1 EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW – KEY DATA AND RESULTS

The Florence Copper Project ("the FCP" or "the Project") is an advanced-stage oxide copper project located in central Arizona and controlled 100 percent by Curis Resources Ltd. ("Curis"). The Project is a shallowly buried porphyry copper deposit that is amenable to in-situ copper recovery ("ISCR") and solvent extraction-electrowinning ("SX/EW") copper production. The property, including surface and subsurface rights, consists of private patented land totaling approximately 1,182 acres and a leased parcel of Arizona State Land of approximately 159.5 acres in size. M3 Engineering & Technology Corporation ("M3") was commissioned by Curis Resources (Arizona) Inc. ("Curis Arizona"), a wholly owned subsidiary of Curis, with other specialist consultants to prepare a Pre-Feasibility Study of the Project and a technical report that is compliant with the Canadian Securities Administrators ("CSA") National Instrument 43-101F1 ("NI 43-101") (CSA, 2011). As primary author of this Pre-Feasibility Study, M3 was integral to development and engineering of copper extraction and processing facilities as well as capital and operating cost estimates for the Florence Copper Project. The key data and results of this Pre-Feasibility Study at a $2.75 long term copper price are described below. All currency is in US dollars.

- The economic analysis before taxes indicates an Internal Rate of Return (IRR) of 36% and a payback period of 2.6 years. The Net Present Value ("NPV") before taxes is $727 million at a 7.5% discount rate.

- The economic analysis after taxes indicates that the project has an IRR of 29% with a payback period of 3.0 years. The NPV after taxes is $503 million at a 7.5% discount rate.

- The estimated initial capital cost is $189 million (plus $19 million of pre-production costs). Sustaining capital items include construction of additional water impoundments and ISCR wells, expansion of the water treatment plant, and replacement of capital equipment, and are estimated to be $627 million for a total life of operation capital cost of $835 million.

- Direct operating costs are estimated at $0.80/lb-Cu.

- The table below shows a breakdown of the life of operation total, operating costs, and cash costs per lb of copper.

Operating Cost	Cost	$/lb. Cu*
Well field	$580,000,000	$0.34
SX-EW Plant	$417,000,000	$0.25
Water Treatment	$150,000,000	$0.09
General Administration	$208,000,000	$0.12
Total Operating Cash Cost	**$1,354,000,000**	**$0.80**
Royalties, Incidental Taxes (excludes Income Taxes), Reclamation, and Misc.	$524,000,000	$0.31
Total Cash Cost	**$1,878,000,000**	**$1.11**

*Note: Any summation discrepancies are due to rounding.

- The probable mineral reserves at a 0.05% Total Copper ("TCu") cutoff are as follows:

Tons	339,953,000
TCu Grade (%)	0.358
Contained Copper lb	2,435,400,000
Average Recovery (%)	69.7
Extracted Copper Pounds	1,698,000,000

Notes:

1. *Reserves are stated within the economic resource boundary depicted in Figure 15-1. There are no Proven reserves. Measured and Indicated resources were converted to Probable reserves.*
2. *Approximately 3 million pounds of the probable reserves are expected to be recovered from Phase 1 production testing prior to the operation of the commercial plant envisaged in this study.*

- Anticipated economic benefits to the community in terms of employment, personal income and tax revenue are as follows:

Impact Locus	Total Impact	Annual Average Impact
Gross State Product		
Arizona	$2,245,000,000	$80,000,000
Pinal County	$1,078,000,000	$39,000,000
Employment (Jobs)		
Arizona	-	681
Pinal County	-	406
Personal Income		
Arizona	$1,464,000,000	$52,000,000
Pinal County	$709,000,000	$25,000,000
State Revenues		
Arizona	$204,000,000	$7,000,000
Pinal County	$190,000,000	$7,000,000

Note: dollar values are constant 2011 dollars
Source: REMI model of Arizona and Pinal County economies

- Curis Arizona continues to work with the local and state authorities to advance the project.

1.2 INTRODUCTION

M3 and other specialist consultants were commissioned by Curis Arizona to prepare a Pre-Feasibility Study and technical report of the FCP that is compliant with NI 43-101. As primary author of this Pre-Feasibility Study, M3 was integral to development and engineering of copper extraction and processing facilities as well as capital and operating cost estimates for the FCP. The intent of this report is to provide the reader with a comprehensive review of the potential economics of this mining operation and related project activities, and to provide recommendations for future work programs to advance the Project.

The following other consultants have participated in work that supports the Pre-Feasibility Study: TP McNulty and Associates ("McNulty"), Haley & Aldrich, SRK Consulting USA, Inc. ("SRK"), ARCADIS U.S., Inc. ("ARCADIS") and Knight Piésold ("KP").

1.3 RELIANCE ON OTHER EXPERTS

In some cases, the authors have relied upon the work of others to describe the current status of the property and to provide the basis for cost estimates for significant components of the life-of-operations economic model. In the opinion of the authors, the Florence historical data, in conjunction with borehole assays conducted by Curis Arizona, are present in sufficient detail to prepare this report and are generally correlative, credible, and verifiable.

1.4 PROPERTY DESCRIPTION AND LOCATION

The FCP is located in Pinal County, Arizona. The property, including surface and subsurface rights, consists of private patented land totaling approximately 1,182 acres and a leased parcel of Arizona State Land of approximately 159.5 acres in size. The approximate latitude and longitude of the planned In-Situ Copper Recovery ("ISCR") area are 33° 02' 49.07" North and 111° 25' 47.84" West.

Curis Arizona owns 1,181.59 acres of surface and subsurface rights, including mineral rights, of patented land held in fee simple. This private property falls within the boundaries of the Town of Florence. Curis Arizona also leases under Arizona State Mineral Lease 11-26500 approximately 159.5 acres of surface and mineral rights on Arizona State Trust Lands, which is not subject to the jurisdiction of the Town of Florence. The State Trust Land overlies approximately 42% of the copper resource. In addition, Curis holds water rights for both pieces of land as described in Section 4.7.5. The site location is shown in Figure 1-1 and Figure 1-2.

1.5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

The project site is located in south-central Arizona, in the Sonoran Desert of the Basin and Range Lowlands physiographic province. The project area lies approximately one-half mile north of the Gila River, at an approximate elevation of 1,480 feet amsl. The river is dry much of the year and flows east to west in response to regional precipitation events. The project site is adjacent to Hunt Highway and is easily accessible by paved roads. The Town of Florence is located at the junction of AZ-287 and AZ-79, approximately 3.5 miles by highway from the FCP.

The topography of the site is a gently sloping (southward) alluvial surface, historically used as farmland. Typical Sonoran Desert vegetation present on the site consists of short trees, 10 to 30 feet tall, and shrubs. Vegetation in the Florence area is sparse, mainly consisting of creosote.

Local infrastructure and vendor resources to support exploration, development, and mining are in place. Exploration and mining service companies for the metals/non-metals, coal, oil, and gas industries are located in Phoenix and Tucson, and at a greater distance, in Albuquerque, New Mexico and Denver, Colorado. Locally available resources and infrastructure include power, water, communications, sewage and waste disposal, security, rail transportation, and a skilled and unskilled work force.

An administration building, currently used by the project development personnel, is present at the site; the structure can be used for administration when the property goes into production. Landline telephone, cellular telephone, and internet services are available at the project site. The Copper Basin Railway, a federally regulated shortline railroad located 100 feet north of Hunt Highway and adjacent to the project site, provides rail access between the town of Winkelman and the Union Pacific Railroad connection at the Magma loading station near I-10. There is a siding approximately one mile east of the property that could be used to ship and take deliveries.

Power is provided directly to the project site by the San Carlos Irrigation Project. Arizona Public Service ("APS") and Salt River Project have power lines that cross the property and APS is in the process of bringing power to a substation location on the State Land portion of the project that will be able to serve the electrical demand of the project. Natural gas is available from Southwest Gas approximately 1.6 miles east of the site. Water is available from existing wells on the site for process uses. The site presently has trash pick-up and has existing septic systems for sanitary wastes. Manpower resources are readily available as Southern and Central Arizona is an area with a long history of mining-related construction, copper mining, heap and in-place leaching, and processing with long-established vendor-support services.

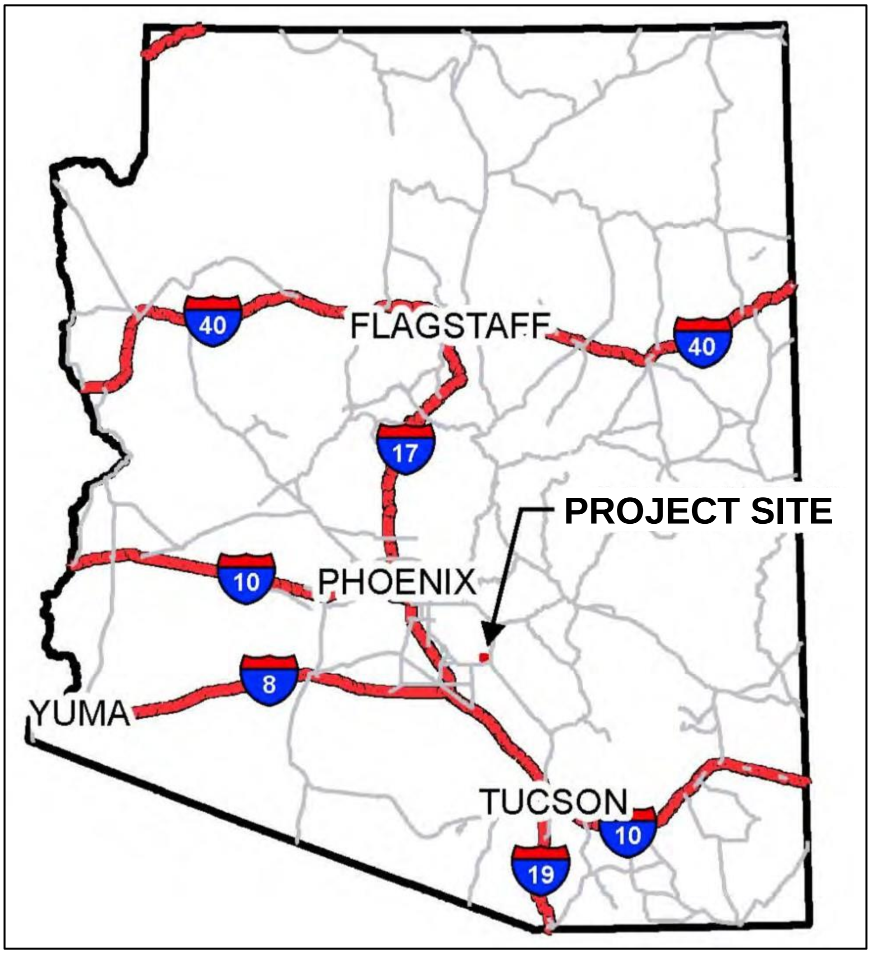

Figure 1-1: Regional Location Map

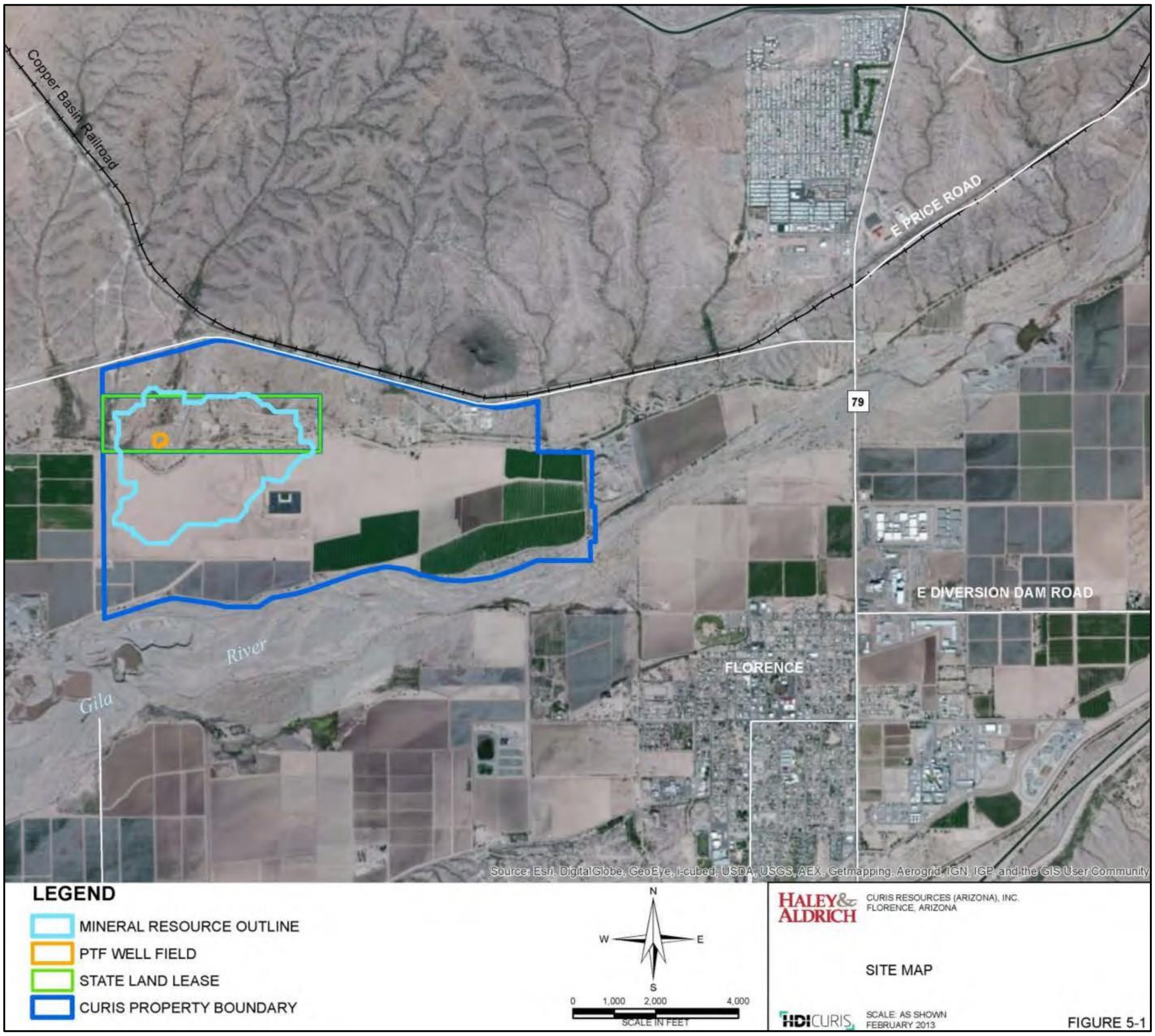

Figure 1-2: Florence Site Location Map

Note: PTF is an abbreviation for "Production Test Facility"

1.6 HISTORY

The project has had three previous owners whose primary business is exploration and mining development including Continental Oil Company ("Conoco"), Magma Copper Company ("Magma"), and BHP Copper Inc. ("BHP"). BHP conveyed the land constituting the FCP site to Florence Copper Inc. on May 26, 2000. Florence Copper Inc. was then sold to Merrill Mining LLC of Atlanta, Georgia, effective on December 5, 2001. The patented land owned by Florence Copper, Inc., including land forming part of the FCP, was acquired in July 2004 by Roadrunner Resorts, LLC, and in January 2006 by WHM Merrill Ranch Investments, LLC. On March 10, 2009, the patented land was conveyed in foreclosure proceedings to The Peoples Bank. On October 28, 2009, Merrill Ranch Properties, LLC acquired the patented land from The Peoples Bank. On December 17, 2009, Curis Arizona purchased the surface rights and all of the mineral rights to the patented land constituting the FCP from Merrill Ranch Properties, LLC. On January 8, 2008, Felix-Hunt Highway, LLC acquired Florence Copper, Inc., the lessee under the Arizona State Mineral Lease 11-26500. On February 24, 2010, Curis Arizona obtained assignment of Arizona State Mineral Lease 11-26500. There has been no commercial production of copper from the FCP site historically.

Conoco discovered the Florence copper deposit in 1970 while executing an exploratory drilling program southwest of Poston Butte. In 1974, Conoco sunk a shaft and mined over 50,000 tons of mineralized quartz monzonite from a single-level, underground mine designed for metallurgical and geological testing. Metallurgical testing of the recovered material was performed using a small pilot plant built on the property. The pilot mine shafts are now capped at the ground surface and the mine is flooded.

Magma acquired the property from Conoco in July 1992 for $9 million and initiated a Pre-Feasibility Study in January 1993 to verify the Conoco work and to determine the most effective technology for extracting copper from the deposit. 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 solvent extraction/electrowinning ("SX/EW") to produce cathode copper was the preferred method to develop the Florence deposit.

In January 1996, Broken Hill Proprietary Company Limited of Australia acquired Magma and created BHP. The prefeasibility process started by Magma in January 1995 continued through the acquisition phase. In 1998, BHP conducted a multi-month, field optimization ISCR test to demonstrate hydraulic control, gather copper recovery and other technical data for final feasibility. The outcome of the study confirmed to regulatory agencies that production wells could be efficiently installed into the mineralized zone, hydraulic control of the injected and process solutions could be maintained and documented, and that the ISCR method was a viable method for copper extraction.

1.7 GEOLOGICAL SETTING AND MINERALIZATION

The Florence deposit formed approximately 62 million years ago ("Ma") when numerous dike swarms of Laramide granodiorite porphyry intruded Precambrian quartz monzonite near Poston Butte. The dike swarms were fed at depth by a large intrusive mass. Hydrothermal solutions associated with the intrusive dikes altered the host rock and deposited copper and iron sulfide minerals in disseminations and thin veinlets in the strongly faulted and fractured rocks. Hydrothermal alteration and copper mineralization is most intense along the edges and flanks of the dike swarms and intrusive mass (BHP, 1997a; SRK, 2010).

Mid-Tertiary Basin and Range extensional faults subsequently elevated and isolated much of the Florence deposit as a horst block. The horst block and the downthrown fault blocks were exposed to weathering and erosion. The center of the deposit was eventually eroded to a gently undulating surface. Coarse, poorly bedded conglomerate from the surrounding mountains filled the basin west of the Florence deposit and began to cover the eroded top of the horst block. River sand, silt, and gravel buried the entire deposit to a depth of approximately 425 feet. During this period of erosion and deposition, calcareous silty mud and clay layers were deposited in shallow basins that extended over the region. This 20-40 feet thick clay layer, which occurs approximately 60 to 100 feet above the top of bedrock acts as an aquitard beneath the FCP property that retards mixing of groundwater from the two water-bearing zones above and below this layer. This condition is validated by water level information collected as part of the 16-year regulatory compliance monitoring program.

The main sulfide minerals are chalcopyrite, pyrite, and molybdenite with minor chalcocite and covellite. Molybdenite occurs as discrete grains or as a film on fracture surfaces; the average molybdenum grade is 0.008%. Pyrite is usually subordinate to chalcopyrite (ratios of 1:1 to 1:3), and both are found in veinlets and as disseminated grains; they commonly occur in quartz ± biotite veins rimmed by orthoclase and sericite. 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 leachable copper silicates and oxides to the sulfide zone (relatively non-leachable) is quite abrupt.

Mineralization in the oxide zone consists primarily of chrysocolla with lesser "copper wad," tenorite, cuprite, native copper, and trace azurite and brochantite. 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 thickness of the oxidized zone ranges from 40 to 1,000 feet with an average thickness of 400 feet.

A calculation of the total copper ("TCu") grade by oxidation type for all assays within the Florence drill hole database shows that the oxide mineralization is similar, but enriched, relative to that of the primary sulfide mineralization. The overall average grade of the oxide and sulfide mineralization is approximately 0.356% TCu and 0.268% TCu, respectively. Copper mineralization is enriched in quartz monzonite host rock, relative to the intrusive granodiorite porphyry dikes (average grade of 0.38% TCu versus 0.27% TCu).

1.8 DEPOSIT TYPES

The Florence copper deposit is an extensive Laramide type of porphyry copper deposit consisting of a large core of copper sulfide mineralization lying beneath a zone of copper oxide mineralization. The central portion of the deposit is overlain by approximately 375 to 425 feet of flat-lying conglomerate and alluvial material that contains a fine-grained silt and clay interbeds (Figure 1-3). The oxide and sulfide zones are separated by a transition zone ranging from 0 to 55 feet in thickness.

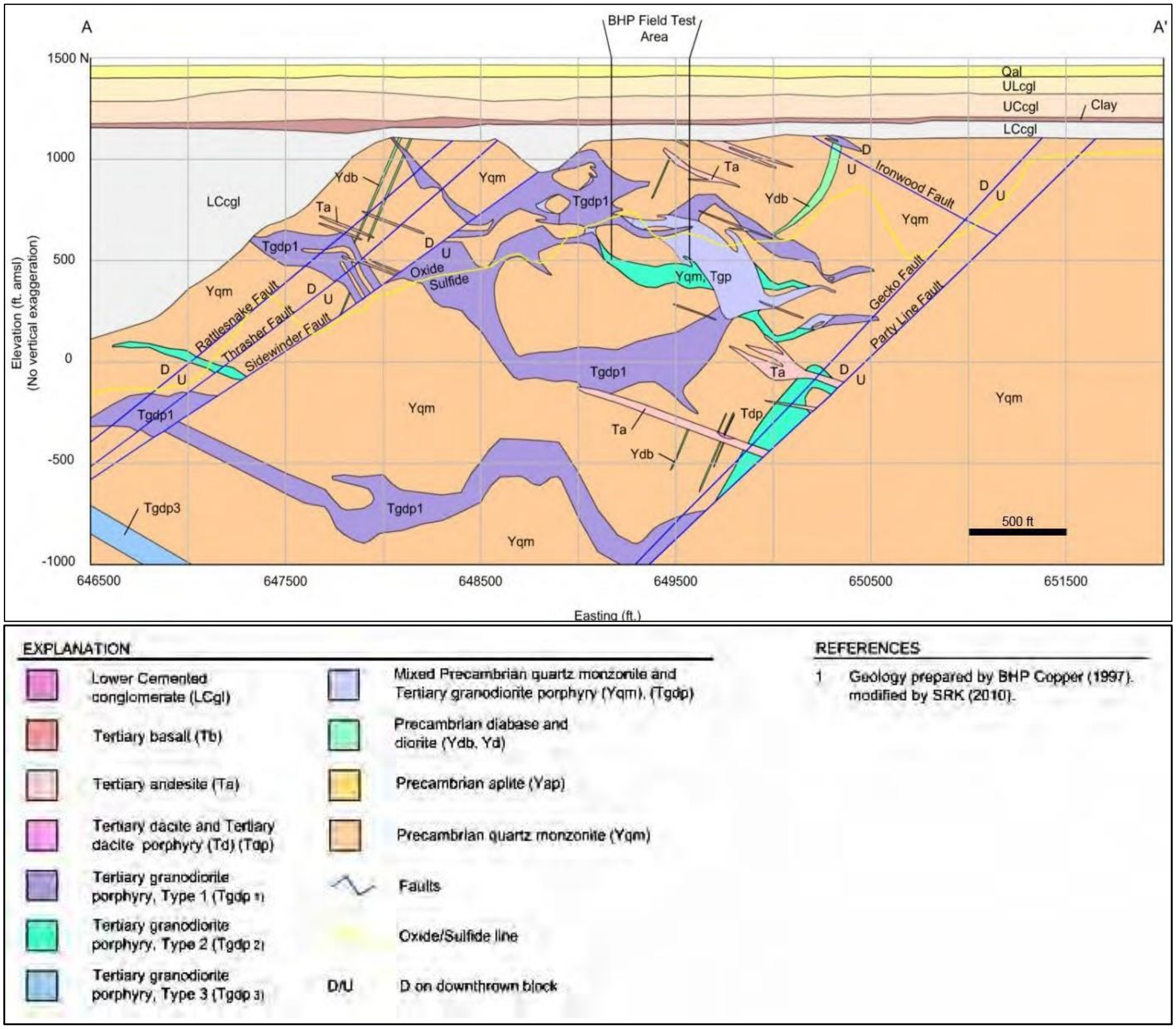

Figure 1-3: East-west Geology Cross Section at 744870N Looking North (SRK, 2010)

1.9 EXPLORATION

The previous owners undertook substantial exploration work including drilling (exploration, assessment, condemnation, geotechnical, and environmental), underground mine development, geophysical surveys, and mineralogy studies. Since acquiring the project in 2009, Curis' focus has been to re-assess and build on the potential for ISCR production at the FCP pursuing environmental baseline, hydrologic modeling, engineering studies, and community related activities. The company commissioned a preliminary economic assessment ("PEA") by SRK in 2010. Based on the positive results of the PEA, as well as other available data, Curis initiated programs necessary to advance the project. This work has included drilling to obtain samples for metallurgical testing, engineering studies to support planning for a Phase 1 Production Test Facility ("PTF") and a Phase 2 expansion that would take the project to commercial production, as well as updating and amending operating permits to support development.

1.10 DRILLING

Drilling on the FCP site has been undertaken by means of core drilling, RC rotary drilling, and conventional rotary drilling. Conoco developed a detailed geologic core logging protocol in the early to mid-1970s. With slight modifications, Magma, BHP, and Curis Arizona geologists have continued to use this method to maintain compatibility with the geologic data produced by Conoco. Drilling performed on the property is summarized in Table 1-1.

Table 1-1: Drilling Footage by Company as of August 2011

Company	# of Holes	Footage
Curis Resources (2011)	6	7,752
BHP Copper (1997)	21	16,638
Magma Copper Company (1994-1996)	173	146,891
Conoco (1970-1977)	612	620,483
Other	5	3,716
Total	**817**	**795,480**

Source: Compiled by SRK, 2011. SRK has documented the location of 612 Conoco holes in the project database, but 686 were drilled by Conoco through 1977 within a 6-mile radius. An additional 74 shallow assessment holes drilled in distant sections are not included in the project database.

1.11 SAMPLE PREPARATION, ANALYSES AND SECURITY

Sampling protocols were developed by previous owners to ensure consistency and mitigate bias. Sampling consisted of core sample and cuttings from drilling, as well as bulk samples obtained by the underground working. Conventional rotary and/or reverse circulation ("RC") drill cuttings were typically collected every 10 feet by Conoco, Magma, and BHP. Samples drilled by RC methods were sent for assay. Conventional rotary cuttings were assayed by Conoco but the information was considered unreliable and used by BHP only for geological control.

Core samples provide the most detailed information. BHP sample-handling protocols used during core handling were based on protocols used by Conoco and Magma with the goal of providing representative, unbiased samples of the mineralized materials encountered in the borehole.

Sample preparation protocols for the 2011 Curis Arizona metallurgical and confirmation drilling program were outlined in the *Curis 2011 Drill Program Operation Manual* (Titley, Yang, and Hoag, 2011). The procedures were similar to those used by previous operators but differed in that the core was treated differently depending on the core diameter and purpose.

Assays of drill samples were conducted by various laboratories under the supervision of Arizona-registered assayers and laboratory managers. Results from most of these assays are present in the geology log files, which are now in Curis Arizona's possession. The "San Manuel Method" was consistently used by Magma, BHP, and outside laboratories contracted by

Magma/BHP for the analysis of percent acid-soluble copper (% ASCu) content in the Florence drill and metallurgical test samples (Section 11.2.2).

In SRK's 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 then and now, and are sufficient to support the project information database.

1.12 DATA VERIFICATION

Data verification has been performed by each company conducting exploration and development at the FCP site, as described in detail in Section 12. During site visits in 2010 and 2011, SRK verified that historical and current drill core and pulps stored at the FCP site are generally dry and free of animal or moisture damage and are available for verification sampling. An extensive data verification program of the drill logs, assay receipts, and database was not deemed necessary by SRK. One Qualified Person for this report (C. Hoag of SRK) is personally familiar with the data entry and database verification programs; sampling, data entry, and quality assurance/quality control protocols; and the reanalysis programs undertaken by both Magma and BHP during five years of work on the project.

Analytical results from the 2011 Curis Arizona metallurgical and confirmation drilling program indicated copper concentrations similar to those collected from prior drilling programs performed in the same areas.

SRK concludes that Curis Arizona and previous owners followed industry standard QA/QC protocols related to sample collection and data verification. Curis Arizona has generated a project database of information that is verifiable and supports the mineral resource statement and Pre-Feasibility Study conclusions presented in this report. The drill hole database, including assays and other information, is of high quality and have been sufficiently verified.

1.13 MINERAL PROCESSING AND METALLURGICAL TESTING

Conoco, Magma, and BHP conducted numerous mineralogy, bottle roll, column leach tests, and chrysocolla dissolution studies, which are briefly summarized below (Magma, 1995; BHP, 1997d). Testing has focused on using very dilute sulfuric acid as a lixiviant, which is defined as a chemical that is used to extract a metal from solid materials. Magma designed the tests to assess leach extraction and acid consumption. BHP initiated a Pre-Feasibility metallurgical program in 1996 to provide information for the design and planning of the ISCR operation. The metallurgical program consisted of mineralogical studies; cation exchange experiments to evaluate reduction of soluble copper losses onto active sites in smectite clays; bottle roll tests to determine copper mineral solubility and acid consumption in a sulfuric acid lixiviant; column leach tests to quantify copper leaching parameters (kinetics and likely leach solution chemistry); and reclamation chemistry.

Table 1-2 summarizes the history of metallurgical programs carried out at the project site.

Table 1-2: Florence Metallurgical Program History

Test Program	Laboratory	Purpose	Data Table	Time Frame
Conoco	Hazen	Agitation leach and vat leach process development	-	1971-1974
Magma Small Column	McClelland	Heap leach and in-situ recovery comparison testing	-	1994
Magma APP Column	Brown & Caldwell	Enviro. Permit Data: Acid neutralization capabilities, PLS composition	-	1995
Magma Large Column	Magma San Manuel	Acid cure (135-150 g/l sulfuric) testing	-	1995
BHP Scoping	METCON	Determine optimum acid concentrations	Table 13-2	1996
BHP Phase 1	METCON & BHP San Manuel	Test synthetic raffinate on various mineralized types	Table 13-3, Figure 13-1	1997
BHP Phase2	BHP San Manuel	Test solution stacking & alternative lixiviants ($AlSO_4$)	Table 13-4	1997
Curis Phase 1	METCON	Confirm optimum acid concentrations and recovery	Table 13-5	2011-2012
Curis Phase 2	METCON	Confirm optimum acid concentrations and recovery	Table 13-6	2012
Curis Phase 3	METCON	Confirm optimum acid concentrations and recovery	Table 13-7	2012

1.13.1 Historical Column and Bottle Roll Tests

Leaching tests and mineralogical characterization studies were carried out by various laboratories for Conoco, Magma, and BHP. The column leach tests that were conducted by BHP were organized in three phases: a Scoping Phase, Phase I, and Phase II. In the Scoping Phase, Columns 1, 2, and 3 began with de-ionized water that was acidified with sulfuric acid (H_2SO_4) to concentrations of about 5, 10, and 20 grams H_2SO_4 per liter (g/L), respectively, whereas Column 4 was treated with raffinate from the San Manuel SX/EW plant. The BHP metallurgists concluded that the leaching solution containing about 10 g/L acid offered the best balance of copper dissolution, acid consumption, and cation loading (summation of cation concentrations in the final raffinate).

Phase I column tests were designed to examine copper leachability from samples representing major resource types. The samples included 6-inch core from the first planned mining block. Copper extraction ranged from 54% to 56% with an acid consumption ranging between 2.83 and 15.6 kg/metric ton of material (BHP, 1997c). Copper extraction curves for several of the column tests are shown in Figure 1-4.

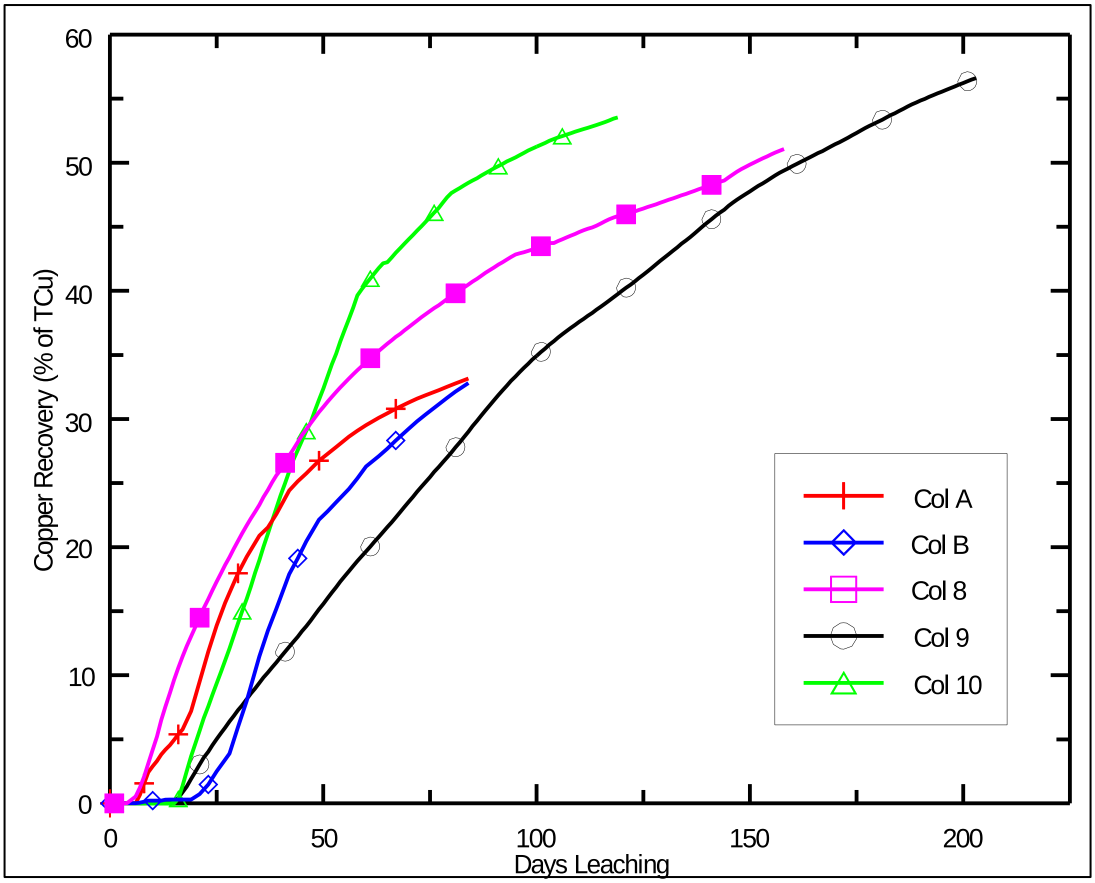

Figure 1-4: Total Copper Extraction Curves of Phase I Large-Scale Column Tests

The Phase II column tests were designed to determine the effectiveness of aluminum sulfate for pretreating typical chrysocolla mineralization to occupy active sites that would otherwise attract exchangeable cations, specifically calcium and copper. Copper extraction results were similar to those obtained in the Phase I tests, with relatively high rates of extraction still present at the termination of the tests.

The columns were operated sequentially to simulate solution "stacking", where low-grade Pregnant Leach Solution ("PLS") is reconstituted with acid and returned to the formation in an effort to increase the PLS grade. The results are summarized in Table 1-3.

Table 1-3: Summary of Results from Phase II Column Tests, BHP San Manuel

Column	Rock Type	Head Grade %TCu	Raffinate Source (Col. No.)	pH	Days	PV	Liters/ kg	%TCu dissolved	lb acid per ton	lb acid per lb Cu
C	QM	0.386 (calc)	A	1.5	133	31.8	7.25	52	1.77	7.08
D	Mixed QM + Tgdp	0.296 (calc)	C	1.7	126	28.1	6.22	35	-	-
Combined									3.30	10.13

Source: Compiled by SRK from BHP 1997d
QM - Quartz monzonite
Tgdp – Tertiary granodiorite porphyry

Copper was still being extracted at the termination of each column test, albeit at low copper concentrations, so the results are not considered to represent the maximum copper extraction obtainable.

1.13.2 Current Metallurgical Test Programs

The metallurgical test program, commissioned by Curis Arizona and utilized for the Pre-Feasibility Study, was performed by METCON Research of Tucson, Arizona (METCON). The goal of this program was to better simulate in-situ leaching of Florence copper oxide material by advancing relatively low-pressure flows of dilute sulfuric acid solution through intact pieces of drill core material. For this purpose, core samples were selected from five of six holes drilled in the spring of 2011, near the former BHP field test as well as a second location on the State Mineral Lease portion of the Florence resource area. The five selected Curis drill holes were designated as CMP11-01, CMP11-02, CMP11-03B, CMP11-05 and CMP11-06. The drill holes contained mineralized quartz monzonite and granodiorite porphyry. Care was taken not to mix the two mineralized types in any given box so that the leach characteristics of each type could be independently evaluated. The process used to test these boxes is presented in Section 13.2.

As of November 26, 2012, testing of the initial sixteen boxes (1 through 16) was completed and fully evaluated after undergoing locked-cycle leaching for approximately 150 days. As shown in Table 1-4, copper extractions ranged from 33% to 89% with an average of approximately 61% for all 16 boxes. Copper extraction averaged approximately 70% for those boxes within this set that were run with acid concentrations of 10 g/L.

Physical examination of the leached core showed no signs of preferential solution pathways (based on color and supported by tracer testing), suggesting that the contact between the leach solution and mineralized material was thorough, showing strong evidence for diffusion as an effective mechanism for liberating copper. Small amounts of precipitated gypsum were visually observed, mainly in the end sections of the core which were outside of the direct solution pathway. Subsequent mineralogical examination at the Colorado School of Mines confirmed that sulfates are present in very minor amounts in the residues, except in two boxes that contained core with over 1% calcite.

Table 1-4: Laboratory Test Results – Boxes 1-16

Test No.	Feed Sulfuric Acid (g/L)	Leach Cycle (Days)	Rinse Cycle (Days)	Calculated Head Assay (%Cu)	Gangue Acid Consumption lb/lb Cu	Cumulative Extraction (%Cu)
Box 1	5	152	43	0.46	8.88	47.47
Box 5	5	152	44	1.22	3.47	44.76
Box 9	5	186	46	0.77	3.89	63.51
Box 13	5	176	37	0.33	19.56	32.94
Box 2	10	152	79	1.00	6.95	88.72
Box 3	10	152	43	0.58	9.62	81.32
Box 6	10	152	79	0.32	15.94	71.68
Box 7	10	154	42	0.52	18.29	59.79
Box 10	10	134	78	0.55	9.32	63.54
Box 11	10	186	46	0.87	8.56	84.26
Box 14	10	134	78	0.47	5.04	47.79
Box 15	10	228	8	0.38	18.68	68.48
Box 4	20	152	78	0.49	40.54	34.74
Box 8	20	154	78	0.74	15.48	77.01
Box 12	20	176	37	0.48	29.34	48.30
Box 16	20	227	8	0.28	19.22	66.95

1.13.3 Metallurgical Recovery Assumptions

Previously, copper recovery for the Florence ISCR project was estimated by Lichtner, et al. (1996) using Magma laboratory test data, as function of copper recovery with respect to time: the "Lichtner Curve." This curve used relatively short-term laboratory leach test data to project a six-year leach cycle for each resource block. The copper recovery projection was the product of Copper Extraction, Sweep Efficiency, and Solution Recovery, where:

- Copper Extraction is the product of percentage of total copper that is potentially soluble and the percentage of this soluble copper that dissolves in five years.
- Sweep Efficiency is the percentage of the available copper that is contacted by the leach solution.
- Solution Recovery is the amount of copper in solution that is not lost to hydraulic control wells, the "bleed stream," or retained in the formation when rinsing starts.

Column testing indicated 61.6% of total copper was extractable in five years. Sweep efficiency of 80% was based on oil field experience. Recovered copper loss was estimated at 5%, making Solution Recovery 95%.

$$61.6\% \times 80\% \times 95\% = 47\%$$

METCON derived copper extraction curves for all eight boxes that had been leached with 10 g/L of free sulfuric acid. A composite copper extraction curve was calculated by METCON, based on 195 days of leaching. The resulting curve projects that copper extraction at 422 days will exceed 80% and asymptotically approaches 83.44%. The projected copper extraction was converted to a projection of copper recovery by applying factors for Sweep Efficiency and Solution Recovery, as shown in Table 1-5. These factors reflect anticipated well field conditions and suggest that the leach cycle time should be reduced to 4 years, because the incremental copper recovery of 1.6% for Years 5 and 6 are unlikely to support the operating costs for those years.

Table 1-5: Projected Copper Recovery

Year*	Cu Extraction (%)	Sweep Efficiency (%)	Solution Recovery (%)	Cu Recovery (%)
0	0	0	0	0
1	78.34	54	95	40.19
2	83.03	75	95	59.16
3	83.41	84	95	66.56
4	83.43	88	95	69.75
5	83.44	89	95	70.55
6	83.44	90	95	71.34
** Note that Year 1 begins after 3 months of pre-production leaching.*				

In summary, testing under BHP assumed a 5-year leach cycle, while the Preliminary Economic Assessment (SRK, 2010) assumed a 6-year cycle. This study recommends a 4-year cycle to lower the project costs based on the incremental copper recovery rate discussion above and the resulting optimum copper recovery of approximately 70%.

1.14 MINERAL RESOURCE ESTIMATES

SRK reviewed the drill hole database, resource estimation reports, and block model prepared by predecessor companies and completed a new resource estimate in 2010 using the historic data (SRK, 2010b). In 2011, SRK modified the 500 ft by 500 ft resource reporting cells from an east-west orientation to a diamond-shaped north-south orientation. This was done to match the orientation of the copper extraction production cells. This change in orientation made minor adjustments to the global resources relative to resources reported in 2010.

SRK reports current in-situ resources as shown in Table 1-6, at a 0.05% TCu cutoff grade. Based on current copper prices and a preliminary review of current project parameters, SRK believes that resources reported at a 0.05% TCu cutoff have a reasonable expectation of potential economic viability. For an ISCR project, actual mining cutoff grade is a complex determination that includes the thickness of the material zone, depth to bedrock, cost of acid, the recovery rate by mineral types, the PLS copper grade, and cycle times. SRK-reported resources are compliant with Canadian Institute of Mining, Metallurgy, and Petroleum ("CIM") resource classifications, and are sufficient for NI 43-101 reporting. All oxide resources including combined Measured plus Indicated and Inferred classifications at various cutoff grades are listed in Section 14.

Table 1-6: Florence Project Oxide Mineral Resources (SRK, 2011)

All Oxide in Bedrock (0.05 %TCu cutoff)			
Class	**tons**	**Grade**	**lb Cu**
Measured	296,000,000	0.354	2,094,000,000
Indicated	134,000,000	0.279	745,000,000
M+I	**429,000,000**	**0.331**	**2,839,000,000**
Inferred	63,000,000	0.235	295,000,000
Note: All oxide includes the entire copper oxide zone and iron-oxide leached cap zone including the top 40-foot of bedrock (bedrock exclusion zone). Contained metal values assume 100% metallurgical recoveries. The tonnage factor is 12.5 ft^3/ton.			

Section 14 on Mineral Resources defines the resource modeling and grade estimation parameters used by SRK for resource reporting. Section 14 tabulates at the 0.05% TCu cutoff the following global categories for historical reference:

- All oxide in bedrock (including iron-oxide leached cap and copper oxide zone);
- All oxide (as defined above) below the bedrock exclusion zone (top 40 feet of bedrock for which only partial leaching of rock is anticipated due to geometries of anticipated fluid flow from injection/recovery wells); and
- All oxide (as defined above) below the bedrock exclusion zone and within the current United States Environmental Protection Agency (USEPA) or Underground Injection Control (UIC) Permit boundary.

SRK reported all oxide mineralization in bedrock as the current mineral resource for the Florence Copper Project because Curis Arizona currently considers the project only as an ISCR operation. Sulfide mineralization is not considered potentially recoverable by ISCR methods and is not included in the current mineral resource or reserve estimates.

The mineral resource was used to estimate the mineral reserve for the ISCR extraction. SRK and Curis Arizona personnel compiled the information used to prepare the mineral reserve for the FCP Pre-Feasibility Study which was refined through the copper extraction plan prepared by Haley & Aldrich as described under Mining Method. A cutoff grade was applied to the edges of the resource area to provide an optimized resource area for use in the copper extraction plan. The resource area was then modified to avoid the power line right-of-way along the western edge of the deposit and to exclude any resource blocks north of the State Mineral Lease area. The Mineral Reserve is based upon the resulting outline and an internal cutoff grade of 0.05% TCu.

1.15 MINERAL RESERVE ESTIMATES

The overall summary of the reserve estimate as currently defined for the Curis FCP Pre-Feasibility Study is presented in Table 1-7. There are no Proven reserves pending the results of the planned field test and the assessment of in-situ metallurgical recoveries. The Probable reserve estimate includes the resources categorized as Measured and Indicated for oxide material within the resource boundary. The Probable reserve estimate does not include the inferred resources within the resource boundary. See Section 15 for a description on how the resources were converted into reserves.

Table 1-7: Probable Reserve Estimate at 0.05% TCu Cutoff (February 2013)

Tons	339,953,000
TCu Grade (%)	0.358
Contained Copper (lb)	2,435,400,000
Average Recovery (%)	69.7
Extracted Copper (lb)	1,698,000,000

1.16 MINING METHODS

ISCR, the mining method proposed for the FCP, is an extraction method used for selected mineral deposit conditions as an alternative to open pit or underground mine methods. ISCR is also used as a secondary recovery method for copper, typically coupled with open pit mining/heap leaching or underground mining. The ISCR process involves injection of a highly-diluted low pH lixiviant solution (consisting of over 99% water) into mineralized material and the dissolution of the copper, which is captured in surrounding recovery wells where the resulting PLS is pumped to the surface for collection and processing in the SX/EW plant.

The mining equipment used for this method includes wells, pumps and pipelines used to inject, recover and convey process solutions. The well installation sequence and description of well equipment are given in sections 16.2.1 and 16.2.2. The injection and recovery well design proposed by Curis Arizona is based on experience gained from the BHP pilot test, and is compliant with the Underground Injection Control (UIC) Permit issued to Florence Copper in 1997. Both the well design proposed by Curis Arizona and the well design employed by BHP incorporate a casing string that extends from ground surface, through the stratigraphy that overlies the Florence deposit, including the UBFU, MFGU, LBFU and at least 40 feet below the top of the Bedrock Oxide Unit that hosts the copper mineralization. The casing string will be composed of materials designed to withstand the proposed pressure and chemistry of the injected fluid. It will be cemented for its entire length and must pass a mechanical integrity test as defined by the USEPA. The proposed ISCR wells will be constructed with screened intervals located exclusively within the Bedrock Oxide Unit. A schematic well diagram is included as Figure 1-5.

An alternative design that includes an outer steel casing from land surface to 40 feet below the Bedrock Oxide Unit, as shown in Figure 1-6, will be used in the Phase 1 Production Test Facility well field. Contingency cost has been added to the initial capital of Phase 2 commercial operations to further evaluate this design, if necessary, pending the outcome of the Phase 1 well field testing.

The active ISCR well field will be surrounded by a network of perimeter wells that will be pumped to maintain positive hydraulic control. The perimeter wells will be surrounded by a network of observation wells that will be used to monitor hydraulic control at the edge of the

ISCR well field. The perimeter and observation wells will be constructed using a well design identical to the injection and recovery wells.

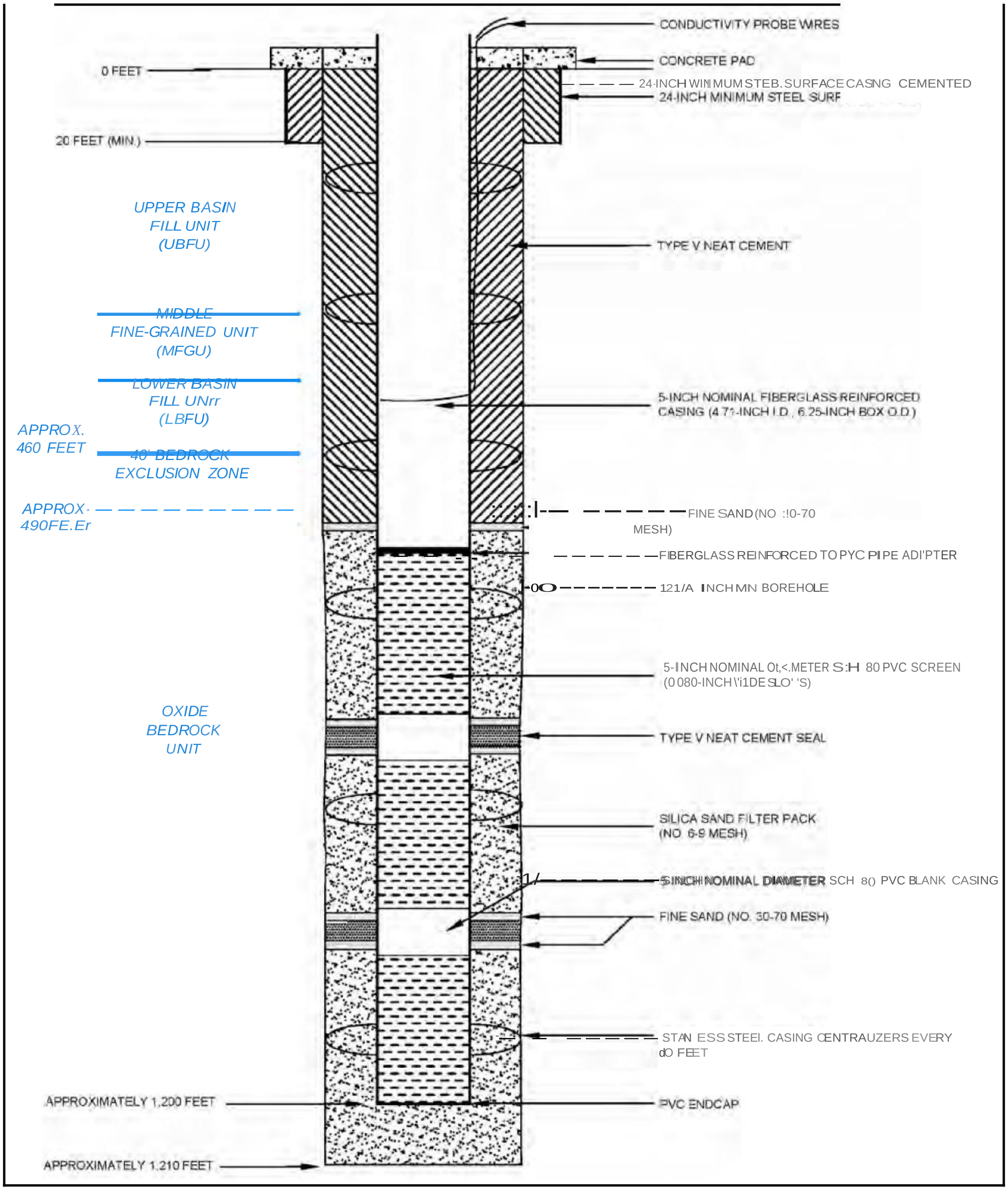

Figure 1-5: Phase II Injection and Recovery Well Design

(Source: Haley & Aldrich)

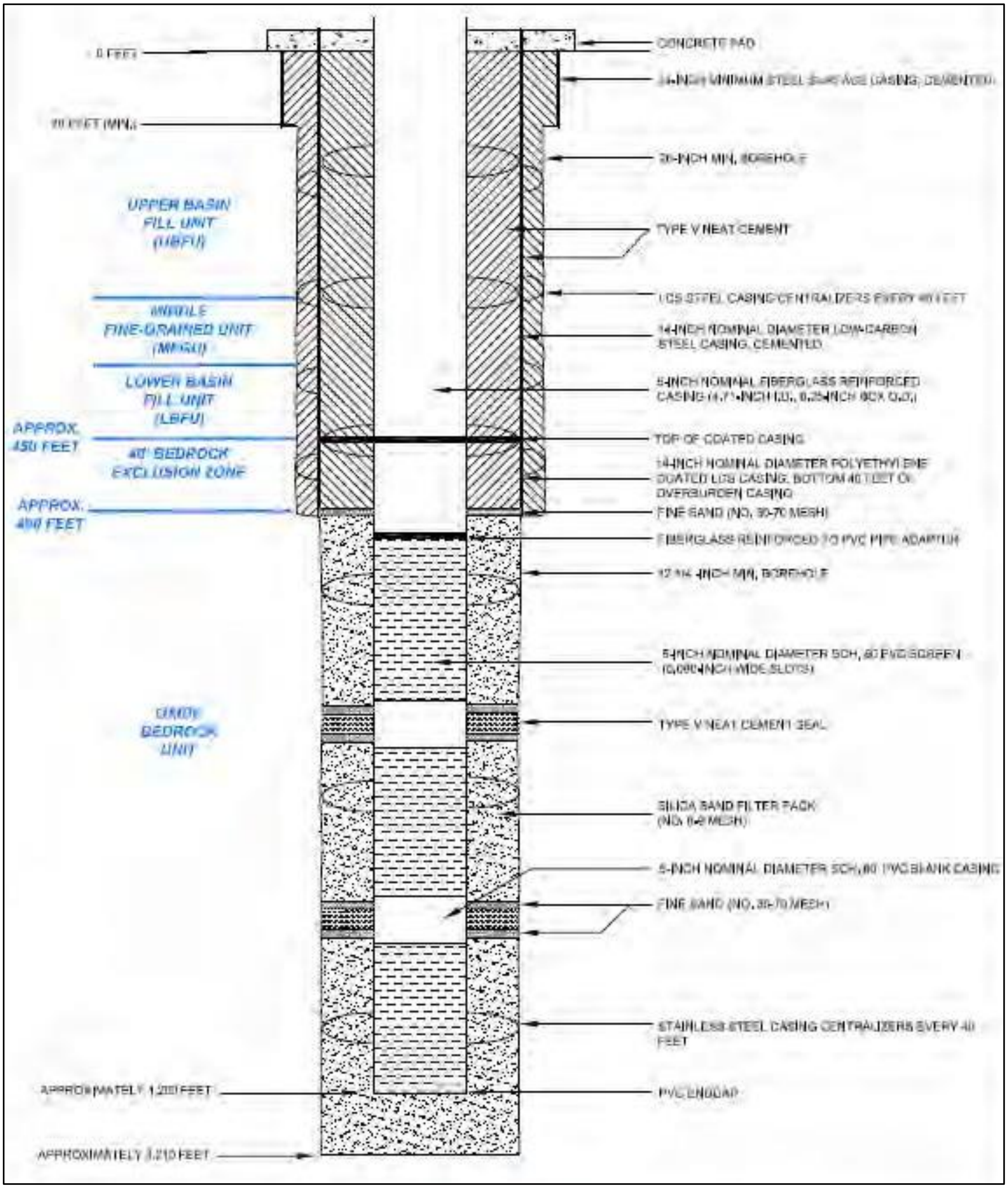

Figure 1-6: Phase I PTF Injection and Recovery Well Design

(Source: Haley & Aldrich)

The active ISCR well field will be surrounded by a network of non-production pumping (hydraulic control) and observation wells to ensure that acidified process solutions do not migrate away from the leaching zone. The hydraulic control wells withdraw additional (non-production) water from the oxidized bedrock zone. Withdrawal of the non-production groundwater creates a depression in the piezometric surface around the active ISCR, which creates groundwater flow toward the ISCR well field in all directions. The BHP pilot test demonstrated that hydraulic control could be established and maintained within the FCP mineralized body. The results of their successful demonstration of hydraulic control were submitted to the Arizona Department of Environmental Quality ("ADEQ") in a memo dated April 6, 1998 (BHP, 1998).

The anticipated hydraulic control pumping rate is expected to range from 3% to 10% 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 Curis Arizona (Brown and Caldwell, 2011) has demonstrated that sufficient groundwater resources exist within the Bedrock Oxide Unit and the overlying Lower Basin Fill Unit, or lower conglomerate, (the lower portion of the sedimentary fill overlying Precambrian bedrock) to easily support the net groundwater extraction rate of 1,100 gpm for the duration of the proposed ISCR operations.

A copper extraction forecast was developed for the FCP to produce a target copper production of approximately 55 million pounds per year (mppy) through Year 5 and approximately 85 mppy by Year 7. The initial commercial phase will have a nominal SX throughput of 7,400 gpm and the second commercial phase will increase the nominal throughput to 11,000 gpm. The copper extraction forecast was developed using the assumptions presented below:

- The extraction model is based on key physical properties provided in SRK's 500-foot by 500-foot blocks (Section 14).
- Copper recovery is based on the METCON recovery curve and a conservative sweep efficiency factor over a four-year recovery cycle (Section 13).
- The injection and recovery well flow rate is based on an average of 0.1 gpm per linear foot of well screen.

The injection and recovery well flow rate of 0.1 gpm per linear foot of well screen is a key parameter used in the copper extraction schedule. This flow rate is applied to the material thickness of each resource block to determine the flow rate per well. In Years 1 through 3 a factor of 0.15 gpm per linear foot of well screen was used due to the nature of the resource encountered in the initial years (i.e. less than average thickness seen in the typical Florence oxide zone).

The copper extraction sequence begins on the State Mineral Lease area at a rate of approximately 55 million pounds per year through Year 5 and is ramped up to approximately 85 million pounds per year by year 7. The initial production area is located north of the canal to facilitate piping arrangements in the ISCR field. The extraction sequence progresses in a southeast to northwest fashion.

There are 971 injection wells and 1,104 recovery wells projected for the ISCR area. Wells must be installed for the new blocks coming on line during each year of production. The forecast shows these wells installed in the year prior to the production start year of the block in which the wells are installed.

There are 206 permanent perimeter and 102 permanent observation wells projected for the ISCR area. The 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 resource area, the perimeter and observation wells are considered permanent installations. The perimeter and observation wells installed when the outer edge of the active area is within the resource area are temporarily used for this function and are "repurposed" as injection and recovery wells when the active area expands beyond them.

Blocks that are depleted of economically extractable copper require rinsing to flush out the remaining leach solution and restore the groundwater quality to levels required by the APP permit. Rinse solution is injected into and recovered from areas of the ISCR that have completed the four-year leach cycle, using the existing wells and surface infrastructure. Rinse flow rates were forecast in accordance with the extraction plan and represent a concurrent and proactive reclamation approach. The volume of rinse solution required to achieve the water quality objectives was simulated by Schlumberger (Schlumberger, 2012) using a regulatory-approved geochemical numerical model. The geochemical model used sulfate concentration as a proxy for completion of the rinsing process to estimate the number of pore volumes needed to attain the water quality objectives. The rinse water is initially low in pH and high in total dissolved solids with sulfate as the primary constituent. Rinse water is neutralized, filtered, and treated by reverse osmosis in the water treatment plant (Section 20.2) before being returned to the well field to facilitate additional rinsing.

1.17 RECOVERY METHODS

Copper recovery for the FCP utilizes SX/EW technology to produce cathode copper from the copper-bearing leach solutions pumped from the ISCR well field. The SX/EW plant is initially designed to handle a flow of 7,400 gpm with a recovered copper concentration of 1.8 grams per liter (g/L). After five years, the SX/EW plant will be expanded to handle a flow of 11,000 gpm. The processing plant and associated infrastructure is in the northeast corner of the State Land parcel. The process fluids are piped to and from the process plant in lined trenches.

The process consists of the following elements:

- ISCR well field;
- Lined PLS and raffinate ponds;
- SX Plant with three mixer settlers, increasing to four in Year 5, for operation in Year 6;
- Tank Farm for handling process liquids;
- EW Tankhouse;
- Ancillary warehouse and maintenance facilities;
- Water treatment plant and water impoundment facilities; and
- Existing Administration office complex near the eastern side of the site.

The source of copper for this process is PLS extracted from the recovery wells, as described above. PLS is collected in a process pond with a double geomembrane liner system on the west side of the plant site. The PLS pond has a design capacity of 6,480,000 gallons, which provides a 14.6-hour residence time at 7,400 gpm and 9.8-hour residence time at the ultimate design flow rate of 11,000 gpm.

The PLS pond is adjacent to the raffinate pond (west) and receives PLS from the well field. The pond is equipped with two vertical turbine pumps and one spare to deliver PLS to the SX Plant. In Year 5, a third vertical turbine pump will be added to increase the capacity to 11,000 gpm to the SX Plant.

PLS is pumped to the SX Plant where it is mixed with an organic, petroleum-based liquid containing an extractant that selectively removes copper from the PLS. The SX Plant consists of three reverse-flow mixer-settlers in a parallel configuration. The PLS flow is split between two extraction settlers. In the extraction settlers the PLS is mixed with the organic to enable transfer of the copper to the organic phase. The "loaded" organic and aqueous solutions are allowed to separate in the settlers due to the density differences in the liquids. The loaded organic is directed to the stripping settler where it is mixed with the electrolyte solution, which has a high acid content. The "lean" electrolyte strips copper from the organic solution, which then become "rich" electrolyte. Organic stripped of its copper load circulates back through the extraction mixer-settlers, progressively loading it with copper as it flows through the extraction train, removing 90% of the copper load in solution.

A fourth mixer settler will be added in Year 5 to increase the capacity of the SX system to 11,000 gpm in Year 6. The system is converted to a series-parallel configuration. In this configuration, half of the PLS flows through two mixer settlers in order to enhance the transfer of copper to the organic phase prior to being "stripped" in the extraction settler.

The extraction units consist of primary, secondary, and tertiary mix tanks that thoroughly combine the organic and PLS. The contact time and agitation in the mixers facilitates transfer of copper from the PLS solution to the extractant in the organic. The settlers are 67 feet wide, 102 feet long and 4 feet deep. The reverse-flow settlers direct the mixed solutions along the side of the settlers and through turning vanes that direct the separating solutions to flow back toward the mixers where the solutions are separated. The rich electrolyte solution is routed through the Tank Farm to EW filters.

The raffinate pond, with the same construction as the PLS pond, receives the solution, now called raffinate. The raffinate passes through a pair of coalescers that assist in removing residual organic from the raffinate. The raffinate is acidified by an in-line static mixer south of the pond downstream from the coalescers and the SX Plant. The raffinate pond is equipped with two vertical turbine pumps and one spare with 360 feet of total dynamic head to deliver the 7,400 gpm flow rate to the well field with enough pressure to enable injection of leach solution to the injection well field. In Year 5, a third vertical turbine pump will be added to increase the capacity to 11,000 gpm to the well field.

The Tank Farm is located south of the SX settlers at lower elevation to enable solutions to flow into the tanks by gravity. The Tank Farm holds process tanks, filters, pumps, and heat exchangers associated with the SX/EW process. Solutions are pumped from the Tank Farm to the respective process areas to maintain the process flow. The Tank Farm is located in secondary containment in accordance with best available demonstrated control technology ("BADCT") standards.

Primary process equipment located in the Tank Farm includes filters and heat exchanger. Rich electrolyte is filtered to remove solids and organics. The rich electrolyte flows by gravity from the extraction settler to the electrolyte filter feed tank. The rich electrolyte is pumped through the electrolyte filters. Filtered electrolyte is then pumped through a heat exchanger to transfer heat from the lean electrolyte to the rich electrolyte, and then on to the electrolyte recirculating tank.

A system is installed in the Tank Farm to process "crud" from solvent extraction. "Crud" is defined by operators as the material which accumulates at the organic/aqueous interface in the SX settlers. This material is treated to recover the valuable organics. The crud is removed from the settlers via an air-operated pump and transferred to a crud decant tank. The crud is allowed to settle in the decant tank. If required, clay can be added to remove impurities in the organic. The upper organic in the decant tank is recovered and sent to the loaded organic tank. The sediment at the bottom of the tank is pumped thru a filter and the filter cake removed.

The EW Tankhouse is located west of the Tank Farm and the SX Plant and utilizes permanent cathode technology initially with 74 cells, increasing to 100 cells in Year 5, for operation in Year 6. Each cell in the Tankhouse contains 67 lead anodes and 66 stainless steel "mother" cathodes. The cathode washing and stripping machine is located on the south end of the Tankhouse building. The EW Tankhouse cells are arranged in two parallel banks of 37 (50) cells each. In the hydraulic circuit, all cells are arranged in parallel allowing each cell to have the same feed solution and discharge solution. Electrically, the cells are connected in series.

Direct electrical current is supplied by two rectifiers. Current flows from the rectifiers through a bus bar to the bank of cells. Each cell is equipped with intracell bus bars, 66 cathode plates and 67 anode plates arranged in parallel. Within each bank, direct electrical current flows from a bus bar to the anode and then through the electrolyte to the cathode plates. An intercell bus bar provides current to the next cell successively and finally returns to the rectifiers.

Heated, filtered, rich electrolyte flows from the Tank Farm heat exchangers into the electrolyte recirculation tank where it mixes with overflow from the lean electrolyte tank. The solution from this tank is pumped to the Tankhouse cells where copper in solution is plated onto the cathode plates.

As a result of the electrochemical reaction at the anode, oxygen evolves from the EW cells creating a mist. The EW cells are covered to contain the mist and a surfactant is used to reduce the quantity of mist produced. Cobalt sulfate is also added to passivize the anode, and guar (a bean powder) is added as a surface modifier for the cathode.

1.18 PROJECT INFRASTRUCTURE

The FCP site is accessed by the Hunt Highway that lies along the north boundary of the project site. The Copper Basin Railway lies just north of the Hunt Highway. There is a siding approximately one mile east of the property that could be used to ship and take deliveries. A regional power transmission corridor is present near the western boundary of the site and includes an APS transmission line that provides power for the operation. Water supply for supporting activities will be provided by registered onsite wells and natural gas is available approximately 6,000 feet east of the property. Operation of the ISCR well field requires pumping more water from the mineralized bedrock formation than is injected as leach solution to provide hydraulic control. The mineralized bedrock formation is saturated with groundwater which will be continuously recirculated throughout the operational and closure phases of the project. Minor amounts of groundwater from the lower conglomerate formation overlying the mineralized bedrock will be drawn down into the bedrock formation to ensure capture of solutions throughout the life of the project. A water treatment plant will be installed to neutralize excess water from the operation and deposition of the solids and mechanical evaporation of the excess liquid.

1.19 MARKET STUDIES AND CONTRACTS

Curis Arizona is a guarantor for its parent company, Curis Resources Ltd., and has placed 25% of its copper cathode production over the life of the project under an off-take agreement with Red Kite Mine Finance Trust I. The agreement includes market based pricing and an optional extension. If the extension option is exercised, the percentage of copper cathode included in the sale rises from 25% to 30%. The off-take agreement is linked to a bridge loan and security agreement.

All non-committed copper cathode not included in the Red Kite Copper Cathode Sale and Purchase Agreement, will be sold in the open market, or subject to off-take arrangements yet to be negotiated.

Curis Arizona commissioned a study of future sulfuric acid availability and pricing which was completed by Elkbury Sulphur Consultants, Inc. ("Elkbury"), a consulting company dedicated to the sulfur and sulfuric acid industries, and the markets they serve. The study analyzed the results of a Request for Proposal (RFP) issued by Curis Arizona to five acid vendors located in the southwestern United States. The RFP requested pricing for acid to be supplied beginning in the year 2014, based on fourth quarter 2012 forecast prices.

Curis Arizona commissioned a study by P&R Consulting LLP (P&R) of the availability and pricing of electrical power to meet power demand for the life of the project. The FCP is expected to have a peak electric load of 18.1 megawatts (MW) (P&R, 2011).

1.20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

1.20.1 Permitting

The environmental liabilities of the FCP are limited, mostly related to historical mining and exploration activities conducted by Conoco in the mid-1970s and by Magma and BHP in the late 1990s. These liabilities, detailed in Section 4.6 of this report, are currently being addressed by a reclamation process that will be completed during the process of development and ultimate reclamation of the project.

Several environmental permits are required for operation of the FCP. Curis Arizona has obtained all but one of the various permits required to commence the first phase of operations, subject to any pending or new appeals or reviews. The list of permits is provided in Table 1-8. Section 4.7 provides details of the authorization, agency, purpose, term, history, and status of the various permits.

Table 1-8: List of Permits

Permit Name	Jurisdiction	Permit Status	Issue Date	Expiration Date	Reporting
Underground Injection Control Permit and Aquifer Exemption No. AZ 396000001	USEPA	Pending Modification Approval	5/1/1997	5 Year Review	Quarterly
Aquifer Protection Permit No. 101704 (Commercial Operations)	ADEQ	Current-Pending Amendment	8/12/2011	N/A	Quarterly
Temporary Aquifer Protection Permit No. 106360 (PTF Operations)	ADEQ	Pending Appeal	9/28/2012	2 Years From Date of Authorization to Begin Work	Quarterly
Air Quality Permit No. B31064.000	Pinal County Air Quality Control District	Current	12/16/2011	12/15/2016	Annually
Storm Water Multi-Sector General Permit Authorization No. AZMSG-61741	ADEQ	Current	5/31/2011	1/31/2016	Annually
Permit to Withdraw Groundwater for Mineral Extraction and Metallurgical Processing No. 59-562120	ADWR	Current	4/5/2010	5/31/2017	Annually
Mined Land Reclamation Plan	ASMI	In Progress	20 year term	N/A	Annually
AZ State Mineral Lease #11-026500	ASLD	Current	2/24/2010	12/13/2013	Monthly
Septic System Permit	ADEQ	Current	2010[1]	N/A	N/A
Change-of Water Use Permit	ADWR	Current	2/25/1997	N/A	N/A
Burial Agreement Case No. 2012-012	Arizona State Museum	Current	6/21/2012	N/A	N/A
Programmatical Agreement	USEPA	Current	1/19/1996	30 Day Notice	N/A
EPA Hazardous Waste ID No. AZD983481599	USEPA	Current	4/4/2012 (signature date)	N/A	N/A

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

The Curis private property in the Town of Florence has been known to support 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 Arizona State Land portion of the project is not subject to the Town's jurisdiction. Curis Arizona plans to initially develop the FCP on the Arizona State Land and expand into the remaining portion of the resource as the resource on the State Land is depleted.

State and Federal permitting authorities are in the process of reviewing all FCP's technical, development and environmental protection measures proposed for the project in both Phase 1 and Phase 2 commercial scale operations. Discussions are ongoing with local stakeholders with regard to addressing any remaining project related concerns.

1.20.2 Environmental and Archeological Studies

Numerous environmental studies have been completed at the FCP site. The studies include the following:

- A jurisdictional water review,
- Archeological (cultural) investigations,
- Wildlife and threatened and endangered (T&E) species investigations,
- Groundwater monitoring,
- Groundwater geochemical modeling,
- Groundwater hydrologic modeling, and
- A hydraulic control and rinsing test.

The results of the studies and estimates of cost for monitoring, mitigation and reclamation have been incorporated into operations and closure aspects of the project and included in the capital and operating costs areas as appropriate. These studies are discussed more in depth in Section 20.1 of this report.

Westland Resources, Inc. ("Westland") was retained by Curis Arizona to review the project site for potential jurisdictional waters as defined by Section 404 of the Clean Water Act. The review is essentially an update of an earlier study prepared in the 1990s for Magma/BHP. Curis Arizona has designed the project to avoid disturbance of the potential jurisdictional waters identified by Westland.

Western Cultural Resource Management ("WCRM") updated the cultural resource inventory for the project site and to assist in preparing the programmatic agreement to support the UIC Permit. The Curis Arizona Area of Potential Effects has been the subject of numerous investigations for nearly a century. Past projects have documented a total of 59 sites; of these, 42 have been determined eligible for inclusion in the National Register; effects at two were mitigated in 1997; eight have been determined not eligible; and seven are of undetermined eligibility.

A biological evaluation ("BE") of the project site was prepared by Westland. The BE encompassed approximately 620 acres (Project Area), which includes the 160-acre Arizona State Land parcel. The results of the study indicate there are no threatened and endangered species on or near the Project Area and the Project Area is not located within any designated or proposed critical habitat. There is potential for two candidate species, the Sonoran Desert Tortoise and the Tucson shovel-nosed snake, to occur at the site even though the habitat in the Project Area is not considered ideal. Although the report did not include recommendations, Curis Arizona has proposed the use of tortoise fencing in sensitive areas such as around the water impoundments.

A compliance monitoring program involving 31 point of compliance ("POC") wells was initiated in accordance with requirements specified in the Aquifer Protection Permit ("APP") and UIC Permit, after the APP and UIC Permits were issued in June 1997. The program involves the analysis of seven parameters per well each quarter and the analysis of 41 parameters per well once every two years (biennially). Samples continue to be collected and analyzed quarterly and compared to Alert Levels ("ALs") and Aquifer Quantity Limits ("AQLs") specified in the APP and the UIC Permit. Reports of sampling and analytical results are submitted quarterly to the Arizona Department of Environmental Quality ("ADEQ") and USEPA.

Schlumberger Water Services ("SWS") updated the geochemical modeling for the FCP. SWS prepared a technical memorandum (SWS, 2012) detailing the geochemical modeling for the FCP. The results of the rinsing simulations indicate that targeted concentrations of sulfate and other constituents may be achieved through rinsing with 8.5 to 9 pore volumes of natural formation groundwater.

Brown and Caldwell ("BC") reviewed and revised a sub-regional groundwater flow model developed in support of the APP and UIC Permit applications submitted by BHP in 1996. BC found that the substantial quantity of site-specific hydrologic data generated since 1996 warranted a thorough revision of the earlier groundwater flow model. In 2010, BC created new groundwater flow model covering the same sub-regional model domain used in the 1996 model using improved software and model construction techniques.

BHP constructed and operated a pre-operational compliance test in 1997/98 to satisfy a specific condition of the APP. The APP required a demonstration of hydraulic control be performed for a period of approximately 90 days prior to commencement of commercial operations. The BHP hydraulic control test was conducted from November 8, 1997 through February 10, 1998. The goal of the test was to demonstrate that four pairs of pumping and observation wells were adequate to demonstrate a continuous inward hydraulic gradient in the aquifer. BHP prepared a report on April 6, 1998 documenting the hydraulic control test. This report was submitted to ADEQ and USEPA as a demonstration of compliance with the permit condition. Following completion of the test, ADEQ amended the permit by removing the 90-day, pre-operational test requirement and re-issuing the permit for full commercial operation. The rinsing conducted by BHP and Merrill Mining demonstrated that, through a combination of injection and passive inflow of fresh formation water, that the sulfate and other constituent concentrations can be rinsed to levels established in the APP for closure.

1.20.3 Waste Disposal

Curis Arizona retained the firm ARCADIS to perform a Pre-Feasibility assessment of technologies available to treat excess solutions over the life of the project. The flow to the water treatment plant will be comprised of three solution streams including hydraulic control water, raffinate bleed, and extracted rinse water. The treatment plant will be built in phases starting with high density lime neutralization of raffinate bleed and hydraulic control solutions in year 1, followed by implementation of low pressure filtration and reverse osmosis beginning in Year 5 to treat the formation rinse water extracted after conclusion of ISCR at individual extraction blocks. The treated water after year 5 will be used to facilitate rinsing of the retired extraction blocks.

The solids produced by the water treatment system will be deposited and managed in a series of ponds designed to BADCT standards to receive process fluids and solids. Curis Arizona retained Knight Piésold ("KP") to design the ponds that will contain the solids, and will be used for fluids management. Using fluid flow and solids values provided by ARCADIS, KP calculated the volume and corresponding size and number of ponds required to contain the solids and manage the associated fluid flows. KP estimated that a total of 73 million cubic feet (mcf) of solids would be produced over the life of the ISCR facility and that those solids could be contained within five impoundments, with a capacity of 15.2 mcf per impoundment with appropriate freeboard remaining. Solids will be capped in place using a regulatory-approved closure design plan as described in Section 20.2.

1.20.4 Sustainable Community Development

Community development is the process of increasing the strength and effectiveness of communities, improving people's quality of life, and enabling people to participate in decision making to achieve greater long-term control over their lives. Sustainable community development programs are those that contribute to the long-term strengthening of community viability.

The Town of Florence is approximately 50 square miles in size and is roughly equidistant from the state's two major metropolitan areas: Phoenix (65 miles) and Tucson (60 miles). The Town was established in 1866, and is the county seat for larger Pinal County; it remains one of the state's most historic municipalities with approximately 8,000 residents.

Major employment in Florence is provided by nine correctional institutions incarcerating approximately 18,600 inmates. Private employment, excluding private prisons under contract with the State, is minimal.

1.20.4.1 Community Outreach

Since acquiring the FCP site in late 2009, Curis Arizona has implemented a community outreach program and commensurate activities to support the advancement of the FCP. Public consultation, education, and ongoing dialogue within various stakeholder communities are in progress. Below is a list of programs and activities employed and completed since the inception of initial work at Florence Copper:

- Site Tours
- Presentations

- Local Advertising
- Industry Organizations
- Communications and Media
- Coordinating with Local Suppliers
- Working State Agencies and Government
- Open Houses

1.20.4.2 Community Investment Foundation

On October 6, 2011 Curis Arizona announced the establishment of a multi-year Economic Development, Community Development and Revitalization Fund, (Copper Recovery Enhances Economic Development). In 2012, the fund was upgraded to a foundation called the Florence Copper Community Foundation. Phase I of this program will correspond to the first operational phase of the project, known as the Production Test Facility ("PTF"), currently scheduled to begin once permits have been received. Phase II will occur during full commercial operations.

Curis Arizona will establish the Foundation with a budget of $100,000 during Phase 1.

This fund is not required by law and would be in addition to normal tax benefits that would flow to Florence, Pinal County, and Arizona as a result of commercial operations.

1.20.4.3 Community Surveys

Florence Copper enjoys a majority of support from residents within the Town as evidenced by internal polling and Florence's own 2011 Citizen Survey. Issues of highest concern for Florence residents are a lack of jobs and the depressed economy; education; ground water protection and public safety. New polls will be conducted in the second quarter of 2013.

1.20.4.4 Socioeconomic Analysis

Curis Arizona commissioned the L. William Seidman Research Institute at Arizona State University (ASU) to conduct an Economic Impact Study for the FCP. It determined that the Town of Florence, Pinal County, and the State of Arizona stand to benefit in terms of high-wage employment and millions in total revenues as a result of FCP operations (Source: L. William Seidman Research Institute at Arizona State University, Florence Copper Project – Economic Impact Study, 2011).

The ASU Economic Impact Study utilized the 2010 PEA. The ASU study concludes the following impacts to the socioeconomic environment in the region as a result of the FCP:

- Gross State Product (GSP) is the most comprehensive indicator of economic performance for a state or region and represents new production, sometimes called "value added." GSP for Arizona and Pinal County contribute to the tally of Gross Domestic Product (GDP) for the nation, our measure of the country's annual output of goods and services.
    - Gross State Product Impact: It is estimated that the FCP will add $2,245 million to Arizona Gross State Product (see Table 1-9) over the life of the project.

  - Gross State Product (GSP) produced in Pinal County will increase by an estimated $1,078 million over this period.
  - The annual average addition to Arizona GSP over the entire project life is estimated at $80 million (in constant 2011 dollars). The annual average addition to GSP produced within Pinal County is $39 million.
- Employment Impact:
  - The FCP is expected to create and support an annual average of 681 Arizona jobs (see Table 1-10) over the duration of the mine.
  - The annual average employment within Pinal County from the FCP is expected to be 406 jobs.
  - Approximately 170 jobs will be required at the FCP site for mineral recovery during the operations phase.
  - 18.7% of workers on site are in scientific, technical, or engineering occupations (see Table 1-11).
  - Over all of the project phases, more than 500 additional Arizona jobs supported each year will be in other industries in the overall general economy.

The job count includes the direct employment on site, jobs supported indirectly in firms or government agencies that supply goods and services to FCP, as well as induced employment that stems from the expenditures of all these workers as consumers.

- Personal Income:
  - FCP is expected to increase Personal Income in Arizona by $1,464 million over the life of the project.
  - Personal Income to residents of Pinal County will rise by an estimated $709 million over this period.
- State Revenue:
  - Economic activity related to Florence Copper will generate approximately $204 million in revenue for Arizona public agencies through taxes and fees over the duration of the three phases of the project.
  - More than 90% of new Arizona revenues ($190 million) would be created within Pinal County.

Table 1-9: Economic Impact Summary

Impact Locus	Total Impact	Annual Average Impact
Gross State Product		
Arizona	$2,245,000,000	$80,000,000
Pinal County	$1,078,000,000	$38,000,000
Employment (Jobs)		
Arizona	-	681
Pinal County	-	406
Personal Income		
Arizona	$1,464,000,000	$52,000,000
Pinal County	$709,000,000	$25,000,000
State Revenues		
Arizona	$204,000,000	$7,000,000
Pinal County	$190,000,000	$7,000,000
Note: dollar values are constant 2011 dollars *Source: REMI model of Arizona and Pinal County economies*		

Table 1-10: Economic Impact of Florence Copper Project By Phase

Impact Category	Construction Phase	Production Phase	Reclamation/ Closure Phase	Total Impact
	2012 – 2014	2015 – 2032	2033 – 2038	2012 – 2038
Gross State Product*	**Gross State Product by Phase**			**GSP**
Arizona	146,000,000	1,772,000,000	326,000,000	2,245,000,000
Pinal County	56,000,000	834,000,000	189,000,000	1,078,000,000
Total Employment	**Annual Average Employment by Phase (Jobs)**			**Employment**
Arizona	585	787	392	681
Pinal County	285	453	316	406
Personal Income*	**Personal Income by Phase**			**Personal Income**
Arizona	88,000,000	1,129,000,000	247,000,000	1,463,000,000
Pinal County	34,000,000	532,000,000	143,000,000	709,000,000
State Revenue*	**Annual State Revenue by Phase**			**State Revenue**
From Activity in Arizona	14,000,000	154,000,000	36,000,000	204,000,000
From Activity in Pinal Co.	13,000,000	143,000,000	33,000,000	190,000,000
** Values in Millions of 2011 Dollars* *Source: REMI Model of Arizona and Pinal County economies*				

Table 1-11: Occupations in U.S. Mineral Mining Compared to Florence Copper Project Workforce

Category	U.S. Workforce Distribution	Florence Copper Workforce
All Occupations	100.0%	100.0%
Administration, Business, Financial, Office	17.3%	16.1%
Scientific, Technical, Engineering	9.1%	18.7%
Operations, Extraction	51.3%	26.7%
Maintenance, Materials, Equipment, Storage	22.3%	38.5%
Source: U. S. Bureau of Labor Statistics, National Employment Matrix, 2008 and Florence Copper		

1.20.4.5 Local Hire & Procurement Policy

Curis Arizona mandates a hiring and procurement policy for the company, contractors, and consultants as detailed below. Curis Arizona will:

- Ensure that local people receive priority consideration for employment, based on qualifications and merit;
- Ensure that local companies (contractors, suppliers and consultants) receive priority consideration for contract opportunities, based on qualifications and merit;
- Where possible, provide or facilitate access to training to ensure that local residents gain the skills and qualifications necessary for employment; and
- Where possible, assist local companies to identify future contract opportunities and to build the capacity necessary to benefit from these opportunities.

Curis Arizona emphasizes that the first consideration for awarding new employment and contract opportunities will always be qualifications and merit. Among qualified candidates and companies, preference will be given to those in closest proximity to Curis Arizona's operations.

In summary, the establishment of the FCP is expected to result in a number of economic benefits for Florence, Pinal County, and Arizona. In addition to the above, the project offers the following opportunities:

- 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.

1.20.5 Mine Closure Requirements and Costs

Mine closure requirements for the FCP will consist of remediation and reclamation activities. The mine closure requirements require restoring the affected property and aquifer to pre-mining conditions unless certain facilities are shown to remain to support the post mining land use. Remediation requirements generally refer to the closure of the facilities that are related to the APP and the UIC Permit. The reclamation activities generally relate to reclaiming of surface disturbances and structure removal and are covered in the Mined Land Reclamation Plan (pending).

The closure and post-closure costs were originally developed by BC to support the APP Significant Amendment Application. It is assumed that closure will begin when copper concentrations in the PLS pumped from the last remaining resource blocks in the ISCR area decline to levels that can no longer be economically recovered. These activities include groundwater restoration, abandonment of the ISCR wells, piping removal, process pond closure, in-place closure of the sediment-containing water impoundments, removal of the processing facilities, and closure and removal of the septic systems.

A groundwater monitoring program will be conducted at all POC wells in accordance with the APP. This monitoring will continue for 30 years during the post-closure period, as required by the UIC Permit. In accordance with and on approval of the ADEQ, at the end of the 30-year post-closure monitoring period, abandon the 31 POC wells in accordance with the provisions of the APP and the well abandonment plan referenced in the APP. Furthermore, the well abandonment plan is designed to meet Arizona Department of Water Resources ("ADWR") and USEPA requirements.

A summary of the closure and post-closure costs is shown in Table 1-12.

Table 1-12: 2010 Closure and Post-Closure Cost Estimates

Closure Cost Description	Estimated Cost*
Groundwater Restoration Rinsing and Well Abandonment	$32,600,000
PLS Pond Closure	$200,000
Raffinate Pond Closure	$200,000
Runoff Pond Closure	$100,000
Water Impoundment Closure	$1,900,000
Tank Farm Decommissioning	$100,000
Septic Tank Closure	$10,000
Miscellaneous Costs	$200,000
Closure Cost Subtotal	$35,300,000
Contingency (15%)	$5,300,000
Administrative and Miscellaneous Expenses (10%)	$3,500,000
Closure Total	**$44,100,000**
Post-Closure Cost Description	**Estimated Cost**
Post-Closure Monitoring	$1,200,000
POC Well Abandonment	$300,000
Post-Closure Total	**$1,500,000**
CLOSURE AND POST CLOSURE TOTAL	**$45,600,000**

*Any mathematical discrepancies are due to rounding.

1.21 CAPITAL AND OPERATING COSTS

Capital and operating costs for the FCP were estimated on the basis of the preliminary design, estimates from other consultants for the project, budgetary quotes for major equipment, and analysis of the process flowsheet and predicted consumption of power and supplies.

1.21.1 Operating and Maintenance Costs

Operating and maintenance costs for FCP operations are summarized by cost center areas. Cost centers include well field operations, process plant operations, and the General and Administration ("G&A"). Process operating costs were estimated for the life of the operation based on an annual production of 55.5 mppy in the first 5 years of operation and 85 mppy for subsequent years. The well field costs are based on producing PLS with a copper concentration of approximately 2.0 g/L and a SX recovered grade of 1.8 g/L at the rate of approximately 7,400 gpm in the first 5 years and 11,000 gpm in subsequent years. The PLS is delivered to the SX/EW plant by means of direct pumping from the PLS pond, as described in "Recovery Methods" (Section 17). Lifetime average operating cost is $0.80 per pound of copper produced, which includes well field, processing plant, and G&A costs.

Well field operating costs include estimates of labor, power, reagents, maintenance, and supplies and services for the operation of the well field and water treatment plant in the well field area to neutralize, treat, and evaporate excess process solutions. Maintenance is estimated based on labor, supplies, and outside services necessary to maintain the wells. This includes moving the well field pumps and piping, and replacing and repairing submersible pumps used for extraction. Supplies and services include fuel for the maintenance vehicles, tools and supplies, and other services necessary to maintain the well field pumps, piping, containment system, and road network within the well field. Well field costs are estimated at $0.342 per pound of copper produced.

Process Plant operating cost for the life of operation is estimated to average $0.25 per pound of copper. Each of the components of plant operating cost includes labor, power, reagents, maintenance, and supplies. Solvent extraction contributes $0.121 per pound, the Tank Farm contributes $0.011 per pound, Electrowinning $0.092 per pound, and Ancillary Services contributes $0.022 per pound.

G&A costs include labor and fringe benefits for the administrative personnel, human resources, and accounting. Also included are office supplies, communications, insurance, and other expenses in the administrative area. All other G&A costs were developed as allowances based on historical information from other operations and other projects. The life of operation operating average is estimated to be $0.12 per pound of copper. The operating costs are as follows:

Table 1-13: Operating Cost Summary Table

Operating Cost	Cost	$/lb. Cu
Well Field	$580,000,000	$0.34
SX/EW Plant	$417,000,000	$0.25
Water Treatment Plant	$150,000,000	$0.09
General Administration	$208,000,000	$0.12
Total Operating Cash Cost	**$1,354,000,000**	**$0.80**
Royalties, Incidental Taxes (excludes Income Taxes), Reclamation, and Misc.	$524,000,000	$0.31
Total Cash Cost	**$1,878,000,000**	**$1.11**

1.21.2 Capital Cost Estimate

Capital costs for the project were estimated using budgetary equipment quotes, material take-offs for concrete, steel, and earthwork, estimates from vendors and subcontractors for such things as pre-engineered buildings and production wells, and estimates based on experience with similar projects of this type. Some of the costs and quantity estimates used by M3 were supplied by other consultants.

- KP provided quantities associated with earthmoving, construction, and fencing on process ponds.
- Haley and Aldrich provided quantities and timing of wells for the ISCR well field.
- ARCADIS provided designs and cost estimates for the water treatment plant.
- Haley & Aldrich provided the cost estimate for reclamation.
- Arizona Public Service Company provided a cost estimate for completing electrical transmission lines to the plant substation and furnishing a transformer.
- Southwest Natural Gas provided a cost estimate for providing natural gas to the site boundary and installing gas lines in customer-dug trenches.

The capital cost estimates include both initial capital and sustaining capital for the project. Initial capital is defined as all capital costs through the end of construction. Capital costs predicted for later years are carried as sustaining capital in the financial model. Sustaining capital costs include planned expansion of the plant in Year 5. Capital costs in US dollars are based on quotes obtained in the fourth quarter of 2011, escalated by 2% (based on data from Engineering News Record).

The accuracy of this estimate for those items identified in the scope-of-work is estimated to be within the range of ±20%. Contingencies are estimated to cover items of cost which fall within the scope of the project, but are not sufficiently characterized at the time the estimate is developed. M3 estimated the contingency at 20% of the direct and indirect costs (Contracted Cost).

Initial capital expenditures for this project include the construction of the ISCR well field and SX/EW plant. The financial indicators have been determined with 100% equity financing of the initial capital. Any acquisition cost or expenditures prior to start of the full project period have been treated as "sunk" cost and have not been included in the analysis.

The total initial capital carried in the financial model for new construction and pre-production well field development is expended over a 3-year period and shown in Table 1-14. The initial capital includes Owner's costs and contingency. The capital will be expended in the years before production and a small amount carried over into the first production year.

Table 1-14: Initial Capital

	Cost
Well field	$54,000,000
SX-EW Plant	$66,000,000
Utility, Infrastructure, and Ancillaries	$54,000,000
Owner's Cost	$15,000,000
Initial Capital Cost	**$189,000,000**
Pre-Production Costs	$19,000,000
Total	**$ 208,000,000**

1.22 ECONOMIC ANALYSIS

The financial evaluation presents the determination of the NPV, payback period (time in years to recapture the initial capital investment), and the IRR for the project. Annual cash flow projections were estimated over the life of the operation based on the estimates of capital expenditures and production cost and sales revenue. The sales revenue is based on the production of a copper cathode. The estimates of capital expenditures and site production costs have been developed specifically for this project and have been presented in earlier sections of this report. The financial evaluation is on the base case economics of the project as described in section 22.

1.22.1.1 Production

Well field production is reported as soluble copper removed from the ISCR leaching operation as PLS. The annual production figures were obtained from the extraction plan as reported elsewhere in this report. The design basis for the process plant is a nominal flow of 11,000 gpm (7,400 gpm, initially) of PLS at an average copper concentration of 2.0 g/L and recovered grade of 1.8 g/L at the SX Plant. Average annual full-rate production is projected to be approximately 85 million pounds. Total life of operation production is projected at approximately 1,695 million pounds of copper.

1.22.1.2 Copper Sales

The copper cathodes are assumed to be shipped to buyers in the US market, with sales terms negotiated with each buyer. The financial model assumptions are based on experience with copper sales from similar operations in the US.

The company has committed 25% of its copper production at market terms for the life of mine to RK Mine Trust I pursuant to an outstanding 2 year Bridge Loan facility. If the Bridge Loan facility is extended to 3 years, the off-take commitment to RK Mine Trust I becomes 30%.

1.22.1.3 Initial Capital Costs

See Section 1.21.2 for the summary of initial capital costs. See Section 21.2 for additional detail on capital costs.

1.22.1.4 Sustaining Capital

A schedule of capital cost expenditures during the production period was estimated and included in the financial analysis under the category of sustaining capital. The total life of operation sustaining capital is estimated to be $627 million. This capital will be expended during a 22-year period and consists of $512 million for well installation and equipping, $28 million for well field infrastructure development, $7 million for cultural resource mitigation, $7 million for plant expansion in Year 5, and $72 million for water treatment system expansion and construction of process water management impoundments.

1.22.1.5 Working Capital

A 15-day delay of receipt of revenue from sales is used for accounts receivables. A delay of payment for accounts payable of 30 days is also incorporated into the financial model. In addition, a working capital allowance of approximately $3 million for plant consumable inventory is estimated in Year -1 and Year 1. All the working capital is recaptured at the end of the mine life and the final value of these accounts is zero.

1.22.1.6 Revenue

Annual revenue is determined by applying estimated metal prices to the annual payable metal estimated for each operating year. Sales prices have been applied to all life of operation production without escalation or hedging. The revenue is the gross value of payable metals sold before treatment charges and transportation charges. The copper prices used in the evaluation are $3.50/lb. for the first three years as forward curve pricing and $2.75/lb. for subsequent years.

1.22.1.7 Total Production Cost

Total Production Cost is the Total Operating Cost plus royalty, property and severance taxes, and reclamation and closure costs. The average Total Production Cost over the life of the operation is estimated to be approximately $1.11 per pound of copper produced.

The royalty for the life of the operation is estimated at $339 million and averages $0.20 per pound of copper recovered. Royalties estimated include $162 million for the State Mineral Lease, $123 million for Conoco and $54 million for BHP.

Property and severance taxes are estimated to be $111 million and average $0.07 per pound of copper recovered. Property taxes were estimated to be approximately $74 million and severance taxes are estimated to be approximately $37 million.

Reclamation and closure costs include well abandonment costs for core holes and production wells, closure of process water impoundments, demolition of processing facilities and ancillary structures, and restoration of the land surface to pre-development conditions. The total cost for reclamation and closure is estimated to be $39 million and is calculated as $0.02 per pound of copper recovered.

1.22.1.8 Income Taxes

Taxable income for income tax purposes is defined as metal revenues minus operating expenses, royalty, property and severance taxes, reclamation and closure expense, depreciation and depletion.

Income taxes are estimated by applying state and federal tax rates to taxable income. The primary adjustments to taxable income are tax depreciation and the depletion deduction. Income taxes estimated in this manner total $592 million for the life of the project and were provided by Curis and Curis' tax consultant.

Net Cash Flow after Tax is estimated to be $1,488 million.

1.22.1.9 NPV and IRR

At a $2.75/lb long term copper price, the economic analysis of the base case (shown as 70% recovery in Table 1-15) before taxes indicates an Internal Rate of Return (IRR) of 36% and a payback period of 2.6 years. The Net Present Value ("NPV") before taxes is $727 million at a 7.5% discount rate. The economic analysis after taxes indicates that the project has an IRR of 29% with a payback period of 3.0 years. The NPV after taxes is $503 million at a 7.5% discount rate. Table 1-15 compares the sensitivity of financial indicators when the metal recovery percentage changes.

Table 1-15: Sensitivity to Metal Recovery Percentage

	Recovery Sensitivity		
	63%	**70%**	**75%**
Years of Commercial Production	23	25	26
Total Copper Produced (lbs)	1,510,000,000	1,695,000,000	1,830,000,000
LOM Copper Price (avg $/lb)*	$2.83	$2.82	$2.81
Initial Capital Costs ($)	$217,000,000	$208,000,000	$204,000,000
Payback of Capital (pre-tax/post-tax)	2.7/3.2	2.6/3.0	2.5/2.9
Internal Rate of Return (pre-tax/post-tax)	34%/28%	36%/29%	38%/31%
Life of Mine Direct Operating Cost ($/pound Cu Recovered)	$0.83	$0.80	$0.77
Life of Mine Total Production Cost ($/pound Cu Recovered)	$1.14	$1.11	$1.08
Pre-tax NPV at 7.5% discount rate	$643,000,000	$727,000,000	$796,000,000
Post-tax NPV at 7.5% discount rate	$440,000,000	$503,000,000	$552,000,000
Total Number of Years of Production on Arizona State Land	12	13	13

*Copper price assumptions are based on consensus pricing from a broad selection of commodity analysts and investment banks and are $2.75/lb long term and $3.50/lb during the first 3 years of production.

Table 1-16 compares the base case project financial indicators with the financial indicators when other different variables are applied. By comparing the results it can be seen that fluctuation in the copper price has the most dramatic impact on project economics. Fluctuation in the initial capital cost has the least impact on project economic indicators.

Table 1-16: Sensitivities for Copper Price, Operating Cost and Initial Capital Cost

Copper Price			
	NPV @ 7.5%	IRR %	Payback (years)
Base Case	$ 503,000,000	29%	3.0
20%	$ 730,000,000	38%	2.5
10%	$ 616,000,000	34%	2.7
-10%	$ 388,000,000	25%	3.9
-20%	$ 271,000,000	20%	5.2
Operating Cost			
	NPV @ 7.5%	IRR %	Payback (years)
Base Case	$ 503,000,000	29%	3.0
20%	$ 437,000,000	27%	3.4
10%	$ 470,000,000	28%	3.2
-10%	$ 535,000,000	31%	2.9
-20%	$ 567,000,000	32%	2.8
Initial Capital			
	NPV @ 7.5%	IRR %	Payback (years)
Base Case	$ 503,000,000	29%	3.0
20%	$ 479,000,000	26%	3.7
10%	$ 491,000,000	28%	3.3
-10%	$ 514,000,000	32%	2.8
-20%	$ 525,000,000	34%	2.6

1.23 INTERPRETATION AND CONCLUSIONS

Based on the existing project data, and input from Curis Arizona and independent consultants working for Curis Arizona, a conceptual ISCR well field production schedule for life-of-production development has been prepared with estimated costs of development, operation, and closure. Based on the production schedule and estimated copper recovery from metallurgical test data, approximately 85 million pounds of copper can be recovered annually by ISCR well field methods. M3 has used industry available information to appropriately size and cost a SX-EW copper recovery plant to be constructed on the property for planned cathode copper production as saleable product.

M3 has completed this Pre-Feasibility Study of the potential ISCR viability of the project, utilizing industry standard criteria for Pre-Feasibility-level studies. The results of this study indicate that ISCR development of the FCP offers the potential for positive economics based upon the information available at this time.

The base case economic analysis results indicate an after-tax NPV of $503 million at a 7.5% discount rate with an IRR of 29%. Payback will be in Year 3 of production in a projected 25-year mine-life. The economics are based on a base case of $2.75/lb long-term copper price, and an initial design copper production rate of 55.5 mppy, increasing to 85 mppy in Year 5. Direct operating costs are estimated at $0.80/lb of copper. Total capital costs are estimated at $835 million, consisting of initial capital costs of $189 million (plus $19 million of pre-production costs), and ongoing sustaining capital over the life of operations of $627 million.

As with any pre-development property, there are risks and opportunity attached to the project that need further assessment as the project moves forward. M3 deems those risks, on the whole, as identifiable and manageable.

1.23.1 Project Risks

Risks for this project are of three major types, as is typical for any prospective mineral extraction project. The most onerous of the risk factors are those which prevent the development of the project. Another set of factors has to do with delays in the project timeline that increase the cost of development and render capital formation for the project more difficult. The third set of risks involves increasing costs and thereby decreasing profits. The risks are broken down as follows:

1. **Preclusion of Project Success.** Risks that would preclude the success of the project include inability to permit the project and failure of the process. The risk of either factor for this project is considered to be low due to the following factors:

    a. The project was granted the necessary permits in the 1990s.
    b. The permitting process for the Phase 1 PTF is on track for approval in the first half of 2013.
    c. Once the success of the PTF is demonstrated, there should be no obstacles to obtaining the additional and amended permits for Phase 2.
    d. SX/EW technology is proven, providing very low risk of failure.
    e. While the ISCR process has not been demonstrated on a commercial scale as a stand-alone project, the in-situ recovery process has been used for decades in association with open pit and underground copper mining, solution mining (uranium, potash, sodium bicarbonate and salt) and groundwater restoration projects has proved to be highly successful.

2. **Project Delays.** The risk presented by delays to the project is deemed to be low because of the following factors:

    a. The State of Arizona is supportive of the development of the project because it will provide significant employment and royalty, property, sales, and income revenues for the State.
    b. An APP for Phase 1 operations has been secured and is currently undergoing administrative review.
    c. Successful demonstration of the technology and hydraulic control in the PTF should pave the way for rapid approval of the Phase 2 development of the project.

   d. A small risk of delay is associated with a change in political leadership in the State or effective opposition at the Federal level.
   e. There is also a risk of delay depending on the final resolution of current or future legal actions relating to or affecting the FCP.

3. **Profitability Risks.** The largest groups of risks with potential impacts to the project are those which have a chance to negatively impact the profitability of the project. These potential impacts involve well field issues and water treatment issues. These risks are broken down as follows:

   a. Several potential impacts are associated with the well field in terms of well construction and well field operation. The oxide mineralized body is highly fractured and incompetent, complicating the process of drilling and well installation. It may be difficult to maintain an open borehole during drilling and installation of the well screen, casing, and formation stabilizing filter pack. Until the proposed drilling and well installation designs and methods are demonstrated in the PTF, there is a risk that the techniques necessary to overcome these obstacles could be more expensive than anticipated for the cost estimates used in this study. Drilling productivity could be significantly impacted and a high failure rate in well construction would increase the costs, if it were higher than the 5% failure rate included in the financial models. If fouling of injection wells becomes a problem, costs to rehabilitate or replace wells, which are not included in this study, would add to the cost of production.

   b. There are several risks that involve rinsing and water treatment that could increase the cost of the project. The ability to treat the water extracted from rinsing depleted blocks and re-inject it for further rinsing is one of the assumptions used in this Pre-Feasibility Study. The cost of such treatment and the ability of the system to provide treated water at a quality that is effective in rinsing the depleted blocks are assumed for purposes of this study. Significant increases in cost or the inability to treat to sufficiently high quality could impact the profitability of the project.

1.23.2 Project Opportunities

Several opportunities for increases in productivity and revenue or lowering costs have been identified which would increase the viability and profitability of the project. In general, conservative estimates have been used in the estimation of this project. Performance in some of these areas has the likelihood of exceeding the conservative estimates thereby increasing production or lowering costs. Several specific factors can be identified that would enhance the economics of the project, including the following:

- 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 65% of the projected capital costs for the project.

- Optimization of the well spacing will be evaluated with data from the PTF. Increased well spacing would mean fewer wells consequently lowering the sustaining capital cost for the project. Operator experience in different resource blocks over the life of operation is expected to optimize well spacing distances.

- Water treatment costs and assumptions are based on neutralizing the excess raffinate "bleed stream" that is removed to compensate for water and acid additions to the process. Potential operational savings could be realized if the bleed stream were used to precondition advanced mineralized blocks or if the acid could be recovered prior to neutralization.

- The water treatment conceptual design stipulates that the reverse osmosis reject stream is discharged to the process water impoundments for settling of solids and evaporation of liquids. The density of solids produced by this process is estimated to be rather low. In addition, the amount of water for evaporation exceeds the excess water produced by hydraulic control pumping and process make-up additions. Process improvements to the water treatment design could result in a higher density of sediment and a lower volume of water requiring evaporation. Reductions in sediment volume due to higher densities could result in reducing process water impoundment construction costs. Reductions in water volume for evaporation would reduce evaporation costs and the cost of supplying make-up water for rinsing.

- Another opportunity for this project is the possibility of treating the excess process, hydraulic control, and rinse water to a quality that would be acceptable for a beneficial use, such as irrigation. An irrigation canal bisects the deposit and would be an ideal vehicle for transmitting the treated waste water to potential customers. Beneficial use could reduce the cost of water treatment and reduce the amount of water that would need to be evaporated.

1.24 RECOMMENDATIONS

The authors of this study recommend the following:

- The details of the commercial-scale water treatment process need to be further developed in order to advance this aspect of the project to a feasibility level. On-going work, currently being undertaken by ARCADIS, will result in a process flow diagram and water balance, more specific information on the equipment used to accomplish the objectives, and a feasibility-level capital and operating cost estimate.

- Continued metallurgical testing is recommended to optimize rinsing of completed copper recovery blocks and possibly reduce the volume of solution required for this activity.

- Optimization studies are recommended to enable the ISCR process to be operated in the most efficient manner.