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NI 43-101 TECHNICAL REPORT
FLORENCE COPPER PROJECT

FLORENCE, PINAL COUNTY, ARIZONA

QUALIFIED PERSON:
Dan Johnson, PE, RM-SME

Effective Date: January 16, 2017
Report date: February 28, 2017

TABLE OF CONTENTS

SECTION 1

EXECUTIVE SUMMARY

1.1 Executive Summary

The Florence Copper Project ("FCP") presents a unique opportunity to construct a low upfront capital cost, low operating cost, refined copper producer in a secure mining friendly jurisdiction.

FCP is located midway between the major urban centers of Phoenix and Tucson Arizona in the American southwest copper belt and has paved highway, rail, and power access immediately adjacent to the property. The climate is amenable to year round operations with hot summers, mild winters, and precipitation typical of the semi-arid Sonoran Desert location.

The deposit consists of a large porphyry copper sulfide system overlain by a thick and intensely fractured oxidized layer. The oxidized zone is saturated with ground water that is separated from the upper drinking, agriculture, and industrial use aquifer by a thick layer of dense low permeability clay and separated from the deep groundwater by the relatively impervious sulfide system. This unusual, perhaps even unique, geological and hydrological combination makes the oxidized zone ideal for In Situ Copper Recovery ("ISCR") method of extraction.

The following report was prepared for Taseko Mines Limited ("TML"), a producing issuer, under the supervision of Dan Johnson, P. E. SME-RM the Vice President and General Manager of Florence Copper Inc. ("FCI") a wholly owned subsidiary of TML. Mr. Johnson is a Qualified Person under the provisions of National Instrument 43-101 published by the Canadian Securities Administrators.

The report details the geography, ownership, geology, hydrogeology, and mineralization, and the methods and data utilized, in determining a measured and indicated oxide mineral resource of 429 million tons grading 0.33% copper. The report goes on to describe in detail the development of the ISCR and SX/EW methods which result in a probable mineral reserve of 345 million tons grading 0.36% copper containing 2.5 billion pounds of copper and the economics of the project at a presumed long term copper price of US$3/lb.

The project has been extensively explored over many years by multiple owners. FCI has received all of the required permits for construction and operation of a full scale Production Test Facility ("PTF") which is intended to prove the ability to control the movement of fluid within the oxidized zone and also will provide valuable information in the final design and operation of the full production facility. The Federal EPA issued permit and the Arizona state issued permits are subject to a review period which is currently underway.

1.1 Executive Summary – *Cont'd*

The PTF, once all permits are confirmed as final, will take approximately one year to construct and one year to operate before going into a closure process. Permitting for the production facility will begin during the construction and operation of the PTF and will be guided by the results of that activity.

The full production facility will produce an average of 85 million pounds per year of LME Grade A copper cathode at full capacity. The project, as described in this report, generates over US$5 billion in revenue which benefits the State, the County, and the local municipalities as well as presenting a pre-tax NPV at a 7.5% discount rate of US$920 million and a payback period of just over 2 years from start of construction to Taseko shareholders.

The ISCR method available to be utilized on the unusual geography, geometry, geology, and hydrogeology at Florence Copper is also highly efficient environmentally when compared to a similar production conventional open pit copper extraction operation in the same location. When operations are concluded there will be no open pit or tailings or heap pads to be contended with. The well sites are unobtrusive and easily removed. The ground water quality in the oxide zone will be returned to meet regulatory guidelines as the well field progresses through the production period and is completed three years after the end of production. During production, the ISCR method is significantly more efficient on a per pound produced basis on water requirements, carbon dioxide emissions, and electricity requirements than a conventional surface leach oxide project and even more so when compared to a crush/grind/float sulfide project.

The author recommends that the PTF be constructed and operated as soon as practical so that the benefits of proceeding to full production can be enjoyed by all stakeholders at the earliest opportunity.

SECTION 2

INTRODUCTION

SECTION 2: INTRODUCTION

Table of Contents

2.1 Introduction

This technical report has been prepared by Taseko Mines Limited, a producing issuer under NI 43-101. Taseko Mines Limited was incorporated on April 15, 1966, pursuant to the Company Act of the Province of British Columbia. This corporate legislation was superseded in 2004 by the British Columbia Business Corporations Act which is now the corporate law statute that governs Taseko.

The head office of Taseko is located at 15th Floor, 1040 West Georgia Street, Vancouver, British Columbia, Canada V6E 4H8, telephone (778) 373-4533, facsimile (778) 373-4534. The Company's legal registered office is in care of its Canadian attorneys McMillan LLP, Suite 1500, 1055 West Georgia Street, Vancouver, British Columbia, Canada V6E 4N7, telephone (604) 689-9111, facsimile (604) 685-7084.

The following is a list of the Company's principal subsidiaries:

	Jurisdiction of Incorporation	Ownership
Gibraltar Mines Ltd.[1]	British Columbia	100%
Aley Corporation	British Columbia	100%
Curis Resources Ltd.[2]	British Columbia	100%
Curis Holdings (Canada) Ltd.[2]	British Columbia	100%
Florence Copper Inc.[2]	Nevada	100%

[1]Taseko owns 100% of Gibraltar Mines Ltd., which owns 75% of the Gibraltar Joint Venture

[2]Taseko owns 100% of Curis Resources Ltd., which owns 100% of Curis Holdings (Canada) Ltd., which owns 100% of Florence Copper Inc.

On March 31, 2010, Taseko established an unincorporated joint venture ("JV") between Gibraltar Mines Ltd., and Cariboo Copper Corp. ("Cariboo") over the Gibraltar mine, whereby Cariboo acquired a 25% interest in the Gibraltar mine and Taseko retained a 75% interest with Gibraltar Mines Ltd. operating the mine for the two JV participants. Cariboo is a Japanese consortium jointly owned by Sojitz Corporation (50%), Dowa Metals & Mining Co., Ltd. (25%) and Furukawa Co., Ltd. (25%). The Gibraltar mine is located in central British Columbia and is Canada's second largest open pit copper mine processing an average of 85,000 tons per day of ore and producing copper and molybdenum concentrate for sale around the world.

On November 20, 2014, Taseko announced the acquisition of all issued and outstanding common shares of Curis Resources Ltd. (Curis Resources). Curis Resources, 100%-owner of the Florence Copper Inc. (Florence Copper), became a wholly owned subsidiary of Taseko.

2.1 Introduction – *Cont'd*

The purpose of this report is to document the updated Florence Copper project economics incorporating an optimized well development sequence, metallurgical test work completed since 2013 and accordingly adjusted ore reserve estimates as announced in Taseko's News Release dated January 16, 2016 in the format prescribed in National Instrument 43-101, Form 43-101F1.

The information, conclusions, opinions, and estimates contained herein are based on:

- information available to Florence Copper at the time of preparation of this report,
- assumptions, conditions, and qualifications as set forth in this report, and
- data, reports, and opinions supplied by Florence Copper and other third party sources listed as references.

Contributing consultants; Haley & Aldrich, Inc., SGS North America Inc., M3 Engineering & Technology Corporation, T. P. McNulty and Associates, Inc., and SRK Engineering. Metallurgical laboratory test work and consulting services are independent of both Florence Copper and Taseko Mines Limited, and have no beneficial interest in the Florence Copper Project. Fees for technical input are not dependent in whole or in part on any prior or future engagement or understanding resulting from the conclusions of resulting reports.

Dan Johnson, P.E., RM-SME is responsible for the content of this report. Mr. Johnson has supervised the preparation and reviewed all aspects of this technical report. He has direct knowledge of the Florence Copper site, having been employed at the site since March 2011. Mr. Johnson's current position is Vice President and General Manager, Florence Copper Inc.

Measurement units used in this report are a combination of US and metric, and currency is expressed in US dollars unless stated otherwise.

2.2 Abbreviations

Abbreviation	Unit or Term
%	Percent
°	degree (degrees)
°C	degrees Centigrade
µ	micron or microns, micrometer or micrometers
A	Ampere
a/m^2	amperes per square meter
AA	atomic absorption
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AL	Alert Level
APP	Aquifer Protection Permit
AQL	Aquifer Quality Limit
ASLD	Arizona State Land Department
ASMIO	Arizona State Mine Inspector's Office
BC	Brown & Caldwell
bft^3	billion cubic feet
BLM	US Department of the Interior, Bureau of Land Management
cfm	cubic feet per minute
cm	Centimeter
cm^2	square centimeter
cm^3	cubic centimeter
CoG	cut-off grade
Crec	core recovery
Cu	Copper
dia.	Diameter
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
FA	fire assay
famsl	feet above mean sea level
ft	foot (feet)
ft^2	square foot (feet)

Abbreviation	Unit or Term
ft^3	cubic foot (feet)
ft^3/st	cubic foot (feet) per short ton
g	Gram
g/L	gram per liter
g/st	grams per short ton
gal	Gallon
g-mol	gram-mole
gpm	gallons per minute
Ha	hectares
HDPE	High Density Polyethylene
hp	horsepower
ICP	inductively coupled plasma
ID2	inverse-distance squared
ID3	inverse-distance cubed
ILS	Intermediate Leach Solution
in	inch
kg	kilograms
km	kilometer
km^2	square kilometer
kst	thousand short tons
kst/d	thousand short tons per day
kst/y	thousand short tons per year
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
kWh/st	kilowatt-hour per short ton
L	liter
L/sec	liters per second
lb	pound
LHD	Load-Haul-Dump truck
LLDPE	Linear Low Density Polyethylene Plastic
LoM	Life-of-Mine
M	meter
m.y.	million years

Abbreviation	Unit or Term
m^2	square meter
m^3	cubic meter
Ma	million years ago
mg/L	milligrams/liter
mi	mile
mi^2	square mile
Mlb	million pounds
mm	millimeter
mm^2	square millimeter
mm^3	cubic millimeter
MSHA	Mine Safety and Health Administration
Mst	million short tons
Mst/y	million short tons per year
MVA	megavolt ampere
MW	million watts
NEPA	National Environmental Policy Act of 1969 (as Amended)
NGO	non-governmental organization
NI 43-101	Canadian National Instrument 43-101
PLS	Pregnant Leach Solution
PMF	probable maximum flood
POO	Plan of Operations
ppb	parts per billion
ppm	parts per million
psi	pounds per square inch
QA/QC	Quality Assurance/Quality Control
QEMSCAN	Quantitative Evaluation of Minerals by SCANning electron microscopy
RC	reverse circulation drilling
RQD	Rock Quality Description
SEC	U.S. Securities & Exchange Commission
sec	second
SG	specific gravity
SRK	SRK Consulting (U.S.), Inc.
st	short ton (2,000 pounds)
st/d	short tons per day

Abbreviation	Unit or Term
st/h	short tons per hour
st/y	short tons per year
SX/EW	Solvent Extraction (SX) / Electrowinning (EW)
t	tonne (metric ton) (2,204.6 pounds)
TSF	tailings storage facility
TSP	total suspended particulates
UIC	Underground Injection Control
USEPA	United States Environmental Protection Agency
V	volts
VFD	variable frequency drive
W	watt
XRD	x-ray diffraction
yd^2	square yard
yd^3	cubic yard
yr	year

SECTION 3

RELIANCE ON EXPERTS

3.1 Reliance on Experts

Standard professional procedures have been followed in the preparation of this Technical Report. Data used in this report has been verified where possible and the author has no reason to believe that data was not collected in a professional manner and no information has been withheld that would affect the conclusions of this report.

The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to Taseko as of the effective date of this report, and
- Assumptions, conditions, and qualifications as stated in this report.

Except for the purposes legislated under provincial securities laws, any use of this report by any third party is at that party's sole risk.

SECTION 4

PROPERTY DESCRIPTION AND LOCATION

SECTION 4: PROPERTY DESCRIPTION AND LOCATION

Table of Contents

List of Tables

4.1 Property Area

The FCP is located in Pinal County, Arizona. The property, including surface and subsurface rights, is approximately 1,342 acres and consists of two contiguous parcels of land. The land parcels are 1,182 acres held in fee simple ownership, and land under Arizona State Mineral Lease 11-26500 totaling 160 acres on Arizona State Trust Lands.

4.2 Property Location

The property is located within the limits of the Town of Florence, 2.5 miles northwest of the town center. The site address is 1575 West Hunt Highway, Florence, Arizona 85132. The latitude and longitude of the planned in-situ copper recovery (ISCR) area are 33° 02’ 49” North and 111° 25’ 48” West.

4.3 Mineral Tenure Rights

Florence Copper Inc. owns 1,182 acres of fee-simple title land including the surface rights and all of the mineral rights on this patented land. Florence Copper’s land holdings span portions of sections 26, 27, 28, 33, 34, and 35 of Township 4 South, Range 9 East. The resource area covers 216 acres in the S½ of section 28 and the N½N½ of section 33.

Within the fee-simple title, there is no limit on the depth of the mineral rights or the time in which those minerals must be extracted.

Florence Copper holds the surface and mineral rights on 160 acres of State Trust Lands of Arizona (N½S½ of section 28) through Arizona State Land Department Mineral Lease 11-26500 that generates revenues for multiple State Land beneficiaries. The resource area covers the majority of the State Trust Land parcel.

Arizona State Mineral Lease 11-26500 (Lease) has a term from December 13, 2013 through to December 12, 2033 and is renewable with Florence Copper having the preferred right to renew thereafter. The Lease requires an annual rent to be paid to the State of Arizona and includes a royalty requirement on production from the Lease lands as outline in Section 4.4. The Lease grants Florence Copper the rights to mine copper, gold, silver, and other valuable minerals within the spatial and time limits of the Lease. The State Mineral Lease has no limit on the depth of resources that can be mined in association with the Lease.

4.4 Royalties

(a) State of Arizona

The land included within Arizona State Mineral Lease 11-26500 is subject to a mineral royalty payable to the State of Arizona. It consists of a percentage of the gross value of the minerals produced, which percentage cannot be less than 2% nor more than 8%. The royalty percentage between these limits is calculated according to a monthly "Copper Index Price" on a sliding scale which is established annually based on monthly copper prices for the trailing 60 month period and the predicted future cost of production from the State Trust Land.

(b) Conoco Inc.

A 3% "Net Returns" royalty applicable to the entire property is payable to Conoco Inc. This royalty is subordinate to royalties paid to third parties, but even where such royalties exist, the royalty created will not be less than 2% of "Net Returns." "Net Returns" is defined as the "Gross Value" received by the grantor less all expenses incurred by the grantor with respect to such minerals after they leave the property.

(c) BHP Copper Inc.

A 2.5% "Net Profits Interest" royalty applicable to the entire property excluding the land included within Arizona State Mineral Lease 11-26500, is payable to BHP. "Net Profits" is defined as net proceeds and revenues received from the sale of product plus insurance proceeds, government grants and tax refunds, less all exploration, development and operating costs.

4.5 Property Tenure Rights

Florence Copper owns the private property encompassing the FCP. The private property falls within the boundaries of the Town of Florence. Florence Copper also leases under Arizona State Mineral Lease 11-26500, 160 acres of Arizona State Land, which contains approximately 42% of the recoverable copper resource. The Arizona State Land is not subject to the jurisdiction of the Town of Florence.

Although historically the Town of Florence has been known to support mining operations or investigations on the Florence Copper private land for some 40 years, in recent years the Town of Florence has zoned the area for a mix of residential, commercial and industrial uses.

Florence Copper pays annual property taxes on the private land parcels and pays annual lease payments to the Arizona State Land Department.

4.6 Environmental Liabilities

(a) Introduction

The FCP property has some limited environmental liabilities relating to historical mining and exploration activities conducted by Conoco in the 1970s and by Magma and BHP in the 1990s. These liabilities occur on the private lands held by Florence Copper as well as State Trust Land administered by the Arizona State Land Department ("ASLD"). Florence Copper has retained a surface reclamation bond in the amount of $63,000 and insurance for pollution conditions that may arise for completing operations on the Leased land. Furthermore, Florence Copper has retained closure bonds for the State of Arizona's Aquifer Protection Permit in the amount of $1,066,000 and $3,987,000 for the former BHP wellfield and the recently permitted PTF facilities, respectively.

4.6 Environmental Liabilities – *Cont'd*

(b) Well and Core-Hole Abandonment

Exploration activities conducted by Conoco resulted in the completion of 366 core holes on the FCP property and associated State Trust Land. The Underground Injection Control (UIC) permit, Aquifer Protection Permit ("APP"), and State mine reclamation requirements necessitate the location and abandonment of these core holes prior to mine closure. However, the majority of these core holes were completed without surface monuments or casing. Over the years, the physical locations of many of these drilling locations have become obscured, especially those located in active agricultural fields. The USEPA has approved a core hole abandonment plan that addresses the uncertainty associated with abandonment of the Conoco drill sites and grants conditional closure for those sites that cannot be located using the prescribed survey and geophysical locating methodologies. The costs for completing the core hole abandonment plan are addressed in the approved reclamation plan and secured with a closure surety bond approved by the ADEQ.

(c) Historical Mining Activities

In the 1970s, Conoco conducted limited underground operations on the FCP property. The intent of these operations was to generate representative quantities of sulfide and oxide material for small scale testing at a pilot plant located near the current Florence Copper site administration building.

As part of the limited mining operation, Conoco completed two vertical shafts on the property. The shafts included a 72-inch diameter production shaft and a 42-inch ventilation and emergency access shaft. Underground mining reportedly occurred from December 1974 to December 1975 and included the removal of approximately 32,000 tons of oxide material, 17,000 tons of sulfide material, and 1,500 tons of waste rock.

Following the cessation of underground mining operations, the mining equipment and infrastructure was dismantled and removed. Access to the shafts is appropriately controlled by fencing and steel-plated covers, but the shafts themselves have not been permanently abandoned in accordance with Arizona State Mine Inspector ("ASMI") requirements. The costs to permanently abandon the two shafts are not addressed in the current reclamation plan or financial assurance instrument.

4.6 Environmental Liabilities – *Cont'd*

(d) Pilot Mineralized Material Processing Activities

Conoco operated a pilot scale processing plant on the property for approximately one year beginning in 1975 using sulfide and oxide material mined from the underground operations. The pilot plant was used to test and optimize various concentrating and leaching processes using combinations of small scale unit operations including crushing, grinding, flotation, vat leaching, agitation leaching, and solvent extraction / electrowinning ("SX/EW").

When processing the oxide material, Conoco operated a 100-ton per day vat leaching circuit. The circuit consisted of ten above-ground concrete leaching vats with acid-resistant coatings. Oxide material was loaded into the vats via overhead conveyor and processed using a variety of leaching sequences. Pregnant leach solutions (PLS) were transferred via aboveground pipes to the PLS holding tank, and subsequently processed in the SX/EW plant located in the process building. Spent oxide material was triple rinsed with fresh water after processing and impounded on site. Conoco also tested an agitation leach process for the oxide material. The circuit consisted of four agitated tanks and was capable of processing at a rate of 6 tons per day. Spent oxide material was rinsed with fresh water after processing and impounded on site.

Sulfide material was tested in a 50-ton per day conventional flotation circuit. Following batch flotation, tailings from the concentrating process was thickened and impounded on site.

The oxide and sulfide tailings are still located on the property in a small impoundment. Although not required by law, the cost to reclaim the impoundment is included in the approved reclamation plan and financial assurance mechanism.

(e) Chemical and Sanitary Pond

The Conoco facility utilized a small pond for the disposal of treated sanitary waste and untreated process wastes pumped from the reagent mixing area in the process building. Sanitary waste was treated in a prefabricated aerobic digester before being pumped to the sanitary pond. The cost to reclaim the pond is included in the approved reclamation plan and financial assurance mechanism.

4.6 Environmental Liabilities – *Cont'd*

(f) Pilot Plant Decommissioning

Subsequent to Magma's acquisition of the project, MP Environmental was retained to decommission the pilot plant. All process fluids, reagents, and process residues were removed from the facility and all tanks and process units were thoroughly cleaned. The equipment was eventually removed from the site for re-use at other Magma facilities, sold, or disposed of at regulated landfills.

(g) Agricultural Impacts

The Florence Copper property contains several large-diameter water production wells with electrically-powered vertical shaft pumps. The wells were generally constructed to support agricultural and livestock activities, housing, and facility operations on the property. Several of these wells are no longer in service and will require proper abandonment under ADWR regulations. As the wells are not considered to be part of the Project, the cost of abandonment has not been addressed in the reclamation plan or associated financial assurance instrument.

(h) Magma-BHP Test Facilities

The Magma-BHP test facilities consist of a small well field of injection, recovery, and observation wells, an evaporation pond, and a small process tank area adjacent to the evaporation pond. These facilities were used in BHP's hydraulic control test conducted in 1997 and 1998. The test ran for 90 days to demonstrate hydraulic control to the environmental agencies and was followed by a rinsing period of several years. The Arizona Department of Environmental Quality (ADEQ) and United States Environmental Protection Agency (USEPA) allowed cessation of hydraulic control based on water quality samples following rinsing. The test facilities have not been closed and removed and the facilities exist today in essentially the same condition as when BHP terminated the hydraulic control test. The closure and removal of these facilities is covered under financial assurance mechanisms with ADEQ, ASMI, and the USEPA.

4.7 Permits Required

(a) Introduction

There are several environmental permits required for the FCP. Florence Copper has obtained all of the various permits required to authorize the PTF although two key permits are being reviewed in appeal processes. Submissions for additional permits required for the commercial operations are underway. The list of permits is provided in Table 4-1. The following sections provide a description of each permit, including the legal authorization, the jurisdictional agency, the purpose of the permit, the term of the permit, a brief history of the permit related to the site, and the current status of the permit.

4.7 Permits Required – *Cont'd*

(a) 4.7 Introduction – *Cont'd*

Table 4-1: Permit List – Florence Copper In-Situ Recovery Project

Permit Name	Jurisdiction	Permit Status	Issue Date	Expiration Date	Reporting
Underground Injection Control Permit and Aquifer Exemption No. AZ 396000001	USEPA	Current – until new permit issued	5/1/1997	5 Year Review	Quarterly
Underground Injection and Control Permit and Aquifer Exemption No. R9UIC-AZ3-FY11-1	USEPA	Pending Appeal Process	12/20/2016	2 Year Operations 5 Year Post Closure	Quarterly[1]
Aquifer Protection Permit No. 101704 (Commercial Operations)	ADEQ	Current / Pending Amendment	8/12/2011	Operational Lifetime	Quarterly
Temporary Aquifer Protection Permit No. 106360 (PTF Operations)	ADEQ	Pending Appeal	8/3/2016	2 Yrs From Date of Authorization to Begin Work	Quarterly[1]
Air Quality Permit No. B31064.000	PCAQCD	Current/Pending Renewal	12/16/2011	12/15/2016	Annually
Storm Water Multi-Sector General Permit Authorization No. AZMSG-60129	ADEQ	Current / pending ADEQ reissuance	5/31/2011	1/31/2016	Annually
Mineral Extraction and Metallurgical Processing Groundwater Withdrawal Permit No. 59- 562120	ADWR	Current	4/5/2010	5/31/2017	Annually
Mined Land Reclamation Plan	ASMI	Current	7/30/2010	Operational Lifetime	Annually
AZ State Mineral Lease #11-026500	ASLD	Current	12/13/2013	12/12/2033	Monthly
Septic System Permit	ADEQ	Current	2010[2]	N/A	N/A
Change-of Water Use Permit	ADWR	Current	2/25/1997	N/A	N/A
Burial Agreement Case No. 2012-012	AZ State Museum	Current	6/21/2012	N/A	N/A
Programmatic Agreement	USEPA	Current	1/19/1996	30 Day Notice	N/A
EPA Hazardous Waste ID No. AZD983481599	USEPA	Current	4/4/2012	No Expiration	Annually

[1] *Information is compiled in daily and monthly reporting format and assembled in quarterly reports*

[2] *ADEQ gave Notice of Transfer (NOT) No. 74190*

4.7 Permits Required – *Cont'd*

(b) Aquifer Protection Permit (APP)

Authorization, Agency, Purpose and Team

The legal authorization for the APP is Arizona Revised Statute (A.R.S.) § 49-241. The ADEQ is the authorized agency for issuing APPs. The purpose of the APP program is the protection of groundwater quality. An Individual APP is valid for the life of the project and has provisions for temporary cessation and resumption of operations. A Temporary Individual APP is designed for pilot-scale testing programs as is valid for 12 months with the potential for one 12-month extension, if needed.

History

ADEQ issued an Area-Wide APP (No. 101704) to BHP on June 9, 1997 with stipulations that a 90-day hydraulic control test be performed and hydraulic control confirmed prior to initiating commercial production. BHP initiated their hydraulic control test in 1997 and completed the test in early 1998. BHP provided ADEQ a report, dated April 6, 1998, confirming the hydraulic control and ADEQ amended the APP to remove the hydraulic control test stipulation and effectively issued a permit for full commercial operation.

BHP deferred construction of the commercial operations due to economic considerations and elected to sell the project in 2001. The property was sold to Florence Copper Inc. (Florence Copper), a subsidiary of Merrill Ranch Investments LLC, and the APP was transferred to Florence Copper after being placed in temporary cessation. The temporary cessation conditions required Florence Copper to demonstrate both technical and financial capability to ADEQ prior to initiating any commercial operation at the site. Merrill Ranch Investments maintained the APP in good standing by performing operational and quarterly monitoring and reporting until filling for bankruptcy in 2009.

Hunter Dickinson Inc. purchased the property and all mineral rights in late 2009 and established Curis Resources (Arizona) Inc. (Curis), formerly U1 Resources, as the development company for the FCP. In subsequent meetings with ADEQ the agency agreed to prepare an Other Amendment for the previously issued Area-Wide APP to transfer the permit and provide Florence Copper the authority to operate a small pilot test facility. ADEQ agreed to this approach with the stipulation that the Project would need a Significant Amendment to the issued Area-Wide APP prior to commencing commercial operations. The Other Amendment was prepared and submitted on May 19, 2010 and a letter of credit was provided for closure security in the amount of $1,066,000. This amount replaced a previous closure security mechanism placed at the time Florence Copper transferred the permit from BHP (2001).

4.7 Permits Required – *Cont'd*

(b) Aquifer Protection Permit (APP) – *Cont'd*

History – *Cont'd*

Subsequently, ADEQ requested a Significant Amendment for the transfer process due to public comments received in early 2010 and in response to the USEPA decision on transferring the UIC Permit (See Section 4.7.2). Florence Copper responded to ADEQ by submitting a revised Other Amendment (November 18, 2010) requesting the permit transfer, but not including the operation of a pilot test. ADEQ issued a revised permit, on August 15, 2011, which required a Significant Amendment to be completed prior to construction of any operations.

A Significant Amendment Application ("SAA") for issued Area-Wide APP was submitted on January 31, 2011. The SAA Application provided revised hydrologic and geochemical modeling results, updated well designs, contingency plans, and closure cost estimates in support of a phased commercial operation. After receiving comments from ADEQ on September 7, 2011, a decision was made, with agreement from the ADEQ, to prepare and submit a Temporary Individual APP application for the PTF phase of the project and place in suspension the Area-Wide SAA. The Temporary Individual APP application was submitted on March 2, 2012 and the permit was issued by ADEQ on July 3, 2013. Temporary APP 106360 was ultimately remanded by the Water Quality Appeals Board (WQAB) on November 14, 2014 for amendment under the Significant Amendment process. The Temporary APP Significant Amendment application was filed with ADEQ on March 31, 2015 covering four areas of concern. The updates to the permit included:

- Historical documentation of the BHP pilot test conducted in 1997-1998,
- Additional monitoring requirements,
- Updated pollutant management areas and points of compliance, and
- Update closure plan.

Following a detailed review of the application by the ADEQ and a public comment process, Temporary APP 106360 was re-issued to Florence Copper on August 3, 2016. An appeal to the amended permit has been filed with the WQAB. The WQAB has set a hearing date for March 6-7, 2017.

4.7 Permits Required – *Cont'd*

(b) Aquifer Protection Permit (APP) – *Cont'd*

Status

The Area-Wide APP (No. 101704) issued to Florence Copper in August 2011 effectively transferred the permit and requires the completion of the Significant Amendment to allow commercial operations at the site. The Area-Wide Significant Amendment for commercial operations will remain suspended until sufficient data is obtained from the PTF for Florence Copper to pursue its finalization. An amended Temporary Individual APP (No. 106360) which allows the construction and operation of the PTF was issued to Florence Copper on August 3, 2016. An appeal of this permit is before the WQAB.

(c) Underground Injection and Control Permit (UIC) and Aquifer Exemption

Authorization, Agency, Purpose and Team

The legal authorization for the UIC program is the federal Safe Drinking Water Act, 42 U.S. Code § 300f et seq., 40 CFR Parts 144 and 146. The USEPA is the authorized agency for issuing UIC permits and Aquifer Exemptions in Arizona. One of the purposes of the UIC program is to allow the extraction of mineral resources using in-situ methods while protecting underground sources of drinking water. A UIC Permit and Aquifer Exemption are valid for the life of the project. The UIC Permit includes a requirement for review every five years.

History

USEPA issued an Aquifer Exemption and UIC Permit (UIC No. AZ396000001) to BHP on May 1, 1997. The permit and aquifer exemption were transferred to Florence Copper Inc. in 2001. On August 5, 2010, USEPA notified Curis Resources (Arizona) Inc. that it was initiating a "revocation and reissuance" of the UIC permit due to the substantial lapse in time since the permit was issued in 1997. USEPA issued UIC Permit No. R9UIC-AZ3-FY11-1 to Florence Copper Inc. on December 20, 2016, which incorporated the aquifer exemption issued in 1997 and would allow operation of the PTF only. The permit is now going through the appeal process.

Status

UIC Permit No. R9UIC-AZ3-FY11-1 will replace UIC No. AZ396000001 when it is finalized. Until that occurs, UIC No. AZ396000001 remains valid.

4.7 Permits Required – *Cont'd*

(d) Air Quality Permit

Authorization, Agency, Purpose and Team

The legal authorization for the Air Quality Permit is 40 CFR Parts 60 and 61, and A.R.S. § 49-471 et seq. The Pinal County Air Quality Control District is the authorized agency for issuing air quality permits in Pinal County, Arizona. The purpose of the Air Quality Permit is to regulate the emission of pollutants to ensure no harm to public health or cause significant deterioration to the environment. The Air Quality Permit is valid for 5 years.

History

The original air permit was issued on December 16, 1996 to BHP. The permit was transferred to Florence Copper September 2002 and the permit was last reissued on February 14, 2012, with an expiration date of December 15, 2016.

Status

Florence Copper submitted a renewal application on September 7, 2016. The permit is currently in the renewal process and remains in effect until the renewal process is completed.

(e) Stormwater Multi-Sector General Permit

Authorization, Agency, Purpose and Team

The legal authorization for the Stormwater Multi-Sector General Permit (MSGP) is 33 USC § 1251 et seq: 40 CFR Part 122, A.R.S. § 49-255. The ADEQ is the authorized agency for issuing stormwater permits for mining activities in Arizona under its Arizona Pollutant Discharge Elimination System MSGP 2010 program, except on tribal lands. The purpose of the stormwater program is to protect the water quality of "waters of the U.S." The MSGP is valid for 5 years.

History

Magma received a MSGP (AZR00A224) on December 31, 1992. BHP received a MSGP (AZR05A795) on January 26, 1999. Florence Copper submitted their Notice of Intent (NOI) for coverage under the MSGP on March 16, 2011.

4.7 Permits Required – *Cont'd*

(e) Stormwater Multi-Sector General Permit – *Cont'd*

Status

ADEQ issued an Authorization to Discharge No. AZMSG 2010-61741, to Florence Copper on May 31, 2011. Florence Copper's 2011 Mining MSGP will remain in force and effect until a new general permit is issued. ADEQ is in the process of preparing new MSGP permits and is expected to complete the process in 2017.

(f) Groundwater Withdrawal Permit

Authorization, Agency, Purpose and Team

The legal authorization for the Groundwater Withdrawal Permit is A.R.S. §45-514. The ADWR is the authorized agency for issuing Groundwater Withdrawal permits in Arizona. The purpose of the Groundwater Withdrawal program is to quantify and limit the extraction of groundwater within an Active Management Area (AMA). The FCP is located within the Pinal AMA. Florence Copper's Groundwater Withdrawal Permit No. 59-562120 is valid for 7 years.

History

Permit No. 59-562120 was originally issued on June 26, 1997 to BHP and the permit was subsequently renewed and transferred to subsequent owners and most recently was issued to U1 Resources on May 31, 2010. The current permit was transferred to Florence Copper and has an expiration date of May 31, 2017.

Status

Permit No. 562120 is current and in good standing. The permit allows up to 806 acre-feet per annum for use in mineral extraction and processing. An application for the renewal of the permit was filed in February 2017.

4.7 Permits Required – *Cont'd*

(g) Mined Land Reclamation Plan

Authorization, Agency, Purpose and Team

The legal authorization for the Mined Land Reclamation Plan is A.R.S. § 27-901 et seq. The Arizona State Mine Inspector (ASMI) is the authorized agency for regulating Mined Land Reclamation. The purpose of the Mined Land Reclamation program is to ensure that mined lands will be left in a safe and stable post-mining condition to protect human health. The program requires financial assurance to be in place to cover expected reclamation costs. The Mined Land Reclamation plan is valid for the life of a project and requires submittal of annual status reports.

History

BHP's Mined Land Reclamation plan was accepted by the ASMI on August 28, 1997 and was transferred to Florence Copper on November 28, 2001.

Status

Florence Copper updated the Mined Land Reclamation Plan and corresponding reclamation cost estimate in conjunction with the Arizona State Mineral Lease renewal process that is discussed in the following section.

(h) Arizona State Mineral Lease

Authorization, Agency, Purpose and Team

The legal authorization for the Arizona State Mineral Lease is A.R.S. § 37-281 et seq. The Arizona State Land Department (ASLD) is the authorized agency for regulating mineral leases on state trust land. The purpose of the Arizona State Land Mineral Management program is to regulate mining/mineral activities on State Trust land. The program requires a non-refundable filing fee per application and rental fees are required in all agreements. Royalties are paid on all recovered mineral products and appraisal or administrative fees may also be required. A reclamation bond is required and the actual bond amount is based upon the type of operation and the degree of disturbance. The Arizona State Mineral Lease has a 20-year term and requires a reclamation bond, pollution liability insurance and submittal of monthly production and annual status reports.

4.7 Permits Required – *Cont'd*

(h) Arizona State Mineral Lease – *Cont'd*

History

BHP's Mineral Lease was entered into on December 14, 1993 with the State of Arizona, State Land Department and was assigned to Florence Copper Inc. on December 5, 2001. The Mineral Lease was assigned to U1 Resources Inc. on February 24, 2010 and a change of the lessee's name to Curis Resources (Arizona) Inc. was acknowledged on July 27, 2010. The Mineral Lease was renewed with the name change to Florence Copper on December 13, 2013.

Status

The Arizona State Mineral Lease permit was renewed in December 2013 with a 20-year term that expires on December 12, 2033. Florence Copper has the preferred right to renew on or before the expiration date. Pollution liability insurance and a reclamation bond have been in place since January 2014. All monthly and annual reports have been appropriately submitted in accordance to the terms of the Lease.

(i) Septic System Permit

Authorization, Agency, Purpose and Team

The legal authorization for the Septic System Permit is Arizona Administrative Code (A.A.C.) R18-9-A316. The ADEQ is the authorized agency for issuing Septic System Permits under its APP program. The purpose of the Septic System Permit is to regulate the construction of on-site wastewater treatment facilities and authorize discharges to the treatment system. New property owners must submit a notice of permit transfer to ADEQ. The Septic System Permit is valid for the duration of the current property owner's ownership.

History

Florence Copper filed for a Septic System Permit upon change of ownership of the property. The inspection occurred March 9, 2010 and was approved by ADEQ.

Status

The ADEQ gave the Notice of Transfer No. 74190 for the septic system permit in 2010. As part of the aquifer protection permitting process, this permit has been transferred to Florence Copper.

4.7 Permits Required – *Cont'd*

(j) Change of Water Use Permit

Authorization, Agency, Purpose and Team

The legal authorization for the issuance of a Change of Water Use Permit for the water rights associated with certain fee simple property owned by Florence Copper under Globe Equity Decree No. 59 was issued in United States District Court, District of Arizona. The Gila Water Commissioner has continuing jurisdiction over the rights and restrictions in the Globe Equity Decree. The purpose of the Change of Water Use Permit was to change the water rights from exclusively agricultural uses to mineral extraction uses on the fee simple property.

History

BHP filed the application for Change of Water Use with the Gila Water Commissioner. The change of use went before the United States District Court, District of Arizona and was granted by the court on February 25, 1997.

Status

The Change of Water Use permit was granted on February 25, 1997.

(k) Burial Agreement (Case No. 2012-012)

Authorization, Agency, Purpose and Team

The legal authorization for the Burial Agreement (Case No. 2012-012) is A.R.S. § 41-865 and A.R.S. § 41-844. The Arizona State Museum is the authorized agency for regulating the Burial Agreement. The purpose of the Burial Agreement is to provide the provisions and procedures in case of the discovery, treatment and disposition of remains of portions of the Escalante Ruin Group, a substantial group of Hohokam sites in the vicinity of Coolidge, Arizona, as a consequence of mining development. The Burial Agreement (Case No. 2012-012) does not expire.

History

The Burial Agreement between Florence Copper and the Gila River Indian Community, the Ak-Chin Indian Community, the Salt River Pima-Maricopa Indian Community, the Tohono O'odham Nation, the Hopi Tribe and the Arizona State Museum was drafted in April 2012.

Status

The Burial Agreement (Case No. 2012-012) was signed June 2012.

4.7 Permits Required – *Cont'd*

(l) Programmatic Agreement

Authorization, Agency, Purpose and Team

The legal authorization for the Programmatic Agreement ("PA") is 36 CFR Part 800 § 106 of the National Historic Preservation Act, 16 U.S.C. 470 et seq. The Environmental Protection Agency ("EPA") and the Arizona State Historic Preservation Office ("SHPO") are the authorized agencies for regulating the Programmatic Agreement.

The purpose of the PA is to establish an understanding among the USEPA, the Arizona State Historic Preservation Office, the Advisory Council on Historic Preservation, and the property owner regarding how the consultation process under § 106 will be implemented for "Undertaking." The Agreement applies to all Florence Copper activities involving the USEPA Undertaking for the area defined as the Magma Florence Mine Cultural Resources Review Area. The parties agree that the area may be amended from time to time as may be necessary to include any additional property where Florence Copper intends to place underground injection control wells for the purposes of in-situ copper recovery.

The PA does not expire. Any party to the Agreement may request it to be amended in accordance with 36 CFR 800.13. Any party to the Agreement may terminate it by providing 30-days written notice to the other parties, provided that the parties will consult during the period prior to the termination to seek agreement on amendment or other actions that would avoid termination. In the event of termination, the USEPA will comply with 36 CFR 800.4 through 800.6 with regard to individual undertakings covered by the PA.

History

The PA between Magma Copper Company and the Gila River Indian Community, the Ak-Chin Indian Community, the Salt River Pima-Maricopa Indian Community, the Tohono O'odham Nation, and the Hopi Tribe became effective January 19, 1996. A Memorandum of Agreement ("MOA") was issued to Florence Copper by the EPA on February 17, 2016 for all PTF activities. A MOA is more appropriate for a specific federal Undertaking with a defined beginning and conclusion, and where adverse effects have been determined in advance for the permitted PTF.

Status

The Programmatic Agreement became effective January 19, 1996. A MOA has been finalized to address all PTF activities until a PA could be utilized for future commercial activities.

4.7 Permits Required – *Cont'd*

(m) USEPA Hazardous Waste

Authorization, Agency, Purpose and Team

The legal authorization for the USEPA Hazardous Waste ID No. AZD983481599 is 40 CFR Part 260. The USEPA is the authorized agency for regulating Hazardous Waste ID No. AZD983481599. The purpose of the USEPA Hazardous Waste program is for regulating commercial businesses as well as federal, state, and local government facilities that generate, transport, treat, store, or dispose of hazardous waste. USEPA Hazardous Waste ID No. AZD983481599 does not expire.

History

Florence Copper filed an updated Notification of Regulated Waste Activity form on February 7, 2002 for continuous coverage under the subsequent notification of USEPA ID No. AZD983481599. A subsequent notification was submitted by Florence Copper Inc. for a change of facility ownership on April 4, 2012.

Status

The USEPA Hazardous Waste ID No. AZD983481599 is in place for current and future activities at the site.

4.8 Other Significant Factors or Risks

Discussions are in progress with local authorities and interests to address remaining concerns with regard to permitting, land use and other project-related work. Florence Copper will continue to proceed with project development with the understanding that their private property has legitimate legal non-conforming use rights that allows for mineral extraction operations. This report supports the movement of commercial operations to Florence Copper's private land.

SECTION 5

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

SECTION 5: ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Table of Contents

List of Figures

5.1 Topography, Elevation and Vegetation

The topography of the Florence Copper site consists of an alluvial surface that gently slopes southward. Site elevation is 1,500 feet above mean sea level ("amsl"). Most desert plants are widely spaced, and their leaves are small or absent. Typical Sonoran Desert vegetation consists of short trees and shrubs. While cacti, yucca, and agave are common in areas around Florence, vegetation in the project area is sparse and mainly consists of creosote bushes and scattered mesquite trees.

5.2 Climate and Length of Operating Season

The climate in the region is typical of a semi-arid desert region with low precipitation, high summer temperatures, and low humidity. Rainfall is seasonal with peaks in winter and summer. Summer precipitation often occurs as heavy thunderstorms, locally referred to as monsoons. The annual precipitation at Florence from 1909 through 2016 ranged from a minimum 2.4 inches in 1911 to a maximum 20 inches in 1978. The average annual precipitation is 10 inches, compared with an annual evaporation rate of 92 inches. Temperatures during the summer regularly exceed 100 degrees Fahrenheit (°F). During the winter, temperatures are typically in a range from 50°F to 80°F. The climatic regime is supportive of year-round mining operations.

5.3 Physiography

Florence Copper is located in south-central Arizona, in the Sonoran Desert of the Basin and Range Lowlands physiographic province. The region is characterized by generally northwest-trending mountain ranges separated by relatively flat valleys filled with sediments shed from the adjacent mountains. Elevations range from 1,000 to 3,000 feet amsl. Tertiary age volcanic activity in the region is responsible for occasional peaks in the intermountain valleys, such as Poston Butte north of the project area.

The principal surface water feature in the area is the Gila River, with a drainage area of approximately 58,000 square miles. The river is located about one-half mile south of the Florence Copper deposit. The river is dry much of the year and flows northeast to southwest in response to regional precipitation events. Coolidge Dam, which is approximately 55 miles northeast of Florence, regulates 75% of the upstream watershed runoff. All upstream flow is diverted into the Florence-Casa Grande canal south of the project area, and the North canal which transects the project area.

5.4 Access to Property

Florence Copper is approximately equidistant (~ 65 miles) from Tucson and Phoenix, which are connected by Interstate 10 (I-10). The site entrance is 14 miles by paved highway from Interstate 10 or US Route 60 and can be accessed from the center of the Town of Florence via 4 miles of paved highway (AZ Route79 and Hunt Highway). Figure 5-1 and Figure 5-2 show the roads available to travel to the FCP site.

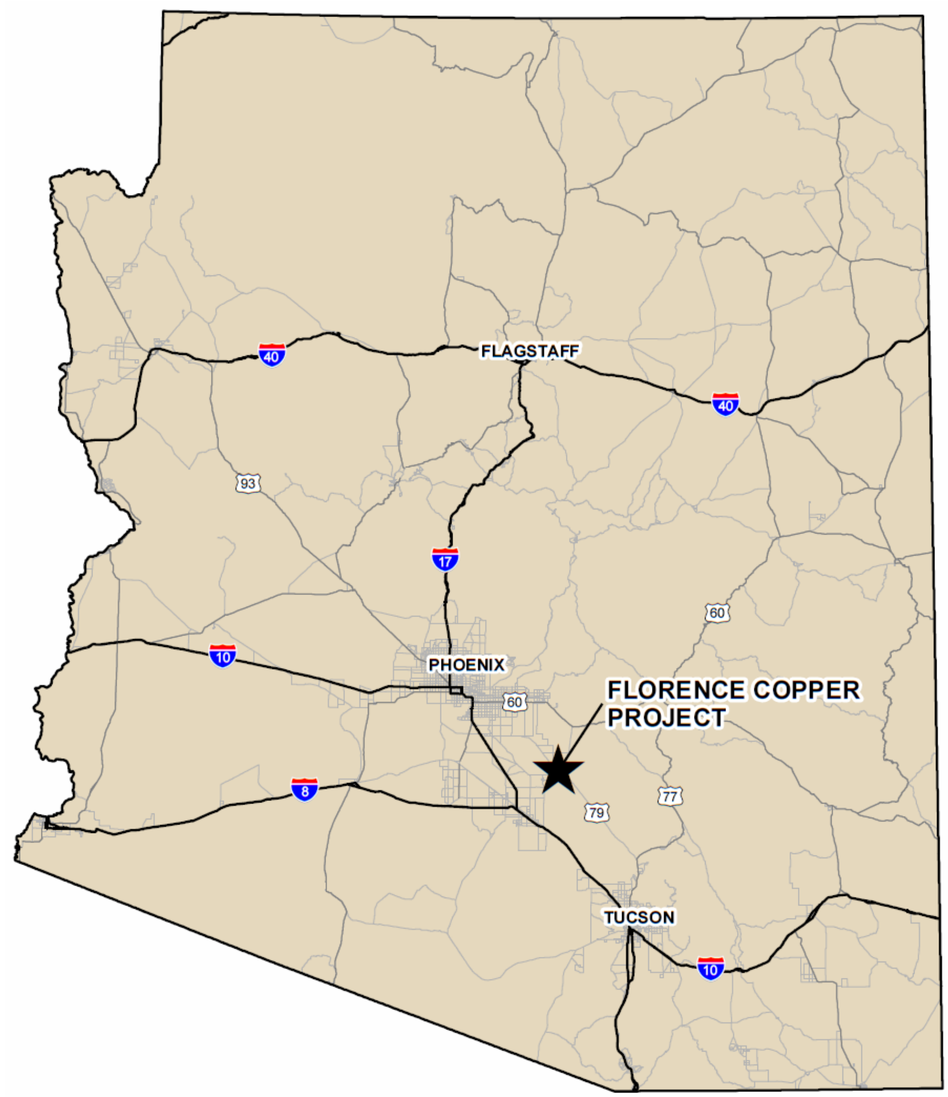


Figure 5-1: Regional Location Map

5.5 Surface Rights

The Florence Copper site consists of a total of 1,342 acres of land on two contiguous parcels. The majority of the Project land, 1,182 acres, consists of patented land which is held in fee simple; granting Florence Copper both surface rights and mineral rights on this parcel. The second parcel of Project land, 160 acres, is on State Trust Lands of Arizona; the surface and mineral rights are held by Florence Copper Inc. under Arizona State Mineral Lease 11-26500.

5.6 Local Resources and Infrastructure

(a) Introduction

Local infrastructure and vendor resources to support exploration, development, and mining are excellent. Exploration and mining service companies for the metals/non-metals, coal, oil, and gas industries are located in the major metropolitan areas of Phoenix and Tucson, and at many other major cities in the US Southwest. Locally available resources and infrastructure include power, water, communications, sewage and waste disposal, security, and rail transportation as well as a skilled and unskilled work force.

(b) On-Site Transportation

On the site, buildings, facilities, and well field are, or will be accessible via all-weather graded roads and local farm roads. The main access road will be either paved or chip-sealed prior to the commencement of operations to minimize dust. Access to the PTF well field area and the commercial well field operations will be via an existing bridge over the North Canal operated by the San Carlos Irrigation and Drainage District ("SCIDD"). SCIDD has authorized upgrades to three existing bridge crossings on the Florence Copper property as long as the upgrades will not impact the North Canal. The approved upgrade will provide appropriate access for all vehicles and pipelines needed for commercial operations.

One additional canal crossing will be required to accommodate the piping runs to the well field. The crossing is included in the project plan, based on a design that eliminates the possibility of process solution contacting canal water.

5.6 Local Resources and Infrastructure – *Cont'd*

(b) On-Site Transportation – *Cont'd*

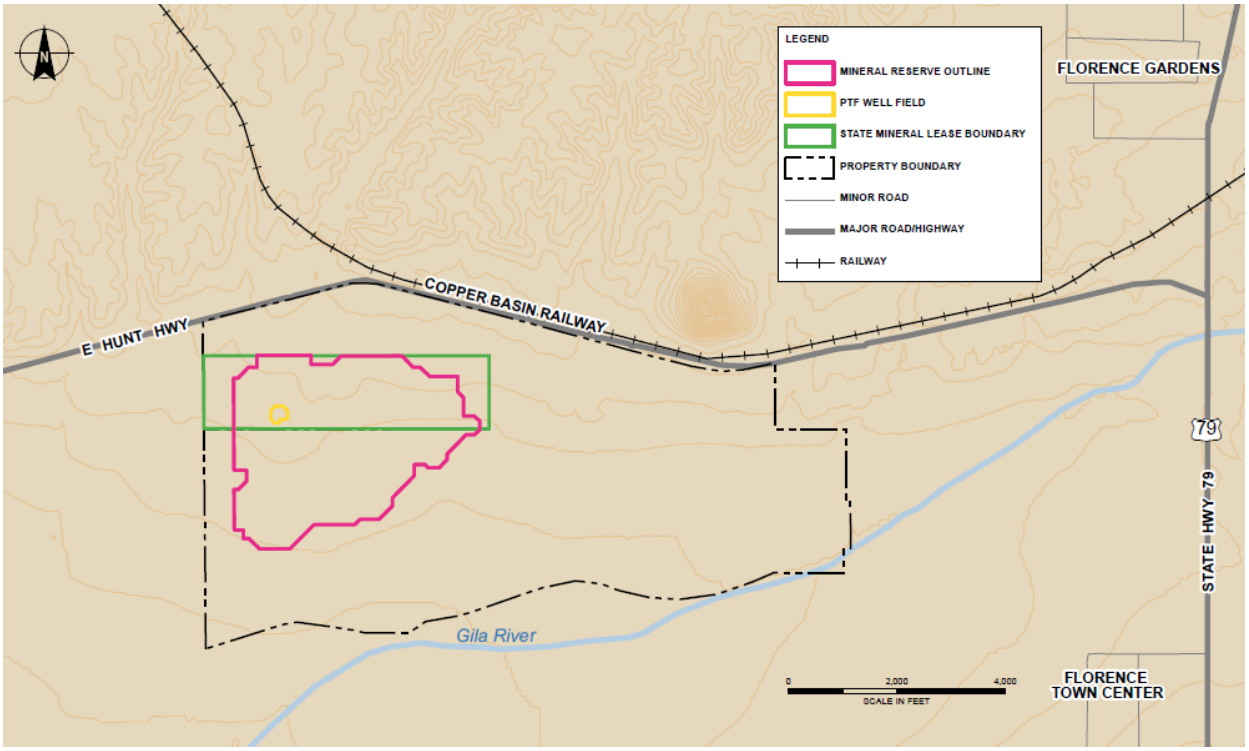


Figure 5-2: Florence Site Location Map

(c) Buildings and Ancillary Facilities

The Florence Copper site is equipped with an administrative office building, parking lot, fenced laydown yard, maintenance warehouse, storage warehouse, steel core-storage building, potable water system and water tank.

Additional ancillary facilities are associated with the BHP pilot ISCR field test including Tank Farm, 5-acre double-lined polyethylene water impoundment, dual 4-inch pipeline, and a well field. The water impoundment and Tank Farm are enclosed by a security fence and access to the area is gravelled and controlled by security gates.

5.6 Local Resources and Infrastructure – *Cont'd*

(d) Communications and Security

Landline telephone, cellular telephone, and internet services are available at the project site.

Florence Copper has retained a contract security company to provide security for the FCP site. The contract security firm patrols the project area, buildings, and well field to ensure that the site facilities stay secure. During full-scale commercial operations, the facilities area will have access controlled via security fence. A gatehouse and weigh scale will be provided at the primary entry that will be staffed 24/7.

(e) Railroad

The Copper Basin Railway, a federally regulated shortline railroad, is located 100 feet north of Hunt Highway adjacent to the site and has an existing loading siding located one mile east of the property. The Copper Basin Railway provides rail access between the town of Winkelman and the Union Pacific Railroad connection at the Magma loading station near I-10. The railroad has branch lines connecting the American Smelting and Refining Company mine and processing facilities at Ray and Hayden in Gila and Pinal Counties, and interchanges with the San Manuel Arizona Railroad in Pinal County. Florence Copper may utilize rail for shipments of copper cathode and receipt of materials for construction of the plant facilities.

(f) Power Supply

Power is currently provided directly to the project site by the San Carlos Irrigation Project (SCIP), a private company categorized under Water Distribution or Supply Systems for Irrigation. The company, established in 1930, is located in Coolidge, Arizona. SCIP obtains power from various sources including the Salt River Project (SRP), Arizona Public Service (APS), and the Western Area Power Association. Due to limitations of the SCIP power distribution system, APS will provide power directly to Florence Copper for both the PTF and commercial operations, as described further in Section 19.1.2.

5.6 Local Resources and Infrastructure – *Cont'd*

(g) Natural Gas

Natural gas will be used to fuel the cathode wash system boiler and hot water heaters for wash-up and shower facilities. Southwest Gas Company supplies natural gas in the Project area through an existing distribution line that runs from a termination point located a short distance to the east of the property to the El Paso Natural Gas high pressure transmission line located to the north and west of the property. The Project capital cost includes extending this distribution line to the Florence Copper facilities.

(h) Water Supply

The combined mineral extraction and irrigation groundwater rights secured for Florence Copper are more than sufficient to supply the life of operation water needs. The project scope includes engineering and construction of a pumping system and pipeline to bring the required water from an existing irrigation well to a new 100,000-gallon storage tank and at the planned plant location.

Florence Copper is within the Pinal Active Management Area ("AMA"), which is managed by the Arizona Department of Water Resources ("ADWR"). Within the AMA, a landowner must have a groundwater right or permit to pump groundwater unless the landowner is withdrawing groundwater from an "exempt" well – defined as a well with a maximum pump capacity of 35 gallons per minute ("gpm"). Florence Copper has 11 exempt wells. Non-exempt wells are those wells that have a pump capacity of greater than 35 gpm and include grandfathered rights, service area rights, and withdrawal permits. Florence Copper has 16 non-exempt wells with grandfathered water rights that specify how groundwater can be used.

Type I non-irrigation grandfathered rights are used for land that is permanently retired from farming and converted to non-irrigation uses such as subdivisions or industrial plants; this right may be conveyed only with the land. The maximum amount of groundwater that can be pumped annually from the site's Type 1 non-irrigation rights is 3.4 acre/feet per acre.

Type II non-irrigation grandfathered rights wells can be used for any non-irrigation purpose. These rights can be sold separately from the land or well. The site has two such Type II non-irrigation rights and the maximum amount of groundwater that can be pumped annually under these rights is 17 acre-feet per annum and 4,064 acre-feet per annum, respectively. In accordance to ADWR rules to maintain landowner's jurisdictional water rights, a change of well ownership has been updated with ADWR for the Site's "exempt", "non-exempt", "monitor/piezometer", and "other" wells.

5.6 Local Resources and Infrastructure – *Cont'd*

(h) Water Supply – *Cont'd*

The present well that serves the office building has a capacity for 150 gpm and the site operates a water treatment system to produce potable water for the site facilities. Water requirements for commercial operations were calculated recently to 650 gpm (1,200 acre-feet per annum).

Florence Copper is within the SCIDD which formed in 1924 based on a Landowners Agreement, which allocated water rights along the Gila River and North Side Canal. The agreement covered groundwater and canal water, but did not allow for industrial water use. BHP was granted a permanent change-of-use to the agreement in February 1997 that allows area groundwater and canal water to be used for industrial purposes. SCIDD and the Gila River Indian Community were granted a right-of-way from the Central Arizona Project (CAP) Canal to the North Side Canal as part of the BHP change-of-use application. Florence Copper has sufficient water rights for the operation of the Project without utilization of canal water, and there is no need to make any changes to the North Side Canal as a result of site activities.

(i) Waste Disposal

Florence Copper's ISCR activities for the PTF as well as for commercial operations will not produce any mineralized waste rock or tailings to be impounded as a result of these planned future operating activities. Mineralized drill cuttings will be removed from the site to nearby heap leach operations and the remaining alluvial unit drill cuttings will be utilized for road base and other construction activities around site.

Water treatment activities during operations, primarily for rinsing the leached ore blocks, will produce a solid waste that consists primarily of calcium and magnesium sulfates. Potential beneficial uses of these materials is under investigation and will likely reduce the quantity of material required to be stored on site at the end of the mine life. While these solids are stored on site they will be kept in lined ponds. Any solids remaining on site at the end of the mine life will be sealed in their storage pond and the area reclaimed. The project plan conservatively includes the costs for storage and subsequent reclamation of all of the solids. A Toxicity Characteristic Leaching Procedure ("TCLP") will be conducted on substances as needed to assess the concentrations of hazardous materials prior to disposal. Florence Copper will be a qualified as a de minimus or low hazardous waste generator; hazardous wastes will be minimized and are expected to be less than 100 pounds (45 kilograms) per month.

5.6 Local Resources and Infrastructure – *Cont'd*

(i) Waste Disposal – *Cont'd*

The current site refuse consists of primarily office trash, which is removed to the Adamsville County landfill located seven miles from the site. Through the projected life of operation construction and office trash will continue to be collected and transported to an offsite landfill. Contract drilling companies and other contractors will be responsible for their own trash removal.

Other materials such as used motor oil, tires, batteries, fluorescent lights, and oily rags will be collected separately from other wastes and sent to recycling facilities or permitted waste disposal facilities as appropriate.

(j) Manpower

Southern Arizona is an area with a long history of mining-related construction, copper exploration, mining, heap leaching, in-situ leaching, and metallurgical processing with long-established vendor-support services. Labor for these activities is available in nearby towns such as Florence, Coolidge, Queen Creek, Casa Grande, Apache Junction, Mesa, and the greater metropolitan areas of Phoenix and Tucson, Arizona. All these nearby towns can easily accommodate the necessary labor force for site activities.

SECTION 6

HISTORY

SECTION 6: HISTORY

Table of Contents

List of Tables

6.1 Introduction

There is a long history of metal exploration, mine development, milling, smelting, and leaching (heap, dump, in-situ) in southern Arizona. In-situ leaching of copper has been performed at a number of operations in the state and most notably was intermittently utilized at BHP Miami from 1947 to 2016.

The earliest known exploration activities in the FCP area date back to the early 1960s. The history of the FCP property is described in the following sections.

6.2 Ownership

The Florence Copper property has had four previous owners whose primary business is exploration and mining development including Continental Oil Company (“Conoco”), Magma Copper Company (“Magma”), BHP Copper Inc. (“BHP”), and Curis Resources (Arizona) Inc. (“Curis”).

The property was owned by a number of parties whose primary business was not exploration and mining development in the years between the ownership of BHP and Curis.

Conoco acquired land holdings covering the Florence Copper site in 1969. These holdings were subsequently acquired by Magma in 1992 and became part of BHP when Broken Hill Proprietary Company Limited of Australia acquired Magma in January of 1996.

BHP conveyed the land constituting the Florence Copper site to Florence Copper Inc. in May 2000. BHP’s Florence Copper Inc. was then sold to Merrill Mining LLC of Atlanta, Georgia, effective in December 2001. In the years between 2002 and 2009 the ownership of the private property passed through a number of companies including Roadrunner Resorts LLC, WHM Merrill Ranch Investments LLC, the Peoples Bank, and Merrill Ranch Properties. Ownership of Arizona State Mineral Lease 11-26500 remained with Florence Copper Inc. which was acquired by Felix Hunt Highway LLC in 2008.

Curis purchased the surface rights and all of the mineral rights on the approximately 1,182 acres of private land component of the FCP site in December 2009. In February 2010, Curis obtained assignment of Arizona State Mineral Lease 11-26500 completing the land holdings that form the FCP site.

Curis Resources (Arizona) Inc. changed its corporate name to Florence Copper Inc., a Nevada Corporation, on July 22, 2013. Curis was acquired by Taseko Mines in November 2014. Hereafter in this report, Curis will commonly be referred to as Florence Copper unless otherwise specified for clarification purposes (e.g., published reports).

6.3 Past Exploration and Development

The earliest known exploration activity in the Florence Copper area was conducted by ASARCO. In the early 1960s, ASARCO acquired a land package around Poston Butte to the northeast of the Florence Copper deposit. ASARCO drilled three exploration holes to the west of Poston Butte which did not intersect significant mineralization and the majority of the land leases and permits held by ASARCO were subsequently dropped.

In 1969, regional reconnaissance by Conoco led their geologists to evaluate the Florence Copper area for potential copper mineralization. After signing land options (ASARCO retained a small lease to the west of the deposit), Conoco started drilling on the property in March 1970. The first drill hole, located on the southwest flank of Poston Butte, encountered oxide/silicate copper and supergene enriched copper mineralization. Conoco continued their drilling program and ultimately determined that there was sufficient mineralization in the area to warrant a systematic multi-hole exploration program and engineering studies to assess the economic feasibility of the property.

At the time Conoco envisioned a large open-pit copper mine with waste rock and tailings facilities north of Hunt Highway. Conoco's work to define the mineral system and project included extensive exploration and definition drilling as well as development of a pilot mine, the construction and operation of a pilot processing plant, preliminary design of commercial processing facilities, and various other studies required for the evaluation of project feasibility.

Between 1969 and 1975, Conoco geologists delineated an extensive, porphyry copper system near Poston Butte. The delineation was based on 605,857 feet of exploration and development drilling in 659 holes. The drilling program included 396 rotary-core and 263 rotary-only drill holes. Approximately one-half of the holes were drilled into the main portion of the mineral deposit, with the remainder drilled into peripheral areas primarily for site condemnation.

In 1974, Conoco mined approximately 50,000 tons of mineralized material from a single-level, underground mine designed to collect metallurgical samples and test geological parameters. The mine included one mile of drifts and two vertical shafts for ventilation and hoisting material to the surface. Metallurgical testing of the recovered material was performed using a pilot processing plant built on the property. After the completion of the underground work, the shaft infrastructure was removed and the openings secured with steel plates. The pilot mine is currently flooded up to 280 feet below ground surface.

Development drilling ceased in 1975 and the project became dormant. Over their tenure, Conoco invested $27 million in project studies, drilling, engineering designs, and construction of the pilot processing plant as well as the pilot underground mine.

6.3 Past Exploration and Development – *Cont'd*

The property remained idle from 1975 until July 1992 when Magma acquired the property from Conoco. Magma initiated a Pre-Feasibility Study in January 1993 to verify the previous work and to determine the most effective technology for extracting copper from the deposit. As part of this Study an additional 37 holes were drilled. Of this additional drilling: 23 holes were drilled to verify the accuracy or consistency of the Conoco data, 12 holes were drilled to assess material properties (pumping tests), and two large-diameter (6-inch) holes were drilled to obtain bulk samples for metallurgical testing.

The Pre-Feasibility Study focused on identifying the most appropriate mining method for developing the oxide portion of the deposit. The methods evaluated were open pit mining followed by heap leaching and SX/EW, and in-situ solution mining followed by SX/EW.

The Pre-Feasibility Study was completed in January 1995. The results from copper resource modeling, metallurgical testing, material property testing, and financial analysis supported the conclusion that the application of in-situ leaching and SX/EW to produce cathode copper was the preferred method to develop the Florence deposit. The lithologic, mineralogical, and structural features were all found to be favorable for solution mining because of the low acid-consuming potential of the host rock, the presence of acid-soluble chrysocolla located along fractures and in argillized feldspars, as well as the intense fracturing of the rock in saturated conditions which allows solution migration. The study recommended proceeding with a feasibility study that would provide resource and reserve estimates, permitting, detailed in-situ mine design, and facility engineering capable of advancing the project to the construction stage. Magma commenced work on a Feasibility Study for the project shortly thereafter.

In January 1996, Broken Hill Proprietary Company Limited of Australia acquired Magma and created BHP. Work on the Feasibility Study for the site continued through the acquisition. The study included a drilling program of 67 holes drilled into the deposit and surrounding area to serve as pumping, observation, and monitoring wells. These wells were drilled to provide hydrologic data for the Aquifer Protection Permit (APP) application and to characterize the aquifer in the hydrologic computer model. An additional 38 diamond drill holes were completed to confirm geologic resources in the deeper, western portion of the deposit and to gather material for geological and metallurgical tests.

In 1998, BHP conducted a 90-day field optimization ISCR test to gather copper recovery and other technical data to inform a final Feasibility Study. The outcome of the field test confirmed that production wells could be efficiently installed into the mineralized zone, hydraulic control of the injected process solutions could be maintained

6.3 Past Exploration and Development – *Cont'd*

and documented, and that the ISCR method was the preferred method for the property. After the completion of the BHP field test, the project was idled due to a period of low metal prices.

In 2010 Curis completed the acquisition of the current Florence Copper land holdings. A drilling program consisting of six diamond drill holes was conducted in two representative areas of the deposit in 2011. This drilling was used to confirm previous historic drilling results and provide representative samples for metallurgical test work. All but one of the holes drilled on this program had an additional core sample drilled as a wedge from the original hole.

6.4 Historical Mineral Resource and Reserve Estimates

The following section includes historic estimates of mineral reserves and resources provided as background information only. The source of information for the historic resource estimates is noted with each estimate. See Section 14 for estimates of the current mineral resources.

The Curis Resources 2013 Pre-Feasibility Study estimated NI 43-101 compliant resources and reserves for the FCP at a cutoff grade of 0.05% TCu. Details of these estimates are presented in Table 6-1 and Table 6-2. The estimates were supported by the technical report titled "NI 43-101 Technical Report Pre-Feasibility Study, Florence, Pinal County, Arizona" effective March 28, 2013, issued on April 4, 2013 and filed on www.sedar.com.

Table 6-1: 2013 Historical Estimate of Oxide Mineral Resources at 0.05% TCu Cutoff

Class	Tons (000,000's)	Grade	lb Cu (000,000's)
Measured	296	0.35	2,094
Indicated	134	0.28	745
M+I	429	0.33	2,839
Inferred	63	0.24	295

Table 6-2: 2013 Historical Probable Reserve Estimate at 0.05% TCu Cutoff

Class	Tons (000,000's)	Grade	lb Cu (000,000's)
Probable	340	0.36	2,435

6.5 Historical Production

There has been no historical commercial scale production of copper from the Florence Copper site.

SECTION 7

GEOLOGICAL SETTING AND MINERALIZATION

SECTION 7: GEOLOGICAL SETTING AND MINERALIZATION

Table of Contents

List of Tables

List of Figures

7.1 Geological Setting and Mineralization

The regional, local, and property geology and mineralization are described in this section. Additional historical data can be found in the technical report titled “NI 43-101 Technical Report Pre-Feasibility Study, Florence, Pinal County, Arizona”, effective March 28, 2013, issued on April 4, 2013 and filed on www.sedar.com.

7.2 Regional Geology

The Mazatzal Orogeny, a compressional deformation event that occurred about 1.7 billion years ago in central to southeast Arizona, accreted three tectonic assemblages to the North American craton forming the early Precambrian crust. One of the tectonic assemblages was the Pinal Schist, which forms the basement rock in the region surrounding the Project area.

Following the Mazatzal Orogeny, the Oracle Granite batholith intruded the Pinal Schist and is locally represented by quartz monzonite porphyry, the main host for mineralization at the FCP area. Subsequently the Grand Canyon Disturbance resulted in uplifting and tilting of the crust, with extensive intrusion of diabase sills and dikes in the Oracle Granite and Pinal Schist.

As a result of regional stresses that occurred through the late Precambrian and early Paleozoic time, east-northeast trending structural lineaments formed in the western continental crust including the Ray Lineament, which trends north 70 degrees east and extends approximately 50 miles from the Sacaton Mountains to the Pinal Mountains. The Ray Lineament trends through the FCP area and is parallel to the Pinal Schist-Oracle Granite contact. After the initial formation of the Ray Lineament and related discontinuities, a long period of erosion produced a peneplain landscape.

Significant orogenic activity did not re-occur in Arizona until the latter part of the Cretaceous Period. The Laramide Orogeny occurred during Late Cretaceous through Early Tertiary time, and involved regional-scale thrust faulting and folding in southern Arizona. Reactivation of normal faults produced large northeast-trending vertical block uplifts associated with the emplacement of scattered plutons in western and southern Arizona. Intrusions, principally of granodiorite porphyry and quartz monzonite porphyry, occurred along the Ray Lineament and hydrothermal mineralization associated with these intrusions resulted in the formation of porphyry copper deposits. The Florence copper deposit was formed in this fashion as the Precambrian Oracle Granite was intruded and mineralized in association with the emplacement of Tertiary granodiorite porphyry. Following the formation of the Florence deposit, un-mineralized dikes consisting of latite, dacite, andesite, quartz latite, and basalt intruded the Oracle Granite and the granodiorite.

7.2 Regional Geology – *Cont'd*

Continued Laramide activity produced faulting and uplift, resulting in the erosion of Paleozoic and Mesozoic sedimentary sequences and exposure of the Precambrian and Tertiary intrusive bodies. Oxidation and further erosion occurred on these surfaces, followed by the accumulation of coarse clastic sediments derived from the surrounding bedrock terrain. This depositional sequence ultimately produced a landscape of low relative relief with exposure of some Precambrian and Tertiary outcrops. Most copper mineralization in the area occurs within the quartz monzonite porphyry and granodiorite porphyry.

As the uplifted surface began to erode, a sedimentary sequence was deposited over the Precambrian units during the Oligocene through Early Miocene time. These deposits are composed of deeply weathered bedrock or grus-type deposits, as well as coarse, angular breccias or gravels. Sediments became finer grained as the topography matured. The basal breccia/conglomerate is commonly overlain by finer-grained silts and sands, and locally interbedded with lava flows or volcanic ash. Alluvial, fluvial, and lacustrine (both lake bed and playa) sediments accumulated during this time in southeast Arizona.

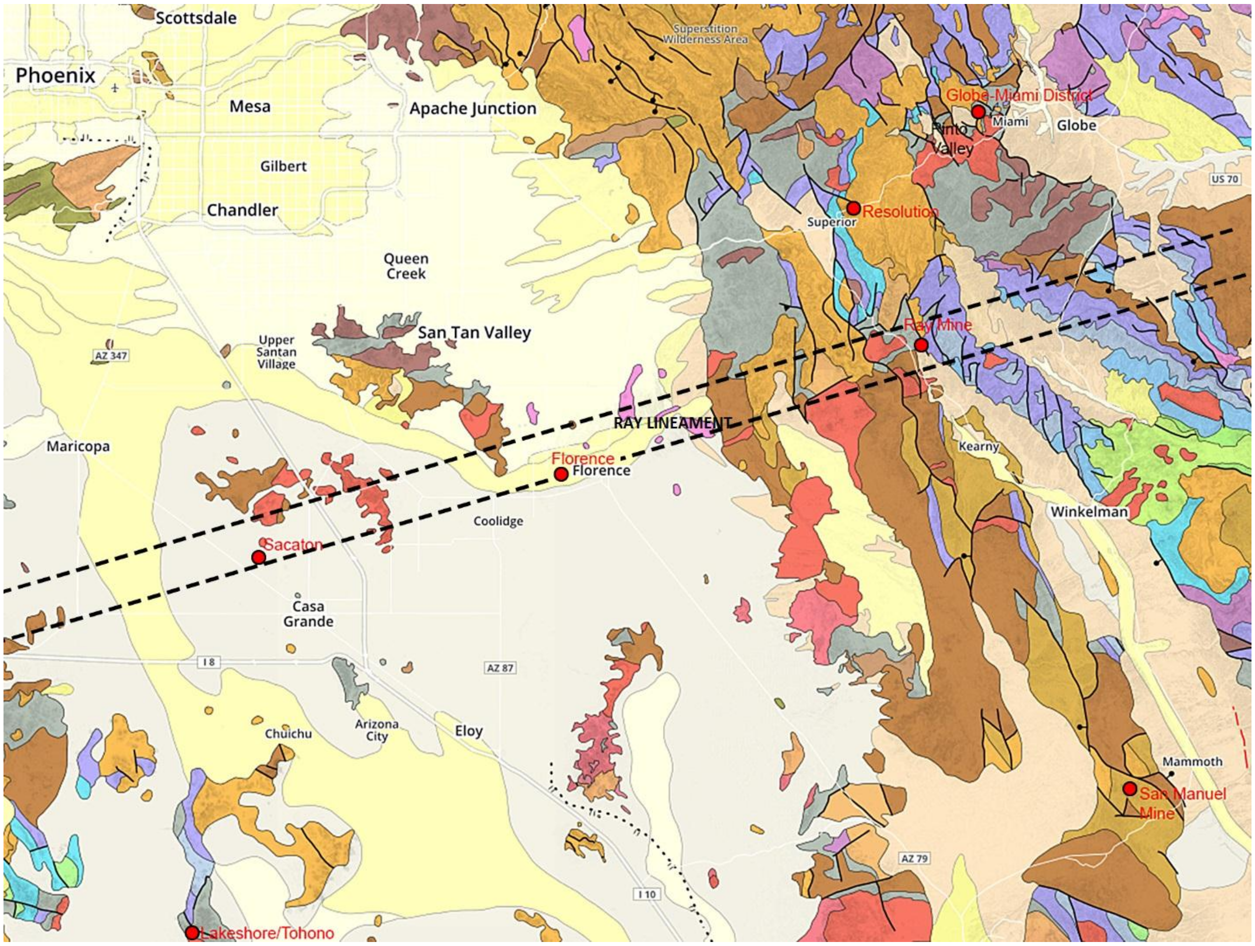
The last major orogenic event to affect the area was the Basin and Range Orogeny, an extensional event occurring from the early Miocene to the Pleistocene time. Basin and Range faulting and tilting in the FCP area resulted in north-northwest trending horst and graben structures bounded by normal faults with large displacements to the west. The Florence deposit occurs on a horst block that is bounded on the east and west by grabens. The Party Line fault, a major normal fault on the east side of the deposit, strikes north 35 degrees west and dips 45 to 55 degrees southwest. This fault has a vertical displacement of over 1,000 feet and near-parallel normal faults that strike north to northwest lie west of the Party Line fault.

The Sidewinder fault occurs near the west side of the Project area and has a displacement in excess of 1,200 feet. This fault represents a continuation of a complex of north-south trending normal faults to the east. The north-south fault system has downthrown the south end of the horst approximately 1,500 feet. Additional parallel, north to northwest trending normal faults east of the Sidewinder fault produce a graben east of the FCP area. The graben strikes north to northwest and extends for about 5 miles or more.

Post-Basin and Range basin-fill sediments were deposited over the bedrock surface. The sediments consist of unconsolidated to moderately well consolidated interbedded clay, silt, sand, and gravel in variable proportions and thicknesses. Basalt flows are interbedded on the west and northwest portions of the deposit area. Total thickness of basin-fill materials near the FCP area ranges from 300 to over 900 feet, and exceeds 2,000 feet at a distance of 1.5 miles southwest of the deposit area.

7.2 Regional Geology – *Cont'd*

A regional geology map is provided in Figure 7-1.



Ray Lineament (black dashed lines) and active and inactive porphyry copper mines and development projects (red) superimposed on The Geologic Map of Arizona, Arizona Geological Survey, 2000 available online.

Figure 7-1: Regional Geology Map

7.3 Local Geology

(a) Introduction

The Florence porphyry copper deposit formed when numerous Laramide-age dike swarms of granodiorite porphyry intruded Precambrian quartz monzonite near Poston Butte (see Figures 7-2, 7-3, and 7-4). The dike swarms were fed by a larger intrusive mass at depth. Hydrothermal solutions associated with the intrusive dikes altered the host rock and deposited copper and iron sulfide minerals in disseminations and thin veinlets. Hydrothermal alteration and copper mineralization were most intense along the edges and flanks of the dike swarms and intrusive mass.

The region was later faulted and much of the Florence deposit was isolated as a horst block. This horst block, as well as the downthrown fault blocks to the west, was exposed to weathering and erosion. The center of the deposit was eventually eroded to a gently undulating topographic surface while a deep basin formed to the west.

The weathering of the deposit resulted in copper sulfide minerals being oxidized and converted to chrysocolla, tenorite, chalcocite, and minor native copper and cuprite. A majority of the copper oxide mineralization is located along fracture surfaces, but chrysocolla and copper-bearing clay minerals also replace feldspar minerals internal in the granodiorite porphyry and quartz monzonite. A barren or very low-grade zone, dominated by iron and manganese oxides/silicates and clay minerals, caps some portions of the top of bedrock. The mineralization is typical of most Arizona porphyry copper deposits. The thickness of the oxide zone ranges from 100 to 1,000 feet, with an average thickness of 400 feet.

7.3 Local Geology – *Cont'd*

(a) Introduction – *Cont'd*

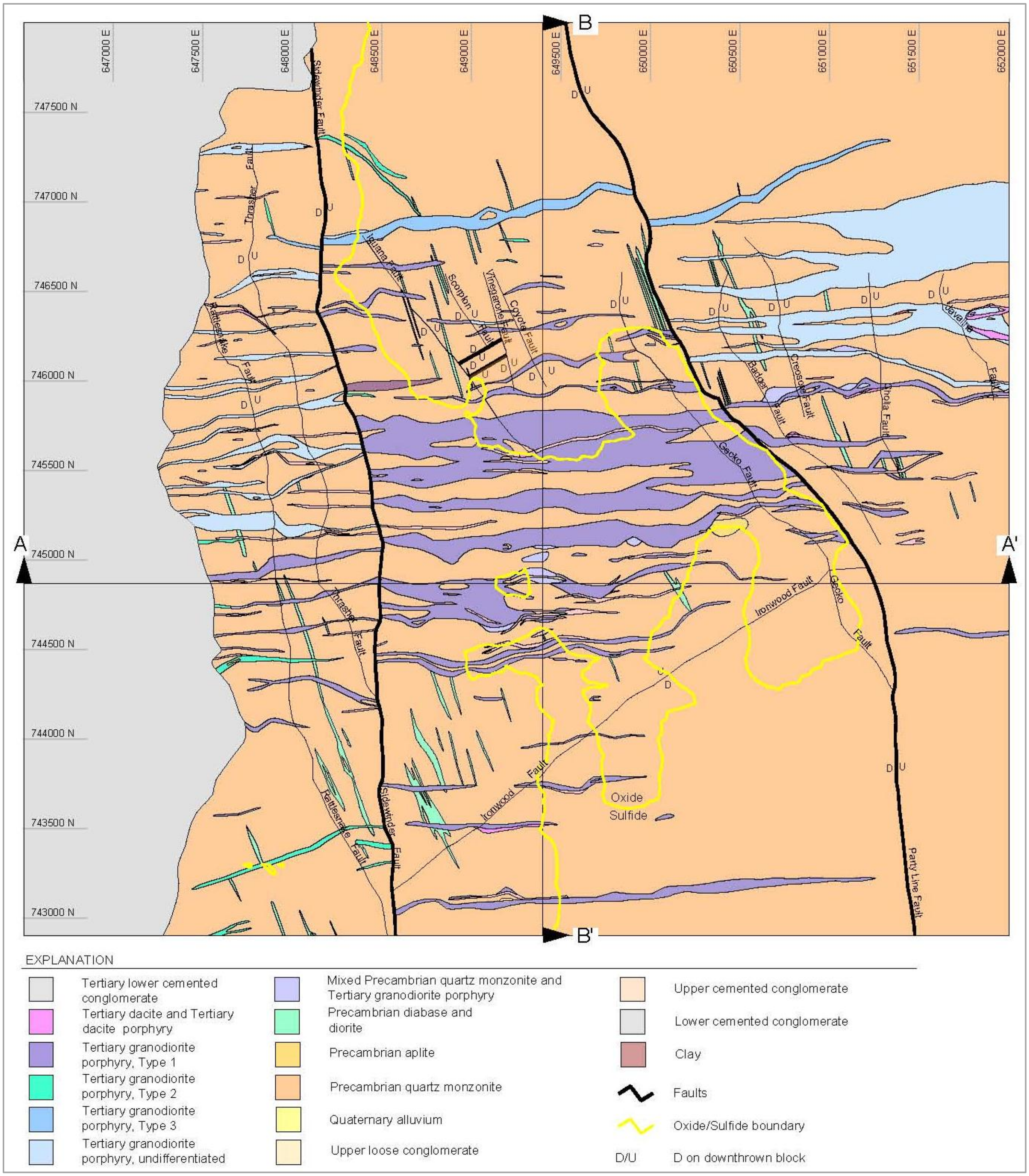


Figure 7-2: Geology Plan Map at 700 feet Above Mean Sea Level

7.3 Local Geology – *Cont'd*

(a) Introduction – *Cont'd*

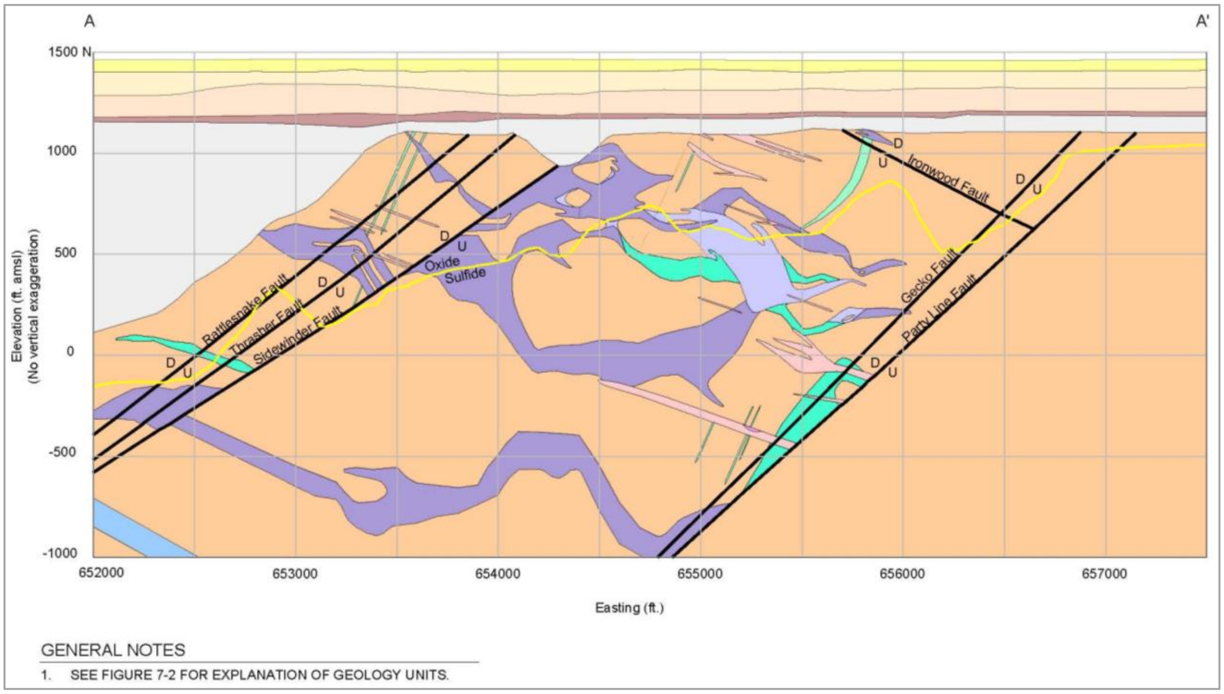


Figure 7-3: East-West Geology Cross Section at 744870N Looking North

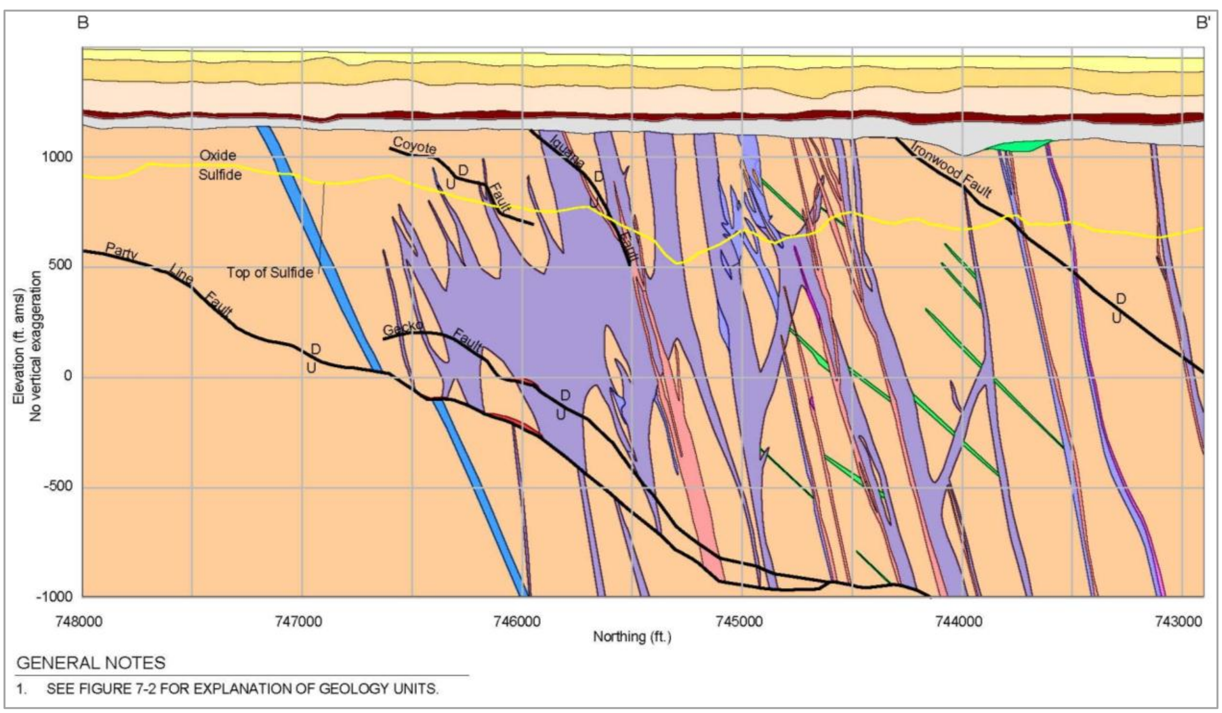


Figure 7-4: North-South Geology Cross Section at 649500E Looking East

7.3 Local Geology – *Cont'd*

(b) Structure

The oldest structural trend affecting the Florence deposit is the north 70 degrees east trending Ray Lineament (see lineament depicted in Figure 7-1). Laramide intrusions have been emplaced and elongated in an east-northeast direction at the intersections of conjugate fault sets that intersect the Ray Lineament. At Florence, the Type I and Type III granodiorite intrusions are both elongated in a northeast to east-northeast direction. Northwest-trending en echelon Precambrian diabase dikes suggest a conjugate structural direction.

The most evident structures in the Florence area are related to post-Laramide Basin and Range faulting. These post-mineralization faults are the Party Line and Sidewinder faults and associated sub-parallel faults (Figure 7-2 through Figure 7-4). The Party Line fault is a fault zone 50 to 100 feet wide striking north 34 degrees west, dipping -45 to -50 degrees west with a vertical displacement of 800 to 1,000 feet. The Party Line fault bounds the eastern portion of the deposit and has a strike length in excess of 3,600 feet. The Party Line fault is the main control of economically mineable copper oxide mineralization on the east side of the deposit; the footwall east of the fault is not economically mineable. Associated with the Party Line fault is a series of normal faults striking north to north-northwest that have displaced the deposit down to the west over 1,200 feet (Figure 7-2).

The Sidewinder fault, which also can be traced sub-surface for thousands of feet, bounds the western edge of the deposit. Displacement in the central deposit area reaches a maximum of 1,200 feet, displacement increases south of the deposit to a maximum of 1,500 feet. The offset along the associated fault zone is approximately 250 feet; the hanging wall has been intensely fractured. The Sidewinder fault formed a structural zone of weakness that facilitated the development of a north-northwest trending paleo-valley within the deposit that is as much as 200 feet deep and has been traced over a strike length of 2,500 feet. Several other north-northwest trending faults have been postulated between the Party Line and Sidewinder faults. At least two fault structures have been identified in the hanging wall of the Sidewinder fault, informally named the Thrasher and Rattlesnake faults. The faults are predominantly identified by the presence of milled, rotated breccia fragments; clay gouge is noted on many fault surfaces but is of much less abundant than is volume of the brecciated rock.

Statistical analysis of drill core indicates an average of 11 to 15 open fractures per foot in the fractured oxide zone underlying the unconsolidated material. The sulfide zone underlies the oxide zone and is significantly less permeable, with an average of 6 to 10 closed fractures per foot.

7.3 Local Geology – *Cont'd*

(c) Hydrogeology

An extensive summary of the hydrogeology of the regional and local surface water and groundwater systems was conducted by Brown and Caldwell to support operational and permitting activities. The major surface water feature in the area is the Gila River, located about 1/2 mile south of the project. Because of upstream diversions the Gila River is generally dry with the exception of flow caused by brief, intense seasonal rainfall. Two watershed drainages (East Drainage and West Drainage) transect the property and administration areas. These two arroyos discharge only ephemeral flow to the Gila River. Consequently, infiltration of river water into the upper basin-fill sediments is limited to periods of ephemeral flow.

The regional groundwater gradient is from the recharge zone along the Gila River flowing north-northwest to the Salt River Basin. Historically, regional groundwater withdrawals have been primarily related to agricultural uses and utilize the basin-fill formations. While land subsidence and associated land fissuring related to groundwater withdrawal has been measured in nearby farming communities, investigations performed from the 1970s to 1990s indicated negligible subsidence in the Florence area. No documented land fissures have been identified in the Florence area or project site.

The saturated formations in the project area are considered to be continuous and include bedrock and sedimentary formations. Locally, the saturated formations have been divided into water bearing hydrogeological units that correlate with the geologic units identified in the project area. Hydraulic properties, pump tests, and water quality data confirm that there is delayed vertical communication between the water bearing units.

7.3 Local Geology – *Cont'd*

(c) Hydrogeology – *Cont'd*

The approximately 400 feet of alluvial and unconsolidated basin-fill conglomerate material overlying the deposit has been locally and informally divided into five geological units that are shown in Figures 7-3 and 7-4 including:

- Quaternary Alluvium (unconsolidated gravel, sand, and silt);
- Upper Loose Conglomerate (unconsolidated matrix-supported conglomerate);
- Upper Cemented Conglomerate (unconsolidated but slightly indurated based on driller's log notes and decreased drill speed rates, matrix mildly cemented with calcite);
- Clay (fine silt to clay particles, low hydraulic conductivity); and
- Lower Cemented Conglomerate (semi-consolidated matrix-supported conglomerate, more indurated than upper cemented conglomerate, calcareous matrix.

The conglomerate units are Tertiary in age, similar to thick basin-fill formations noted in elsewhere in southern Arizona. The conglomerate units were delineated primarily on the degree of induration as noted in driller's logs with increasing depth and the changes in drilling rates observed from geolographs.

The Alluvium is a generally unsaturated unit 40- to 60-ft thick; brief seasonal stormwater flow may be noted in the alluvial sediments in local washes and arroyos. The Upper Loose Conglomerate layer is the principal source of groundwater in the area, primarily for irrigation purposes, and extends 60 to 80 feet below surface. The Upper Cemented Conglomerate is approximately 80 feet thick and is noted between 180 to 260 feet below surface. The Clay layer is approximately 20 to 40 feet thick and is consistently noted between 260 and 300 feet below surface; the bottom surface of the Clay layer is 50 to 125 feet above the top of bedrock over most of the deposit area. The Lower Cemented Conglomerate varies in thickness from 70 to 400 feet and consists of weakly to moderately cemented conglomerate.

7.3 Local Geology – *Cont'd*

(c) Hydrogeology – *Cont'd*

There is generally a one-to-one correspondence between the identified geological units and the hydrogeological units modelled for the Project, with the exception of the two Upper Conglomerate units which were combined into a single hydrogeological unit owing to their similar hydrologic properties. Table 7-1 shows the correlation of the five lithological units to the four hydrogeological units.

Table 7-1: Geologic and Hydrogeological Unit Correlation

Geological Unit	Hydrogeological Unit	Description
Quaternary alluvium	Alluvium	Recent, coarse-grained, highly permeable, unconsolidated sediments
Upper Loose Conglomerate	Upper Basin-Fill Unit	Laterally uniform, coarse-grained, permeable, unconsolidated, sediment, and matrix-supported conglomerate. The conglomerate matrix is more indurated with calcareous matrix cement at depth.
Upper Cemented Conglomerate		
Clay	Middle Fine-Grained Unit	Laterally extensive, fine-grained, calcareous silt/clay unit with very low permeability
Lower Cemented Conglomerate	Lower Basin-Fill Unit	Laterally extensive, coarse- to fine-grained, unconsolidated conglomerate with increasing induration and decreasing permeability with depth.

7.4 Mineralization

(a) Mineralized Zones

The mineralized zones consist of an iron-enriched leached cap, an oxide zone, and an underlying sulfide zone. In most instances, the transition from the copper silicates and oxides to the sulfide zone is quite abrupt. A majority of the copper oxide mineralization is located along fracture surfaces, but chrysocolla and copper-bearing clay minerals also replace feldspar minerals in the granodiorite porphyry and quartz monzonite. A barren or very low-grade zone, dominated by iron oxide and clay minerals, caps some portions of the top of bedrock especially in the western area. The mineralization on the eastern periphery of the deposit is typical of most Arizona porphyry copper deposits. The thickness of the oxide zone ranges from 40 feet to 1,000 feet, and has an average thickness of 400 feet. The top of the oxide zone begins below 400-425 feet of alluvial and basin-fill material. The lateral extent of mineralization in plan is approximately 3,500 feet across in an east-west direction and from 1,500 feet to over 3,000 feet across in a north-south direction.

(b) Type, Character and Distribution of Mineralization

The main type of mineralization is oxide with underlying sulfide separated by a transition oxidation zone. The underlying sulfide zone, because of its depth, low permeability, and relatively non-soluble mineralogy, is not favorable to develop by ISCR methods.

Mineralization in the oxide zone consists of chrysocolla, "copper wad," tenorite, cuprite, native copper, and trace azurite, and brochantite (see Figure 7-5). The majority of the copper occurs as chrysocolla in veins and fracture fillings, while the remainder occurs as copper-bearing clays in fracture fillings and former plagioclase sites. The fracture-controlled mineralogy within the Florence deposit indicates that copper is not adsorbed onto the clay surfaces, but rather the copper resides in the octahedral site of the clays. The "copper wad" appears to be an amorphous mix of manganese, iron, and copper oxides that occurs as dendrites, spots, and irregular coatings on fracture surfaces. Cuprite occurs locally smeared out along goethite/hematite-coated fracture surfaces; the chalcotrichite variety of cuprite is also present on fractures or vugs, sometimes intergrown with native copper crystals.

The main hypogene sulfide minerals are chalcopyrite, pyrite, and molybdenite with minor chalcocite and covellite. Supergene chalcocite coats pyrite and chalcocite and dusts fracture surfaces. The supergene chalcocite blanket is very thin and irregular (zero to 50 feet). In most instances, the transition from the copper silicates and oxides to the sulfide zone is quite abrupt.

7.4 Mineralization – *Cont'd*

(b) Type, Character and Distribution of Mineralization – *Cont'd*

In general, the grade of oxide mineralization is very similar to that of the primary sulfide mineralization. The overall grade of the oxide and sulfide mineralization is approximately 0.36% TCu and 0.27% TCu, respectively.

Figure 7-5: Florence Copper Typical Drill Core

(c) Alteration

Hydrothermal alteration accompanied the intrusion and cooling of the Tertiary granodiorite porphyry stocks and dikes into the Precambrian quartz monzonite. Alteration in the granodiorite porphyry is primarily veinlet-controlled, whereas alteration in the quartz monzonite encompasses all three styles; pervasive, selectively pervasive, and veinlet-controlled. Potassic alteration (quartz-orthoclase-biotite-sericite) is the dominant alteration assemblage. Salmon-colored, secondary orthoclase replaces primary orthoclase phenocrysts, rims quartz ± biotite veins, and occurs as pervasive orthoclase flooding. Shreddy, secondary brown biotite replaces plagioclase and matrix feldspars, and occurs in biotite-sulfide veinlets.

7.4 Mineralization – *Cont'd*

(c) Alteration – *Cont'd*

A sericitic (quartz-sericite-pyrite) alteration zone surrounds the potassic zone and is especially evident in the deep portions of the sulfide mineralization. Fine-grained sericite selectively replaces plagioclase, orthoclase, and biotite, and forms thin alteration selvages along quartz ±sulfide veins. Propylitic (calcite-chlorite-epidote) alteration is visible in mafic dike rocks and is reported in exploration holes fringing the deposit.

The most noticeable feature in the oxide mineralized material zone is a late-stage argillic alteration assemblage consisting of montmorillonite - kaolinite ± illite ± halloysite. The conversion of sericite to clay minerals in plagioclase phenocrysts and along fracture surfaces is selectively pervasive. X-ray diffraction analyses indicated the clay is primarily a mixture of calcium-montmorillonite and kaolinite. These clay-altered plagioclase sites were favorable loci for remobilized copper generated from natural in-situ leaching.

SECTION 8

DEPOSIT TYPES

8.1 Deposit Types

The mineral deposit type at the Florence Copper site is an extensive, Laramide type of porphyry copper deposit consisting of a large core of copper sulfide mineralization underlying a zone of copper oxide mineralization. The central portion of the deposit is overlain by approximately 400 feet of flat-lying conglomerate and alluvial material that contains a fine-grained silt and clay interbed (see Figure 7-3). The oxide and sulfide zones are separated from one another by a transition zone ranging on average from 0 to 55 feet in thickness. The depth and grade of the sulfide zone renders it currently uneconomic to mine by conventional mining methods. The impermeability and mineralization of the sulfide zone renders it uneconomic for ISCR methods.

Approximately 71% of the oxide mineralization is hosted by a Precambrian quartz monzonite and 26% by Tertiary granodiorite porphyry. The remaining igneous rocks associated with the deposit are Precambrian diabase and Tertiary andesite, latite, dacite, basalt, and aplite. The deposit occurs in a structural horst block, which is bounded on the east and west by grabens and is controlled by normal faults trending north to northwest.

The deposit type is a typical southwestern U.S. porphyry copper deposit. The United States Geological Survey classification of the porphyry copper mineralization at the Florence deposit is model 21a (porphyry Cu-Mo). This model type is described as stockwork veinlets of quartz, chalcopyrite, and molybdenite in or near a porphyritic intrusion with rock types of porphyritic tonalite to monzogranite stocks and breccia pipes intrusive into batholithic, volcanic or sedimentary rocks. The typical mineralogy consists of chalcopyrite, pyrite, and molybdenite, with peripheral vein or replacement deposits with chalcopyrite, sphalerite, galena, and gold, with outermost zone of veins of Cu-Ag-Sb-sulfides, barite, and gold. Typical alteration consists of quartz, K-feldspar, biotite, chlorite, and anhydrite (potassic alteration) grading outward to propylitic alteration. Late white mica and clay (phyllic) alteration may form capping or outer zones or may affect the entire deposit.

SECTION 9

EXPLORATION

SECTION 9: EXPLORATION

Table of Contents

9.1 Exploration

The previous owners of Florence Copper performed substantial exploration work including drilling (exploration, assessment, condemnation, geotechnical, and environmental), underground mine development, geophysical surveys, and mineralogy studies. The most recent drilling was a rotary-core drilling program conducted during 2011 to confirm resources and to acquire metallurgical test samples. The data generated by the previous operators for exploration, site characterization, resource estimation, and environmental permitting has been reviewed by the Florence Copper technical staff and consultants.

A summary of the historical exploration activities and drilling campaigns is provided in Sections 6 and 10, respectively. Conoco, Magma, and BHP conducted multiple geological, geochemical, hydrogeological, and geophysical investigations and surveys to characterize the deposit. The historic data are available including drill logs, sample rejects/pulps, assay sheets, cross sections, core photographs, downhole survey discs and plotted deviation maps, underground geology map, aerial photographs, hydrological pump test data, metallurgical reports, project correspondence, and other data. Geologic logs record the type of drilling (diamond drill, reverse circulation, rotary), collar surveys and/or drill collar coordinates, rock types, mineralization, alteration, and structure. Data related to the 2011 Florence Copper drilling program is archived in hard copy and digital format. More recent work relevant to a potential ISCR operation is summarized below.

9.2 Surveys and Investigations

Seventy-five thousand drill-core intervals and reverse circulation chip samples have been assayed for total copper (TCu) on the FCP project to date. Twenty-nine thousand of these assays are in the oxide zone.

Detailed mineralogy and petrography reports are available on numerous drill core samples. Structural logs recording the fracturing, faulting, and jointing information have also been prepared. The fracture controlled mineralogy of the site has been investigated in detail using X-ray diffraction, scanning electron microscope, and fracture mineralogy logging of 15 core holes.

Fracture mineralogy studies were undertaken because, for ISCR, it is critical to identify the mineralized material and gangue minerals present on the fracture surfaces in order to model and predict the chemical reactions that will occur as the process solutions travel through the fractures in the rock mass. Over thirteen thousand fractures were examined in the study. The study found that oxide iron minerals (limonite, goethite, and/or hematite) occur in over 90 percent of the fractures while copper silicate and oxide minerals (chrysocolla and/or tenorite) occur in approximately 30% of the fractures.

9.2 Surveys and Investigations – *Cont'd*

Mineralogy also indicated that the system contains copper-bearing smectite clays, which are most probably calcium and/or magnesium montmorillonite.

In addition to the fracture mineralogy studies, other specialized investigations undertaken at the FCP site consist of regional geophysical surveys; borehole geophysical and geotechnical logging to aid in mapping the subsurface geology; and downhole mapping with an acoustic borehole televiewer (BHTV). Borehole geophysics (sonic, gamma-neutron, electrical conductivity) were conducted on all BHP drill holes and a selection of Magma drill holes. Acoustic BHTV logs were conducted on selected BHP drill holes, primarily on the west side of the deposit. The acoustic BHTV was used to identify actual orientations of subsurface fractures and faults by surveying the undisturbed borehole wall.

Geophysical log data collected in diamond drill holes were correlated to geological data in the same holes. The gamma and neutron logs were found to provide the most valuable downhole information at the FCP site. The information and conclusions from this work were then applied to the rotary drilled BHP injection and recovery wells to gather as much geological information as possible from this drilling.

Geotechnical logging was used to collect data on the fracture intensity through the FCP deposit. The geotechnical works included marking detailed core footages; measuring core recovery and core losses and calculating Rock Quality Designations based on that information; and characterizing rock fracturing and mechanical integrity.

9.3 Interpretation

The author, Florence Copper technical staff and consultants have relied on personal inspection of the core, reports, and site records as well as interpretations made by previous operators and various consulting companies related to:

- Regional and local geology, hydrogeology, and structure;
- Deposit-scale geology, hydrogeology, structure, and mineralogy;
- Distribution of mineralization;
- Water level and water quality conditions; and
- Numerical groundwater flow modeling and hydrochemical modeling prepared to support environmental permit applications.

The author is of the opinion that the mineral exploration on the property was conducted in a professional manner and that the interpretations derived from this work are suitable to support the conclusions reached in this report. Furthermore, the site characterization test work and modeling (geological, groundwater, metallurgical, geochemical) was performed to industry standard methods and are suitable for resource estimation and production planning purposes, as well as for submission in support of environmental permit applications to the regulatory agencies.

SECTION 10

DRILLING

SECTION 10: DRILLING

Table of Contents

List of Tables

List of Figures

10.1 Drilling

Drilling has been conducted on the Florence Copper property by four companies over the period from 1970 to 2011. The drilling on the Florence Copper site has been undertaken by means of core drilling, RC rotary drilling, and conventional rotary drilling. The historical drilling results and data entry have been verified by each company in succession.

Conoco developed a detailed geologic core logging protocol for the site in the early to mid-1970s. With slight modifications, Magma, BHP, and Florence Copper geologists continued to use this method to maintain compatibility with the geologic data produced by Conoco.

10.2 Type and Extent of Drilling

(a) Introduction

Drilling has been completed at and near the Florence Copper by the four previous mining company owners as tabulated in Table 10-1. Downhole drilling surveys were completed by all owners at approximately 100-foot increments. Data entry was completed by both in-house staff and consultants. Each subsequent owner has cross-checked and corrected the data entry of the preceding company as needed.

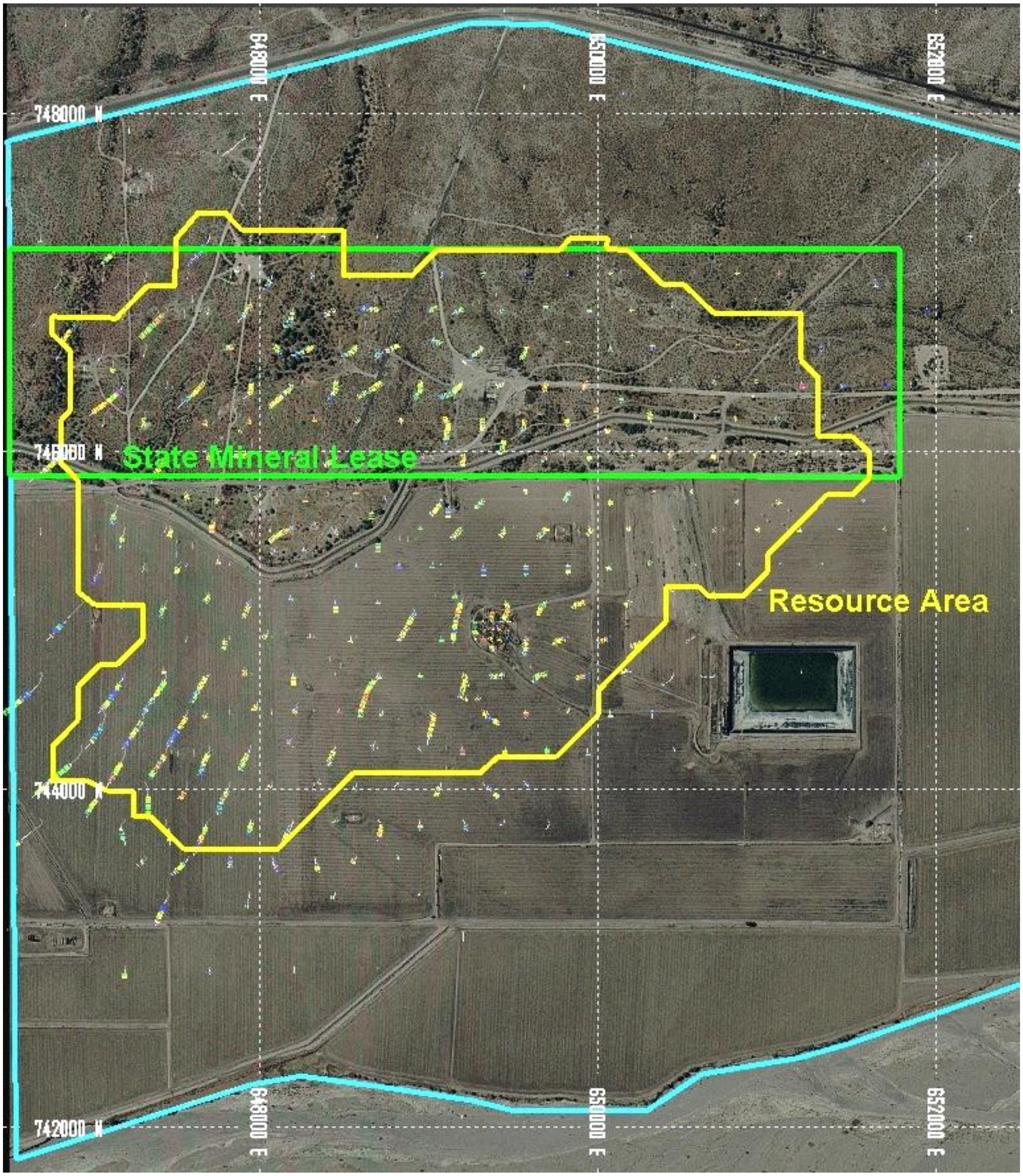
A perspective view of the drill collars and downhole drill traces within the project land boundary is shown in Figure 10-1.

Table 10-1: Drilling Footage by Company

Company	# of Holes	Footage
Curis Resources (2011)	6	7,752
BHP Copper (1997)	21	16,638
Magma Copper Company (1994-1996)	172	146,891
Conoco (1970-1977)	612	620,483
Other	6	3,716
Total	817	795,480

10.2 Type and Extent of Drilling – *Cont'd*

(a) Introduction – *Cont'd*



Note: Perspective view looking due north at -85 degrees. Drill collars and downhole drill traces. Florence Copper land boundary (blue); Arizona state mineral trust land boundary (green).

Figure 10-1: Deposit Area with Property and Mineral Lease Boundaries and Drill Hole Traces

10.2 Type and Extent of Drilling – *Cont'd*

(b) Conoco (1970-1977)

Between 1970 and 1977 Conoco drilled 612 holes within the main deposit and peripheral areas. The holes were primarily drilled by a combination of rotary and diamond drill methods.

Rotary drilling was primarily used to pre-collar the hole through the basin-fill formations in advance of core drilling. It was also used for assessment and condemnation drilling on the state and federal land controlled by Conoco at the time. The vast majority of the Conoco diamond drill core was NX-diameter (2.2 in), although poor ground conditions necessitated a reduction to BX-diameter (1.6 in) core in some cases.

The Conoco exploration drilling program was initiated on a triangular grid pattern beginning with 1,000-foot spacing which was subsequently reduced to 500-foot spacing. Development drilling was performed on in-fill drill hole density of 250 feet.

(c) Magma Copper Company (1994-1996)

Magma drilled 42 holes in 1994 including 23 NX-diameter core holes for confirmation drilling, five HX-diameter (3 in) core holes for exploration, two 6-inch core holes for obtaining bulk metallurgical samples, and 12 rotary-drilled pump and observation wells for pumping tests.

Magma completed a resource definition drilling program from 1995 to 1997. Of the 44 core holes drilled during this period, two holes were 6-inch core, eight holes were HX-diameter core, one hole was a combination of 6-inch and HX core, and the remaining 33 holes were NX-diameter core.

In general, Magma's core holes were rotary drilled to approximately 50 to 100 feet above bedrock, cased to the bottom of the rotary portion, and cored using a split tube in order to maintain core integrity for rock quality designation (RQD) measurements. On the western side of the deposit, coring was sometimes started several hundred feet above the top of bedrock providing good evidence of the nature of the conglomerate-bedrock contact.

During Magma's tenure, drilling for groundwater and geotechnical characterization was completed to support environmental permitting and engineering activities. Thirty-one point-of-compliance (POC) groundwater monitoring wells were drilled by conventional mud rotary methods. Thirty-six aquifer test wells (pump and observation wells) were drilled by conventional mud rotary or reverse circulation methods. Geology was recorded for sample intervals from these holes, but the samples were not assayed. Seven holes were drilled for geotechnical characterization.

10.2 Type and Extent of Drilling – *Cont'd*

(d) BHP Copper (1997)

Twenty-one holes were drilled by BHP for the pilot field test including injection, recovery, chemical monitoring, and groundwater monitoring wells. The drilling included two combination rotary/HX-diameter core holes, one rotary 6-inch/HX-diameter core hole, one rotary/NX-diameter core hole, 14 rotary/reverse circulation holes, and three rotary-only holes. Rotary drilling was completed through the top 40 feet of bedrock in the combination core or reverse circulation holes. The core and reverse circulation portions of the holes were assayed for %TCu and %ASCu.

(e) Curis Resources (2011)

Florence Copper completed a metallurgical drilling program in two representative areas of the deposit in 2011 that confirmed previous historic drilling results for these areas and provided representative samples for the metallurgical test work that is described in Section 13 of this report. Six diamond drill holes were drilled south of the BHP field test area and in the northwest portion of the deposit. The drill holes included five PQ-diameter (3.35 in inner diameter) core holes and six HQ-diameter (2.5 in) core holes. Five of the HQ holes were drilled as wedges from the PQ holes. The PQ holes provided whole core metallurgical samples with assays provided by the wedged HQ hole. An additional HQ hole was drilled in the former BHP field test area. In 2017, Florence Copper drilled and completed three point-of-compliance wells. Two wells are replacement wells for two failing 1996 wells and the third well was completed northwest of the newly permitted PTF wellfield area.

10.2 Type and Extent of Drilling – *Cont'd*

(f) Drilling Summary

A summary of the current drill hole data is presented in Table 10-2.

Table 10-2: Drilling and Assays in the Florence Database

	Total Database	Within Model Limits
Total Drill Holes	817	502
Drill holes with TCu assays	611	380
Total Drilling Footage (ft)	795,480	584,625
Total Assayed Footage (ft)	412,216	328,851
No. of Sample Intervals	88,459	71,761
No. of Intervals with TCu assays	75,438	61,531
No. of Basin-fill Intervals	10,552	10,124
No. of Basin-fill Intervals with TCu assays	3,010	2,886
No. of Oxide/Transition Zone Intervals	33,150	26,246
No. of Oxide/Transition Zone intervals with TCu assays	29,482	23,108
No. of Sulfide Zone Intervals	40,944	36,186
No. of Sulfide Zone intervals with TCu assays	40,377	35,892
Holes lacking TCu assays consist primarily of monitor, aquifer test, POC, and water supply wells, metallurgical, geotechnical drill holes.		

The relevant results of this drilling are presented in Sections 7 and 14 of this report.

The exploration and geotechnical holes drilled by Magma and BHP as well as the 2011 Florence Copper metallurgical holes were abandoned in compliance with, and according to the requirements of the Arizona Department of Water Resources (ADWR) Well Abandonment Procedure Arizona Revised Statues (A.R.S.) § R12-15-816.

The author is of the opinion that the historical drilling is sufficiently well documented that it forms a reliable drill hole database sufficient for resource estimation. Type of drilling, extent, and drill spacing density (approximately 250 feet) are adequate to represent the geology and mineralization.

SECTION 11

SAMPLE PREPARATION, ANALYSIS AND SECURITY

SECTION 11: SAMPLE PREPARATION, ANALYSIS AND SECURITY

Table of Contents

11.1 Sample Preparation, Analysis and Security

This section describes sample preparation, analyses, and security related to drilling samples. The analysis of water quality and other characterization samples is also discussed.

11.2 Sample Preparation Methods

(a) Introduction

The historical and current sample preparation methods are discussed below.

(b) Historical Samples

Sampling protocols were developed by previous owners to ensure consistency and remove or eliminate bias. Conventional rotary and/or reverse circulation drill cuttings were generally collected every 10 feet by Conoco, Magma, and BHP. A representative fraction of each sample was placed in a sieve, and observations were made on the chips before and after rinsing. A representative sample for each interval was placed in a waxed, cylindrical cardboard container ("Conoco") or plastic chip tray ("BHP") for future reference. Samples drilled by reverse circulation methods were sent for assays; rotary cuttings were assayed by Conoco but were used by BHP only for geological control. Total copper ("TCu") analyses from conventional rotary drilling are considered unreliable, and the assay results from previous operators on convention rotary drill samples have not been used for this report.

Core samples provide the most detailed information. BHP sample-handling protocols used during core handling are summarized here, but were built on similar protocols used by Conoco and Magma. The core was first wiped free of drilling mud and then photographed to preserve a record of the intact core. The core sample was next split according to the intervals listed on the sample sheets prepared by a geologist. The following method was used to saw and sample the core:

11.2 Sample Preparation Methods – *Cont'd*

(b) Historical Samples – *Cont'd*

- The core within each row of core box was divided visually into left and right halves running the length of the box.
- A dividing line was used as a guide to saw the core into halves. In the first row, the left half was put into an olefin sample bag for assaying and the right half was returned to the box. In the next row, the right half was selected for assaying and the left was returned to the box. The use of alternating left and right halves for the assay sample was intended to reduce one aspect of sampling error.
- Intensely broken material was taken from the core box row using a narrow, flat-edged scoop that was half the width of the core box row.
- Every 200 feet, both halves of the sample interval were collected for assaying. The duplicate samples were labeled "A" and "B" and were weighed prior to shipment. The difference in weight between samples "A" and "B" was typically no greater than 200 grams.
- At every 15 samples, a control sample was inserted into the set of samples shipped to Skyline Laboratories. The control samples were already prepared as pulp samples and weighed prior to shipment.

The coarse rejects were stored in 55-gallon drums adjacent to the core storage building, and the core boxes were stored on shelves in the core storage building. The core storage building was locked and regularly inspected. The core for the drilling continues to be stored in good condition; coarse rejects are no longer in usable condition.

(c) Curis Samples

Sample preparation protocols for the 2011 metallurgical and confirmation drilling program were similar to those used by previous operators but differed in that the core was treated differently depending on the core diameter and purpose. PQ core was collected for metallurgical tests and was not assayed; the companion HQ core was collected for analyses. The core was logged, photographed, and sampled by SRK geologists and technicians.

PQ-diameter core was taken in the 5-foot split tube core barrels from the drill rig to a nearby logging table where it was wiped free of drill mud and photographed. Owing to thick mud coating, it was later necessary to wrap the core in a flexible, fine-mesh non-metallic screen to allow more rigorous cleaning to free the entire core cylinder of mud residue. The handling procedures minimized mechanical breakage of the core thereby

11.2 Sample Preparation Methods – *Cont'd*

(c) Curis Samples – *Cont'd*

preserving samples with representative fracture densities for metallurgical testing. After geological and geotechnical logging, the PQ core was secured (still in the wrapped mesh) and placed within 4-inch drainage pipe that had been cut longitudinally. The pipe was secured with end caps, taped shut, and labeled with the footage intervals. The sample tubes were then stored in a secure, locked warehouse prior to shipping to metallurgical test facilities in Tucson, Arizona.

HQ core was boxed at the drill rig and taken to a secure, locked logging facility where the core was cleaned and photographed. After geological and geotechnical logging was completed, the geologist marked out the 5 foot sample intervals with aluminum sample tags and created a sample cut sheet for the sampling technician. The interval lengths were adjusted to match rock contacts as appropriate. Sampling was performed by the SRK technician in a locked warehouse building adjacent to the logging facility. Intact pieces of core were sawn along a center dividing line and one half of the core material was placed in the sample bag. Intensely broken material was sampled with the same flat-edged scoop technique used to sample broken core by Magma and BHP. The sample bags were marked with a sequential identification number, and sample tags with the same numbers were placed into the bags. Quality Control/Quality Assurance (QA/QC) samples including pulp standards and field blanks were inserted every 20th sample into the sample stream as described in Section 11.3. Following logging and sampling, the core was moved to final storage in a locked warehouse building adjacent to the Administration Building on site.

11.3 Sample Assaying Procedures

(a) Introduction

This section presents the sample analysis procedures for rock, water quality, and solution samples taken at the Florence Project since the 1970s by various companies.

(b) Conoco

Conoco logged the geology in the exploration drill holes (1,000-feet and 500-feet drill spacing) in 2.5-foot intervals and collected assay samples at 5-foot intervals. The later in-fill development drill holes (250-foot spacing) were logged in 5-foot intervals and assayed in 10-foot intervals. The core from the 500-foot spaced holes was photographed and sample pulps were prepared on-site. The 5-foot and 10-foot sample pulps were sent to outside assay laboratories for TCu content in percentages listed to two decimal places and with a method detection limit of 0.01% TCu. The primary outside laboratory used was American Analytical and Research Laboratories of Tucson, Arizona. Other outside laboratories used included Southwestern Assayers & Chemists, Jacobs Assay, and Hawley & Hawley Assayers & Chemists all of Tucson, Arizona. The remaining material in the pulp sample was composited into 50 foot samples and assayed for %TCu, %ASCu, molybdenum (ppm), silver (ppm), and sometimes gold (ppm) on early samples. Check assaying for %TCu was done by another outside assay laboratory. Reject samples of two size fractions were retained on the property for future reference and for metallurgical bench testing. Conoco pulps and rejects are stored in a dry condition in the core storage building on site.

When development drilling began, core samples were completely crushed for analysis on 10-foot intervals and were not retained for reference. Every tenth core interval was sampled twice with the second sample assayed by another laboratory to compare accuracy between the two laboratories. Conoco analyzed the core drilled in 1975 in its on-site laboratory at the pilot plant facility.

Physical records documenting the sample preparation and analytical protocols used by Conoco or its contract laboratories are not available. The assays by the primary contract laboratory, American Analytical and Research Laboratories, were performed under the supervision of Mr. Pete Soto Flores who was an Arizona-registered assayer (#6852) from 1968 through 1990. Signed (sealed) and dated laboratory receipts have been continuously filed on site in the geology log files. Although a record of the assaying procedures is not available, the QP assumes the analytical methods used for the %TCu and %ASCu assays were by well-known, standard methods.

11.3 Sample Assaying Procedures – *Cont'd*

(c) Magma and BHP

Magma/BHP utilized both its in-house laboratory at the nearby Magma/BHP San Manuel Operations and outside contracted laboratories to perform analyses of core and RC samples. The primary outside laboratory used was Skyline Assayers & Laboratories ("Skyline") in Tucson, Arizona. Other outside laboratories used included Bondar-Clegg & Company of Vancouver, British Columbia; Chemex Labs of Sparks, Nevada; and Rocky Mountain Geochemical Corporation of Salt Lake City, Utah. The San Manuel Metallurgical Laboratory and sample preparation facilities were designed to provide daily support to the mine, SX/EW plant, concentrator, smelter, electro-refinery, and rod plant operations including daily underground and open pit blasthole samples, process solution samples (raffinate, pregnant leach solution), and quality control analysis of copper and molybdenum sulfide concentrates, copper anodes, copper cathodes, and rod. The analyses were performed under the supervision of professional metallurgists and laboratory managers. The San Manuel Metallurgical Laboratory used standard, industry accepted methods for the preparation of sample rejects and pulps and the analysis of %TCu content by atomic absorption methods. The analyses are typically in percentages to two decimal places for both TCu and ASCu content.

Many variations exist on the method used to analyze acid soluble copper content at the copper operations in Arizona. The methods vary slightly from operation to operation even under the same company ownership; the key is to maintain internal consistency at each operation for relative comparison of the extent of oxidation in each material type within the same deposit. The various ASCu determination methods provide a relative indication of the percentage of copper that is released with short-duration exposure to dilute sulfuric acid under specified time, temperature, and acid-concentration conditions; the time (5 minutes to 2 hours), temperature, and concentrations vary by operation. When outside laboratories are used, the operation typically provides a copy of its method to the outside laboratory to ensure consistency of the method used.

The TCu analysis method used by Skyline is a standard industry method identical to that used by the San Manuel Metallurgical Laboratory. The "San Manuel Method" for the analysis of %ASCu content was consistently used by Magma, BHP, and the outside laboratories contracted by Magma/BHP in the Florence drill and metallurgical test samples. The Total Copper Method and "San Manuel Method" for ASCu analyses are shown below.

11.3 Sample Assaying Procedures – *Cont'd*

(c) Magma and BHP – *Cont'd*

- Total Copper Analysis in Rock Samples – Skyline Assayer & Laboratories
    - Accurately weigh 0.4000 to 0.4300 grams of the sample into a 200 milliliter (mL) flask. Weigh samples in batches of 20 samples plus 2 checks (duplicates) and 2 standards per rack. At end of job, weigh the tenth sample out of each rack plus 4 standards.
    - Add 10.0 mL hydrogen chloride (HCl), 3.0 mL nitric acid (HNO3) and 1.5 mL perchloric acid (HClO4) to each flask. Place on a medium hot plate (about 250 °C).
    - Digest until the only remaining acid present is HClO4. (Note: The volume of the liquid in the flask should be less than 1 ml.)
    - Remove from the hot plate and cool almost to room temperature. Add about 25 mL deionized (DI) water and 10.0 mL HCl. Boil gently for about 10 to 20 minutes.
    - Cool the flask and contents to room temperature, dilute to the mark (200 mL) with DI water, stopper and shake well to mix.
    - Read the solutions for Copper by Atomic Absorption using standards made up in 5% Hydrochloric acid.
    - Read the solutions for Molybdenum, Lead, Zinc and/or Iron on the ICP using standards made up in 5% hydrochloric acid.

11.3 Sample Assaying Procedures – *Cont'd*

(c) Magma and BHP – *Cont'd*

- Acid Soluble Copper Assay Method – San Manuel Metallurgical Laboratory
    - Weigh 0.500 grams of pulverized sample into a 50-mL Erlenmeyer flask.
    - Add 10 mL of 15% (V/V) sulfuric acid.
    - Place in a water bath held at 73 degrees Celsius for 5 minutes.
    - Remove the flask from the water bath and immediately filter through a 15-cm VWR No. 413 filter paper into a 100-ml volumetric flask. Wash 3 to 4 times with demineralized water.
    - Cool, dilute the contents of the flask to 100 mL. Stopper the flask and shake well to mix the contents. Place in the Instrument Room and allow the flasks to equilibrate to room temperature.
    - Read by Atomic Absorption using 10.0 micrograms/mL and 30.0 micrograms/mL copper calibration standards in 1.5% sulfuric acid.
    - Calculate the percent acid soluble copper by the formula:

      % ASCu = 0.02 * Cu (micrograms/mL).

The analyses by Skyline of drilling samples, metallurgical test materials, and process solutions were performed under the supervision of Arizona-registered assayers Bill Lehmbeck (#9425) and Jim Martin (#11122).

Analysis of groundwater quality from monitor wells and surface water samples collected by Magma/BHP or its environmental consultants was performed by outside laboratories including BC Analytical of Glendale, California; NEL Laboratories of Phoenix, Arizona and its successor company Del Mar Analytical of Phoenix, Arizona.

Analysis of metallurgical column test samples (column test heads/tails, feed solution, and effluent/pregnant leach solution) was performed primarily by outside laboratories. The records associated with the analyses performed by outside laboratories are filed in drill log files, attachments to various reports prepared by Magma or BHP. The amount of documentation varies by laboratory but generally provides the standard metallurgical test methods/protocols, information on sample preparation (weights, size fractions), sample analysis method, method detection limits, analysis units, internal laboratory QA/QC methods, laboratory qualifier comments, and chain-of-custody records.

11.3 Sample Assaying Procedures – *Cont'd*

(d) Curis Resources

Curis used Skyline for the confirmation assay analyses performed in 2011 and for the check-assay program previously performed by SRK in 2010. Skyline has provided analytical services to the copper mining industry for 70 years and was used to ensure consistency with prior analytical methods. Skyline has been accredited by the American Association for Laboratory Accreditation in accordance with the recognized International Standard ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories since December 2009. Skyline used their standard method for the analysis of TCu (and molybdenum, lead, zinc, and iron as applicable) in percent concentration to two decimal places for all analyses performed for Florence. Skyline used the "San Manuel method" in percent concentrations to two decimal places for all ASCu analyses performed for Florence Copper.

11.4 Quality Assurance and Quality Control Procedures

Magma engaged sampling specialist Dr. Francis Pitard of Broomfield, Colorado, to observe procedures and train staff in proper sampling techniques. The training covered sampling techniques for base metal deposits, identifying large- and small-scale variability in sampling procedures, identifying all of the possible sampling errors, and identifying the overall effect on resource estimation.

Magma created TCu control pulp standards at several grade ranges for the Florence deposit to identify and minimize analytical bias and errors. They performed a detailed evaluation of five assay laboratories and selected Skyline to analyze all samples collected during the Magma feasibility program. BHP subsequently followed the same analysis procedures using the site-specific standards prepared by Magma personnel.

Randomly selected control samples were added to each batch of drill core or RC chip samples that was shipped to Skyline. Every 15th assay sample was an assay control pulp sample that was used to check for analytical bias or variance. The assays from the pulp control samples were required to be within two standard deviations of the overall mean or the entire batch was re-assayed. No field or pulp blanks were created or used by Magma or BHP.

11.4 Quality Assurance and Quality Control Procedures – *Cont'd*

In 2011, SRK reconstituted sufficient materials from the pulp control standards securely stored on site to prepare 10 pulp samples for each of 7 grade ranges. These pulp standards, along with field blanks (concrete samples), were used as QA/QC samples during the metallurgical and confirmation drilling program. The pulp materials were reblended from bulk materials available on-site and were then repackaged into new pulp envelopes that were given distinctive labels. Control standards and field blanks were inserted into the sample stream on every 20th sample. A review of the 18 analyses for standards used during the program indicated that all but two of the results within one standard deviation of the mean value. All 21 results for the field blanks showed nil results for copper.

11.5 Factors Impacting Accuracy of Results

Total copper analyses are quantitative analyses performed using standardized methods that can be duplicated from laboratory to laboratory. Acid-soluble analytical results are an empirical measurement of soluble copper using various analytical methods performed under timed leaching conditions with variations in heat, time, and acid concentration. There are a number of methods to analyze the acid-soluble component of the total copper content of a rock sample. Varying results can be generated owing to slight differences in the analytical method. ASCu results are therefore viewed to be a relative measure of the minimum component of total copper that is acid-soluble under certain laboratory conditions and which do not necessarily reflect the actual amount of copper that is recoverable under leaching conditions. The important factor is to maintain consistency where possible in methods used on a particular site.

In the authors opinion, the historical and current sample preparation procedures, analyses performed, and the sample security in place for rock, groundwater quality, and process solution samples followed industry standard procedures, and are sufficient to support the project resource and reserve estimates.

SECTION 12

DATA VERIFICATION

SECTION 12: DATA VERIFICATION

Table of Contents

12.1 Data Verification

Data verification has been performed for the Florence Copper project data as described below. SRK Consultants ("SRK") was contracted to verify that the historical and recent drill core and pulps stored at the FCP site were generally dry and free of animal or moisture damage and were suitable for verification sampling. The technical professionals employed by SRK to conduct this work have personal familiarity with the data entry and database verification programs; sampling, data entry, and quality assurance/quality control protocols; as well as the reanalysis programs undertaken by both Magma and BHP.

12.2 Project

Quality Assurance and Quality Control (QA/QC) protocols for sampling and data entry procedures have been applied to the FCP as described below. The historic protocols primarily utilized deposit-specific pulp standards of known concentrations and the re-assay of a certain percentage of the pulps by a second laboratory. Magma and BHP also used field duplicates to assess the homogeneity of each half of the cored interval. Solution standards and solution blanks were incorporated into the analysis program during the BHP field test. Florence Copper used known standards and added field blanks in its drilling program. Data entry verification has been performed by manual checks, double data entry and comparison, and through use of verification formulas, routines in Excel and proprietary modeling software.

12.3 Check Assay Sample Preparation and Results

(a) Historical Check Assay Program

QA/QC procedures used by Conoco included inserting check samples to a secondary laboratory on 10% of its assayed samples. Conoco used four independent laboratories for total copper ("TCu") and acid soluble copper ("ASCu") analyses. These independent laboratories were used prior to the period where Conoco operated their own sample preparation and assay laboratory on site, and to provide outside check assays while the site laboratory operated.

QA/QC protocols used by Magma/BHP included inserting control samples into samples shipped to Skyline Assayers & Laboratory ("Skyline"). The control samples were prepared to represent seven TCu grade populations within the deposit. The control samples were inserted at a rate of one control for every 15 samples. The samples were weighed prior to shipment to Skyline and after analysis to verify that the laboratory removed material for analysis.

12.3 Check Assay Sample Preparation and Results – *Cont'd*

(a) Historical Check Assay Program – *Cont'd*

Magma re-assayed Conoco sample pulps and completed a program to replace Conoco's 50-foot composited ASCu assays with individual 5-foot and 10-foot composite assays. BHP re-assayed pulps from 28 Conoco holes within the proposed first production area. The TCu re-assays performed by Skyline during this program showed high statistical correlation to the Conoco assay results. The ASCu assays were not well correlated between the BHP and Conoco data sets due to the different assay composite intervals used.

(b) Florence Copper Check Assay Program

A verification sampling program was conducted by SRK for Florence Copper on the remaining splits from 32 core samples to confirm the historic copper analysis results. Continuous 5-foot and 10-foot samples representative of the major rock types, oxidation zones, and copper grades were selected from five drill holes within the main deposit area. A comparison of the results of the TCu assays on the original core interval and residual materials for the same sample interval indicate the average difference between the assays was statistically insignificant at less than 0.01% for TCu and 0.05% for ASCu assays. The program also found a good correlation between the original and re-assay data on the historic TCu assay pulp standards.

During the 2011 Florence Copper drilling program, SRK reconstituted and re-blended the historic TCu standard materials to prepare new standard samples at the seven grade ranges. One randomly chosen pulp standard and one field blank (broken, drilled out concrete core) was inserted for every 20 samples sent to Skyline. The laboratory analyses were reviewed and passed QA/QC protocol if the assays for the pulp standard fell within two standard deviations of the established standard mean value and the standard blank returned a null copper value. Skyline provided assay results in electronic format so manual re-entry of the data by Florence Copper or SRK was not required. Data entry of geology and geotechnical data was performed by SRK technicians who performed manual comparisons against hard copy logs and digital data entry reviews to ensure correct data entry.

12.4 Verification of Metallurgical Data

Data used in the preparation of the metallurgical prediction, recovery method and process operating cost was from a series of test programs conducted at the SGS Tucson (formerly Metcon) integrated test facility under the supervision of Florence Copper technical staff. The results of the metallurgical test work have been reviewed by the Florence Copper technical staff and the project metallurgical consultant.

SGS is an internationally recognized lab that uses industry standard equipment and methods which are suitably validated. Florence technical staff and the project metallurgical consultant visited the lab regularly through the performance of the testing and reviewed interim results, lab procedures and QA/QC during these visits.

12.5 Other Data Verification

Verification of ISCR well field, process design and cost estimates are discussed in the relevant sections of this Report. The data was concluded to be adequate to support the conclusions of this technical report.

12.6 Conclusion

The author has reviewed the data verification procedures and results. It is the opinion of the author that the Florence Copper data is verifiable and supports the mineral resource and mineral reserve statements presented in this report as defined under NI 43-101.

SECTION 13

MINERAL PROCESSING AND METALLURGICAL TESTING

SECTION 13: MINERAL PROCESSING AND METALLURGICAL TESTING

Table of Contents

List of Tables

List of Figures

13.1 Mineral Processing and Metallurgical Testing

(a) Introduction

The Florence Copper property has a long history of metallurgical testing which establishes the amenability of the site oxide copper mineralization to leaching. Recent metallurgical testing has focused on leaching whole core samples to predict in-situ copper recovery ("ISCR") performance. The historical and current metallurgical testing is discussed in the following sections.

(b) Metallurgical Testing History

Metallurgical testing on the Florence Copper deposit started in the early 1970s when Conoco established, through laboratory column testing, that approximately 70% of the copper in the oxide portion of the deposit could be extracted with dilute sulfuric acid. Tests were conducted for durations up to two hundred days and indicated that copper extraction was still ongoing when the tests were terminated. Conoco also constructed and operated an on-site pilot plant. Material for the pilot plant was sourced from a single level test underground mine in the area of the reserve defined in this report. The test mine produced 50,000 tons of mineralized material to feed the pilot plant operation. The pilot plant program on oxide material included operation of separate runs of both vat and agitated leaching integrated with solvent extraction and electrowinning of copper cathode.

Subsequent laboratory column testing was conducted by Magma and BHP in the 1990s covering a range of leach conditions and durations on a variety of samples. The shortcomings of column testing techniques for predicting performance of ISCR were recognized at the time and several methods were tested to adapt the column technique for this application. The test program ultimately resulted in the leaching of core pieces in saturated columns packed with silica sand to minimize void space. Three saturated column tests were conducted at the end of the program, but all of these tests were terminated early, while significant copper recovery was ongoing, due to the low grade solutions which were produced as a function of the apparatus used.

13.2 ISCR Metallurgical Testing

(a) Introduction

In 2011, Florence Copper embarked on a test program designed to test previous owners' predictions of ISCR performance and continue to develop improved test methods for ISCR. The essential elements of a test program for ISCR are to use whole core samples, minimize the effects of handing on the core, and establish test conditions in the laboratory which correspond to field conditions as closely as possible. This work also recognizes that the long term leach cycles in commercial ISCR applications are not practical for laboratory testing and that a scale up methodology needs to be developed to relate laboratory results to expected field results.

The Florence Copper ISCR leaching and rinsing program has evolved from box tests to individual pressurized tests and ultimately to series pressurized tests. The test work was conducted at SGS Mineral Services in Tucson, Arizona. Supporting analytical work was performed at SGS Mineral Services in Vancouver, British Columbia, and Lakefield, Ontario. Mineralogical work was performed at Colorado School of Mines and Montana Tech.

The PQ core samples used in the testing were sourced from five 2011 diamond drill holes. Drill holes CMP11-01, CMP11-02 and CMP11-03 are located in the southern portion of the deposit near the original BHP test well field while holes CMP11-05 and CMP11-06 are located in the northern portion of the deposit adjacent to the planned PTF well field. Selected drill core subsamples were submitted for mineralogical examination to the Colorado School of Mines QEMSCAN laboratory. The mineralogical analysis indicated that copper in the samples consisted predominantly of non-sulfide minerals including chrysocolla, Cu-bearing biotite, Cu-bearing iron oxides, and Cu-bearing chlorite consistent with the geological interpretation of the Oxide Unit.

In each of the test series that follow the drill core samples were selected to represent the range of key geological parameters found within the overall deposit including rock type, clay content, metallurgical zone, and fracture intensity.

13.2 ISCR Metallurgical Testing – *Cont'd*

(b) Box Leach Test Program

Box leach tests were performed from 2011 through 2013. These tests passed leach solution in locked cycle transversely through four pieces of whole PQ core in series at near atmospheric pressure to simulate leaching of undisturbed ore. The leaching was conducted in closed circuit with solvent extraction performed on the pregnant leach solution ("PLS") when the dissolved copper exceeded 1.8 g/L. The leach box design included measures to ensure that leach solutions did not bypass the core pieces, and used silica sand to fill the spaces between the core intervals to minimize apparatus pore volume. Core handling procedures were designed to minimize disturbance of the natural fractures in the core.

The technical report titled "NI 43-101 Technical Report Pre-Feasibility Study, Florence, Pinal County, Arizona", effective March 28, 2013, issued on April 4, 2013 and filed on www.sedar.com, presented the results of the first 22 box leach tests and the metallurgical recovery estimate made in the report was based on the results of eight of the box tests. The set of 22 box leach tests consisted of 16 tests to assess the optimum leach conditions and subsequent tests performed with the selected leach conditions. A summary of this work is presented below.

The initial 16 box tests used leach acid concentrations from 5 g/L to 20 g/L and resulted in copper extractions ranging from 33% to 89% with an average extraction of 61% and average acid consumption of 14 lb/lb copper. Inspection of the leached material from these tests showed that it consisted of granular to moderate sized particles and no signs of preferential solution pathways were observed. Copper extraction for the 8 boxes operated at 10 g/L acid strength averaged 70% copper extraction with an average acid consumption of 11 lb/lb copper. Based on these results, 10 g/L was selected as the optimum leach solution acid concentration and an additional 4 box tests were conducted using the optimum acid strength. Copper extraction for all 12 boxes operated at 10 g/L acid strength averaged 67% copper extraction with an average acid consumption of 11 lb/lb copper. No deleterious elements were detected in the PLS produced during the tests.

A summary of results from these tests is shown in Table 13-1.

13.2 ISCR Metallurgical Testing – *Cont'd*

(b) Box Leach Test Program – *Cont'd*

Table 13-1: Box Leach Tests #1 to #20

Box #	Feed Acid (g/L)	Leach Cycle (Days)	Calculated Head Assay (%Cu)	Acid Consumption (lb/lb Cu)	Copper Extraction (%)
1	5	152	0.46	9	47
2	10	152	1.00	7	89
3	10	152	0.58	10	81
4	20	152	0.49	41	35
5	5	152	1.22	3	45
6	10	152	0.32	16	72
7	10	154	0.52	18	60
8	20	154	0.74	15	77
9	5	186	0.77	4	64
10	10	134	0.55	9	64
11	10	186	0.87	9	84
12	20	176	0.48	29	48
13	5	176	0.33	20	33
14	10	134	0.47	5	48
15	10	228	0.38	19	68
16	20	227	0.28	19	67
17	10	157	0.44	10	63
18	10	157	0.25	12	51
19	10	157	0.36	8	70
20	10	157	0.44	7	58

A test consisting of four leach box tests operated in series was then conducted to investigate scale up effects on solution composition in this apparatus. The test design did not allow for a complete mass balance on each box sample due to solution sampling limitations. The test returned an overall recovery of 76% with an acid consumption of 9 lb/lb copper. Overall, the test demonstrated improved leach kinetics versus the individual box tests; however, the high porosity of the box leach apparatus did not allow the test to achieve the mature solutions which would be representative of typical commercial operations.

13.2 ISCR Metallurgical Testing – *Cont'd*

(b) Box Leach Test Program – *Cont'd*

The results of the series box leach test are presented in Table 13-2.

Table 13-2: Series Box Leach Test

Box #	Feed Acid (g/L)	Leach Cycle (Days)	Calculated Head Assay (%Cu)	Acid Consumption (lb/lb Cu)	Copper Extraction (%)
21	10	195	0.59	4	90
22	10	195	0.49	6	81
23 and 24	10	195	0.16	13	67
Total	10	195	0.35	9	76

The series box test resulted in a 76% copper extraction with acid consumption of 9 lb/lb copper for the four boxes.

The complete set of 16 boxes, 12 individual boxes and the 4 box series test, operated with 10 g/L acid strength averaged 70% copper extraction with acid consumption of 10 lb/lb copper. The box tests provide valuable copper recovery data, but did not produce representative solution grades due to the high porosity of the apparatus and short solution to ore contact intervals compared with in-situ conditions. In addition, leaching and rinsing conducted on these samples was not at formation pressures which impacted rinsing chemistry.

(c) PRT Test Development

In 2013, a pressurized rinse test ("PRT") apparatus was developed to determine the effect that the hydrostatic pressure in the ore body would have on rinsing performance. The apparatus consists of a stainless steel column in which leach solutions can be passed through a 2 foot long interval of whole PQ core at a pressure of 120 psi gauge. Fourteen initial rinsing tests were conducted on leach residues from the box leach test program to develop the apparatus and test procedures.

Rinsing effectiveness was evaluated based on the number of pore volumes ("PV") of rinse solution required to achieve the sulfate target of 750 ppm in the final rinse solution. The pore volume for a test was determined based on the initial saturation volume measured for each test.

Through the series of development tests the apparatus design and loading procedure were improved and the use of reagents in rinsing was evaluated.

13.2 ISCR Metallurgical Testing – *Cont'd*

(d) PRT Leach and Rinse Program

The PRT development work allowed the apparatus to be adapted to conduct combined leaching and rinsing tests to more closely match in-situ porosity and pressures as well as to increase the solution to ore contact. Eleven leach and rinse PRT tests were performed in 2013 and 2014.

Sample Origin

Details of the drill core characteristics of samples used for the eleven PRT leach and rinse tests are shown the Table 13-3.

Table 13-3: PRT Leach and Rinse Sample Origin and Classification

Test#	Hole Number	Sample Depth, ft	Clay %	Met Zone	Fracture per ft	Rock Type
1	CMP11-06	669-674	10 to 20	Fe ox(1)	Breccia(2)	Yqm(3)
2	CMP11-06	777-782	5 to 10	Mix ox(4)	11-15	Yqm
3	CMP11-06	865-870	10 to 20	Mix ox	6-10	Yqm
4	CMP11-05	685-690	<1	Mix ox	6-10	Yqm
5	CMP11-05	465-470	5 to 10	Mix ox	>15	Yqm/Tgdp
6	CMP11-06	766-771	1 to 2	Mix ox	>15	Yqm
7	CMP11-06	545-550	1 to 2	Mix ox	11-15	Yqm
8	CMP11-06	585-590	1 to 2	Mix ox	11-15	Yqm
9	CMP11-06	615-620	10 to 20	Mix ox	Breccia	Yqm
10	CMP11-05	665-670	<1	Mix ox	>15	Yqm/Tgdp
11	CMP11-06	751-755	<1	Mix ox	6-10	Tgdp(5)

Remarks:
(1) Fe ox = Iron oxides
(2) Breccia or fault gouge – shattered sample
(3) Yqm = Precambrian Quartz Monzonite AKA Quartz Monzonite Porphyry
(4) Mix ox = Mix of Copper and Iron Oxides
(5) Tgdp = Tertiary Granodiorite Porphyry

Test Results

All of the PRT leach testing was conducted in closed circuit with solvent extraction performed on the PLS when the dissolved copper exceeded 1.8 g/L.

The initial four PRT leach and rinse tests were conducted to evaluate the effects of formation pressure conditions on leaching and to gather additional rinsing data. The subsequent tests re-assessed the raffinate free acid concentration selected from the box leach program and tested staged rinsing procedures including attenuation of trace elements in the final stage of rinsing. The staged rinsing in these later tests consisted of an initial rinse with site water, followed by rinsing with 6 g/L sodium bicarbonate in site water and then site water with periodic additions of ferric iron.

The results of the PRT leach and rinse tests are shown in Table 13-4.

13.2 ISCR Metallurgical Testing – *Cont'd*

(d) PRT Leach and Rinse Program – *Cont'd*

Test Results – *Cont'd*

Table 13-4: PRT Leach and Rinse Results

Test #	Total Cycle (Days)	Feed Acid (g/L)	Calculated Head (% Cu)	Copper Extraction (%)	Acid Consumption (lb/lb Cu)	Rinse Volume (PV)	Final Rinse Solution (pH)
1	162	10	0.63	33	14	13	8
2	181	10	1.05	77	3	20	8
3	148	10	0.60	69	6	11	8
4	116	10	0.34	68	5	5	8
5	103	10	0.19	49	11	6	8
6	143	10	0.31	64	10	5	7
7	138	10	0.31	42	21	10	8
8	141	7.5	0.30	55	10	5	7
9	177	7.5	0.63	69	5	9	7
10	118	7.5	0.23	39	11	8	8
11	115	10	0.22	39	18	7	9

The copper extractions in the PRT leaching ranged from approximately 33% to 77% and acid consumption ranged from 3 to 21 lb/lb copper. On average over the entire set of samples tested, the copper extraction was 55% with acid consumption of 10 lb/lb copper. Note that laboratory leaching data requires analysis to predict the performance of the long term commercial leach cycle, see Section 13.4. No deleterious elements were detected in the PLS produced during the tests. The testing demonstrated that lower acid concentrations may have some economic benefit and should be evaluated further in the future.

Rinsing performance to reach sulfate and pH targets for all of the samples averaged 9 PV. The samples rinsed using the optimized three stage rinse averaged 7 PV.

13.2 ISCR Metallurgical Testing – *Cont'd*

(e) Series Leach Testing

A Series Leach Test ("SLT") was undertaken to provide leach scale-up data to test the modeled parameters from earlier testing and to inform the upcoming operation of the Production Test Facility ("PTF"). The key parameters being investigated in the test were acid consumption, PLS grade, copper recovery, and leach kinetics.

The SLT apparatus consists of seven individual PRT test apparatus connected in series. A photo of the apparatus is shown in Figure 13-1.

The SLT passed solutions through approximately 15 feet of whole core with a solution transit time of about 13 days. This represents approximately the mid-point of scale-up between a single PRT with a solution transit time of less than two days and the full scale well field with an estimated 30 days transit time.

Figure 13-1: Series Leach Test Apparatus

13.2 ISCR Metallurgical Testing – *Cont'd*

(e) Series Leach Testing – *Cont'd*

Samples

The two areas of the resource drilled in 2011 were represented in the SLT, although the samples tested were weighted more heavily towards samples from CMP11-05 and CMP11-06 to provide data to inform upcoming PTF operations. Details of the drill core characteristics of samples used for the SLT are shown in Table 13-5.

Table 13-5: SLT Sample Origin and Classification

Cell	Hole Number	Sample Depth, ft	Clay	Met Zone	Fracture per ft	Rock
1	CMP11-05	645-647	1 to 2	Mix ox(1)	>15	Yqm(4)
2	CMP11-05	648-650	1 to 2	Mix ox	>15	Yqm
3	CMP11-06	595-597	2 to 5	Mix ox	11-15	Yqm
4	CMP11-06	598-600	2 to 5	Mix ox	11-15	Yqm
5	CMP11-06	758-760	1 to 2	Mix ox	>15	Yqm
6	CMP11-02	651.5-653.5	2 to 5	Mix ox	Breccia(3)	Yqm
7	CMP11-02	662-664	1 to 2	Cu ox(2)	Breccia	Yqm

Remarks: (1) Mix ox = Mix of Copper and Iron Oxides
(2) Cu ox = Copper Oxides
(3) Breccia or fault gouge – shattered sample
(4) Yqm = Precambrian Quartz Monzonite AKA Quartz Monzonite Porphyry

SLT Leaching Results

The test used raffinate with an acid concentration of 10 g/L and was conducted in locked cycle with PLS processed by solvent extraction before recirculation. The base solution was sourced from previous tests to simulate as closely as possible the steady state leach chemistry.

Raffinate was injected into the test for 211 days until the PLS grade fell below 0.5 g/L. The copper extraction and acid consumption curves for the leach period are shown in Figure 13-2.

13.2 ISCR Metallurgical Testing – *Cont'd*

(e) Series Leach Testing – *Cont'd*

SLT Leaching Results – *Cont'd*

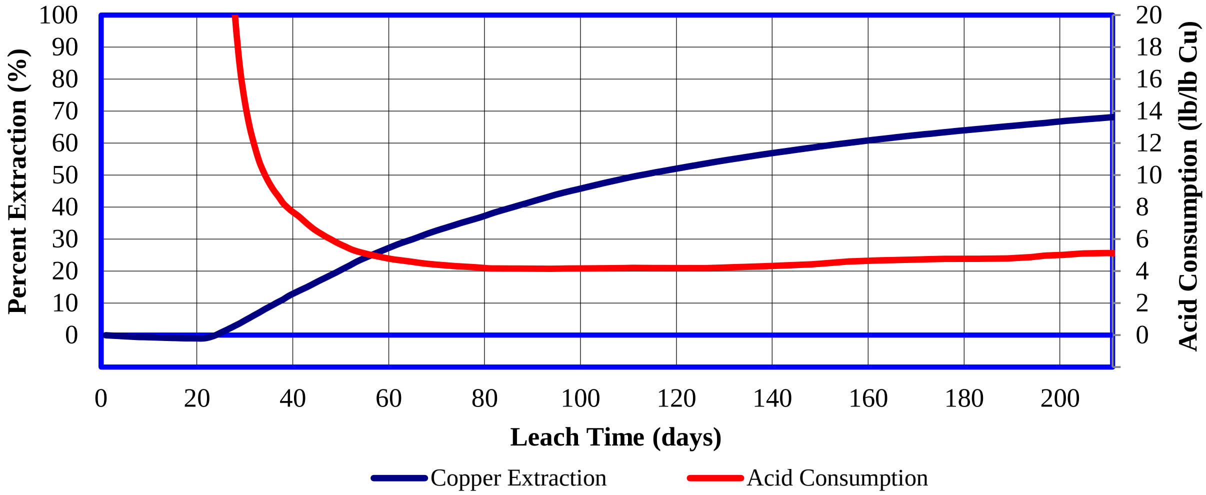


Figure 13-2: Overall SLT Extraction and Acid Consumption Graph

The rinse phase of the test began after leaching was ended. Rinsing was conducted at one half the leach flow rate. The leach solutions displaced for the first 36 days of the rinse were included in the metallurgical and acid balance until the solution grade fell below 0.2 g/L. The SLT design provides data that allows metallurgical balances to be completed for the combined first three cells, the combined final four cells, and the overall set of seven cells. The overall extraction and acid consumption results are shown in Table 13-6.

Table 13-6: SLT Leach Results

	Calculated Head (%Cu)	Acid Consumption (lb/lb Cu)	Extraction (%Cu)
Cells 1 to 3	0.90	4.4	73
Cells 4 to 7	0.44	5.8	65
Overall	0.64	4.9	70

13.2 ISCR Metallurgical Testing – *Cont'd*

(e) Series Leach Testing – *Cont'd*

SLT Leaching Results – *Cont'd*

Assay analysis of the leach residue found that the remaining oxide and silicate copper was randomly distributed in the individual samples. In aggregate for both the first three and the last four cells, 20 percent of copper remaining in the residues occurred as easily acid soluble species. This indicates that, as the leach is scaled-up, the leachable copper species continue to be recovered based on solution access to the mineral, and recovery is not impacted by scale-up effects such as changing acidity conditions over longer leach contact intervals. There was also no evidence of copper precipitation in the leach residues.

SLT Rinsing Results

Rinsing for the SLT was conducted in open circuit at one half of the leach flow rates. The rinsing was conducted using the three stage approach developed in the PRT program. Sulfate was used as the indicator species for rinsing performance and the target sulfate level of less than 750 ppm was achieved after a total of 268 days. The total volume of rinse solution required to meet this target was 9 apparatus pore volumes. The overall rinsing performance for sulfate and pH are shown graphically in Figure 13-3.

13.2 ISCR Metallurgical Testing – *Cont'd*

(e) Series Leach Testing – *Cont'd*

SLT Rinsing Results – *Cont'd*

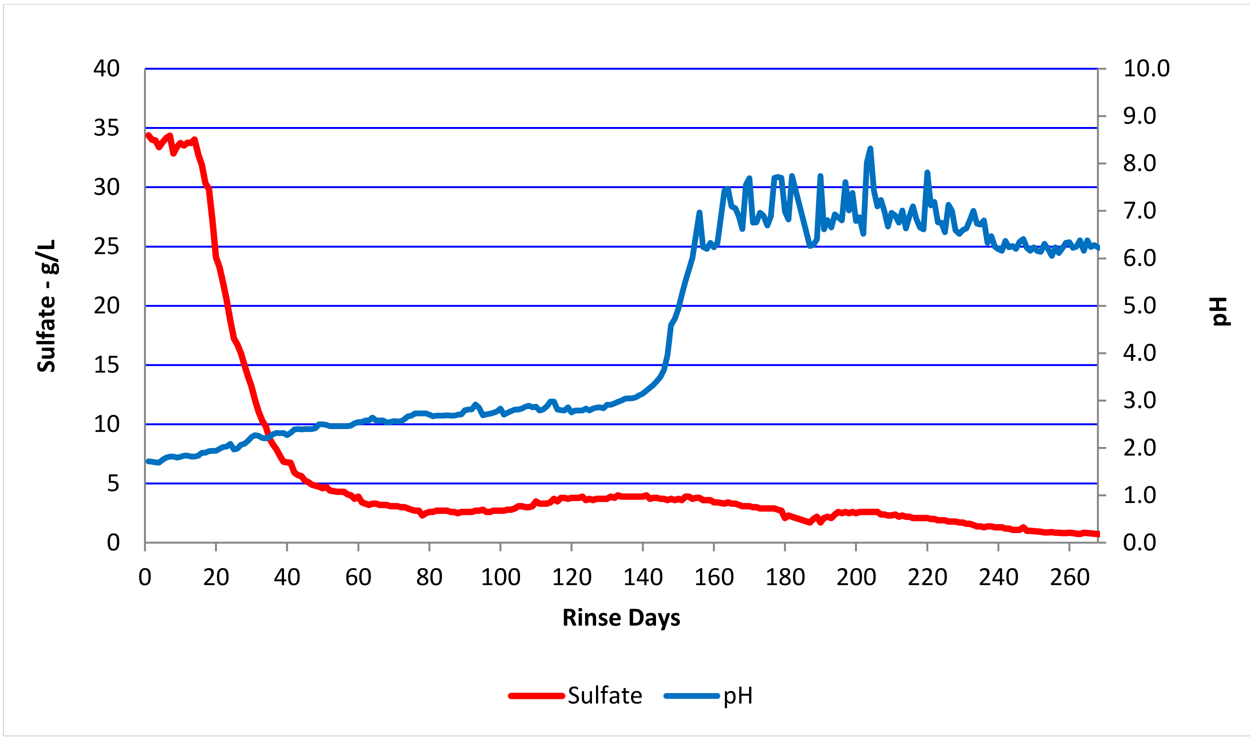


Figure 13-3: SLT Rinsing pH and Sulfate Graph

13.3 Previous Metallurgical Recommendations

The recommendations from the previous metallurgical work were considered in the design of the recent test work.

The recommendation to test surfactants was evaluated during rinsing tests and found to be ineffective. However, surfactants may have some benefit during the leach stage to increase leach solution penetration into coarser rock fragments. Future test work may explore this opportunity.

Testing of leaching under well field hydrostatic head conditions was recommended to evaluate the potential reduction in sulfuric acid consumption, which formed part of the motivation for the development of the PRT program. The test work found that laboratory acid consumption was reduced as leach solutions matured through recycling of raffinate from test to test and when longer formation contact times were used. No conclusive acid consumption reduction due to leaching at pressure was found.

Sodium bicarbonate was recommended to be tested as a reagent to improve rinsing performance. This was tested in the PRT program and found to reduce the required volume of rinse solution. The use of sodium bicarbonate is now part of the standard rinsing protocol for the Florence Copper metallurgical program and will be used in the PTF and commercial operations.

Use of pre-treatment compounds, specifically aluminum sulfate, to reduce copper ion exchange onto active sites on the surfaces of clay particles was recommended. This testing has not been conducted as further leach testing did not demonstrate significant copper loading onto clays in the ore body. It should also be noted that aluminum sulfate is naturally present in leach solutions.

A recommendation was made to establish the relationship between the core box results and the leaching results in the PTF. Establishing a correlation between the laboratory leach tests and the PTF results is still an important milestone for the project which will be undertaken as soon as results from the PTF are available.

13.4 Metallurgical Performance Estimation

Copper recovery estimates were made based on a combination of a leaching model, sweep efficiency and plant recovery.

The leaching model is based on the box leach, PRT, and SLT results conducted at the design 10 g/L raffinate acid strength. The laboratory leaching data were modeled to determine the total copper recoverable on a long term leach cycle and subject to established leach recovery modeling validation procedures. The validation step consists of reviewing the modeled terminal extractions using the first 80%, the first 90%, and 100% of the leaching days. Industry experience (Iasillo and Carneiro, 2001) has shown that, if the three projections agree within ±7%, the data are mature and acceptable for a valid projection of commercial performance. A total of twelve box leach tests, six individual PRT tests, and the SLT produced valid models and were used in the development of the recovery estimate.

The estimated sweep efficiency is based on numerical modelling using site hydrological parameters and the design injection and extraction well geometry. The sweep efficiency factor adjusts for the amount of mineralized material that would be contacted by solution over time. The sweep efficiency estimated for the Project is shown in Table 13-7.

Table 13-7: Sweep Efficiency

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sweep Efficiency	54%	75%	84%	88%	89%	90%

Plant recovery is a factor that accounts for the portion of copper contained in solution that would be recovered as cathode. This factor accounts for copper losses to solution control, SX/EW bleed streams and water treatment. The plant recovery factor applied in this study is 95%.

The overall copper recovery to cathode in a period is calculated by multiplying the copper extraction times the sweep efficiency times the plant recovery. The predicted copper recovery curve over time for the Florence Copper project is shown in Figure 13-4.

13.4 Metallurgical Performance Estimation – *Cont'd*

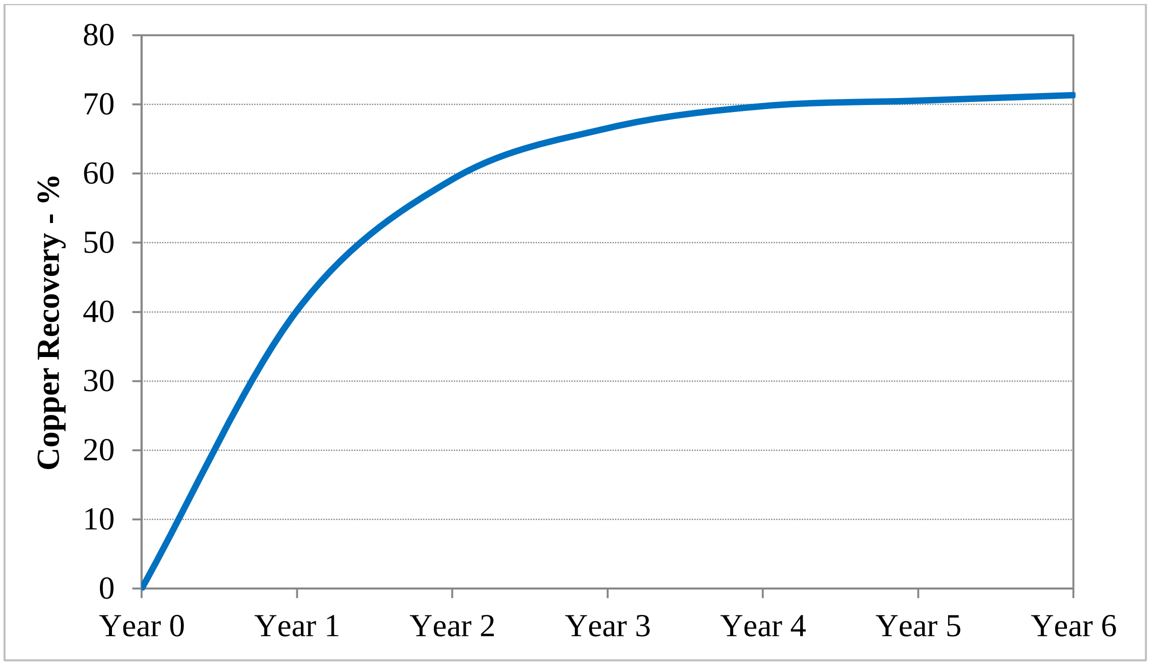


Figure 13-4: Copper Recovery versus Time

13.5 Metallurgical Conclusion

Copper recovery for the Florence Copper project is predicted to be 70% over a leach cycle of four years. The SLT results indicate that leach kinetics may improve as the leach is scaled-up.

The development of the ISCR leach test methodologies culminating in the SLT has allowed the laboratory to produce mature leach solutions that closely correspond to those predicted for the full scale operation. These mature solutions have also resulted in a significant reduction in laboratory acid consumption, matching the 5 lb/lb predicted for commercial operations.

The operation of the PTF will provide full scale field data which will be correlated with the leach recovery, leach cycle, and acid consumption predictions made from the laboratory testing and incorporated into the full production phase.

The rinse flow sheet developed from the laboratory test work includes multi-stage rinsing with water and sodium bicarbonate solutions to restore the aquifer water quality after copper recovery is concluded. The rinse volume required is predicted to be 8.5 pore volumes based on numerical modeling. The laboratory testing using the PRT apparatus and the three stage rinsing process has produced rinsing volumes ranging from 7 to 9 pore volumes, confirming the model result.

The nature of the test work conducted for prediction of ISCR performance used whole core point samples for areas through the deposit. As point samples were used for the test work, specific variability testing is not required.

SECTION 14

MINERAL RESOURCE ESTIMATES

SECTION 14: MINERAL RESOURCE ESTIMATES

Table of Contents

List of Tables

List of Figures

14.1 Mineral Resource Estimates

The mineral resource estimate is unchanged from that estimated by SRK and documented in in the technical report titled "NI 43101 Technical Report Pre-Feasibility Study, Florence, Pinal County, Arizona" by M3 Engineering & Technology Corporation, dated April 4, 2013, filed on www.sedar.com.

14.2 Drill Hole Database

The drill hole database used for the resource estimate included 502 drill holes within the model area. Of these drill holes, 445 holes were logged and 380 were assayed for total copper (TCu). These 445 drill holes represent 328,851 feet of sampled drilling, with 61,531 sampled intervals. The majority of the TCu assays (58%) are from the sulfide zone reflecting the thickness of this zone and the focus of previous exploration efforts. 37% of the TCu assays are within the oxide zone and a minor component (5%) were assayed in the basin-fill formations. Relative to the total number of assayed intervals, 48% have been assayed for acid soluble copper (ASCu) and 63% of the 29,969 ASCu assays are within the oxide zone. Within the oxide zone, 83% of the TCu assays have corresponding ASCu analyses as shown in Table 14-1. A number of drill holes were logged but were not assayed including monitoring and water production wells and some historic condemnation and assessment holes.

Table 14-1: Summary of Assayed Intervals in Model Area

Category	Number of TCu Assays	Footage Assayed for TCu	Number of ASCu Assays	Footage Assayed for ASCu
Basin-Fill	2,886	19,796	403	3,090
Oxide	22,765	128,797	18,935	109,077
Sulfide	36,880	180,257	10,631	54,561
Total	61,531	328,851	29,969	166,727

Three simplified metallurgical zones were defined within the model and capping of the copper grades was applied based on the metallurgical zone. The Sulfide category defines the Sulfide metallurgical zone and the Oxide category was divided into two metallurgical zones named the Copper Oxide zone and the Iron Rich Oxide zone. The Copper Oxide zone is comprised of mineralization which contains primarily copper oxide, mixed copper and iron oxides and transitional material with moderate or higher levels of copper oxides. The Iron Rich Oxide zone contains material with high iron oxide levels and transitional material with low copper oxide levels.

14.2 Drill Hole Database – *Cont'd*

Capping was applied to the metallurgical zones as follows:

- Copper Oxide: TCu was capped at 2.7%,
- Iron Rich Oxide: TCu was capped at 1.2%, and
- Sulfide: TCu was capped at 2.0%.

The capping levels are based on the break in populations in the probability plots shown in Section 14.5.

Any ASCu assay more than 95% of the corresponding TCu grade was capped at 95% of the total copper grade. Any missing ASCu grade was derived from the TCu values using the factors described in Section 14.5.

14.3 Geology

Wireframe grid surfaces were generated from geological cross sections for use in coding and sub-blocking the 3D block model. The most relevant surfaces represent topography, top of the oxide bedrock unit, bottom of the oxide unit, and top of the sulfide unit as shown in Figure 14-1. Other surfaces representing top of basin-fill conglomerate units and the inter-conglomerate clay layer were also created, but were inconsequential to the resource model.

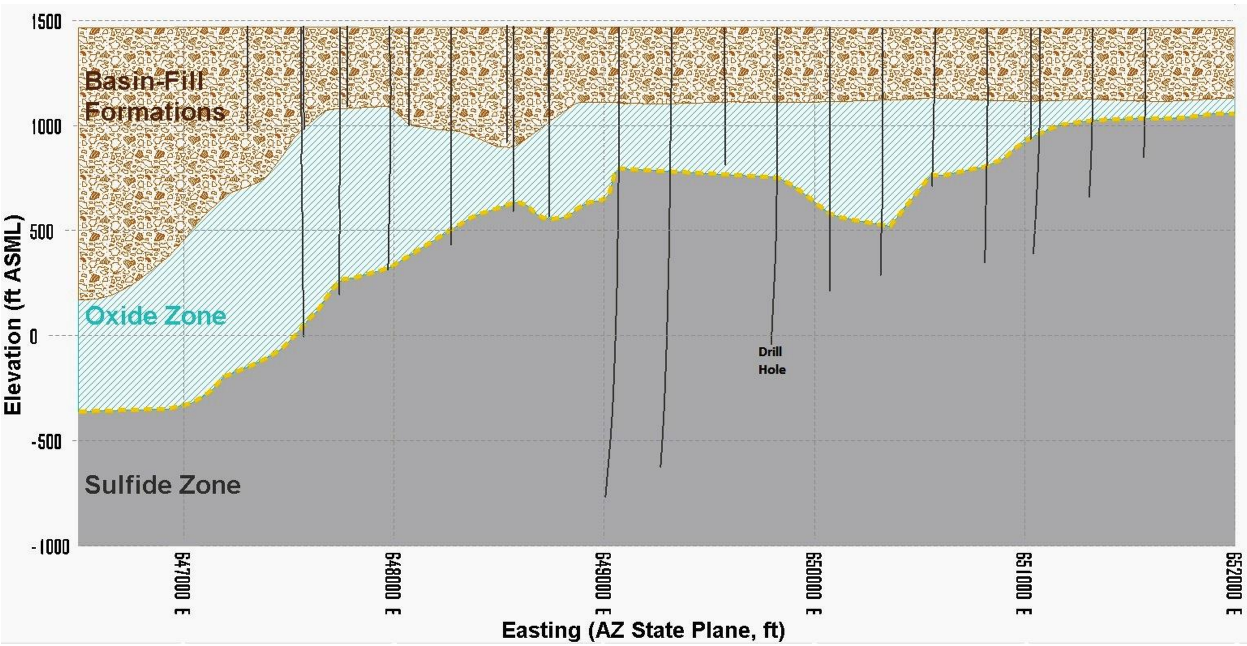


Figure 14-1: EW Section 745700N Looking North Showing Subsurface Boundaries Relevant to Resource Estimation and Drill Holes

14.3 Geology – *Cont'd*

Grades were only estimated in rock codes designated as bedrock. The "base of oxide" and "top of sulfide" surfaces coincide in most areas, although in a few areas there is a minor gap between them that represents a transition zone of overlapping oxide and sulfide minerals. For the purposes of this estimation, the transition zone is included with the oxide zone as some copper recovery is possible from this small volume of rock.

14.4 Drill Hole Composites

Composites were created on 25-foot intervals which are half the block height. This composite interval was selected to allow for greater resolution when estimating the fractional components of each block (Oxide, Sulfide, etc.)

14.5 Statistical Analysis

Histograms and probability plots were produced for raw assays in two categories – Copper Oxide, and Sulfide (see Figures 14-2 through 14-5). From these plots and visual inspection of the high-grade distribution, the capping scheme described in Section 14.1 was derived. The mean grade and capping value for each metallurgical sub-category are shown in Table 14-2.

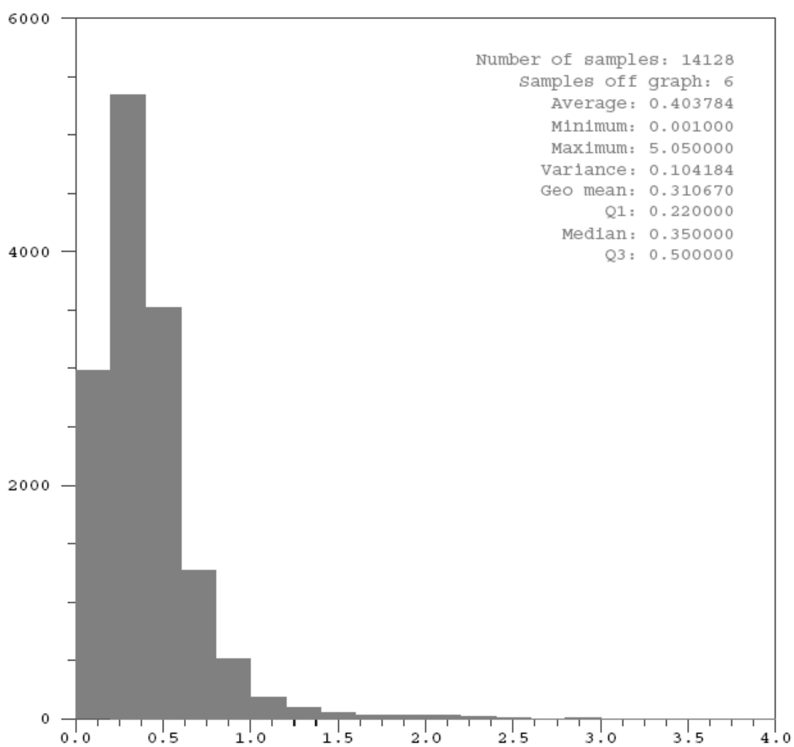


Figure 14-2: Histogram of Copper Oxide TCu Assays

14.5 Statistical Analysis – *Cont'd*

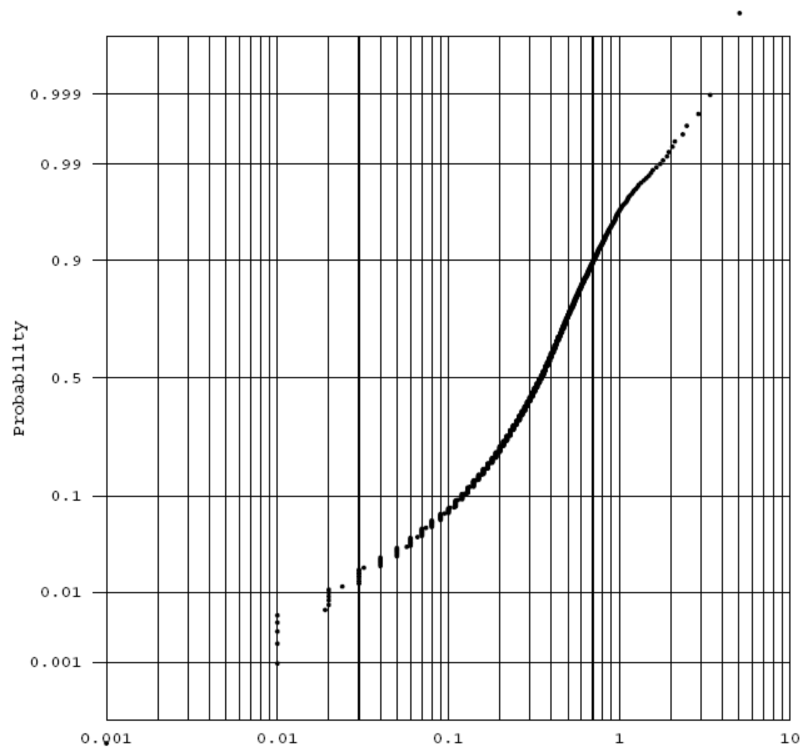


Figure 14-3: Probability Plot of Copper Oxide TCu Assays

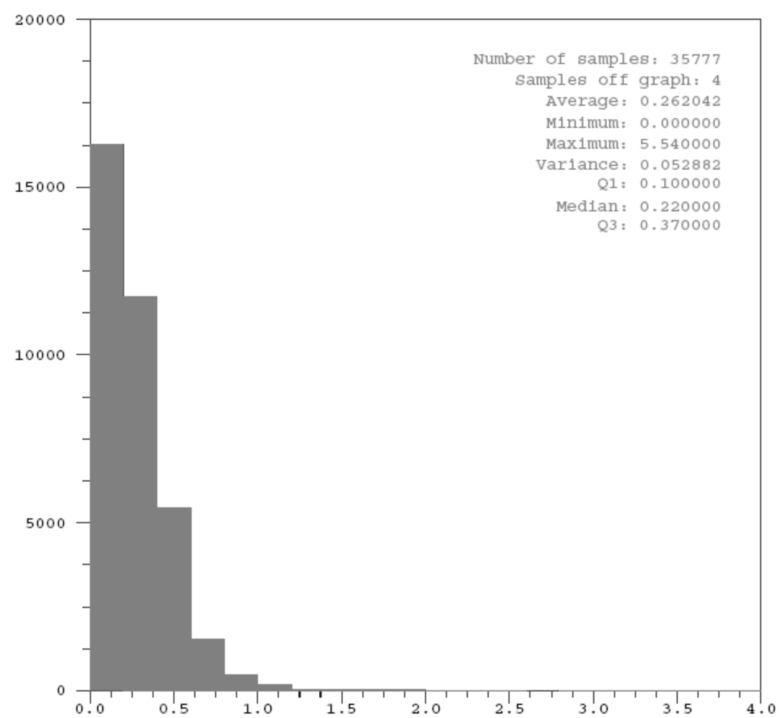


Figure 14-4: Histogram of Sulfide TCu Assays

14.5 Statistical Analysis – *Cont'd*

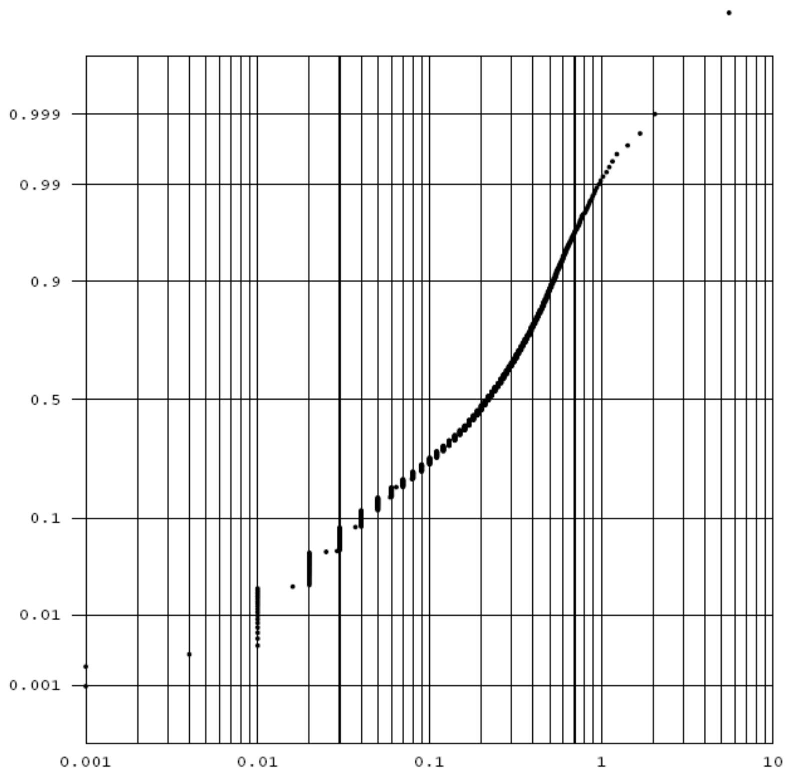


Figure 14-5: Probability Plot of Sulfide TCu Assays

Table 14-2: Mean %TCu Grades and Capping

Category	Count	Mean Grade (%TCu)	Variance (%TCu)	Max (%TCu)	Cap (%TCu)
All	58,604	0.275	0.070	8.84	N/A
Copper Oxide	14,128	0.404	0.104	5.05	2.7
Iron Rich Oxide	8,699	0.120	0.034	8.84	1.2
Sulfide	35,777	0.262	0.053	5.54	2.0

14.5 Statistical Analysis – *Cont'd*

The high ratio of ASCu to TCu supports the readily leachable characteristics of the oxide material and the linear relationships between ASCu and TCu grades demonstrates the equivalent distribution of both ASCu and TCu throughout the deposit. The QQ-plot for the Copper Oxide population, which is of most interest, illustrates that the ASCu grades are approximately 68 percent of the TCu grades (Figure 14-6). For the Iron Rich Oxide zone, the ASCu grades are approximately 60 percent of the TCu grades (Figure 14-7). For the Sulfide zone, the ASCu grades are approximately 18 percent of the TCu grades.

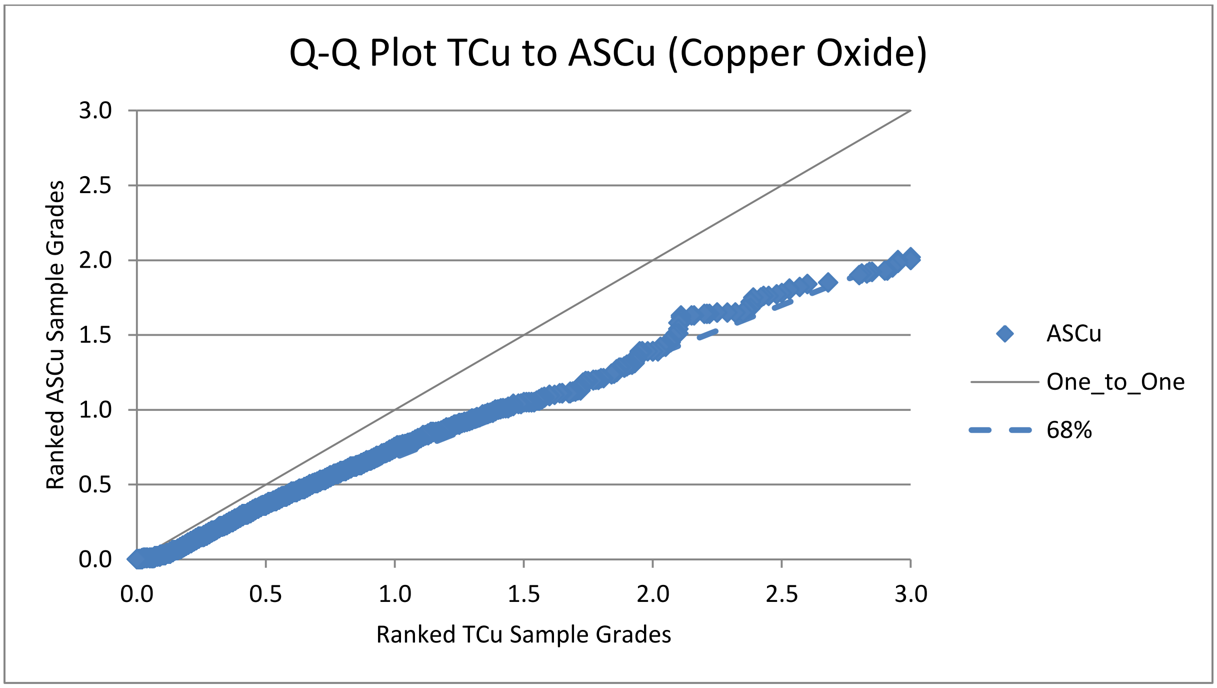


Figure 14-6: Q-Q Plot Showing Relationship of TCu-ASCu in Copper Oxide Samples (13,483 Pairs)

14.5 Statistical Analysis – *Cont'd*

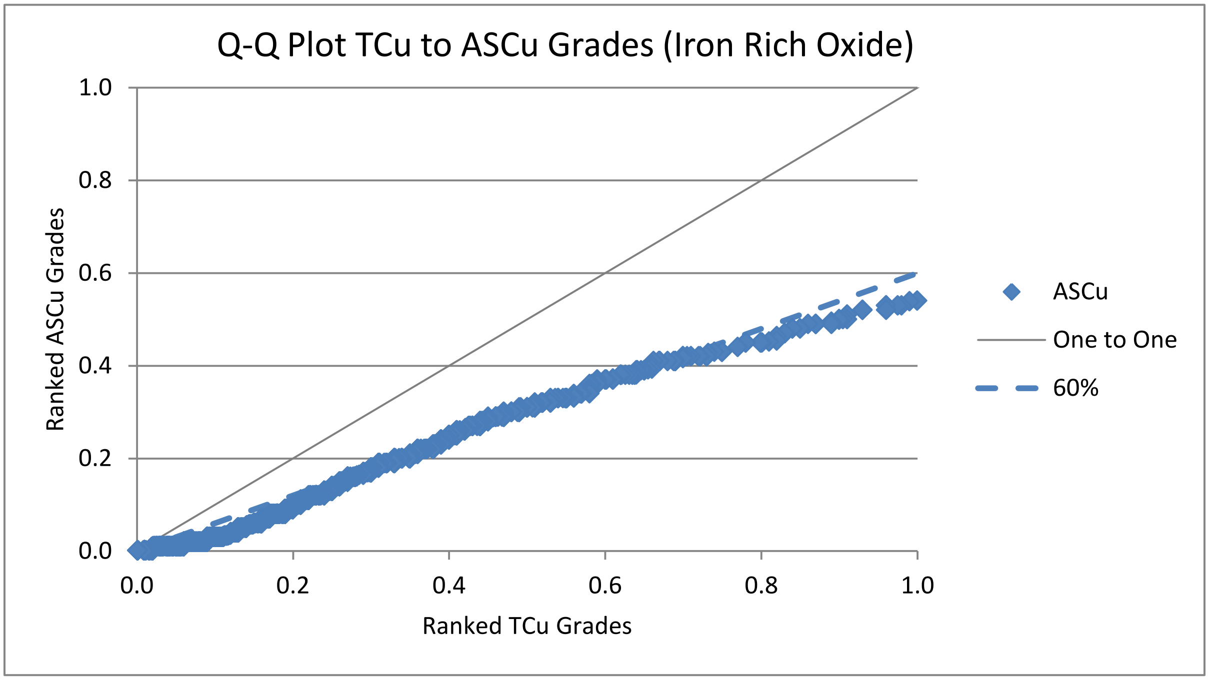


Figure 14-7: Q-Q Plot Showing Relationship of TCu-ASCu in Iron Rich Oxide Samples (5613 Pairs)

14.6 Block Model Description

The block model extends from 646,500E to 652,000E, and from 742,900N to 748,000N in Arizona Central State Plane coordinates (NAD27 in feet). The location of the block model is shown on Figure 14-8. The elevations range from 1,500 feet below sea level to 1,500 feet above sea level. Each block is 50 feet on a side (50-foot x 50-foot x 50-foot cube), but these blocks are sub-blocked on 25-foot x 25-foot x 25-foot intervals where necessary to fit lithology or metallurgical boundaries. Plan maps of block grades are shown on Figure 14-9 (700 feet above mean sea level [amsl]) and Figure 14-10 (1,000 feet amsl). Cross sections of block grades are shown on Figure 14-11 (east-west) and Figure 14-12 (north-south).

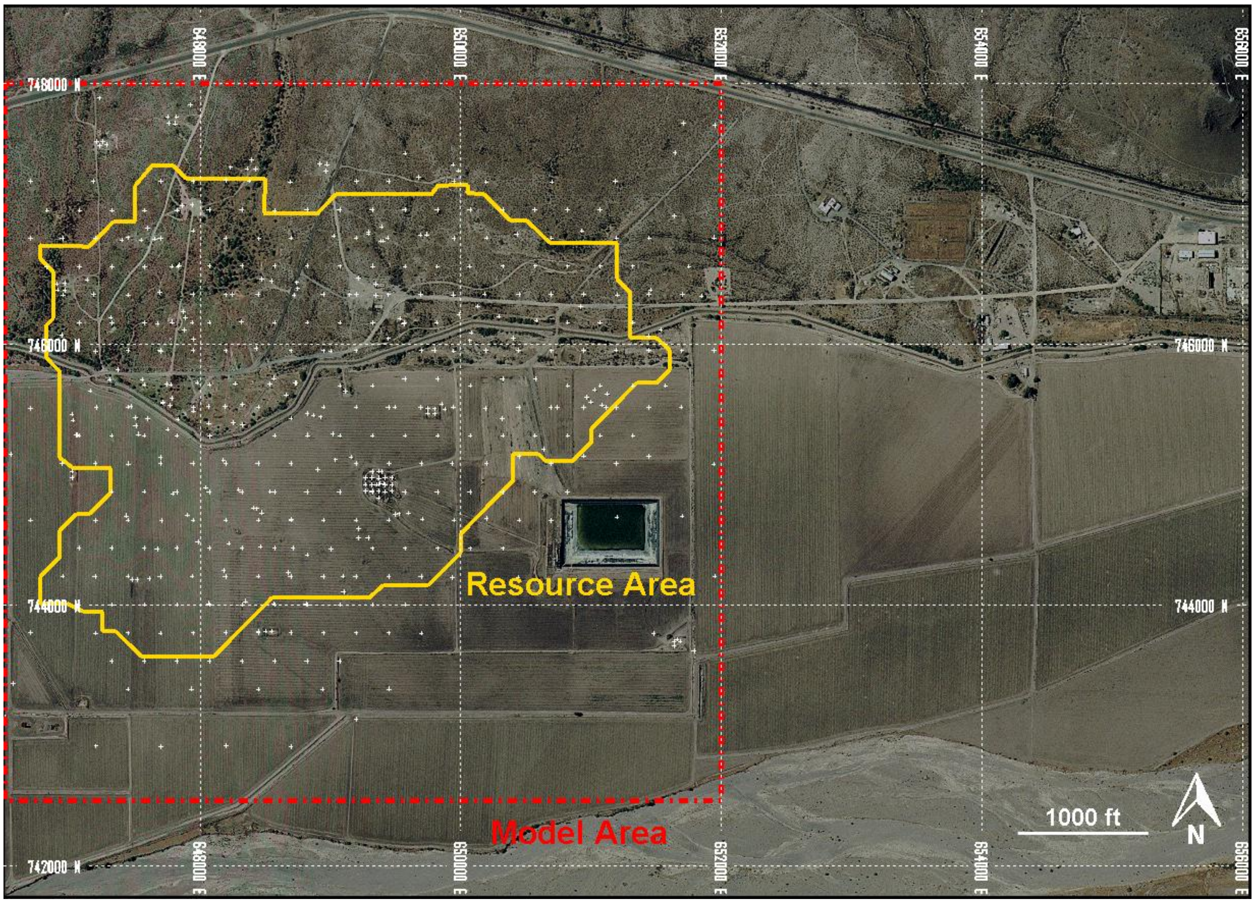
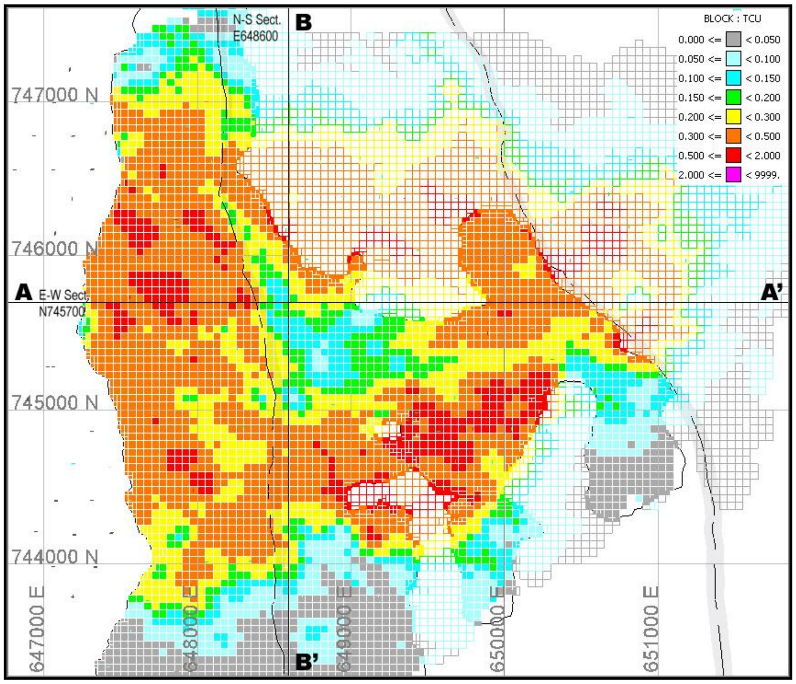


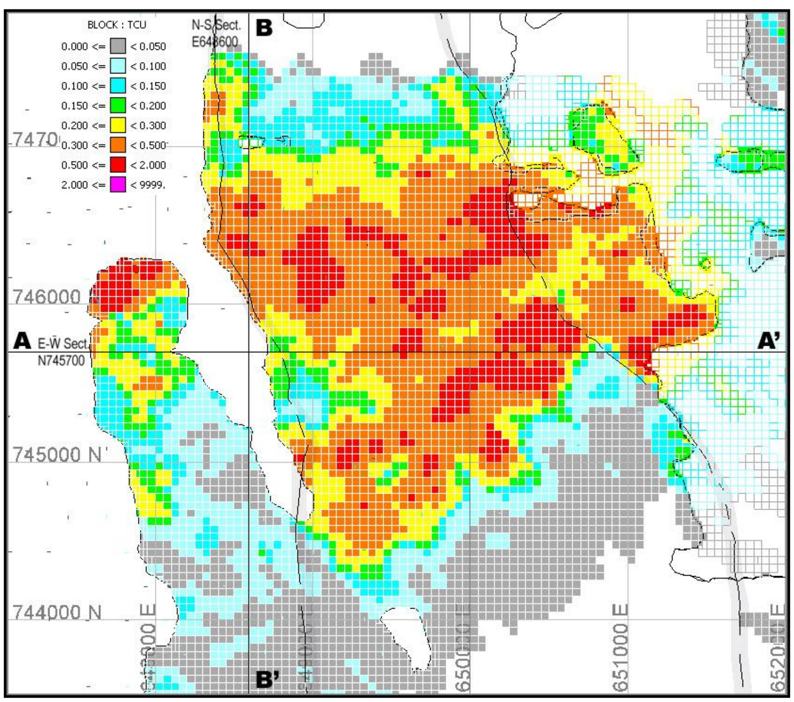
Figure 14-8: Location of Block Model (Red), Drill Data within the Block Model (White) and the Resource Area (Yellow)

14.6 Block Model Description – *Cont'd*



Oxide blocks shown solid; Sulfide blocks shown in outline)

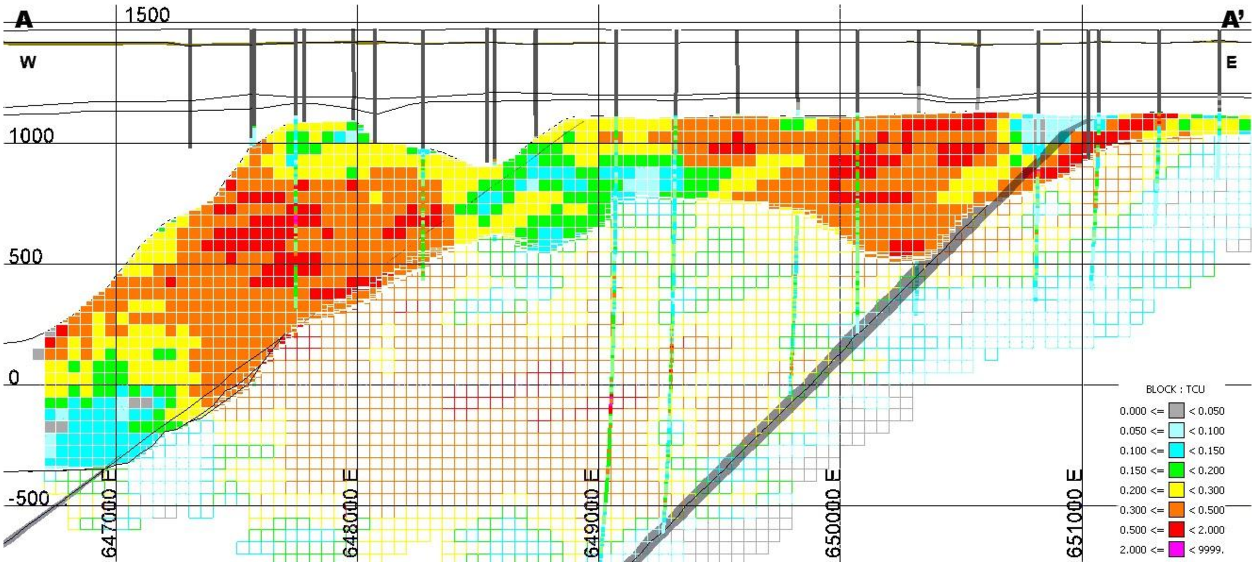
Figure 14-9: Plan Map (700 ft amsl, approx. 800 ft below surface) Showing Block Grades



Oxide blocks shown solid; Sulfide blocks shown in outline)

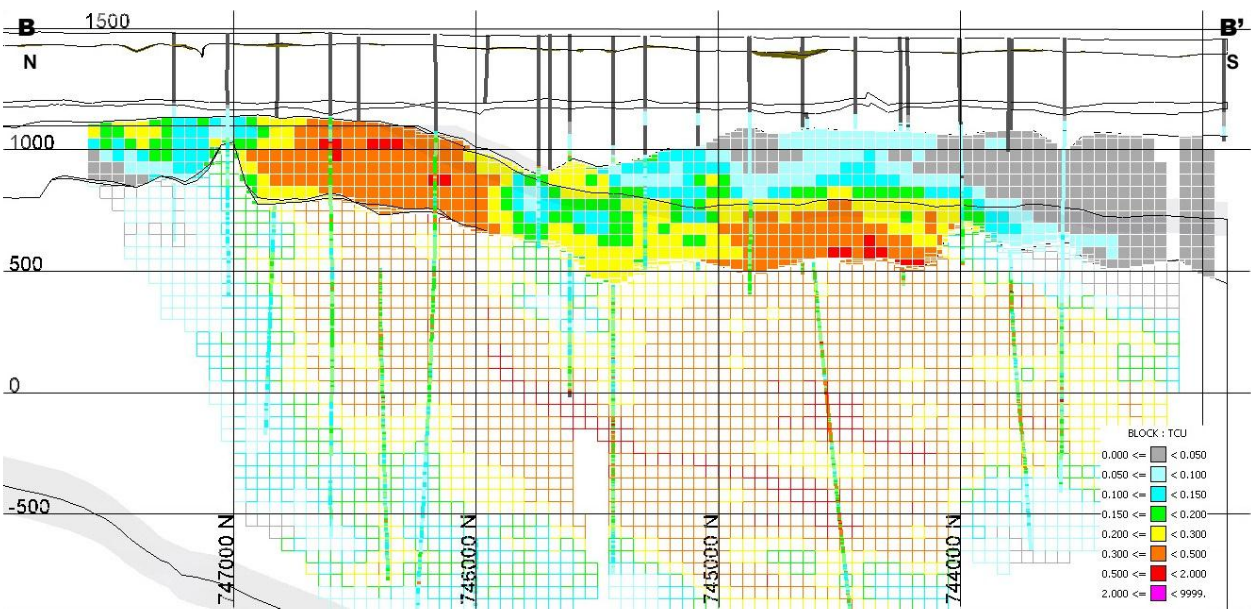
Figure 14-10: Plan Map (1,000 ft asml, approx. 500 ft below surface) Showing Block Grades

14.6 Block Model Description – *Cont'd*



Oxide blocks shown solid; Sulfide blocks shown in outline)

Figure 14-11: East-West Section N745700 Looking North Showing Block Grades



Oxide blocks shown solid; Sulfide blocks shown in outline)

Figure 14-12: North-South Section E648600 Looking East Showing Block Grades

14.7 Grade Estimation Methods

The estimation method used assigns index values to the composites for each of three metallurgical zones; Copper Oxide, Iron Rich Oxide, and Sulfide. Each composite received a "1" in the index if the metallurgical code matched the mineral category; otherwise it received a "0". Percent indicator fields were then estimated from these composite indices using ordinary kriging. The resulting block values are between 0 and 1, and represent a fraction of the block likely to contain that mineralization type. For example, if a block has a percent-indicator for Oxide of 0.6, it indicates that 60% of that block is likely to be Oxide. Three separate grades were then estimated for each block: one for the Oxide fraction, one for the Iron Rich Oxide fraction, and one for the Sulfide fraction. The resulting grades were then combined using the percent-indicator fields as weighting factors. The percent-indicator with the greatest value was determined and a "majority" code was assigned for each block. This allowed for a simplified "whole-block" summation of combined grades, categorized by majority block code.

In the case where the sum of the fractional components did not sum to 1.0 (either more or less than 100%), the percent indicators were "normalized" to keep the same ratios and their values were adjusted to equal 1.00. After normalization, each fraction could be reported separately, resulting in a more accurate assessment of the estimated tons and grade of each component.

Separate estimates were also done using unrestricted-ordinary-kriging, and a nearest-neighbor (pseudo-polygonal) estimate.

14.8 Model Validation

The block model was validated by visual inspection of numerous cross sections, comparing block grades to drill hole grades. Several blocks were inspected on an individual basis to ensure that the indicator normalization and grade combination scripts worked as expected. The block model fits the expected pattern of grade distribution, with no grades estimated above the bedrock surface and fault boundaries effectively acting as boundaries between low-grade and high-grade regions.

14.9 Resource Classification

Resource classifications used in this study conform to the following CIM definitions referenced in National Instrument 43-101:

Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

14.9 Resource Classification – *Cont'd*

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

The majority of the Oxide mineralization within the resource area is drilled on approximately 250-foot centers, and the mineralization is remarkably consistent and predictable from hole to hole. The classification system shown in Table 14-3 was used to assign Measured, Indicated, and Inferred resources in the block model.

Table 14-3: Resource Classification Criteria

Resource Classification	Class Code	Criteria for Classification
Measured	1	Average distance to samples used is <200 feet *or* closest sample is less than 125 feet away *unless* the combined indicator grade is >0.150% TCu and the nearest neighbor is < 0.150% TCu (or vice versa), in which case the Class 2 (Indicated) is assigned to reflect the uncertainty in the grade estimate
Indicated	2	Average distance to samples used is <260 feet
Inferred	3	All other estimate blocks

14.10 Mineral Resource Statement

The current resource estimate is reported within the model area and includes all Oxide including mineralization in the bedrock exclusion zone (BEZN). The BEZN is the top 40 feet of bedrock for which only partial copper extraction is anticipated due to geometries of anticipated fluid flow from injection/recovery wells.

The resource is shown in Table 14-4 at a 0.05% TCu cutoff grade.

Table 14-4: Florence Project Oxide Mineral Resources – All Oxide in Bedrock
(0.05% TCu cutoff)

Class	Tons (000,000's)	%TCu Grade	lb Cu (000,000's)
Measured	296	0.35	2,094
Indicated	134	0.28	745
M+I	429	0.33	2,839
Inferred	63	0.24	295

Note: All oxide includes the entire Copper Oxide zone and Iron Rich Oxidezone including the 40-foot bedrock exclusion zone. Contained metal values do not account for metallurgical recoveries. The tonnage factoris12.5 ft^3/ton.

For an ISCR project, the actual mining cutoff grade is a complex determination that includes mineralized material zone thickness and grade, depth to bedrock, the cost of acid, the leach recovery rate versus acid consumption, the PLS concentrate grade, cycle times, etc. The cutoff grade was determined based on order-of-magnitude cost estimates and current copper prices. The author believes that resources reported at a 0.05% TCu cutoff have a reasonable expectation of potential economic viability.

Oxide tons and grade are also reported at numerous cutoffs as shown in Table 14-5 and plotted in a grade-tonnage curve, to demonstrate the grade distribution of the deposit and how the Oxide zone resource varies depending on the cutoff used (Figure 14-13).

14.10 Mineral Resource Statement – *Cont'd*

Table 14-5: Oxide Mineral Resources at Various Cutoffs

%TCu Cutoff	Tons (000,000's)	%TCu Grade	Total Contained Cu (000,000's lbs)
0.05	429	0.33	2,839
0.10	380	0.36	2,769
0.15	343	0.39	2,677
0.20	313	0.41	2,573
0.25	281	0.43	2,426
0.30	246	0.45	2,232

Note: Oxide includes the Copper Oxide zone, and the Iron Rich Oxide zone. Contained metal values do not account for metallurgical recoveries. The tonnage factor is 12.5 ft^3/ton.

14.10 Mineral Resource Statement – *Cont'd*

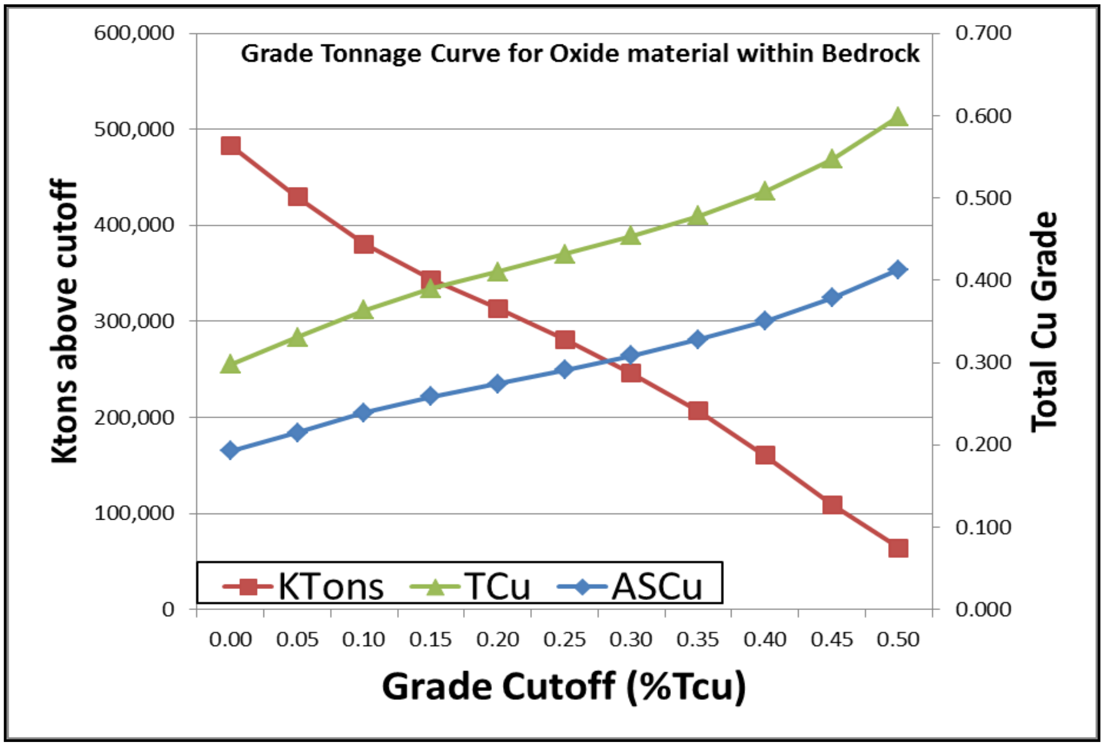


Figure 14-13: Grade-Tonnage Curve for All Oxide Zone Material within Bedrock

14.11 Mineral Resource Sensitivity

Separate grade estimates were previously performed by SRK in 2013 using both unrestricted-ordinary-kriging, and a nearest-neighbor (pseudo-polygonal) estimate. These estimation methods were compared to both the majority and the fractional reporting methods of the mineral-indicator estimate. There was no material difference between the estimation methods.

There are no known environmental, legal, title, taxation, socio-economic, marketing, or political factors that could materially affect the resource estimate.

The resource aerial boundaries fall outside the currently permitted area but within Florence Copper's tenure. The resource estimate also includes the bedrock exclusion zone. The bedrock exclusion zone and the permit boundaries are permit-related constraints that were placed on the deposit historically and may be modified with the required demonstrations to USEPA and ADEQ. Limiting the resource to the area within current permit boundaries and to bedrock below the exclusion zone would reduce the measured and indicated resource tonnage estimate by approximately 20% and increase the grade by 8%.

SECTION 15

MINERAL RESERVE ESTIMATE

SECTION 15: MINERAL RESERVE ESTIMATE

Table of Contents

List of Tables

List of Figures

15.1 Mineral Reserve Estimate

The ISCR method to be employed at Florence Copper does not require the ore to be physically relocated and, consequently, ISCR does not utilize traditional mining techniques or the associated mineral beneficiation methods such as crushing, grinding, and flotation. As a result, the typical basis used to determine reserves for hard rock operations does not apply directly and the reserves for Florence Copper are identified on the basis of net copper revenue associated with individual well field units and continuity of those units, considering the limited ability to selectively mine blocks within the resource.

The Probable Reserve for Florence Copper is based on the measured and indicated resources within the resource model presented in Section 14.

The reserve limits were established by first evaluating the economics of incremental well field units on the edges of the core resource area to establish an economic outer limit to the ISCR area, similar to evaluating incremental pit-wall laybacks. The limits were then further constrained by the inability to selectively mine blocks as well as surface infrastructure.

15.2 Economic Limits

The following key assumptions were used to define the economic limits of the deposit:

- only Measured and Indicated blocks were given economic value,
- a minimum of two 50-foot model blocks (vertical) were required for analysis (i.e. a minimum thickness of 100 feet),
- the smallest mining unit was defined as a single five-spot well arrangement (100-foot by 100-foot area, or four model blocks),
- resource blocks must be contiguous to be considered for inclusion in the extraction area, and
- the updated 2017 operating and sustaining capital cost estimates are the basis for the fixed and variable costs.

The resource model was used to evaluate the economic potential and define the outer limits of the ISCR area. The economic analysis of the resource blocks used the tons, total copper grade, and rock type (oxide only) for measured and indicated resource model blocks only.

15.2 Economic Limits – *Cont'd*

The minimum extraction thickness of 100 feet was based on injection and recovery well installation economics. While thinner, high grade intervals may potentially have positive economics this conservative approach was applied to determine the outer limits of the ISCR well field.

The smallest mining unit was defined as a single five-spot well arrangement which consists of one injection well surrounded by four recovery wells. The spacing between recovery wells is 100 feet and the injection well is situated in the center of the 100-foot square. For the economic analysis, an expansion of the outer edge of the well field requires the addition of one injection well and two recovery wells to complete a five-spot pattern as the active edge of the resource area would already be lined with recovery wells. After the first expansion five-spot pattern is established, additional lateral expansion requires the installation of one injection well and one recovery well to complete a five-spot pattern. Therefore, the economic analysis was based on the costs associated with the incremental installation of one injection well and one recovery well. These typical incremental expansions are shown graphically on Figure 15-1.

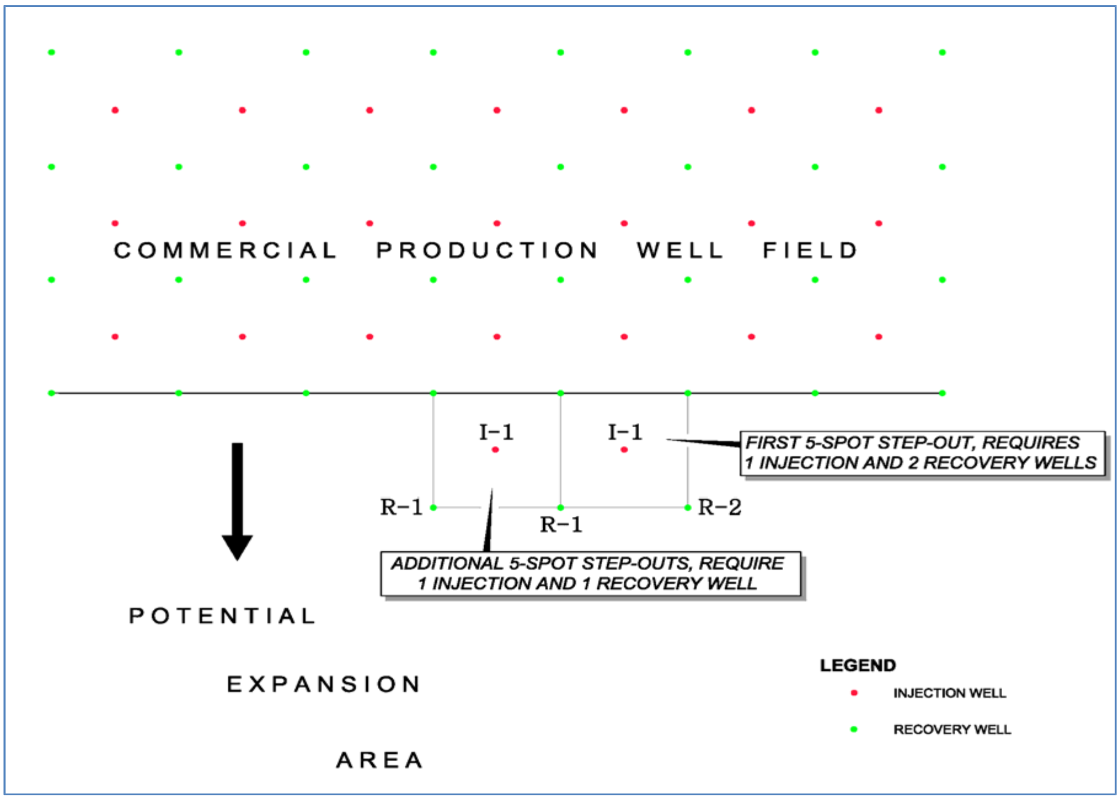


Figure 15-1: Lateral Expansion Well Requirements

15.2 Economic Limits – *Cont'd*

The economics of individual well field five-spot patterns were evaluated on the basis of net revenue for the well field unit.

Net revenue is defined as:

- Copper Revenue (Recovered Copper Pounds times $2.50 per pound),
- Minus Operating costs ($0.84 per pound recovered copper),
- Minus Royalties ($0.16 per pound copper),
- Minus Fixed well costs (for one injection and one recovery well),
- Minus Variable well costs (for one injection and one recovery well).

The current operating and sustaining capital cost estimates and copper recovery were used to calculate net revenue per incremental five-spot well field unit based on the reserve copper price and exclusive of property taxes. Specifically, the economic parameters used to determine net revenue were fixed and variable well installation costs, operating costs including closure costs, and copper recovery. The values for these economic parameters are provided in Table 15-1.

Table 15-1: Economic Analysis Parameters

Description	Value
Fixed Well Costs (Common): Well mechanical/electrical infrastructure Core hole abandonment[1] Cultural mitigation[1]	 $11,594 / well $1,328 / well $2,966 / well
Fixed Injection Well Costs: Fixed Well Costs (Injection): Down hole Injection Equipment.	$42,810 / well
Fixed Recovery Well Costs: Fixed Well Costs (Recovery): Down hole Recovery Equipment.	$48,820 / well
Variable Well Costs (Common):	$143 / foot
Copper Recovery	69.7%
Operating Cost	$0.84 / pound copper
Royalties	$0.16 / pound copper
Copper Price	$2.50 / pound copper

[1] The core hole abandonment and cultural mitigation costs were factored across the entire well field and applied as a per well average cost.

15.2 Economic Limits – *Cont'd*

The economic analysis was performed on the resource block model to define the edges of an economic outline of the reserve area. This economic outline was defined by the positive revenue blocks. This outline was then smoothed to eliminate single block step outs and small "peninsulas" that would not be feasible to develop. The smoothed outline was then modified to avoid physical constraints on the west and north of the deposit such as the major electrical transmission right-of-way. The probable reserve is contained within the lateral limits shown in Figure 15-2.

Dilution is taken into account as all of the material within the reserve blocks is included in the reserve estimate. Mining losses are taken into account through the application of sweep efficiency which is included in the calculation of copper recovery.

While reserve blocks are identified on the basis of the economics of incremental five-spot well units, the mineralization suitable for ISCR and deposit geometry generally results in sharp economic or physical boundaries. The reserve is effectively bounded vertically to the oxide zone material that is greater than 0.05%TCu between the bedrock exclusion zone and the sulfide zone. The reserve is bounded laterally by the economic criteria outlined or by the physical limits of the oxide zone mineralization and surface infrastructure constraints. There are relatively few marginal economic blocks on the perimeter of the reserve.

15.2 Economic Limits – *Cont'd*

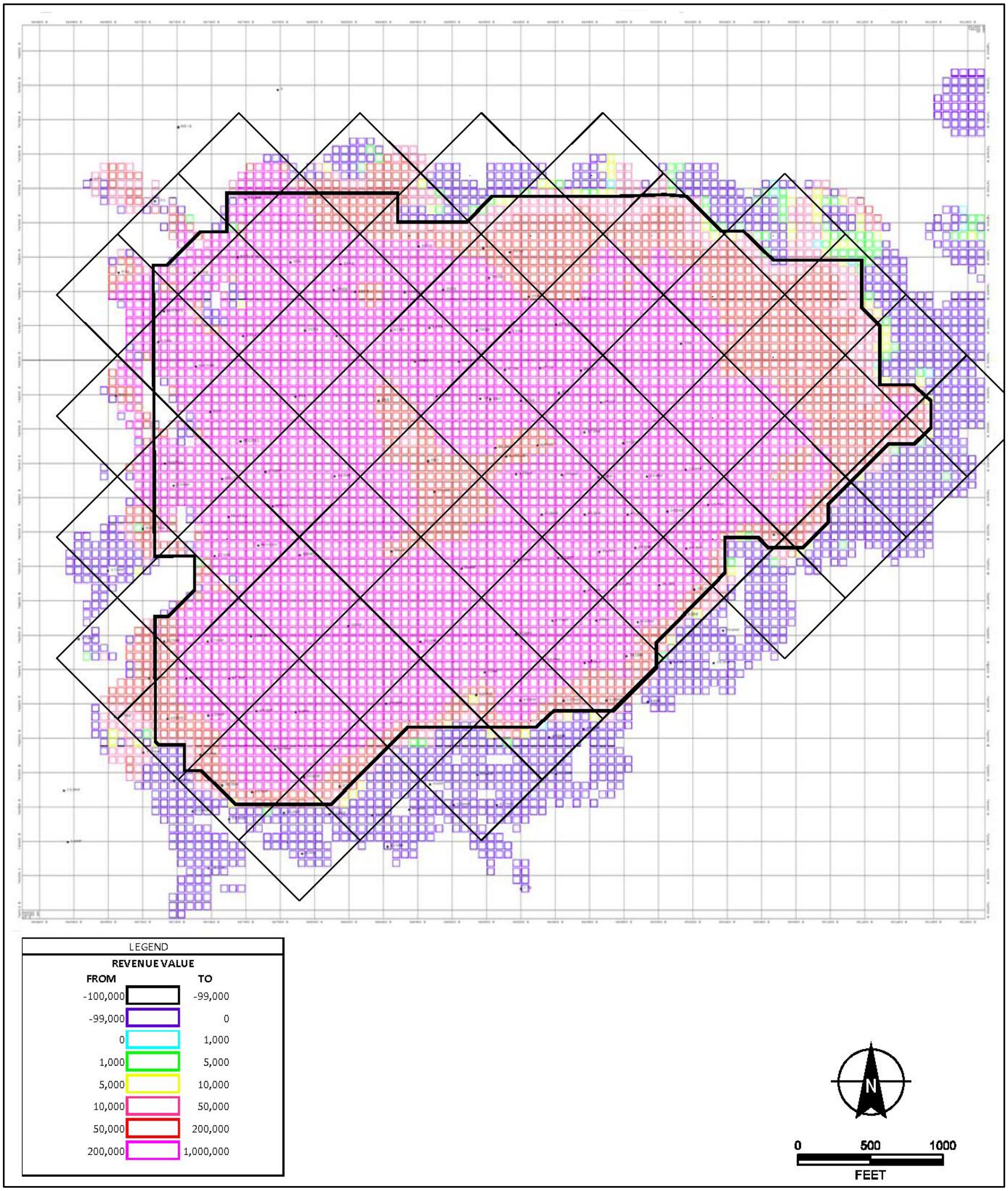


Figure 15-2: Mineral Reserve Outline

15.3 Reserve Classification

Reserve classifications used in this report conform to the following CIM definitions referenced in National Instrument 43-101:

Mineral Reserve

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

Probable Mineral Reserve

A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

Proven Mineral Reserve

A Proven Mineral Reserve is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

The reserve has been conservatively stated as a Probable Reserve. This conservative approach was taken as in-situ operating parameters developed from extensive metallurgical and hydrological testing have not yet been subject to a full scale field test for the Florence Copper Project. The full scale field test (the Production Test Facility) is in the permitting process and will provide the highest degree of confidence possible for establishing ISCR operating conditions.

15.4 Mineral Reserve Statement

(a) Introduction

The Probable Reserve estimate is presented in Table 15-2. The Probable Reserve estimate includes resources categorized as Measured and Indicated for oxide material and does not include Inferred resources.

The Mineral Reserves are contained within the Mineral Resources stated in Section 14.

Table 15-2: Probable Reserve Estimate at 0.05% TCu Cutoff (January 2017)

Class	Tons (000,000's)	%TCu Grade	Contained Cu (000,000's lbs)
Probable	345	0.36	2,473

(b) Limitations/Opportunities

The planned Production Test Facility will provide a full scale field verification of commercial scale ISCR operating conditions. The completion of this full scale ISCR test will allow the economic limits and classification of the reserve to be re-assessed.

The Florence Copper private property is in the Town of Florence ("Town") which has been known to support mining operations or investigations for some forty years. In recent years, the Town passed a zoning ordinance that allows for a mix of residential, commercial and industrial uses on and near the Florence Copper property. The ordinance makes no reference to removal of the historic mining rights from Florence Copper's property that was recognized in the Town's contractual and vested 2003 pre-annexation and development agreement with the owner of the Florence Copper property. This development agreement remains in place which allows Florence Copper a legal non-conforming use right to extract and process copper on the property, although that right is being challenged by the Town. The litigation associated with this matter is assumed to be settled prior to construction of the commercial facility. The Arizona State Land portion of the project is not subject to the Town's jurisdiction and a mining lease is in place for this portion of the reserves. Approximately 58% of the Probable reserve estimate shown in Table 15-2 is on Florence Copper's private property and the remaining 42% of the reserve is on the ASLD parcel.

Opportunities exist to increase the reserve by upgrading the classification of the Inferred mineralization within the resource boundary. Inferred resources are listed in Table 15-3. The Inferred mineralization has the potential to add in excess of 50 million recoverable pounds of copper to the reserve.

15.4 Mineral Reserve Statement – *Cont'd*

(b) Limitations/Opportunities – *Cont'd*

Table 15-3: Inferred Resources at 0.05% TCu Cutoff Grade

Description	Value
Inferred Resources: Tons	11,000,000
TCu Grade (%)	0.38
Contained Copper lbs	84,000,000

Inferred resources were not assigned any value and were not converted to reserves.

SECTION 16

MINING METHODS

SECTION 16: MINING METHODS

Table of Contents

List of Tables

List of Figures

16.1 In-Situ Copper Recovery

(a) Introduction

The mining method proposed for the FCP is the in-situ copper recovery (ISCR) method. Trade-off studies were conducted by Conoco, Magma and BHP that evaluated development of the Project via underground and open pit mining. In 1994, Magma determined that the best method of development for the FCP would be the ISCR method and this has been subsequently confirmed by BHP and Florence Copper personnel. The Florence Copper deposit is well suited for ISCR due to the type of copper mineralization, composition of the host rock, fractured nature of the mineralized body, and saturated conditions. The ISCR method is the most environmentally sound, economical and practical method for developing the Florence Copper ore deposit.

The in-situ recovery method is an extraction technique used for selected mineral deposits as an alternative to open pit or underground mining methods. ISCR has been used successfully in the mineral extraction industry for over 50 years. In-situ recovery extracts the target element or mineral in a deposit by passing a process solution containing a lixiviant through the mineral deposit, and consequently does not require many of the activities typically associated with mining. The in-situ recovery method has no physical material handling of the mineralized material, overburden, or non-mineralized rock and, consequently, this method does not require blasting, loading, hauling, crushing, or screening of mined rock. The long term environmental benefits of the in-situ method include that it does not generate waste rock piles, heap leach piles, or tailings storage areas and does not significantly alter the site topography.

The equipment used for in-situ recovery includes wells, pumps and pipelines which inject, recover and convey process solutions. The ISCR wells installed at Florence Copper during the BHP field test are shown in Figure 16-1. The well installation sequence and a description of the well equipment required are given in section 16.2.

16.1 In-Situ Copper Recovery – *Cont'd*

(a) Introduction – *Cont'd*

Figure 16-1: Florence Copper ISCR Wells

The ISCR process selected for the FCP involves the installation of injection and recovery wells to pass a weak sulfuric acid solution, called raffinate, through targeted portions of the mineral deposit. The raffinate passes through natural fractures and voids in the deposit and dissolves the copper mineralization. The copper laden solution, known as pregnant leach solution ("PLS"), is collected in recovery wells where it is pumped to the surface for processing by solvent extraction and electrowinning ("SX/EW"). The SX/EW plant selectively removes copper from the PLS producing raffinate solution to be recirculated to the well field and copper cathode product.

16.1 In-Situ Copper Recovery – *Cont'd*

(a) Introduction – *Cont'd*

ISCR requires the process solutions in the well field to be passed through the targeted portion of the ore deposit as well as effective recovery of the copper laden PLS to effectively produce copper and meet environmental objectives. Process solutions are controlled in the well field by hydraulic control, where an inward groundwater gradient is maintained around the well field so that water from the surrounding area flows towards the area being leached and process solutions are retained in the well field. The inward groundwater gradient will be created and maintained within the active ISCR area by constantly withdrawing more fluid than is injected. To monitor the status of the well field hydraulic control, the outer extraction wells will be paired with observation wells at the edge of the well field and monitoring wells will be installed at set distances further from the well field. Florence Copper will continuously monitor hydraulic heads at, and gradients between, observation and monitoring wells surrounding the recovery and injection wells. The Florence Copper project design allows the pumping and injections rates to be varied as required to adjust the hydraulic gradients and ensure hydraulic control.

After the copper extraction in an area of the deposit has been completed, the ISCR process includes rinsing of the well field area to remove the process solution and restore the aquifer to water quality standards. The rinsing process is conducted in a closed loop with a water treatment plant that minimizes the fresh water requirements for the process.

In accordance with Arizona Revised Statute ("A.R.S.") 49-243.B.1, the proposed ISCR facilities are designed, and will be constructed and operated, to ensure the greatest degree of discharge reduction achievable through application of the Best Available Demonstrated Control Technology (BADCT) standards established by ADEQ. As implied by the name, BADCT is a standard that requires Arizona mine operators to always use a control technology that is proven to be effective in reducing discharges to the greatest degree possible, including, where practicable, technologies that permit no discharge of pollutants.

Development of the Florence Copper project is planned to occur in two phases. The first phase consists of the construction and operation of a Production Test Facility ("PTF") which will provide a full scale demonstration of the proposed ISCR well field with an integrated demonstration scale SX/EW plant. The second phase is development of the commercial operation which is the subject of this report.

16.1 In-Situ Copper Recovery – *Cont'd*

(b) Hydrologic Studies

Conoco

The hydrologic properties of the Florence Copper deposit have been vital to development planning for the site since development was first conceptualized by Conoco in the late 1960's. Conoco began hydrologic characterization of the site in 1971 to determine the dewatering requirements for a planned underground mine. Hydrologic testing conducted included several large scale pumping tests, one of which included pumping at an aggregate rate of in excess of 7,500 gallons per minute ("gpm") for a period of more than six months while monitoring the hydraulic response of water levels in the Bedrock Oxide Unit.

After completing detailed hydrologic studies and advancing an underground pilot mine to collect a bulk sample, Conoco determined that intense fracturing and groundwater saturation of the deposit created difficult mining conditions that rendered the development of an underground or open pit mine unfeasible. These findings led Conoco to first consider ISCR in 1980 as the very conditions that made underground or open pit mining challenging at the Florence Copper site created favorable conditions for ISCR methods.

Although the hydrologic studies conducted by Conoco were not conducted for the purpose of demonstrating ISCR feasibility, this work yielded several important conclusions that address the hydrologic conditions required for successful ISCR. Key Conoco findings included hydraulic characterization of each of the water bearing units at the FCP site, and the hydraulic relationships between each of those units.

16.1 In-Situ Copper Recovery – *Cont'd*

(b) Hydrologic Studies – *Cont'd*

Magma

After purchasing the Florence Copper property, Magma initiated a study that included a re-evaluation of the potential for copper production by open pit mining or ISCR methods. The study included a review of hydrologic characteristics of the FCP mineralized material body, and concluded that ISCR is the most effective means of producing copper at the Florence Copper site.

After completion of the study, Magma initiated an intensive hydrologic characterization program that included a series of 49 pumping tests conducted at 17 well locations distributed across the Florence Copper site. The tests included 17 pumping wells and 46 monitoring wells screened within the various water bearing units. Eight wells were completed within the upper basin-fill unit ("UBFU"), 17 within the lower basin-fill unit ("LBFU"), 38 wells within the Bedrock Oxide Unit including the hanging wall and footwall zones of the major faults, and 3 wells within the Sulfide Unit. Each of the pumping tests was conducted at pumping rates of at least 0.25 gpm per lineal foot of well screen. The results of the pumping tests allowed the hydrologic parameter values describing each of the water bearing units to be derived. Key conclusions of the pumping tests included:

- Demonstration that sufficient groundwater can be pumped from the Bedrock Oxide Unit to sustain extraction rates of at least 0.1 gpm per lineal foot of well screen on a continual basis;
- Demonstration that the LBFU and Bedrock Oxide Unit are in hydraulic communication; and
- Demonstration that the Sulfide Unit is in limited hydraulic communication with the Bedrock Oxide Unit.

16.1 In-Situ Copper Recovery – *Cont'd*

(b) Hydrologic Studies – *Cont'd*

BHP

After BHP acquired Magma and the Florence Copper site, they initiated a commercial scale field pilot test ("Pilot Test") by installing an ISCR well field consisting of a total of 20 wells.

The Pilot Test well field consisted of four injection wells and five recovery wells. The injection wells were installed at a spacing of approximately 70 feet with one recovery well located in the center of the pattern approximately 50 feet from each injection well. The other four recovery wells were located outside the injection wells to maintain hydraulic control. The injection and recovery wells had an average screen length of approximately 400 feet. The Pilot Test design employed a nominal injection rate of 40 gpm per well or approximately 0.1 gpm per lineal foot of screen. The design aggregate injection rate was 160 gpm and the aggregate recovery rate was 190 gpm.

Typical injection and recovery rates during the Pilot Test ranged from 0.09 to 0.14 gpm per lineal foot of screen, and reached as high as 0.44 gpm per lineal foot of screen. During the test, solution injection and recovery rates were actively managed to ensure that recovery rates exceeded injection rates to maintain hydraulic control.

The BHP pilot test successfully demonstrated that:

- The mineralized body has sufficient hydraulic conductivity to support well to well fluid flow;
- injection and recovery rates of 0.1 gpm per foot of screen can be sustainably maintained for ISCR operations;
- Injected solutions can be recovered in a reliable manner; and
- Hydraulic control of injected solutions can be maintained.

16.1 In-Situ Copper Recovery – *Cont'd*

(b) Hydrologic Studies – *Cont'd*

Florence Copper

Florence Copper has utilized the extensive hydrologic data set and long term quarterly groundwater monitoring results to develop a sub-regional groundwater flow model representing the Florence Copper site and an area of approximately 125 square miles around the site. The groundwater flow model was prepared to support applications to amend the operational permits initially issued to BHP by the ADEQ and United States Environmental Protection Agency ("USEPA"). The groundwater flow model confirmed that sufficient groundwater resources are available to support planned ISCR operations for the proposed duration of the project.

Additional hydrologic studies are planned to be completed during the operation of the PTF. The planned studies will focus on:

- Optimization of well design and performance;
- Examination of the hydraulic relationship between the Bedrock Oxide Unit and the Conoco underground workings;
- Optimization of hydraulic control pumping rates; and
- Refinement of sweep efficiency modeling.

(c) FCP Site Groundwater Hydrology

Water Bearing Units

The saturated geologic formations underlying the Florence Copper site have been divided into three distinct water bearing hydrostratigraphic units referred to as the UBFU, LBFU, and the Bedrock Oxide Unit. The Bedrock Oxide Unit is the hydrologic designation of the porphyry copper oxide mineralized body. The UBFU and LBFU are separated, in the area of the FCP, by an aquitard material referred to as the Middle Fine Grained Unit ("MFGU"). The Bedrock Oxide Unit is underlain by the Sulfide Unit, which is effectively impermeable. Each of these units generally corresponds to regionally extensive hydrostratigraphic units described by the Arizona Department of Water Resources.

The water bearing units with typical thicknesses are illustrated in Figure 16-2.

16.1 In-Situ Copper Recovery – *Cont'd*

(c) FCP Site Groundwater Hydrology – *Cont'd*

Water Bearing Units – *Cont'd*

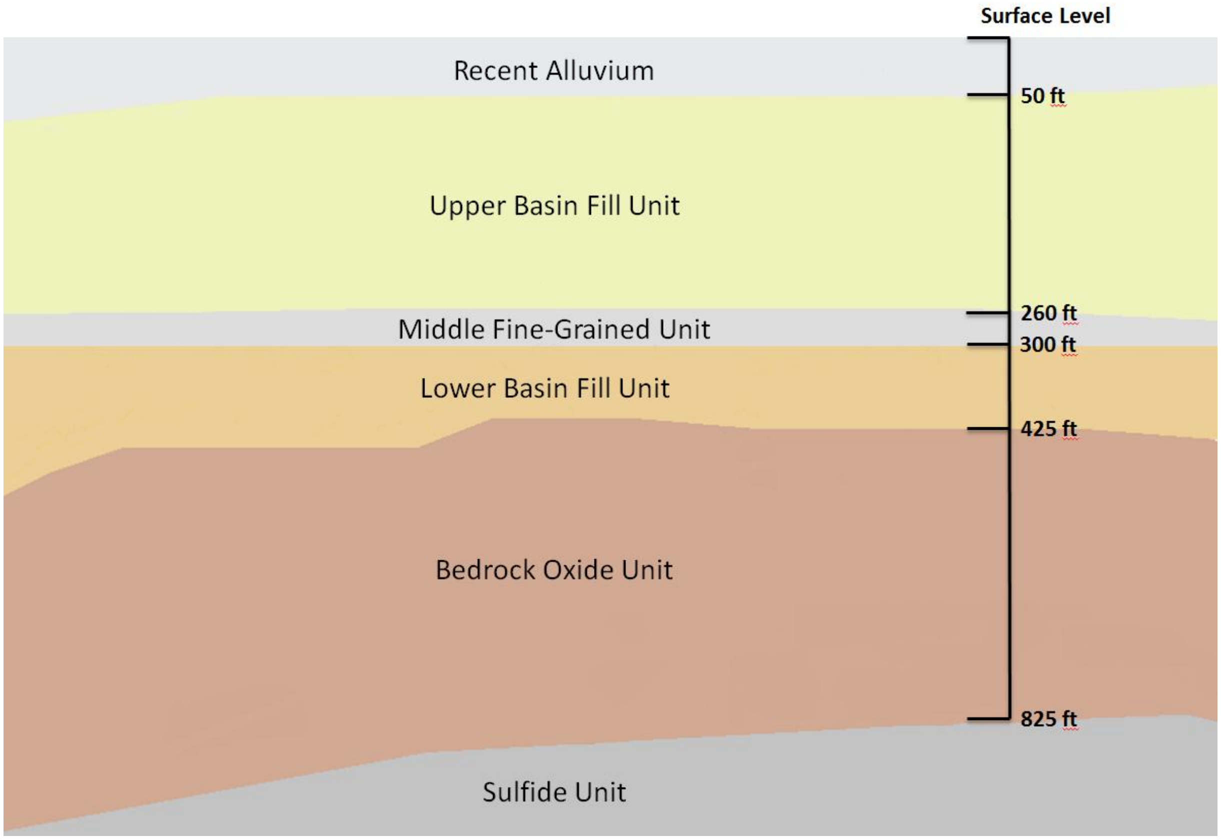


Figure 16-2: Water Bearing Units

Upper Basin Fill Unit

The UBFU consists primarily of unconsolidated to slightly consolidated sands and gravel, with lenses of finer-grained material. The upper portions of the unit are generally fine-grained and calcareous, consisting of a gradational succession of poorly graded, silt and sand with minor gravel. The UBFU ranges between 200 and 240 feet in thickness within the footprint of the proposed ISCR area. The UBFU is the shallowest water bearing unit and is unconfined within the proposed ISCR area. The UBFU is locally isolated from the deeper water bearing units by the MFGU, and is not in direct hydraulic communication with the deeper water bearing units in the project area. Because it is isolated from the deeper water bearing units, the UBFU will neither affect, nor be affected by, the planned ISCR operations.

16.1 In-Situ Copper Recovery – *Cont'd*

(c) FCP Site Groundwater Hydrology – *Cont'd*

Middle Fine Grained Unit

The MFGU underlies the UBFU and hydraulically isolates the deeper water bearing units from the UBFU in the project area. The MFGU composition ranges from calcareous clay to silty sand, and includes reworked broken clay clasts, carbonaceous film, and thin interbeds of fine sand. The MFGU is an important component of the hydrologic framework within which the planned ISCR operation will be developed and the unit is generally 20 to 40 feet thick in the ISCR area. The MFGU is a low hydraulic conductivity layer that maintains confined groundwater conditions within the LBFU which overlies and directly recharges groundwater to the Bedrock Oxide Unit.

Lower Basin Fill Unit

The LBFU underlies the MFGU at the proposed ISCR site and comprises the lower portion of the sedimentary fill overlying Precambrian bedrock. The MFGU-LBFU contact at the planned ISCR site ranges in depth from 260 to 300 feet below ground surface. The LBFU consists of coarse gravel, fanglomerate, conglomerate, and breccia. It is distinguished by a greater degree of consolidation than is exhibited by the UBFU. The conglomerate portion of the LBFU may correlate with the Gila and Whitetail Conglomerates described in the region. Substantial bedrock structural relief has resulted in significant variation in LBFU thickness, which ranges in an east-west direction from approximately 70 feet to more than 400 feet.

The LBFU overlies the Bedrock Oxide Unit, and would provide water recharge to replace groundwater extracted from the mineralized material body.

Bedrock Oxide Unit

Bedrock underlying the LBFU in the proposed ISCR area consists primarily of Precambrian quartz monzonite and Tertiary granodiorite porphyry. The bedrock is divided into an upper Bedrock Oxide Unit and a lower Sulfide Unit based on the copper mineral assemblage. The Bedrock Oxide Unit for the FCP is estimated to range in thickness from approximately 200 feet to over 1000 feet with an average thickness of approximately 400 feet.

16.1 In-Situ Copper Recovery – *Cont'd*

(c) FCP Site Groundwater Hydrology – *Cont'd*

Bedrock Oxide Unit – *Cont'd*

The top of the Bedrock Oxide Unit consists of a weathered rubbly mixture of fracture filling and angular bedrock fragments and has been demonstrated to be a zone of enhanced hydraulic conductivity. Below this weathered zone, the oxide unit consists of extensively fractured quartz monzonite, granodiorite, and associated dikes. Movement of groundwater through the Bedrock Oxide Unit is controlled by secondary permeability features such as faults, fractures, and associated brecciation. Statistical analysis of drill core indicates an average of 10 to 15 open fractures per foot in the Bedrock Oxide Unit.

Aquifer tests conducted in the Bedrock Oxide Unit have demonstrated that the extensive fracturing observed in the unit is interconnected to the point that the fractured rock behaves as a porous media under pumping conditions. Pumping and injection tests have been successful in establishing, maintaining, and controlling consistent fluid flow through the Bedrock Oxide Unit. The natural permeability of the Bedrock Oxide Unit is sufficient for ISCR operations without any modification or enhancement.

Sulfide Unit

The Bedrock Oxide Unit is underlain locally by the Sulfide Unit which is a zone of sulfide mineralization that occurs in the same quartz monzonite and granodiorite rocks that compose the Bedrock Oxide Unit. The Sulfide Unit is significantly less permeable than the over lying Bedrock Oxide Unit, with an average of 6 to 10 closed fractures per foot.

Hydraulic Conductivity

The range of hydraulic conductivities measured in each of the water bearing and non-water bearing units are shown on Figure 16-3. The relationships shown on that figure include:

- Hydraulic conductivity values measured within the Bedrock Oxide Unit are similar, in part, to those measured in the overlying water bearing alluvial basin fill deposits and are greater than those measured in the Sulfide Unit.
- Hydraulic conductivities measured in the MFGU are significantly lower than those measured in any other units which illustrates why the MFGU inhibits groundwater flow between the UBFU and the LBFU.

16.1 In-Situ Copper Recovery – *Cont'd*

(c) FCP Site Groundwater Hydrology – *Cont'd*

Hydraulic Conductivity – *Cont'd*

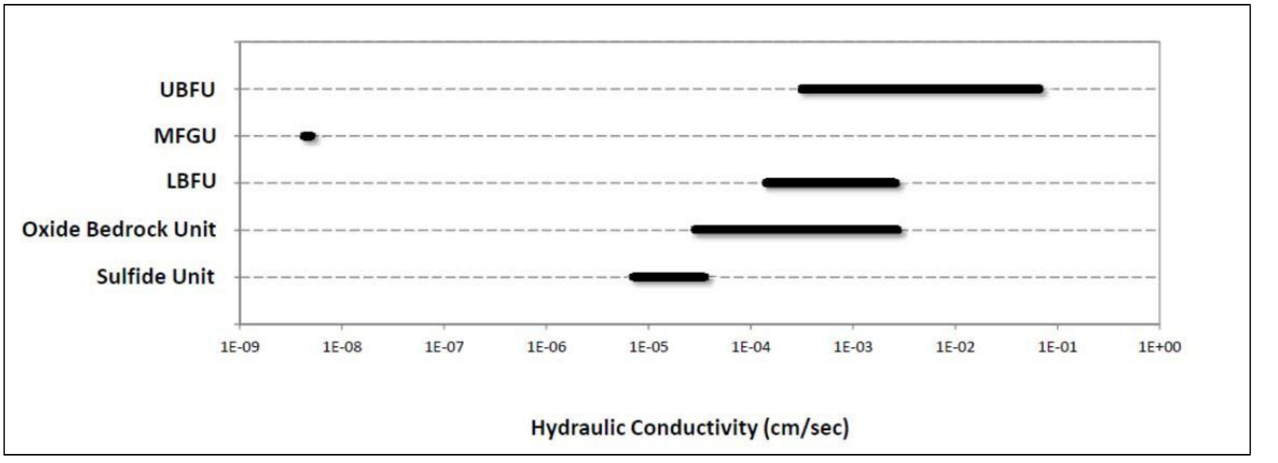


Figure 16-3: Hydraulic Conductivity

(d) Hydraulic Control and Net Groundwater Extraction

The planned ISCR facility consists of an array of injection and recovery wells that will be used to inject weak acid solution ("raffinate") and recover the copper laden solution ("PLS"). The rate of raffinate injection and PLS extraction will be approximately equal and will ramp up over the first 3 years of commercial production to reach approximately 11,000 gpm. An additional volume of groundwater will be extracted from the perimeter wells to maintain hydraulic control of the injected solutions. The aggregate injection and recovery rates, inclusive of hydraulic control pumping, in the ISCR area will be carefully controlled to ensure that fluid extraction always exceeds injection, and that hydraulic control is maintained for the duration of operations and rinsing.

The active injection and recovery well field will be surrounded by a network of perimeter wells and observation wells. Withdrawal of an additional volume of groundwater from the perimeter wells will create a cone of depression around the active ISCR well field thereby ensuring inward groundwater flow. The observation wells will be used to monitor the cone of depression and ensure that the appropriate inward groundwater gradients are maintained at all times. The Pilot Test demonstrated that hydraulic control can be established and maintained within the FCP mineralized body.

16.1 In-Situ Copper Recovery – *Cont'd*

(d) Hydraulic Control and Net Groundwater Extraction – *Cont'd*

The anticipated hydraulic control pumping rate is in the range of 3% to 10% (6% average) of the recovery pumping. When combined with other operationally required on-site groundwater pumping, net groundwater extraction is expected to be approximately 1,100 gpm. Groundwater will be extracted at the individual perimeter wells at rates ranging from 5 to 30 gpm to maintain hydraulic control. The sub-regional groundwater flow model developed by Florence Copper has demonstrated that sufficient groundwater resources exist within the Bedrock Oxide Unit and the overlying LBFU to comfortably support the net groundwater extraction rate of 1,100 gpm for the duration of the proposed ISCR operations.

Well Design

The injection and recovery well design incorporated into the FCP well field plan is based on the latest drilling and well technology as well as experience gained from the Pilot Test. The well design is compliant with the Underground Injection Control (UIC) Permit issued to Florence Copper in 1997 and with the UIC permit issued by the USEPA for operation of the PTF in December 2016. The design incorporates a casing string that extends from the ground surface to a minimum of 40 feet below the top of the Bedrock Oxide Unit. The casing string will be constructed of materials compatible with the process chemistry and designed for the well field pressures. The casing will be cemented for its entire length and must pass a mechanical integrity test as defined by the USEPA prior to being placed into service. This robust casing design will isolate the UBFU, MFGU and LBFU from the process solutions passing to and from the Bedrock Oxide Unit. Below the casing string, the injection and recovery wells will be constructed with screened intervals within the Bedrock Oxide Unit. A schematic well diagram is included as Figure 16-4.

An alternative design, as shown in Figure 16-5, will be used in the PTF well field. An allowance has been added to the initial capital cost of commercial operations to further evaluate this design, if necessary, pending the outcome of the PTF well field testing.

The network of perimeter wells and observation wells surrounding the active ISCR area will be constructed using the same well design as the injection and recovery wells.

16.1 In-Situ Copper Recovery – *Cont'd*

(d) Hydraulic Control and Net Groundwater Extraction – *Cont'd*

Well Design – *Cont'd*

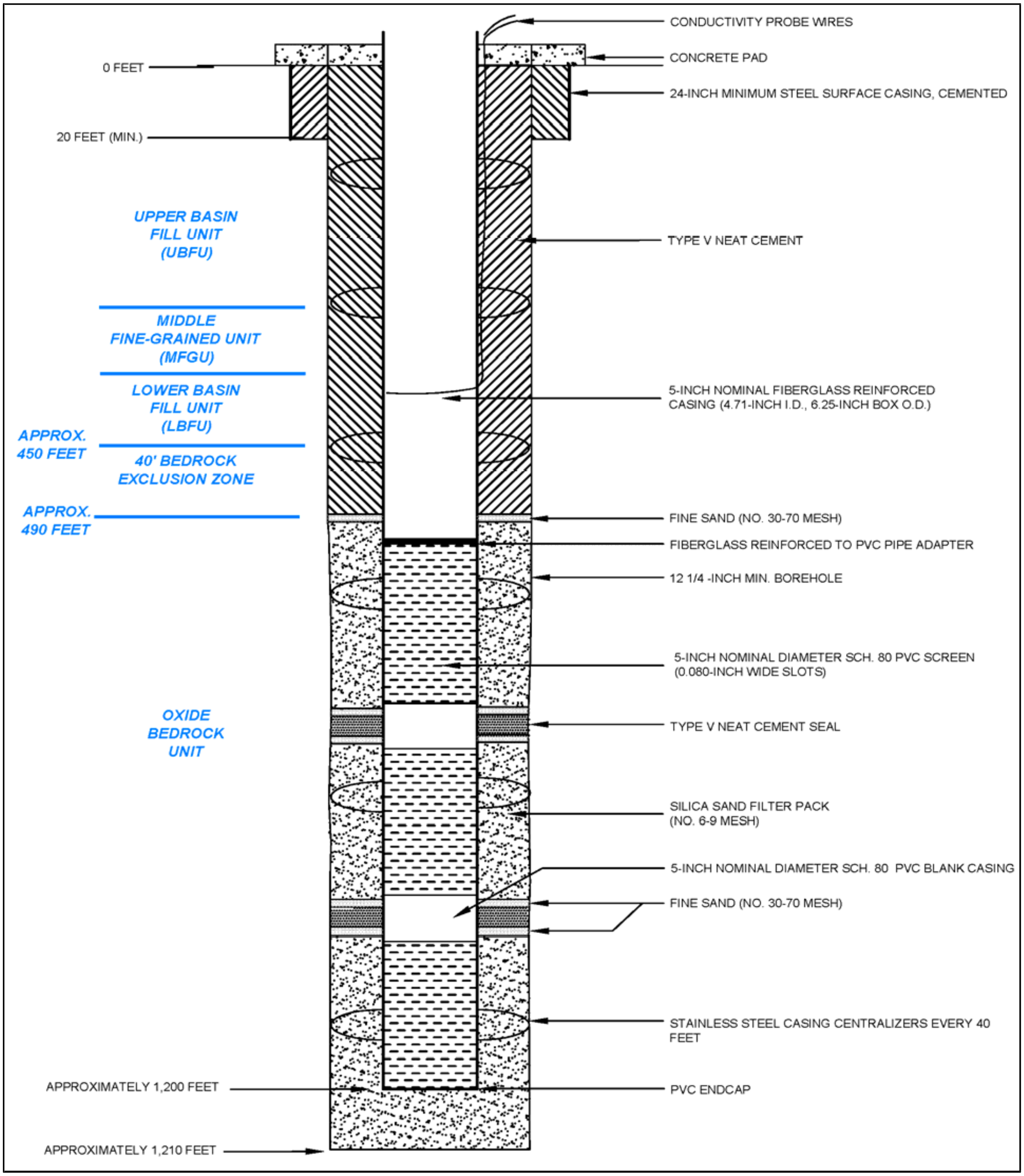


Figure 16-4: Commercial Injection and Recovery Well Design

16.1 In-Situ Copper Recovery – *Cont'd*

(d) Hydraulic Control and Net Groundwater Extraction – *Cont'd*

Well Design – *Cont'd*

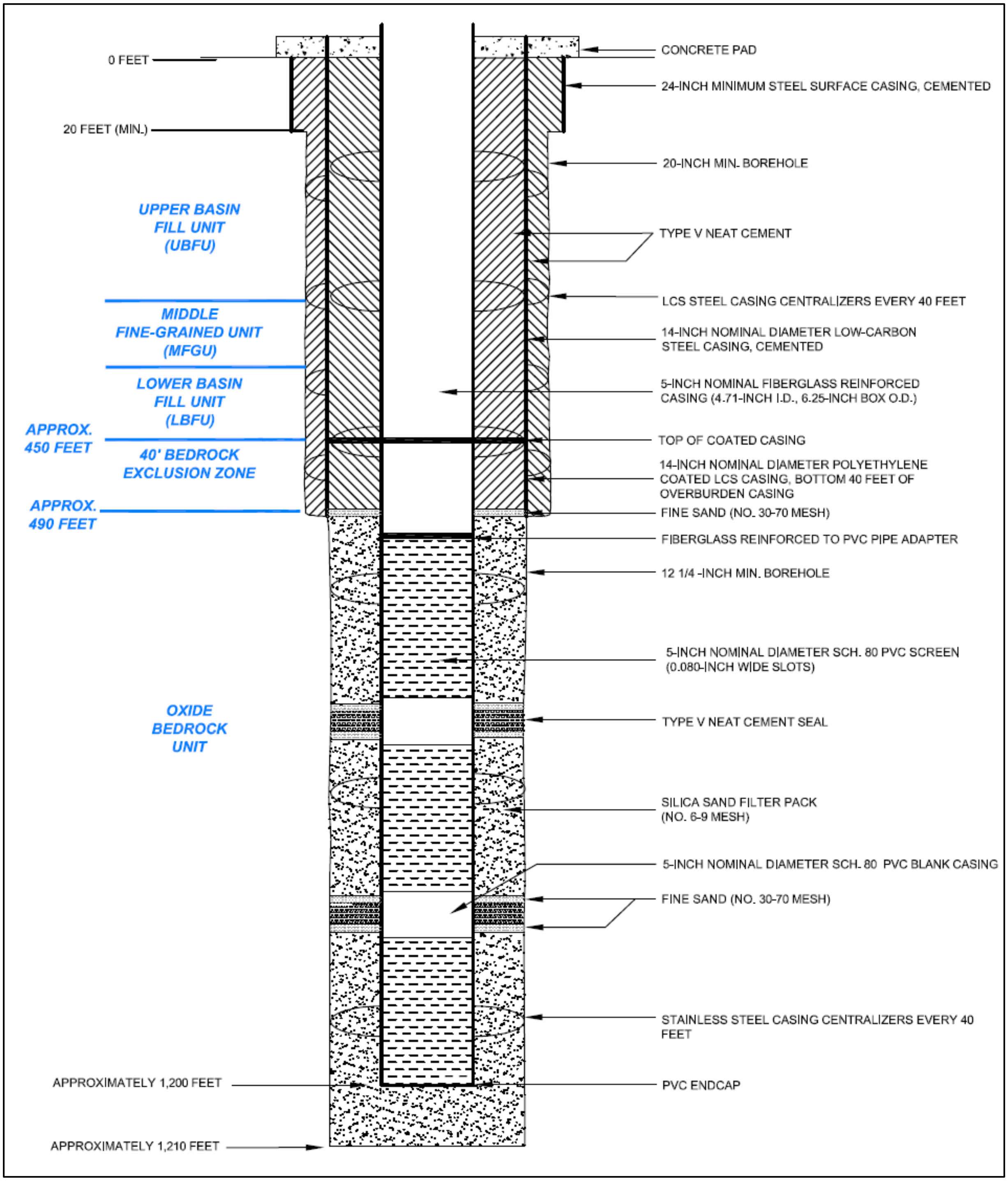


Figure 16-5: PTF Injection and Recovery Well Design

16.1 In-Situ Copper Recovery – *Cont'd*

(d) Hydraulic Control and Net Groundwater Extraction – *Cont'd*

Injection Rate

The rate at which raffinate will be introduced into each injection well will vary based on the length of the injection interval in that well. The injection interval is based on the lineal footage of screen installed in a well which is dictated by the thickness of the Bedrock Oxide Unit encountered in that well. The rate of fluid injection in wells with longer injection intervals will be greater than the rate in wells with shorter injection intervals to maintain a consistent rate of flow through the ore on a per-foot of thickness basis. In addition, Florence Copper proposes to install packers in selected wells to enhance solution distribution by isolating zones within the target formation that are not conducive to copper extraction. Florence Copper has modeled development costs based on a conservative injection rate of 0.15 gpm per foot of well screen in years 1 through 3, and 0.1 gpm per foot of well screen thereafter. This injection rate has been demonstrated in field testing to be achievable and sustainable.

Sweep Efficiency

Sweep efficiency is a term used to define the percentage of the mineralized material body contacted by injected solutions within a given injection and recovery well spacing and pattern under purely advective flow conditions. Sweep efficiency varies based on a combination of formation hydrologic properties, well spacing, and well layout pattern. The well layout for the FCP uses a five-spot well pattern. The five-spot pattern will be arranged with one injection well at the center, and four recovery wells at the corners of each square cell. Figure 16-6 illustrates a single five-spot well pattern.

The FCP well field spacing will be 100 feet from injection to injection well and recovery to recovery well yielding a distance of approximately 70 feet between injection and recovery wells. Florence Copper will refine the estimated sweep efficiency based on operational data obtained from the operation of the PTF.

16.1 In-Situ Copper Recovery – *Cont'd*

(d) Hydraulic Control and Net Groundwater Extraction – *Cont'd*

Sweep Efficiency – *Cont'd*

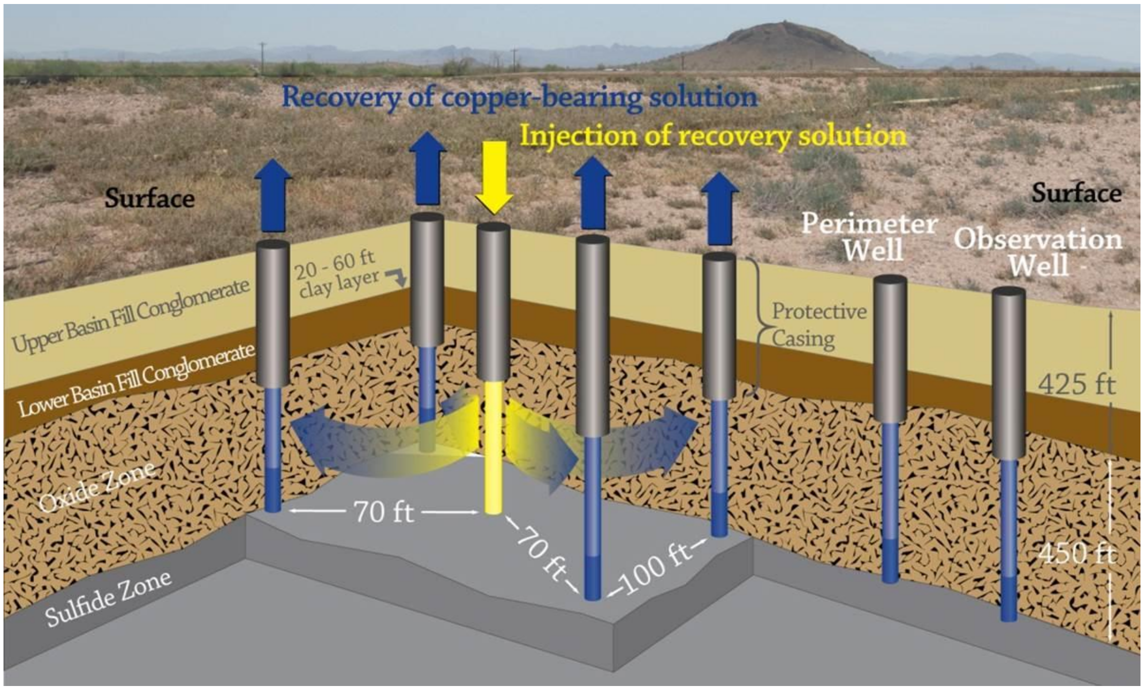


Figure 16-6: Single Five-Spot Well Pattern

16.2 Copper Extraction Plan

(a) Introduction

The copper extraction plan is designed to provide a target production of approximately 85 million pounds per year through the majority of the FCP operating life. Copper production ramps up to full monthly production in approximately 18 months and the full annual production of approximately 85 million pounds per year is achieved for the next 18 years. In year 21, production begins to decline and closure activities are initiated in year 22, although some copper continues to be produced as the well field is decommissioned. Commercial operations will have a nominal SX throughput of 11,000 gpm. A summary of the extraction plan production and flows is presented in Table 16-1. The following key parameters were used to generate the copper extraction forecast.

- The model is based 500-foot by 500-foot leach blocks and the key physical properties of these blocks (see section 14 and 15).
- Copper recovery is based on the recovery model and a conservative sweep efficiency factor over a four-year recovery cycle (see Section 13).
- The injection and recovery well flow rates are based on an average of 0.1 gpm per linear foot of well screen.

The key data for predicting copper extraction in the 500-foot by 500-foot leach blocks are the quantity of mineralized material in each block, the mineralization type and physical properties such as depth to injection zone, thickness of injection zone, and surface area within the reserve outline.

Copper recovery in each leach block is predicted to be achieved over four years. The predicted leach cycle is the result of modelling based on the combination of the metallurgical leach kinetics and a conservative sweep efficiency model. Recent test work has continued to be refined to improve the simulation of in-situ recovery and produce scale up data to allow more accurate predictions of the full scale well field. Details of the metallurgical testing and modelling are described in Section 13 of this document.

The timing of well development in the extraction plan allows sufficient time for the drilling, construction and development of the wells and infrastructure in new blocks coming on line prior to the planned copper recovery from a block.

16.2 Copper Extraction Plan – *Cont'd*

(a) Introduction – *Cont'd*

Table 16-1: Copper Extraction Plan Flow and Production Summary

Year	Copper Extracted (000,000's lbs)	Flowrate to SX/EW (gpm)	PLS Grade (gpl)	Hydraulic Control Flowrate (gpm)	Rinsing Flowrate (gpm)
-2	0	0	0	0	0
-1	0	0	0	0	0
1	52	2,800	4.2	170	0
2	80	5,900	3.1	350	0
3	86	9,400	2.1	570	0
4	86	10,700	1.8	640	0
5	86	11,200	1.7	740	1,000
6	85	10,600	1.8	700	1,100
7	86	10,100	1.9	670	1,100
8	85	10,100	1.9	710	1,600
9	85	9,900	2.0	690	1,700
10	86	9,700	2.0	680	1,600
11	85	9,300	2.1	660	1,700
12	85	9,800	2.0	700	1,900
13	85	10,000	2.0	700	1,700
14	85	10,100	1.9	700	1,600
15	85	10,700	1.8	740	1,700
16	86	11,300	1.7	780	1,600
17	86	11,700	1.7	810	1,700
18	85	11,700	1.7	800	1,700
19	85	11,700	1.7	810	1,700
20	84	11,200	1.7	770	1,600
21	36	8,300	1.0	600	1,600
22	13	6,100	0.5	480	2,000
23	4	2,700	0.3	280	2,100
24	0	0	0	120	2,000

The nominal injection and recovery well flow rate of 0.1 gpm per linear foot of well screen (i.e thickness of mineralized material under leach) is a key parameter used in the copper extraction schedule. This flow rate is applied to the mineralized material thickness of each leach block to determine the flow rate per well. In years 1 through 3 an injection and recovery flow rate of 0.15 gpm per linear foot of well screen was used to manage the PLS solution grade while the well field matures and reaches a steady state. Aquifer tests

16.2 Copper Extraction Plan – *Cont'd*

(a) Introduction – *Cont'd*

conducted within the Bedrock Oxide Zone were conducted at flow rates up to 0.25 gpm per linear foot of well screen.

(b) Copper Extraction Sequence

The copper extraction sequence begins on the ASLD lease area as an extension to the PTF well field and will utilize the PTF piping corridors. The extraction sequence initially progresses in a west to east fashion staying north of the canal. The extraction sequence is depicted graphically for select periods on Figure 16-7 through Figure 16-10.

The process of sequencing the leach blocks was done to generate a balanced copper production rate over the life of mine. The sequence generally extracts the highest value blocks first with the block value being determined by grade, thickness and depth of the deposit. The sequence is smoothed to account for practical well field development considerations. The copper extraction sequence was balanced by scheduling whole blocks and fractions of blocks in each year as necessary to provide the target copper pounds extracted.

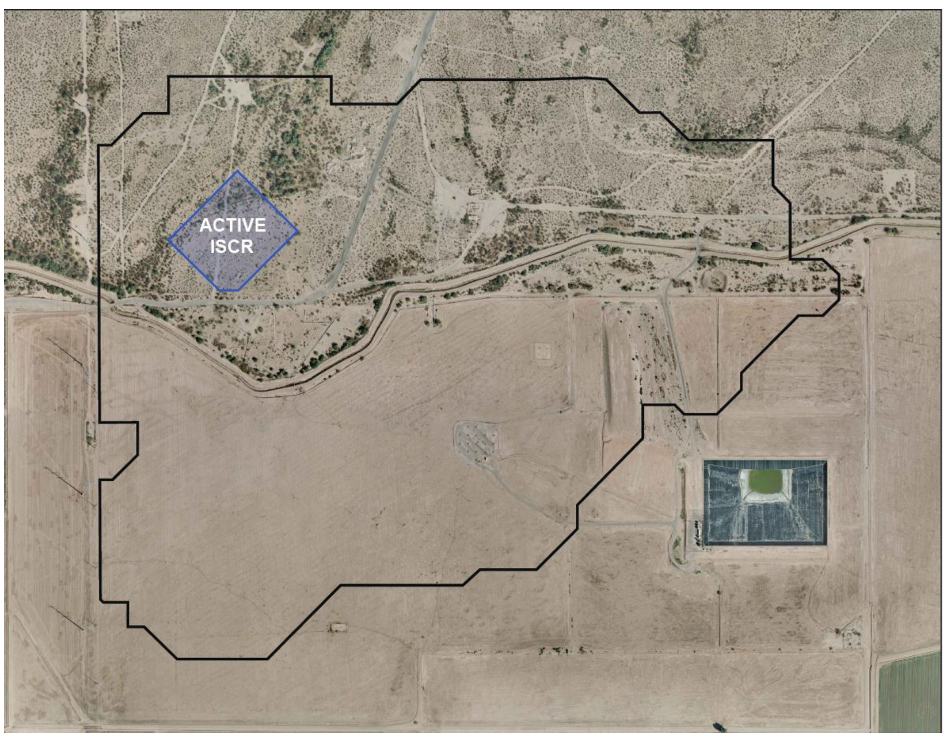


Figure 16-7: Extraction Plan – Year 1

16.2 Copper Extraction Plan – *Cont'd*

(b) Copper Extraction Sequence – *Cont'd*

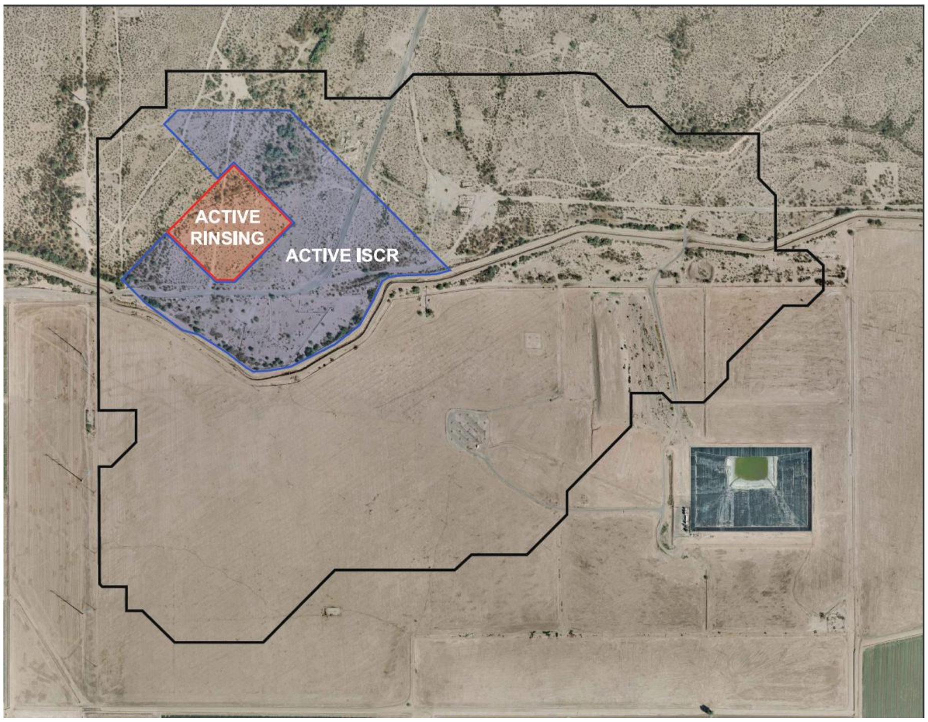


Figure 16-8: Extraction Plan – Year 5

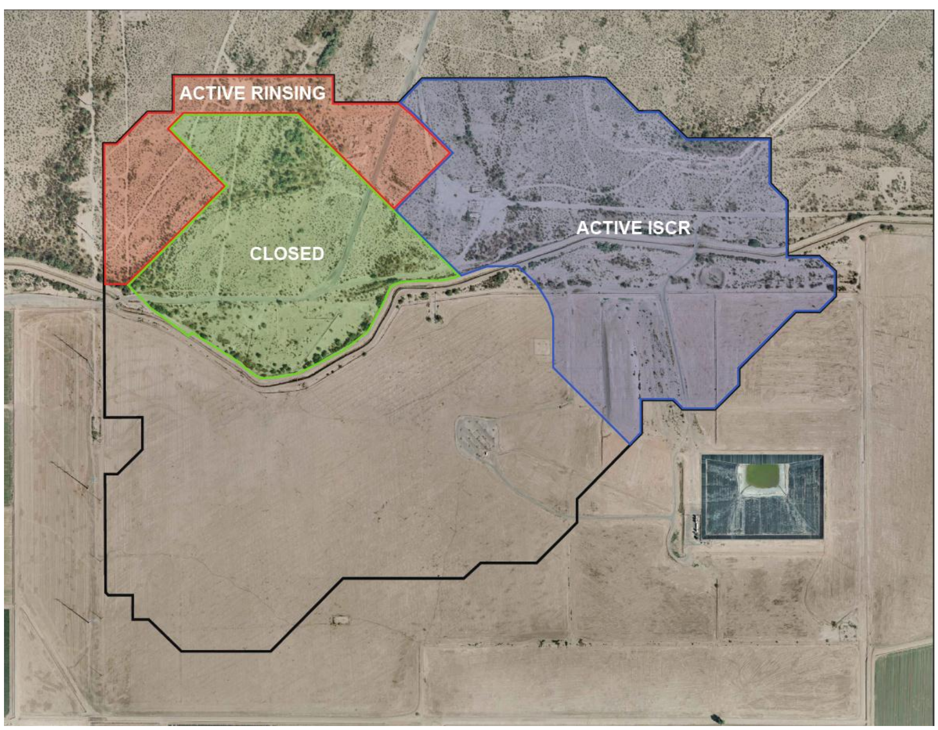


Figure 16-9: Extraction Plan – Year 11

16.2 Copper Extraction Plan – *Cont'd*

(b) Copper Extraction Sequence – *Cont'd*

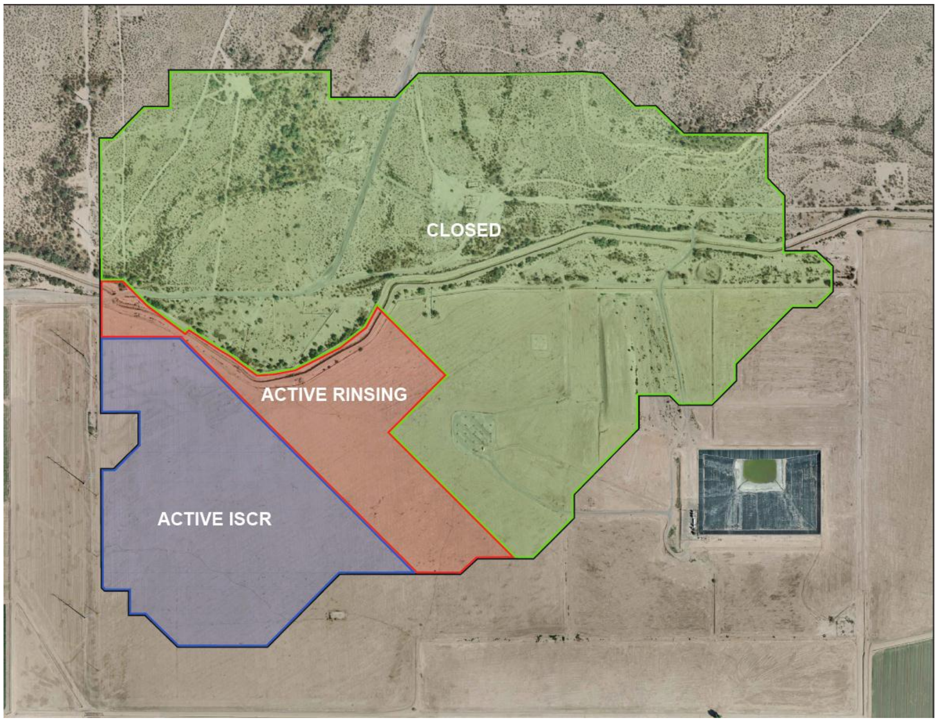


Figure 16-10: Extraction Plan – Year 20

(c) Calculation of Number of Injection and Recovery Wells

The key equipment for extraction of copper and maintaining hydraulic control in an ISCR project are the injection, recovery, perimeter, and observation wells and associated equipment. The number of wells required for each year in the copper extraction plan were determined by developing well field layouts for the ISCR area in each period as illustrated on Figure 16-7 through Figure 16-10. The well field layout uses the FCP standard base grid layout of 100 feet between wells in a row and 50 feet spacing between rows, which was then adjusted for edge effects along the edge of the reserve area, boundary effects related to the canal, and exclusion areas such as cultural sites.

There are 1,074 injection wells and 1,144 recovery wells planned for the Florence Copper ISCR area over the Project life.

16.2 Copper Extraction Plan – *Cont'd*

(c) Calculation of Number of Injection and Recovery Wells

Perimeter and observation wells are installed along the outer edge of the active ISCR area. When the active area is along the outside edge of the reserve area, the perimeter and observation wells are considered final installations; however, when the outer edge of the ISCR area is internal to the reserve area, the installation of these wells is considered interim until the well field expands past the interim perimeter based on the copper extraction sequence. In this case, the interim perimeter and observation wells are converted to injection and recovery wells depending on their location in the well grid. When the well requirements for each period in the extraction plan was calculated, any final or interim perimeter and observation wells required were included in the well total and any pre-existing interim wells which are converted to injection or recovery wells were excluded from the total wells required for that period. There are 200 final perimeter and 100 final observation wells in the FCP ISCR well field design.

(d) PLS Solution Flow Rates

PLS solution flow rates were predicted based on the physical parameters of each block scheduled for any given period. This prediction was made based on the thickness of target ore zone and the surface area of the block to determine the total linear feet of well screen in each leach block. The total screen length and injection rate are then used to calculate each blocks solution flow rate. For example, for a leach block that was 400 feet thick, had a surface area of 500 feet by 500 feet, and operated at the nominal project injection rate, the following flow rate was calculated:

- T = 400 feet of well screen per injection well;
- Number of injection wells = 25;
- Flow rate = 0.1 gpm per linear foot of well screen; and
- Block flow rate = T (400) times number of injection wells (25) times flow rate (0.1) or 1,000 gpm total for the block.

The flow rate from each block under leach is summed up for the respective production period and reported as flow to the SX Plant.

16.2 Copper Extraction Plan – *Cont'd*

(e) Hydraulic Control Solution Flow Rates

The hydraulic control flow, as mentioned above, is an important operating parameter and component of the Best Available Demonstrated Control Technology (BADCT) for the ISCR facility. Demonstration of hydraulic control is achieved by maintaining an inward hydraulic gradient towards the active ISCR area. This inward gradient is maintained through the pumping of perimeter wells located along the outer edge of the active ISCR area and monitoring of the phreatic surface around the ISCR area. The perimeter well solution flow required to maintain hydraulic control is predicted to be in the range of 3% to 10% of the injection and recovery flow in the ISCR area. On average for the Project, the perimeter well flow rate is predicted to be 6% of the injection and recovery rates in the ISCR well field. For example, in year 1 of commercial operations the predicted injection flow rate and the recovery flow rate are both approximately 2,800 gpm. On average a hydraulic control flow of an additional 170 gpm will be extracted from the perimeter wells to maintain hydraulic control.

Additional hydraulic control pumping is required when injecting water to rinse the formation after leaching is complete in a block. For example, in year 5 of commercial operations the predicted injection and recovery flow rates are approximately 11,000 gpm and the rinsing and recovery flow rates are approximately 1,000 gpm resulting in an average hydraulic control flow rate from the perimeter wells of 740 gpm.

(f) Rinse Solution Flow Rates

Rinse solution is injected and recovered to return the formation to pre-leaching water quality conditions or Aquifer Water Quality Standards ("AWQS") as defined in by the AQEQ in the Aquifer Protection Permit. The rinsing of an ISCR block occurs in three stages to achieve the desired aquifer water quality for block closure. Process solutions are first displaced from the formation with treated water, then sodium bicarbonate and iron are added to the treated rinse water being passed through the block, and finally the block is rinsed with site water.

The rinse solution is injected into the areas of the ISCR that have completed economic copper extraction. Rinsing of ISCR blocks begins in year 5 of operations when the initial well blocks complete their operating life and continues through the remainder of commercial operations at site. Rinsing will be complete within two years of the final ISCR well blocks being removed from service. The FCP extraction plan includes a rinsing plan which was developed based on maintaining consistent rinsing flow rates to allow effective and efficient water treatment plant operations. The rinsing plan includes treatment and recycling of the rinse solutions to minimize the amount of water consumed during the rinse.

16.2 Copper Extraction Plan – *Cont'd*

(f) Rinse Solution Flow Rates – *Cont'd*

The volume of rinse solution required to achieve the water quality objectives was determined by a combination of geochemical modeling and metallurgical test work. The model used sulfate as the indicator parameter for the rinsing model and a resulting sulfate to pore volume relationship was developed based on 6% equivalent porous media porosity for the FCP ore body. This relationship was verified by metallurgical testing and used in the copper extraction plan to predict rinse solution flows and timing to complete closure of each block. See Section 20.1(f) for additional details on the geochemistry model.

(g) Abandonment/Closure of Coreholes and Miscellaneous Wells

Core holes and wells which are within a 500-foot radius of an injection well will be abandoned in accordance with permit conditions prior to the injection of fluids at that injection site. There are approximately 330 existing core holes and wells within 500-feet of the entire planned ISCR area.

The existing core holes and wells have been identified in a GIS database and this database was used to determine the abandonment requirements for each year of the extraction plan. All of the abandonment requirements in the extraction plan are scheduled to occur in the year prior to an ISCR area being put into production.

(h) Mitigation of Cultural Sites

There are approximately 45 cultural sites identified on the Florence Copper property that will require mitigation prior to initiating ISCR activities in those areas. A site was included in the extraction plan for mitigation two years prior to when the site was within 500-feet of an ISCR area being placed into production, or one year prior to the commencement of construction for that well field area.

(i) Limitations/Opportunities

The copper extraction forecast only considers the probable reserves in the Bedrock Oxide Unit. There is a small amount of sulfide material and inferred resource material which falls within the design ISCR area. No recovery of copper has been accounted for from any of this material and it is therefore likely that some additional copper will be recovered during ISCR operations. This material will also consume some additional acid as acid consumption is modeled based on copper production and not tons of material in contact with solution.

16.2 Copper Extraction Plan – *Cont'd*

(i) Limitations/Opportunities – *Cont'd*

The sweep efficiency model used in the copper extraction plan predicts a conservative amount of hydrologic contact between solution and the ore formation over the ISCR leach cycle. The conservatism in the sweep efficiency model ultimately dictates the prediction of a four year leach cycle for each well field block. Metallurgical testing suggests that the leach kinetics may be faster than is estimated using the current sweep efficiency model, which would require fewer active ISCR wells to support the predicted production rates. Data obtained during the PTF will allow the sweep efficiency model to be refined and this opportunity to be evaluated prior to the construction of the commercial facility.

Florence Copper plans to test the use of inflatable hydraulic packers within injection and recovery wells to selectively isolate portions of the formation for focused injection and recovery. The use of packers has the potential to facilitate prolonged solution contact with higher hydraulic conductivity portions of the formation and improved recovery of solutions from portions of the formation that exhibit a lower hydraulic conductivity. Data generated by the testing of packers during PTF operations will allow any advantages of using packers to be incorporated into the operating plans for the commercial facility.

The ISCR operating plan does not include additional measures to maintain hydraulic control that may be used to minimize hydraulic control pumping requirements. These measures include the addition of down-gradient fresh water injection wells placed along the western and northwestern edges of the planned ISCR area to create a down-gradient curtain mound. These wells could use the same design as the operational injection and recovery wells to inject formation water, pumped from the area up gradient of the well field. This pumping and injection will allow an additional measure of operating control over the regional background hydraulic gradient, and could reduce the costs associated with maintaining hydraulic control.

The rinsing process requires a significant volume of rinse water to be passed through the formation to meet closure objectives. The rinsing plans include a water treatment process that allows for recirculation of solution to increase the rate of rinsing. There is an opportunity to optimize the water treatment technology used for the Project and potentially increase the water recovery during the treatment process. This could reduce the volume and costs of water treatment for the Project.

A study is in progress to determine if any viable commercial products can be produced from the water treatment process, i.e. commercial grade gypsum. It is possible that some of the water treatment costs could be offset if a viable commercial product can be produced.

16.2 Copper Extraction Plan – *Cont'd*

(i) Limitations/Opportunities – *Cont'd*

The planned ISCR well spacing was derived from well performance and flow rate observations made during the Pilot Test. During PTF operations, Florence Copper will use the packer assemblies described above to test the flow capacity of discrete portions of the formation. If the PTF operations are able to demonstrate that higher flow rates can be maintained while generating acceptable PLS grade, the well spacing may be increased. Increased well spacing will result in fewer wells installed to fully develop the deposit, with a net positive impact on initial and sustaining capital costs.

SECTION 17

RECOVERY METHOD

SECTION 17: RECOVERY METHOD

Table of Contents

List of Tables

List of Figures

17.1 Recovery Method

Florence Copper will utilize solvent extraction ("SX") and electrowinning ("EW") to recover copper from the pregnant leach solution ("PLS") produced in the ISCR well field. A water treatment plant will be employed to recycle water used for rinsing completed portions of the ISCR well field to minimize site water use. The recovery method is illustrated in Figure 17-1.

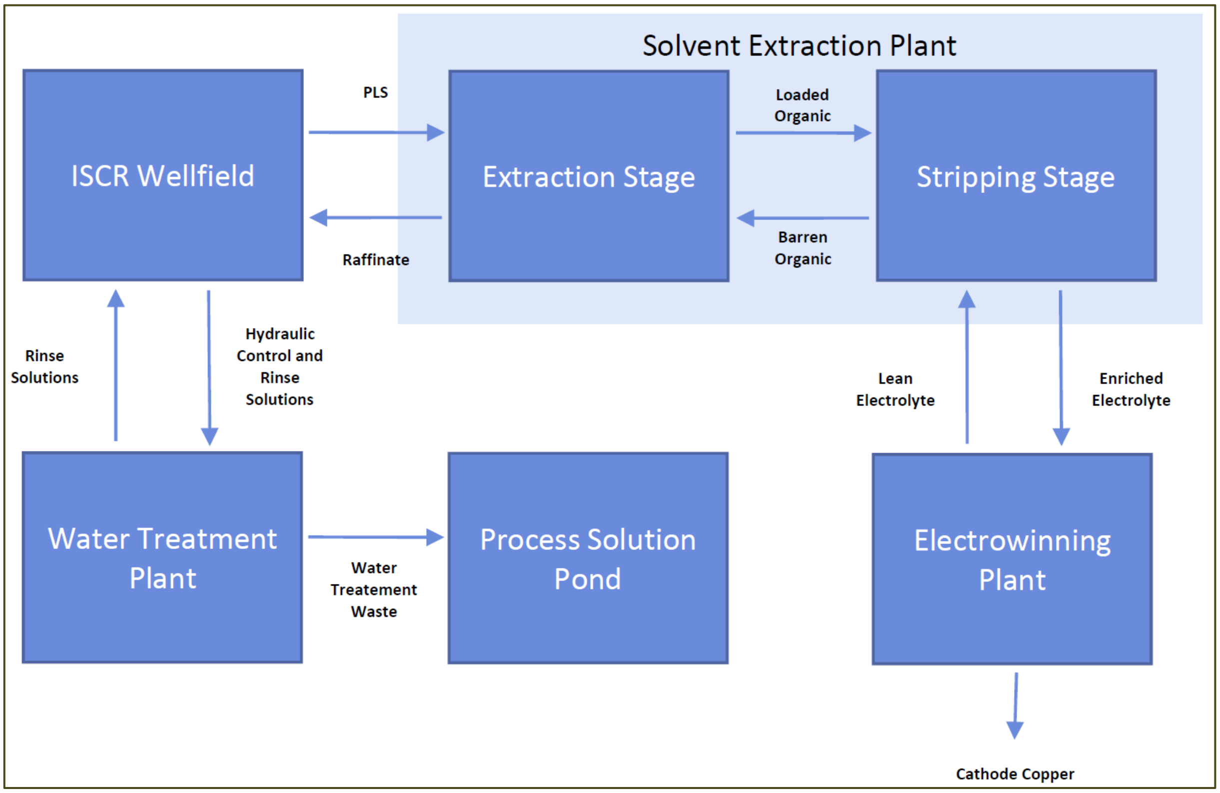


Figure 17-1: Process Block Diagram

The plant site will be located east of the PTF facilities and the well field on Florence Copper private land. The location of the plant site is shown in Figure 17-2 and the plant site layout is illustrated in Figure 17-3.

The design and function of the process facilities are discussed in the following sections.

17.1 Recovery Method – *Cont'd*

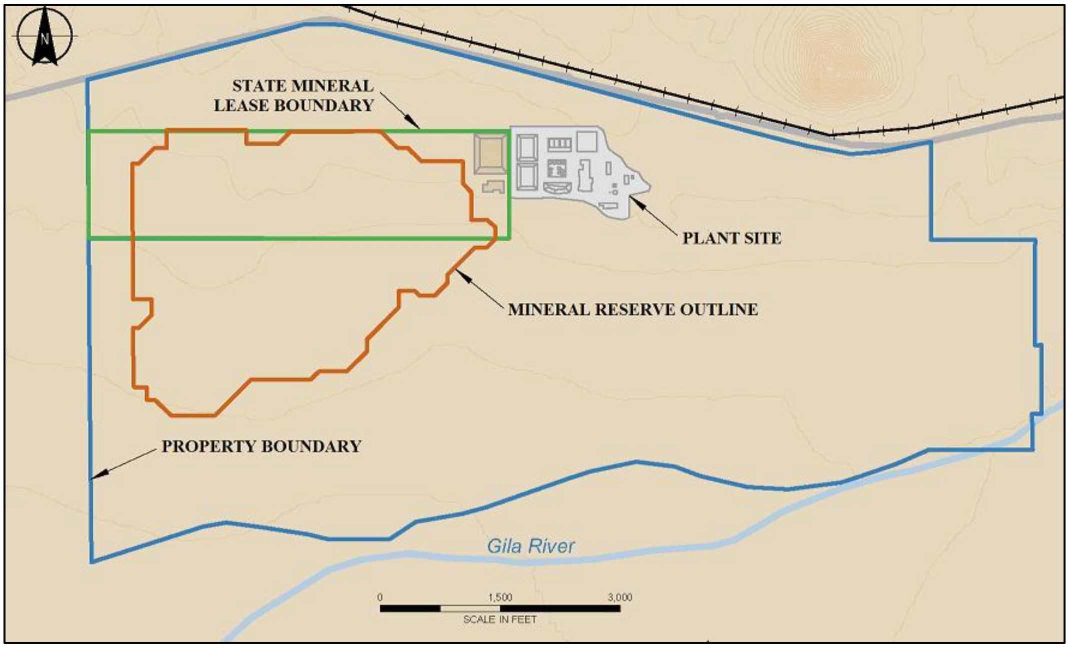


Figure 17-2: Plant Site Location

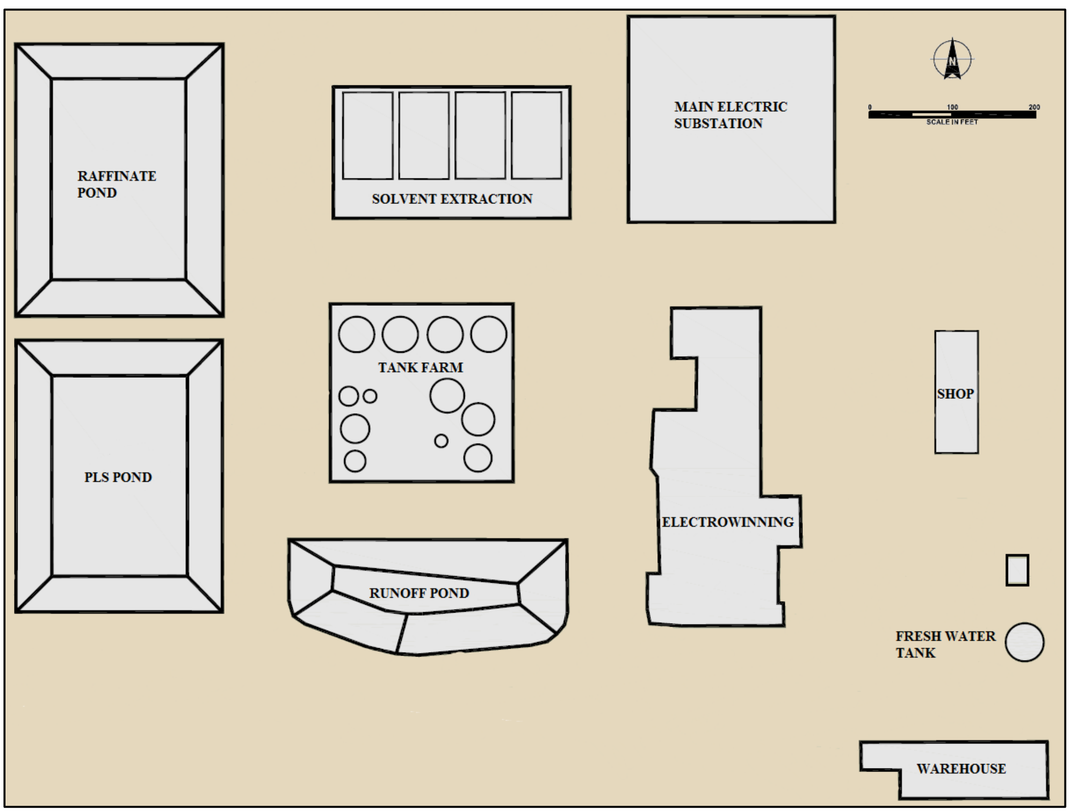


Figure 17-3: Plant Site Layout

17.2 In-Situ Copper Recovery Well Field

As described in Section 16, the ISCR well field involves the recovery of copper from the subsurface ore by injecting raffinate and recovering PLS in a series of wells.

Raffinate will be pumped to the injection wells from the Raffinate Pond via a network of high density polyethylene piping. PLS will be extracted from the recovery wells by variable speed electric submersible well pumps. PLS will be collected in a piping network and delivered to the PLS Pond. Injection and recovery flow rates will be balanced to maintain the hydraulic gradients in the well field and produce a nominal flow of eleven thousand gpm to and from the SX Plant.

Hydraulic control solution for the perimeter wells, located around the active ISCR area, will be extracted by variable speed electric submersible well pumps. Hydraulic control flow rates will be set to ensure that hydraulic control of the process solutions is maintained. The hydraulic control solution is collected in a dedicated piping network which can be directed to water treatment or the Raffinate Pond as required.

After copper recovery in an area is completed the area is rinsed to recover the process solutions and restore the aquifer to water quality standards. The rinsing process uses the same injection and recovery wells as used for copper recovery. Rinsing is conducted in conjunction with a water treatment plant that minimizes the fresh water requirements for the process.

All wellheads will be equipped with a containment area as well as the instrumentation and controls required to maintain the desired well flow rate. All process solution pipelines will be routed in lined containment corridors. The corridors between wells will alternate between pipeline routes and road access for sampling and maintenance.

17.3 Process Ponds

The PLS and raffinate ponds are located east of the well field. The ponds are designed with 10 hours of retention time to provide operational flexibility for both the SX Plant and the ISCR well field. The process ponds are designed with a double high density polyethylene liner system in accordance with BADCT standards. The Raffinate Pond is equipped with a pumping system to deliver raffinate to the well field and the PLS Pond is equipped with a pumping system to feed PLS to the SX plant.

17.4 Solvent Extraction Plant

The SX plant is located to the east of the process ponds and consists of four reverse-flow mixer-settlers and associated facilities. The plant is designed to handle a nominal PLS flow rate of eleven thousand gpm with a PLS grade of 2 grams per liter ("g/L").

Three of the SX mixer-settlers are used to extract copper from the PLS in a series-parallel configuration. These extraction stages selectively transfer the copper from the PLS into an organic solution containing a copper-specific extractant. In a series-parallel configuration, half of the PLS passes through two mixer-settlers in series and the other half of the PLS passes through one mixer settler.

The extraction mixer-settlers are designed with primary, secondary, and tertiary mix tanks to thoroughly contact the barren organic solution and PLS. The mixing and contact time facilitates transfer of copper from the PLS solution to the extractant in the organic solution. After the solutions have been contacted the mixed solutions are directed in the settler where the organic and aqueous solutions are separated. The resulting aqueous solution is adjusted to 10 g/L free acid and transferred to the Raffinate Pond for recycling to the ISCR well field.

The fourth SX mixer-settler strips the copper from the loaded organic solution produced in the extraction stages and transfers the copper to the electrolyte solution.

The strip mixer-settler is designed with primary and secondary mix tanks to contact the lean electrolyte and loaded organic solution. The loaded organic solution is stripped of its copper by the strongly acidic lean electrolyte. The mixed solutions are then separated in the settler. The stripped organic solution is re-circulated to the extraction stages to collect more copper, and the enriched electrolyte solution is routed through the EW filters in the Tank Farm. The rich electrolyte solution produced in the strip stage is the feed for the Electrowinning plant.

A simplified design criteria for the SX plant is presented in Table 17-1.

17.4 Solvent Extraction Plant – *Cont'd*

Table 17-1: Solvent Extraction Design Criteria

Parameter	Units	
PLS Flow Rate (Nominal)	gpm	11,000
Extracted Copper Concentration	g/L	1.8
Extractant	Type	M5774 or equal
SX Trains	Number	1
Extraction Organic to Aqueous	Ratio	1:1
Settler-specific Flowrate	gpm/ft^2	1.2-1.9
SX Copper Recovery (combined)	%	90
Stripping Flowrates (aqueous)	gpm	5,500
Stripping Organic to Aqueous	Ratio	1:1

17.5 Tank Farm

The Tank Farm is located south of the SX Plant and consists of process tankage as well as ancillary processes to support the SX Plant and EW Plant.

The ancillary process equipment located in the Tank Farm consists of the electrolyte filters, electrolyte heat exchanger and organic recovery systems. The electrolyte filters prevent any solids or organic solution for SX from entering the EW Plant. The organic recovery system processes the emulsion which accumulates at organic/aqueous interface in the SX settlers to recover the valuable organics.

17.6 Electrowinning Plant

The EW Plant is located south of the Tank Farm and the SX Plant. The plant consists of two parallel banks of 50 EW cells using permanent cathode blank technology. The filtered and heated electrolyte from the Tank Farm is pumped through the cells in parallel. Two rectifiers produce direct electrical current which is passed through the cells in series. The current flows from the rectifiers through the electrolyte solution in each cell causing the copper from the electrolyte to plate onto the stainless steel cathode blank.

As a result of the electrochemical reaction in the cells oxygen evolves from the electrolyte, creating a fine aerosol acid mist. To minimize acid mist emissions, the EW cells are covered and connected through a ventilation system to a scrubber. A surfactant is also added to the electrolyte to minimize the amount of mist produced. Additional reagents are also added to the electrolyte to passivate the anode plates and as a surface modifier for the cathode.

Copper is plated onto the cathode blanks over a cycle of approximately one week. When the cathodes are ready for harvest, they are carried by crane from the EW cells to an automatic stripping machine. The stripping machine washes and mechanically removes the copper sheets from each side of the cathode blank. The cathode blanks are then returned to service and the copper sheets are weighed, sampled and bundled for sale.

A simplified design criteria for the EW plant is presented in Table 17-2.

Table 17-2: Electrowinning Design Criteria

Parameter	Units	
Nominal Copper Production	Mlb/yr	85
EW Cells	Number	100
Cell Construction	Type	Polymer Concrete
Current Density (nominal/design)	A/ft^2	27/30
Cathodes	Type	316L SS Blanks
Cathodes per cell	Number	66
Anodes	Type	Rolled Pb/Ca/Sn
Anodes per cell	Number	67
Rectifiers	Number	2
Rectifier Voltage (nominal)	V	230
Rectifier Amps (nominal)	A	43,000
Cell Feed Copper Concentration	g/L	38
Cell Feed Sulfuric Acid	g/L	176
Cell Feed Flowrate	gpm/cell	70

17.7 Water Treatment Plant

Florence Copper will operate as a zero-discharge facility and excess water resulting from the ISCR process is managed by water treatment to maximize water reuse in the process. The water which will be treated comes from groundwater hydraulic control pumping, rinsing water used in the closure of completed ISCR blocks and excess solutions from the process plant. A water treatment plant consisting of neutralization, filtration, and reverse osmosis stages will commence operation when rinsing of the first ISCR blocks begins in year 5. Prior to the start of rinsing, Florence Copper will operate a small neutralization circuit designed to treat any excess process solutions. Waste resulting from the treatment plant will be stored in lined ponds. Work is underway to evaluate the option of producing commercial products, like gypsum, from these solids to reduce or eliminate the need to store them on-site. Additional details on the Water Treatment Plant are available in Section 20.2.

SECTION 18

PROJECT INFRASTRUCTURE

SECTION 18: PROJECT INFRASTRUCTURE

Table of Contents

18.1 Project Infrastructure

Florence Copper is located in a serviced area within the town of Florence, Arizona (see Figure 17-1). The site has, or has access in close proximity, to the supporting infrastructure required for the planned ISCR operations including road access, rail access, power, water and natural gas. A summary of the infrastructure requirements for the project is given in the following sections.

18.2 Site Access

Access to the Florence Copper site is from Hunt Highway, two miles west of U.S. Highway 79 north of Florence, Arizona. Hunt Highway runs along the entire northern border of the Florence Copper property. The Hunt Highway is presently a two-lane paved highway, but the Town has plans to upgrade it to a divided highway in the future. Some road improvements, specifically adding a left turn lane for westbound traffic, will be needed during the development of the operations at Florence Copper for safe handling of traffic in and out of the property.

18.3 Rail Access

The Copper Basin Railroad is located just north of Hunt Highway in close proximity to the Florence Copper site. The Copper Basin Railroad is a federally regulated short line rail carrier with interconnections to the Union Pacific Railroad and San Manuel Arizona Railroad. There is an existing rail loading siding less than a mile east of the property that could be considered for shipping and receiving products and goods.

18.4 Power

Power for the site is available from a major power transmission corridor on the west side of the property. Power for Florence Copper will be provided by Arizona Public Service Electric (“APS”), which has a 69 kilovolt (kV) transmission line available for use at the northwest corner of the site. Approximately one half mile of 69 kV transmission line is required to be constructed to feed the proposed site substation. APS will provide the substation transformer and provide power at the primary voltage rate. APS will also be responsible for providing a portable spare transformer, eliminating the need for Florence Copper to install a redundant spare.

18.5 Water

Potable water is available onsite from an existing water supply well and potable water treatment plant for consumptive drinking, safety showers, lavatory, and toilet facilities. Process and fire suppression water will be provided by an existing water supply well on the site. A pipeline will be constructed from the existing well to a process/firewater storage tank at the plant site.

18.6 Sanitary Disposal

Sanitary disposal services are provided by an existing septic system for the administration building. Additional septic systems will be installed for the warehouse, gatehouse, Electrowinning Tankhouse, and well field maintenance building as part of the project construction which will use holding tanks that will be pumped out on a regular basis.

18.7 Natural Gas

Natural gas is available from Southwest Gas from their Poston Butte Loop, approximately one mile to the east of the site. A 4-inch main pipeline to the property entrance and a 2-inch distribution pipeline to the plant site will be installed as part of the project construction. Natural gas for the process will be primarily used to power the process hot water heater for the Electrowinning Tankhouse.

18.8 Ancillary Facilities

The Florence Copper project scope includes the construction of all of the ancillary facilities required to operate the process facilities. The ancillary facilities include:

- Security, safety and first aid facilities,
- Warehouse and storage areas,
- Assay laboratory facilities,
- Fuel storage and dispensing,
- Maintenance and workshop areas,
- Worker change house and wash-up facilities.

SECTION 19

MARKET STUDIES AND CONTRACTS

SECTION 19: MARKET STUDIES AND CONTRACTS

Table of Contents

19.1 Market Studies

Taseko believes there will continue to be demand for copper for the foreseeable future and there will be a continuing need to replace depleted reserves from existing mines. Copper prices have benefitted recently from demand growth and declining inventory levels. Additionally, the expectation of continued demand from Asia, global economic growth, limited availability of scrap, and constrained sources of new supply should continue to lend support to prices.

The FCP will produce copper cathode which is predicted to meet LME Grade "A" specifications and which is a high volume, in demand, commodity. Florence Copper is in the final permitting stages for the PTF which, in addition to demonstrating the operation of the ISCR well field, will include a fully integrated demonstration scale SX/EW plant producing cathode copper.

The base case copper price used for the economic analysis in this report is $3.00 per pound. This copper price was selected as a reasonable long term average price based on a review of historic copper pricing as well as published analyst and bank predictions of future prices reviewed by the author. Long term pricing is appropriate for the FCP due to the long production life of the project as well as anticipated development timeline.

19.2 Contracts

Florence Copper has committed 19% of its copper production at market terms for the life of project to RK Mine Finance Trust I. The remainder of the life of project copper cathode production is uncommitted and will be sold in the open market, or through off-take arrangements yet to be negotiated.

There are currently no contracts for operating supplies, reagents, transportation or other items related to future commercial operations of the project.

SECTION 20

ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

SECTION 20: ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Table of Contents

List of Tables

List of Figures

20.1 Environmental Studies

(a) Introduction

The Florence Copper site has been the subject of numerous environmental studies dating as far back as the 1970's. These studies have been incorporated into the operations and closure plans for the project and included in the capital and operating costs as appropriate. A summary of the results of the environmental studies conducted on the project site is included in the following sections.

(b) Jurisdictional Water Review

Westland Resources, Inc. ("Westland") reviewed the project site for potential jurisdictional waters as defined by Section 404 of the Clean Water Act. Westland concluded that potential jurisdictional waters exist at one small, unnamed wash on the east side of the project site. The project is designed to minimize or avoid disturbance of the potential jurisdictional waters.

(c) Archaeological Investigations

The Florence Copper site has a long history of archaeological investigations dating back to the 1970's. Investigations have documented a total of 59 archaeological sites on the property of which 42 have been determined eligible for inclusion in the National Register of Historic Places ("NRHP"). A further eight sites have been determined not eligible; seven sites are of undetermined eligibility; and effects at two sites were mitigated in 1997.

One historic period resource within the Area of Potential Effects of the project has been determined eligible for inclusion in the NRHP. This resource is the North Side Canal (AZ U:15:415 [ASM]) which bisects the Florence Copper property along an east-west axis. The canal is owned by the Bureau of Indian Affairs San Carlos Irrigation Project which issued a letter to Florence Copper in October 2011 verifying that there are no encroachment issues with upgrading the three existing canal crossings at the site for operational activities. Other than upgrading the canal crossings, the project will not require any changes to the canal.

An updated cultural resource inventory was prepared by Western Cultural Resource Management ("WCRM") in 2011. This inventory resulted in the development of a cultural resource mitigation plan which includes avoidance of sites where possible and mitigation of sites which cannot be avoided. The project development plan includes the timing and costs associated with mitigation of the affected sites.

20.1 Environmental Studies– *Cont'd*

(c) Archaeological Investigations – *Cont'd*

The project will be subject to Section 106 of the National Historic Preservation Act, and Arizona human remains statue §41-844 as well as the Arizona Historic Preservation Act and the Arizona Antiquities Act on the Arizona State Land parcel. A Memorandum of Agreement is in place, see Section 4.7(l), covering the cultural resource mitigation activities required to undertake the Production Test Facility ("PTF"). The archaeological data recovery phase of the PTF work has recently been completed and the second of the two phase data recovery effort is underway.

(d) Wildlife and Threatened & Endangered Species Investigations

A biological evaluation of the 620 acres of the Florence Copper site which would be included in the project development was undertaken by Westland in 2011. The evaluation study found no listed threatened and endangered species on or near the project area. There is also no designated or proposed critical habitat on the project area.

Potential, although not ideal, habitat for one candidate species under the Endangered Species Act ("ESA"), the Tucson shovel-nosed snake, was identified in the project area. One species proposed for listing under the ESA, the mountain plover, has the potential to occur at the project area during its non-breeding season. One species protected under the Migratory Bird Treaty Act but not listed in the ESA, the western burrowing owl, also has the potential to occur on the project area.

The Florence Copper site design includes chain-link fencing around the ponds and processing area to minimize potential for interactions between wildlife and operating activities.

20.1 Environmental Studies – *Cont'd*

(e) Groundwater Quality Sampling and Analyses

An extensive groundwater characterization program was conducted as part of the Aquifer Protection Permit ("APP") and the Underground Injection Control ("UIC") Permit processes undertaken in the 1990s required by regulations of the Arizona Department of Environmental Quality ("ADEQ") and the United States Environmental Protection Agency ("USEPA"). Data from the program were used to develop groundwater flow and transport models as well as to establish the required baselines which serve as the statistical foundation for permit Alert Levels ("ALs") and Aquifer Quality Limits ("AQLs") at the Point of Compliance ("POC") wells. The APP and UIC permits were issued in 1997 and a compliance monitoring program involving 31 POC wells was initiated in accordance with requirements specified in the permits. Reports of sampling and analytical results are submitted quarterly to ADEQ and USEPA. Compliance sampling in these wells is ongoing and sampling to date has met the water quality compliance standards.

Additional water quality monitoring was conducted from 1997 through to 2007 in the BHP field test area. The monitoring included groundwater sampling before, during and after the test. Additional details are included in subsection (h) below.

(f) Groundwater Geochemical Modeling

Schlumberger Water Services prepared a geochemical model for Florence Copper in 2012 to address closure requirements in the APP and UIC application processes. The geochemical model combined the results of laboratory column tests, the BHP field test, and mineralogical evaluations to model the planned ISCR process. The model provides a predictive tool to determine solution chemistry during operation and rinsing as well as post closure for the ISCR area. The results of the modelling indicate that rinsing with 8.5 to 9 pore volumes of natural formation water will achieve post-closure water chemistry objectives.

20.1 Environmental Studies – *Cont'd*

(g) Groundwater Hydrologic Modeling

Several sub-regional groundwater flow models have been developed and refined for the project since 1996. The current model, updated by Haley & Aldrich in 2012, includes a domain covering an area of approximately 125 square miles with the ISCR well field area located at the center. The model is based on 14 years (1996-2010) of on-site groundwater elevation data and Arizona Department of Water Resources recharge, pumping, and water level elevation datasets for the broader model domain. The model was calibrated using publicly available groundwater data for the period of 1984 to 2010.

The groundwater flow model allows predictive simulations for the long term pumping required for the planned ISCR inclusive of formation rinsing and post-closure water quality predictions. The model also demonstrates that sufficient groundwater resources are available to support the proposed commercial development of the Florence Copper project with minor residual groundwater level impacts.

(h) Hydraulic Control and Rinsing Test

The BHP field test included pre-operational compliance testing to demonstrate hydraulic control as required by the APP. The hydraulic control demonstration was conducted from November 1997 through February 1998. The test demonstrated that four pairs of pumping and observation wells were adequate to create a continuous inward hydraulic gradient in the aquifer to the satisfaction of the company and the ADEQ.

The BHP field test proceeded through a brief leaching phase followed by rinsing to meet the closure obligations in the APP. The rinsing conducted on the test well field demonstrated that, through a combination of injection and passive inflow of fresh formation water, the sulfate and other constituent concentrations were returned to levels established in the APP for closure.

20.2 Waste Disposal

The ISCR process will produce substantially lower volumes of process waste than traditional mining methods. ISCR process waste will be limited to solids derived from water treatment.

In the first four years of operations, prior to rinsing commencing, a small neutralization plant will process excess hydraulic control flows and process solution. The treated water will be evaporated from a lined process solution pond.

In year 5, a water treatment plant consisting of high density solids treatment with lime neutralization, followed by low pressure microfiltration and reverse osmosis will commence operations. The flow to the water treatment plant will be comprised of three primary solution streams. The largest stream will be the rinse solutions used in the ISCR well field to restore the groundwater to aquifer quality standards after copper recovery has been completed. The remaining streams will consist of excess water from hydraulic control pumping around the active well field and low volumes of excess process solutions.

The water treatment plant will have a design capacity of 3,000 gpm and approximately half of the water will be recovered for re-use with the remainder being evaporated. The water treatment plant is designed to produce water for rinsing which contains less than 150 ppm sulfate and meets water quality standards for other constituents.

The solids produced by the water treatment system will be deposited in lined ponds designed to best available demonstrated control technology standards to receive process fluids and solids. A total of approximately one million tons of non-hazardous solids is estimated to be produced over the life of the ISCR facility. The project includes five ponds for storage of these solids which are constructed through the project life when required.

20.3 Water Balance

The Florence Copper project will be managed at a neutral water balance and have minimal impact on groundwater resources. The project is supplied water from the ISCR well field and groundwater sources and will treat water for return to the process to the maximum extent possible. Any process solutions which are not recycled or reused on the site will be evaporated.

20.4 Permitting Requirements

Several environmental permits are required for operation of the Florence Copper project. A comprehensive list of the required permits and a description of the status of those permits is provided in Section 4.7 of this report.

State and Federal permitting authorities have reviewed all Florence Copper's technical, development and environmental protection measures proposed for the PTF and issued the APP on August 2, 2016 and UIC Permit on December 21, 2016. An appeal of the APP is before the Water Quality Appeals Board and an appeal of the UIC has been filed to Environmental Appeals Board. When these permits are finalized Florence Copper will have all the permits required to proceed with the PTF.

Permit applications for commercial operations have been temporarily suspended and will be pursued as soon as the necessary data is obtained from the PTF to support the issuance of those permits.

Florence Copper's private property in the Town of Florence has been known to support active mining operations or investigations for some forty years, although in recent years the Town of Florence has zoned it for a mix of residential, commercial and industrial uses. The State Land portion of the project is not subject to the Town's jurisdiction.

20.5 Sustainable Community Development

(a) Approach, Mission and Vision

Florence Copper will follow best practices currently used in the extractive sector to support social, community and sustainable development, including:

- Foster mutually beneficial relationships and alliances among communities, companies and governments.
- Build capacity within governments, companies and communities to address sustainable development issues at the local level.
- Contribute the value-adding potential of mine development and operation in support of sustainable social and economic development.

(b) Principles

Florence Copper will adhere to the following principles.

Health and Safety

Provide and maintain safe and healthy working conditions, and establish operating practices which safeguard employees and physical assets.

- Meet or exceed all industry standards and legislative requirements
- Develop and enforce safe work rules and procedures
- Provide employees with the information and training necessary for them to perform their work safely and efficiently
- Acquire and maintain materials, equipment and facilities so as to promote good health and safety
- Encourage employees at all levels to take a leadership role in accident prevention and report and/or correct unsafe situations

Stakeholder Engagement

Engage with governments, communities, indigenous peoples, organizations, groups and individuals on the basis of respect, fairness, transparency, and with meaningful consultation and participation.

20.5 Sustainable Community Development – *Cont'd*

(b) Principles – *Cont'd*

Community Development

Establish mutually beneficial relationships which help contribute to the advancement and achievement of local community goals and priorities.

Environment and Society

Florence Copper is committed to continual improvement in the protection of human health and stewardship of the natural environment. We will:

- Prevent pollution, within the bounds of our operations
- Comply with relevant environmental legislation, regulations, and corporate requirements
- Integrate environmental policies, programs, and practices into all activities of our operations
- Ensure that all employees understand their environmental responsibilities and encourage dialogue on environmental issues
- Develop, maintain, and test emergency preparedness plans to endure protection of the environment, workers, and the public
- Work with Government and the public to develop effective and efficient measures to improve protection of the environment, based on sound science.

Resource Use

Use land, water and energy resources responsibly; strive to maintain the integrity and diversity of ecological systems; and apply integrated approaches to land use.

Human Rights

Respect human rights and local cultures, customs and values in all of our dealings.

Labor Relations

Provide fair treatment, non-discrimination and equal opportunity for employees and comply with labor and employment laws in the jurisdictions in which we work.

20.5 Sustainable Community Development – *Cont'd*

(c) Community Outreach Program/Activities

Since 2009 Florence Copper has engaged in a community outreach program and commensurate activities. Public consultation, education, and ongoing dialogue within various stakeholder communities are ongoing. From 2010 to the present, primary, secondary, and peripheral stakeholders have been consulted. Figure 20-1illustrates the project stakeholders.

Primary stakeholders of Florence Copper include Florence residents and seasonal residents; and those businesses within communities that are likely to be directly impacted by the project. Secondary stakeholders are those municipalities and their residents in proximity to Florence Copper that are likely to be impacted by operations (e.g., Coolidge, Arizona). Peripheral stakeholders include County and State agencies and elected leaders at various levels of government.

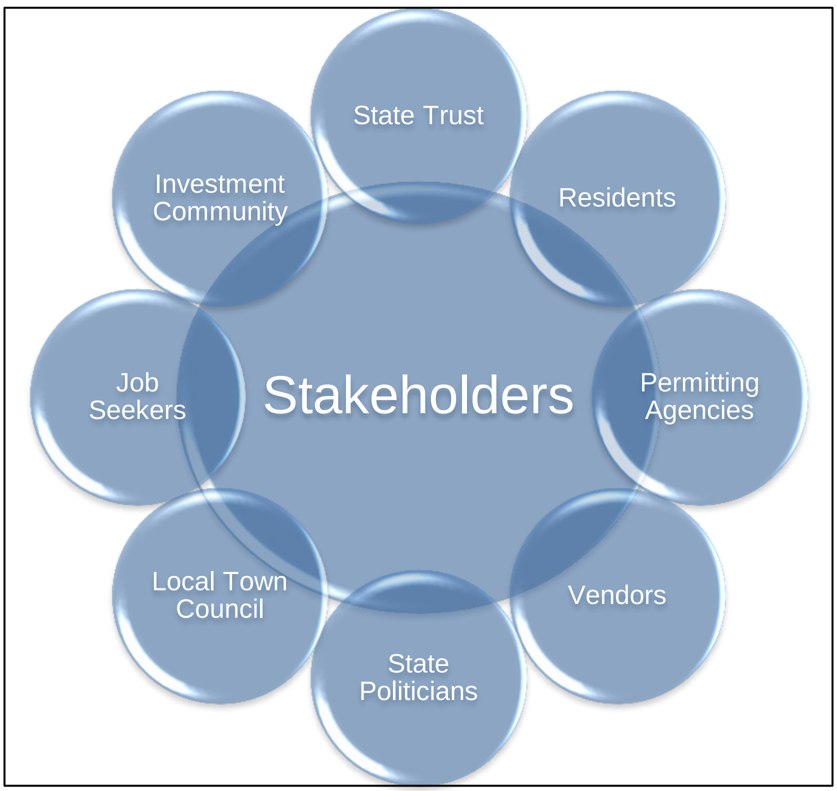


Figure 20-1: Stakeholder Diagram

20.5 Sustainable Community Development – *Cont'd*

(c) Community Outreach Program/Activities – *Cont'd*

Objectives

General objectives of the FCP community outreach program include the following:

- Disseminate factual information and enhance the community's awareness and understanding about the project.
- Build local, regional, and state-wide understanding and support for Florence Copper.
- Provide ongoing opportunities for two-way dialogue with project stakeholders through a wide range of communication programs and channels.
- Ensure local stakeholders have access to up-to-date and accurate information on Florence Copper.

Public Information Program Elements

Below is a list of community public information program elements employed and completed since the inception of initial work at the FCP. These initiatives are designed to generate community involvement and understanding surrounding the proposed project.

- Site Tours and Presentation: Staff continues to host regular site tours of the FCP property for all interested stakeholder groups and individuals. Since 2010 to present more than 1,980 Florence residents, community leaders, and business owners have toured the site -- over 217 tours. Each year dozens of off-site presentations are given on the project.
- Industry Organizations: Participation in industry organizations at the regional and state level.
- Local Advertising: Consistent communication in the region via traditional advertising channels.
- Communications, Collateral & Media: Regular communication to stakeholders and stakeholder organizations. Communications via electronic newsletter, email updates, and the Florence Copper website.
- Community Office: Florence Copper maintains a community office at a main street location welcoming residents and visitors 5 days a week.

20.5 Sustainable Community Development – *Cont'd*

(d) Local Hire and Procurement

The following principles guide the hiring and procurement practices at Florence Copper:

- Florence Copper believes its success as a company is tied to the success of the local communities in which it invests and operates. For this reason, local people receive priority consideration for employment, based on qualifications and merit.
- Local qualified contractors, equipment suppliers and service providers will be given first consideration for opportunities. We expect our suppliers to share our commitment to investing in local community success through their respective purchasing, hiring, contracting and logistical support practices.

Consideration for awarding new employment and contract opportunities will always be based on qualifications and merit. Among qualified candidates and companies, preference will be given to those in closest proximity to Florence Copper's operations.

(e) Economic Summary

The establishment of Florence Copper is expected to result in a number of economic benefits for Florence, Pinal County, and Arizona. In addition to the aforementioned merits, the project will:

- Significantly increase the percentage of private sector employment in Florence.
- Increase employment opportunities for skilled workers in Florence and Pinal County.
- Add economic diversity to the region and complete the "Copper Corridor" in Arizona.
- Increase the number of high wage jobs in Florence and the region.
- Offer an incentive for younger workers to live in Florence and Pinal County.
- Demonstrate good environmental operating practices, social responsibility and economic viability.

The economic impacts of the Florence Copper project on the State and County are shown in Table 20-1.

20.5 Sustainable Community Development – *Cont'd*

(e) Economic Summary – *Cont'd*

Table 20-1: Economic Impact of Florence Copper Project By Phase

Impact Category	Construction Phase	Production Phase	Reclamation/ Closure Phase	Total
Gross State Product*				
Arizona	180	3,110	60	3,350
Pinal County	70	2,020	35	2,120
Total Employment (Jobs)				
Arizona	930	860	130	800
Pinal County	230	530	110	480
Personal Income*				
Arizona	93	1,800	89	1,980
Pinal County	45	870	43	960
State Revenue*				
From Activity in Arizona	14	150	36	200
From Activity in Pinal Co.	13	140	33	190

** Values in ($000,000's)*
Source: REMI Model of Arizona and Pinal Co. economies

20.6 Mine Closure Requirements and Costs

(a) Closure Costs

The Florence Copper project plan includes the site closure requirements which consist of restoration of the property and aquifer to pre-mining conditions. A detailed closure cost estimate was undertaken for the project as part of the 2010 significant amendment application to the ADEQ for the site APP. A summary of that estimate is shown in Table 20-2.

Table 20-2: Closure Cost Estimate

	Estimated Cost (000,000's)
ISCR Groundwater Restoration	$26
ISCR Well Closure and Abandonment	$6
Process Facilities and Ponds	$3
Contingency	$5
Administrative and Miscellaneous Expenses	$4
Total	$44

The closure cost estimate was reviewed considering the new well field extraction plan and using current costs associated with well closures, water treatment, commodities and labor. The $44 million estimated closure cost remains valid. The closure cost estimate is expected to form the basis of the project bonding requirement which Florence Copper will be required to post as a guarantee that the closure obligations will be met. The project plan includes this bonding on a 50% cash bond and 50% surety bond basis.

The Florence Copper operating plan includes ongoing progressive reclamation throughout operations. As ISCR well field areas complete the copper extraction cycle, the areas will be rinsed to restore the aquifer to water quality standards and the wells will be closed and abandoned. Reclamation and remediation activities are expected to be completed within 3 years of the final ISCR wells completing their economic life. The costs associated with these closure activities are included in the project operating costs.

(b) Post Closure Costs

The Florence Copper project will also have post-closure costs associated with monitoring POC wells for a period of 30 years after closure of the site. After the monitoring period has been completed the POC wells will be closed and abandoned. The cost for monitoring and ultimate closure of the POC wells is estimated at less than $2 million.

SECTION 21

CAPITAL AND OPERATING COSTS

SECTION 21: CAPITAL AND OPERATING COSTS

Table of Contents

List of Tables

21.1 Capital Cost

(a) Introduction

The initial capital cost estimated for the Florence Copper project includes all construction and pre-production operations required to bring the Florence Copper project into production. Costs are in Q4, 2016 United States dollars and the accuracy level for the estimate is ±20%.

A summary of the pre-production capital costs estimated for the FCP are shown in Table 21-1. Details of the direct and indirect costs are presented in the following sections.

Table 21-1: Summary of Pre-Production Capital Costs

	Capital Cost (000,000's)
Direct Costs	
Initial ISCR Well Field	$58
SX/EW Plant	$49
Site Infrastructure	$14
Subtotal Direct Costs	$122
Indirect Costs	
Construction Indirects	$24
Owner's Costs	$21
Contingency	$37
Subtotal Indirect Costs	$83
Total	$204

The sustaining capital estimated for the Florence Copper project includes the well field construction and water treatment facilities required to support production through the project life. The total sustaining capital estimated for the project is $713 million and the sustaining capital expenditures occur over the life of the project. Details of the sustaining capital expenditures are presented in subsection (g) below.

21.1 Capital Cost – *Cont'd*

(b) Initial ISCR Well Field

The capital cost estimate for the initial ISCR well field is based on contractor costs for drilling, well testing, and construction of the well field infrastructure. Well field infrastructure includes maintenance facilities, process ponds, raffinate pumping system, pipeline corridors, spill containment, well pumps, surface piping, down hole piping, electrical distribution, instrumentation and controls. The capitalized pre-production operating costs include the ramp-up of operational personnel and the operating costs required to produce PLS for plant commissioning and start-up. The pre-production operating costs include the labor, reagents, power, maintenance as well as general and administrative ("G&A") costs to conduct the pre-operations leaching.

The well field capital costs are detailed in Table 21-2.

Table 21-2: Initial Well Field Capital

	Capital Cost (000,000's)
Well Drilling	$23
Well Infrastructure	$19
Pre-Production Operating Costs	$16
Total	$58

(c) SX/EW Plant

The capital cost estimate for the SX/EW plant includes all the equipment, structures and systems required to process nominally 11,000 gpm of PLS and produce 85 million pounds per year of cathode copper. The facilities included are the solvent extraction plant, process tank farm, electrowinning plant and the reagent area. The direct capital costs for the area are detailed in Table 21-3.

Table 21-3: SX/EW Direct Capital

	Direct Cost (000,000's)
Solvent Extraction	$15
Tank Farm	$8
Electrowinning	$24
Reagent Storage & Mixing	$3
Total	$49

21.1 Capital Cost – *Cont'd*

(d) Site Infrastructure

The capital cost estimate for the site infrastructure consists of the systems and ancillary facilities required to support the site ISCR well field and SX/EW. The site systems include site preparation, site roads, surface water control, fire systems, process water distribution, potable water distribution, natural gas supply, main substation, site power distribution and site communications network. Ancillary facilities include the cost to renovate the existing administration building and the cost to construct a site warehouse, change house, guard house, truck scale and site security fences.

The direct capital costs for this area are detailed in Table 21-4.

Table 21-4: Site Infrastructure Direct Capital

Activity	Direct Cost (000,000's)
Plant Site and Roads	$3
Fire and Water Systems	$4
Electrical Supply & Distribution	$6
Ancillary Facilities	$2
Total	$14

(e) Indirect Costs

The pre-production capital cost estimate includes the indirect costs associated with construction, owner's project management and overhead as well as project contingency which apply to the project as a whole and are not directed tied to a specific project area.

Construction Indirects include the costs of engineering, procurement, construction management, contractor mobilization, construction temporary facilities, freight, vendor supervision, and contract commissioning services.

The Owner's Costs for the project include the Owner's project team costs to manage the construction of the FCP from the time the project is authorized to proceed through to production. The Owner's team will oversee all engineering, development, and construction activities as well as leading commissioning activities. The costs associated with operations personnel ramp-up and training are included in the Pre-Production Operations costs and are not included in the Owner's Cost estimate.

21.1 Capital Cost – *Cont'd*

(e) Indirect Costs – *Cont'd*

The Owner's Cost estimate includes:

- Owner's project management personnel;
- Field office costs and supplies;
- First fills;
- Legal expenses related to construction activities;
- QA/QC testing and monitoring;
- Transportation and accommodations costs;
- Construction Insurance;
- Taxes, fees and licenses;
- Cultural resource mitigation during construction;
- Owner's mobile equipment;
- Commissioning and capital spares.

A contingency was included in the pre-production capital cost estimate to cover unforeseeable costs within the scope of the estimate. The contingency level was selected to provide a high level of confidence that the project could be delivered on budget.

21.1 Capital Cost – *Cont'd*

(f) Basis of Estimate

The capital cost estimate is based on the construction of a greenfield facility using all new equipment and materials. Project Direct Costs were estimated based on the following information:

- Site layout and equipment list as well as general arrangement drawings, process flow diagrams, electrical single line diagrams, and typical drawings from previously constructed projects where applicable.
- Vendor budget quotations for supply of major equipment.
- Secondary and ancillary equipment prices based on a combination of budget quotations and database prices from recently completed projects.
- Contractor costs for well field drilling.
- Prices for bulk construction materials based on prices from current and recently completed projects in Arizona.
- Earthworks, concrete and structural steel costs for the process plant, ponds, and site infrastructure based on direct material take-offs from drawings and conceptual designs or parametric factors from constructed projects and current construction designs for similar facilities.
- Topographic information based on site surveys.
- Labor rates based on Bacon Davis heavy construction craft rates.
- Labor efficiency based on experience with similar projects.
- Installation hours for mechanical equipment based on previous project data and vendor guidelines where appropriate.
- Freight costs for moving materials and equipment to site based on recent project experience.

Eighty-five percent of the mechanical equipment costs included in the capital cost estimate were obtained from vendor budget quotations.

Construction activities are scheduled for 10-hour work days on dayshift and pre-production operations are scheduled for 12-hour work days on a 24 hour per day, seven day per week basis.

21.1 Capital Cost – *Cont'd*

(g) Sustaining Capital

Sustaining capital has been estimated for the Florence Copper project from the commencement of operations through to the end of the project life. The largest component of sustaining capital is the ISCR well field, a portion of which will be developed in each operating year from year 1 to year 19. The sustaining capital for the operating ISCR well field development was based on a contract drill fleet and the required well field equipment. Drilling costs are estimated on the same basis as used for pre-production well field development with drilling requirements dictated by the extraction plan and unit costs based on formation and well depths encountered in each year. The other sustaining capital items consist of construction of a water treatment plant in the fourth year of operations, and construction of solution ponds as required through the project life. The final solution pond is constructed in year 22. The construction costs associated with these facilities are based on contracted engineering and construction services.

The project sustaining capital is presented by component in Table 21-5 and the timing of sustaining capital is presented in Table 21-6.

Table 21-5: Sustaining Capital

Activity	Total (000,000's)
Well Field Development	$624
Water Treatment Plant	$58
Water Treatment Ponds	$31
Total	$713

21.1 Capital Cost – *Cont'd*

(g) Sustaining Capital – *Cont'd*

Table 21-6: Sustaining Capital by Year

	Sustaining Capital (000,000's)
Year 1	$23
Year 2	$25
Year 3	$23
Year 4	$100
Year 5	$27
Year 6	$43
Year 7	$25
Year 8	$54
Year 9	$27
Year 10	$43
Year 11	$27
Year 12	$27
Year 13	$29
Year 14	$50
Year 15	$31
Year 16	$35
Year 17	$24
Year 18	$43
Year 19	$50
Year 20	$0
Year 21	$0
Year 22	$7
Total	$713

21.1 Capital Cost – *Cont'd*

(h) Capital Cost Exclusions

The follow items are excluded from the capital cost estimates:

- Escalation;
- Financing costs and interest during construction;
- Working capital;
- Reclamation bonding;
- Scope changes;
- Schedule delays, such as associated with:
  - Permit timing,
  - Schedule acceleration or recovery,
  - Labor disputes,
  - Undefined ground conditions,
  - Unavailability or inexperienced craft labor,
  - Other external influences.
- Closure costs.

21.2 Operating Costs

All the process facilities and infrastructure will be operated and maintained by the Owner. All operating costs are presented in Q4 2016 United States dollars. Average operating unit costs for the life of the project are summarized in Table 21-7.

Table 21-7: Average Operating Unit Costs

	$/lb Copper
ISCR Well Field	$ 0.33
SX/EW	$ 0.24
Water Treatment	$ 0.07
General and Administration	$ 0.19
Reclamation	$ 0.04
Off Property	$ 0.02
Total	$ 0.90

Operating costs for the ISCR well field, SX/EW and water treatment plant include the costs for operating and maintenance labor, maintenance parts, operating supplies, reagents, power, and services required for long term continuous operations. Costs for ongoing development of the ISCR well field infrastructure including pumps, piping, electrical distribution and instrumentation cultural resource mitigation activities are included in the ISCR well field costs. Water treatment for the first four years of operations consists of a lime neutralization circuit. In year 5 a water treatment plant consisting of high density lime neutralization, particulate filtration, nanofiltration and reverse osmosis commences operation as rinsing of ISCR blocks commences.

21.2 Operating Costs – *Cont'd*

G&A costs for Florence Copper include the labor cost as well as expenses and services associated with the following:

- Site technical services;
- Materials management;
- Human resources;
- Safety and security;
- Accounting;
- Environmental monitoring;
- Assay laboratory;
- Insurance;
- Taxes, fees and licenses;
- Janitorial services;
- Legal services;
- Communications;
- Office and administrative costs.

Reclamation costs include the costs of core hole and well abandonment as the ISCR well field is developed and closed. One half of the site reclamation bond is planned to be posted with a surety bond and the interest costs associated with this bond are included in the reclamation costs.

The off property cost consists of the cost of shipping cathode copper to market.

The average operating costs by commodity are summarized in Table 21-8.

21.2 Operating Costs – *Cont'd*

Table 21-8: Average Operating Costs by Commodity

	$/lb Copper
Internal Labor	$ 0.18
Power	$ 0.10
Reagents	$ 0.40
Parts & Supplies	$ 0.04
Fees, Licenses, Incidental Taxes	$ 0.09
Insurance	$ 0.02
Consultants & Services	$ 0.06
Office & Overhead	$ 0.01
Total	$ 0.90

Internal labor costs were based on the organizational structure outlined in Section 21.3 and salaries based on local market conditions. All salaries include appropriate allowances for payroll burdens and overtime.

Power consumption for operations was estimated based on connected equipment loads combined with estimated load and usage factors from engineering estimates or experience at similar operations.

Reagent consumption rates for calculation of operating costs were based on metallurgical parameters or industry standard practice as appropriate. Budget quotations were received for reagents supplied to the project site.

Parts and supplies costs include wear and replacement parts as well as supplies, outside services, tools, equipment, and fuel required by the operations and maintenance crews.

21.3 Personnel

(a) Operations and Maintenance Personnel

The overall operation and maintenance of both the well field and SX/EW plant will be managed by an Operations Manager who reports to the site General Manager. Two superintendents and an administrative assistant will report to the Operations Manager. The operation and maintenance of the ISCR well field, ponds and associated infrastructure will be directed by one superintendent. The second superintendent will direct the operation and maintenance of the SX/EW plant, water treatment plant and associated infrastructure.

The overall operating areas will have a total of 107 employees. A summary of the typical operating area employee numbers by function is included in Table 21-9.

Table 21-9: Summary of Typical Operating and Maintenance Personnel

	# Personnel
Operations Manager	1
Superintendents	2
Administrative Assistant	1
Operations Supervisors	8
Maintenance Supervisors	6
Maintenance Planner	1
Operators	34
Maintenance	54
Total	107

For the purposes of this study, the manpower structure is based on a combination of dayshift work and rotating 12-hour shifts to provide 24 hour per day coverage as operational needs would require.

(b) General and Administration Labor

The G&A employee rosters were set based on the organization chart developed for the project and include technical services; purchasing and warehouse; environmental monitoring; loss control and safety; human resources and administrative personnel. The administrative personnel include accounting and computer systems administration personnel.

21.3 Personnel – *Cont'd*

(b) General and Administration Labor – *Cont'd*

The G&A estimate includes a total of 61 site employees for the majority of the project life. G&A employee numbers are reduced at the end of the project life when the well field development is complete and the engineering and support requirements are consequently diminished. A summary of the typical G&A employee numbers by function is included in Table 21-10.

Table 21-10: Summary of Typical G&A Personnel

	# Personnel
Technical Services	20
Purchasing & Warehouse	7
Environmental Monitoring	6
Safety & Loss Control	11
Human Resources	3
Administration	14
Total	61

SECTION 22

ECONOMIC ANALYSIS

SECTION 22: ECONOMIC ANALYSIS

Table of Contents

List of Tables

List of Figures

22.1 Assumptions

A list of the main assumptions and inputs to the economic analysis of the FCP are listed below:

- Capital costs and the basis of estimate are provided in Section 21 of this report;
- Operating costs and the basis of estimate are provided in Section 21 of this report;
- The basis for the annual production schedule is provided in Section 16 of this report;
- Reclamation bonding as per Section 20 of this report with security as half cash bond and half surety bond;
- Long term copper price of $3.00 per pound is justified in Section 19 of this report;
- All revenue and costs are in United States dollars;
- Net Present Values ("NPV") are presented at a 7.5% discount rate;
- The economic analysis assumes no debt financing.

22.2 Cash Flow

The project cashflow is presented in Tables 22-1 and 22-2.

Table 22-1: Cashflow (Years -2 through 12)

	years	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12
Copper Produced Pounds	000,000's			52	80	86	86	86	85	86	85	85	86	85	85
Total Gross Revenue	$000,000's			157	241	258	259	257	256	258	256	254	257	256	256
Total Production Cost*	$000,000's			72	82	83	85	94	95	98	99	99	96	90	89
Total Capital	$000,000's	10	185	32	25	23	100	27	43	25	54	27	43	27	27
Project Cashflow	$000,000's	-10	-185	52	134	152	74	137	118	134	103	128	117	140	139

Table 22-2: Cashflow (Years 13 through 26 and Total)

	years	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
Copper Produced Pounds	000,000's	85	85	85	86	86	85	85	84	36	13	4				1,700
Total Gross Revenue	$000,000's	256	256	256	257	257	256	256	252	107	38	11				5,200
Total Production Cost*	$000,000's	87	84	85	83	85	82	82	81	49	34	24	14	13	9	1,900
Total Capital	$000,000's	29	50	31	35	24	43	50	0	0	7					900
Project Cashflow	$000,000's	141	122	140	138	149	130	124	170	57	-2	-12	-14	-13	-10	2,400

NPV @ 7.5%	**$000,000's**	**920**

* Includes Royalties

22.3 Economic Indicators

The following pre-tax economic indicators are derived from the base case life of mine cashflow:

- Net Present Value = $920 million
- Internal Rate of Return on Investment = 44%
- Payback Period = 2.3 years

22.4 Income Taxes and Royalties

(a) Royalties

There are three entities that are entitled to royalties from FCP production, which are the State of Arizona, Conoco, and BHP. The details of the areas of applicability and the terms of the royalties are discussed in Section 4.4. The average unit cost of each royalty over the life of the FCP is shown in Table 22-3.

Table 22-3: Average Royalty Unit Cost

Royalty	$/lb Copper
State of Arizona	$ 0.09
Conoco	$ 0.08
BHP	$ 0.04
Total Royalties	$ 0.21

The FCP total production cost from the base case cash flow inclusive of all operating costs and royalties is $1.10 per pound of copper produced.

(b) Taxes

Profits at Florence Copper will be subject to income taxation at the state and federal levels of government. At long-term metal prices, total estimated income taxes payable on FCP profits in real terms are $560 million over the life of the operation.

In addition to the income taxes, Florence Copper will be subject to a number of non-income based taxes which have been included as part of the site operating costs. These taxes consist primarily of property taxes, transaction privilege tax, and severance tax. As detailed in Section 21.4 these incidental taxes amount to $0.08 per pound of copper produced or $130 million over the life of the operation.

22.4 Income Taxes and Royalties – *Cont'd*

(b) Taxes – *Cont'd*

For US federal income tax purposes, in accordance with the Internal Revenue Code (IRC), a taxpayer is required to calculate taxes under both the regular corporate tax system and the Alternative Minimum Tax (AMT) system and pay whichever method results in the higher amount of taxes.

The statutory US federal income tax rate, at the time of writing, is 35% and the tax rate under AMT is 20%. The maximum Arizona state income tax rate is 4.9%. As state taxes are deductible for federal purposes, the combined statutory income tax rate for the Florence Copper Project will be approximately 40% of taxable income based on current tax rates. Further, business income on sales to customers outside of Arizona are generally not subject to state corporate rate, which would lower the effective income tax rate for the project.

Taxable losses generated in a given year may be carried forward for 20 years and applied to taxable income when it arises, or carried back two years and applied against taxable income from the project in those years. The IRC also provides certain deductions to incentivize investment by mining companies, including depletion and development expenditures. The benefits of depletion and other deductions under the IRC reduces the average mine life effective income tax rate for the Florence Copper Project. The total effective income tax rate on the FCP under current laws is 24%.

The project's estimated tax payments include only tax liabilities directly payable by the project and do not include the other indirect taxes that would be created by the project (i.e. taxes payable by subcontractors and individuals directly or indirectly employed by Florence Copper), which would also be contributors to state and federal levels of government.

The following after-tax economic indicators are derived from the base case life of mine cashflow based on current federal and state tax laws are:

- Net Present Value = $680 million
- Internal Rate of Return on Investment = 37%
- Payback Period = 2.5 years

22.5 Sensitivity Analysis

Figure 22-1 shows the sensitivity of the life of mine free cash flow to primary inputs, demonstrating that the reserve is economically robust. It is most sensitive to the copper price and copper recovery and least sensitive to initial pre-production capital costs.

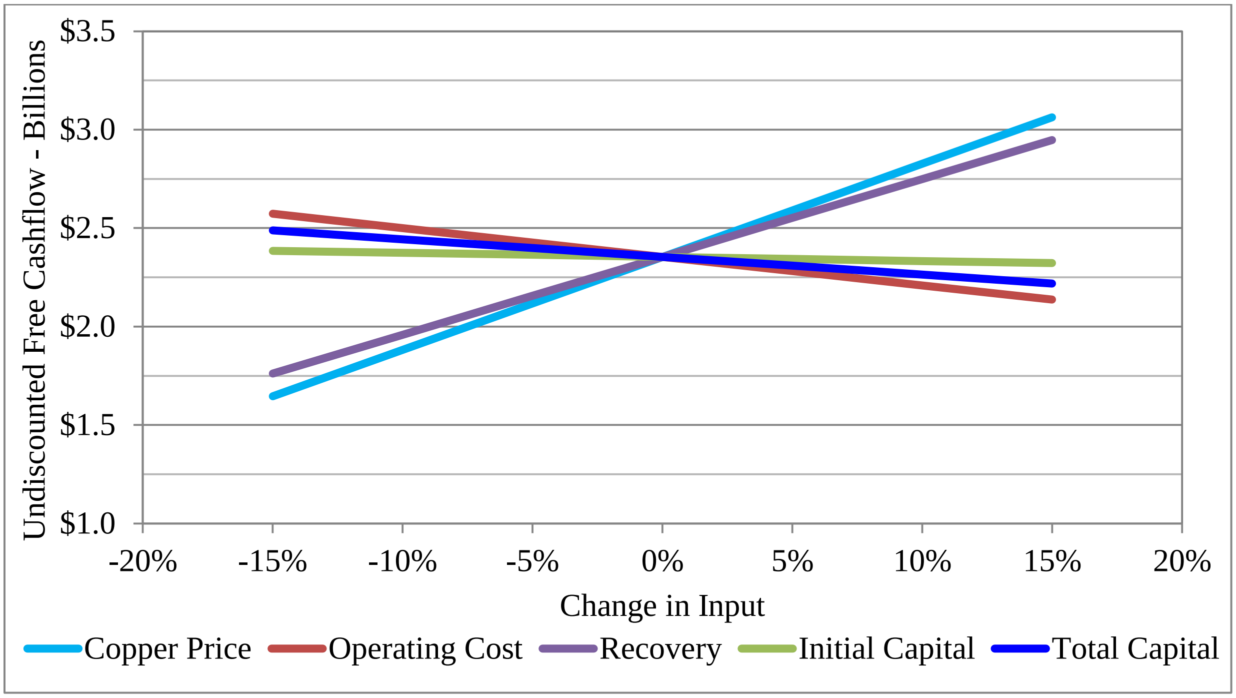


Figure 22-1: Life of Mine Free Cashflow Sensitivity

The sensitivity of the base case project economics to primary inputs on a series of metrics is presented in Figures 22-2 through 22-4.

22.5 Sensitivity Analysis – *Cont'd*

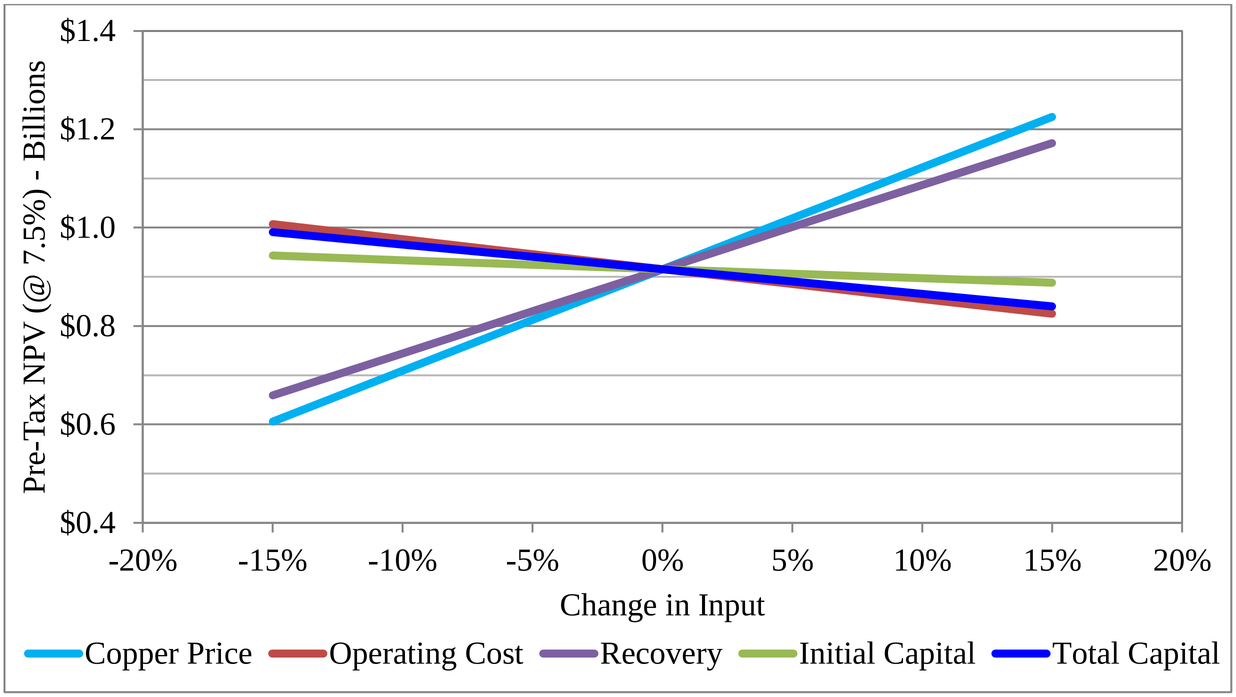


Figure 22-2: Pre-Tax NPV Sensitivity

NPV is most sensitive to copper price and copper recovery and least sensitive to initial pre-production capital cost.

22.5 Sensitivity Analysis – *Cont'd*

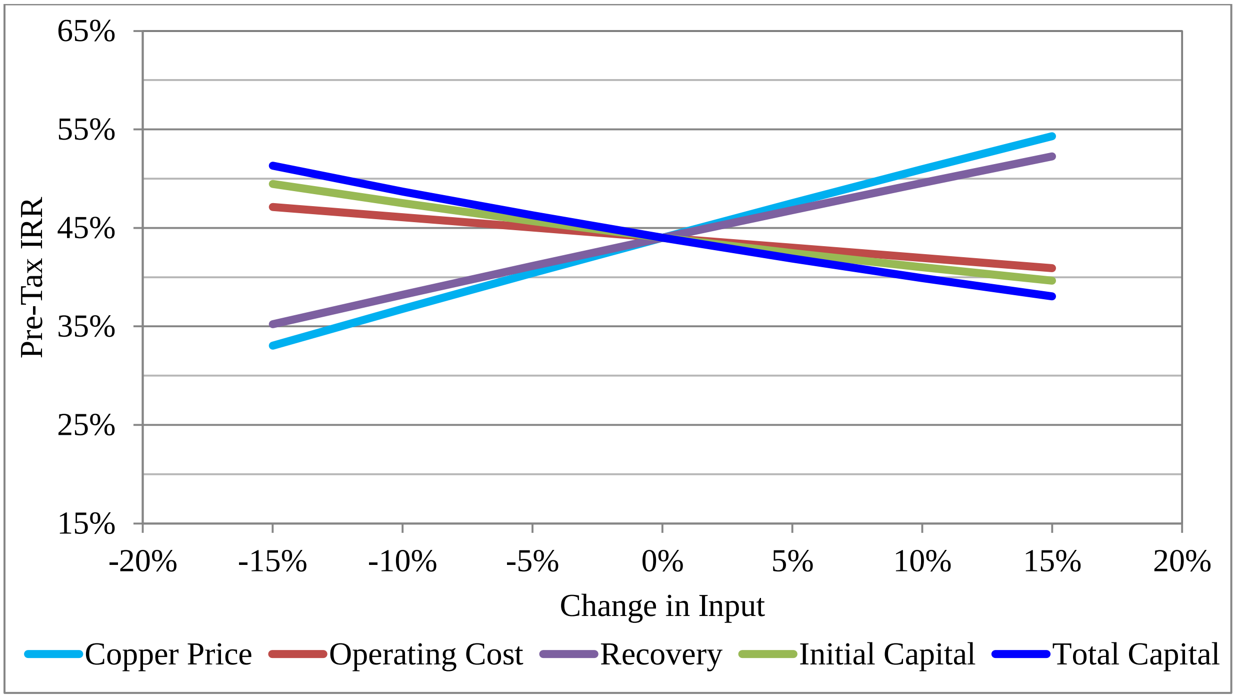


Figure 22-3: Pre-Tax IRR Sensitivity

IRR is most sensitive to copper price and copper recovery and least sensitive to operating costs.

22.5 Sensitivity Analysis – *Cont'd*

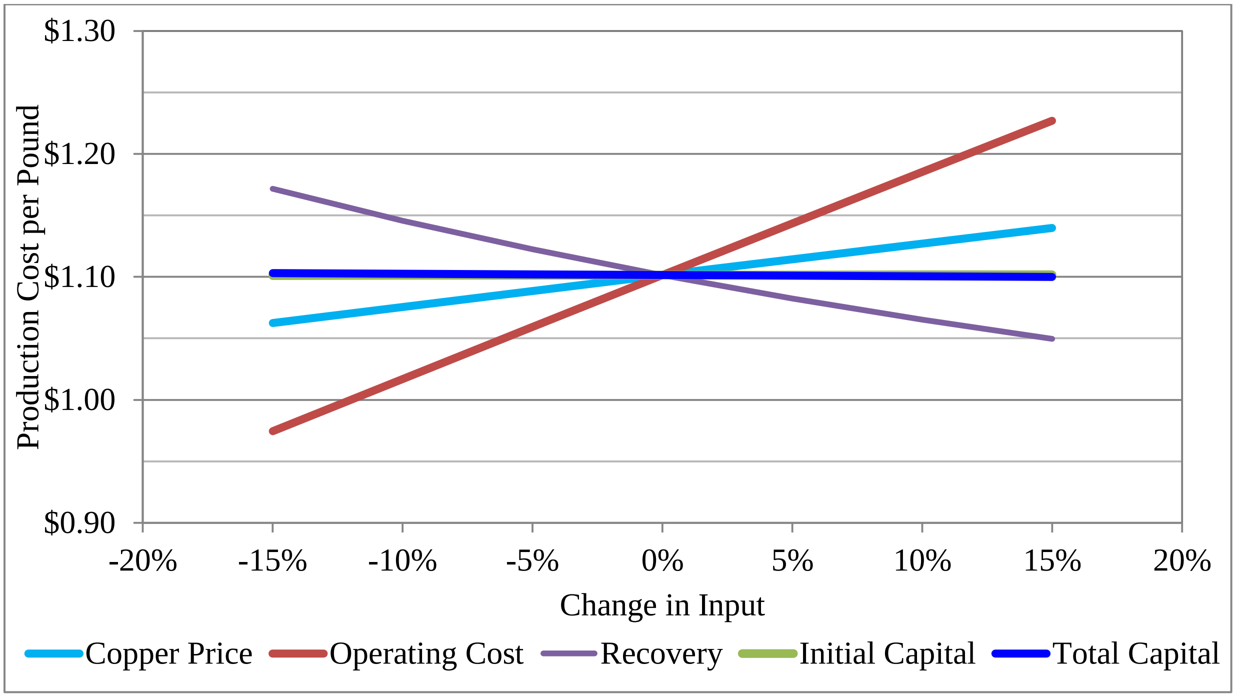


Figure 22-4: LOM Production Cost Sensitivity

The life of operation average production cost remains robust with changes in all of the sensitivity parameters. The average production cost per pound is most sensitive to operating costs followed by copper recovery and commodity costs.

SECTION 23

ADJACENT PROPERTIES

23.1 Adjacent Properties

There are no metal mining operations or properties near the Florence Copper site. Adjacent properties consist of undeveloped desert, agricultural production (cotton, alfalfa, maize), and open-pit sand and gravel operations. The closest sand and gravel operations are located on the north side of the Gila River to the east-southeast and southwest of the Florence Copper property, less than a mile from the site. Future residential and industrial development is planned for areas to the north and west of the Florence Copper site; however, there are constraints on residential and industrial development as the property is surrounded by an active rail line (Copper Basin Railway), a major highway (Hunt Highway), and extensive electrical (500 KV and 125 KV) transmission infrastructure.

SECTION 24

OTHER RELEVANT DATA AND INFORMATION

24.1 Other Relevant Data and Information

In the opinion of the author there is no additional information beyond that included in this report necessary in order to make the technical report understandable and not misleading.

SECTION 25

INTERPRETATION AND CONCLUSIONS

SECTION 25: INTERPRETATION AND CONCLUSIONS

Table of Contents

25.1 Tenure and Environmental Liabilities

Florence Copper's tenure position is secure with the majority of the property consisting of private land held fee simple and the remainder covered by a long term mineral lease. The property has three royalty agreements in place; however, the property is not subject to any back-in rights, payments or any other agreements or encumbrances.

The FCP has some limited environmental liabilities related to the historic mining and exploration activities conducted on site as detailed in Section 4.6 of this report. The closure plan for these facilities has been approved and appropriate security has been posted with the appropriate regulators.

25.2 Exploration and Geology

Evaluation of the exploration programs and results available to the effective date of this report indicate that:

- The geology is sufficiently well understood to support the mineral resource and mineral reserve estimations presented in this report.
- Adequate core drilling has identified a continuous body of porphyry copper mineralization within an area measuring approximately 1 mile E-W by 1 mile N-S and to a depth below surface of over one half mile. The ultimate limits at depth have not been defined.
- The database contains all relevant drilling data collected on the project to date and has been structured for resource estimation.
- QA/QC with respect to the results received for exploration programs to date is acceptable and protocols have been sufficiently documented.
- As of January 16, 2017, the Florence Copper deposit is estimated to contain a measured and indicated resource of 429 million tons grading 0.33% copper using a cut-off grade of 0.05% copper. An additional 63 million tons averaging 0.24% copper is classified as inferred.
- As of January 16, 2017, the Florence Copper deposit is estimated to contain a probable reserve of 345 million tons grading 0.36% copper using a cut-off grade of 0.05% copper. This reserve is contained within the resource stated above.

25.3 Mining

The evaluations of the mining options available to effectively recover copper from this deposit indicate that:

- The Florence Copper deposit contains adequate copper mineral resources to develop an ISCR operation and supply a SX/EW process plant with economic grade PLS for a period of at least 20 years.
- The detailed well field design for ISCR is consistent with the mineralized area hydrogeological parameters.
- The extraction plan includes sufficient staged well development to produce sufficient PLS to continuously feed the process plant.
- The extraction plan includes an appropriate estimate for hydraulic control pumping.
- Mining losses and average mining dilution are appropriately considered for an ISCR operation.
- The design ISCR well field and extraction plan are to a sufficient level to support a reserve statement.
- The extraction plan uses only Measured and Indicated blocks within the resource estimate. Inferred resources are treated as non-mineral bearing.

25.4 Metallurgy and Processing

The evaluation of the metallurgy and processing options available to effectively recover copper from this deposit indicate that:

- A process that utilizes commercially available mineral processing unit operations consisting of solvent extraction and electrowinning can be used to produce a copper cathode product at the Florence Copper site.
- Sufficient metallurgical test work has been completed to a level suitable to support a reserve statement.
- Recovery of copper to final copper cathode product can be expected to be 70%.
- The composition of the cathode copper produced can be expected to be LME Grade “A”.
- A processing facility can be successfully constructed and operated at the planned nominal throughput of 11,000 gpm of PLS producing 85 million pounds of copper per year. The design of the process plant has been completed to a sufficient level to support a reserve statement.

25.5 Infrastructure

The Florence Copper site is located in a developed area and all of the required infrastructure to support construction and operations on the site are readily available. The design and cost estimation is to a suitable level to support a reserve statement and there are no known conditions that would preclude the establishment of the infrastructure as designed.

25.6 Environment

An extensive environmental baseline has been compiled for the FCP. No issues have been identified to date that could materially impact Florence Copper's ability to extract the mineral reserves.

25.7 Capital and Operating Costs

The estimation of capital and operating costs are based on a sufficient level of study to support a reserve statement and are current to Q4 2016.

25.8 Economics

The economics of processing the stated reserves by ISCR and SX/EW are robust. The cut-off grade and reserve will withstand large changes in the major monetary and operational variables that drive the cash flow of this project.

25.9 Risks and Opportunities

The following project risks and opportunities have been identified:

Risks

- The ISCR proposed for the FCP has no means of altering the permeability of the orebody. If local in-situ hydrological and fracture are significantly less than predicted, copper recovery or leach kinetics could be adversely affected. This risk has been minimized through extensive geological and hydrological examinations see Section 7 and Section 16.
- The oxide mineralized body is highly fractured and incompetent, which may complicate the process of drilling and well installation. If it proves difficult to maintain open boreholes during drilling and installation of the wells operating costs could be adversely affected. This risk will naturally diminish over time as difficulties of this sort are overcome by experience and alternative drilling methods.
- Although extensive metallurgical testing has been completed on a representative selection of ore types, should the actual ore leached in a portion of the well field be materially different than the samples tested the process recovery, grade, and operating cost may be different. This risk has been minimized through extensive geological and metallurgical examinations see Section 7.
- A material change in the costs or availability of process reagents or lixiviants could materially change the project operating costs.
- The project will require licenses and permits from various governmental authorities. There can be no assurances that Florence Copper will be able to obtain all necessary licenses and permits that may be required to carry out all proposed development and operations.
- Florence Copper’s legal non-conforming use right to mine on its private land is being contested. Should this right not be upheld a portion of the reserve may not be available for copper extraction.
- Typical risks for metal mines also include adverse geological or ground conditions, adverse weather conditions, potential labour problems, and availability and cost of equipment procurement and repairs. These risks are considered very low for the FCP.

25.9 Risks and Opportunities – *Cont'd*

Opportunities

- Construction and operation of the PTF will mitigate many of the identified project risks.
- Optimization of the well spacing can be evaluated with data from the PTF. Increased well spacing would mean fewer wells consequently lowering the sustaining capital cost for the project.
- Improvements in the techniques used to drill and install wells could reduce the cost of well installation over the life of the project. Well installation costs amount to approximately 70% of the projected capital costs for the project.
- An optimization of the project water treatment process to decrease production of solids and/or produce commercially viable by-products could materially reduce the long term water treatment costs for the project.
- The reserves are limited by physical infrastructure constraints, specifically the major transmission right-of-way on the west. Removal of these constraints, either by agreement with the surface rights holder or through alternative well field development strategies would increase the project value.
- Additional reserves could be defined by additional drilling to upgrade the inferred resources to a higher confidence level.
- A large porphyry system has been identified at the FCP, but the full extent of this system has not been delineated. Additional drilling could be undertaken to determine if there is additional economic porphyry material on the site.

SECTION 26

RECOMMENDATIONS

SECTION 26: RECOMMENDATIONS

Table of Contents

26.1 Recommendations

The following section identifies recommendations to conduct two activities to advance the Florence Copper project towards a production decision. The two activities are not contingent on one another.

26.2 Project Test Facility

Florence Copper is in the final stages of permitting a Production Test Facility ("PTF") which will provide a full scale demonstration of the proposed ISCR well field with an integrated demonstration scale SX/EW plant. Construction and successful operation of the PTF will allow the project risks to be minimized and opportunities for optimizing the ISCR well field design, well drilling techniques, and water treatment processes to be evaluated. Furthermore, successful operation of the PTF will provide data and reduce the timeline required for permitting of the commercial facility.

It is recommended that construction and operation of the PTF proceed as soon as practical.

A summary of the scope and cost of this work is as follows:

PTF Construction	$25M
PTF Operations	$8M
Total	$33M

26.3 Water Treatment Technology Optimization

The water treatment technology incorporated in the project design and costing supports the mineral reserve that is the subject of this technical report. The author is of the opinion that there is an opportunity to optimize the cost of operating the treatment facility through additional test work to determine if commercial by-products can be produced for the facility.

It is recommended that an initial phase of this work be completed before permitting of the commercial operation commences and an additional phase should be considered to evaluate updated proven technologies before the construction of the planned water treatment plant in year 5 of commercial operations.

A summary of the scope and cost of this work is as follows:

Metallurgical Testing	$50K
Water Treatment Testing	$200K
Total	$250K

SECTION 27

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I, Dan Johnson, P.E., RM-SME, of Florence, Arizona, hereby certify that:

1. I am an employee of Florence Copper Inc., with a business office at 1575 W. Hunt Highway, Florence, Arizona. In my position as Vice President – General Manager, Florence Copper Inc. and on behalf of Taseko Mines Limited, I authored this technical report on the mineral reserves at the Florence Copper Project which was announced on January 16, 2017.

2. This certificate applies to the technical report titled "NI 43-101 Technical Report Florence Copper Project, Florence, Pinal County, Arizona", dated February 28, 2017.

3. I am a graduate of University of Arizona with degrees in Geosciences and Hydrology. I have practiced my profession for 28 years since graduation in 1989. I am a licensed professional engineer in good standing in the State of Nevada, license number 012421. As a result of my experience and qualifications, I am a Qualified Person under National Instrument 43-101.

4. I am a member in good standing of the Society for Mining, Metallurgy & Exploration.

5. I am responsible for the content of this report.

6. I am not independent of Taseko Mines Limited.

7. My regular place of business is at the Florence Copper site and I have been on site regularly since March 2011.

8. I have read National Instrument 43-101.

9. I, as of the date of the certificate and to the best of my knowledge and information, believe the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

10. I consent to the use of this Technical Report for disclosure purposes of Taseko Mines Limited.

Signed at Florence, Arizona on the 1st day of March, 2017.

"signed and sealed"

Dan Johnson, P.E., RM-SME