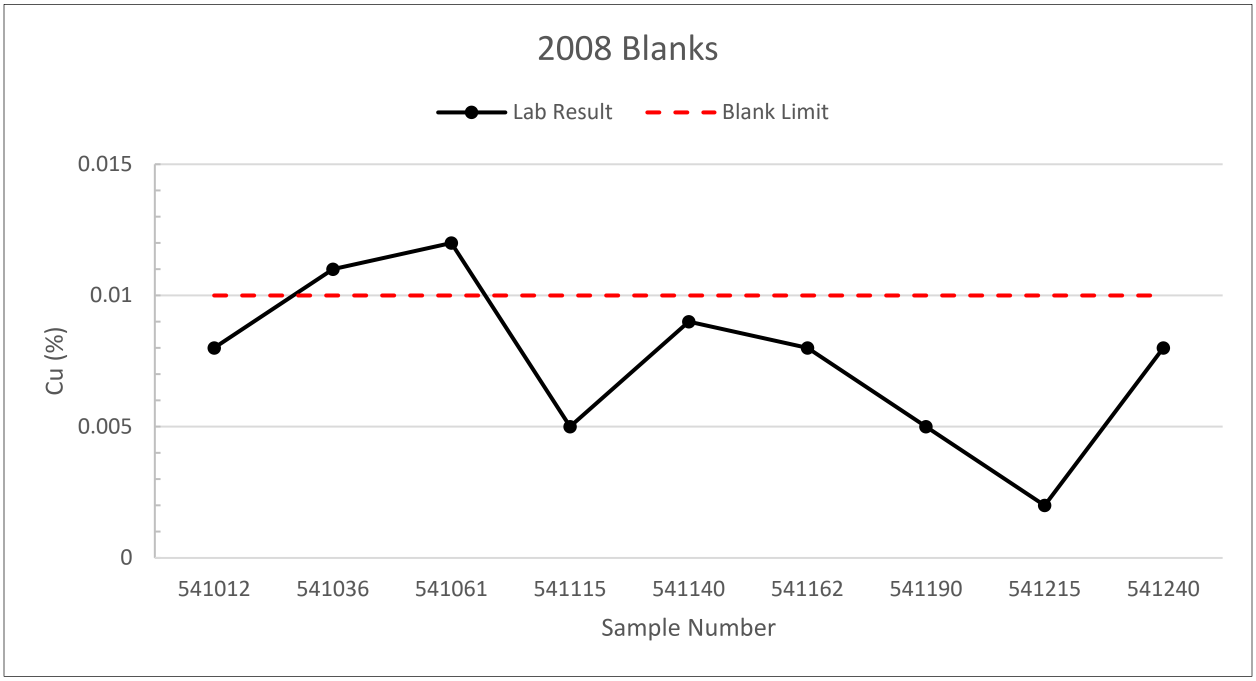

Figure 6-10 Results from Copper Mesa QA/QC Blanks

Nine duplicate samples were plotted against the original total-copper results (Figure 6-11). The R^2 correlation coefficient of 0.93 is low, but still acceptable. One sample had a duplicate value outside of acceptable limits and is marked as red on Figure 6-11.

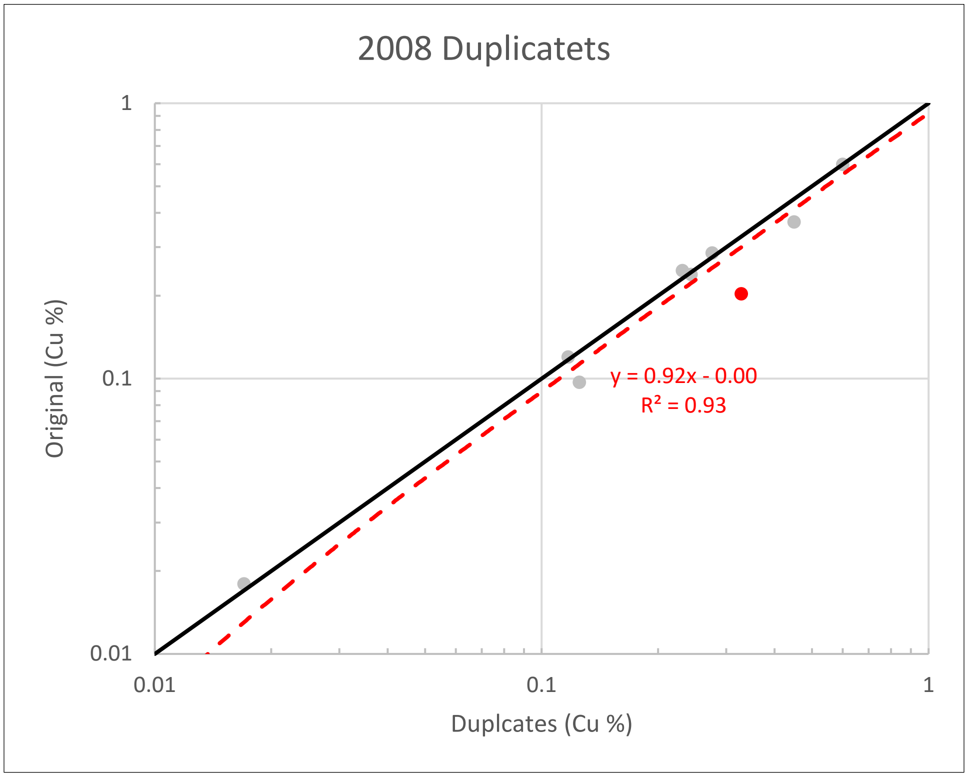

Figure 6-11 Results from Copper Mesa QA/QC Duplicates

6.2.3.2 2010-2012 Redstone Sample Preparation and Analysis

Core photos from the 2009 and 2010 campaigns show the drilling completed by Redstone was of an HQ diameter size. Core was placed into 10-foot capacity wax impregnated core box and photographed prior to logging and sampling. The QP has not received detailed reports regarding the sampling procedure, where samples were submitted, and what specific analytical techniques were used for the drilling completed in 2009. Information received by the QP for core drilling completed in 2010 show the drillholes were logged for lithologic, alteration, and mineralization characteristics. In addition to lithologic characteristics, the core was logged for geotechnical and rock quality determinations. Half core splits were sent to Skyline Assayers & Laboratories ("Skyline") in Tucson, Arizona. Skyline is a fully accredited independent assay laboratory. The samples were analyzed for total-copper, acid-soluble copper, and cyanide-soluble copper using atomic absorption methods. Total-copper results for 173 QA/QC samples for drillholes completed in 2010 were reviewed. QA/QC samples consisted of four different standards, duplicates, and blanks inserted into the sample stream by Redstone as a check of accuracy and precision for Skyline. QA/QC samples represent 13.1% of the samples submitted by Redstone. Ideally, the percentage would be closer to 20%. It is assumed, though not verifiable, that Redstone followed similar QA/QC procedures for all of its 2009 and 2010 drilling.

Fifty-six results from four different standards (CU151, CU163, CU170, and CU171) were reviewed by the QP. No information is known about where these standards come from or what the acceptable limits are for verification. However, the results when plotted do generally show good agreement between the assays indicating the accuracy of the Skyline Lab. The plot for CU151 (Figure 6-12) shows all 7 total-copper results have grades within 0.03% of each other. The plot for CU163 (Figure 6-13), shows all 8 total-copper results have grades within 0.05% of each other. The plot for CU170 (Figure 6-14) shows all 12 total-copper results have grades within 0.02% of each other. Finally, the plot for CU171 (Figure 6-15) shows all 29 total-copper results have grades within 0.02% of each other.

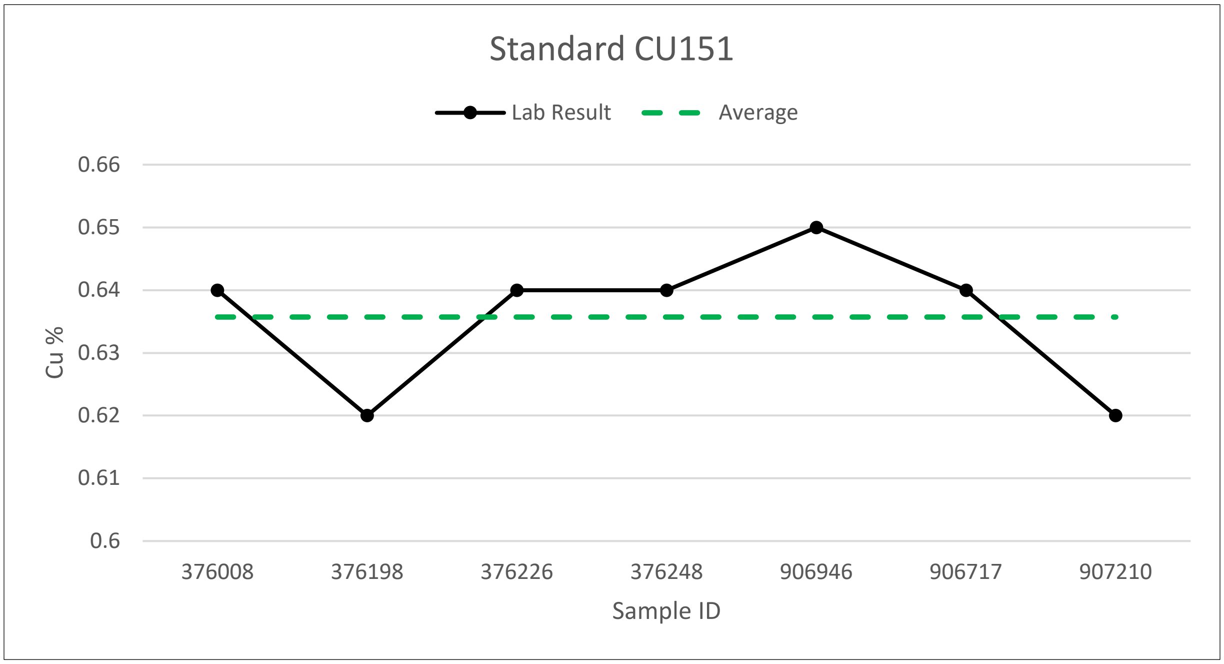

Figure 6-12 Total-Copper Results for Standard CU151

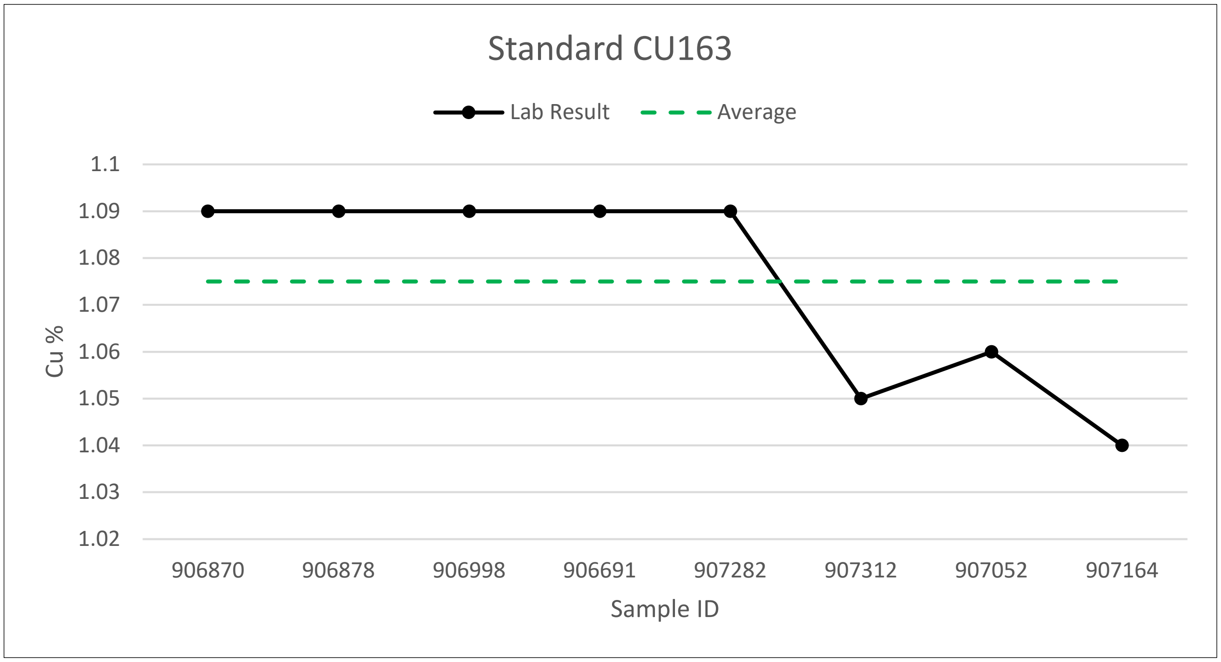

Figure 6-13 Total-Copper Results for Standard CU163

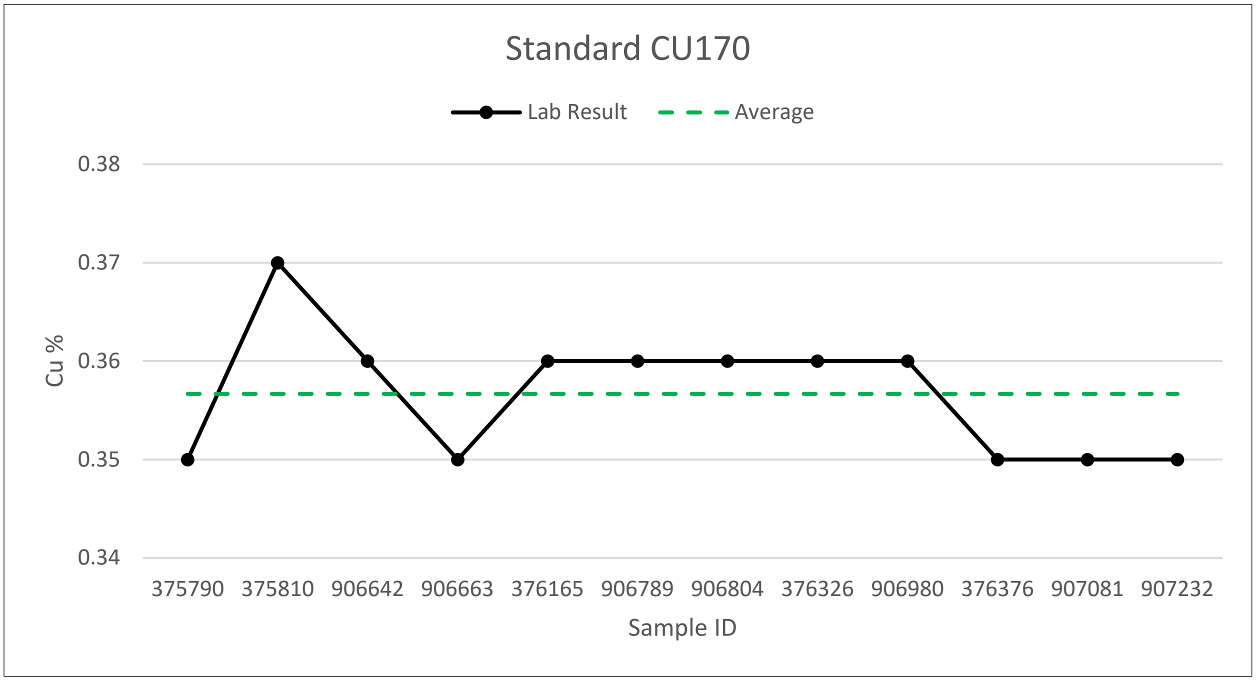

Figure 6-14 Total-Copper Results for Standard CU170

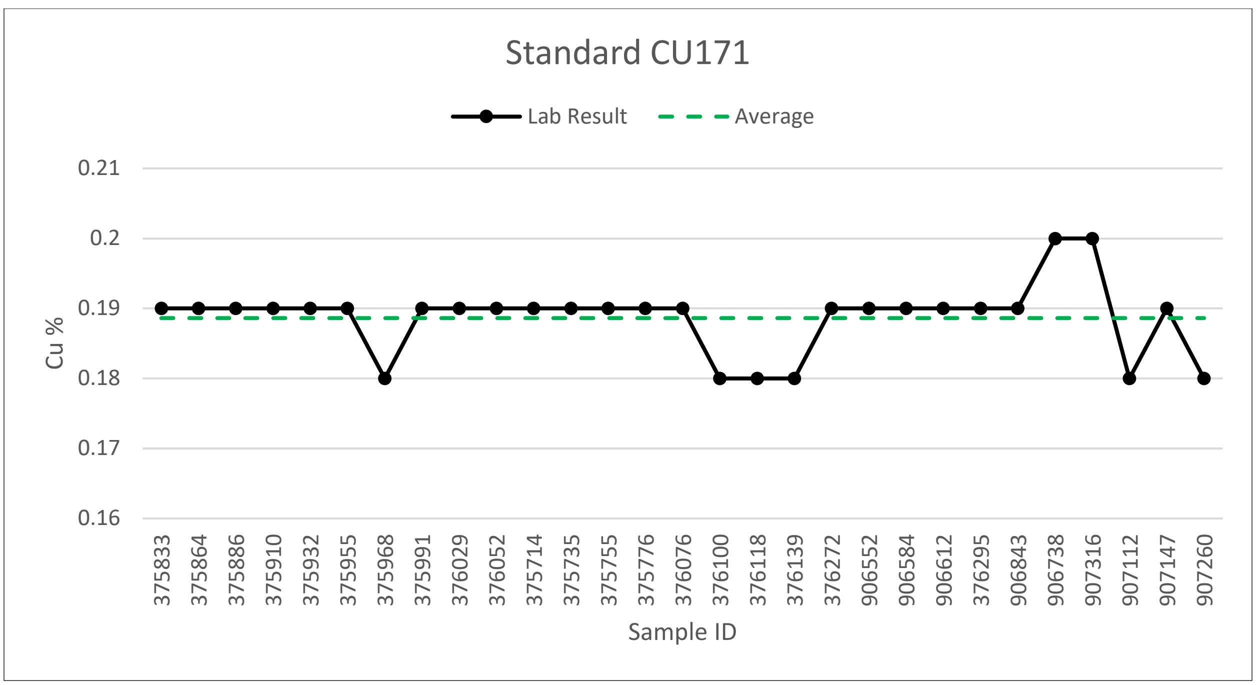

Figure 6-15 Total-Copper Results for Standard CU171

All 57 blanks reviewed had total-copper assay results below detection limit. Sixty duplicate samples were plotted against the original total-copper results (Figure 6-16). The R^2 correlation coefficient of 0.99 suggests the precision at Skyline is excellent. Additionally, there is no observable bias in the assay results.

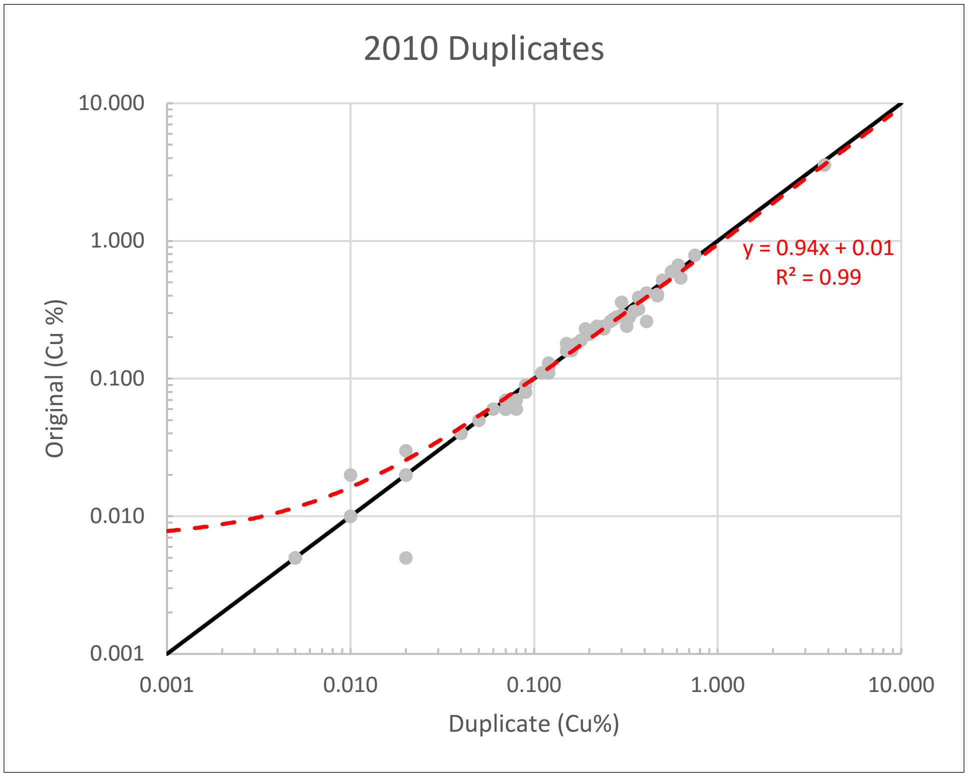

Figure 6-16 Results from Redstone 2010 Core QA/QC Duplicates

6.2.3.3 *2018 Cardero Sample Preparation and Analysis*

Cardero's 2018 work program at Zonia was designed by John Drobe, P.Geo., Cardero's Chief Geologist, with the field work conducted by Discovery Consultants, of Vernon, B.C. Due to a lack of consistent soil cover over the project, composite rock samples were collected by shovel from 10- to 25-cm depth over a roughly 1-m square area at each station, and the locations marked with flagging and aluminum tags hung from the nearest vegetation. Samples were placed in woven Sentry brand 7- by 12.5-inch Olefin sample bags, which were sealed, transported, and dropped off directly at ALS Minerals, an ISO 19000 registered laboratory, in Tucson, Arizona by Discovery personnel. The samples were dried at high temperature (method DRY-21), crushed, pulverized (methods CRU-31, SPL-21, PUL-31), and then analyzed by ICP-AES for 35 elements (method ME-ICP41) with gold determined by 30 g fire assay and atomic absorption finish (method Au-AA23). The 2018 sampling program did not include insertion of standard, blank, or duplicate samples.

6.3 Historical Estimates

Mineral resource and reserve estimates produced prior to World Copper's acquisition of the Zonia Project are not discussed in this report as they are historical in nature, have not been sufficiently validated by a Qualified Person in order to classify them as current, and are not considered reliable or relevant to the Project at present.

6.4 Historical Production

From 1966 through March 1975, McAlester produced 33.2 million pounds of cement copper from the Zonia Project by open pit mining and heap leaching of 7.1 million tons of material. McAlester estimated a grade of 0.6 %CuT for the run-of-mine material placed on the heaps, which indicates a recovery of 35%.

In addition to the heap leaching operation, two areas containing about 7.7 million tons of broken material were reportedly blasted and leached in-situ by McAlester with support from the USBM. McAlester blasted material in the northern portion of the open pit, which was then leached in-situ from mid-1972 to March, 1975, when the mine closed. In a 1979 report, McAlester reported that 2.7 million pounds of copper had been recovered from the 7.7 million tons estimated to have been affected by the in-situ leaching.

The QP knows of no other recorded production from open pit mining at the Zonia Project, and no record of production, if any, from underground mining at the Zonia Project is known to exist.

7. GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geologic Setting

Central Arizona is largely underlain by stratigraphically complex, highly deformed and metamorphosed basement rocks of Proterozoic age (1.8-1.6 Ga). The Proterozoic basement is well exposed in a broad 500-km-long NW-trending belt, the Central Volcanic Belt, that transects the state from southeast to northwest (Figure 7-1).

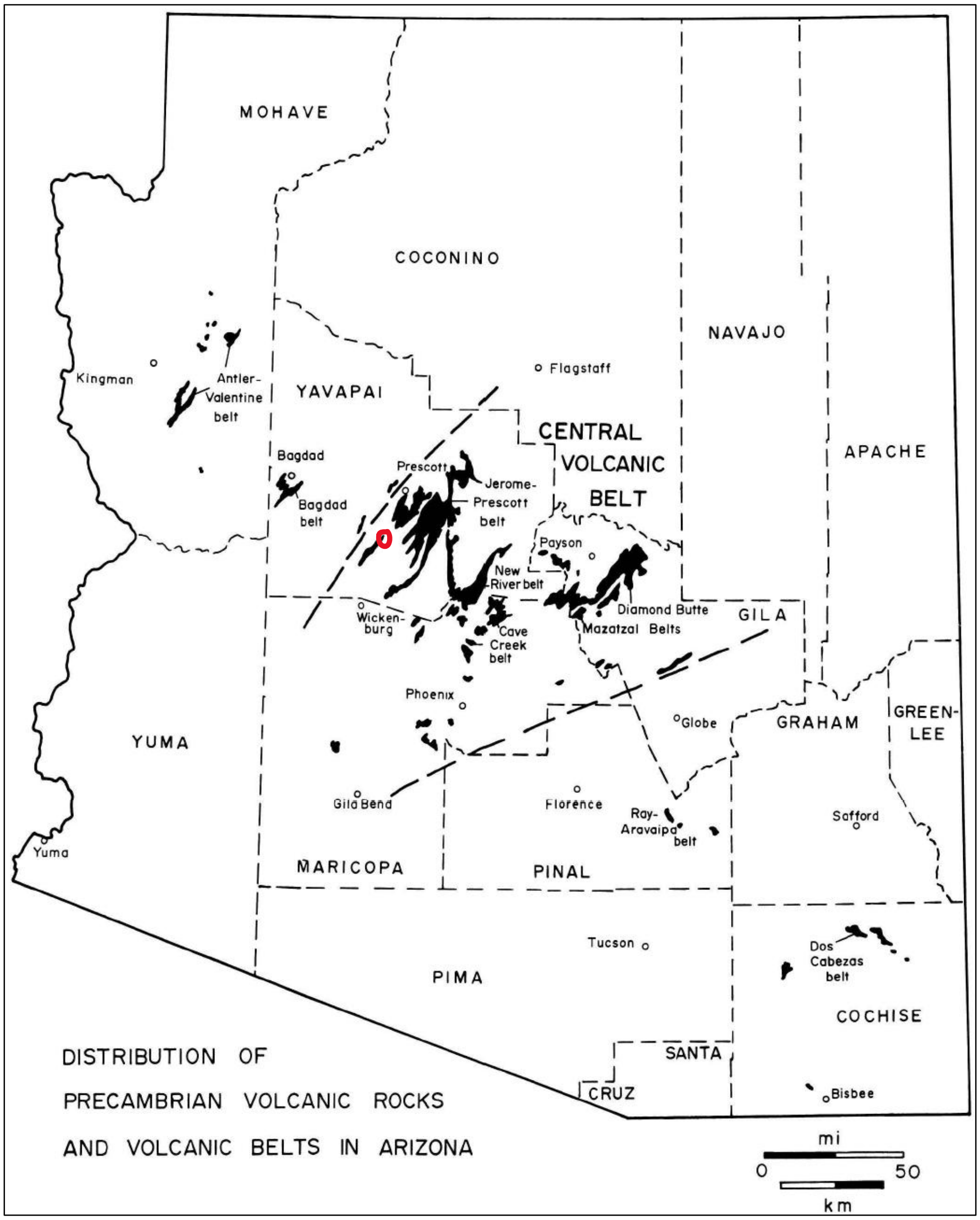

Figure 7-1 Regional Geologic Setting of the Zonia Project (Anderson, 1989a; red circle is approximate Project location)

The Central Volcanic Belt is a unified region of dominantly volcanic and volcaniclastic rocks subjected to a single major deformational, metamorphic, and plutonic cycle, whose timing differed slightly between older and younger portions (Anderson, 1989a). Strata of the Central Volcanic Belt belong to the Yavapai Supergroup, as defined by Anderson (1989a), which includes the older, more mafic rocks of the Prescott-Jerome volcanic belts to the northwest, and the younger, more felsic rocks of the New River-Cave Creek-Mazatzal Mountains-Diamond Butte volcanic belts to the southeast. The Zonia Project area is underlain by volcanic stratigraphy of the Prescott belt, which is further subdivided into three major rock groups, the Bradshaw Mountains, Mayer, and Black Canyon Creek groups, each with unique lithostratigraphic, lithologic, and chemical attributes which reflect the three major volcanic cycles through which the belt evolved.

Widespread Laramide-age granitoids intrude the Central Volcanic Belt, many of which are associated with modern and historically productive copper porphyry deposits. Locally, the Proterozoic rocks are directly overlain by Tertiary volcanic and sedimentary rocks and by Quaternary surface deposits. Deformation of the Proterozoic units within the Central Volcanic Belt reflects largely compressional tectonics active between 2.0 and 1.62 Ga, with several periods of subduction, accretion of numerous island arcs onto the ancestral Wyoming craton, and attendant volcanism, plutonism, deformation, and metamorphism.

Anderson (1989b) attributes the near vertical orientation of Proterozoic strata throughout the region to a singular deformational event, which he describes as Proterozoic vertical deformation caused by “pure strain” during the diapiric rise of the enclosing granitic batholiths (Figure 7-2). This pure strain model postulates that vertical foliation, steep lineations, and plunging minor folds are a natural consequence of imposing a horizontally constrictive stress regime on a relatively incompetent and poorly layered segment of crust (a volcanic belt). The greater density of the volcanic belt causes it to be deformed vertically into a downward narrowing trough between surrounding, rising plutonic masses. Minor folds, most abundant where bedding departs from regional foliation, plunge moderately to steeply, but major regional folds are absent; thus, stratigraphic units are not repeated east-west across the volcanic belts, but originally trended northeast, parallel to their depositional basins (Anderson 1989b).

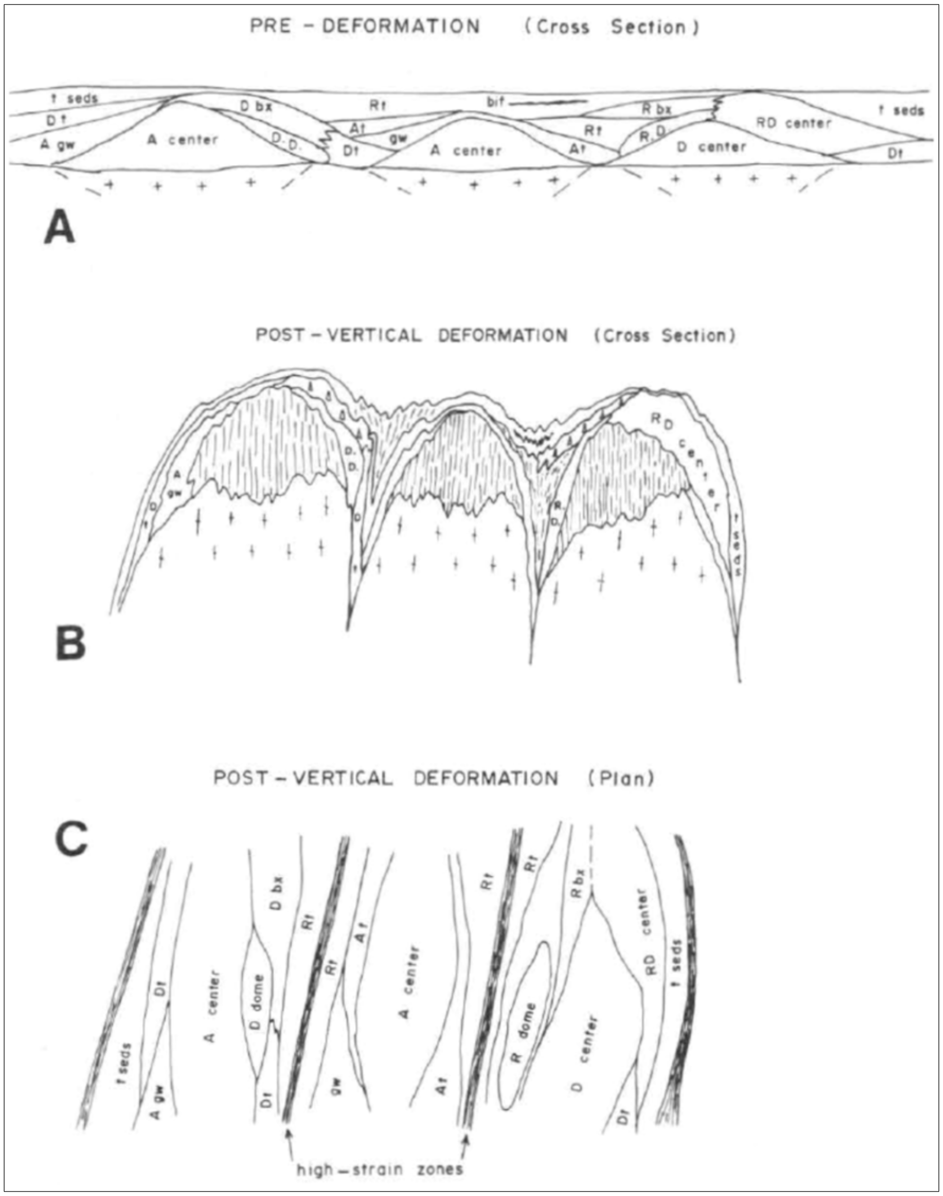

Figure 7-2 Schematic Diagram of Pure Strain, Proterozoic Vertical Deformation (Anderson, 1989a)

In contrast to Anderson's (1989b) pure strain model, Karlstrom and Bowring (1991) suggest that the pervasive, regional northwest- and northeast-striking fabrics within the near vertical strata are the result of multiple, discrete Proterozoic orogenic events. Bergh and Karlstrom (1992) further suggest that two major Proterozoic deformational events are recorded in the vicinity of the Chaparral shear zone, which transects the Zonia Project area (Figure 7-3). The first of these deformation events, as described by Bergh and Karlstrom (1992), is constrained in age to 1.74 to 1.735 Ga, and is locally preserved as subrecumbent, isoclinal folds or as northwest- to north-striking, variably dipping foliation. The second event is interpreted to have taken place at 1.70 Ga, coincident with the timing of the Yavapai Orogeny, and is chronicled by open to tight, upright folds with a northeast-striking, subvertical axial planar foliation.

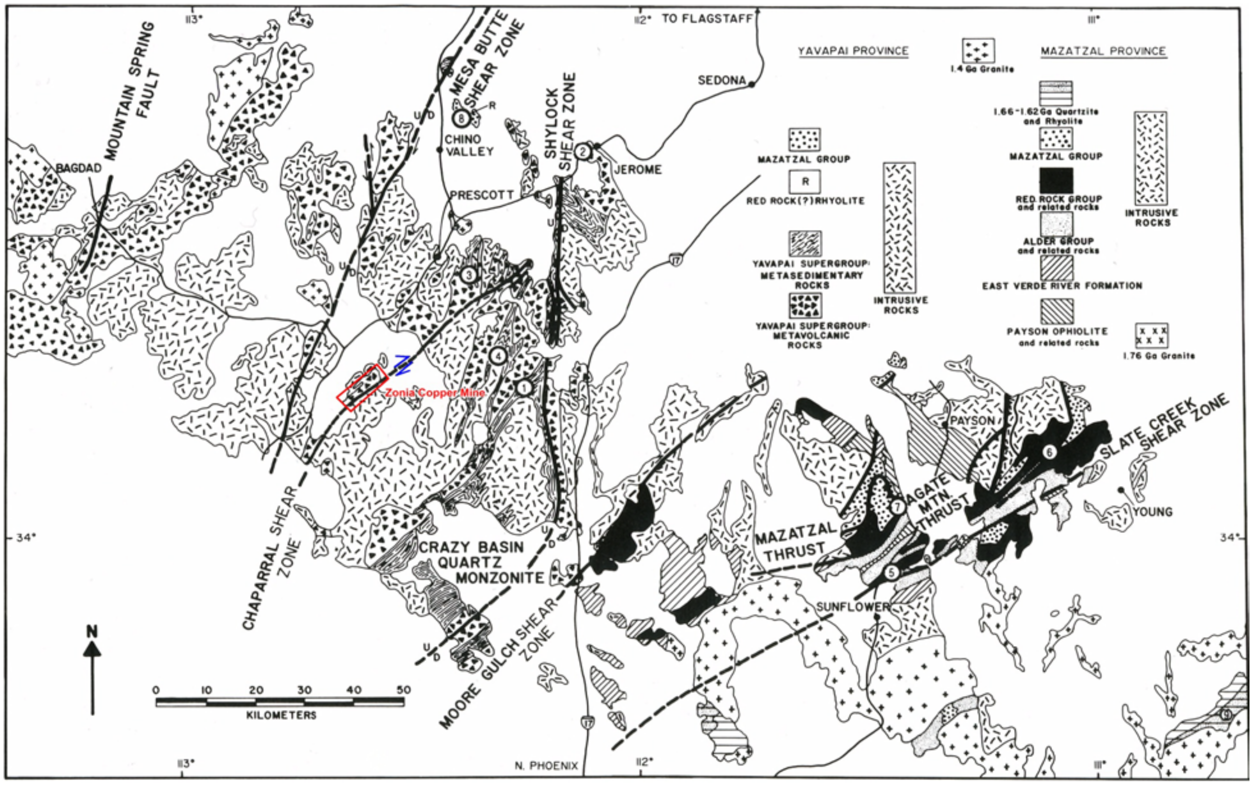

Figure 7-3 Major Structural Components of the Yavapai Block (modified from Karlstrom and Bowring, 1991)

7.2 Local and Property Geology

7.2.1 Bedrock Lithology

Proterozoic bedrock units underlying the Zonia Project area are assigned to the Bradshaw Group (as described by Anderson, 1989a) of the greater Prescott volcanic belt. Within the Project area, the Bradshaw group is represented by greenschist-grade metavolcanic and metasedimentary rocks and weakly to highly deformed granitic intrusive rocks. Overburden consists largely of Quaternary alluvial sands and gravels, Quaternary basalt, and Tertiary to Quaternary aged unconsolidated fanglomerate of the Gila Formation.

The greenstone units ("Grn") are largely represented by massive to weakly foliated, dark green, chloritic meta-basalts (and/or diabase), which include a distinctive chlorite schist, as well as minor breccias and associated tuffs. Granitic rocks are principally comprised of light brown, leucocratic, massive, and holocrystalline monzogranite-to-granodiorite intrusions into the older, more intensely foliated units. Contacts between the granitic and greenstone units are often faulted and/or crosscut by felsic dikes. The granitic units frequently contain rather massive bull quartz veins and pegmatite dikes and are generally only weakly deformed except near lithologic contacts.

A quartz monzonite porphyry ("Qmp") unit forms the central resistive "rib" of the deposit (Figure 7-4). This unit is a relatively light colored, medium grained, intermediate to felsic subvolcanic intrusion. The Qmp is variably deformed, but everywhere contains an abundance of feldspar, quartz, and mafic minerals. Mafic minerals are typically chlorite after biotite and lesser hornblende, and chlorite alteration is likely a product of both hydrothermal and metamorphic processes. The porphyry is not compositionally or texturally uniform throughout the Project area and has historically been interchangeably described as both a monzonite and a diorite. The Qmp contains weak quartz stockwork, minor disseminated sulfides, and weak to locally intense potassic alteration in the form of orthoclase and secondary biotite.

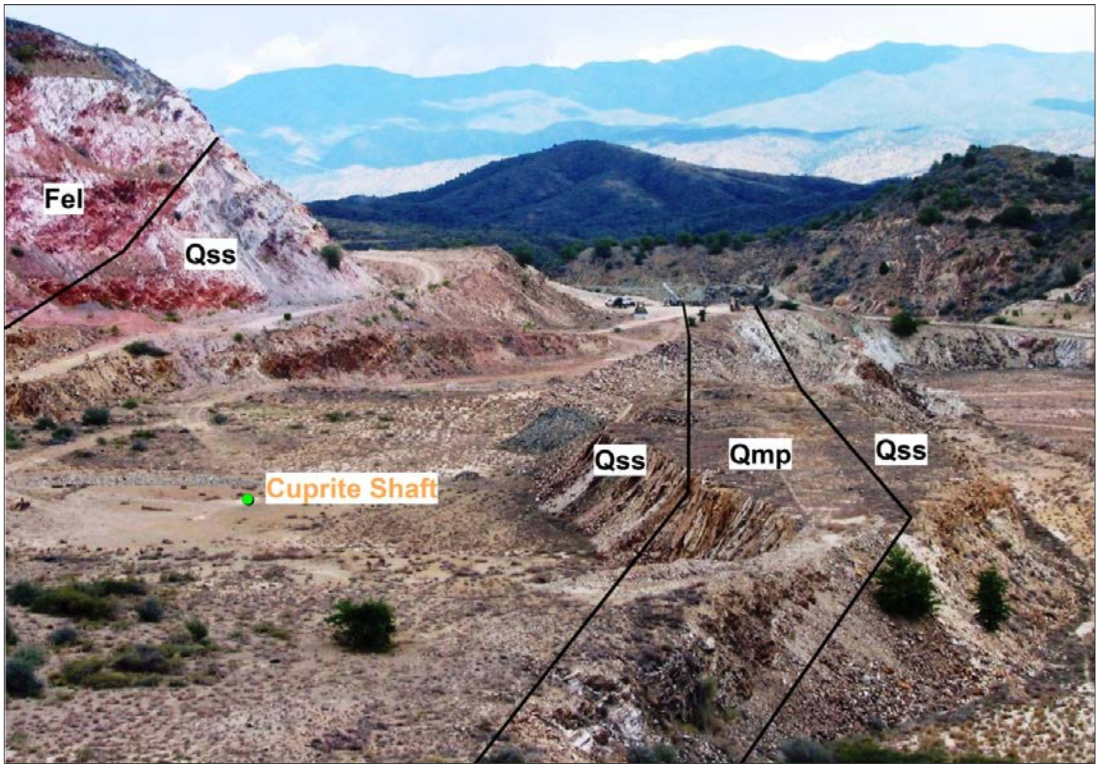

Figure 7-4 View looking North across the South Pit (Fel=undifferentiated felsic intrusion, Qss=Qmpf)

The primary host of high-grade copper mineralization is a distinctive, whitish brown and typically limonite-stained quartz-sericite schist ("Qmpf"). The quartz-sericite schist is presently interpreted as a foliated equivalent of Qmp, which it surrounds and has a texturally gradational relationship with. It is unclear at present if the schist truly represents a product of dynamic metamorphic processes, hydrothermal alteration, some combination of the two, or an entirely distinct unit of highly deformed and altered pyroclastic tuffs and breccias, as has been suggested in the past. It does appear that the schistose textures are best developed (and coincident with concentrated copper mineralization) along the solidified margins of the Qmp, and peripheral to areas of more intense silicification and potassic alteration within the Qmp. For the purposes of this report, the Qmpf is inclusive of discrete, minor occurrences of textural or compositional variations previously logged (and/or mapped) as meta-siliceous sediments or other metasedimentary and metavolcanic lithologies.

The primary lithologic units relevant to the Zonia deposit are shown in plan view (Figure 14-2) and cross section (Figures 14-3 through 14-5) in Section 14.5.3 of this report.

7.2.2 Structure

World Copper considers the regional structural setting of Zonia as typical of the Proterozoic pure shear, vertical deformation of the volcanic belts of Central Arizona as described by Anderson, 1989b. The bedrock units at Zonia show highly variable foliation that changes on the scale of several inches. The foliation strikes principally northeast and steeply dips (70° - 80°) to the northwest within the North pit. Southeast of the pit, the foliation changes to steeply southeast dipping, though it remains unclear whether this is an antiform or simply an over-steepening to the southeast.

The dominant regional structure in the vicinity is the Proterozoic Chaparral shear zone, which is a northeast-striking, anastomosing shear structure with net right-lateral movement over a width of a kilometer or more (Karlstrom et al., 1991; Figure 7-3). The Chaparral shear zone is not firmly delineated (mapped) on the ground at Zonia, but intense argillic alteration along the southeast wall of the North Pit is interpreted by World Copper to represent local exposure of the structure.

North-trending structures cross-cut the earlier northeast structures fairly consistently. These cross-cutting structures show only minor offsets, and, in the North pit area, appear to be down-dropped to the northeast based on core hole and cross-section correlations. The cross-cutting structures are easily recognized because they are conduits for oxidation and are strongly coated with limonite. In some cases, these structures are host to Quaternary basalt dikes.

Contact parallel structures are common and demonstrate a competency and rheological contrast between different rock units and how those units partition regional strain. The pervasively foliated Qmpf appears to absorb strain throughout the unit, while the Qmp exhibits distinct zones of weakness that have slipped and produced a localized schistose texture. Greenstone units appear to localize stress along internal flow units and areas of weakness due to hydrothermal alteration.

A prominent group of east-northeast trending faults and quartz veins occur regionally, extending at least 4 miles north from the south end of the North pit north to the vicinity of the historic Copper Crown mine. Most appear to be relatively short, on the order of 200- to 500-m long, and dip to the north with little apparent offset. Many of these faults host orogenic quartz veins with gold and copper mineralization and they appear to be dilational features related to the dextral movement along the Chaparral shear zone. Almost all the historical workings northeast of the Project are located along these structures.

7.2.3 Mineralization and Alteration

Copper mineralization at Zonia is thought to result from the following sequence of events:

- Deposition of disseminated pyrite-chalcopyrite sulfides in a subvolcanic porphyry setting, slightly post-dating intrusion of unit Qmp, approximately 1.75 Ga,
- Regional-scale vertical deformation imposed by the voluminous intrusion of the granitic batholiths around the greenstone belts, with greenschist facies metamorphism related to the Yavapai Orogeny from 1.75 to 1.69 Ga, followed by exhumation,
- Oxidation, mobilization, and supergene enrichment of primary copper sulfides along foliation and fracture plane controls, followed by burial, and

- Second exhumation and oxidation of the supergene-enriched sulfides and remobilization of the copper oxide minerals into structural anomalies, resulting in *in-situ* and transported copper oxides throughout the various lithologic units within the Project area.

Copper mineralization occurs primarily within the foliated Qmpf, the protolith of which is presumed to be argillically altered Qmp, but mineralization is also concentrated along the contacts of various felsic units, as well as between mafic and felsic units. The latter occurrence is considered a late-stage effect of supergene, mobilized copper reacting with the more calcic mafic units.

Known mineralization extends approximately 8000 feet along strike parallel to the regional (northeast) trend of foliation, with a dip of 80 to 85 degrees to the northwest. Width of the mineralized zone is quite variable, ranging from 250 to about 1000 ft. Ore minerals primarily consist of chrysocolla, black copper oxides (tenorite, melaconite, pitch), cuprite, native copper, malachite and azurite, though occasional shipments of chalcocite were reportedly made from the underground Cuprite shaft and from the North pit.

Current interpretation proposes that regional deformation related to the Yavapai Orogeny sheared the originally disseminated and blebby pyrite-chalcopyrite mineralized horizons into folia-form mineralization, parallel to schistosity, and ranging from vertical to a dip of ~45°. Subsequent oxidation-remobilization of the copper from chalcopyrite (~35% Cu) followed the foliation down-dip to the groundwater table, where copper then reprecipitated as enriched sulfide minerals, primarily secondary chalcocite (~78% Cu). This chalcocite blanket was then itself oxidized during a second lowering of the water table and copper further mobilized into reactive units below. The early underground mining at Zonia exploited the high-grade chalcocite horizons preserved at depth.

Figure 7-5 shows a high-grade interval from RRC09-27 grading 11.2%TCu over 8.5 feet and 92% copper recovery. Samples display supergene chalcocite with strata-bound silica, oxidizing to a thin, black copper pitch oxide rim, then maturing to malachite and then to chrysocolla. This is a classic reaction sequence in copper deposits, as documented by Schwartz (1934).

Figure 7-5 High-grade copper mineralization in Drillhole RRC-09-27

Figure 7-6 provides a schematic illustration of the overall development of copper and iron oxides at the Project, wherein pyrite content was low, and oxidation followed a path that developed distinctive red hematite over zones of leached secondary copper (Chavez, 2000).

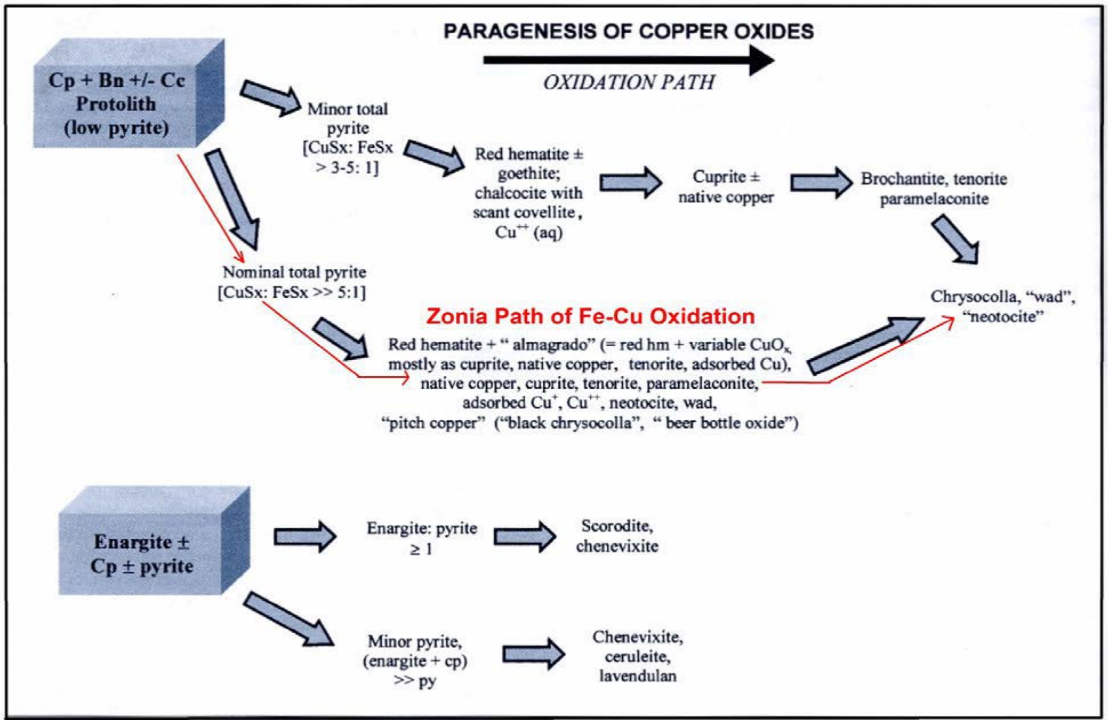

Figure 7-6 Genesis of Copper Oxides Flow Chart (Chavez, 2000)

As described by Schmidt (2021) pit geology is dominated by a leached cap of pervasive supergene alteration and limonite that suggests a primary percent-volume pyrite=chalcopyrite mineralization preexisted oxidation and weathering. Sericitic alteration is extensive and obscures original rock textures. Clays representative of argillic alteration are readily observed in the South pit. Hematite, jarosite and goethite occur as fracture coatings and boxwork veinlets ranging from 0.1- to 0.5-inches in width, and hematite veins up to 2 inches thick suggest that the chalcopyrite-quartz veins and secondary chalcocite favor the sericite schist.

8. DEPOSIT TYPE

Previous authors have described the Zonia deposit as a mesothermal pyritic replacement deposit (Allen and Spencer, 1957), a volcanogenic massive sulfide ("VMS") deposit (Chadwick, 1964; Davis, 2007), and an oxidized porphyry copper deposit (Cameron, 1975; WSE, 1995). World Copper presently considers mineralization at Zonia to be the product of a porphyry copper system, which is the conceptual deposit model on which current plans for future exploration are based.

Confusion surrounding the genetic origin of the deposit can be partly attributed to the fact that deep-seated Proterozoic structures in central Arizona are known crustal controls of Laramide intrusions (Anderson, 1982). The operating open pit copper mine at Bagdad is in a former massive sulfide district (Baker III et al., 1968), as is the well-known Copper Basin breccia pipe (Johnson et al., 1961) 12 miles north of the Project. The Bagdad and Copper Basin deposits are both generally interpreted as Laramide-aged, porphyry-related systems. While mineralogy and alteration observed at Zonia is similar to that of numerous Laramide-aged porphyry copper deposits hosted by Proterozoic greenstone rocks in central Arizona, the age of mineralization at Zonia is as yet undetermined and deformation of mineralized veins coincident with foliation at Zonia suggests that the age of the Zonia deposit is quite likely concurrent with the timing of Precambrian deformation.

The current view of the petrogenetic history of the deposit is summarized as follows:

1. Deposition of pyrite-chalcopyrite in a subvolcanic porphyry environment;
2. Intense deformation during the Yavapai Orogeny;
3. First-stage of oxidation and subsequent supergene enrichment;
4. Secondary oxidation and enrichment.

Within the resource area, the Zonia deposit is characterized by mostly oxidized, supergene-enriched stringer, vein, fracture, and disseminated oxide mineralization. The original pyrite-chalcopyrite assemblage underwent intense oxidation, with copper remobilized into fluid flow conduits (fractures) and concentrated in more mafic, calcareous reactive units (the greenstone and chlorite schist) and at the water table, ultimately resulting in the development of chalcocite-rich lenses that are known to extend up to 800 feet deep along the steep, west-dipping foliation of host rocks.

This supergene mineralization experienced a second phase of oxidation and partial remobilization due to regional uplift and erosion, as well as the lowering of the water table, which resulted in a large deposit of *in-situ* and transported copper oxide mineralization that masks much of the primary sulfidic depositional environment. The processes of oxidation followed by supergene enrichment and then secondary oxidation are well-documented by Locke (1926), Blanchard (1968), and Anderson (1982).

The original sulfide minerals were principally pyrite and chalcopyrite, with minor bornite, molybdenite, and sphalerite. Grid sampling of the pit area tentatively indicates an overall mineral zonation of inner copper, molybdenum, and gold, zoning outwards to zinc and manganese. Such zoning is characteristic of porphyry copper deposits, and additional work should be carried out to confirm/define its occurrence at Zonia. Further evidence to support the porphyry copper deposit model includes the cross-cutting relationships exhibited by quartz-chalcopyrite veins and veinlets, the type and style of both supergene and hypogene alteration, and the regional position of the deposit within an island arc setting. Structure, alteration, and oxide copper minerals are considered the principal guides to further exploration.

9. EXPLORATION

No surface exploration has yet been carried out at the Zonia Project by or on behalf of World Copper. Historical exploration, that which was carried out under previous owners and operators, is discussed in detail in report Section 6.

10. DRILLING

No drilling exploration has yet been carried out at the Zonia Project by or on behalf of World Copper. Historical drilling exploration, that which was carried out under previous owners and operators, is discussed in detail in report Section 6.

11. SAMPLE PREPARATION, ANALYSES AND SECURITY

No sampling has yet been carried out at the Zonia Project by or on behalf of World Copper. Historical sampling, that which was carried out under previous owners and operators, is discussed in detail in report Section 6.

11.1 Opinion on Adequacy of Historical Sample Preparation, Analysis and Security

The general lack of supporting documentation regarding sample handling, analysis, security, etc., and original assay certificates for large portions of the drillhole database presents a modest, but noteworthy, limitation to the validation effort. However, the QP used the best information available, and as much of the available information as possible, to validate the drillhole database. The methods, information used, and results of the validation effort are discussed in detail in report Section 12.2. While there may exist some number of incorrect assay values within the drillhole database, the totality of all the copper assays is considered by the QP to be representative of the Project.

The QP finds the historic data suitable for use in guiding exploration, at least as far as identifying potential targets for future or additional exploration. Drillhole and surface samples collected post-2008 generally do have sufficient associated supporting documentation for a meaningful evaluation of accuracy and reliability, and the QP finds this data to be suitable for use in exploration planning (surface samples) and mineral resource estimation (drillhole data).

Based on observations and conversation with World Copper personnel during the QP site visit, in conjunction with the results of QP's review and evaluation of historical sample handling, analytical procedures, and QA/QC, the QP makes the following recommendations:

- Comprehensive QA/QC analytical protocols and procedures should be applied during all future drilling or surface sampling programs, including formal and consistently applied acceptance/rejection tests. Each round of QA/QC analysis should be documented, and reports should include a discussion of the results and any corrective actions taken.
- Retained samples presently stored on-site should be properly inventoried and catalogued, including all existing drill core samples, pulp rejects, sonic and RC drill cuttings, and RC chip boards. Moving the core samples presently stored in the open-air shop building to a secure on-site storage facility or container should be considered a matter of high priority.

12. DATA VERIFICATION

Data verification efforts carried out by HRC include:

- Discussions with World Copper personnel,
- Personal inspection of the Project area,
- Mechanical audit of the exploration drillhole database received from World Copper,
- Detailed review of additional information obtained from historical reports and internal company reports,
- Partial validation of the database geologic information as compared to the (limited) paper logs, and
- Partial validation of the assay values contained in the exploration database as compared to (limited) assay certificates provided by World Copper.

12.1 Site Visit

HRC representative and QP J.J. Brown conducted an on-site inspection of the Zonia Project on August 10 and 11, 2022, in the company of World Copper representative and geologist Mr. Gene Schmidt. While on site, Ms. Brown conducted general site and geologic field reconnaissance including visual examination of available drill core and RC chip boards, examination of surface bedrock exposures, and ground-truthing of reported drill collar locations. Ms. Brown also reviewed with Mr. Schmidt the conceptual geologic model, exploration management protocols, and historic drilling and sampling procedures and associated quality assurance and quality control ("QA/QC") procedures.

Prior to the site visit, HRC requested that approximately 25 specific drill core sample intervals be made available for visual examination and check sampling. World Copper was unable to provide the sample intervals requested, as the drill core remaining on site is limited to that from a small number of the 1964 Z-series drillholes and the Redstone drillholes completed between 2008 and 2010. While on site, Ms. Brown selected a total of 12 samples from the drill core available (Table 12-1) and submitted those samples to Skyline Assayers and Laboratories in Tuscon, Arizona for check analysis (total-copper perchloric). Results of the check sampling effort are excellent, as shown in Figure 12-1.

Table 12-1 Zonia Check Sample Intervals

HOLE ID	FROM (ft)	TO (ft)	Check CuT(%)	Original CuT(%)
RRC-10-21	696.5	706.5	2.04	2.05
RRC-10-19	323	333	1.12	1.08
RRC-10-19	333	342.5	1.6	1.61
RRC-10-19	359	366.5	1.52	1.56
RRC-10-14	167	175	0.31	0.42
RRC-10-04	349.5	355.5	0.37	0.38
RRC-10-16	706	711	0.4	0.32
RRC-10-16	716.5	724.5	0.79	0.66
RRC-10-10	528.5	537	0.24	0.19
RRC-10-17	21	35.5	0.49	0.51
RRC-09-27	8	16.5	13.28	11.12
RRC-10-16	711	716.5	0.62	0.63

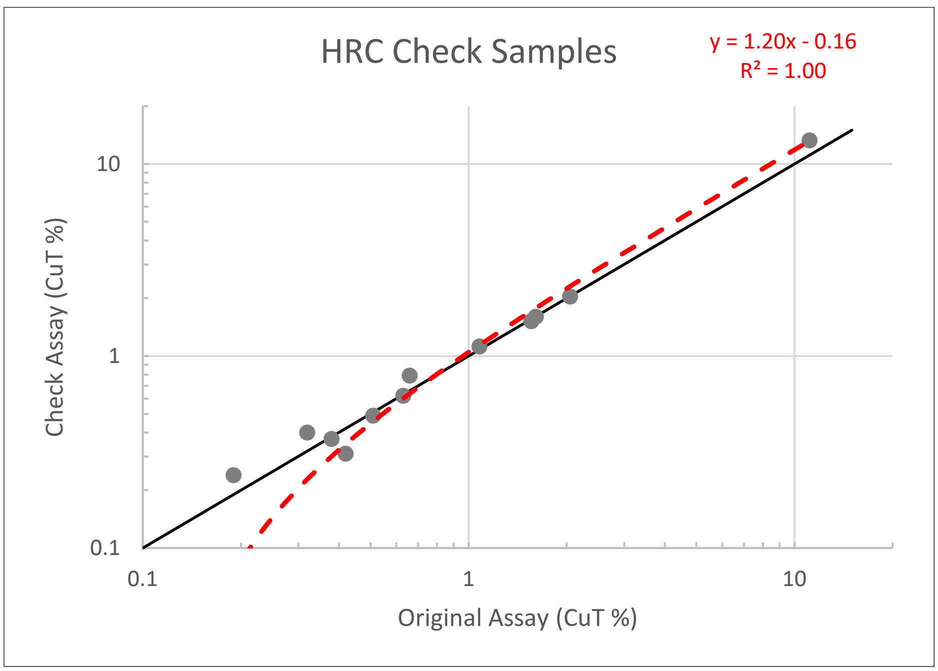

Figure 12-1 Zonia Check Sample Results

Field observations during the site visit generally confirm previous reports on the geology of the Project area. Bedrock lithologies, alteration types, and significant structural features are all consistent with descriptions provided in existing Project reports, and the QP did not see any evidence in the field that might significantly alter or refute the current interpretation of the local geologic setting or conceptual geologic model on which current exploration plans are based.

12.2 Database Audit

Several methods were used to verify the assay results in the database provided by World Copper ("WC"). The database provided by WC was in the form of four Excel spreadsheet files containing drillhole collar locations (Zonia_DH_collars.xlsx), down-hole survey data (Zonia_DH_survey.xlsx), and two files containing both assay and lithology information (Zonia_DH_Assays_all.xlsx and Zonia_DH_lith-min_2018.xlsx).

12.2.1 Mechanical Audit

The database files described above were converted to .csv files and imported into Leapfrog Geo® software version 2021.2.5 ("Leapfrog"). Leapfrog automatically checks the files for overlaps, gaps, duplicate intervals, total drillhole length and ID inconsistencies, non-numeric assay values, and negative numbers. All issues identified during the mechanical audit process were corrected by either changing, deleting, or ignoring the records. Ignoring a record is a process in Leapfrog that prevents the software from using the record, rather than deleting files from a database. Most errors identified in the mechanical audit were corrected prior to mineral resource estimation. The following are issues identified in the mechanical audit which are inherent in the database and could not be corrected.

- Drillholes USBM-892S, WW-08, A-014 and A-016 were not included in the mineral resource estimate due to lack of survey, and/or assay and lithology information.
- The mechanical audit identified 6 drillholes/underground channel samples: UG-0001, UG-0005, UG-0017, USBM-899S, UG-DH-22 and UG-DH-34 with no corresponding collar ID and were not included in the mineral resource estimate.
- None of the drillholes in the survey file contain evidence of a down-hole survey. During drilling, drillholes will inevitably deviate or drift from a straight-line projection, with the amount of drift increasing with increasing length and decreasing inclination. Since over 70% of the drillholes are oriented vertically, where drift is expected to be minimal, and since the deposit type and mining method is less sensitive to location accuracy, the overall impact to the mineral resource grade estimate due to the lack of down-hole survey is low but will have an impact on mineral resource classification.
- Two sets of drillholes had identical collar locations and surveys. The first 210 feet of intervals in E-525 conflict with the first 210 feet in RRC-09-21 which was drilled as a twin of the former hole. The first 210 feet in E-525 were removed from the mineral resource estimate in favor of the more recent intervals from RRC-09-21. Similarly, the intervals in WW5 conflict with intervals in F-357. The intervals in WW5 were removed from the mineral resource estimate in favor of F-357.

12.2.1.1 *Comparison of Collar Elevation to Topography*

In 2010, Redstone resources contracted an aerial survey of the site, from which Orthoshop Inc. of Tucson, AZ developed a 2-foot contour map of the area encompassing the patented claims and the Bragg Estate. The projection of the topography is Arizona State Plane Central using the NAD 1983 geographic coordinate system. The topographic survey was used to generate 3D surfaces to include in the mineral resource estimate.

The topographic surface reflects the current topography at the Project, not the original topography prior to production, which was carried out between 1966 and 1975. To account for this, drillhole collars were classified relative to the current surface as either Mined Out ("MO"), on Surface ("SRF"), Underground ("UG"), or Outside for drillholes beyond the topographic file extent. The elevation in the collar file for those drillholes classified as SRF was compared to the topographic elevation. The calculated difference was grouped into four bins: an absolute difference within 5 feet (Excellent), between 5 and 10 feet (Good), between 10 and 20 feet (Poor), and greater than 20 feet (Very Poor). The comparison showed very good agreement between the elevation in the collar file and the topographic elevation with 87% of all drillholes within +/- 10 feet of the topographic elevation. Those drillholes with a category of SRF and an absolute difference greater than 10 feet, had their collar elevation adjusted to the topographic surface prior to mineral resource estimation.

12.2.2 Manual Audit

Total-copper, acid-soluble copper, and cyanide-soluble copper values contained in the assay table were compared to the best available information including assay laboratory certificates as .pdf or as excel spreadsheets, handwritten assay laboratory certificates, and handwritten or typed drillhole logs containing assay information. The information available is associated with drilling by Miami Copper, McAlester Fuel Co., and Redstone Resources.

The total-copper values in the assay table were compared against scans of the original drillhole logs with handwritten copper assays for Miami Copper. In total, 2,735 records, approximately 80% of all Miami Copper results, were compared. A total of 189 records were found to have incorrect total-copper assays, an error percentage of 6.9%. 104 of those discrepancies were found in M-005. When drillhole M-005 is removed from the analysis the error percentage drops to 3.2%. The 189 erroneous total-copper results were replaced with the correct values in the Assay table.

The total-copper values from McAlester Fuel Co. ("McAlester") in the assay table were compared against scans of the original assay certificates from the Iron King Assay Office. Out of 595 samples checked (approximately 7% of McAlester samples), 65 (10.9%) total-copper results did not match the values in the assay certificates. Review of the incorrect intervals found the majority were the result of a translational error. Translational errors occur when the assays are consistently entered for the wrong interval. If additional translation errors exist within the database, they are unlikely to represent a significant impact on the mineral resource estimate since the correct assay is nearby and likely within the composite length.

Scans of drillhole logs from McAlester with total-copper results were used to compare the total-copper values in the assay table. While not an assay certificate, the information does represent a time stamp of copper assays and is a check that the values have not changed since then. A total of 7,405 records were checked (88% of McAlester Assays) using this method and only 46 samples (0.7%) had incorrect values compared to the drillhole logs.

In total, 8,000 records were checked against handwritten assay certificates or drillhole logs constituting 95% of all McAlester assays and 29% of the total assay database. Only 111 records were found to be incorrect, an error percentage of 1.5%. The 111 erroneous total-copper results were replaced with the correct values in the Assay table.

Assay certificates from Skyline Assayers & Laboratories ("Skyline") in the form of Excel spreadsheets were used to compare total-copper, acid-soluble copper, and cyanide-soluble copper results in the assay table for the drillholes RRC-10-01 through RRC-10-22 completed in 2010. In total 1,313 total-copper records, approximately 15% of all total-copper assays collected by Redstone, were checked with no errors identified. Out of 615 acid-soluble and cyanide-soluble copper results, no errors were identified, though the results for acid-soluble and cyanide-soluble copper were missing from RRC-10-22 in the assay table.

In total, 12,048 total-copper results were checked against multiple sources of information representing 44% of the total database. Of those, only 300 records were found to have incorrect assays resulting in an error percentage of 2.6%. An error percentage that the QP considers acceptable assuming a similar error percentage in the remaining database.

12.2.3 Comparison of Total-Copper Results

Total-copper results in the Assay table, which were verified in the manual audit, were compared to total-copper results in the Lith_min table. The two assay result tables were apparently constructed independently of each other. Out of 30,341 total records 425 (1.4%) had mismatching intervals or total-copper results. 327 of those mismatching records are a result of a translation error for the first interval for drillholes completed prior to Redstone. An example of this error is presented in Table 12-2. Note how the translation error crosses over two different Companies: E-538 (Equatorial) and F-001 (McAlester). The results in the assay table were considered correct in this instance since many of the records in the assay table for McAlester were verified to be correct in the manual audit.

Table 12-2 Example showing Translation Error in Lith_Min Table

Assay Table					Lith_Min Table				
HOLE_ID	FROM	TO	INTERVAL	CuT%	HOLE_ID	FROM	TO	INTERVAL	CuT%
E-537	0	5	5	0.28	E-537	0	5	5	0.21
E-538	0	5	5	0.2	E-538	0	5	5	0.28
F-001	0	5	5	0.02	F-001	0	5	5	0.2
F-002	0	5	5	0.23	F-002	0	5	5	0.02
F-003	0	5	5	0.31	F-003	0	5	5	0.23
F-004	0	5	5	0.53	F-004	0	5	5	0.31
F-005	0	5	5		F-005	0	5	5	0.53
F-007	0	5	5	0.03	F-007	0	5	5	
F-008	0	5	5	0.62	F-008	0	5	5	0.03
F-009	0	5	5	1.28	F-009	0	5	5	0.62
F-010	0	5	5	0.02	F-010	0	5	5	1.28
F-011	0	5	5		F-011	0	5	5	0.02
F-012	0	5	5	0.65	F-012	0	5	5	-9
F-013	0	5	5		F-013	0	5	5	0.65
F-014	0	5	5	0.35	F-014	0	5	5	-9
F-015	0	5	5	0.16	F-015	0	5	5	0.35
F-016	0	5	5	0.07	F-016	0	5	5	0.16
F-017	0	5	5	0.11	F-017	0	5	5	0.07
F-018	0	5	5	0.1	F-018	0	5	5	0.11
F-019	0	5	5		F-019	0	5	5	0.1
F-020	0	5	5	0.18	F-020	0	5	5	-9
F-021	0	5	5	0.38	F-021	0	5	5	0.18
F-022	0	5	5		F-022	0	5	5	0.38
F-023	0	5	5	0.26	F-023	0	5	5	-9
F-024	0	5	5	0.16	F-024	0	5	5	0.26

One mismatching record not related to translation error was identified in hole E-510 where the total-copper in the Assay table and Lith_min table is 0.03% and -9 ("missing") respectively. Since either value is well below cut-off, the result from the Assay table was accepted.

Eight records in the Copper Mesa drilling collected in 2008 had matching copper assays, but differing intervals between the two tables. Review of the core photos found that there was material that could be sampled across the length of the interval in the Assay table for six of the records, and the interval in the Assay table was accepted. Using the intervals in the Lith_min table would result in a missing interval. Review of the core photos did show the Assay table sampled over a zone of no recovery and the interval from the Lith_min table was accepted. The remaining 89 mismatches occurred in intervals collected by Redstone in 2009 and 2010.

- The Lith_min table had 56 instances where there were 2 samples as opposed to a single interval in the Assay table. Since the intervals in the Lith_min table recorded sample numbers and were more reasonable sample lengths, the intervals and copper assay results were accepted.
- One interval in the Lith_min table had an overlapping interval and the interval in the Assay table was accepted. Four intervals from the 2010 drilling had differing total-copper assays, since these records had been verified during the manual audit, the copper result from the Assay table was accepted.

- One duplicate interval was identified in the Lith_min table and was removed.
- There was a minor difference (0.5 feet) at the start of an interval between the Assay table and Lith_min table, in order to avoid a missing interval, the interval in the Assay table was accepted.
- The Lith_min table showed 9 instances of sampling over zones of no recovery in the Assay table. Review of the core photos confirmed the zones of no recovery were present and the intervals from the Lith_min table were accepted.
- There were 17 instances where the Assay table had intervals exceeding the total depths indicated in the Lith_min table. Review of the core photos found the intervals in the Assay table were incorrect. Those assays were deleted and the total depths in the collar table were adjusted.

12.2.4 Previous (Historical) Check Sampling

Several operators and independent consulting firms conducted duplicate analysis and check samples since 1970. In cases, were the original certificates from the check or duplicate samples were available, the QP reviewed the results and discusses them below.

Certificates showing duplicate total-copper results from the Iron King Assay Office for 12 drillholes were plotted against the total-copper results in the Assay table (Figure 12-2) by the QP. The comparison shows a decent R^2 correlation coefficient of 0.89, however, the original assays usually plot above the normal line, where X=Y, indicating a slight bias to the high end in the original assays compared to the duplicate results across all grade ranges.

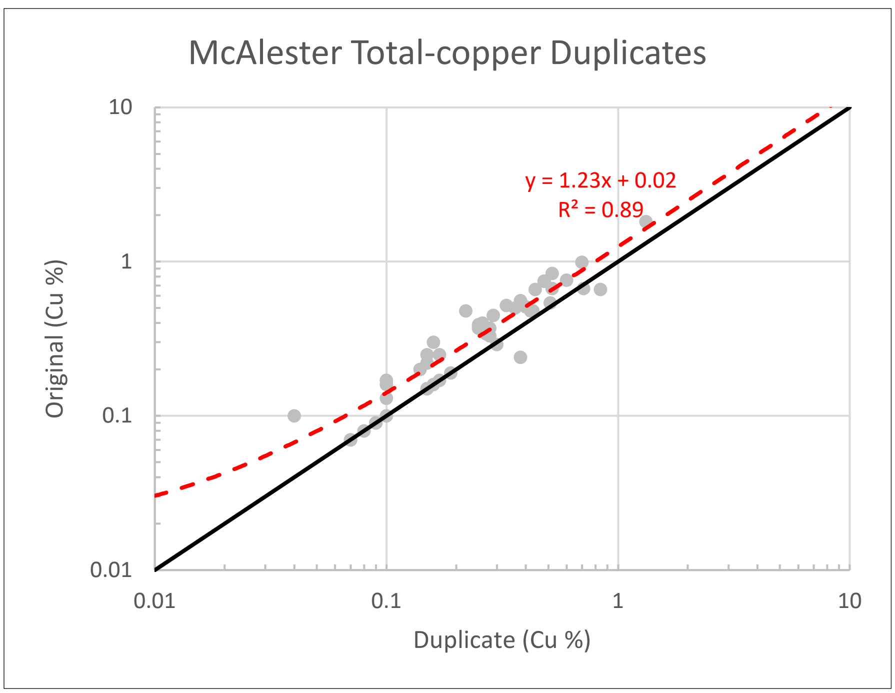

Figure 12-2 Results from McAlester Duplicates

Fifty-nine pulps covering 295 feet from drillhole F-201 were re-assayed by Actlabs-Skyline in 2000. When plotted against the original results in the assay table (Figure 12-3), the results showed an excellent R^2 correlation coefficient of 0.97. Similar to the duplicates discussed above, most of the results plotted above the normal line indicating a slight bias to the high end across all grade ranges for the original assays.

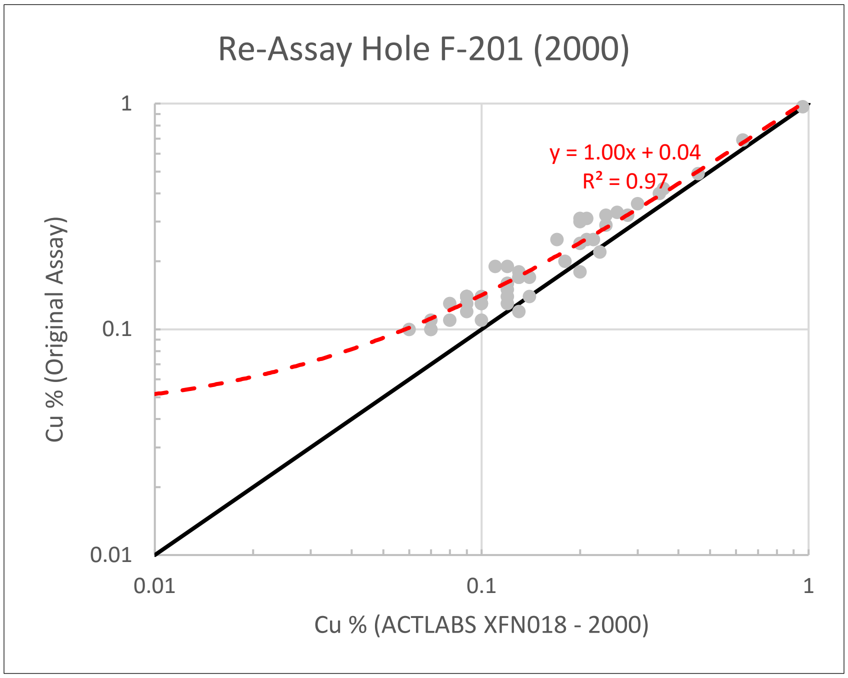

Figure 12-3 Pulp Re-Assay Results from McAlester Drillhole F-201

In 2007, forty-six check samples from 12 McAlester drillholes with total-copper grades between 0.1% and 1.0% were analyzed by ALS Chemex. The total-copper results from the check assays were plotted against the original total-copper results (Figure 12-4). The R^2 correlation coefficient of 0.85 is lower than ideal, but still decent. Again, most of the check samples plot above the normal line indicating a slight bias to the high end in the original assays.

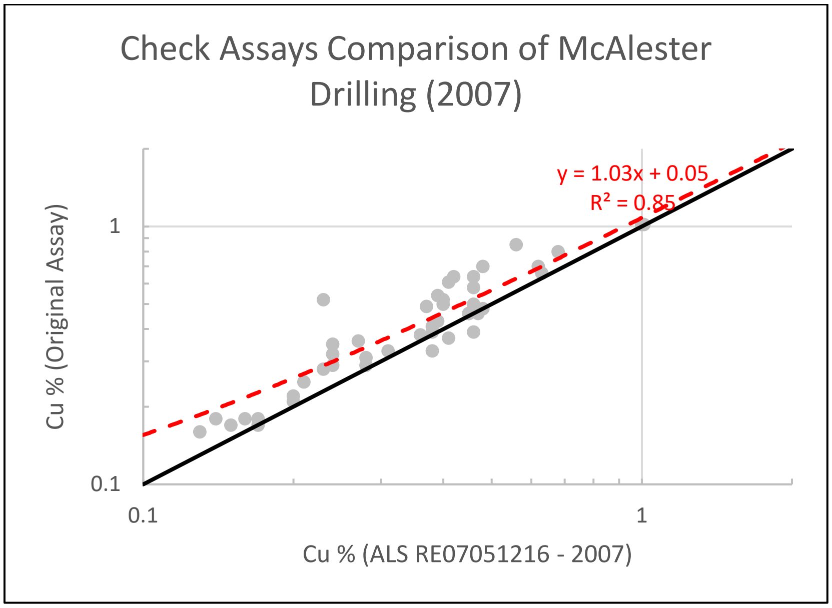

Figure 12-4 Check Assay Results of McAlester Drilling

In 2016, Cardero Resources submitted 48 pulps from the Redstone drilling for re-assay at Bureau Veritas Commodities Canada Ltd. ("Bureau Veritas"). The comparison between the Original and Re-Assay shows nearly no difference with an R^2 correlation coefficient of 1.00 (Figure 12-5).

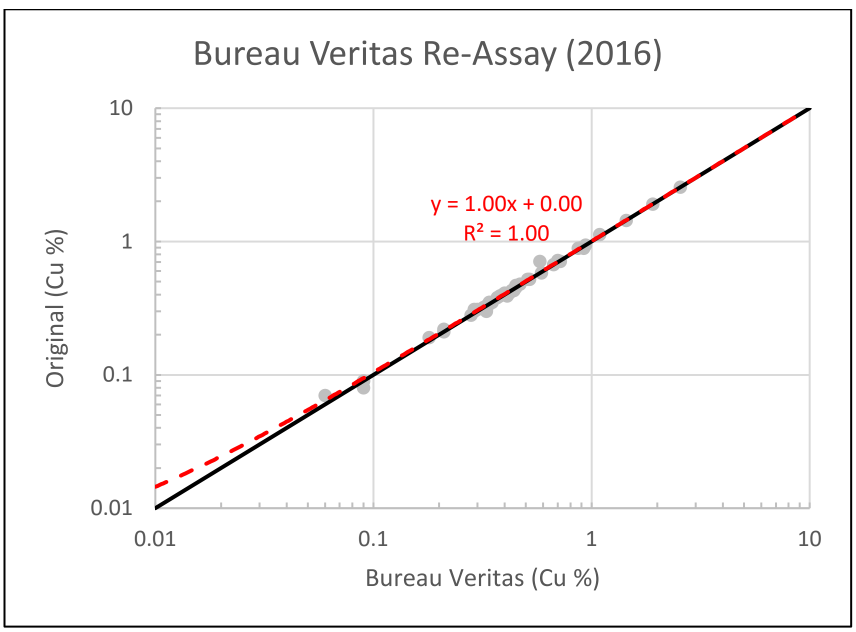

Figure 12-5 Pulp Re-assay Results from Redstone Drilling

12.2.5 Comparison of Twin Drillhole Copper Results

Copper Mesa and Redstone Resources twinned drilling conducted by McAlester, Miami Copper and Equatorial Mining. Copper Mesa twinned 16 drillholes in 2008 and Redstone Resources twinned 30 drillholes. Three drillholes twinned Equatorial drilling (Drillhole prefix E-5XX), four drillholes twinned Miami Copper drillholes (prefix M-XX or RH-XX), and the remaining 37 drillholes twin McAlester drilling (prefix F-XXX). Downhole plots were constructed comparing the total-copper assays from both drillholes. To account for differences in starting elevation do to mining activities, the assay intervals were tagged with an elevation mid-point. Four of the five drillholes twinning Miami copper drillholes showed good agreement between them. Of the 37 drillholes twinning McAlester drilling, 19 had good agreement, 11 drillholes showed a slight high-end bias in the McAlester copper results, 1 drillhole showed higher average copper grades in the Redstone drilling, four drillholes did not show good copper correlation, and two drillholes were determined not to be appropriate twins. All three twins of Equatorial drilling showed good agreement. Figures 12-6 through 12-9 show examples of downhole plots with good agreement, good agreement with a shift in elevation accounted for, bias toward the high end in the older drillhole, and a downhole plot where the copper grades are divergent. Overall, 26 (60%) of the twin drillholes showed good agreement with the older drilling lending some confidence to the copper values associated with the older holes. An additional 11 drillholes (25%) confirmed the slight high-end bias of the original McAlester assays observed in the duplicate and check assays.

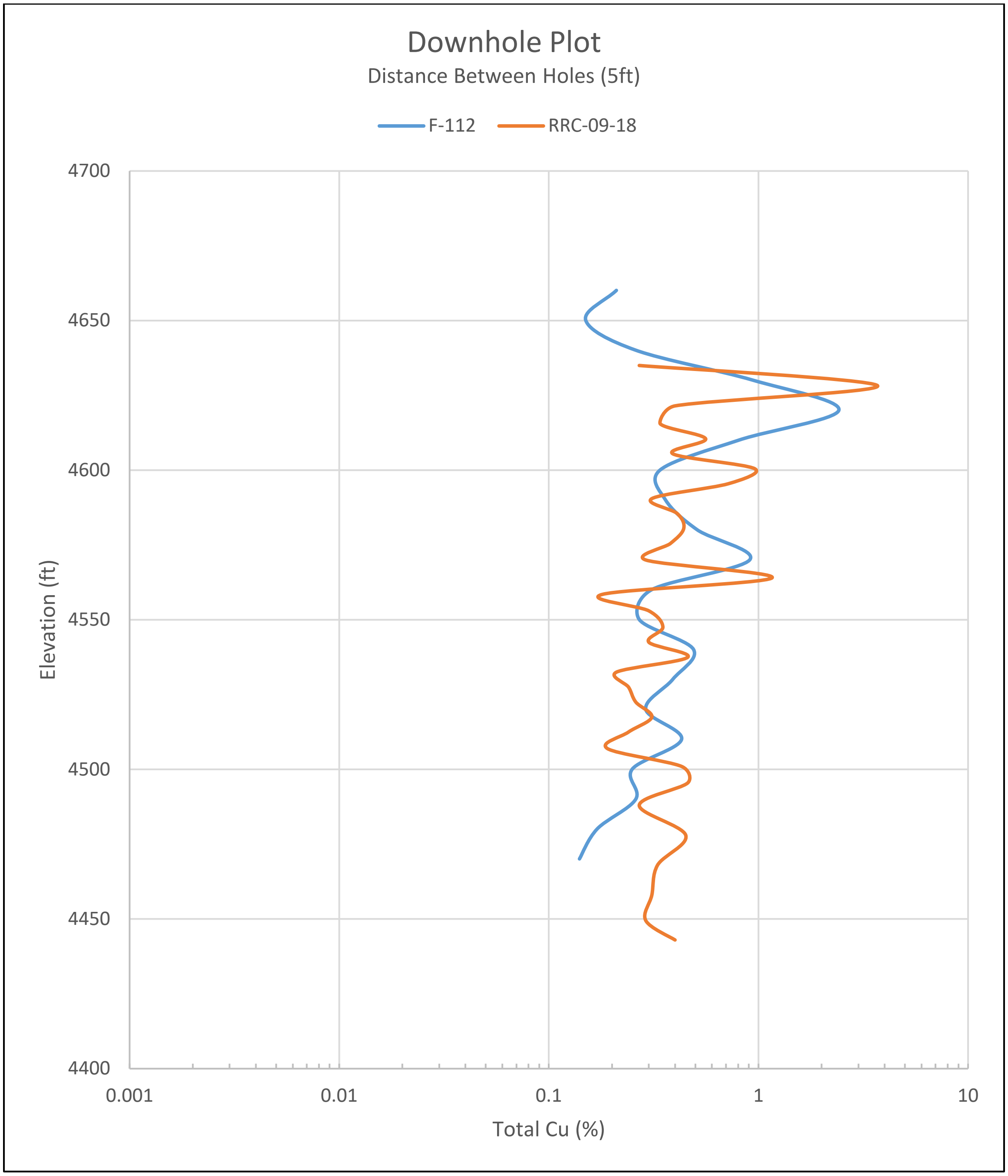

Figure 12-6 Downhole Plot Showing Good Agreement Between Original and Twin Drillholes

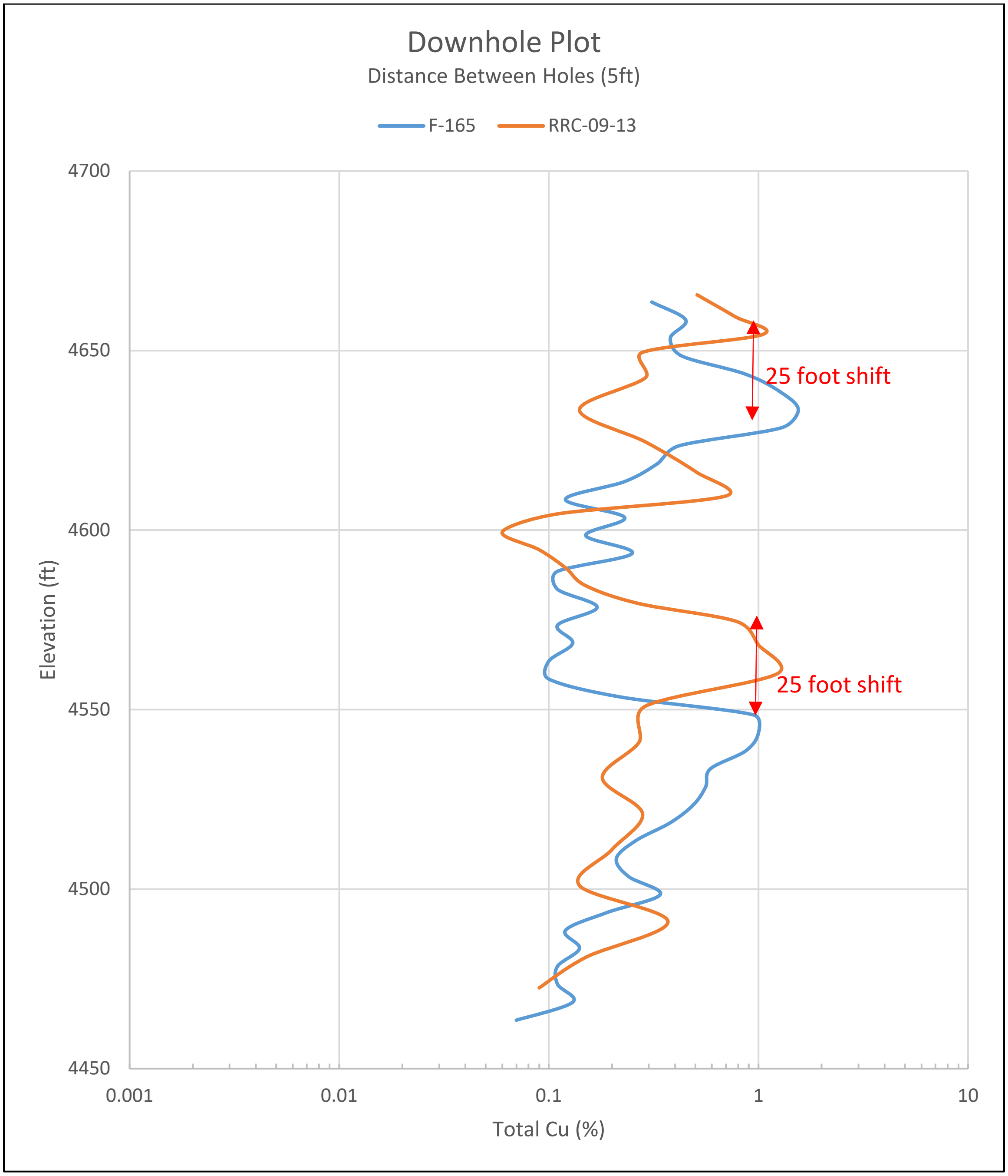

Figure 12-7 Downhole Plot Showing Shift Between Original and Twin Drillholes

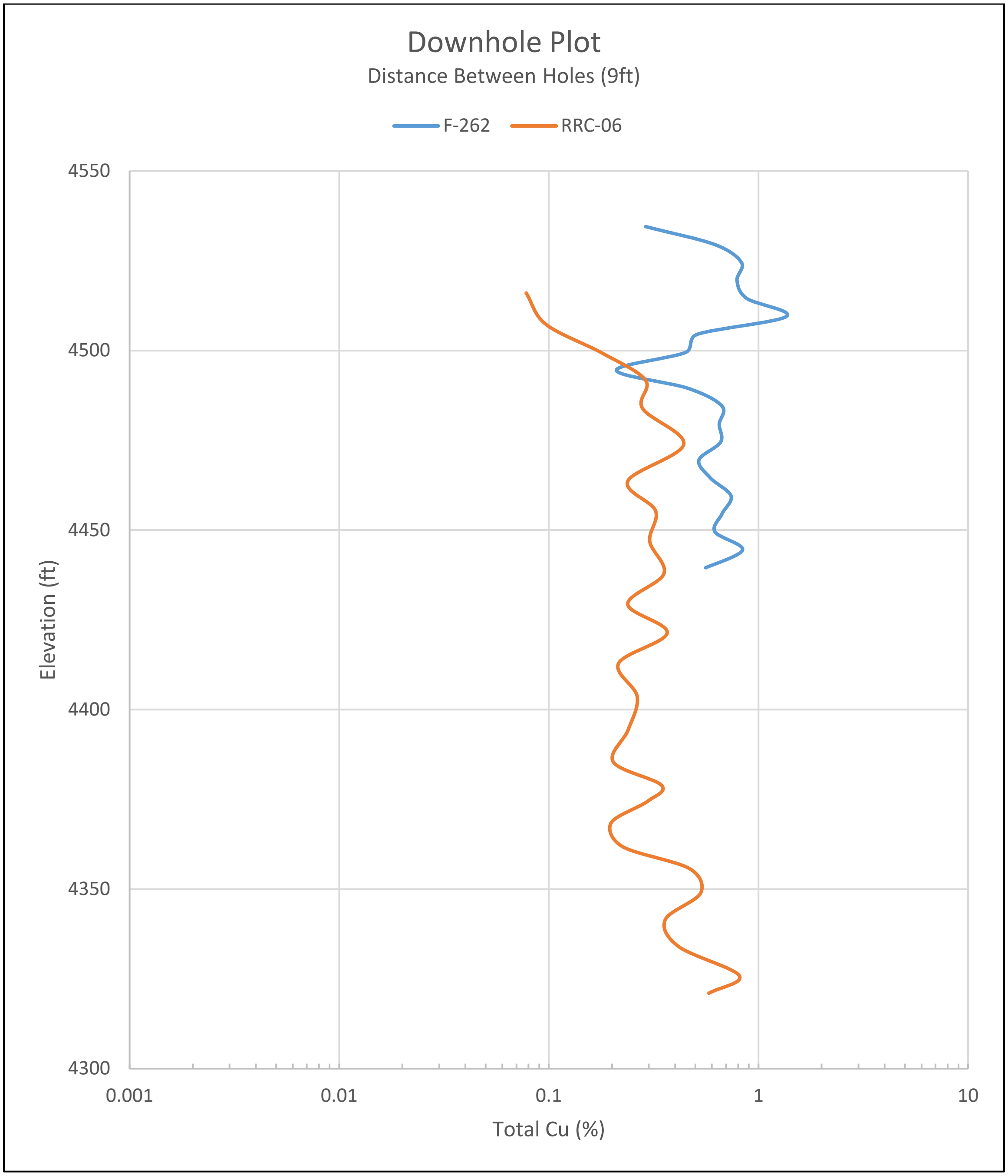

Figure 12-8 Downhole Plot Showing Slightly Higher Grades in the McAlester Drillhole

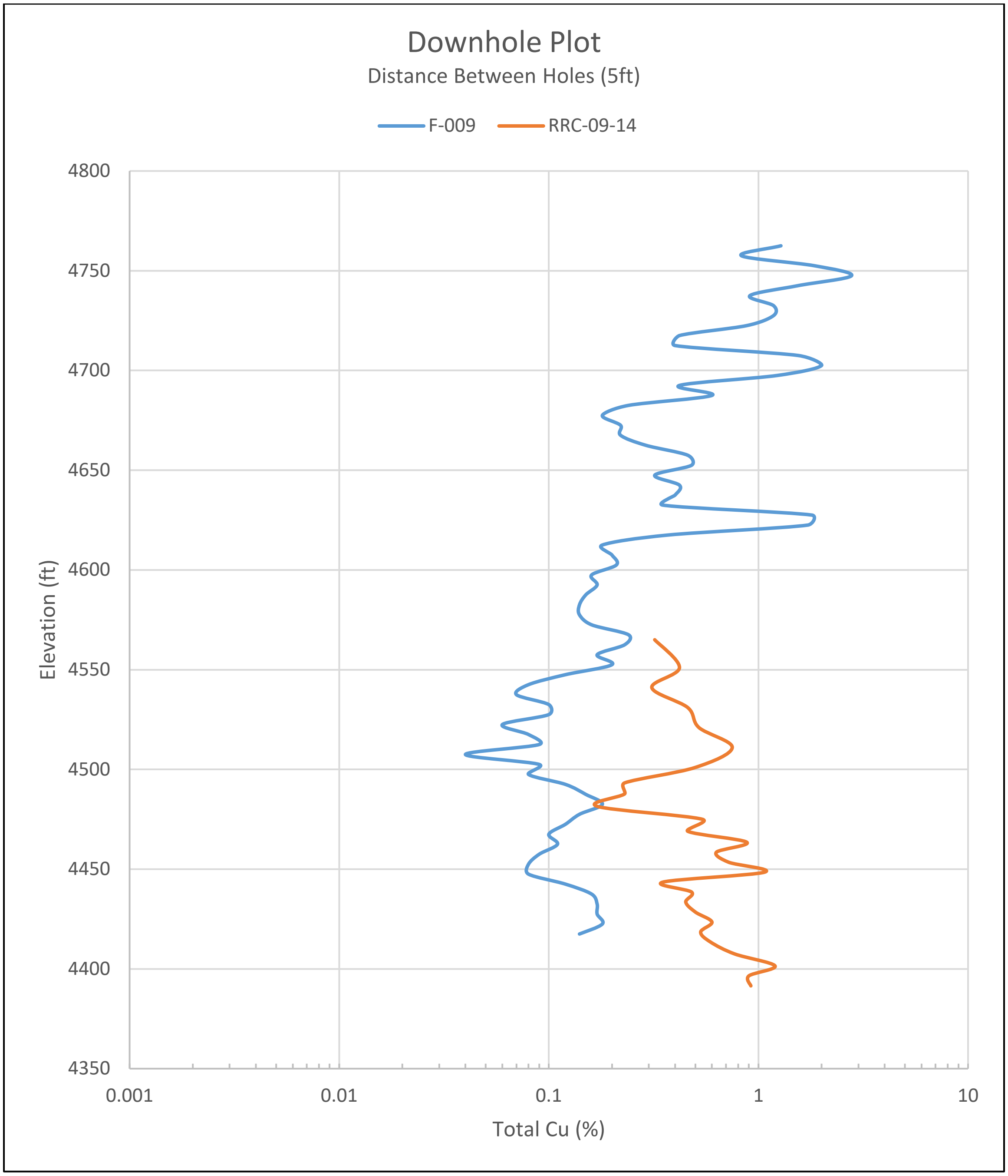

Figure 12-9 Downhole Plot Showing Divergent Copper Grades Between Original and Twin Drillholes

12.2.6 Statistical Comparison

Twenty-two core drillholes completed by Redstone Resources in 2010 have assay certificates, QA/QC samples, geologic logs, geotechnical logs, and core photographs. These drillholes are considered by the QP to be fully verified. The drillholes cover approximately 3,400 feet of strike length, 900 feet of width, and 900 feet of vertical depth in the vicinity of the north pit (Figure 12-10). The verified drillholes constitute 15% of the total-copper assays, 21% of the total sampled length, for all drilling by Redstone and 5% of the total-copper assays for the entire Project database. Based on the spatial distribution and the number of samples, the verified drillholes are considered by the QP to be representative of the copper grades associated with the Project.

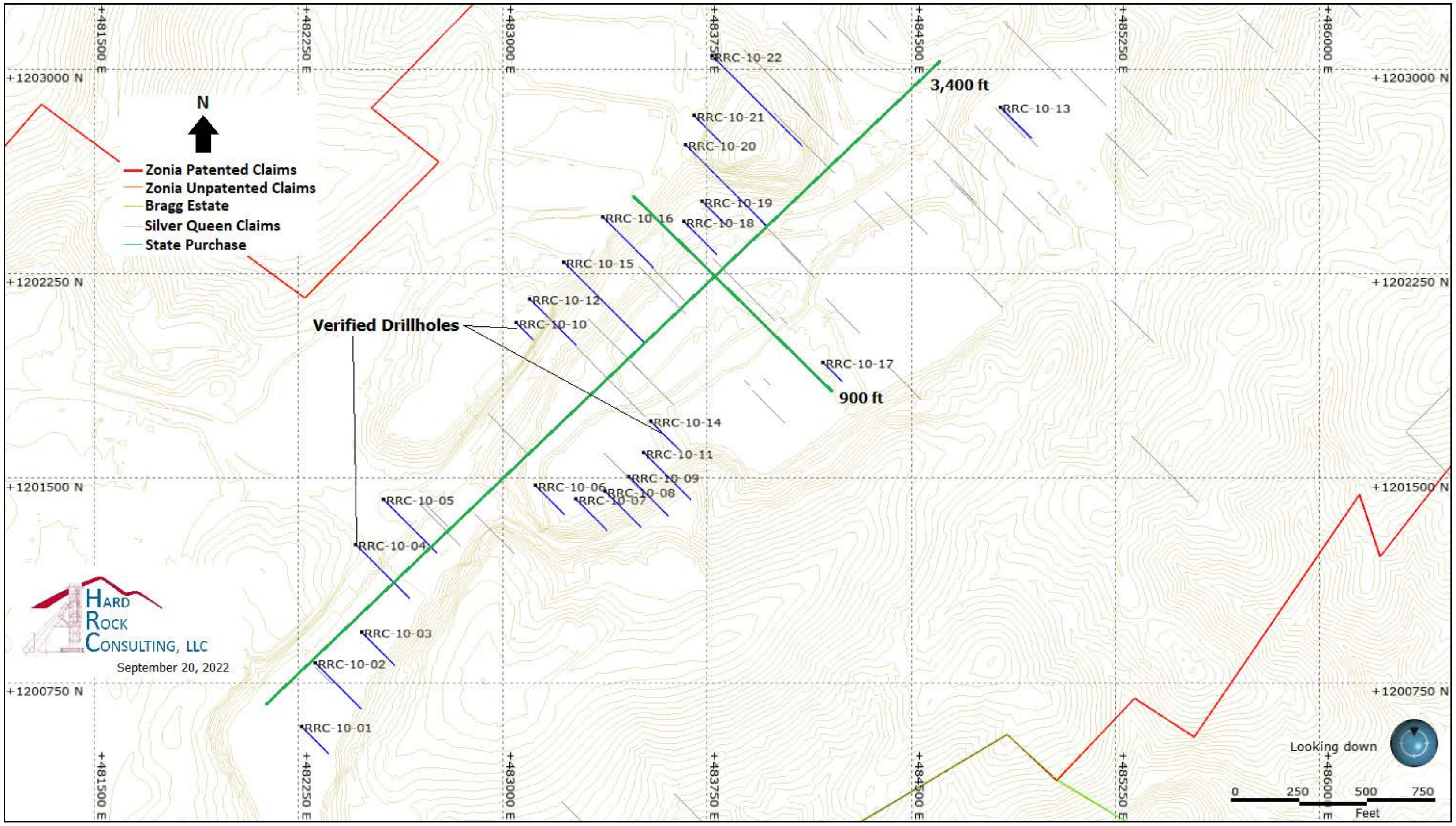

Figure 12-10 Location of Core Drillholes Completed by Redstone Resources in 2010

Table 12-3 shows the descriptive statistics for total-copper weighted by sample length comparing the verified drillholes to the rest of the Redstone drillholes. The statistics for the verified drilling is similar to the rest of the Redstone drilling results. To further illustrate this conclusion a quantile-quantile (Q-Q) plot was created comparing the total-copper from the verified drillholes to the rest of the drilling completed by Redstone (Figure 12-11). Q-Q plots are used to determine if two datasets come from populations with a common distribution. The points plot very close to the normal line, where X=Y (black line), indicating very low bias across all grade ranges between the two datasets. Since total-copper results from the verified Redstone drilling is statistically similar to the rest of the drilling completed by Redstone, the total-copper assays from Redstone can serve as a statistical check against the total-copper assays for the rest of the drillholes completed on the Project.

Table 12-3 Statistical Comparison of CuT % Between Verified 2010 Core Drilling and the Rest of Drilling By Redstone

Verified	Count	Length	Mean	Std. Dev.	CV	Min.	Q1	Median	Q2	Max.
All Redstone	8,471	49,130	0.22	0.31	1.42	0.01	0.06	0.15	0.27	11.12
No	7,153	38,620	0.22	0.32	1.48	0.01	0.06	0.15	0.27	11.12
Yes	1,318	10,510	0.21	0.24	1.16	0.01	0.05	0.15	0.28	3.57

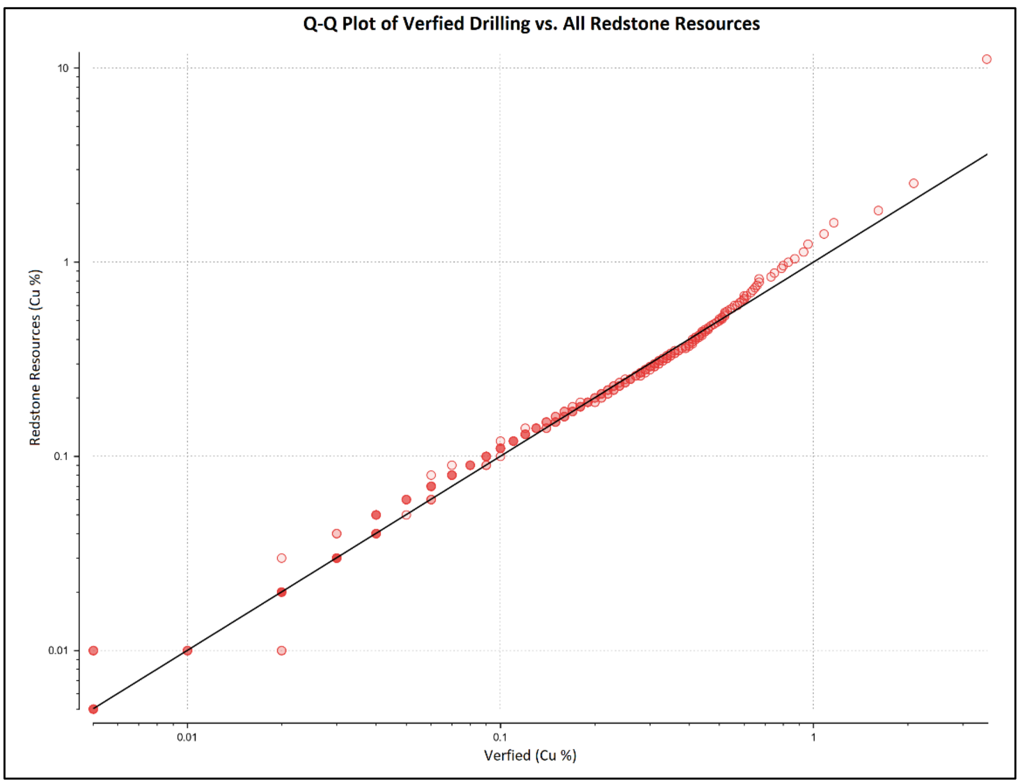

Figure 12-11 Q-Q plot of Cu Grades between Verified 2010 Core Drilling and the Rest of Drilling By Redstone

A box plot (Figure 12-12) was used to compare the total-copper assays by Operator to the Redstone drilling. The average grade is denoted by the red diamond, the median is represented with the black vertical line, the box represents the inter quartile range of the grade, and the whiskers represent the minimum and maximum grade. Lower average total-copper grades were noted in Homestake, Amselco, and Arimetco. USBM, Bunker Hill, NERCO and the Underground Samples show higher average total-copper grades. Drilling by Shannon Copper, Miami Copper, McAlester, Equatorial and Copper Mesa have similar total-copper means (+/- 0.06%).

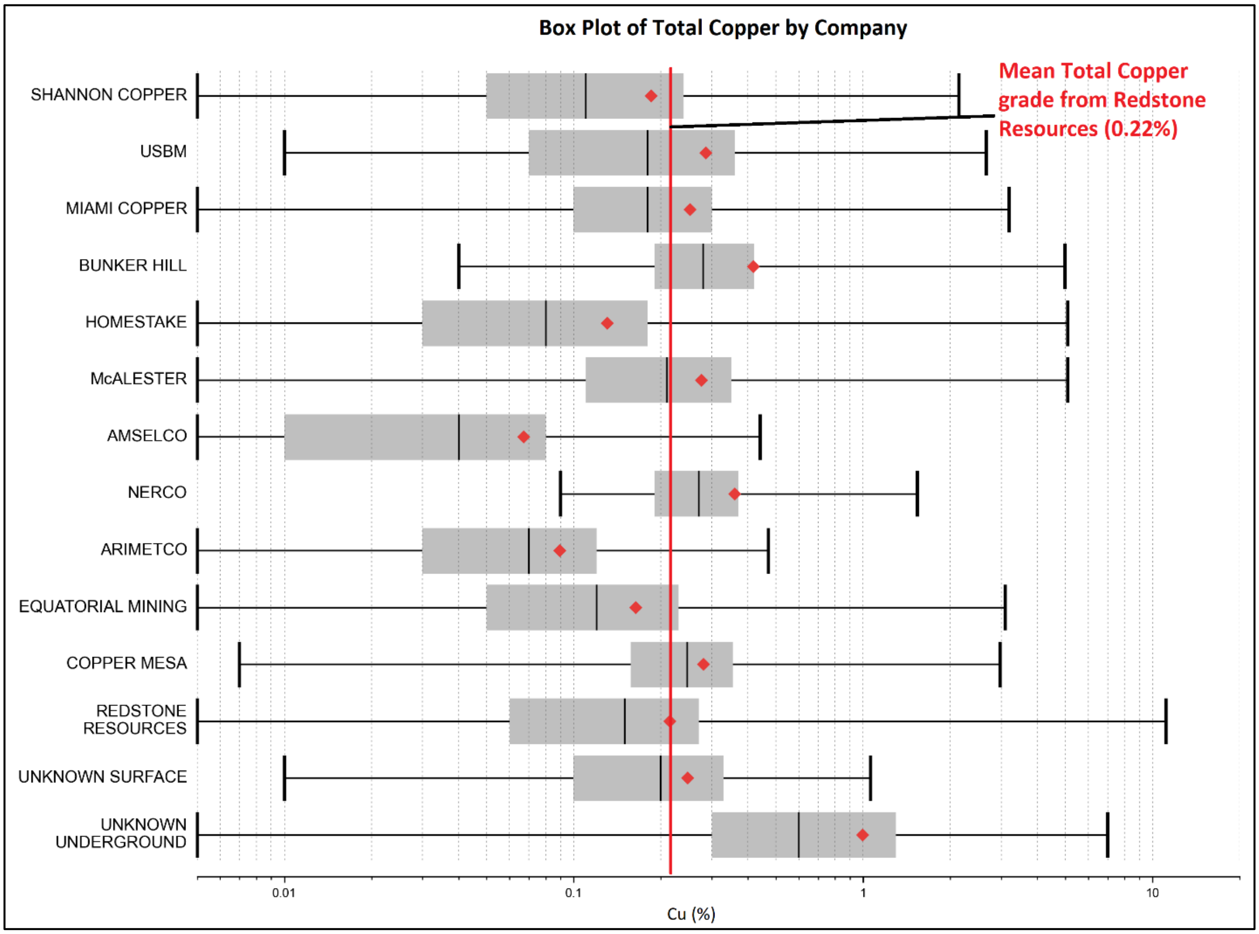

Figure 12-12 Box Plot of Total-Copper Grades by Operator

Figure 12-13 shows the box plot of total-copper assays by sample type. Of note, underground channel samples and results from auger drillholes have higher average total-copper grades. Total-copper from RC drillholes have the lowest, but still reasonable average grades.

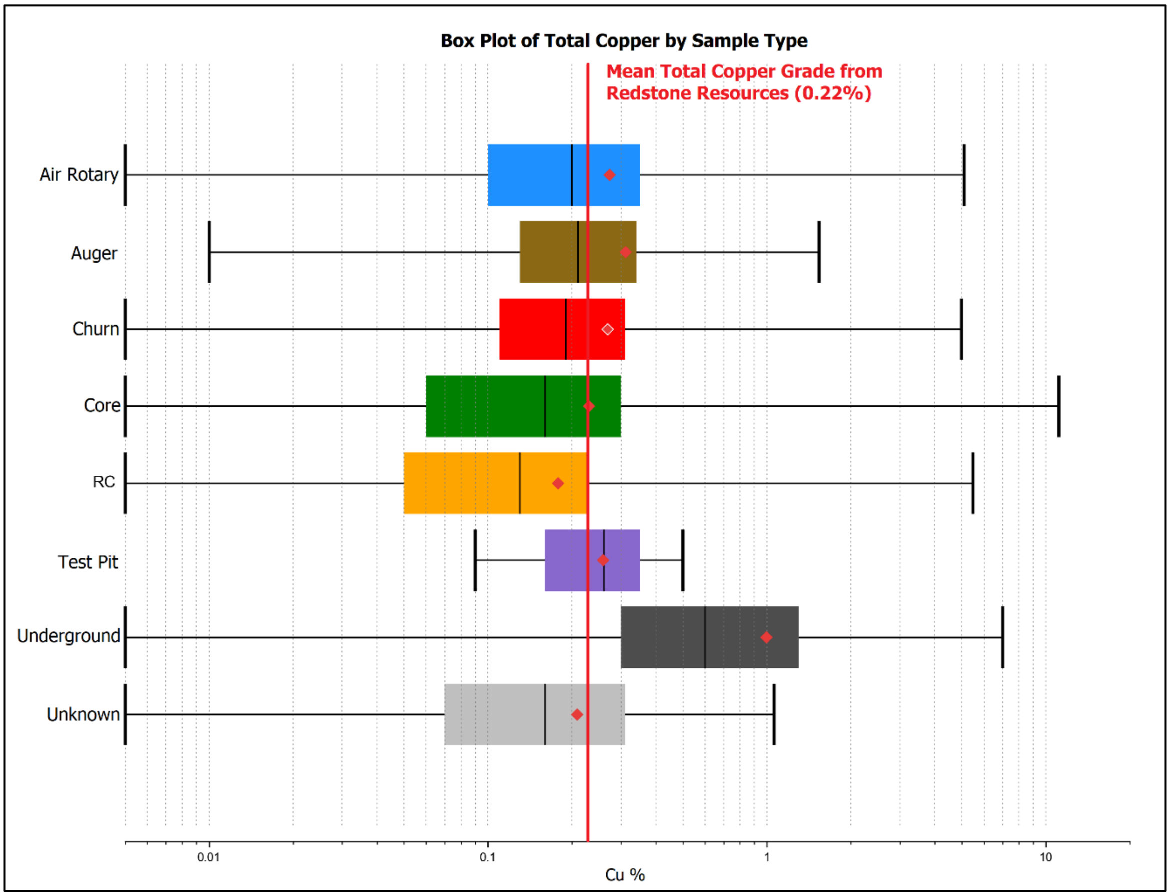

Figure 12-13 Box Blot of Total-Copper Grades by Drillhole Type

Table 12-4 shows descriptive statistics by Company and by drilling type weighted by length. Groups with low average grades are marked with a light blue fill, and groups with a high average grade compared to Redstone are marked with a light red fill.

In addition to the statistical comparisons described above, the QP reviewed the spatial distribution of the drilling by operator and created Q-Q plots comparing the total-copper distributions for each operator to Redstone Resources. All the information described in the database verification above was used to inform an opinion on the adequacy of the data by the QP.

Table 12-4 Descriptive Statistics by Company and Drilling Type

Company	Type	Count	Length	Mean	Std. Dev.	CV	Min.	Q1	Median	Q3	Max.	% of Length
ALL ASSAYS		27,208	149,912.1	0.26	0.37	1.43	0.005	0.08	0.17	0.31	11.12	
SHANNON COPPER	Churn	325	1,655.0	0.19	0.26	1.40	0.005	0.05	0.11	0.24	2.14	1.1%
USBM	Core	551	2,735.0	0.29	0.36	1.26	0.010	0.07	0.18	0.36	2.66	1.8%
MIAMI COPPER	ALL MIAMI COPPER	3,359	16,790.5	0.25	0.28	1.10	0.005	0.10	0.18	0.30	3.20	11.2%
	Air Rotary	1,395	6,972.5	0.25	0.29	1.18	0.005	0.07	0.17	0.32	3.20	4.7%
	Churn	1,964	9,818.0	0.26	0.27	1.04	0.005	0.12	0.18	0.30	2.63	6.5%
BUNKER HILL	Churn	179	1,779.0	0.42	0.53	1.26	0.040	0.19	0.28	0.42	4.99	1.2%
HOMESTAKE	CO	600	4,919.7	0.13	0.18	1.38	0.005	0.03	0.08	0.18	5.09	3.3%
McALESTER	Air Rotary	8,445	43,122.0	0.28	0.30	1.09	0.005	0.11	0.21	0.35	5.09	28.8%
AMSELCO	Unknown	60	310.0	0.07	0.08	1.24	0.005	0.01	0.04	0.08	0.44	0.2%
NERCO	ALL NERCO	47	465.0	0.36	0.31	0.86	0.090	0.19	0.27	0.37	1.54	0.3%
	Auger	36	355.0	0.39	0.35	0.88	0.130	0.20	0.28	0.37	1.54	0.2%
	Test Pit	11	110.0	0.26	0.13	0.49	0.090	0.16	0.26	0.35	0.50	0.1%
ARIMETCO	Core	231	2,306.0	0.09	0.09	0.96	0.005	0.03	0.07	0.12	0.47	1.5%
EQUATORIAL MINING	ALL EQUATORIAL	3,550	17,748.0	0.16	0.19	1.15	0.005	0.05	0.12	0.23	3.10	11.8%
	Auger	20	100.0	0.02	0.01	0.56	0.010	0.01	0.02	0.03	0.05	0.1%
	RC	3,530	17,648.0	0.16	0.19	1.15	0.005	0.05	0.12	0.23	3.10	11.8%
COPPER MESA	Core	352	2,965.8	0.28	0.24	0.85	0.007	0.16	0.25	0.36	2.97	2.0%
REDSTONE RESOURCES	ALL REDSTONE	8,471	49,129.9	0.22	0.31	1.42	0.005	0.06	0.15	0.27	11.12	32.8%
	CO	2,736	20,170.9	0.26	0.35	1.37	0.005	0.09	0.18	0.32	11.12	13.5%
	RC	5,735	28,959.0	0.19	0.27	1.42	0.005	0.05	0.13	0.24	5.47	19.3%
UNKNOWN SURFACE	Unknown	193	1,132.0	0.25	0.18	0.74	0.010	0.10	0.20	0.33	1.06	0.8%
UNKNOWN UNDERGROUND	Underground	845	4,854.2	1.00	1.04	1.05	0.005	0.30	0.60	1.30	7.00	3.2%

12.3 Opinion on Adequacy

Based on the database verification described above, the QP has the following opinions on the adequacy of the data contained in the database.

The following datasets are not suitable for inclusion in the mineral resource estimate for reasons including, but not limited to lack of documentation, type of drillhole sample, and statistical dissimilarities. These drillholes account for 11.2% of the total length of drilling/sampling on the Project

- All Drilling by Shannon Copper, USBM, Bunker Hill, AMSELCO, and NERCO,
- Underground Drillholes and Channel Samples,
- Drillholes with unknown operators,
- 2 drillholes of unknown type by Arimetco, and
- 2 auger drillholes completed by Equatorial Drilling.

The following drillholes are suitable for inclusion in the mineral resource estimate on a limited basis, meaning estimated mineral resources supported by these drillholes alone should not receive a classification higher than Inferred. These drillholes account for 57.2% of the total drilling length on the Project.

- All drilling by Miami Copper, Homestake, and McAlester,
- Five core drillholes by Arimetco, and
- All RC drillholes by Equatorial.

The drilling conducted by Copper Mesa and Redstone Resources is suitable to be included in the mineral resource estimate without restriction. These drillholes account for 31.6% of the total drilling length on the Project.

13. MINERAL PROCESSING AND METALLURGICAL TESTING

World Copper has not completed any metallurgical testing on the Zonia deposit, but several phases of metallurgical testing have been completed on the deposit by previous owners of the Project. Initial studies focused on surface samples performed by Arimetco Incorporated (Arimetco) in 1995 followed by surface and drill hole samples by Constellation Copper Corporation (Constellation) in 2008. Redstone Resources Corporation (Redstone) conducted further investigations on fresh core samples drilled in 2009 and 2010 along with trench samples taken from the deposit. The primary objective of the Redstone test work was to obtain metallurgical data to more accurately project actual recoverable copper at depth and at varying feed grades as well as to confirm earlier findings that the ore is heap leachable and confirm the copper extraction and reagent consumptions. HRC has reviewed all of the available metallurgical studies related to the Zonia property including those undertaken by Leach Inc. (Arimetco, 1995) and Metcon Research (Constellation, 2008) (Redstone, 2011) as documented in the following reports:

- *"Zonia Project – Column Leach Tests"*, Prepared for Arimetco Inc., Leach Inc., March 1995
- *"Zonia Project – Column Leach Study on Surface Bulk Samples"*, Prepared for Constellation Copper Corporation, Metcon Research, May 2008
- *"Locked Cycle Column Leach Testing on Composite Samples"*, Prepared for Redstone Resources Corporation, METCON Research, April 2011

13.1 1995 Test Work by Leach Inc. for Arimetco

A series of five column leach tests were conducted at Mountain States R & D International's (MSRDI) Vail, Arizona lab under the supervision of Leach, Inc. in 1995. The column leach tests were to evaluate two ore types acquired from the surface of the Zonia deposit. In addition, the tests investigated the effect of particle size, leach solution acid concentration, heap lift height and acid curing on copper heap leach extraction.

Two samples were collected by the Arimetco and delivered to MSRDI. Both samples are referred to as ROM but no additional details on their origin are available. The samples were crushed, blended, and split into test charges. Sample-1 was crushed to 100 percent minus 25-millimeter (mm) for column leach testing and sample-2 was crushed to both minus 25-mm and minus 76-mm for column testing. The sequential copper head assays of the two samples are shown in Table 13-1.

Table 13-1 Head Assay Summary – (Arimetco 1995)

Sample	CuT (%)	AsCu (%)	CNCu (%)	CuRes (%)	Acid Sol (%)
1	0.243	0.186	0.01	0.047	80.7
2	0.330	0.204	0.01	0.116	64.8

Two tests were run on Sample-1 at the minus 25-mm crush to evaluate the effect of leach solution acid concentration. Test SK-1 was run at an acid concentration of 10 g/l sulfuric acid and test SK-2 was run at an initial acid concentration of 20 g/l sulfuric acid. After 60 days of leaching, test SK-1 resulted in the extraction of 62.1 percent of the copper and test SK-2 resulted in the extraction of 64.2% of the copper. The higher acid concentration in the leach solution provided a slight increase in the copper extraction for the 60-day period with a slightly higher acid consumption on a kilogram of acid per kilogram of copper extracted basis.

Three column leach tests were run on Sample-2, two tests at the minus 25-mm crush and one test at a minus 76-mm crush. These tests were run at an initial acid concentration of 20 g/l. Tests SK-3 and SK-4 were designed to evaluate the effect of acid cure, and Test SK-5 was designed to evaluate copper extraction at a 3-inch crush size. After 60 days of leaching, test SK-3 (acid cure) resulted in 76.8% copper extraction and test SK-4 (no acid cure) resulted in 72.4% copper extraction. Test SK-5, at a minus 76-mm crush, resulted in a 58% extraction. The operating conditions and results of these tests are summarized in Table 13-2.

Table 13-2 Test Work Results (Arimetco 1995)

Test	Column Dia (mm)	Height (m)	Crush		Assay (% Cu)	Acid Cure (kg/t)	Sol Acid (gpl)	Acid Cons (60 day)		Irrigation (lph/m2)	Cu Extraction			Acid Cons (60 day)		Acid/Cu (kg/kg)	
			Size (mm)	P80				Gross kg/t	Net kg/t*		60-day (%)	Ultimate (%)	Duration (days)	Gross kg/t	Net kg/t*	60-day	Ultimate
SK-1	203.2	3.4	25	22.2	0.243	No	10	15.1	12.8	9.1	62.1	75.4	143	26.4	23.6	4.1	5.9
SK-2	203.2	3.1	25	22.2	0.243	No	20	18.5	16.1	10.1	64.2	64.4	63	18.6	16.2	4.9	4.9
SK-3	203.2	2.9	25	16.5	0.33	20.8	20	26	21.7	8.9	76.8	76.9	64	26.2	22.3	4.2	4.2
SK-4	203.2	3.1	25	16.5	0.33	No	20	13.7	10	10.1	72.4	72.5	63	13.8	10.1	2.4	2.4
SK-5	203.2	5.9	76	22.9	0.33	No	20	8.3	5.3	12	58	68.1	142	13.6	10.2	1.8	2.5

* Net acid consumption considers acid potentially returned by solvent extraction

The Arimetco test work conducted by MSRDI appears to be competently performed and can be summarized as follows:

- There is no documentation as to the source of the samples tested or how well the test composites represent the defined mineral resource. No variability testing was conducted to assess potential differences in metallurgical performance from ores from different locations and depth within the deposit.
- These are preliminary tests that tend to show a benefit of finer crushing and acid curing with little benefit shown with the use of a higher acid concentration in the leach solution.
- The impact of crush size on copper extraction is complicated by the fact that the two samples, although crushed to the same target size, had widely different P80 sizes, 22.2 mm vs 16.5 mm, Sample 1 and Sample 2, respectively. Further, the minus 76-mm sample was almost the same P80 size as the minus 25-mm sample (22.8 mm). Additionally, when leach times were extended, the impact of crush size difference was reduced.

13.2 2008 Test Work by METCON Research for Constellation

Constellation Copper undertook a surface ore sampling program and metallurgical testing at METCON in Tucson, Arizona in 2007 to further assess the Zonia metallurgy. This work included ore sampling, column testing on surface composites, and bottle roll testing of drillhole samples.

13.2.1 Bulk Surface Sampling

A bulk surface sampling campaign of Zonia ore mineralization was conducted during July 2007 in order to obtain samples at the existing pit levels for assay and subsequent metallurgical column testing. The samples were taken from four trenches that cut approximately perpendicular to the strike direction of the deposit. Trenching involved a dozer to clear alluvium in a 20-foot-wide pit of approximately one foot depth at each of the selected trench locations. Ore material removed from each trench was placed in conical piles staged at 25 feet along the length of each trench. Piles that were estimated to contain ore greater than 0.1 percent copper were sampled from bottom to top with the backhoe and placed in 55-gallon drums (approximately 1/8 of each selected pile). Ore composites noted as A, B, C and D were obtained from this sampling campaign. Composite C was not submitted for metallurgical testing presumably due to its anticipated lower ore grade (roughly 0.15% Cu). The head analyses for the surface test samples are summarized in Table 3-3.

Table 13-3 Trench Sequential Copper Head Assays (Constellation 2008)

Test Composite	Total		Copper Sequential Analysis		
	Cu (%)	Fe (%)	ASCu (%)	CNCu (%)	CuRes (%)
Trench A	0.37	3.16	0.29	<0.01	0.05
Trench B	0.26	2.37	0.17	<0.01	0.06
Trench D	0.76	2.63	0.61	<0.01	0.08

13.2.2 Column Leach Test Results

Preliminary bottle roll bulk leach tests were conducted to define the acid cure dosages to be used in the subsequent column leach tests. Table 13-4 shows the copper extraction and acid consumption for these initial tests. The copper extractions ranged from 68 to 72 percent. The copper extractions obtained in the preliminary bottle roll leach tests do not correlate well with acid-soluble copper contents of the samples and are generally lower than predicted using the soluble content in the head assays.

Table 13-4 Preliminary 48 Hour Bottle Roll Leach Tests

Sample ID	Test Number	Head Calculated		Extraction		Acid Consumption		
		Cu (%)	Fe (%)	Cu (%)	Fe (%)	Total (kg/t)	Net (kg/t) *	Net (kg/kg Cu)
Trench A	BR-30	0.37	3.20	68.72	5.82	24.78	20.85	8.19
Trench B	BR-31	0.26	2.37	70.83	11.38	25.04	22.22	12.15
Trench C	BR-32	.076	3.55	71.70	6.58	30.20	21.78	3.99

* Net acid consumption considers acid potentially returned by solvent extraction

METCON then conducted column leach tests on the three surface composites. The primary objective of this portion of the test program was to generate copper extraction and acid consumption data at two different crush sizes (80% passing 19 mm and 9.5 mm). The column tests were conducted in nominally 200-mm diameter by 2-meter-high columns under the following conditions:

- Acid cure dosage at 12 to 15 kg per ton (50% of bottle roll acid consumption)
- Leach solution was mature raffinate from Silver Bell mine adjusted to 10 gpl H_2SO_4
- Leach solution application rate: 12 lph/m^2
- Test duration 60 days

The results of these column tests are summarized in Table 13-5. Copper extractions in the column tests ranged from 71 to 80%, with net acid consumptions ranging from approximately 13 to 16 kg/ton. Copper extractions for Composites A and B were mostly independent of the crush size for a 60-day leach period. Composite D achieved a 7% increase in copper extraction at the finer crush size in the 60-day leach. In most cases, close to ultimate copper extractions were achieved within 30 days.

Table 13-5 60 Day Column Leach Tests – Surface Composites (Constellation 2008)

Sample ID	Test Number	Crush Size (P80)	Head				Extraction				Acid Consumption		
			Assays		Calculated								
			Cu (%)	Fe (%)	Cu (%)	Fe (%)	Cu (%)	Fe (%)	Cu (kg/t)	Fe (kg/t)	Gross (kg/t)	Net (kg/t)*	Net (kg/kg Cu)*
Composite A	CL-01	19.1	0.35	3.14	0.40	3.12	76.67	8.59	3.07	2.68	17.55	12.80	4.17
	CL-02	9.5	0.35	3.17	0.39	3.28	76.38	6.00	2.99	1.97	18.05	13.42	4.48
Composite B	CL-03	19.1	0.25	2.25	0.28	2.32	79.21	7.66	2.25	1.78	17.82	14.34	6.38
	CL-04	9.5	0.25	2.22	0.28	2.28	80.34	9.47	2.25	2.16	18.45	14.96	6.65
Composite D	CL-05	19.1	0.71	3.61	0.79	3.81	70.93	7.71	5.60	2.94	24.56	15.91	2.84
	CL-06	9.5	0.71	3.68	0.80	3.66	75.86	6.92	6.05	2.53	25.07	15.71	2.60

* Net acid consumption considers acid potentially returned by solvent extraction

13.2.3 Bottle Roll Testing of Drillhole Interval Samples

In addition to the column tests conducted on the surface sample composites, bottle roll tests were also run on drillhole interval assay pulp samples (crushed to 100 micron [μm]) obtained from an earlier drilling program conducted by Equatorial. These tests were useful in developing a preliminary idea of the trend in copper extraction with depth as the sulfide ore zone is approached.

Sequential copper analyses for AsCu, CNCu, and residual copper were run on both the head samples and the leach residues for each test. In most cases there was a reasonable trend between actual copper extraction and the predicted extraction based on sequential copper assays. A summary of the bottle roll test results and predicted extractions (based on sequential analysis) are provided in Table 13-6.

Table 13-6 Drill Sample Bottle Leach Tests (Constellation 2008)

				Sequential Copper Analyses			Copper Extraction		Acid Consumption		
Test No.	Hole	Interval	%CuT	%AsCu	%CNCu	Cu Residual	Calculated	Bottle Roll	Gross (kg/t)	Net (kg/t)*	Net (kg/kg Cu)*
BR-33	E-501	525-555	0.42	0.33	0.01	0.08	78.6%	66.3%	68.51	64.33	23.77
BR-34	E-517	50-90	0.58	0.39	0.01	0.15	70.9%	57.7%	67.87	62.88	19.45
BR-35	E-525	265-300	0.43	0.35	0.05	0.03	81.4%	68.8%	38.18	33.63	11.42
BR-36	E-527	20-50	0.4	0.23	<0.01	0.15	60.5%	53.7%	37.12	33.89	16.18
BR-37	E-528	55-90	1.07	0.99	<0.01	0.07	93.4%	78.7%	36.33	23.94	2.98
BR-43	E-528	125-180	1.04	0.98	0.01	0.02	97.0%	86.7%	37.14	23.87	2.77
BR-38	E-529	150-195	0.44	0.37	<0.01	0.05	88.1%	78.2%	49.3	43.96	12.72
BR-39	E-529	230-265	0.31	0.26	<0.01	0.06	81.3%	77.4%	56.68	53.11	22.96
BR-40	E-529	290-330	0.28	0.17	0.02	0.11	56.7%	55.2%	108.09	105.67	67.53
BR-41	E-530	245-275	0.3	0.19	<0.01	0.13	59.4%	62.2%	71.57	68.6	35.55
BR-42	E-538	240-275	0.29	0.17	<0.01	0.13	56.7%	55.6%	42.17	39.54	23.2

* Net acid consumption considers acid potentially returned by solvent extraction

The Constellation test work conducted by METCON appears to be competently performed and can be summarized as follows:

- Good copper extractions were achieved on the surface trench samples; ranging from 71% to 80% in a 60-day column leach test.
- Reducing the P80 size from 19 mm to 9.5 mm had little impact on the 60-day column leach copper extraction for the surface composites A and B and resulted in a 7% increase for composite D.
- Net acid consumption averaged 14.5 kg/t in the column tests.
- Acid consumptions from bottle roll and static leach tests are generally overstated when compared to column tests and not typically employed directly for acid consumption estimates.
- A high residual copper grade (sulfides) tends to reduce the overall copper extraction.

13.3 2011 Test Work by METCON Research for Redstone

The primary objective of the 2010-2011 test work conducted by METCON Research for Redstone was to obtain metallurgical data that would more accurately represent extractable copper by mineralization type, depth, grade, and locations within the deposit. In August 2010, METCON Research received drill core samples and ROM samples from the Zonia project to use for column leach testing. The samples received were identified as follows:

- Master composite
  - Hole 2009-04 (0-200 ft.)
  - Hole 2009-13 (0-200 ft.)
  - Hole 2009-21 (0-200 ft.)
  - Hole 2010-2 (0-500 ft.)
  - Hole 2010-12 (200-500 ft.)
  - Hole 2010-22 (400-1000 ft.)

- High copper: Hole 2009-30 (0-100 ft.)
- Average copper: Hole 2009-25 (0-200 ft.)
- Low grade copper: Hole 2010-13 (0-100, 200-300 ft.) and Hole 2010-17 (200-300 ft.).
- Intermediate Depth: Hole 2010-05 (300-600 ft.)
- Lower Depth: Hole 2010-15 (600-900 ft.)
- High secondary copper: Hole 2009-01 (100-200 ft.)
- Run of Mine

The head assays including sequential copper analysis are shown in Table 13-7. The estimated acid-soluble copper is represented by the "Calc CuSOL" column. This column is the sum of the ASCu and CNCu grades divided by the CuT grade. It represents a rough estimate of the maximum extraction of copper achievable from a given sample. As expected, samples with higher proportion of CuRes copper tend to have a lower overall copper extraction potential.

Table 13-7 Sequential Copper Head Assays (Redstone 2011)

Sample ID	Assays						
	CuT (%)	TFe (%)	ASCu (%)	CNCu (%)	CuRES (%)	Calc CuT (%)	Calc CuSOL (%)
High Secondary Copper	0.380	2.520	0.128	0.164	0.073	0.365	80.0
High Copper	0.499	3.540	0.350	0.010	0.120	0.480	75.0
Average Copper	0.292	2.330	0.199	0.006	0.088	0.293	70.0
Low Grade Copper	0.120	2.260	0.064	0.003	0.056	0.123	54.0
Intermediate Depth	0.349	3.060	0.237	0.013	0.093	0.343	73.0
Lower Depth	0.401	3.040	0.206	0.060	0.074	0.340	78.0
Run of Mine	0.585	3.320	0.466	0.011	0.155	0.592	81.0
Master Composite	0.483	2.740	0.358	0.018	0.081	0.457	82.0

13.3.1 Crusher Work Index

The crusher work index (Wi) was determined for the ROM sample to be 6.97 kilowatt-hours per ton (kw-hr/t). The abrasion indices (Ai) for the ROM material (Ai = 0.0529) and the master composite sample (Ai = 0.1015) indicate that material is moderately abrasive. Table 13-8 shows the crusher work index for the two samples.

Table 13-8 Crusher Work and Abrasion Indexes (Redstone 2011)

Sample ID	Wi (kw-hr/t)	Ai
Run of Mine Composite	7.68	0.0529
Master Composite	NA	0.1015

13.3.2 Static Leach Tests

Static leach tests were conducted on the composite samples from the Zonia project. Static leach testing of both 10 days and 20 days were conducted to provide an indication of the acid consumption and copper extraction. These tests were run at nominal 25-mm crush size except for the ROM sample, which was conducted at a coarser size. The data for 20 days extraction is presented in Table 13-9. Lower copper extractions in these tests appear to have resulted from failure to maintain the leach pH. The copper extractions were significantly higher when tests were repeated and pH maintained below pH 1.5, as shown in Table 13-10. The 10-day tests were all conducted at a P80 of 1 inch. These tests provide an indication of the acid required for curing before column testing.

Table 13-9 Static 20-Day Leach Tests (Redstone 2011)

Composite ID	Crush Size (P80 mm)	Extraction		Acid Consumption			
		Cu (%)	Fe (%)	Total (kg/t)	Total (kg/kg Cu)	Net (kg/t)*	Net (kg/kg Cu)*
High Secondary Copper	25	27.29	0.86	3.49	3.58	1.98	2.04
High Copper	25	26.04	0.04	10.13	7.86	8.14	6.32
Average Copper	25	17.50	0.05	14.17	27.77	13.39	26.22
Lower Depth	25	18.75	0.61	13.60	21.04	12.61	19.50
Low Grade Copper	25	18.01	0.12	13.41	59.63	13.07	58.09
Intermediate Depth	25	19.32	0.08	12.30	17.56	11.22	16.01
Master Composite	50	20.38	0.46	6.52	14.26	5.81	12.72
Master Composite	25	24.16	0.48	9.29	17.20	8.46	15.65
Master Composite	12.5	29.48	0.83	11.32	16.07	10.23	14.52
Run of Mine	As Received	32.55	0.05	2.03	1.64	0.12	0.09
Run of Mine Composite	50	35.11	0.03	5.09	3.74	2.99	2.19
Run of Mine Composite	25	36.46	0.02	5.92	4.32	3.81	2.78
Run of Mine Composite	12.5	45.49	0.03	5.67	2.86	2.61	1.32

* Net acid consumption considers acid potentially returned by solvent extraction

Table 13-10 Static 10-Day Leach Tests (Redstone 2011)

Composite ID	Extraction		Acid Consumption			
	Cu (%)	Fe (%)	Total (kg/t)	Total (kg/kg Cu)	Net (kg/t)	Net (kg/kg Cu)
High Copper	56.4	0.5	12.5	5.4	8.9	3.9
Average Copper	42.6	0.4	19.6	13.5	17.3	12.0
Lower Depth	36.7	1.9	17.9	12.5	15.7	11.0

Net acid consumption ranged from approximately 2 kg/t to 17 kg/t, with consumption increasing with leach time and finer crush sizing.

13.3.3 Column Leach Tests

Au The main objective of the column leach tests was to determine the impact of crush sizes on copper extraction and acid consumption. Three crush sizes of P80 passing 50 mm, 25 mm and 12.5 mm were examined. Ten locked-circuit column leach tests were conducted on the various samples. The samples were cured with approximately 60% of the static leach test acid consumption for a period of 5 days prior to application of the leach solution (raffinate from an existing operation) containing 5 g/L H_2SO_4 and 5 g/L Fe^{3+}. Table 13-11 shows the results of the locked cycle column tests.

Table 13-11 90-Day Locked Cycle Column Tests (Redstone 2011)

Test No.	Sample	Cure		Crush Size (P80 mm)	Irrigation Flow (l/hr/m^2)	Leach Cycle (days)	Cu Extraction (%)	Acid Cons	
		Dosage (kg/t)	Time (days)					Net (kg/t)*	Net (kg/kg Cu)*
CL-01	High Secondary Copper	2.25	5	25	9.78	107	69.5	7.7	2.7
CL-02	High Copper	8.06	5	25	9.78	107	69.6	9.1	3.0
CL-03	Average Copper	12.64	5	25	9.78	107	63.5	16.6	7.9
CL-04	Lower Depth	11.6	5	25	9.78	107	54.0	17.9	9.8
CL-05	Low Grade Copper	8.68	5	25	9.78	107	47.6	14.2	23.1
CL-06	Intermediate Copper	7.94	5	25	9.78	107	58.8	14.5	7.1
CL-07	Run of Mine	3.29	5	50	9.78	105	67.2	7.6	1.9
CL-08	Master Composite	5.41	5	12	9.78	91	81.3	11.3	3.0
CL-09	Master Composite	5.41	5	25	9.78	91	77.8	14.7	4.1
CL-10	Master Composite	5.42	5	50	9.78	91	72.6	11.7	4.1

* Net acid consumption considers acid potentially returned by solvent extraction

The copper extractions ranged from 47.6% to 81.3%. The master composite sample, which was constructed to represent most of the deposit, achieved a copper extraction of 77.8% at a P80 of 25 mm. Percolation problems were not observed on any of the cycle column leach tests. Figure 13-1 shows copper extraction versus leach time for the locked cycle column leach tests on the composite samples.

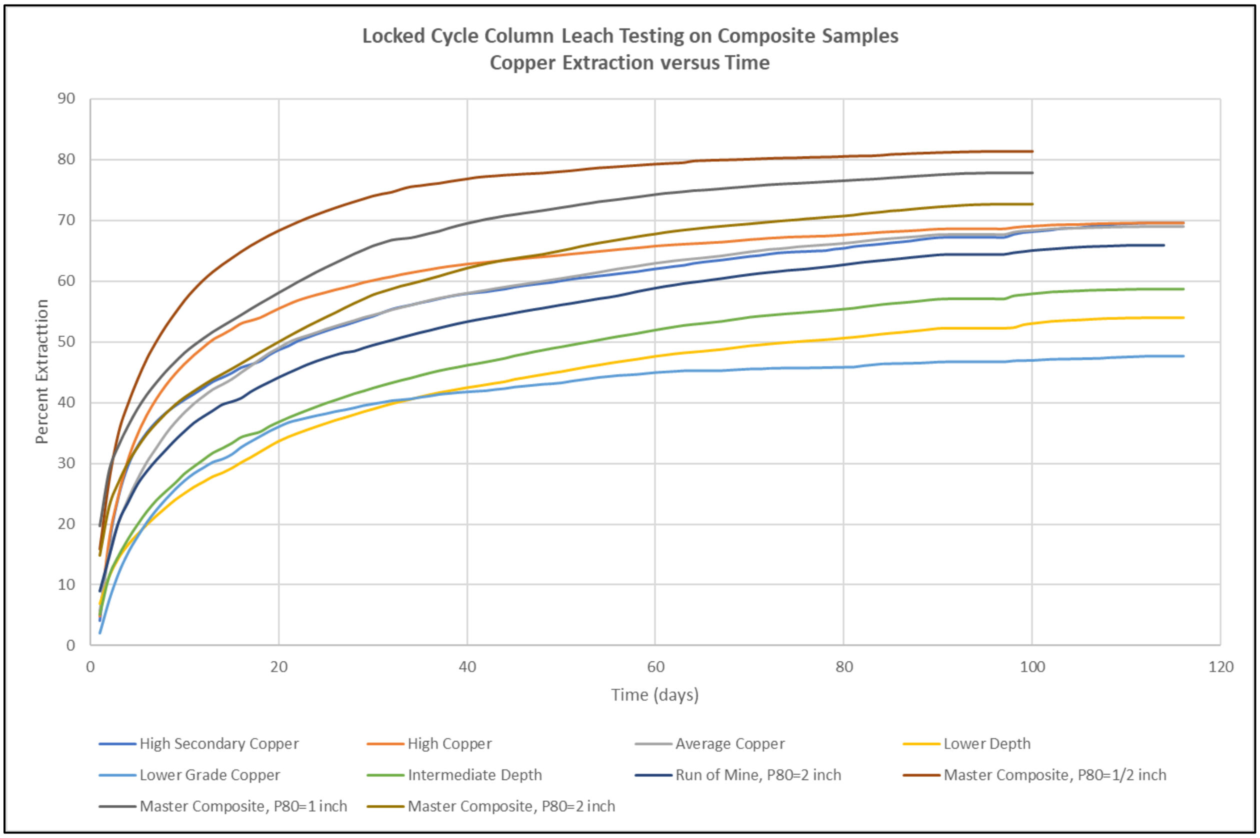

Figure 13-1 Locked Cycle Column Leach Testing - Copper Extraction versus Time

In general, reducing the crush size or increasing the leach time results in a higher gross acid consumption. However, when the results are normalized to account for the copper extracted, the results are reversed. Finer crushing sizes tended to produce more copper while not increasing the acid consumption proportionally; similarly, longer leach times resulted in a reduction in the normalized acid consumption.

The Redstone test work conducted by METCON appears to be competently performed and can be summarized as follows:

- Good copper extractions were achieved from most of the samples, ranging from 59% to 81% in a 91-day column leach test (excluding high sulfide and low-grade samples).
- Reducing the P80 size from 50 mm to 12 mm improved the copper extraction in the master composite from 72.6% to 81.3%.
- Net acid consumption (kg acid/ kg Cu) averaged 7.6 to 17.9 kg/t in the column tests. With the master composite tests averaging 12.6 kg/t.
- The average extractable copper content in the composites is approximately 74% (CuSOL) and the master composite average was 80.3%. The column leach tests indicate that 60% to 95% of the leachable copper can be extracted at a nominal crush size of 25 mm.
- An overall copper extraction of 73% has been employed for the oxide materials and 70% for the transitional materials (ASCu and CNCu) and no credit has been given for copper sulfide in the mineral resource calculation.

13.3.4 Recommendations for Additional Test Work

A significant amount of metallurgical test work has been conducted on the Zonia deposit. The results of the work are generally good, exhibiting relatively good copper extractions with moderate acid consumptions. The scope of the testing has been preliminary in nature and further work should be conducted in the following areas as the Project advances:

- Additional drillholes may be required to allow a better sample representation of the deposit to be developed. These samples would provide a higher degree of confidence for copper extraction across the entire deposit. Additional samples should be collected towards the upper northeast portion of the mineral resource pit shell as past studies have not included drilling from this area. Although this area has not been tested the geology and mineralization is similar in this area to the rest of the deposit so no major differences in metallurgical properties are anticipated.
- Crushing options with respect to leach effectiveness, and of power and liner wear factors. The original test work shows a trend of increased copper extraction with reduced crush size, but that benefit is reduced if leach times are extended. The cost benefit analysis of coarser crush sizes should be investigated. Larger diameter drill core or surface trench sampling would need to be utilized to provide nominal 150-mm material.
- Large format column testing to evaluate the effect of full lift height on solution percolation and copper extraction.
- Lock-cycle testing with SX to determine acid balance and SX parameters.
- Evaluate saturation levels of the PLS grade on copper dissolution kinetics. Further evaluate cure dosages and cure times.
- Mineralogical studies and confirmation of various mineralization type densities should be completed.

14. MINERAL RESOURCE ESTIMATE

The mineral resource estimate for the Zonia Property was completed by Richard A. Schwering P.G., SME-RM, with HRC. Mr. Schwering is a Qualified Person as defined by NI 43-101 and is independent of World Copper, Ltd., the vendor of the Property. Mr. Schwering estimated the mineral resource for the Project based on wireframe modeling and to a maximum search distance of 960 feet using an ordinary kriging interpolant. Geostatistics and mineral resource estimation were done with Leapfrog EDGE®. Three-dimensional wireframes and model visualization was done with Leapfrog Geo® software, and the mineral resources were constrained with a Lerch-Grossman pit optimization. The metal of interest at the Project is copper. The mineral resource estimate reported here was prepared in a manner consistent with the "CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines" adopted by CIM Council on November 29, 2019. The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves," prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the mineral resources reflect the relative confidence of the grade estimates. The effective date of the mineral resource estimate reported herein is September 1, 2022.

14.1 Modifications to the Database

Prior to geologic modeling and mineral resource estimation, the database was modified by the QP. First, those drillholes and samples deemed not suitable for mineral resource estimation in section 12.4 were excluded from the mineral resource estimate. Second, Copper Mesa and Redstone Resources twined 45 older drillholes. Copper assays from the older drillholes were coded as "twin" in the database and omitted from the mineral resource estimate if they were within 10 feet of the more recent drilling by Copper Mesa or Redstone Resources. The geologic information was retained for all drillholes twinned by Copper Mesa and Redstone Resources. Next, the database contains some drillholes with assays sampled on alternating intervals even through zones of mineralization, and intervals not sampled due to no recovery, or the interval was not mineralized. The QP determined which intervals were intentionally not sampled due to lack of mineralization and coded "INS" into the database. These intervals can be identified because they have longer interval lengths, and usually occur at the start of the end of a drillholes. Intervals coded as INS had that code replaced with a below detection limit ("BDL") copper value of 0.005%. Similarly, intervals identified by the software during the mechanical audit as missing were assigned a BDL copper value. Intervals with missing values because the operator assayed for copper on alternating intervals were not replaced with any value. Finally, copper assays with a zero "0" value or a value of -0.01 were replaced with a BDL copper value. The resulting mineral resource estimate database, including BDL values, contains 24,180 copper assays totaling 136,540 feet.

14.2 Exploratory Data Analysis ("EDA")

The QP completed an EDA comparing total-copper ("CuT") assay values by operator, drillhole type, sample length, and logged lithology. Table 14-1 show the total-copper statistics by operator and by drillhole type. Significantly, the coefficient of variation ("CV") for all drillholes and sample types is less than 1.6 suggesting only a small number of high-grade outliers are present in the database. Additionally, regardless of drillhole type or operator, the difference between the global mean is within +/- 0.1 % suggesting the inclusions of these drillholes is appropriate. Where differences exceed +/- 0.1% (Homestake and Arimet Co.), the drillholes are located on the margins of the mineralization and have relatively small sample lengths. A review of total-copper assay results compared to sample length did not show any meaningful correlation between them.

Table 14-1 Descriptive CuT (%) Statistics by Operator and by Drillhole Type

Operator	DH Type	Count	Length	Mean	Std. Dev.	CV	Min.	Max.	Diff. in Mean
All		24,180	136,540.8	0.21	0.27	1.27	0.01	11.12	
Miami Copper		3,136	15,874.5	0.24	0.27	1.09	0.01	2.63	0.03
	Air Rotary	1,298	6,487.5	0.23	0.27	1.15	0.01	2.62	0.02
	Churn	1,838	9,387.0	0.25	0.26	1.06	0.01	2.63	0.03
Homestake	Core	638	5,789.1	0.11	0.17	1.55	0.01	5.09	-0.10
McAlester	Air Rotary	7,830	40,350.0	0.26	0.28	1.10	0.01	5.09	0.04
Arimet Co	Core	232	2,406.0	0.09	0.09	0.99	0.01	0.47	-0.13
Equatorial Mining	RC	3,502	18,083.0	0.16	0.18	1.15	0.01	3.05	-0.06
Copper Mesa	Core	352	2,965.8	0.28	0.24	0.85	0.01	2.97	0.07
Redstone Resources		8,490	51,072.4	0.21	0.30	1.46	0.01	11.12	-0.01
	Core	2,754	22,108.4	0.23	0.34	1.47	0.01	11.12	0.02
	RC	5,736	28,964.0	0.19	0.27	1.42	0.01	5.47	-0.03

The lithologic database contained 56 numeric and text codes for lithology. In 2016, the lithology was simplified into thirteen lithologies by Cardero Resources. Length weighted total-copper statistics by grouped lithology are presented in Table 14-2. The following conclusions can be determined from the statistical comparison.

- The most significant lithologies by length are quartz-monzonite porphyry, quartz-sericite schist, and greenstone.
- Most lithologies contain total-copper mineralization exceeding 0.1% suggesting total-copper grade is not restricted by lithology.
- The lithologies with total-copper means less than 0.1% are overburden, meta-andesite porphyry, and felsic tuff.
- Of those, only overburden has a logged length greater than 500 feet.

Table 14-2 Descriptive CuT (%) Statistics by Grouped Logged Lithology

Rock Type	Lithology	Code	Count	Length	Mean	Std. Dev.	CV	Min.	Median	Max.
Global			24,620	136,541	0.21	0.27	1.27	0.005	0.16	11.12
Overburden		**ovbd**	**76**	**852**	**0.05**	**0.12**	**2.18**	**0.005**	**0.01**	**1.14**
Structure	Fault	Flt	49	259	0.11	0.15	1.39	0.005	0.05	1.00
	Massive Quartz	qzvn	55	277	0.24	0.61	2.58	0.005	0.10	4.50
	Gossan	Gos	17	80	0.10	0.13	1.27	0.010	0.04	0.40
Intrusive	Felsite	dacp	462	2,642	0.14	0.17	1.27	0.005	0.06	1.17
	Felsic Tuff	dacf	6	47	0.05	0.02	0.43	0.020	0.04	0.08
	Diabase	diab	16	163	0.10	0.23	2.44	0.005	0.01	0.88
	Meta-andesite Porphyry	grnb	7	127	0.01	0.01	1.23	0.005	0.01	0.04
	Quartz Monzonite Porphyry	**Qmp**	**8,239**	**44,349**	**0.19**	**0.19**	**0.99**	**0.005**	**0.15**	**3.77**
Metamorphic	**Quartz Sericite Schist**	**Qmpf**	**7,768**	**43,951**	**0.25**	**0.32**	**1.29**	**0.005**	**0.19**	**11.12**
	Chlorite Schist	grnf	352	2,063	0.19	0.32	1.65	0.005	0.10	3.86
	Phyllite	phyl	76	495	0.44	0.52	1.18	0.020	0.26	2.90
	Greenstone	**Grn**	2,134	13,051	0.16	0.26	1.64	0.005	0.08	5.09
No Logged Lithology			5,363	28,187	0.24	0.30	1.25	0.005	0.16	5.09

14.3 Compositing Study

The QP completed a study on the impact on average total-copper grade and CV against different composite lengths, shown in Figure 14-1. Within the database, the average sample length is 5.6 feet, and the median sample length is 5 feet. To avoid unnecessary interval splitting, composite length should be a multiple of 5 feet. The study was completed on composite lengths between 0 feet (not-composited) through 50 feet on 5-foot intervals. The average total-copper grade remains constant after compositing to five feet. The CV shows an initial increase at a five-foot composite length, followed by a steady decline at increasing composite lengths until 35 feet where increasing composite length has minimal impact on CV. Based on the results of the study, a composite methodology utilizing 20-foot downhole composites was selected for mineral resource estimation and indicator modeling. If the residual end length was less than 10 feet, composite length intervals were adjusted to be distributed equally.

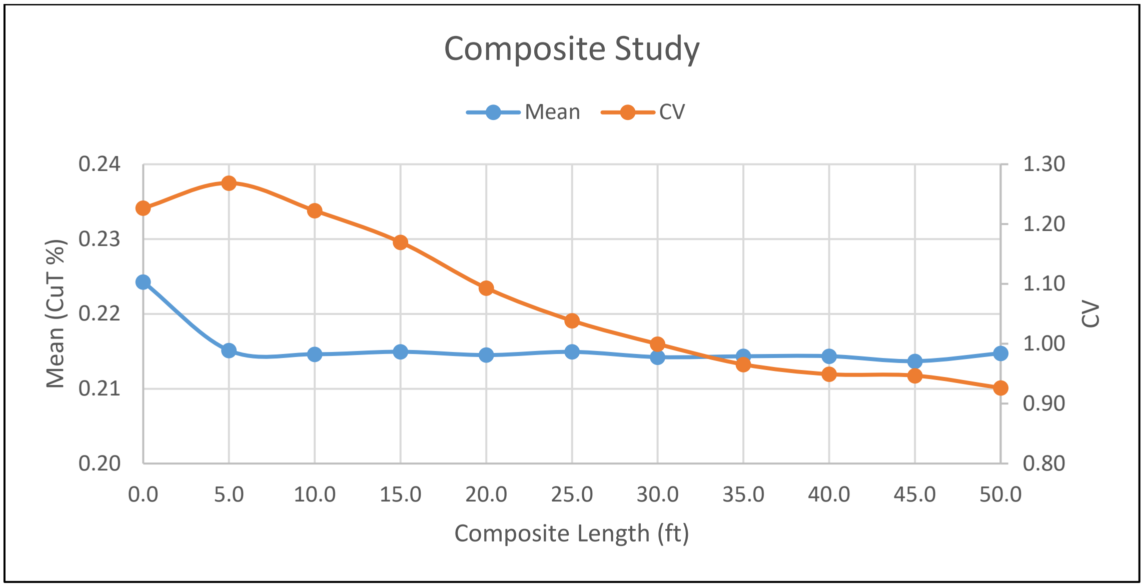

Figure 14-1 Results of Compositing Study on Mean Grades and CV for CuT

14.4 Topography

The current topographic surface used in the mineral resource estimate reflect the topography in 2010 after mining operations were conducted. There are no readily available 3D surfaces showing the topography as it existed prior to mining operations. In order to include all drillhole information into the mineral resource estimate, the generated models ignore the topographic surface initially. The current topographic surface is introduced prior to mineral resource tabulation to exclude all modeled volumes above that surface.

14.5 Geologic Model

Based on the results of the EDA, a generalized geologic model and oxidation model was created using logged lithologies from drillholes, cross sections created by Cardero Resources in 2018, and structural measurements form surface geologic maps created by Cardero Resources in 2018. The geologic units modeled include overburden (“Ovbd”), quartz-monzonite porphyry (“Qmp”), quartz-sericite schist (“Qmpf”), and greenstone/other metamorphic rocks (“Grn”). Geologic maps did not show the presence of significant faults offsetting mineralization which required to be modeled.

14.5.1 Lithologic Model

The quartz-monzonite porphyry was modeled using the following methodology.

- Structural measurements of the Qmp from the surface geologic map were used to create a structural trend in Leapfrog.
- The Qmp was then modeled in Leapfrog using original logged lithology from the drillholes and the structural trend.
- The Qmp model was then refined with polylines based on cross sections developed by Cardero Resources in conjunction with logged lithology. Modification to the logged lithology could be made to aid the continuity of the Qmp model.

The greenstone was modeled as two surfaces based on drillhole contacts and surface structural measurements for Grn. The two surfaces are on the northwest and southeast boundaries of the deposit. The Grn model is an oversimplification of the geology for the Project; however, drilling beyond those modeled boundaries is extremely limited. Variations in the geology within the modeled Grn will not impact the current mineral resource estimate.

The quartz-sericite schist is considered the remaining volume between the Grn surfaces and not modeled as Qmp.

The overburden was modeled using the surface geologic map and drillhole contacts and overlies the other modeled lithologies.

14.5.2 Oxidation Model

Using drillhole logs from the Redstone Resources and Copper Mesa drillholes only, an oxidation state model was created in Leapfrog. The first surface defined the oxide/transition boundary using drillhole logs. The second surface defined the transition/sulfide boundary and incorporated drillhole logs as well as a constant offset of 30 feet below the oxide/transition surface.

14.5.3 Geologic Model Validation

Several lines of evidence were used to validate the geologic model, which was back-tagged to the original geologic logs. This showed that 88% of the back-tagged modeled Qmp and 83% of the back-tagged Qmpf agreed with the original logged lithology. The oversimplified Grn and Ovbd models had 54% and 66% agreement with the original drillhole logs, respectively. Total-copper statistics by lithology were also compared and the results are shown in Table 14-3. The summary statistics for most of the modeled geologic units are similar to their corresponding logged lithologies, with the largest difference occurring in the Grn modeled unit.

Table 14-3 Statistical Comparison CuT % between Logged and Modeled Lithologies

Unit	Source	Count	Length	Mean	Std. Dev.	CV	Min.	Median	Max.
Ovbd	Logged	76	852	0.05	0.12	2.18	0.005	0.01	1.14
	GM	133	1,026	0.06	0.12	1.94	0.005	0.01	1.14
Qmp	Logged	8,239	44,349	0.19	0.19	0.99	0.005	0.15	3.77
	GM	11,293	60,074	0.20	0.19	0.97	0.005	0.16	3.65
Qmpf	Logged	7,768	43,951	0.25	0.32	1.29	0.005	0.19	11.12
	GM	10,419	57,396	0.27	0.34	1.27	0.005	0.20	11.12
Grn	Logged	2,134	13,051	0.16	0.26	1.64	0.005	0.08	5.09
	GM	2,435	16,736	0.11	0.25	2.19	0.005	0.04	5.47

Figure 14-2 show the geologic model in plan view, and Figures 14-3 through 14-5 show the geologic model and oxidation model in cross section.

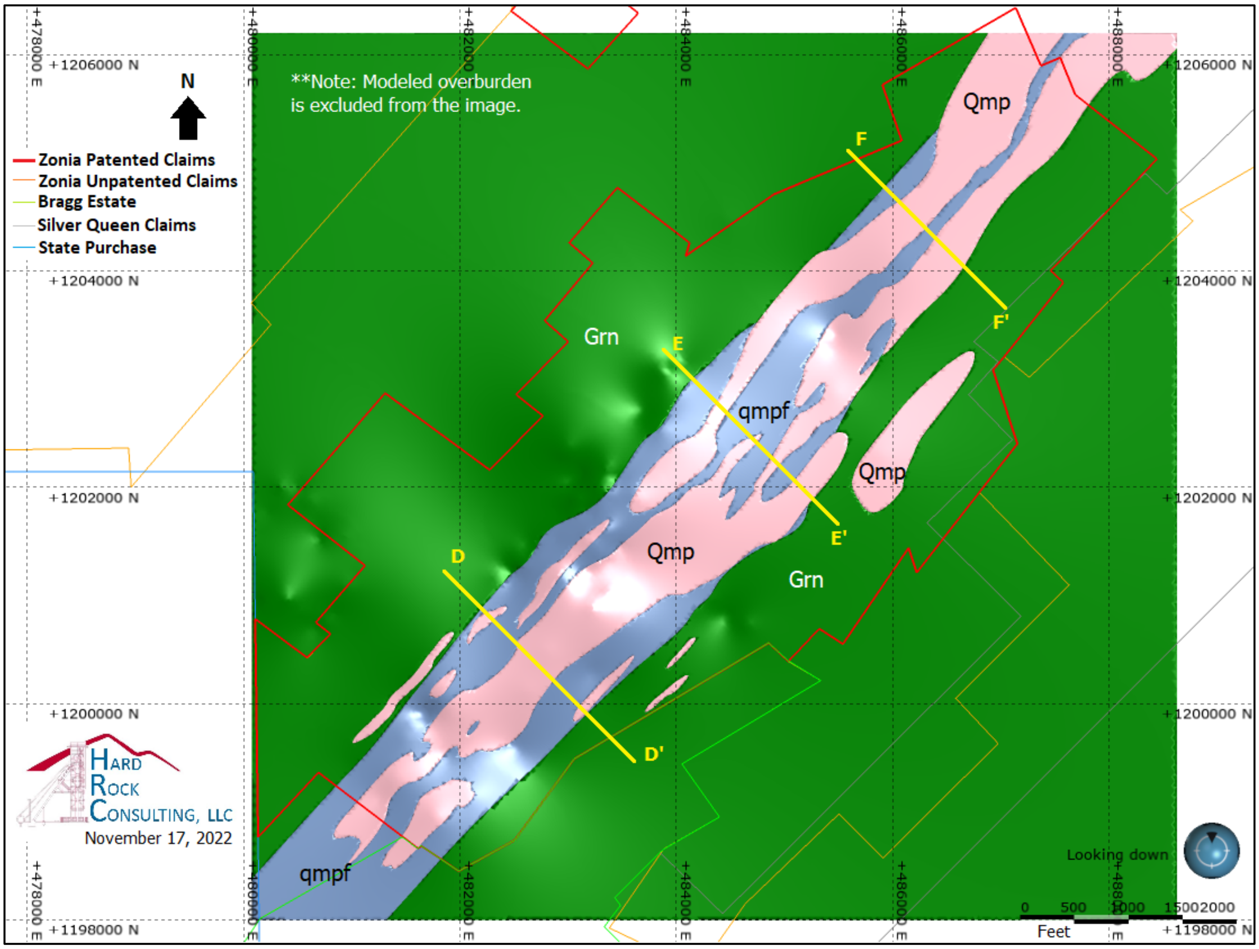

Figure 14-2 Plan View of Geologic Model and Cross Section Locations

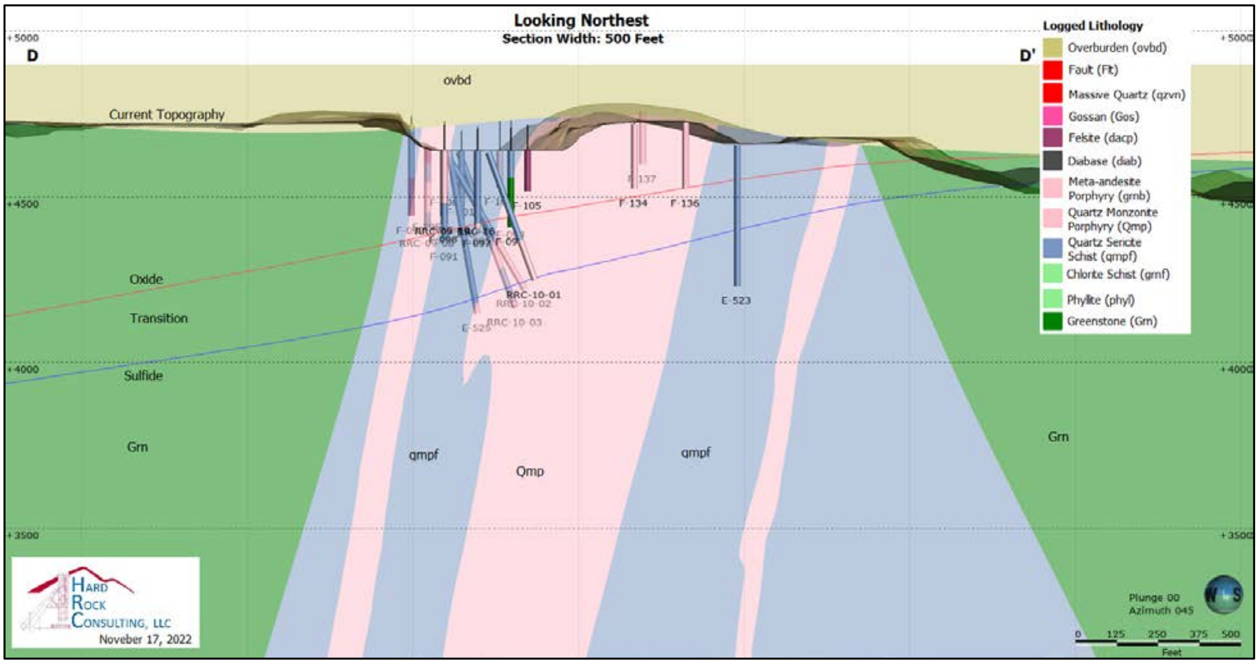

Figure 14-3 Cross Section D-D' of the Geologic Model

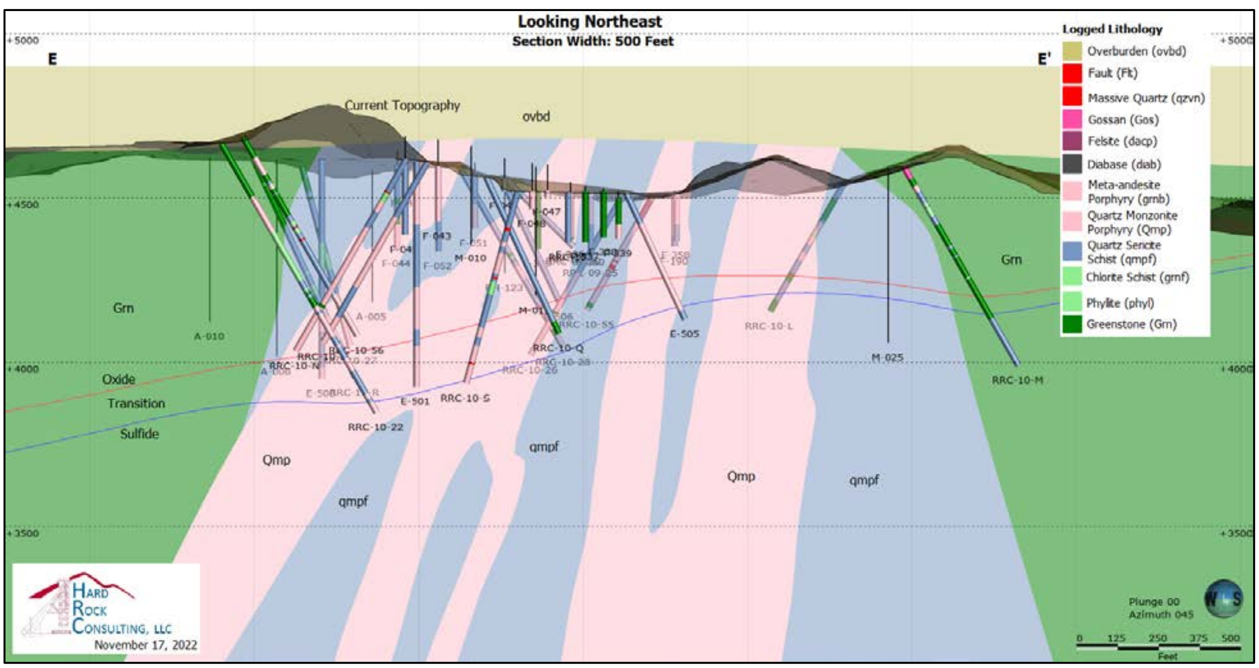

Figure 14-4 Cross Section E-E' of the Geologic Model

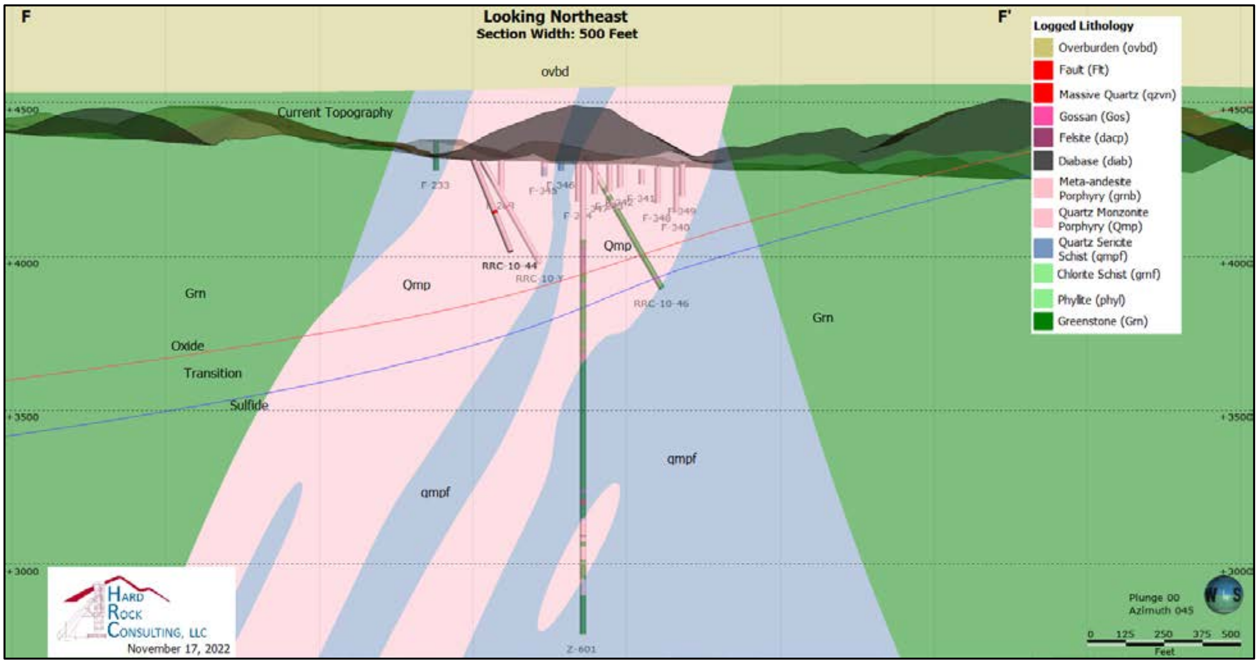

Figure 14-5 Cross Section F-F' of the Geologic Model

14.6 Estimation Domains

Lithology alone is not a reliable constraint on copper mineralization for the Project. Visual inspection suggests copper mineralization tends to concentrate near the contacts of the Qmp and Qmpf. An indicator grade shell model ("indicator") was selected as the most appropriate method for constraining the copper mineralization for the Project. The indicator was modeled using 20-foot composites at a 0.15% total-copper cut-off with a 50% probability. Structural measurements from the surface geologic map were plotted on a stereonet. The Bigham mean plane of all the structural measurements provided an orientation dipping 77° to the northwest and striking N42E. In Leapfrog, the orientation translates to a dip of 77° and a dip azimuth of 313° where 0° is north. A total-copper variogram using all composites within the model area was oriented using a dip of 80° and a dip azimuth of 315° (N45E). A radial plot was used to establish the pitch of 75° from horizontal looking southwest (15° to the SW from down dip). The variogram plots were normalized so the total variance (total sill) would equal 1. A downhole variogram was used to model the nugget, which was 15% of the total sill. Two spherical structures were used to fit the semi-variogram pairs to determine the size of the variogram in the major axis (down plunge), semi-major axis (across plunge), and minor axis (thickness) directions. The modeled variogram parameters are summarized in Table 14-4. Notably, the variogram shows a longer-range continuity along the semi-major axis than the major axis and shows an anisotropy of 3:5:1 (Major:SemiMajor:Minor). The ranges and orientation from the variogram were used as the input parameters for the indicator model. The resulting indicator model is presented in plan view in Figure 14-6 and in cross section in Figure 14-7. The indicator was validated visually by ensuring all volumes were supported by multiple drillholes and the shape of the indicator matched the interpretation of total-copper mineralization for the Project. In addition to visual methods, the indicator was validated statistically. The results are summarized in Table 14-5 and show the total-copper statistics for the indicator model are similar to the 20-foot composites. The indicator is considered to be "balanced" since the number of samples above cut-off, and outside the indicator is similar the number of samples below cut-off and inside the indicator. The indicator model provides two estimation domains for the mineral resource estimate: Inside, and Outside.

Table 14-4 Variogram Parameters from 20-ft Composites

	Dip	**Dip Azi.**	**Pitch**
	80	315	75
Nugget (C_0)	**C_1**	**C_2**	**Total Sill**
0.15	0.37	0.48	1.00
Axis	**$Range_1$ (ft)**	**$Range_2$ (ft)**	**Anisotropy**
Major	50	185	2.5
Semi-Major	130	360	4.8
Minor	27	75	1.0

Table 14-5 Statistical Comparison of 20-ft Composites to the Indicator Model

20-ft Composites (CuT%)	**≥ cut-off**	**< cut-off**
Number of points	4,016	3,323
Percentage	54.72%	45.28%
Mean	0.34	0.07
Maximum	7.70	0.15
Std. Dev.	0.26	0.04
CV	0.76	0.66
Indicator Statistics (CuT%)	**Inside**	**Outside**
Number of samples ≥ cut-off	3,715	301
Percentage	50.62%	4.10%
Number of samples < cut-off	329	2,994
Percentage	4.48%	40.80%
Mean value	0.33	0.08
Maximum	7.70	0.91
Std. Dev.	0.26	0.07
CV	0.79	0.89

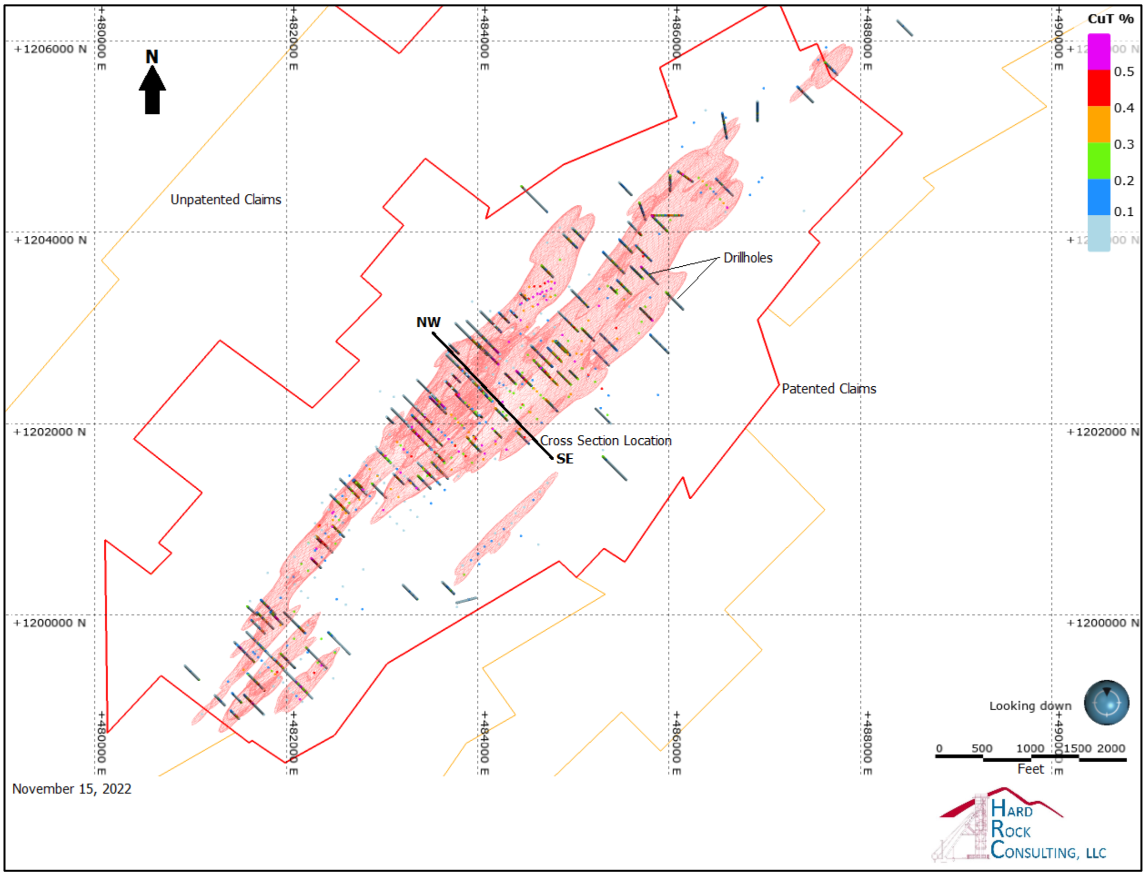

Figure 14-6 Plan View of Indicator Model

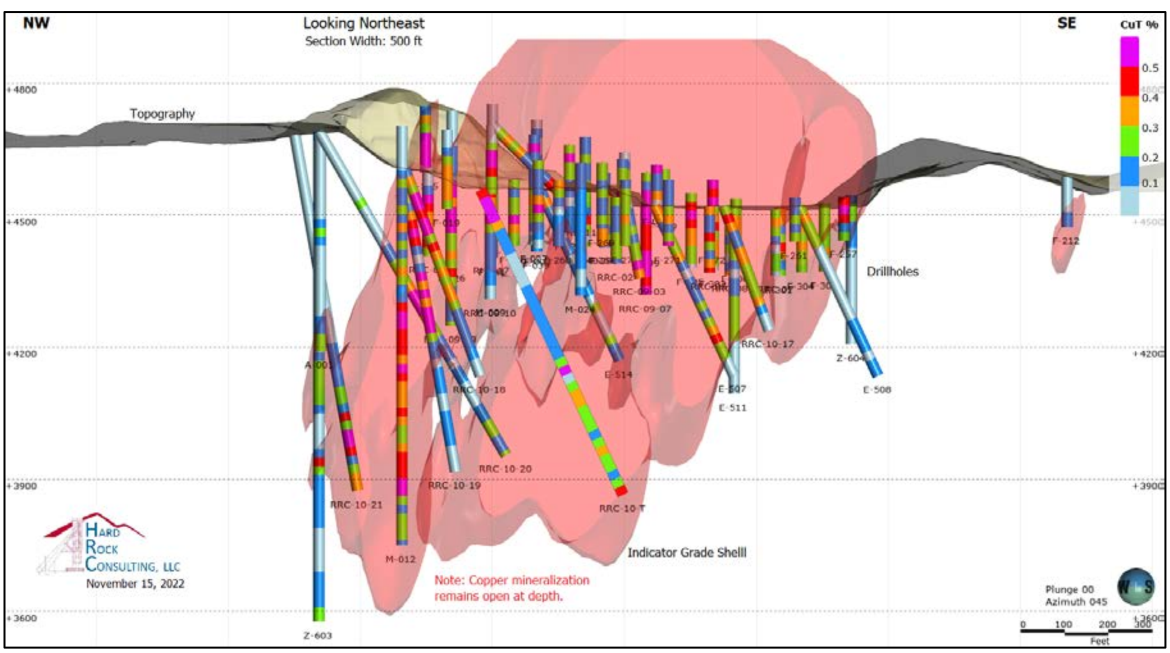

Figure 14-7 Cross Section View of Indicator Model

14.7 Boundary Analysis

Contact plots were created to determine the boundary conditions that should be applied for the estimation of copper grades. Estimation domains established using grade generally imply a hard boundary. The contact plots presented in Figure 14-8 confirm a copper grade estimate using a hard boundary condition is the most appropriate for the Project.

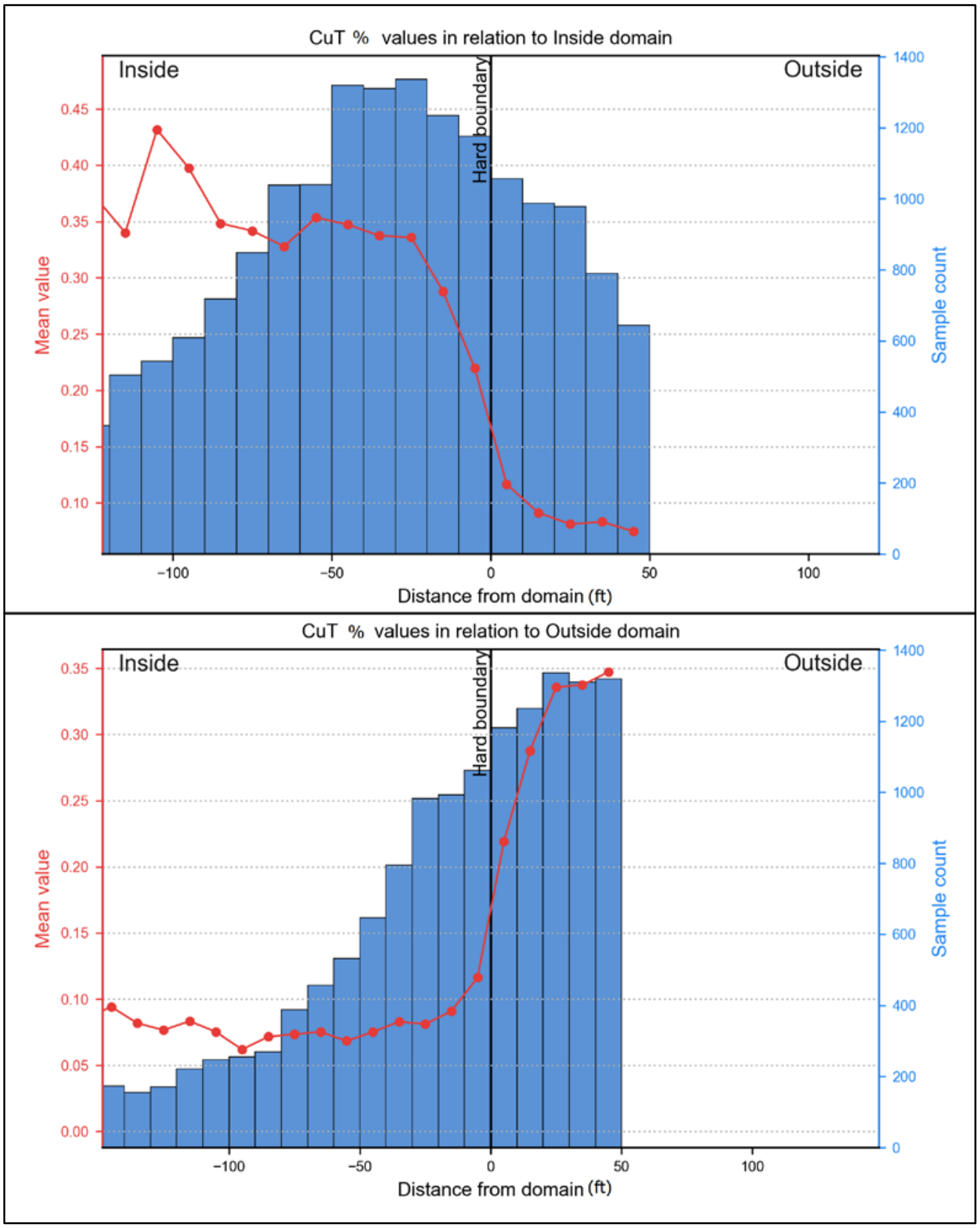

Figure 14-8 Contact Plots of Total-Copper Average Grades

14.8 Compositing and Capping

Based on the composite study and contact plots, the raw total-copper assays were composited by domain utilizing 20-foot downhole composites. If the residual end length was less than 10 feet, composite length intervals were adjusted to be distributed equally through the drillhole. Composite statistics by estimation domain are presented in Table 14-6. After compositing by domain, histograms, log histograms, and log probability plots were used in conjunction to identify high grade copper outliers in each estimation domain. The low CV in the composite statistics suggests limited capping should be required. Figure 14-9 shows a log scale histogram for total-copper composites inside the indicator. One composite is for outside the statistical population and was capped to the next highest-grade composite at 3.2%. Figure 14-10 shows a histogram for total-copper composites outside the indicator. The plot shows several composites outside the larger statistical population beyond 0.45%. These composites will be restricted in the mineral resource estimate.

Table 14-6 Composite Statistics by Estimation Domain

Domain	Count	Length	Mean	Std. Dev.	CV	Min.	Median	Max.
Inside	4,044	80,309	0.33	0.26	0.80	0.005	0.27	7.70
Outside	3,295	65,526	0.08	0.07	0.89	0.005	0.07	0.91

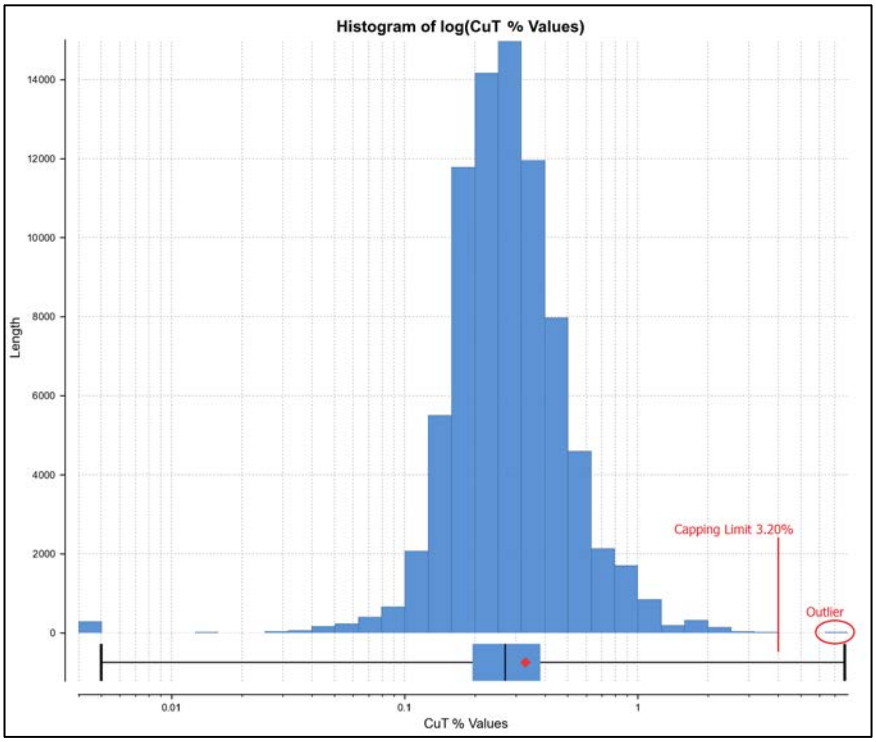

Figure 14-9 Log Scale Histogram of Composites Inside the Indicator

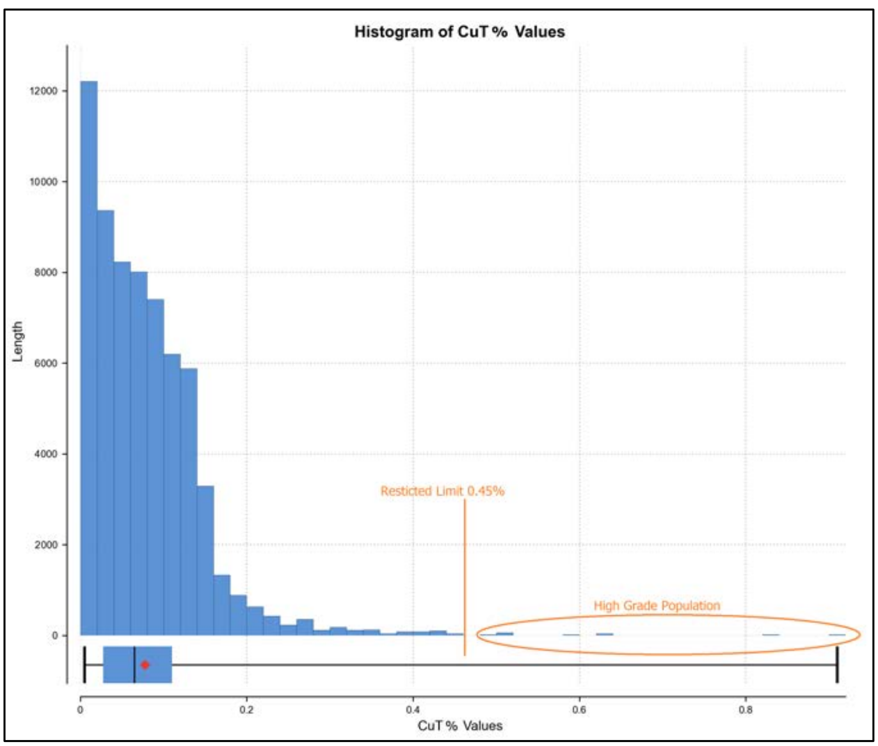

Figure 14-10 Histogram of Composites Outside the Indicator

14.9 Variography

Variography analysis of total-copper grades was completed for both estimation domains. Variography describes the similarity of sample grades, as a function of distance and direction. This is performed by comparing the orientation and distance used in the estimation to the variability of other samples of similar relative direction and distance. The variography was modeled using the same methodology as described for the indicator model. Variogram parameters for both domains are presented in Table 14-7. The variogram orientation for both domains is the same, assuming any copper mineralization outside the indicator still follows similar trends. The nugget is 20% of the total sill in both domains, which is slightly higher than expected considering the deposit type and low statistical CV. Similar to the variogram used to inform the indicator, both domains show longer ranges in the semi-major axis than the major axis. The sample pairs in the major axis direction allow for the most reliable modeling, while modeling along the semi-major axis requires more interpretation. Most of the drilling on the Project is oriented vertically, therefore, establishing the range of the minor axis is not easily determined. The minor axis was intentionally kept as the shortest range based on the interpreted mineralization for the Project. Variogram plots for both domains are presented in Figures 14-11 through 14-20. Note, the nugget is represented by a black triangle and the orange line in the variogram plots represent 1.5x the moving average of the variance.

Table 14-7 Total-Copper Variogram Parameters by Domain

Inside Indicator Variogram				Outside Indicator Variogram			
	Dip	**Dip Azi.**	**Pitch**		**Dip**	**Dip Azi.**	**Pitch**
	80	315	75		80	315	75
Nugget (C_0)	**C_1**	**C_2**	**Total Sill**	**Nugget (C_0)**	**C_1**	**C_2**	**Total Sill**
0.2	0.43	0.37	1.00	0.2	0.2	0.6	1.00
Axis	**$Range_1$ (ft)**	**$Range_2$ (ft)**	**Anisotropy**	**Axis**	**$Range_1$ (ft)**	**$Range_2$ (ft)**	**Anisotropy**
Major	45	90	1.2	Major	40	100	1.4
Semi-Major	175	240	3.2	Semi-Major	80	170	2.4
Minor	23	75	1.0	Minor	20	70	1.0

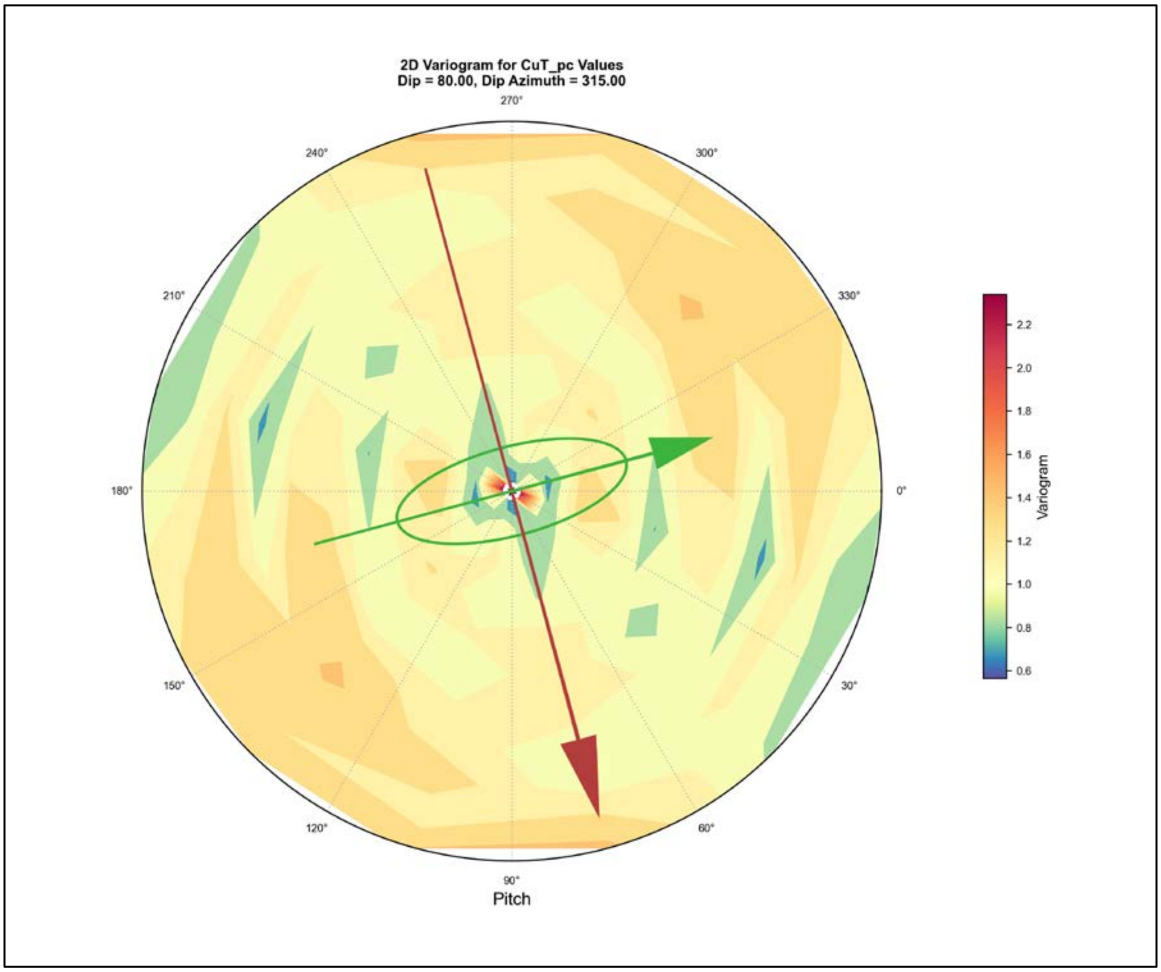

Figure 14-11 Radial Plot of Total-Copper Variance Inside the Indicator

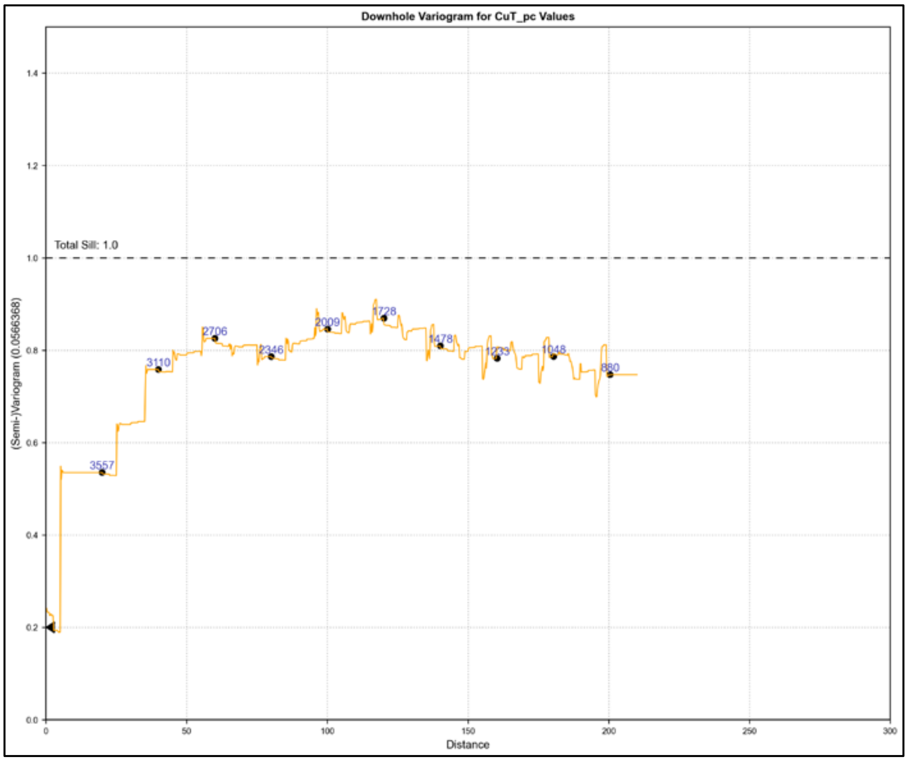

Figure 14-12 Downhole Total-Copper Variogram Inside the Indicator

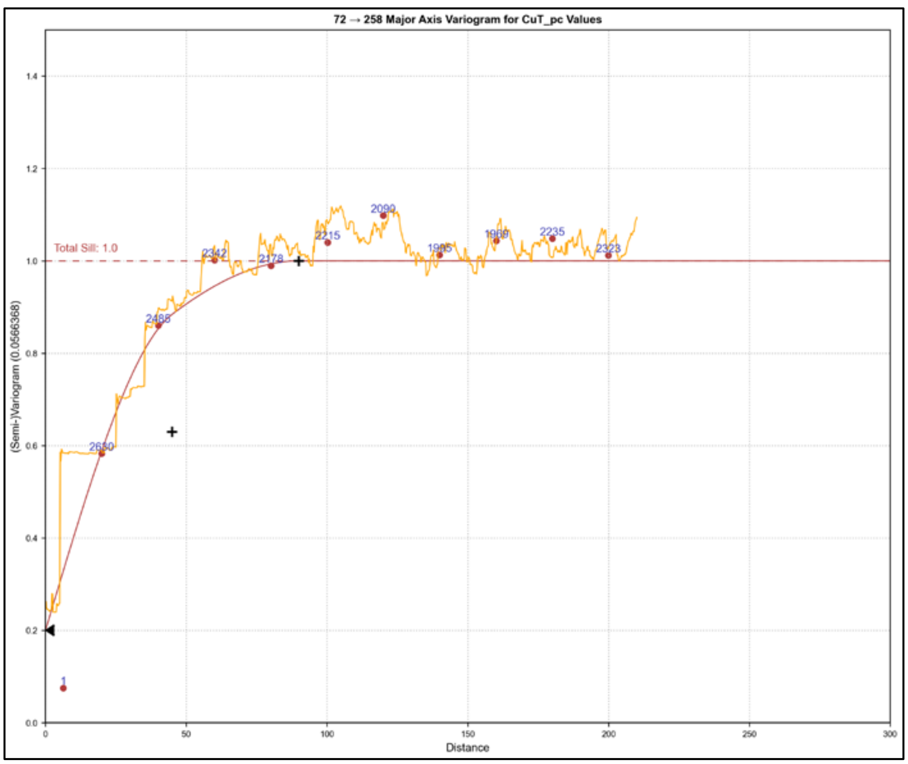

Figure 14-13 Major Axis Total-Copper Variogram Inside the Indicator

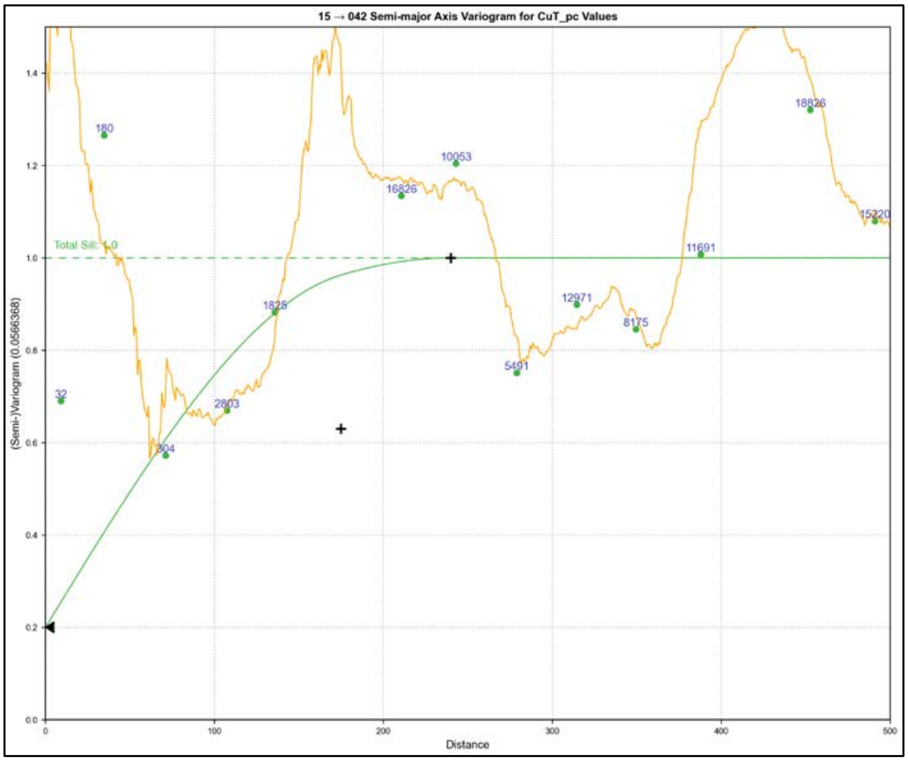

Figure 14-14 Semi -Major Axis Total-Copper Variogram Inside the Indicator

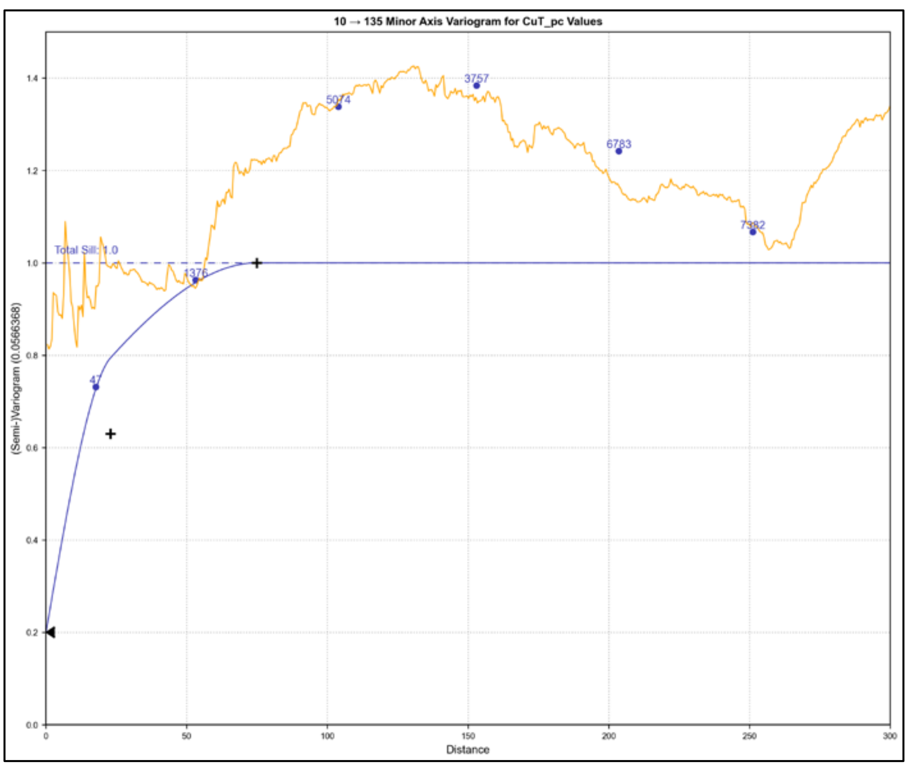

Figure 14-15 Minor Axis Total-Copper Variogram Inside the Indicator

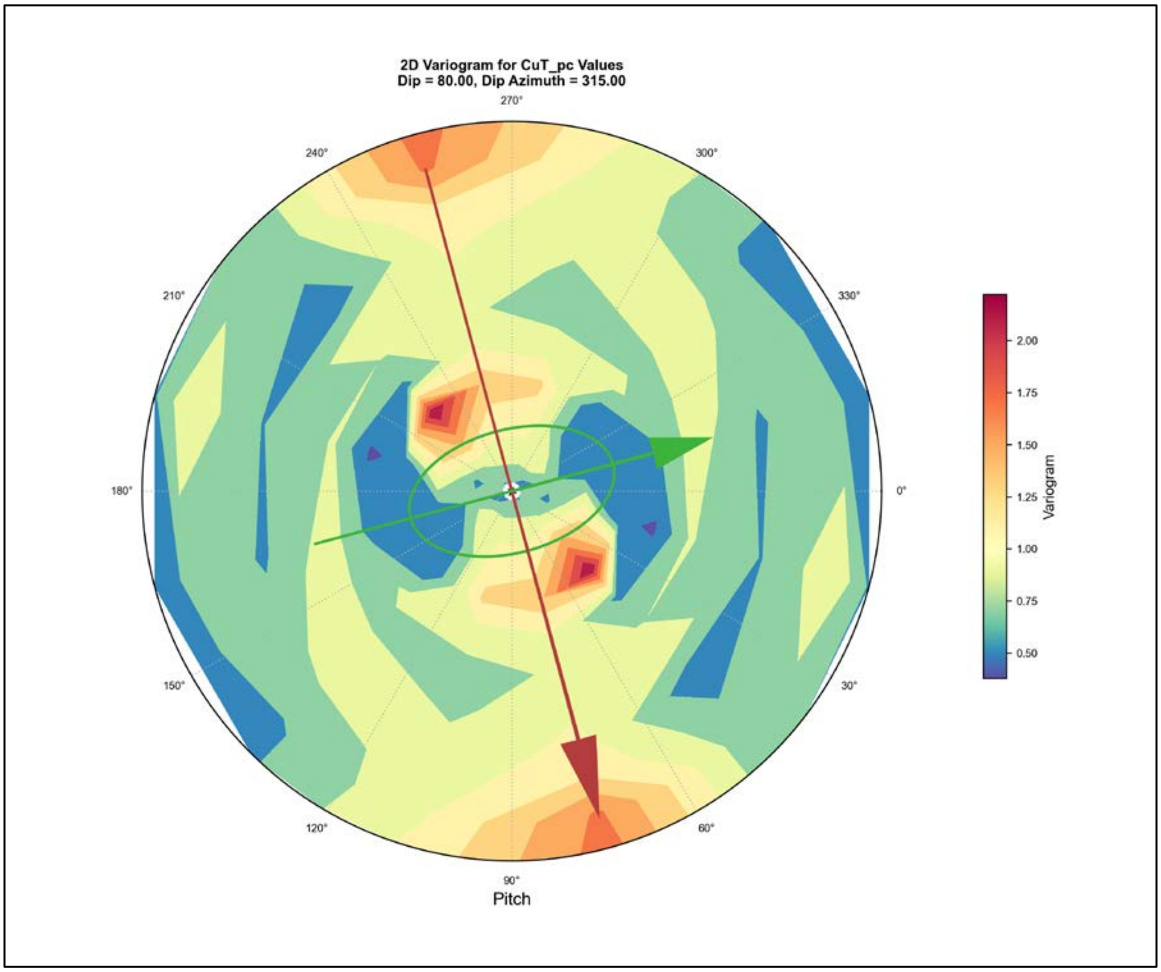

Figure 14-16 Radial Plot of Total-Copper Variance Outside the Indicator

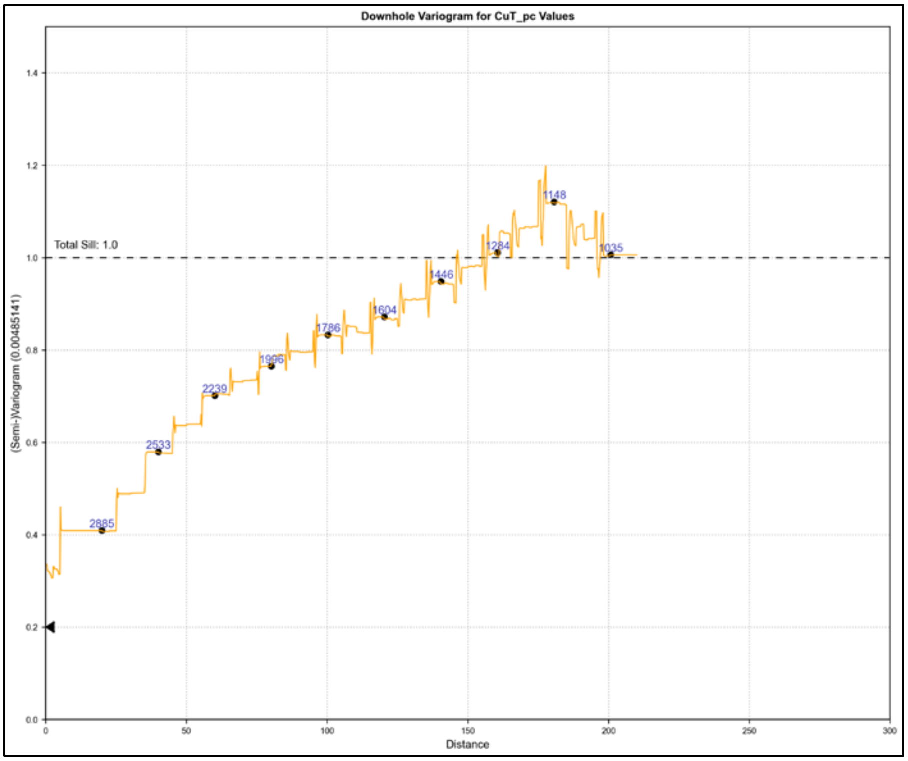

Figure 14-17 Downhole Total-Copper Variogram Outside the Indicator

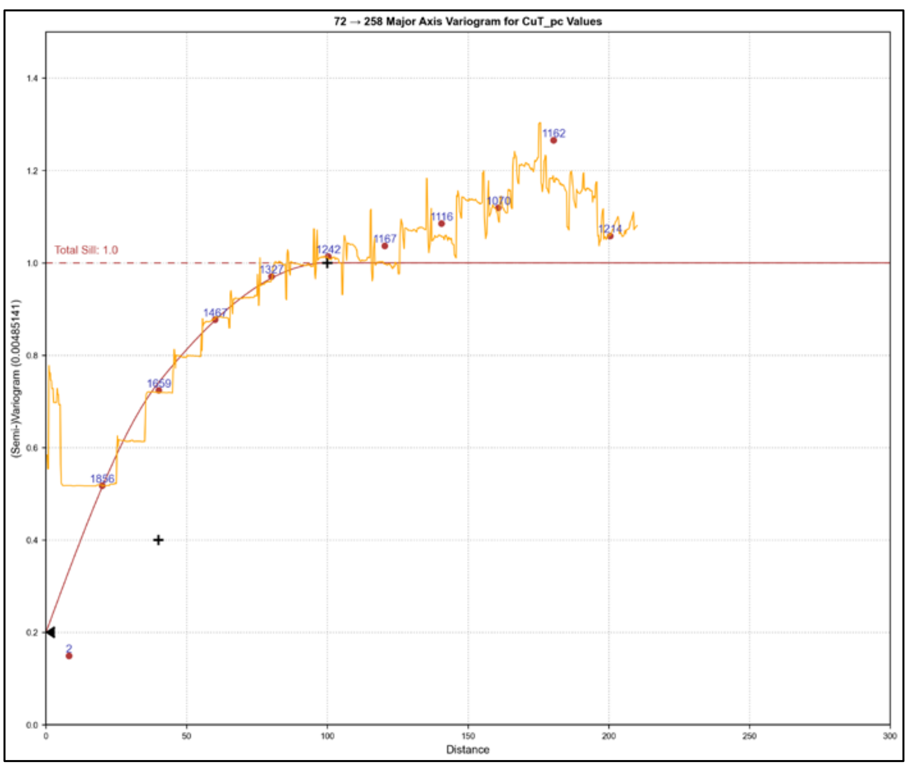

Figure 14-18 Major Axis Total-Copper Variogram Outside the Indicator

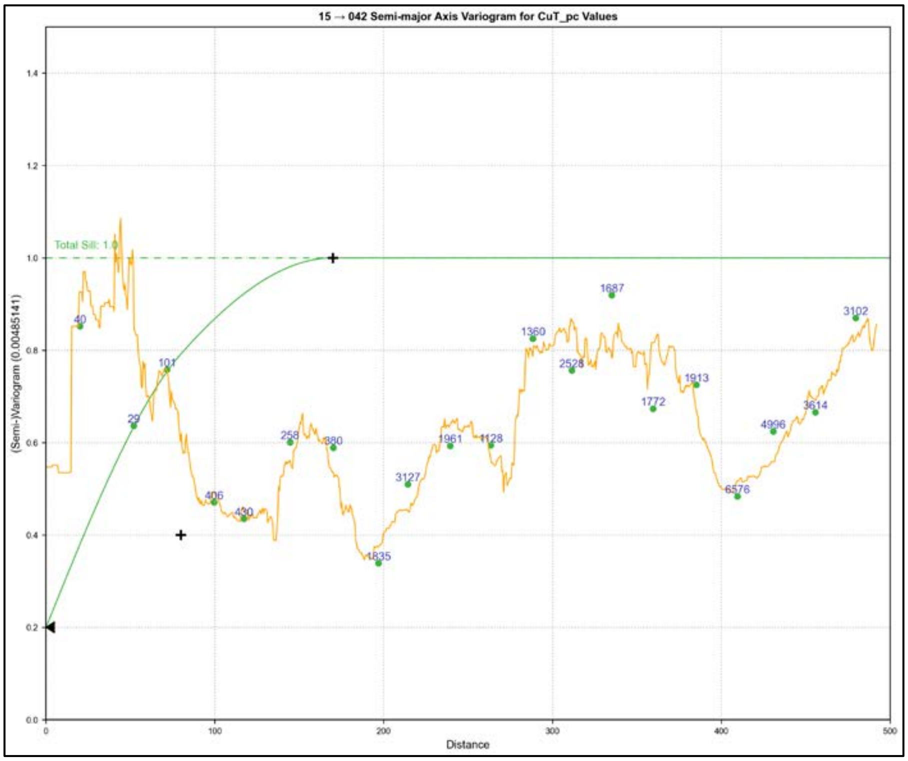

Figure 14-19 Semi-Major Axis Total-Copper Variogram Outside the Indicator

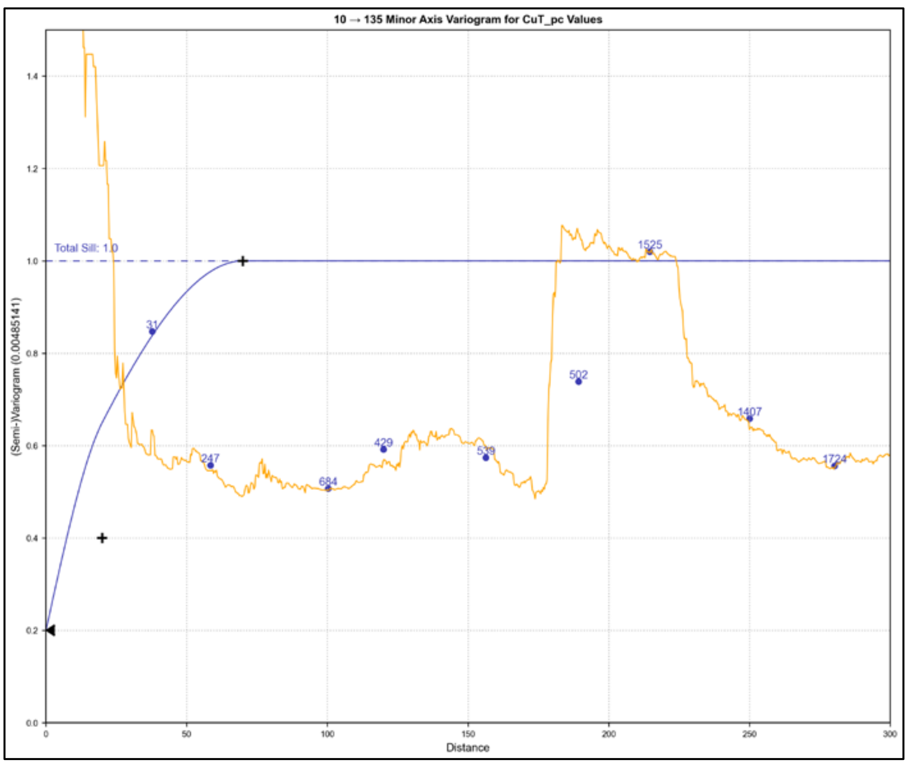

Figure 14-20 Minor Axis Total-Copper Variogram Outside the Indicator

14.10 Block Model Parameters

The block model for the Project was created using the definitions shown in Table 14-8. The block model origin coordinates are represented by the minimum easting “X”, minimum northing “Y” and maximum “Z”. The model was rotated 45 degrees clockwise around the Z-axis, along strike of the copper mineralization. Based on the anticipated mining methods, a block size of 50 feet × 50 feet × 30 feet was selected.

Table 14-8 Block Model Parameters for the Zonia Project

Axis	X	Y	Z
Block Size	50	50	30
Origin	479115	1200315	4910
Boundary Size	4350	10500	2250
Number of Blocks	87	210	75
Rotation	45 Degrees Clockwise Around Z-Axis		

14.11 Estimation Methodology

Total-copper grades were estimated using an ordinary kriging (“OK”) interpolant. The estimation parameters for each domain are presented in Table 14-9. Both estimation domains incorporate the variogram parameters from inside the indicator to inform the orientation and size of the search ellipse. The estimation methodology utilized multiple passes with the first estimation pass set to the maximum variogram range. At least 4 composites, a maximum of 21 composites with no more than 3 composites allowed from a single drillhole, were required to estimate a block in the first pass. The composite selection in the first pass requires at least two drillholes to estimate a block. The second estimation pass is twice the variogram range and the minimum number of samples is reduced to 3, allowing for estimation of a block by a single drillhole. A third estimation pass was allowed for estimating copper grades outside the indicator shell and is three times the variogram range. The estimation of copper grades outside the indicator also incorporated a restricted distance of 36 feet x 96 feet x 30 feet (40% of the variogram range) for composites with grades higher than 0.45%. Within the restrictive distance, those samples retain their original grade. Beyond the restricted distance, those composites inherit the value of 0.45% CuT. The restrictive distance is set as a percentage of the search ellipse. With each increasing estimation pass, the percent of the search ellipse was reduced accordingly to ensure a constant restrictive distance throughout the estimate.

Table 14-9 OK Interpolant Estimation Parameters

Domain	Pass	Orientation		
		Dip	Dip Azi.	Pitch
Inside	Pass 1	80	315	75
	Pass 2			
Outside	Pass 1	80	315	75
	Pass 2			
	Pass 3			
Domain	**Pass**	**Range (ft)**		
		Major	**Semi-Major**	**Minor**
Inside	Pass 1	90	240	75
	Pass 2	180	480	150
Outside	Pass 1	90	240	75
	Pass 2	180	480	150
	Pass 3	360	960	300
Domain	**Pass**	**Composite Selection**		
		Minimum	**Maximum**	**Max/DH**
Inside	Pass 1	4	21	3
	Pass 2	3	21	3
Outside	Pass 1	4	21	3
	Pass 2	3	21	3
	Pass 3	3	21	3
Domain	**Pass**	**Outlier Restriction**		
		Limit	**Percent of Search Ellipse**	
Inside	Pass 1	N/A		
	Pass 2	N/A		
Outside	Pass 1	0.45	40%	
	Pass 2	0.45	20%	
	Pass 3	0.45	10%	

14.12 Estimate Validation

Several methods were utilized to validate the results of the estimation method. The combined evidence from these validation methods verifies the OK interpolation model results.

14.12.1 Statistical Comparison

Nearest Neighbor ("NN") and Inverse Distance to the 2.5 power ("ID") interpolants were run for total-copper to serve as comparisons with the estimated results from the OK method. Descriptive statistics for the OK method along with those for the NN and ID interpolants and composites are shown by domain and globally in Table 14-10. The means are similar for all three interpolants across all domains. The percent difference in mean between the NN interpolant and OK interpolant is within +/- 2.0% globally and for both estimation domains. The low difference in mean indicates minimal bias in estimated total-copper grades from the OK interpolant. The drop in mean total-copper grade from composites to the interpolated grade is larger than expected globally, and within the indicator. The higher mean total-copper grade in the composites is a result of clustered drilling within the indicator shell skewing the average grade to the high end.

Table 14-10 Descriptive Statistics for Capped Composites and Interpolants by Estimation Domain

Domain	Interpolant	Count	Mean	Std. Dev.	CV	Min.	Median	Max.	% Diff. Mean
Global	Composites	7,339	0.215	0.22	1.03	0.005	0.17	3.20	
	NN	328,956	0.107	0.12	1.16	0.005	0.08	3.20	
	ID	328,956	0.105	0.10	0.95	0.005	0.08	2.18	
	OK	328,956	0.106	0.10	0.93	0.005	0.08	1.56	-1.33%
Inside	Composites	4,044	0.327	0.24	0.73	0.005	0.27	3.20	
	NN	39,869	0.302	0.20	0.65	0.005	0.26	3.20	
	ID	39,869	0.301	0.12	0.40	0.039	0.27	2.18	
	OK	39,869	0.303	0.11	0.36	0.054	0.28	1.56	0.16%
Outside	Composites	3,295	0.078	0.07	0.89	0.005	0.07	0.91	
	NN	289,087	0.078	0.06	0.73	0.005	0.07	0.48	
	ID	289,087	0.080	0.08	0.98	0.005	0.06	0.91	
	OK	289,087	0.078	0.06	0.75	0.005	0.07	0.66	-0.04%

Q-Q plots comparing the NN, and OK total-copper interpolants were reviewed globally and by estimation domain. The three plots are presented in Figures 14-21 through 14-23. The Q-Q plots outside the indicator and globally show distributions close to the normal line where X=Y (black), suggesting a limited degree of smoothing within the estimate. The smoothing is more apparent in the Q-Q plot inside the indicator domain.

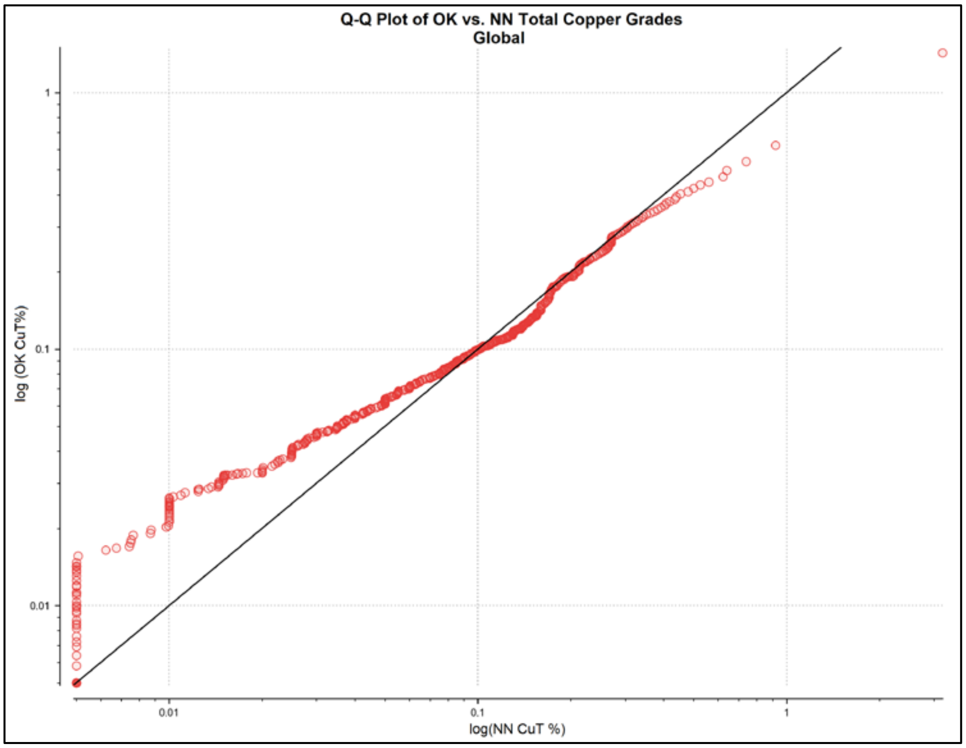

Figure 14-21 Q-Q Plot Comparing CuT Grade Distributions for NN vs. OK Interpolants Globally

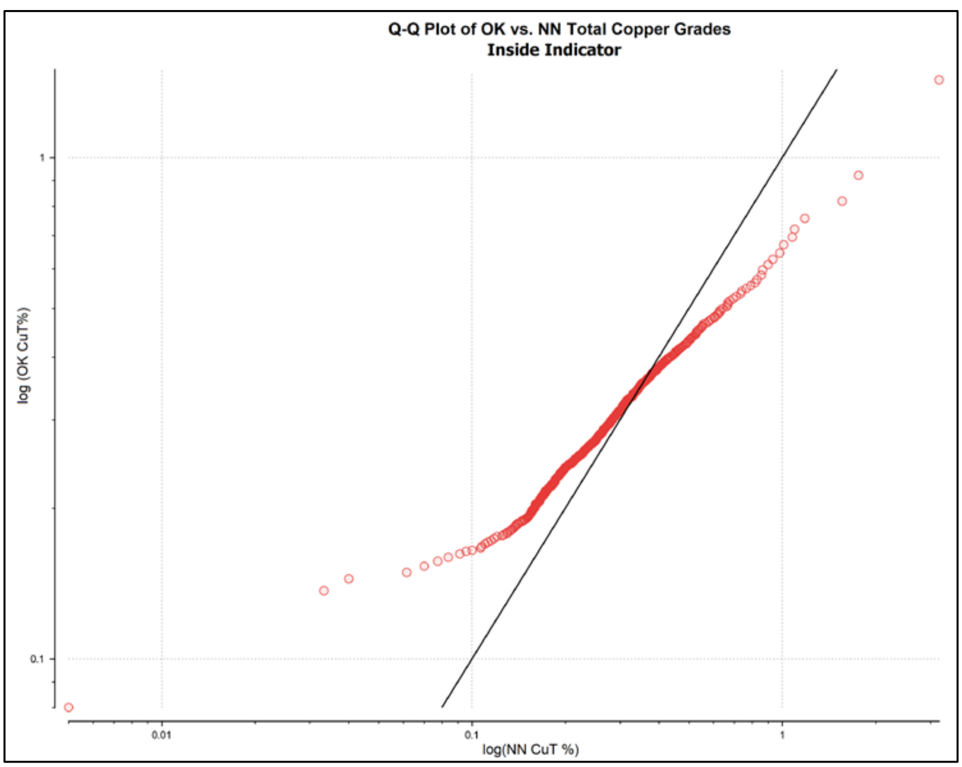

Figure 14-22 Q-Q Plot Comparing CuT Grade Distributions for NN vs. OK Interpolants Inside the Indicator

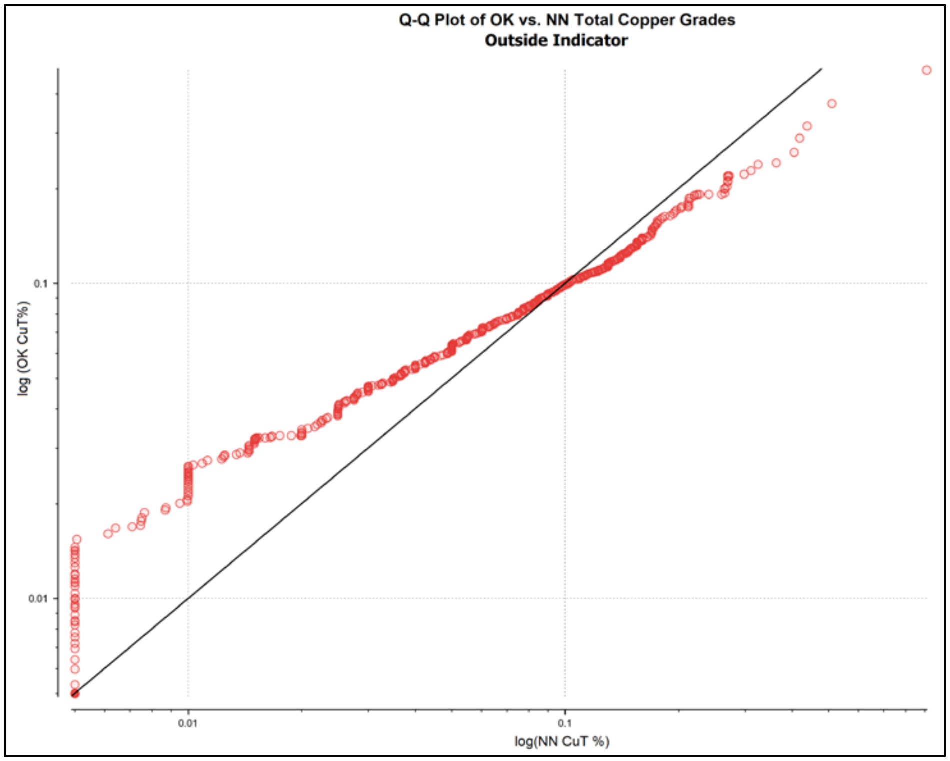

Figure 14-23 Q-Q Plot Comparing CuT Grade Distributions for NN vs. OK Interpolants Outside the Indicator

14.12.2 Swath plots

Swath plots were generated to compare average estimated total-copper grade from the OK method to the NN and ID validation models. On a local scale, the NN model does not provide a reliable estimate of grade, but on a much larger scale, it represents an unbiased estimation of the grade distribution based on the total data set. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the distribution of grade from the NN model.

Three sets of swath plots were generated for total-copper. Figure 14-24 shows the global swath plots, Figure 14-25 shows the swath plots inside the indicator, and Figure 14-26 shows the swath plots outside the indicator. Each set contains a swath plot along the rotated X axis of the block model (northwest to southeast), the rotated Y axis of the block model (southwest to northeast), and the Z axis of the block model (higher to lower elevations).

Correlation between the grade models is generally good, though deviations occur. Areas where these deviations occur are the result of low sample density. Of note, the deviations are more significant outside the indicator than inside the indicator.

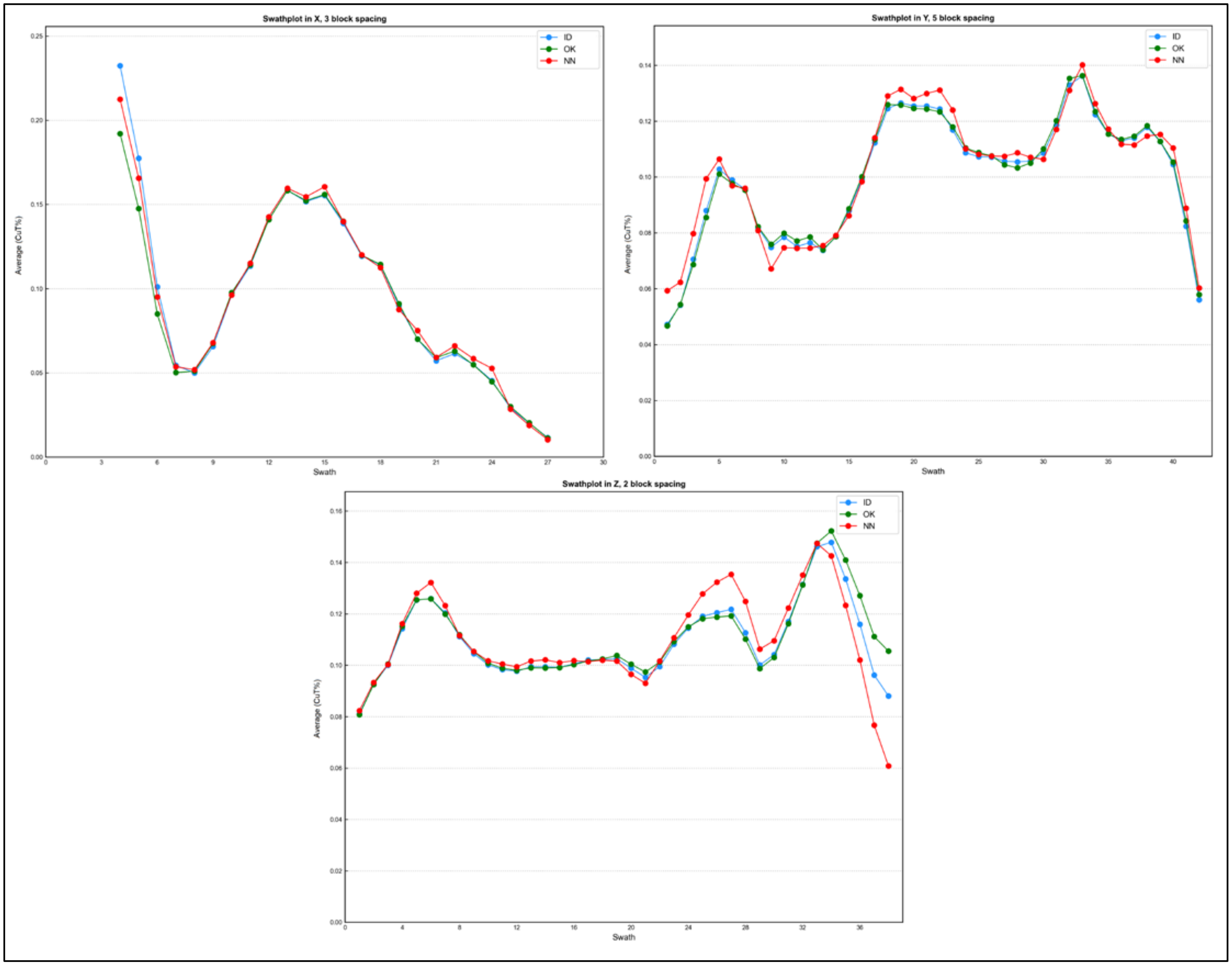

Figure 14-24 Swath Plots of Interpolated Total-Copper Grades Globally

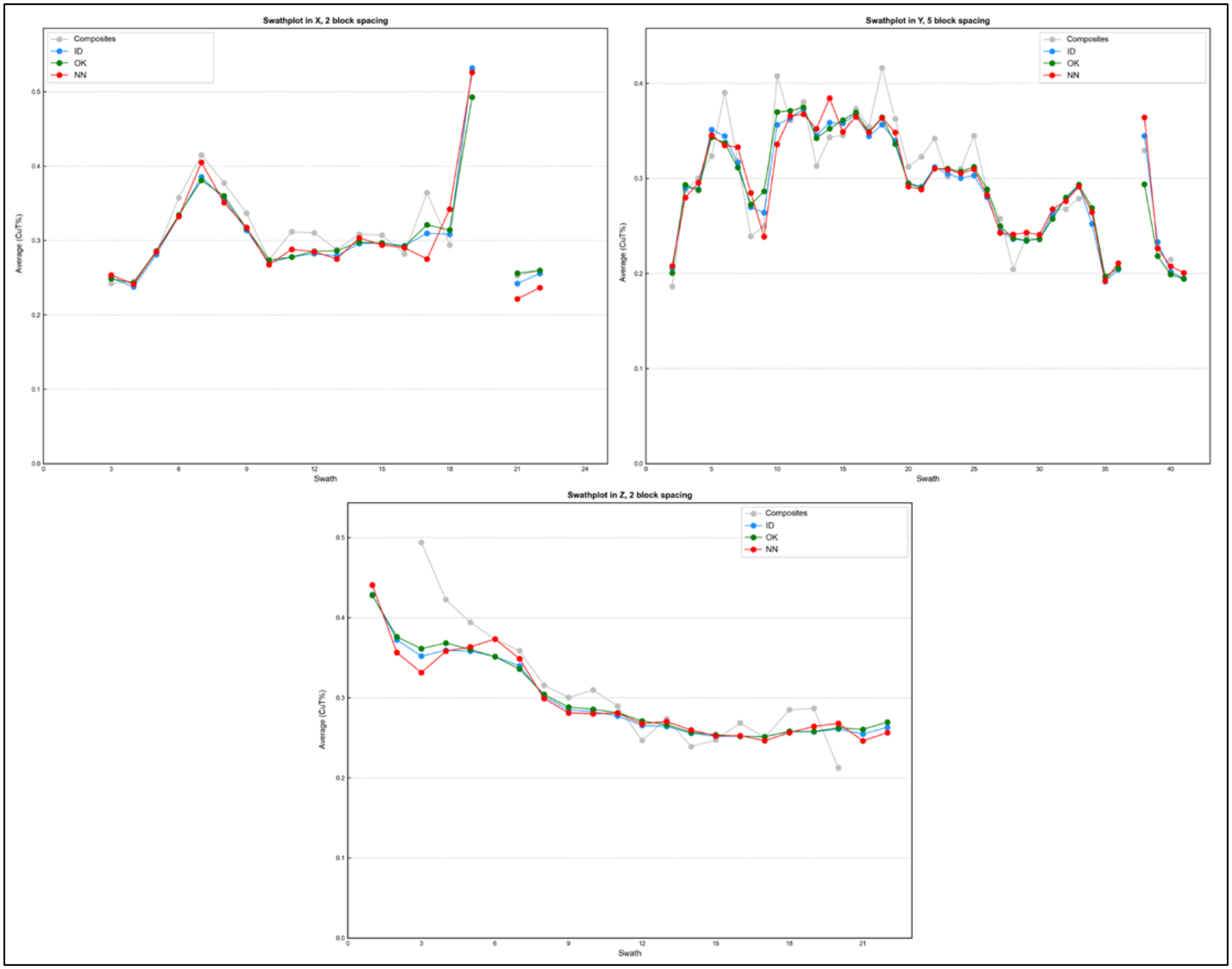

Figure 14-25 Swath Plots of Interpolated Total-Copper Grades Inside the Indicator

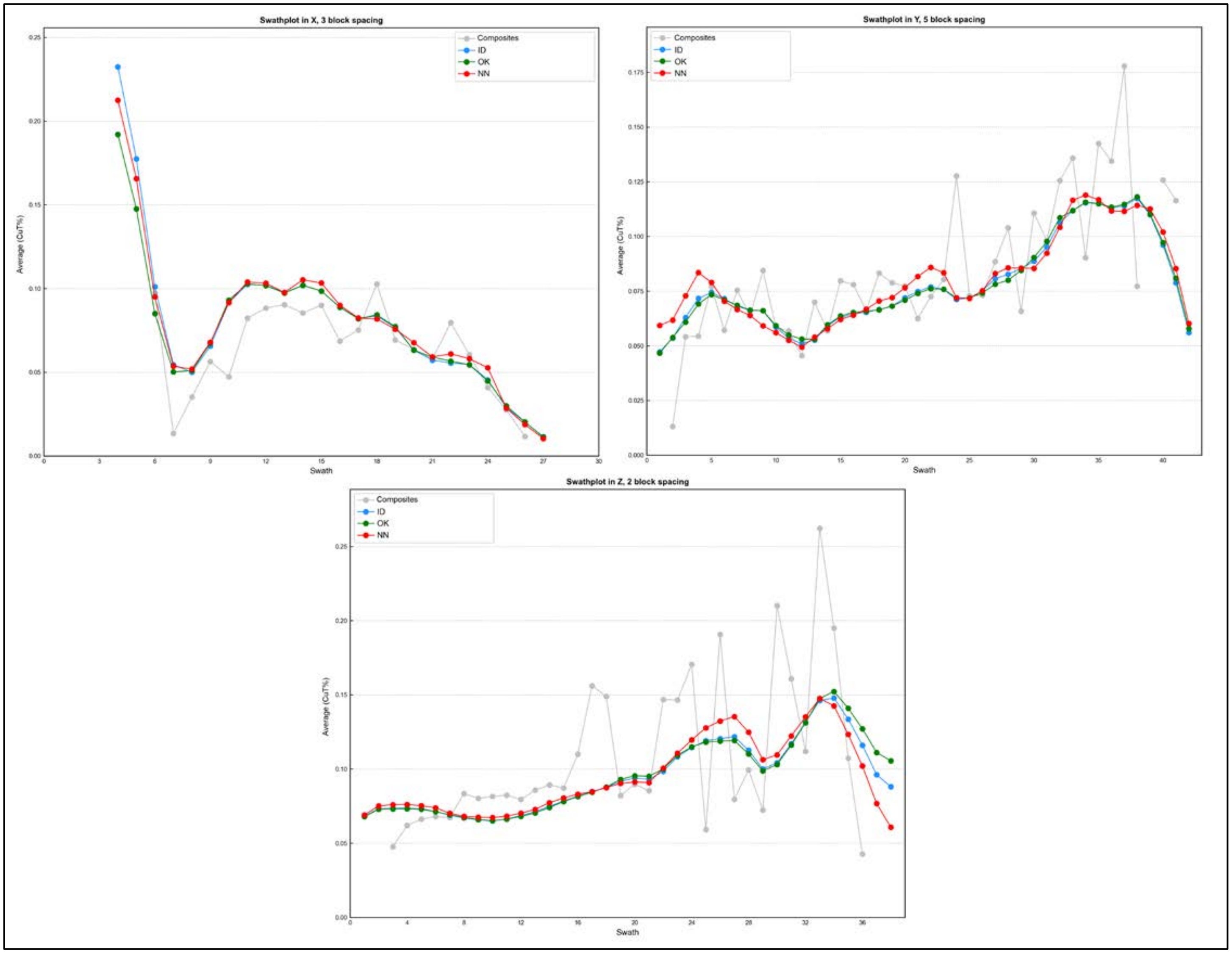

Figure 14-26 Swath Plots of Interpolated Total-Copper Grades Outside the Indicator

14.12.3 Visual Inspection

Bench plans, cross-sections, and long sections comparing modeled grades to the 20-foot composites were evaluated. The example sections displaying estimated copper grades (locations are shown in Figure 14-27) are shown in Figure 14-28 through Figure 14-30. The figures show good agreement between modeled grades and the composite grades. In addition, the modeled blocks display continuity of grades along strike and down dip, and no high-grade blowouts were observed.

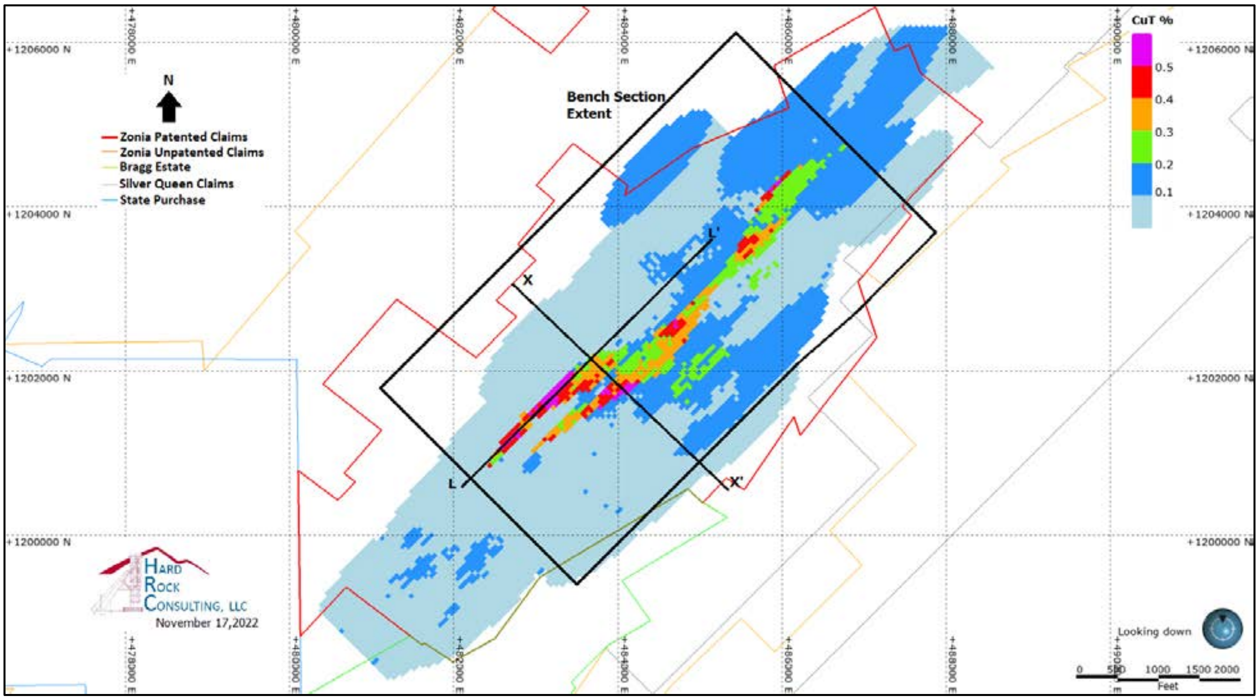

Figure 14-27 Plan View of Estimated Total-Copper Grades and Example Section Locations

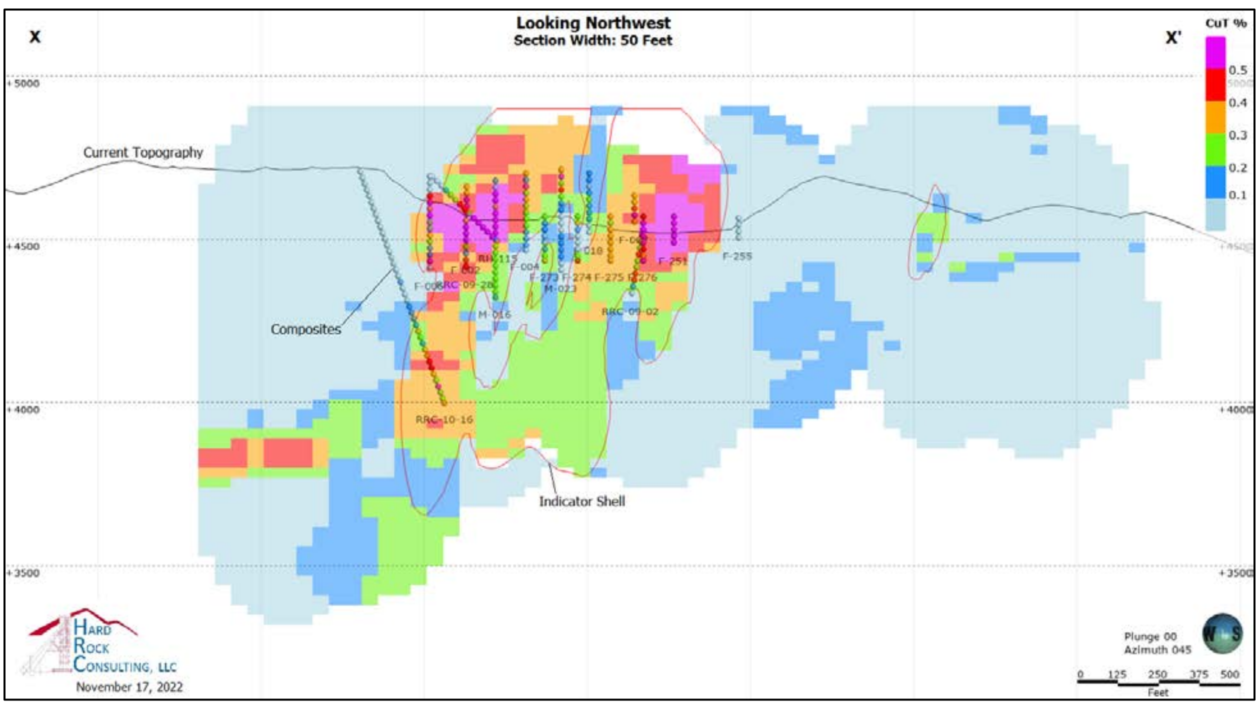

Figure 14-28 Cross Section X-X' Showing Estimated Total-Copper Grades and Composites

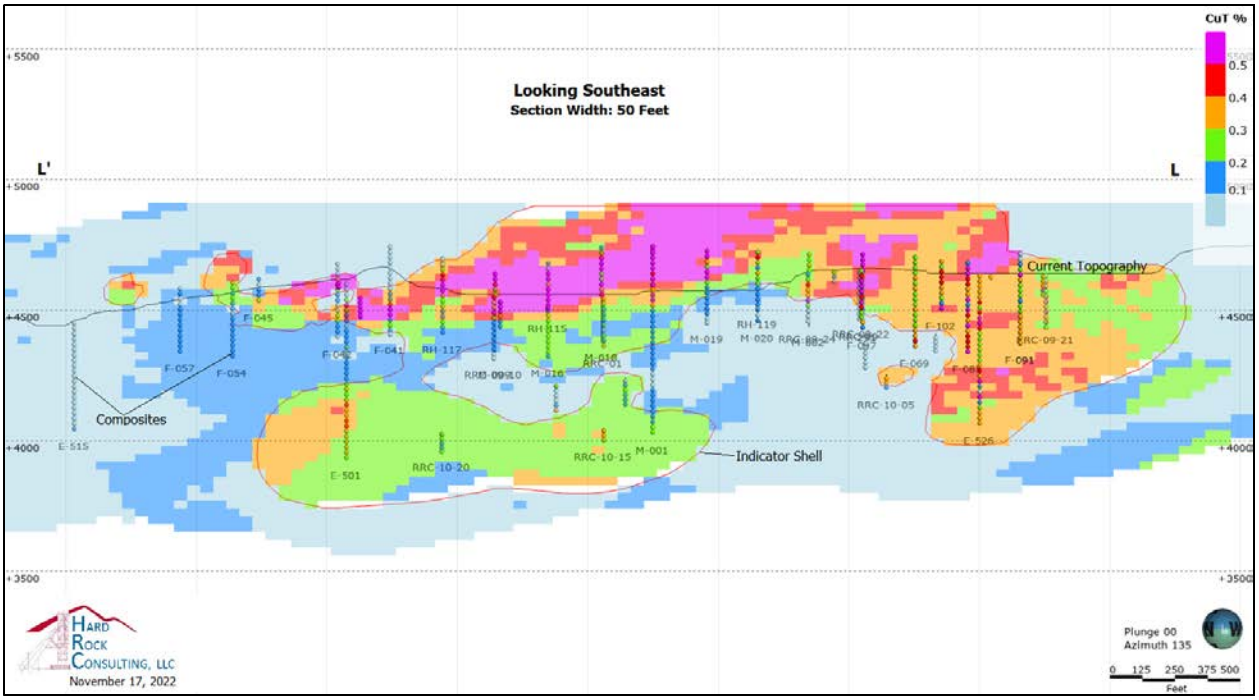

Figure 14-29 Long Section L'-L Showing Estimated Total-Copper Grades and Composites

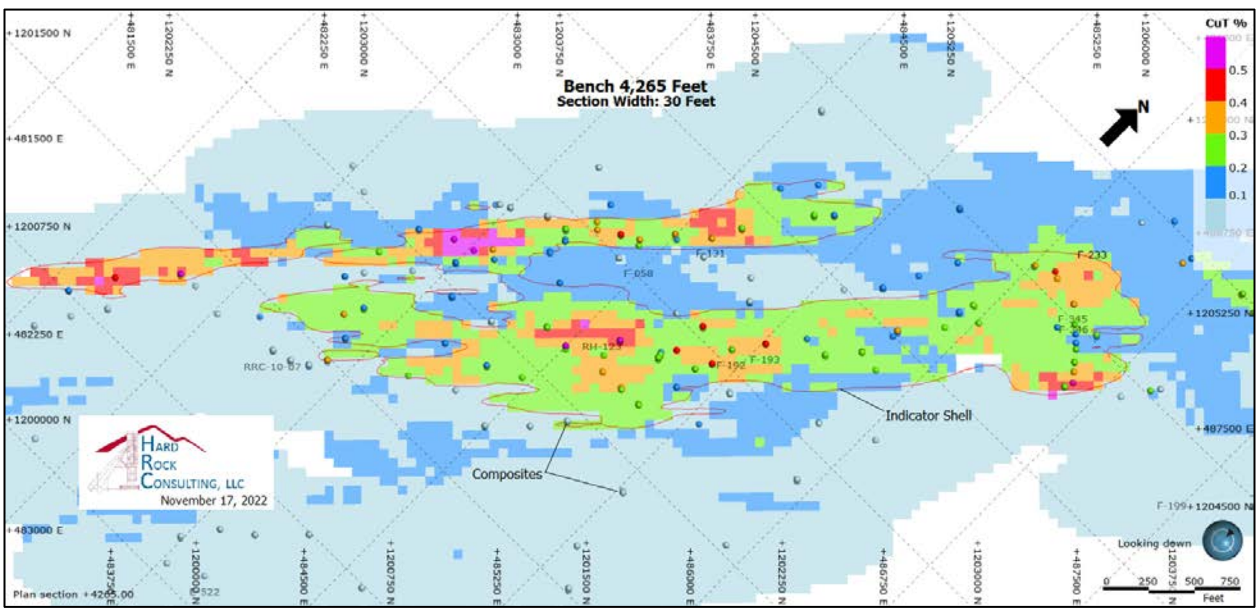

Figure 14-30 Bench Section 4,265 Feet Showing Estimated Total-Copper Grades and Composites

14.13 Density

A density of 0.08 Ton/ft^3 (12.5ft^3/Ton) was applied throughout the block model to convert volume into tonnage.

14.14 Underground Mining Operations

Outlines of the Cuprite shaft, 210 level, and 335 level were digitized into Leapfrog. A 30-foot buffer was modeled surrounding the digitized outlines. The resulting solid was coded into the block model as a reasonable approximation of blocks potentially affected by historic underground mining operations.

14.15 Mineral Resource Classification

The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves", prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the resources reflects the relative confidence of the grade estimates.

None of the drillholes were surveyed down-hole. During drilling, a drillhole will inevitably deviate or drift from a straight-line projection, with the amount of drift increasing with increasing length and decreasing inclination. Based on depth and inclination, a downhole location confidence was assigned for each assay interval where 1 is good, 2 is moderate, and 3 is poor. The confidence values were then estimated into the block model using a nearest neighbor interpolant, oriented in the same direction as the total-copper OK method, and a size of 468 ft. x 1,248 ft. x 390 ft. to ensure all estimates blocks received a confidence code.

The drilling conducted by Redstone Resources and Copper Mesa has been validated as the most reliable for the Project. An ordinary kriging interpolant of total-copper grade was run using only those drillholes to determine which blocks were likely to include copper composites from them. The estimation was done by domain and used the largest estimation pass for each domain. The estimation parameters for the down-hole confidence estimate and the influence of Redstone Resources/Copper Mesa drilling are summarized in Table 14-11.

Table 14-11 Estimation Parameters Summarizing Resource Classification Estimates

Estimate	Domain	Interpolant	Orientation		
			Dip	**Dip Azi.**	**Pitch**
Down-hole Confidence	Unconstrained	NN	80	315	75
Redstone Resources/Copper Mesa Influence	Inside	OK	80	315	75
	Outside	OK	80	315	75
Estimate	**Domain**	**Interpolant**	**Range (ft)**		
			Major	**Semi-Major**	**Minor**
Down-hole Confidence	Unconstrained	NN	468	1248	390
Redstone Resources/Copper Mesa Influence	Inside	OK	180	480	150
	Outside	OK	360	960	300
Estimate	**Domain**	**Interpolant**	**Composite Selection**		
			Minimum	**Maximum**	**Max/DH**
Down-hole Confidence	Unconstrained	NN			
Redstone Resources/Copper Mesa Influence	Inside	OK	3	21	3
	Outside	OK	3	21	3

Blocks were assigned a classification of "Indicated" if they were estimated in the first estimation pass (at the variogram range and including at least two drillholes), received a total-copper grade from the Redstone Resources/Copper Mesa influence estimate, and received a down-hole confidence value less than 3. The remaining blocks that received an estimated total-copper grade were assigned a classification of "Inferred." Figure 14-31 shows the classified blocks for the mineral resource estimate.

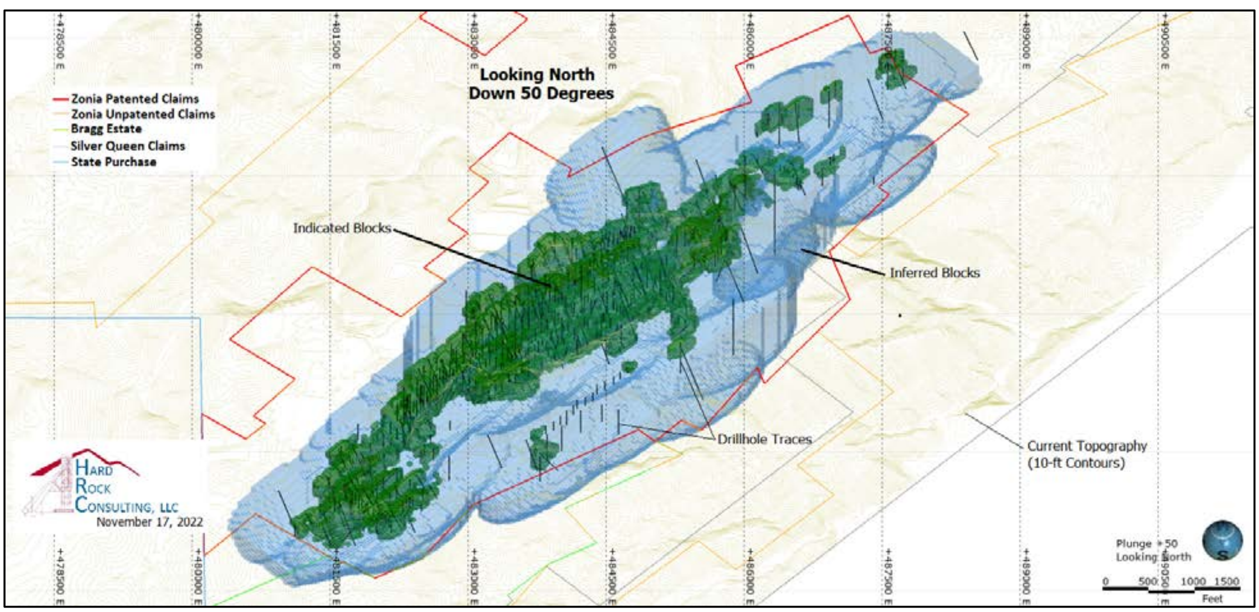

Figure 14-31 View of Mineral Resource Classification Looking North and Rotated Down 50 Degrees

14.16 Mineral Resource Tabulation

Prior to tabulation of mineral resources, blocks above the current topography were removed from the estimate. Additionally, any blocks coded as overburden from the geologic model with estimated total-copper grades were removed from the mineral resource tabulation. Finally, blocks coded as being affected by historic underground mining operations were removed from the mineral resource tabulation.

The “reasonable prospects for economic extraction” requirement referred to in NI 43-101 was tested by designing a series of conceptual Lerch-Grossman pit shells. The economic parameters used for this analysis are based upon estimated operating costs at the Project scaled to reflect production rates, expected processing costs, and estimated recoveries from metallurgical tests completed to date. Table 14-12 summarizes the cost and recovery parameters used in the analysis. Blocks classified as Indicated and Inferred were used to define the resource pit shell. The block model tons and estimated recovered copper are shown in Figure 14-32 at variable copper prices within corresponding pits, as a sensitivity analysis.

Table 14-12 Pit Optimization Parameters

Parameters	
Base case Cu price ($US)	$3.60
Processing ($US)	$4.00
Allocated G&A ($US)	$0.75
Total ore cost ($US)	**$4.75**
CuT Metallurgical recovery Oxide	73%
CuT Metallurgical recovery Transitional	70%
Refining and Shipping $US/lb.	$0.05
Mining Cost ($US)	$2.00/Ton
45 Degree slopes for optimization	

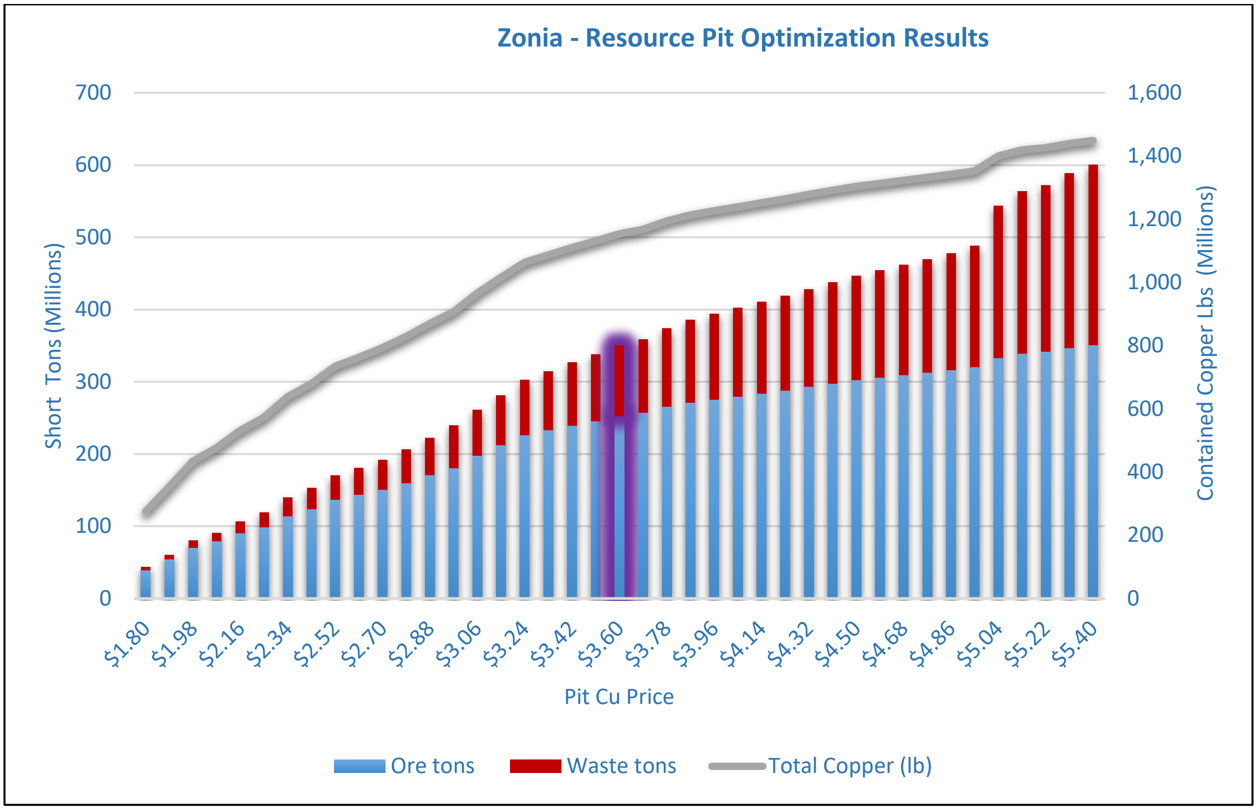

Figure 14-32 Pit Optimization Sensitivity Chart

14.17 Mineral Resource Statement

Resources are reported within an optimized pit shell and meet the test of reasonable prospect for economic extraction. A variable copper cut-off was chosen for reporting the mineral resource based on the oxidation model. The cut-off grade for blocks was calculated based on the following assumptions: a long-term copper price of US$3.60/lb., assumed combined operating ore costs of US$6.25/ton (low grade re-handle, process, and general and administrative costs), refining & shipping costs of US$0.15/lb. of copper, and copper metallurgical recoveries of 73% for blocks coded as oxide and 70% for blocks coded as transition. The metal prices used in the cut-off represent the three-year average copper price rounded to the nearest 10 cents. Table 14-13 lists the cost and other parameters used in the cut-off calculation (all dollar amounts in US dollars).

Table 14-13 Total-Copper Cut-off Parameters

Internal Cut-off @ Oxidation State		$3.60 Oxide	$3.60 Transition
Re-handle (low grade)	$/ore ton	$1.00	$1.00
Processing	$/ore ton	$4.50	$4.50
G&A	$/ore ton	$0.75	$0.75
Recoveries	%	73%	70%
Refining & Shipping	per/lb.	$0.15	$0.15
Total cost	$/ore ton	$6.25	$6.25
Copper Selling Price	lbs.	$3.60	$3.60
Total-Copper Cut-off Grade		**0.125%**	**0.130%**

The mineral resource estimate for the Zonia Property was completed by Richard A. Schwering P.G., SME-RM, with HRC. Mr. Schwering is a Qualified Person as defined by NI 43-101 and is independent of World Copper, Ltd., the vendor of the property. Mr. Schwering estimated the mineral resource for the Project based on wireframe modeling and to a maximum search distance of 960 feet using an ordinary kriging interpolant. Geostatistics and mineral resource estimation were done with Leapfrog EDGE®. Three-dimensional wireframes and model visualization was done with Leapfrog Geo® software, and the mineral resources were constrained with a Lerch-Grossman pit optimization. The metal of interest at the Project is copper. The mineral resource estimate reported here was prepared in a manner consistent with the "CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines" adopted by CIM Council on November 29, 2019. The mineral resources are classified as Measured, Indicated, and Inferred in accordance with "CIM Definition Standards for Mineral Resources and Mineral Reserves," prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on May 10, 2014. Classification of the resources reflects the relative confidence of the grade estimates. The effective date of the mineral resource estimate reported herein is September 1, 2022.

Mineral resources that are not mineral reserves do not have demonstrated economic viability and may be materially affected by modifying factors including but not restricted to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated based on limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

Figure 14-33 shows the depleted and pit constrained resources for the Zonia Project and Table 14-14 provides the Mineral Resource Statement for the Zonia Project by oxidation state.

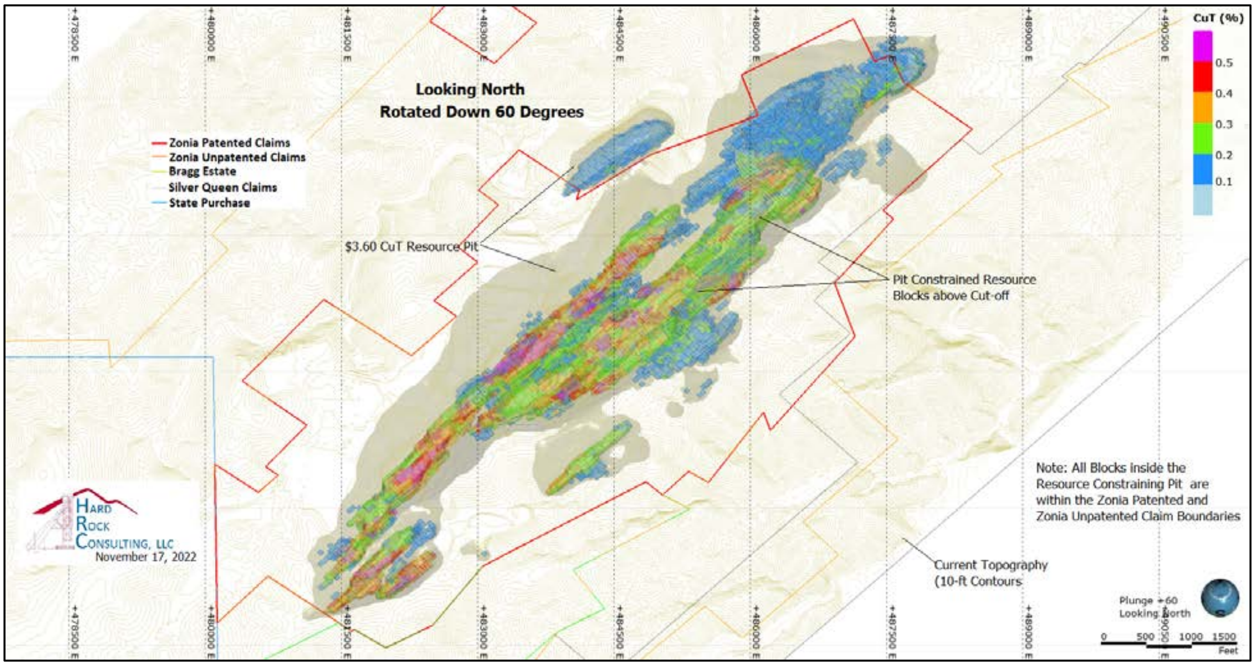

Figure 14-33 View of Pit Constrained Resources Above Cut-off Looking North and Rotated Down 60 Degrees

Table 14-14 Mineral Resource Statement for the Zonia Project

Classification (Oxidation State)	Copper Cut-off (%)	Short Tons (Million)	Grade (CuT %)	Cu. Lbs. (Million)
Indicated (Oxide)	0.125	71.3	0.30	425.1
Indicated (Transition)	0.130	4.4	0.29	25.4
Total Indicated	**Variable**	**75.7**	**0.30**	**450.5**
Inferred (Oxide)	0.125	100.1	0.23	463.7
Inferred (Transition)	0.130	21.9	0.25	111.7
Total Inferred	**Variable**	**122.0**	**0.24**	**575.4**

1.) The effective date of the 2022 Mineral Resource Estimate is September 1, 2022. The QP for the estimate is Richard A. Schwering P.G., RM-SME, of Hard Rock Consulting, LLC

2.) Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated on the basis of limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.

3.) Mineral resources are reported using a variable total-copper cut-off. The cut-off grade for blocks was calculated based on the following assumptions: a long-term copper price of US$3.60/lb., assumed combined operating ore costs of US$6.25/ton (low grade re-handle, process, and general and administrative costs), refining & shipping costs of US$0.15/lb. of copper, and copper metallurgical recoveries of 73% for blocks coded as oxide and 70% for blocks coded as transition.

4.) Mineral resources are captured within an optimized pit shell and meet the test of reasonable prospects for economic extraction by open pit. The optimization used mining costs of US$2.00/t mined, processing and G&A costs of $4.75/t processed and a 45° pit slope.

5.) Mineral resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

14.18 Resource Tabulation Sensitivity to Cut-off Grade

Table 14-15 and Figure 14-34 show the sensitivity of the estimate to changes in cut-off grade. The base case Mineral Resource Statement is highlighted in both the Table and Figure.

Table 14-15 Mineral Resource Sensitivity to Cutoff Grade

Cut-off Grade (CuT %)	Indicated			Inferred		
	Tonnage T x 1000	CuT Grade	Cu lbs lbs x 1000	Tonnage T x 1000	CuT Grade	Cu lbs lbs x 1000
0.090	87,747	0.27	475,976	162,657	0.20	662,848
0.100	83,865	0.28	468,588	152,548	0.21	643,594
0.125	75,751	0.30	450,622	122,164	0.24	575,722
Base Case 0.125-.130	***75,720***	***0.30***	***450,541***	***122,031***	***0.24***	***575,385***
0.150	71,879	0.31	440,114	103,964	0.25	526,232
0.175	68,631	0.31	429,464	91,327	0.27	485,298
0.200	63,166	0.32	408,869	76,672	0.28	429,769
0.225	55,457	0.34	375,983	63,410	0.29	373,374
0.250	47,137	0.36	336,415	48,081	0.31	300,678

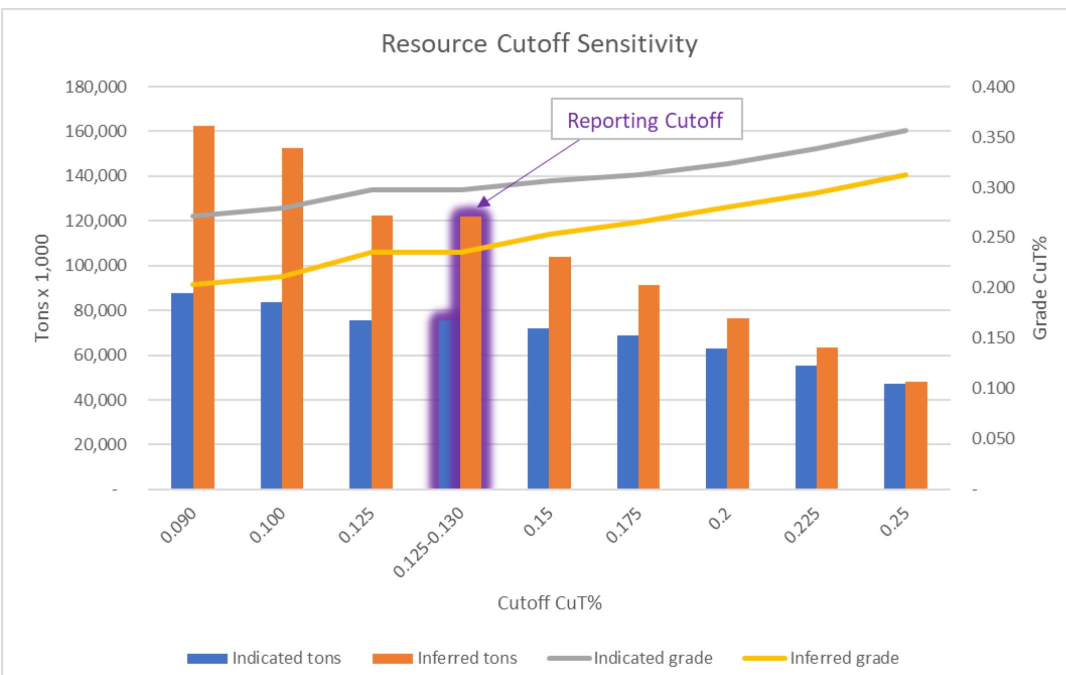

Figure 14-34 Mineral Resource Sensitivity to Cutoff Grade

14.19 Interpretations, Conclusions, and Risks to the Mineral Resource Estimate

The mineral resource estimate relies on historical drillholes. A lack of supporting documentation regarding sample handling, analysis, security, etc., and original assay certificates for large portions of the drillhole database is a significant limit to the validation effort. However, the QP used the best information available, and as much of the available information, to validate the drillhole database. The statistical similarities in total-copper grades for the drilling included in the mineral resource estimate, the results of the twinned drillholes, as well as the fact open pit mining operations by McAlester Fuel Co. were profitable at that time, gives the QP confidence in the assay results from the drillhole database. While there may exist some number of incorrect assay values in the database impacting the grade estimate for blocks locally, the totality of all the estimated blocks is considered by the QP to be representative of the Project.

The lithology in the drillhole logs is not consistent from drillhole to drillhole in many cases, indicating that the identification of different lithologies within the Project is difficult. While copper mineralization is not currently associated with lithology alone, a robust geologic model from consistently logged drilling would aid in the confidence of the mineral resource estimate and may serve as a guide for exploration or expansion on mineral resources. The QP is unaware of any significant faults that may impact the continuity of copper mineralization.

Modeling based on grade should be used only when all other methods are exhausted, as is the case for the Zonia Project. Vertically oriented drillholes may cause the volume of grade shells to be slightly overstated since determining if the drillhole is on the edge or in the heart of the mineralization is not certain. The risk is mitigated inside the indicator model by the gridded drilling conducted by McAlester.

Several lines of evidence suggest the presence of a higher-grade core of copper mineralization within the indicator model. The evidence includes the presence of underground developments, the higher-than-expected smoothing observed in the Q-Q plot of copper grade distributions (Figure 14-22) and is also present in the contact plots. Attempts to model these higher-grade zones showed these areas of high-grade copper were isolated and of limited strike length.

The density applied to the blocks was inherited from the QP's review of prior technical reports. While some of the prior technical reports allude to some density characterization studies for the Project, the QP could not verify these results.

The depletion of the block model due to underground mining operations was done using the best information available but is likely not complete. The underground mining is limited to a relatively small area of the project and is not expected to have a significant impact on the mineral resource.

Copper recovery used to calculate the total-copper cut-off grades is based on metallurgical test-work results. While sequential leach (acid-soluble and cyanide-soluble) assays are present within the database, the analysis did not support their inclusion into the mineral resource estimate. More sampling and additional metallurgy will be required to characterize the acid-soluble and cyanide-soluble copper content.

The mineral resources are being reported above the base of the transition/sulfide boundary to define material that can be recovered by leaching. There is sulfide material below this surface that has been successfully tested for flotation recovery in the past but has been excluded from the current declared mineral resources until more information on all of the requirements to recover this material can be analyzed. 86% of tons and total-copper lbs. are within the oxide zone.

Estimates of total-copper grades outside of the indicator are not constrained and the conditional bias in estimation tends to over-estimate lower grades. Review of the mineral resource shows 25% of the total tons containing 16% of the total-copper lbs. are located outside of the indicator. Of those mineral resources outside of the indicator, 90% of the tons containing 91% of the copper lbs. are classified as Inferred.

The mineral resource classification does result in a few isolated blocks receiving a classification of Indicated. While a small number of isolated blocks are not a significant issue within mineral resource statements and Preliminary Economic Assessments, should the Project advance to a Pre-Feasibility study, the classification will need to be revised to eliminate as many of the isolated blocks as possible. 38% of the Tons containing 43% of the total-copper lbs. are classified as Indicated in the mineral resource estimate.

15. MINERAL RESERVE ESTIMATE

A mineral reserve estimate has not yet been completed for the Zonia Project.

16. MINING METHODS

At this time, the Zonia Project is not considered an advanced property as defined by NI 43-101 Part 1, Definitions and Interpretations, and this report section is not required.

17. RECOVERY METHODS

At this time, the Zonia Project is not considered an advanced property as defined by NI 43-101 Part 1, Definitions and Interpretations, and this report section is not required.

18. PROJECT INFRASTRUCTURE

At this time, the Zonia Project is not considered an advanced property as defined by NI 43-101 Part 1, Definitions and Interpretations, and this report section is not required.

19. MARKET STUDIES AND CONTRACTS

At this time, the Zonia Project is not considered an advanced property as defined by NI 43-101 Part 1, Definitions and Interpretations, and this report section is not required.

20. ENVIRONMENTAL, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

At this time, the Zonia Project is not considered an advanced property as defined by NI 43-101 Part 1, Definitions and Interpretations, and this report section is not required.

21. CAPITAL AND OPERATING COSTS

At this time, the Zonia Project is not considered an advanced property as defined by NI 43-101 Part 1, Definitions and Interpretations, and this report section is not required.

22. ECONOMIC ANALYSIS

At this time, the Zonia Project is not considered an advanced property as defined by NI 43-101 Part 1, Definitions and Interpretations, and this report section is not required.

23. ADJACENT PROPERTIES

The Zonia Project is located within the historic Walnut Grove mining district, which hosts a number of historically producing mines. While many of the deposits and past producing mines in the surrounding area are similar to that of Zonia, there are no immediately adjacent properties which might materially affect the understanding of mineralization or evaluation of exploration targets specific to the Zonia Project.

24. OTHER RELEVANT DATA AND INFORMATION

This report summarizes all available data and information material to the Zonia Project as of September 1, 2022. The authors are not aware of any other relevant technical or other data or information that might materially impact the interpretations and conclusions presented herein, nor of any additional information necessary to make the report more understandable or not misleading.

25. INTERPRETATIONS AND CONCLUSIONS

25.1 Geology and Deposit Type

HRC considers World Copper's interpretation of the Zonia deposit as a porphyry copper deposit both reasonable and appropriate based on evidence available to date. While previous authors have presented arguments for alternate interpretations, namely the VMS deposit model, the QP finds definitive supporting evidence (such as massive, banded sulfide deposition, rhyolite domes within the volcanic stratigraphy, and evidence of 'black smokers' or chlorite pipes in close proximity) for such an interpretation lacking, while supporting evidence for the porphyry copper model is relatively abundant. The primary guides to exploration in either case are structure, alteration, and oxide-copper mineralization, and the current deposit model should be refined and/or modified based on the results of future surface and drilling exploration designed with these guides in mind.

25.2 Exploration, Drilling, Analytical, and Data Verification

The general lack of supporting documentation regarding sample handling, analysis, security, etc., and original assay certificates for large portions of the drillhole database is a significant limit to the validation effort. However, the QP used the best information available, and as much of the available information, to validate the drillhole database. The methods, information used, and results of the validation effort are discussed in section 12.2. While there may exist some number of incorrect assay values within the drillhole database, the totality of all the copper assays is considered by the QP to be representative of the Project

The QP has the following opinions on the adequacy of the data contained in the database.

The following datasets are not suitable for inclusion in the mineral resource estimate for reasons including, but not limited to lack of documentation, type of drillhole sample, and statistical dissimilarities. These drillholes account for 11.2% of the total length of drilling/sampling on the Project

- All Drilling by Shannon Copper, USBM, Bunker Hill, AMSELCO, and NERCO,
- Underground Drillholes and Channel Samples,
- Drillholes with unknown operators,
- 2 drillholes of unknown type by Arimetco, and
- 2 auger drillholes completed by Equatorial Drilling.

The following drillholes are suitable for inclusion in the mineral resource estimate on a limited basis, meaning estimated mineral resources supported by these drillholes alone should not receive a classification higher than Inferred. These drillholes account for 57.2% of the total drilling length on the Project.

- All drilling by Miami Copper, Homestake, and McAlester,
- Five core drillholes by Arimetco, and
- All RC drillholes by Equatorial.

The drilling conducted by Copper Mesa and Redstone Resources is suitable to be included in the mineral resource estimate without restriction. These drillholes account for 31.6% of the total drilling length on the Project.

25.3 Mineral Resource Estimate

The QP considers the totality of the estimated blocks to be representative of the total-copper grades for the Project. The mineral resources are being reported above the base of the transition/sulfide boundary to define material that can be recovered by leaching. There is sulfide material below this surface that has been successfully tested for flotation recovery in the past but has been excluded from the current declared mineral resources until more information on all the requirements to recover this material can be analyzed. 86% of tons and total-copper lbs. are within the oxide zone. 38% of the tons containing 43% of the total-copper lbs. are classified as Indicated in the mineral resource estimate.

The QPs assessment of risks associated with the mineral resource estimate, as well as how these risks are mitigated, are discussed in detail under Item 14.18. In summary, the most significant of these risks are:

- Inconsistent geologic information captured in drillhole longs from drillhole to drillhole. While copper mineralization is not currently associated with lithology alone, a robust geologic model from consistently logged drilling would aid in the confidence of the mineral resource estimate and may serve as a guide for exploration or expansion on mineral resources.
- Smoothing of the total-copper estimate inside the indicator model was higher than expected suggests the presence of a higher-grade zone of copper mineralization interior to the indicator model. Attempts to model these higher-grade zones showed these areas of high-grade copper were isolated and of limited strike length.
- Estimates of total-copper grades outside of the indicator are not constrained and the conditional bias in estimation tends to over-estimate lower grades. Review of the mineral resource estimate shows 25% of the total tons containing 16% of the total-copper lbs. are located outside of the indicator. Of those mineral resources outside of the indicator, 90% of the tons containing 91% of the copper lbs. are classified as Inferred.

26. RECOMMENDATIONS

26.1 General Recommendations

Based on observations and conversations with World Copper personnel during the QP site visit, in conjunction with the results of QP's review and evaluation of current and historic geologic interpretations, historical sample handling, analytical procedures, and QA/QC, the QP recommends the following:

- An in-house effort to compile, organize, prioritize, digitize, and validate presently unavailable hard-copy historic data and documents.
- Comprehensive QA/QC analytical protocols and procedures should be applied during all future drilling or surface sampling programs, including formal and consistently applied acceptance/rejection tests. Each round of QA/QC analysis should be documented, and reports should include a discussion of the results and any corrective actions taken.
- Retained samples presently stored on-site should be properly inventoried and catalogued, including all existing drill core samples, pulp rejects, sonic and RC drill cuttings, and RC chip boards. Moving the core samples presently stored in the open-air shop building to a secure on-site storage facility or container should be considered a matter of high priority.

A significant amount of metallurgical test work has been conducted on the Zonia deposit. The results of the work are generally good, exhibiting relatively good copper extractions with moderate acid consumptions. The scope of the testing has been preliminary in nature and further work should be conducted in the following areas as the Project advances:

- Additional drillholes may be required to allow a better sample representation of the deposit to be developed. These samples would provide a higher degree of confidence for copper extraction across the entire deposit. Additional samples should be collected towards the upper northeast portion of the mineral resource pit shell as past studies have not included drilling from this area. Although this area has not been tested, the geology and mineralization is similar in this area to the rest of the deposit so no major differences in metallurgical properties are anticipated.
- Crushing options with respect to leach effectiveness, and of power and liner wear factors. The original test work shows a trend of increased copper extraction with reduced crush size but that benefit is reduced if leach times are extended. The cost benefit analysis of coarser crush sizes should be investigated. Larger diameter drill core or surface trench sampling would need to be utilized to provide nominal 150-mm material.
- Large format column testing to evaluate the effect of full lift height on solution percolation and copper extraction.
- Lock-cycle testing with SX to determine acid balance and SX parameters.
- Evaluate saturation levels of the PLS grade on copper dissolution kinetics. Further evaluate cure dosages and cure times.
- Mineralogical studies and confirmation of various mineralization type densities should be completed.

Efforts to locate the missing documentation for the drilling completed by Copper Mesa and Redstone Resources should be continued. In addition to relocating missing documentation, a drill program with the primary purpose of geologic characterization is recommended. The new core drilling should infill areas of the deposit on roughly 300-foot spacing from existing, appropriately oriented drillholes completed by Copper Mesa and Redstone Resources. The geologic characterization drilling campaign should be oriented perpendicular to the mineralization and completely intersect the oxide and transition zones into the primary sulfide copper mineralization. The QP estimates the geologic characterization drilling could be completed with 15 to 20 core drillholes at an average depth of 750 feet. The data captured should include:

- Geologic information (lithology, alteration, mineralization, oxidation, structure)
- Geotechnical information
- Copper analysis including sequential leaching
- Density
- Metallurgy

Once the geologic characterization drilling is complete and information is accurately and consistently logged, core photos from the Copper Mesa and Redstone Resource drilling can be used to re-log lithologic, oxidation, alteration, and mineralization. The result should be a consistent geologic dataset along the strike length and depth of the Project, which can be used to refine the geologic model.

26.2 Recommended Work Plan and Budget

In order to advance the Zonia Project, HRC recommends that World Copper initiate a drilling campaign designed to support completion of a Preliminary Economic Assessment ("PEA"). The drilling program will necessarily include both infill and exploration drilling with the intent of expanding and better defining known mineralization, and it should include infill drilling sufficient to refine the geological characterization of the deposit (deposit model). A carefully designed drilling program will allow for collection of the variety of data needed to support the PEA, including samples for both geotechnical and metallurgical test work. The anticipated cost of HRC's recommended scope of work, including completion of the PEA, is presented in Table 26-1.

Table 26-1 Estimated Cost of Recommended Scope of Work

Task	Estimated Cost
Drilling	
Resource expansion (Northeast extension)	$ 1,000,000.00
Geologic infill	$ 500,000.00
Preliminary Economic Assessment	
Metallurgical testing	$ 50,000.00
Study and reporting	$ 150,000.00
Total Estimate Cost	**$ 1,700,000.00**

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Appendix A

Zonia Project Mining Claims

Name of Claim	Number of Acres	BLM Mineral Survey	Book of Deeds	Page No.	Patent No.	Book of Official Record	Page	AMC Number
Patented Claims								
Georgia		3866	134	557-566	954817	134	557-566	
Georgia No.2		3866	134	557-566	954817	134	557-566	
Georgia No.3		3866	134	557-566	954817	134	557-566	
Yankee Girl		3866	134	557-566	954817	134	557-566	
Sunrise		3866	134	557-566	954817	134	557-566	
Sunrise No.2		3866	134	557-566	954817	134	557-566	
Sunrise No.3		3866	134	557-566	954817	134	557-566	
Sunrise No.4		3866	134	557-566	954817	134	557-566	
Richmond	98.1	3867	134	369-372	951190	134	369-372	
Virginia	10.4	3867	134	369-372	951190	134	369-372	
Polar Star	13.5	1342	49	485	31584			
Toumaline	17.7	1342	49	485	31584			
Copper Glance	17.5	1342	49	485	31584			
Sunset	18.5	1342	49	485	31584			
Manilla	16.5	1342	49	485	31584			
Copperopolis	20.2	1342	49	485	31584			
Defiance	18.6	1342	49	485	31584			
Fairplay	20.5	1342	49	485	31584			
Quartette	20.2	1321	77	114-117	31479			
Sunflower	20.4	1323A	49	478	31583			
Lone Pine	20.4	1323A	49	478	31583			
Fraction	13.5	1323A	49	478	31583			
Iron Hat	20.1	1323A	49	478	31583			
Fountain	20.7	762	27	633	15269			
Arrastra	17.5	767	27	636	15270			
Cuprite	19.9	4659A	1294	739	02-80-0005	1294	686	
Black Prince	20.6	4659A	1294	744	02-80-0005	1294	686	
Shamrock	20.1	4659A	1294	745	02-80-0005	1294	686	
Zonia No. 26	20.6	4681B	1294	693	02-80-0005	1294	686	
Zonia	2.3	4659A	1294	743	02-80-0005	1294	686	
Fraction	2.3	4659A	1294	741	02-80-0005	1294	686	
Victor Copper	20.6	4659A	1294	746	02-80-0005	1294	686	
Victory Copper No.1 One	20.2	4659A	129A	747	02-80-0005	1294	686	
Zonia MS No.2	4.8	4659B	1294	750	02-80-0005	1294	686	
Zonia MS No.3	4.8	4659B	1294	751	02-80-0005	1294	686	
Zonia MS No.4	4.8	4659B	1294	753	02-80-0005	1294	686	
Zonia MS No.5	4.8	4659B	1294	754	02-80-0005	1294	686	
Zonia MS No.6	4.8	4659B	1294	755	02-80-0005	1294	686	
Zonia MS No. 12	4.8	4659B	1294	760	02-80-0005	1294	686	
Zonia MS No. 13	4.8	4659B	1294	762	02-80-0005	1294	686	
Zonia MS No. 14	4.9	4659B	1294	763	02-80-0005	1294	686	
Zonia MS No. 15	4.9	4659B	1294	764	02-80-0005	1294	686	
Zonia MS No. 16	4.8	4659B	1294	765	02-80-0005	1294	686	
Zonia MS No. 21	4.8	4659B	1294	770	02-80-0005	1294	686	
Zonia MS No. 22	4.8	4659B	1294	771	02-80-0005	1294	686	
Zonia MS No. 23	4.8	4659B	1294	772	02-80-0005	1294	686	
Zonia MS No. 24	4.8	4659B	1294	773	02-80-0005	1294	686	
Zonia MS No. 25	4.8	4659B	1294	774	02-80-0005	1294	686	
Zonia MS No. 26	4.8	4659B	1294	775	02-80-0005	1294	686	
Zonia MS No. 27	4.8	4659B	1294	776	02-80-0005	1294	686	
Zonia MS No. 28	4.8	4659B	1294	777	02-80-0005	1294	686	
Zonia MS No. 29	4.8	4659B	1294	778	02-80-0005	1294	686	

Name of Claim	Number of Acres	BLM Mineral Survey	Book of Deeds	Page No.	Patent No.	Book of Official Record	Page	AMC Number
Zonia MS No. 30	5.0	4659B	1294	779	02-80-0005	1294	686	
Zonia MS No. 31	5.0	4659B	1294	780	02-80-0005	1294	686	
Zonia MS No. 32	1.5	4659B	1294	782	02-80-0005	1294	686	
Zonia MS No. 37	4.8	4659B	1294	787	02-80-0005	1294	686	
Zonia MS No. 38	4.8	4659B	1294	788	02-80-0005	1294	686	
Zonia MS No. 39	4.8	4659B	1294	789	02-80-0005	1294	686	
Zonia MS No. 43	4.8	4659B	1294	793	02-80-0005	1294	686	
Zonia MS No. 46	4.8	4659B	1294	796	02-80-0005	1294	686	
Zonia MS No. 47	4.8	4659B	1294	796	02-80-0005	1294	686	
Zonia MS No. 48	4.8	4659B	1294	797	02-80-0005	1294	686	
Zonia MS No. 49	4.8	4659B	1294	798	02-80-0005	1294	686	
Zonia MS No. 50	4.8	4659B	1294	799	02-80-0005	1294	686	
Zonia MS No. 51	5.0	4659B	1294	800	02-80-0005	1294	686	
Zonia MS No. 52	4.8	4659B	1294	802	02-80-0005	1294	686	
Zonia MS No. 53	4.8	4659B	1294	803	02-80-0005	1294	686	
Zonia MS No. 54	4.8	4659A&B	AMD1294	836	02-80-0005	1294	686	
Zonia MS No. 55	4.8	4659A&B	AMD1294	837	02-80-0005	1294	686	
Zonia MS No. 56	4.8	4659A&B	AMD1294	838	02-80-0005	1294	686	
Zonia MS No. 59	4.8	4659A&B	AMD1294	841	02-80-0005	1294	686	
Zonia MS No. 60	4.8	4659A&B	AMD1294	842	02-80-0005	1294	686	
Zonia MS No. 61	4.8	4659A&B	AMD1294	843	02-80-0005	1294	686	
Zonia MS No. 63	4.8	4659A&B	AMD1294	844	02-80-0005	1294	686	
Zonia MS No. 70	4.8	4681B	1294	695	02-80-0005	1294	686	
Zonia MS No. 71	4.9	4681B	1294	697	02-80-0005	1294	686	
Zonia MS No. 72	4.9	4681B	1294	699	02-80-0005	1294	686	
Zonia MS No. 73	1.7	4681B	1294	700	02-80-0005	1294	686	
Unpatented Lode Mining Claims								
Mistake Fraction No.1	3.5					761	114	75989
Mistake Fraction No.2	10.0					761	115	75990
Mistake No.1	20.7					761	116	75991
Mistake No.2	20.7					761	117	75992
Mistake No.3	20.7					761	118	75993
Mistake No.4	20.7					761	119	75994
Mistake No.5	20.7					761	120	75995
Mistake No.6	19.7					761	121	75996
Mistake No.7	20.7					761	122	75997
Mistake No.8	20.7					761	123	75998
Mistake No.9	15.8					761	124	75999
Mistake No. 10	16.6					761	125	76000
Mistake No. 11	14.9					761	126	76001
Mistake No. 12	18.2					761	127	76002
Mistake No. 13	18.2					761	128	76003
Mistake No. 14	18.2					761	129	76004
Mistake No. 15	20.4					761	130	76005
Mistake No. 16	20.4					761	131	76006
Mistake No. 17	20.4					761	132	76007
Mistake No. 18	20.4					761	133	76008
Last Mistake	20.4					761	134	76009
Lois No.1	19.8					464	551	75979
Lois No.2	10.9					464	552	75980
Lois No.3	15.7					464	553	75981
Lois No.4	20.7					464	554	75982
Lois No.5	20.7					464	555	75983

Name of Claim	Number of Acres	BLM Mineral Survey	Book of Deeds	Page No.	Patent No.	Book of Official Record	Page	AMC Number
Lois No.6	16.0					464	556	75984
Lois No. 17	20.7					464	557	75985
Lois No. 18	20.7					464	558	75986
Lois No. 19	17.9					464	559	75987
Lois No. 20	20.7					464	560	75988
Zonia No.2	1.8					1358	591-592	124258
Zonia No.6	18.2					1358	595-596	124260
Zonia No.7	20.4					1358	597-598	124261
Zonia No.8	20.7					1358	599-600	124262
Zonia No.9	20.7					1358	601-602	124263
Zonia No. 10	20.7					1358	603-604	124264
Zonia No. 11	20.7					1358	605-606	124265
Zonia No. 14	17.5					1358	607-608	124266
Zonia No. 15	18.2					1358	609-610	124267
Zonia No. 16	19.7					1358	611-612	124268
Zonia No. 17	19.3					1358	613-614	124269
Zonia No. 18	0.5					1358	615-616	124270
Zonia No. 19	0.8					1358	617-618	124271
Zonia No. 20	3.7					1358	619-620	124272
Zonia No. 21	20.7					1358	621-622	124273
Zonia No. 22	20.7					1358	623-624	124274
Zonia No. 23	20.7					1358	625-626	124275
Zonia No. 24	20.7					1358	627-628	124276
Copper Bar No.2	5.5					1358	645-646	124285
Copper King No.1	9.5					1358	635-636	124280
Copper King No.3	5.8					1358	637-638	124281
Copper King No.4	20.7					1358	639-640	124282
Scott No.1	3.0					1358	641-642	124283
Scott No.2	13.5					1358	643-644	124284
Copper Crown Group Unpatented Lode Mining Claims								
Copper Crown No.1	20.7					147	155	76047
Copper Crown No.2	20.7					147	156	76048
Copper Crown No.3	20.7					147	157	76049
Copper Crown No.4	20.7					151	331	76050
Copper Crown No.5	20.7					151	332	76051
Copper Crown No.6	20.7					151	333	76052
Copper Crown No.7	20.7					151	334	76053
Copper Crown No.8	20.7					151	335	76054
Copper Crown No.9	20.7					55	111	76055
Copper Crown No. 10	20.7					7	186	76056
Copper Crown No. 12	20.7					55	112	76057
Copper Crown No. 13	20.7					560	929	76058
Copper Crown No. 14	20.7					63	204	76059
Copper Crown No. 15	20.7					64	179	76060
Copper Crown No. 16	20.7					64	180	76061
Copper Crown No. 17	20.7					64	181	76062
Copper Crown No. 18	20.7					68	385	76063
Copper Crown No. 19	20.7					68	386	76064
Copper Crown No. 20	20.7					68	387	76065
Copper Crown No. 21	20.7					68	388	76066
Copper Crown No. 22	20.7					68	389	76067
Copper Crown No. 23	20.6					68	390	76068
Copper Crown No. 24	20.7					68	391	76069

Name of Claim	Number of Acres	BLM Mineral Survey	Book of Deeds	Page No.	Patent No.	Book of Official Record	Page	AMC Number
Copper Crown No. 25	20.7					68	392	76070
Copper Crown No. 26	20.7					68	393	76071
Copper Crown No. 27	20.7					83	74	76072
Copper Crown No. 28	20.7					73	402	76073
Copper Crown No. 29	20.7					73	403	76074
Copper Crown No. 30	20.7					73	404	76075
Copper Crown No. 31	20.7					73	405	76076
Copper Crown No. 32	20.7					83	75	76077
Copper Crown No. 33	20.7					112	374	76078
Copper Crown No. 34	20.7					112	375	76079
Copper Crown No. 35	20.7					112	376	76080
Copper Crown No. 36	20.7					560	930	76081
Copper Crown No. 37	20.7					560	931	76082
Copper Crown No. 38	20.7					560	932	76083
Copper Crown No. 39	20.7					560	933	76084
Copper Crown No. 40	20.7					560	934	76085
Copper Crown No. 41	20.7					560	935	76086
Copper Crown No. 42	20.7					560	935	76087
Copper Crown No. 43	20.7					560	937	76088
Copper Crown No. 44	20.7					560	938	76089
Copper Crown No. 45	20.7					560	939	76090
Copper Crown No. 46	20.7					560	940	76091
Copper Crown No. 47	20.7					560	941	76092
Copper Crown No. 48	20.7					560	942	76093
Copper Crown No. 49	20.7					560	943	76094
Copper Crown No. 50	20.7					560	944	76095
Copper Crown No. 51	20.7					560	945	76096
Copper Crown No.51 Amend.	20.7					560	945	76096
Copper Crown No. 53	20.7					1484	185	188442
Gold Crown						159	400	76046
Unpatented Lode Mining and Millsite Claims								
N-30	3.1		3798	672				354858
N-31	20.7		3798	671				354859
N-32	20.7		3798	670				354860
N-34	20.7		3798	669				354861
N-35	20.7		3798	668				354862
N-36	20.7		3798	667				354863
N-37	20.7		3798	666				354884
N-38	20.7		3798	665				354885
N-39	20.7		3798	664				354886
N-40	20.7		3798	663				354887
Triad No. 1	15.6		3799	235				353382
Triad No. 2	20.7		3799	234				353383
Triad No. 3	20.7		3799	233				353384
Receiving Shop	5.0		3799	236				353385
Pump Station	5.0		3799	237				353388
Zonia MS No.1 Amended	4.8	4659B	1294	748				76098
Zonia MS No.7 Amended	4.8	4659B	1294	756				76104
Zonia MS No.8 Amended	4.8	4659B	1294	757				76105
Zonia MS No.9 Amended	4.8	4659B	1294	758				76106
Zonia MS No. 10 Amended	4.8	4659B	1294	759				76107
Zonia MS No. 11 Amended	4.8	4659B	1294	759				76108
Zonia MS No. 17 Amended	4.8	4659B	1294	767				76114

Name of Claim	Number of Acres	BLM Mineral Survey	Book of Deeds	Page No.	Patent No.	Book of Official Record	Page	AMC Number
Zonia MS No. 18 Amended	4.8	4659B	1294	767				76115
Zonia MS No. 19 Amended	4.8	4659B	1294	768				76116
Zonia MS No. 20 Amended	4.8	4659B	1294	769				76117
Zonia MS No. 33 Amended	4.8	4659B	1294	783				76130
Zonia MS No. 34 Amended	4.8	4659B	1294	784				76131
Zonia MS No. 35 Amended	4.8	4659B	1294	785				76132
Zonia MS No. 36 Amended	4.8	4659B	1294	786				76133
Zonia MS No. 40	4.8	4659B	1294	790				76137
Zonia MS No. 41	4.8	4659B	1294	791				76138
Zonia Ms No. 42	4.8	4659B	1294	792				76139
Zonia MS No. 44	4.8	4659B	1294	794				76141
Zonia MS No. 45	4.1	4659B	1294	795				76142
Zonia MS No. 57 Amended	5.0	4659A&B AMD	1294	840				76154
Zonia MS No. 58	4.8	5659B	1294	808				76155

Note: MS stands for Mill Site

Appendix B

Zonia Drillhole Collar Locations

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
DH-208	486044	1202181	4610	350.0	-45	135				NO
WW-08	485633	1203401	4508	360.0	-90	0				NO
WW-12	483658	1202163	4705	952.0	-90	0				NO
Z-3	487014	1199125	4680	52.0	-90	0				NO
C-SHAFT	483662	1202391	4700	874.0	-90	0			SHAFT	NO
UG-0002	483203	1201999	4490	7.2	0	145			UNDERGROUND CHANNEL	NO
UG-0003	483216	1201993	4490	28.9	0	138			UNDERGROUND CHANNEL	NO
UG-0004	483235	1201965	4533	62.8	0	139			UNDERGROUND CHANNEL	NO
UG-0006	483404	1202064	4490	33.1	0	128			UNDERGROUND CHANNEL	NO
UG-0007	483423	1202036	4490	66.2	0	102			UNDERGROUND CHANNEL	NO
UG-0008	483441	1202038	4490	196.6	0	28			UNDERGROUND CHANNEL	NO
UG-0009	483486	1202105	4490	15.9	0	118			UNDERGROUND CHANNEL	NO
UG-0010	483492	1202173	4490	352.8	0	147			UNDERGROUND CHANNEL	NO
UG-0011	483738	1202381	4490	67.0	0	303			UNDERGROUND CHANNEL	NO
UG-0012	483685	1202425	4490	64.4	0	132			UNDERGROUND CHANNEL	NO
UG-0013	483745	1202384	4490	426.7	0	65			UNDERGROUND CHANNEL	NO
UG-0014	483996	1202630	4490	44.8	0	136			UNDERGROUND CHANNEL	NO
UG-0015	484016	1202571	4490	62.2	0	231			UNDERGROUND CHANNEL	NO
UG-0016	483976	1202517	4490	93.6	0	263			UNDERGROUND CHANNEL	NO
UG-0018	483752	1202376	4490	5.8	0	139			UNDERGROUND CHANNEL	NO
UG-0019	483748	1202372	4490	33.5	0	125			UNDERGROUND CHANNEL	NO
UG-0020	484230	1202878	4490	19.7	0	132			UNDERGROUND CHANNEL	NO
UG-0021	483897	1202537	4490	46.4	0	133			UNDERGROUND CHANNEL	NO
UG-0022	483556	1202276	4490	45.7	0	127			UNDERGROUND CHANNEL	NO
UG-0023	483588	1202248	4490	70.1	0	177			UNDERGROUND CHANNEL	NO
UG-0024	483607	1202227	4490	69.4	0	177			UNDERGROUND CHANNEL	NO
UG-0025	483597	1202219	4490	27.5	0	155			UNDERGROUND CHANNEL	NO
UG-0026	483580	1202214	4490	44.5	0	205			UNDERGROUND CHANNEL	NO
UG-0027	483571	1202188	4490	19.0	0	90			UNDERGROUND CHANNEL	NO
UG-0028	483671	1202288	4490	55.5	0	132			UNDERGROUND CHANNEL	NO
UG-0029	483726	1202293	4490	173.7	0	40			UNDERGROUND CHANNEL	NO
UG-0030	483782	1202342	4490	38.6	0	94			UNDERGROUND CHANNEL	NO
UG-0031	483796	1202393	4490	21.7	0	145			UNDERGROUND CHANNEL	NO
UG-0032	483822	1202370	4490	32.5	0	101			UNDERGROUND CHANNEL	NO
UG-0033	483238	1201969	4533	32.1	0	138			UNDERGROUND CHANNEL	NO
UG-D008N-1	483692	1202436	4305	165.0	0	125			UNDERGROUND DH	NO

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
UG-D100S-1	483722	1202281	4430	120.0	0	305			UNDERGROUND DH	NO
UG-D170N-1	483937	1202428	4430	120.0	0	300			UNDERGROUND DH	NO
UG-D200S-1	483664	1202202	4430	140.0	0	325			UNDERGROUND DH	NO
UG-D400N-1	484000	1202643	4430	50.0	0	130			UNDERGROUND DH	NO
UG-D400S-1	483519	1201957	4430	190.0	0	310			UNDERGROUND DH	NO
UG-D500N-1	484122	1202736	4430	105.0	0	125			UNDERGROUND DH	NO
UG-D700N-1	484265	1202873	4430	210.0	0	315			UNDERGROUND DH	NO
UG-DH-00	483478	1202112	4365	312.3	0	312			UNDERGROUND DH	NO
UG-DH-20	483190	1202015	4490	142.0	34	142			UNDERGROUND DH	NO
UGDH-22	483217	1201725	4430	295.0	30	265			UNDERGROUND DH	NO
UG-DH-23	483209	1201818	4490	325.3	45	325			UNDERGROUND DH	NO
UG-DH-27	483349	1202099	4522	311.0	15	311			UNDERGROUND DH	NO
UGDH-34	483454	1202063	4305	90.0	20	85			UNDERGROUND DH	NO
S-2	491633	1208074	4432	500.0	-90	0	SHANNON COPPER	1910-1910	CHURN	NO
S-3	483376	1201810	4756	870.0	-90	0	SHANNON COPPER	1910-1911	CHURN	NO
S-4	484153	1202363	4685	490.0	-90	0	SHANNON COPPER	1910-1911	CHURN	NO
USBM-050N	483685	1202477	4705	295.0	-40	145	USBM	1942-1943	CORE	NO
USBM-150N	483820	1202506	4735	350.0	-35	149	USBM	1942-1943	CORE	NO
USBM-234S	483522	1202331	4707	305.0	-35	151	USBM	1942-1943	CORE	NO
USBM-250N	483953	1202481	4735	215.0	-35	149	USBM	1942-1943	CORE	NO
USBM-330S	483455	1202199	4716	300.0	-35	151	USBM	1942-1943	CORE	NO
USBM-350N	484098	1202469	4717	230.0	-38	149	USBM	1942-1943	CORE	NO
USBM-450N	484157	1202564	4712	360.0	-35	149	USBM	1942-1943	CORE	NO
USBM-533S	483402	1201984	4747	230.0	-37	167	USBM	1942-1943	CORE	NO
USBM-640S	483269	1201933	4750	270.0	-35	144	USBM	1942-1943	CORE	NO
USBM-748S	483212	1201830	4728	200.0	-40	167	USBM	1942-1943	CORE	NO
USBM-892S	483054	1201764	4707	200.0	-37	167	USBM	1942-1943	CORE	NO
M-001	483375	1201876	4751	729.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-002	482953	1201450	4723	288.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-003	483255	1202016	4749	299.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-004	483093	1201314	4738	328.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-005	483516	1201726	4761	515.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-006	482816	1201600	4699	344.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-007	483238	1201185	4714	154.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-008	483654	1201587	4674	304.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-009	483804	1202301	4648	338.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-010	484375	1202582	4658	298.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-011	484804	1203006	4546	803.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-012	483656	1202440	4702	952.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-013	484511	1202441	4594	392.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-014	484946	1202863	4463	233.0	-90	0	MIAMI COPPER	1956	CHURN	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
M-015	485087	1202720	4506	301.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-016	483660	1202158	4689	374.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-017	485232	1202573	4529	244.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-018	483514	1202014	4749	374.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-019	483227	1201730	4736	290.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-020	483089	1201593	4733	283.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-021	486382	1205274	4365	725.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-022	483659	1201875	4763	338.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-023	483797	1202010	4723	327.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-024	483943	1202153	4619	302.0	-90	0	MIAMI COPPER	1956	CHURN	YES
M-025	485309	1201723	4572	527.0	-90	0	MIAMI COPPER	1956	CHURN	YES
RH-101	482150	1199251	4715	250.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-102	482009	1199394	4647	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-103	481867	1199537	4690	280.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-104	481726	1199680	4712	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-105	481584	1199823	4700	325.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-106	482580	1199675	4612	176.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-107	482438	1199818	4622	265.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-108	482293	1199392	4685	208.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-109	482152	1199536	4649	305.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-110	482010	1199679	4671	300.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-111	482007	1199110	4741	288.5	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-112	481866	1199253	4687	355.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-113	481724	1199396	4698	300.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-114	483375	1201876	4751	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-115	483520	1202302	4700	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-116	483947	1202442	4705	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-117	483947	1202442	4705	300.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-118	483269	1201984	4744	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-119	482947	1201736	4713	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-120	483373	1201592	4773	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-121	483373	1201592	4773	320.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-122	484583	1202665	4571	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
RH-123	484589	1202652	4571	300.0	-90	0	MIAMI COPPER	1956	ROTARY	YES
RH-124	484732	1202793	4512	300.0	-45	135	MIAMI COPPER	1956	ROTARY	YES
BH-201	483514	1202161	4596	300.0	-90	0	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-202	482141	1200692	4700	400.0	-60	130	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-203	481950	1200878	4718	490.0	-60	130	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-204	482319	1201250	4732	490.0	-45	130	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-205	483855	1202886	4735	450.0	-46	135	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-206	484017	1202684	4781	350.0	-45	135	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-207	484181	1203095	4620	370.0	-60	135	BUNKER HILL	1963-1964	ROTARY&CHURN	NO

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
BH-208	485479	1202782	4609	350.0	-45	135	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-209	485559	1201864	4612	370.0	-45	120	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-210	485264	1202018	4512	225.0	-45	115	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
BH-211	483857	1202885	4735	375.0	-70	125	BUNKER HILL	1963-1964	ROTARY&CHURN	NO
Z-601	486334	1204413	4299	1528.0	-90	0	HOMESTAKE	1964	CORE	YES
Z-602	485884	1202298	4639	955.0	-90	0	HOMESTAKE	1964	CORE	YES
Z-603	483699	1202750	4690	1113.0	-90	0	HOMESTAKE	1964	CORE	YES
Z-604	484667	1202007	4546	339.0	-90	0	HOMESTAKE	1964	CORE	YES
Z-605	484453	1200823	4607	300.0	-90	0	HOMESTAKE	1964	CORE	YES
Z-606	484860	1204048	4455	1151.0	-90	0	HOMESTAKE	1964	CORE	YES
Z-607	482981	1202336	4736	1044.4	-90	0	HOMESTAKE	1964	CORE	YES
F-001	483294	1201948	4747	235.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-002	483600	1202223	4671	220.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-003	483872	1202218	4625	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-004	483725	1202091	4712	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-005	483447	1202089	4732	350.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-006	483520	1202302	4703	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-007	483359	1202179	4747	350.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-008	483591	1201938	4763	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-009	483313	1201963	4765	350.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-010	483082	1201884	4725	400.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-011	483160	1201805	4723	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-012	483307	1201655	4762	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-013	483236	1201449	4768	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-014	483302	1201377	4746	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-015	483435	1201520	4741	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-016	483574	1201663	4719	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-017	483731	1201802	4715	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-018	483859	1201952	4712	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-019	483733	1202372	4694	180.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-020	483157	1201524	4763	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-021	483036	1201661	4713	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-022	482940	1201756	4717	345.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-023	483173	1201231	4713	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-024	487642	1205932	4530	205.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-025	487559	1205801	4488	500.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-026	483887	1202510	4738	350.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-027	484015	1202373	4683	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-028	484066	1202312	4660	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-029	483362	1201324	4713	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-030	483475	1201452	4705	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-033	486847	1204389	4330	305.0	-90	0	McALESTER	1964	AIR ROTARY	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
F-034	483023	1201377	4745	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-035	482873	1201521	4694	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-036	482873	1201239	4749	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-037	482802	1201310	4723	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-038	482732	1201382	4700	305.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-039	484161	1202512	4717	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-040	484227	1202422	4678	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-041	484090	1202583	4752	350.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-042	484233	1202725	4688	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-043	484304	1202654	4678	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-044	484327	1202853	4644	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-045	484448	1202937	4628	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-046	484467	1202532	4620	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-047	484573	1202453	4602	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-048	484466	1202411	4605	140.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-049	484376	1202317	4605	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-050	484260	1202225	4615	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-051	484524	1202717	4606	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-052	484465	1202813	4598	260.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-053	484661	1202865	4566	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-054	484520	1203008	4615	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-055	484590	1202936	4604	260.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-056	484733	1203078	4597	260.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-057	484663	1203149	4593	260.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-058	484449	1203080	4574	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-059	484378	1203151	4528	280.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-060	484521	1203292	4495	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-061	484156	1202231	4628	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-062	484302	1202370	4643	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-063	484885	1202924	4503	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-064	484786	1202861	4462	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-065	483726	1201643	4640	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-066	483850	1201681	4637	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-067	483960	1201856	4644	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-068	483803	1201707	4657	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-069	482659	1201169	4712	360.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-070	482730	1201097	4737	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-071	482944	1201167	4767	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-072	483015	1201096	4768	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-073	483156	1200953	4725	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-074	483370	1201023	4700	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-075	483299	1201094	4671	195.0	-90	0	McALESTER	1964	AIR ROTARY	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
F-076	483513	1201164	4642	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-077	483656	1201306	4613	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-078	483799	1201447	4593	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-079	483442	1201236	4677	190.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-080	483584	1201378	4651	180.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-081	483728	1201519	4635	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-082	483227	1200881	4751	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-083	483085	1201024	4754	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-084	482587	1200956	4717	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-085	482516	1201027	4690	360.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-086	482588	1201241	4684	360.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-087	482661	1201454	4683	260.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-088	482518	1201312	4686	260.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-089	482445	1201099	4700	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-090	482375	1201171	4715	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-091	482373	1200886	4725	360.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-092	482302	1200958	4743	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-093	482515	1200743	4730	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-094	482658	1200884	4742	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-095	482444	1200814	4712	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-096	482372	1200602	4708	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-097	482301	1200673	4705	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-098	482230	1200745	4717	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-099	482766	1201204	4729	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-100	482561	1200839	4729	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-101	482480	1200921	4699	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-102	482588	1201098	4696	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-103	482623	1201063	4708	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-104	482695	1201275	4697	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-105	482407	1200566	4717	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-106	482301	1200815	4728	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-107	482299	1200388	4671	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-108	482228	1200460	4650	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-109	482156	1200247	4656	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-110	482227	1200175	4649	140.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-111	482085	1200319	4675	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-112	482158	1200531	4668	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-113	484446	1203244	4498	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-114	484534	1203302	4492	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-115	484580	1203322	4494	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-116	484625	1203355	4494	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-117	484676	1203375	4494	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
F-118	484720	1203387	4494	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-119	484769	1203409	4494	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-120	484481	1203180	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-121	484459	1203257	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-122	484576	1203223	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-123	484629	1203244	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-124	484655	1203354	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-125	484720	1203291	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-126	484763	1203323	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-127	484811	1203338	4535	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-128	484496	1203340	4493	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-129	484540	1203428	4454	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-130	484592	1203432	4468	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-131	484653	1203433	4467	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-132	484702	1203465	4468	180.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-133	484738	1203484	4467	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-134	482592	1200294	4725	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-135	482528	1200163	4687	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-136	482623	1200106	4687	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-137	482806	1200474	4758	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-138	485357	1202089	4522	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-139	485287	1202160	4515	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-140	485369	1202292	4519	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-141	485298	1202363	4496	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-142	485228	1202435	4491	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-143	485157	1202506	4490	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-144	485086	1202578	4488	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-145	484772	1203483	4465	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-154	485016	1202649	4480	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-155	484945	1202721	4476	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-156	482087	1200603	4693	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-157	482014	1200390	4705	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-159	482508	1199605	4632	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-160	482367	1199748	4625	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-161	482225	1199891	4655	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-162	482084	1200034	4700	215.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-163	481942	1200177	4728	195.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-164	481940	1199892	4748	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-165	482365	1199463	4666	205.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-166	482223	1199606	4645	180.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-167	482082	1199749	4670	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-171	481672	1199592	4718	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
F-172	481743	1199520	4712	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-173	481778	1199484	4708	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-174	481813	1199449	4698	225.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-175	481849	1199413	4675	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-176	481884	1199377	4657	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-177	481920	1199341	4654	140.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-178	481969	1199291	4685	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-179	482029	1199230	4720	180.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-180	482072	1199187	4737	120.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-181	482107	1199152	4739	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-182	482142	1199116	4720	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-183	482167	1199091	4713	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-184	482492	1199334	4688	110.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-185	482400	1199427	4675	140.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-186	481654	1199609	4718	160.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-187	481707	1199556	4714	95.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-188	484061	1201625	4555	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-189	484189	1201784	4540	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-190	484974	1202307	4502	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-191	485088	1202862	4468	260.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-192	485158	1203078	4468	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-193	485267	1203229	4509	255.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-194	485269	1203402	4539	300.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-195	485357	1203306	4577	255.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-196	485686	1202944	4610	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-197	485801	1203312	4575	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-198	486939	1204525	4382	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-199	487410	1204221	4410	135.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-200	487728	1205683	4508	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-201	486990	1205504	4480	295.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-202	486972	1204570	4381	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-203	486147	1204602	4292	100.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-204	482329	1199499	4655	195.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-205	481554	1199425	4736	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-206	481601	1199377	4711	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-207	481393	1199302	4734	250.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-208	481120	1198961	4794	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-210	481806	1200438	4742	270.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-211	481622	1200143	4725	255.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-212	484731	1201378	4588	115.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-213	484651	1201287	4608	125.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-214	484583	1201200	4625	125.0	-90	0	McALESTER	1964	AIR ROTARY	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
F-215	484486	1201124	4644	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-216	484399	1201062	4650	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-217	484355	1200956	4645	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-218	484273	1200896	4645	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-219	484185	1200854	4658	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-220	484145	1200770	4652	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-221	484072	1200713	4645	255.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-222	484005	1200638	4636	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-223	483931	1200570	4627	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-224	483844	1200515	4623	150.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-225	485449	1202998	4610	155.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-226	485457	1202887	4609	200.0	-90	0	McALESTER	1964	AIR ROTARY	YES
F-228	486593	1205196	4441	241.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-233	486138	1204893	4365	100.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-234	486261	1205144	4375	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-251	484045	1201771	4580	100.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-255	484184	1201630	4575	80.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-256	484301	1201726	4577	60.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-257	484492	1201856	4542	100.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-261	484399	1201920	4540	100.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-262	484188	1201812	4537	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-263	484074	1201684	4554	100.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-265	483841	1202549	4748	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-266	483983	1202406	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-267	484124	1202263	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-268	483912	1202192	4579	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-269	483981	1202122	4619	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-270	484018	1202084	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-271	484087	1202014	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-272	484158	1201943	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-273	483767	1202052	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-274	483838	1201980	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-275	483909	1201909	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-276	483979	1201837	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-277	483625	1201909	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-278	483696	1201837	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-279	483765	1201767	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-280	483942	1201588	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-281	483481	1201769	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-282	483552	1201697	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-283	483629	1201619	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-284	483196	1201770	4600	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
F-285	483267	1201699	4573	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-286	483053	1201629	4605	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-287	483124	1201558	4605	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-288	483195	1201486	4605	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-289	482839	1201559	4665	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-290	482981	1201416	4654	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-291	482834	1201278	4654	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-292	482624	1201205	4654	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-293	482481	1201063	4639	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-294	482552	1200992	4639	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-295	482338	1200922	4632	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-296	482408	1200850	4632	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-297	483874	1201658	4580	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-298	484270	1202402	4597	170.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-299	484337	1202334	4597	175.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-300	484479	1202190	4537	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-301	484550	1202118	4517	155.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-302	484621	1202047	4527	155.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-303	484301	1202084	4525	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-304	484442	1201941	4520	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-305	484265	1202120	4550	170.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-336	484587	1202367	4548	175.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-337	484619	1202335	4535	170.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-338	484658	1202296	4530	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-339	484690	1202264	4520	145.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-340	486608	1204258	4292	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-341	486535	1204344	4285	50.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-342	486491	1204400	4283	75.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-343	486467	1204424	4283	90.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-344	486391	1204492	4285	125.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-345	486310	1204567	4298	50.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-346	486352	1204532	4291	30.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-347	486432	1204457	4285	100.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-348	486569	1204304	4284	125.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-349	486590	1204211	4310	115.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-350	485749	1203216	4585	300.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-351	485586	1203222	4550	195.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-352	485529	1203297	4530	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-353	485455	1203392	4520	180.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-354	485360	1203436	4517	200.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-355	485165	1203556	4470	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-356	484807	1203469	4458	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
F-357	484861	1203712	4399	100.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-358	484953	1202276	4520	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-359	484659	1202580	4550	205.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-360	484773	1202466	4525	175.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-361	485153	1202496	4490	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-362	485097	1202574	4490	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
F-363	485034	1202731	4505	150.0	-90	0	McALESTER	1970	AIR ROTARY	YES
ZPS79-1	486945	1204455	4375	300.0	-50	180	AMSELCO	1979		NO
ZPS79-2	486287	1203746	4350	230.0	-50	135	AMSELCO	1979		NO
ZPS79-3	486290	1203332	4420	260.0	-60	145	AMSELCO	1979		NO
ZPS79-4	485981	1203012	4475	350.0	-45	155	AMSELCO	1979		NO
N6-1	485176	1202630	4505	90.0	-90	0	NERCO	1981-1982	AUGER	NO
N6-2	485086	1202886	4510	118.0	-90	0	NERCO	1981-1982	AUGER	NO
N6-3	485218	1203107	4512	147.0	-90	0	NERCO	1981-1982	AUGER	NO
T6-1	485143	1202592	4512	20.0	-90	0	NERCO	1982	TEST PIT LEACH PADS	NO
T6-2	484970	1202717	4512	20.0	-90	0	NERCO	1982	TEST PIT LEACH PADS	NO
T6-3	484817	1202828	4512	20.0	-90	0	NERCO	1982	TEST PIT LEACH PADS	NO
T6-4	485059	1202863	4512	20.0	-90	0	NERCO	1982	TEST PIT LEACH PADS	NO
T6-5	485202	1202976	4512	20.0	-90	0	NERCO	1982	TEST PIT LEACH PADS	NO
T6-6	485054	1203083	4512	20.0	-90	0	NERCO	1982	TEST PIT LEACH PADS	NO
A-001	483687	1202733	4691	500.0	-90	0	ARIMETCO	1994	CORE	YES
A-005	484367	1203000	4583	400.0	-90	0	ARIMETCO	1994	CORE	YES
A-008	484132	1203174	4617	600.0	-90	0	ARIMETCO	1994	CORE	YES
A-010	483943	1203274	4623	500.0	-90	0	ARIMETCO	1994	CORE	YES
A-012	484727	1203890	4457	406.0	-90	0	ARIMETCO	1994	CORE	YES
A-014	484396	1204419	4599	320.0	#N/A	#N/A	ARIMETCO	1994	WELL	NO
A-016	480935	1201627	4730	380.0	#N/A	#N/A	ARIMETCO	1994	WELL	NO
E-500	484176	1203026	4620	670.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-501	484234	1202676	4610	685.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-502	481488	1199684	4729	400.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-503	481591	1200088	4724	325.0	-65	130	EQUATORIAL MINING	2000-2001		YES
E-504	481434	1199181	4716	325.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-505	484711	1202252	4516	425.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-506	484583	1202665	4567	425.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-507	484186	1202158	4522	425.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-508	484409	1201917	4520	425.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-509	483124	1202278	4734	725.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-510	484988	1204044	4433	425.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-511	484449	1202166	4519	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
E-512	484020	1202002	4525	315.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-513	483887	1201859	4528	75.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-513A	483917	1201822	4528	402.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-514	484021	1202360	4555	425.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-515	484956	1203429	4460	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-516	484635	1200734	4629	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-517	484225	1200739	4609	372.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-518	484017	1200530	4592	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-519	483859	1200418	4587	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-520	483629	1200345	4590	425.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-521	483783	1200082	4618	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-522	483778	1200124	4623	425.0	-60	75	EQUATORIAL MINING	2000-2001		YES
E-523	482795	1200058	4656	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-524	482075	1200391	4640	415.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-525	482312	1200808	4641	500.0	-80	135	EQUATORIAL MINING	2000-2001		YES
E-526	482488	1200991	4641	585.0	-90	0	EQUATORIAL MINING	2000-2001		YES
E-527	482697	1201403	4674	505.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-528	483498	1202278	4619	585.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-529	484818	1202864	4519	505.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-530	484668	1203651	4467	405.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-531	484979	1203396	4470	600.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-532	485690	1204310	4332	465.0	-65	160	EQUATORIAL MINING	2000-2001		YES
E-533	485573	1204108	4345	465.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-534	485479	1203925	4356	465.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-535	485478	1204521	4340	444.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-536	485708	1203638	4530	605.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-537	485969	1203373	4550	605.0	-65	135	EQUATORIAL MINING	2000-2001		YES
E-538	485898	1203981	4555	425.0	-90	0	EQUATORIAL MINING	2000-2001		YES
WW5	484861	1203712	4399	385.0	-90	0	EQUATORIAL MINING	2001	AUGER	YES
WW7	485565	1204702	4352	100.0	-90	0	EQUATORIAL MINING	2001	AUGER	YES
RRC-01	483509	1202007	4553	200.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-02	484144	1202240	4557	150.3	-90	0	COPPER MESA	2008	CORE	YES
RRC-03	483844	1202544	4608	201.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-04	483765	1201773	4524	175.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-05	484153	1201948	4520	150.5	-90	0	COPPER MESA	2008	CORE	YES
RRC-06	484182	1201819	4520	200.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-07	484540	1202122	4513	150.0	-90	0	COPPER MESA	2008	CORE	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
RRC-08	484467	1202196	4514	150.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-09	482844	1201288	4655	200.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-10	482709	1201413	4673	250.0	-60	135	COPPER MESA	2008	CORE	YES
RRC-11	481691	1199619	4714	125.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-12	481907	1199401	4656	150.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-13	484807	1202859	4513	320.0	-60	135	COPPER MESA	2008	CORE	YES
RRC-14	482494	1201075	4637	200.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-15	484578	1202367	4514	150.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-16	482315	1200689	4619	200.0	-90	0	COPPER MESA	2008	CORE	YES
RRC-09-01	481869	1199542	4690	200.0	-45	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-02	483981	1201842	4523	200.0	-80	315	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-03	484020	1202089	4554	200.0	-80	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-04	485457	1203398	4515	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-05	485531	1203302	4525	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-06	485752	1203222	4583	300.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-07	484339	1202339	4519	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-08	482349	1200935	4729	250.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-09	482626	1201210	4657	240.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-10	483806	1202306	4560	251.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-11	485359	1203311	4568	250.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-12	485271	1203407	4534	250.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-13	482367	1199468	4669	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-14	483315	1201968	4589	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-15	482510	1199610	4627	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-16	485802	1203317	4580	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-17	482230	1200465	4640	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-18	482160	1200537	4640	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-19	482232	1200749	4640	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-20	482589	1200961	4640	250.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-21	482312	1200808	4641	200.0	-80	136	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-22	482804	1201315	4660	195.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-23	483889	1202515	4599	350.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-24	482955	1201455	4647	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-25	484773	1202466	4515	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-26	483631	1201624	4549	200.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-27	483449	1202094	4578	225.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-28	483602	1202229	4568	161.5	-90	0	REDSTONE RESOURCES	2009	CORE	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
RRC-09-29	482077	1200396	4672	150.0	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-30	484591	1202657	4563	300.0	-45	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X01	485822	1204169	4450	452.0	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X02	485653	1203861	4459	458.5	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X03	485457	1203498	4468	415.0	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X04	486014	1204128	4558	390.5	-90	0	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X05	483217	1200313	4691	430.0	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X06	480939	1199468	4793	422.0	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X07	481253	1199158	4750	300.0	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X08	481418	1199000	4727	250.0	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-09-X09	485213	1202765	4517	450.0	-60	135	REDSTONE RESOURCES	2009	CORE	YES
RRC-10-01	482263	1200589	4634	410.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-02	482312	1200822	4637	480.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-03	482483	1200936	4636	500.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-04	482460	1201258	4697	490.0	-55	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-05	482562	1201422	4679	560.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-06	483120	1201474	4575	442.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-07	483268	1201425	4548	330.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-08	483375	1201454	4548	380.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-09	483463	1201506	4547	410.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-10	483049	1202072	4753	537.0	-80	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-11	483518	1201595	4548	490.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-12	483099	1202158	4753	490.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-13	484828	1202860	4518	470.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-14	483544	1201708	4549	440.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-15	483224	1202292	4729	849.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-16	483368	1202457	4717	770.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-17	484175	1201925	4520	300.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-18	483666	1202441	4606	501.0	-70	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-19	483732	1202516	4607	700.0	-80	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-20	483671	1202722	4691	850.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-21	483702	1202830	4682	820.0	-80	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-22	483768	1203049	4665	944.0	-60	135	REDSTONE RESOURCES	2010	CORE	YES
RRC-10-26	484837	1202400	4498	550.0	-60	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-27	484224	1203159	4596	565.0	-75	135	REDSTONE RESOURCES	2010	RC	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
RRC-10-28	484557	1202816	4596	635.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-29	484344	1203179	4555	369.0	-75	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-30	485050	1202463	4495	465.0	-75	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-31	484443	1203362	4554	400.0	-75	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-33	484693	1203329	4490	485.0	-90	0	REDSTONE RESOURCES	2010	RC	YES
RRC-10-35	485089	1202994	4514	700.0	-75	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-39	485458	1203358	4528	350.0	-75	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-40	485310	1203793	4393	635.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-41	485726	1203513	4551	690.0	-75	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-42	485731	1203747	4514	575.0	-90	0	REDSTONE RESOURCES	2010	RC	YES
RRC-10-43	485818	1204176	4449	655.0	-60	90	REDSTONE RESOURCES	2010	RC	YES
RRC-10-44	486012	1204594	4311	340.0	-60	180	REDSTONE RESOURCES	2010	RC	YES
RRC-10-46	486490	1204559	4328	500.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-48	485714	1203064	4591	265.0	-90	0	REDSTONE RESOURCES	2010	RC	YES
RRC-10-49	485457	1202761	4611	500.0	-60	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-50	486924	1205371	4479	425.0	-60	180	REDSTONE RESOURCES	2010	RC	YES
RRC-10-51	486556	1205246	4448	540.0	-60	170	REDSTONE RESOURCES	2010	RC	YES
RRC-10-52	484457	1204481	4598	765.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-53	484894	1203982	4444	415.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-54	484844	1203168	4549	585.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-55	484976	1202403	4505	400.0	-60	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-56	483883	1203074	4687	700.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-57	481734	1200156	4718	435.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-58	481635	1199946	4720	405.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-AA	482896	1201371	4654	500.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-BB	481696	1200025	4718	570.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-C	488285	1210339	4524	535.0	-60	170	REDSTONE RESOURCES	2010	RC	YES
RRC-10-CC	481595	1199387	4695	600.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-D	488147	1208786	4511	455.0	-60	100	REDSTONE RESOURCES	2010	RC	YES
RRC-10-E	486174	1207362	4620	285.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-EE	481769	1198954	4768	700.0	-65	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-F	488386	1206214	4496	385.0	-55	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-FF	482206	1199658	4628	615.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-G	487342	1205522	4518	545.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-GG	481942	1199594	4682	500.0	-65	135	REDSTONE RESOURCES	2010	RC	YES

HOLE ID	X	Y	Z	LENGTH	DIP	AZIMUTH	OPERATOR	YEAR	TYPE	IN MRE
RRC-10-H	487628	1205778	4520	375.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-HH	481457	1199716	4726	700.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-I	485827	1203076	4530	700.0	-75	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-II	484219	1202617	4606	630.0	-60	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-J1	485803	1202929	4530	545.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-L	485393	1201996	4545	450.0	-60	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-M	485308	1201657	4579	700.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-N	484233	1202721	4614	670.0	-60	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-Q	484405	1202549	4563	525.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-R	484027	1203172	4619	735.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-S	484400	1202409	4516	600.0	-75	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-T	483773	1202304	4558	765.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-T3	481833	1200028	4756	365.0	-60	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-T4	482200	1199806	4648	625.0	-60	315	REDSTONE RESOURCES	2010	RC	YES
RRC-10-U	483313	1202087	4637	660.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-W	483477	1201920	4552	520.0	-65	135	REDSTONE RESOURCES	2010	RC	YES
RRC-10-Y	486092	1204636	4309	385.0	-60	125	REDSTONE RESOURCES	2010	RC	YES