

**2007 Mineral Resource Update
for the Rosemont Project
Pima County, Arizona, USA**

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3 SUMMARY

The Rosemont copper-molybdenum-silver deposit is located in Pima County, Arizona, USA approximately 30 miles (50 km) southeast of the city of Tucson, Arizona. Augusta Resource Corporation (Augusta) has recently completed a 40-hole, 68,727 feet (20,948 meters) diamond drilling program on the deposit, consisting of resource, geotechnical, and metallurgical holes. Previously in 2005, Augusta carried out a 15-hole, 27,402 feet (8,352 meters) diamond drilling program. The results of both of these drilling have been integrated with approximately 210,000 feet (64,000 m) of previous drilling, conducted by other companies prior to Augusta's involvement, to estimate the mineral resources presented in this report. This report provides for an updated mineral resource statement from that of the previous WLRC Technical Report dated April 21, 2006.

The Rosemont Deposit is the principal known area of mineralization on the Rosemont Property, a group of patented mining claims, unpatented mining claims and fee land that in aggregate total approximately 14,880 acres (6,026 hectares). Augusta has completed the purchase of the Rosemont Property in 2006, subject to a 3% Net Smelter Return (NSR) royalty.

The Rosemont Deposit is a typical representative of the porphyry copper class of deposits. Similar to many of other southwestern USA deposits in this class, Rosemont consists of broad-scale skarn mineralization developed in Paleozoic-aged carbonate sedimentary rocks adjacent to their contact with quartz-latitude or quartz-monzonite porphyry intrusive rocks. The deposit has been extensively drilled using diamond core holes.

A block grade model of the Rosemont Deposit was constructed using MEDSystem® software using a geologic model developed in Gemcom® by Augusta personnel and contract geologists. Statistical studies were conducted to identify outliers to the distribution of assays and to estimate the ranges of influence for block grade estimation. Block grade estimations were conducted by rock type using 50-ft composited data and ordinary kriging interpolation methods. Blocks were also classified into measured, indicated and inferred resources in a manner that conforms to Canadian National Instrument 43-101 standards. The modeling and mineral resource estimation work was performed by or under the direction of Mr. William Rose, P.E., WLR Consulting Inc.'s (WLRC's) Principal Mining Engineer and an independent Qualified Person under the standards set forth by Canadian NI 43-101.

Updated measured and indicated mineral resource estimates for the Rosemont Deposit are summarized in Tables 3.1 and 3.2, respectively. The combined measured and indicated mineral resource estimates are presented in Table 3.3. Inferred mineral resource estimates are shown in Table 3.4. Imperial units are used in these estimations, where tons refer to short tons (2000 lbs). For comparison with the previous mineral resource estimate by WLRC (2006), copper equivalent (CuEqv) values are based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 3.1
Rosemont Deposit
Measured Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	14,300	0.21	-	-	-	61	-	-	-
0.15	9,000	0.27	-	-	-	48	-	-	-
0.20	5,000	0.35	-	-	-	35	-	-	-
Sulfides:									
0.15	132,400	0.51	0.015	0.14	0.77	1,350	39.7	18.1	2,046
0.20	120,400	0.55	0.016	0.15	0.82	1,312	38.5	17.5	1,986
0.25	108,900	0.58	0.016	0.15	0.86	1,261	34.8	16.6	1,875
0.30	98,300	0.61	0.016	0.16	0.90	1,203	31.5	15.5	1,762

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 3.2
Rosemont Deposit
Indicated Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	60,200	0.20	-	-	-	236	-	-	-
0.15	34,300	0.25	-	-	-	174	-	-	-
0.20	16,500	0.35	-	-	-	116	-	-	-
Sulfides:									
0.15	476,600	0.45	0.014	0.11	0.69	4,289	133.4	52.0	6,564
0.20	422,700	0.49	0.014	0.12	0.73	4,109	118.4	49.0	6,146
0.25	373,100	0.52	0.014	0.12	0.76	3,888	104.5	45.9	5,704
0.30	325,300	0.56	0.015	0.13	0.82	3,630	97.6	42.3	5,323

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 3.3
Rosemont Deposit
Combined **Measured and Indicated** Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	74,500	0.20	-	-	-	297	-	-	-
0.15	43,300	0.26	-	-	-	222	-	-	-
0.20	21,500	0.35	-	-	-	151	-	-	-
Sulfides:									
0.15	609,000	0.46	0.014	0.12	0.71	5,640	173.2	70.1	8,610
0.20	543,100	0.50	0.014	0.12	0.75	5,421	156.9	66.5	8,132
0.25	482,000	0.53	0.014	0.13	0.79	5,149	139.3	62.4	7,580
0.30	423,600	0.57	0.015	0.14	0.84	4,834	129.0	57.8	7,085

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 3.4
Rosemont Deposit
Inferred Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	30,000	0.20	-	-	-	121	-	-	-
0.15	15,700	0.28	-	-	-	87	-	-	-
0.20	9,000	0.36	-	-	-	64	-	-	-
Sulfides:									
0.15	205,100	0.37	0.007	0.05	0.49	1,526	28.7	10.3	2,009
0.20	163,000	0.43	0.007	0.06	0.55	1,386	22.8	9.3	1,777
0.25	137,900	0.46	0.008	0.06	0.60	1,274	22.1	8.7	1,651
0.30	109,800	0.51	0.008	0.07	0.65	1,124	17.6	7.7	1,430

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Augusta's recent drilling campaign at the Rosemont deposit has increased both the quantity and confidence level of the estimated mineral resources, which presently totals about 543 million tons of measured and indicated sulfide mineral resources grading 0.50% Cu, 0.014% Mo, and 0.12 opt Ag, at a 0.20% Cu cutoff. An additional 163 million tons of inferred sulfide mineral resources are estimated at a grade of 0.43% Cu using the same cutoff. Augusta's recent drilling program was successful in converting significant tonnages of inferred material into measured and indicated classifications. *Mineral resources that are not mineral reserves do not have demonstrated economic viability.*

In addition, geologic and metallurgical studies conducted by Augusta have shown the potential for considering the oxide copper mineralization that overlies the sulfide deposit. Estimated measured and indicated oxide mineral resources total nearly 75 million tons grading 0.20% Cu, at a 0.10% Cu cutoff. An additional 30 million tons of inferred oxide mineral resource are estimated at a grade of 0.20% Cu, using the same cutoff.

The classification of currently inferred sulfide and oxide mineral resources can potentially be improved with further drilling. Additional mineral resources may be found in extensions to the north and east of the Rosemont Deposit. Mineralization also is known to occur in the Broadtop Butte, Copper World and Peach-Elgin deposits on the Rosemont Property, which could potentially add to the total mineral resource base of the Rosemont area.

4 INTRODUCTION

4.1 Background Information

This technical report has been prepared for Augusta Resource Corporation (Augusta) to present the results of new mineral resource estimates for the Rosemont Deposit that were prepared under the direction of WLR Consulting, Inc. The resource estimates were based on the drillhole results from recent diamond drilling programs carried out by Augusta, as well as the drillhole results of previous exploration and mining companies. The resource estimate was prepared in accordance with Canadian National Instrument 43-101 (NI 43-101) and uses resource terminology as defined by the Canadian Institute Of Mining, Metallurgy, and Petroleum (CIM).

Information regarding the historical background and geology has come primarily from published reports (Anzalone – 1995, Wardrop – 2005) and internal reports (Augusta – 2007). Past engineering reports produced by Pincock, Allen & Holt, Inc. (1977) and The Winters Company (1997) provided information regarding previous resource estimates and metallurgical test work. Legal property information has come from information compiled by land specialists (Daniel Mead, Darling Environmental & Surveying) for Augusta. Most of the assay work for previous owner drilling was performed by in-house laboratories (laboratories at the operating mines of Banner, Anaconda and Anamax), with a number of checks performed by the independent commercial laboratories of Hawley & Hawley and Skyline Laboratories in Tucson. Augusta drillhole information is stored at the Augusta offices in Denver, Colorado. The assays from Augusta's drilling program were performed by Skyline Laboratories in Tucson, a well known analytical facility.

The report has been prepared under the direction of Mr. William L. Rose, an independent Qualified Person and Principal Mining Engineer of WLR Consulting Inc. in Lakewood, Colorado, who visited the site on August 9, 2005 to review the Augusta drilling program. Mr. Donald Elkin, Principal Geological Engineer of Mine Reserves Associates, Inc., verified the drillhole database, conducted statistical analyses of the drillhole data, constructed a block model of the Rosemont deposit and assigned resource classification codes to the model. Mr. Michael Clarke, Augusta Vice President of Exploration, has been on site numerous times and prepared the geologic interpretation for the resource model. Mr. Mark G. Stevens, Augusta Chief Project Geologist, has been on site numerous times and compiled the drill hole data files. Mr. Shea Clark Smith, an independent Qualified Person from Minerals Exploration & Environmental Geochemistry in Reno, Nevada, conducted QA/QC assessment of analytical work. Mr. Jerry Hanks, a consulting metallurgist associated with M3 Engineering & Technology Corporation, has visited the project site during the course of the ongoing metallurgical test work. Mr. James Sturgess, Augusta Vice President of Projects and Environment, has also visited the project site numerous times with regard to the ongoing environmental and permitting work for the project.

4.2 Units of Measurement and Abbreviations

Unless otherwise specified, all units of measurement in this report are Imperial and all costs and/or prices are expressed in United States dollars. Tons refer to short dry tons (2000 pounds). Company abbreviations include:

Anaconda -	Anaconda Mining Company
Anamax -	Anamax Mining Company
ASARCO -	American Smelting and Refining Company
Augusta -	August Resource Corporation
Banner -	Banner Mining Company
HRI -	Hazen Research, Inc
M3 -	M3 Engineering & Technology Corporation
MSRDI	Mountain States Research and Development, Inc.
PAH -	Pincock, Allen & Holt, Inc.
SGS -	SGS-Lakefield or SGS-MinnovEX divisions
Skyline -	Skyline Assayers and Laboratories, Inc.
Stantec -	Stantec Inc.
Wardrop	Wardrop Consultants
WGI -	Washington Group International
Winters -	The Winters Company
WLRC -	WLR Consulting, Inc.

Other commonly used acronyms and abbreviations include:

AA -	atomic absorption spectrometry
Au -	gold
Ag -	silver
Cu -	copper
CuEqv -	copper equivalent
ft -	foot or feet
ft ³ -	cubic feet
g -	grams
g/t -	grams per tonne (metric)
lb -	pound
lbs -	pounds
kg -	kilogram
km -	kilometer or kilometers
ktons -	tons x 1000
kWh -	kilowatt hour
m -	meter or meters
ml -	milliliter
Mo -	molybdenum
NSR -	Net Smelter Return

opt -	troy ounces per ton (gold or silver)
oz -	troy ounce (gold or silver)
oz/ton -	troy ounces per ton (gold or silver)
ppm -	parts per million
ton -	short ton (2000 lbs)
tonne -	metric tonne (1000 kg or 2204.6 pounds)
XRF -	x-ray fluorescence

5 RELIANCE ON OTHER EXPERTS

WLR Consulting, Inc. (WLRC) has relied on the data and information from Augusta Resource Corporation personnel regarding property descriptions and land ownership, the status of patented and unpatented claims and fee lands, and the status of permitting and environmental compliance issues. Augusta's land information comes from 2006 property purchase legal documents and has been subject to further validation contracted by Augusta, including a mining claim specialist, Daniel Mead of Tucson, Arizona, and a mining claim surveyor, Darling Environmental & Surveying, Ltd. of Tucson, Arizona. WLRC notes that these professionals are recognized land specialists and believes that this work can be relied upon to be correct.

WLRC has also relied on the expertise of Mr. Donald C. Elkin, Principal Geological Engineer for Mine Reserves Associates, Inc. Mr. Elkin performed data verification, drill hole and composite statistics and variography studies, deposit modeling, block grade interpolations and resource classification work (Section 19) under the direction of WLRC. Mr. Elkin has extensive experience in his field, but does not meet all of the requirements to be considered a Qualified Person under Canadian NI 43-101. He is a recognized professional in resource estimation and it is believed that his work can be relied upon to be correct.

6 PROPERTY DESCRIPTION AND LOCATION

6.1 Location

The Rosemont Property consists of a group of patented mining claims, unpatented mining claims and fee land that cover most of both the Rosemont Mining District and the adjacent Helvetia Mining District. The Rosemont Property is located approximately 30 miles (50 km) southeast of Tucson, Pima County, Arizona (see Figure 6-1). The Rosemont Property geographical coordinates are approximately 31° 50'N and 110° 45'W.

6.2 Land Tenure

The present land position is a combination of fee land, patented mine claims, and unpatented mine and mill site claims. Taken together, the land position is sufficient to allow mining of the open pit, processing of ore, storage of tailings, disposal of waste rock, and operation of milling equipment. These lands are accessible under the provisions of the Mining Law of 1872, subject to obtaining approval from the US Forest Service after completion of an Environmental Impact Statement (EIS) process. The EIS process includes interagency consultation on endangered species and cultural resources. The use of the project surface rights will require obtaining a number of federal, state, and local permits and approvals, which is now in progress.

The core of the Rosemont Property consists of 132 patented lode claims that in total encompass an area of 1968.5 acres (797.2 hectares) as shown in Figure 6-2. A contiguous package of 850 unpatented lode mining claims with an aggregate area of approximately 12,000 acres (4,860 hectares) surrounds the core of patented claims. Associated with the property are 14 parcels of fee land grouped into six individual areas that enclose a total of 910.96 acres (368.7 hectares). Most of the unpatented claims were staked on Federal land administered by the United States Forest Service, but a limited number of claims in the northeast portion of the property are on Federal land administered by the Bureau of Land Management. The area covered by the patented claims, unpatented claims and fee lands totals approximately 14,880 acres (6,026 hectares).

Surveyed brass caps on short pipes cemented into the ground mark the patented mining claim corners. Cairns and wooden posts mark the unpatented claim corners, end lines and discovery monuments, most of which have been surveyed. The fee lands are located by legal description recorded at the Pima County Recorders Office.

The patented lode claims and fee land parcels have no expiration date and are subject to annual property taxes amounting to several thousand U.S. dollars in total. The unpatented lode claims also have no expiration and are maintained through the payment of annual maintenance fees of US\$125.00 per claim, with fees payable to the Bureau of Land Management. A 3% Net Smelter Return (NSR) royalty applies to the patented claims, the bulk of the unpatented claims, and some

of the fee land. On March 31, 2006, Augusta completed the purchase of a 100% interest in the property for a total of US\$20.8M and continues to maintain the claims in good standing.

Augusta retained the legal firm of Fennemore Craig to handle the legal transfer of the Rosemont Property. Augusta's land information has come from 2006 property purchase legal documents and has been subject to further validation contracted by Augusta, including a mining claim specialist, Daniel Mead of Tucson, Arizona, and a mining claim surveyor, Darling Environmental & Surveying, Ltd. of Tucson, Arizona.

6.3 Environmental

As an advanced exploration development property, Rosemont is up to date and compliant with all its environmental obligations and as such there are no material environmental liabilities.

The Rosemont Ranch Lands were surveyed in 2003 for environmental liabilities as part of a land transaction. At that time, the environmental liabilities were characterized as minimal, and were determined to not be material to the land transaction. Specific issues reviewed included mine adits, shafts, exploration holes, and mine wastes from prior production. Areas of potential liability included a modest amount of annual monitoring and maintenance to repair or replace fencing and drainage around mine openings and residual waste products.

Should the property reach a stage of commercial viability in the future, the Company will be required to comply with the following federal, state and local regulations prior to entering commercial production:

Federal Mine Plan Approvals

Provisions of the General Mining Law of 1872, the Federal Land Policy and Management Act of 1976, the Mining and Mineral Policy Act of 1970; and the National Materials and Minerals Policy, Research and Development Act of 1980 authorize mining on public lands under an approved Mine Plan of Operations provided that all other federal, state and local environmental permits and authorizations are received.

Environmental Impact Statement

The land required for mining the open pit is privately held. Adjacent public land will be required for milling, utility corridors, access roads, waste rock and tailing disposal, and other incidental operations. Acquiring the right to use and occupy several thousand acres of this public land will require completion of an Environmental Impact Statement.

Completion of an EIS for Rosemont operations will include public scoping, community involvement, technical analysis, field data collection and reporting, endangered species consultation as needed, public notice and comment periods, and publication of the Draft EIS and the Final EIS.

Threatened and Endangered Species Review

The U. S. Fish and Wildlife Service and Arizona Game and Fish Department maintain lists of Special Status Species; threatened, endangered, proposed endangered, candidate, and conservation agreement species. Mine plans will be subject to review for avoidance or mitigation of impacts to protected species.

Aquifer Protection Permit

ADEQ requires that potentially discharging facilities are subject to environmental review under the Aquifer Protection Permit Program. This process must demonstrate that discharging facilities will not cause an exceedance of aquifer water quality standards. In addition to this technical demonstration, groundwater quality monitoring will be required during operations and through mine closure. A detailed closure plan is required to show how water quality will be protected after mine operations are completed.

Air Permits

Any Augusta mining operations must obtain an air quality control permit from the Arizona Department of Environmental Quality. The permit will contain provisions for emission control equipment or practices, recordkeeping and reporting procedures and monitoring.

Water Quality and Stormwater Permits

Stormwater discharge permits and Stormwater Pollution Prevention Plans will be required for any open pit mining operation.

Army Corps 404 Permit

Three major washes and several tributaries will require crossings of jurisdictional waters to access the site. Other washes and ravines will be affected by mine pit and waste areas. The total sum of the jurisdictional area for Section 404 will require that Rosemont obtain an individual permit from the US Army Corps of Engineers.

Arizona Department of Transportation (ADOT) Access Road Approvals

To improve the road access from the existing state highway, Augusta must follow the ADOT permit process for review and approval of construction along an existing scenic highway.

Mine Reclamation and Closure Plans and Financial Assurance

Mine closure plans are required as part of the Federal Mine Plan of Operations as well as by the Arizona State Mine Inspector and the Arizona State Department of Environmental Quality. The State Mine Inspector Reclamation Plan requires a detailed plan showing what post-mining land

uses will be possible on the mined out lands, and must include a program for achieving those post-mining land uses. Federal and state reclamation closure plans require a financial assurance instrument to demonstrate financial ability to complete the reclamation program as described in the closure plans. There are interagency agreements to allow for each agency to recognize the financial assurance held by other agencies, so that duplicate bonding is not required.

Cultural Resources

All lands required for mine construction and operation will require clearance for cultural resources. The process includes field survey for locating cultural resource sites, and testing of sites determined to be significant.

Local Permits and Approvals

Several local agencies will be involved in the approval process through Pima County Development Services. These agencies regulate floodplain encroachments, drainage improvements in washes, grading land clearing for roadways and erosion control and impacts to water quality in streams:

Impact of Permitting Process on Rosemont Project

The time to complete the permit application and review process can be affected by potential public controversy, difficult or unresolved technical issues, legal challenges, changes in operating plans, or unforeseen environmental impacts that are not readily mitigated.

At the end of the environmental review process, the responsible official from each agency must sign a permit, issue a Record of Decision (ROD) or provide some other form of documentation approving, denying, or modifying the permit application. Typically, the approving permit document authorizes a specific project component, and may include a list of conditions and permit requirements that mitigate or minimize the environmental issues determined to be significant in the review analysis. These conditions can affect project schedule, economics, and feasibility.

7 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Rosemont Property occupies flat to mountainous topography in the north-eastern and north-western flanks of the Santa Rita Mountains at a surface elevation ranging from 6,290 to 4,000 feet (1,900-1,200 meters) above sea level. The area is considered part of the Basin And Range physiographic province characterized by high mountain ranges adjacent to alluvial filled basins.

The eastern portion of the property is easily reached from the city of Tucson by traveling Interstate Highway I-10 approximately 25 miles (40 km) east to its intersection with Arizona State Highway 83, then continuing south for approximately 11 miles (18 km) where Highway 83 crosses the Rosemont property. From Highway 83, a number of unimproved dirt roads access various locations on the property. The western portion of the property is reached from Tucson by following Interstate Highway I-19 south about 20 miles (30 km) to the town of Sahuarita, then east 10-15 miles (20 km) along any of a number of unpaved roads that lead to the property.

Weather presents no significant difficulties to mining operations in the area. The semi-arid climate, typical of the Arizona-Sonoran Desert, produces an average of about 8 inches (20 cm) annual rainfall, mostly during the late summer and winter months. Temperatures range from about 25°F to 115°F (-4°C to 45°C). The resulting vegetation ranges from mesquite and grasses in the lower elevations to oak, pine and juniper in the mountains.

Sufficient mining personnel are available within commuting distance of the site. Tucson, Arizona is a city in excess of 500,000 people and has a well known history of mining in the area. The proximity of the property to the metropolitan Tucson area allows for the convenient transportation of workers, equipment, and supplies to the site using established road ways.

Power is available from existing high voltage lines that pass within a few miles of the site, although project requirements and surplus line capacities are in the process of being defined. Adequate water rights have been purchased and will be piped to the site, as sufficient water is not available on the site at this time. Approval of utility corridors and pipelines will be required, permitting for which is currently in progress.

8 HISTORY

The early history and production from the Rosemont Property has been described in Anzalone (1995), as well as by Augusta (2007) from which that following summarization is taken.

Sporadic prospecting reportedly began in the northwestern portion of the Property, the Helvetia Mining District, sometime in the middle 1800s and, by the 1880s, production from mines on both sides of the northern Santa Rita Mountains area supported the construction and operation of the Columbia Smelter at Helvetia on the west side of the Santa Rita Mountains and the Rosemont Smelter in the Rosemont Mining District on the east side of the Santa Rita Mountains. Copper production ceased in 1951 after the production of about 227,300 tons of ore containing 17,290,000 pounds of copper, 1,097,980 pounds of zinc and 180,760 ounces of silver. An unknown, but probably minor portion of the production came from the Rosemont Deposit.

Since shutdown in 1951, the area stretching from Peach-Elgin (on the northwest, see Figure 6-2) to Rosemont (on the southeast) has seen a progression of exploration campaigns. Churn drilling at Peach-Elgin deposit in 1955 and 1956 by Lewisohn Copper Company began the definition of that deposit. Drilling in 1956 by American Exploration and Mining Company initiated exploration of the Broadtop Butte prospect. Banner Mining Co. had acquired most of the claims in the area by the late 1950s and drilled the discovery hole into the Rosemont deposit.

Anaconda Mining Company acquired the property in 1963 and carried out a major exploration program that identified Rosemont as a major porphyry copper deposit and advanced the Broadtop Butte and Peach-Elgin prospects. In 1973, Anaconda joined with Amax in the Anamax partnership that continued until 1986 when Anamax sold the Rosemont – Peach-Elgin property to a real estate company during the corporate dissolution of Anaconda. By the end of the Anaconda-Anamax programs, exploration drilling totaled in excess of 297,321 feet (90,623 meters), of which approximately 195,000 feet (59,500 meters) define the Rosemont deposit. The results of these programs are described in Wardrop (2005).

In 1964, Anaconda produced a geological resource estimate for the Peach-Elgin deposit that was based on assays from 67 churn and diamond drill holes. After calculation of that resource, Anaconda and Asarco drilled approximately 140 additional diamond drill holes, but did not update the 1964 estimate. The estimated resources are briefly summarized in Section 17 (Adjacent Properties) of this report.

In 1977, Anamax commissioned Pincock, Allen & Holt, Inc. (PAH) to calculate a resource for the Rosemont Deposit. The resulting calculation estimated a geological resource of about 445 million tons at an average grade of 0.54% Cu using a cut off grade of 0.20% Cu. The methodology has been described in Wardrop (2005), which is available on SEDAR. *Augusta Resource Corporation has not done the work necessary to verify the classification of this resource and is not treating the resource figure as a NI 43-101 defined resource verified by a Qualified Person and, therefore, the resource figures should not be relied upon by investors.*

Anamax carried out a resource estimate for the Broadtop Butte deposit in 1979 that was based on approximately 18 widely-spaced diamond drillholes. The resources for this deposit are also summarized in Section 17 (Adjacent Properties) of this report.

ASARCO purchased the property in 1988, renewed exploration of the Peach-Elgin deposit and initiated engineering studies on Rosemont. ASARCO drilling on Rosemont was limited to 12 diamond drillholes. ASARCO sold the entire property to real estate interests in 2004, shortly before the ASARCO takeover by Grupo Mexico S.A. de C.V.

ASARCO generated a resource estimate of the Rosemont Deposit that was incorporated into a 1997 consulting report by The Winters Company that comprised an “order of magnitude” mining study of the deposit. The resulting “mineable resource” totaled nearly 341 million tons at an average grade of 0.64% Cu. The results and methodology have also been described in Wardrop (2005). *Augusta Resource Corporation has not done the work necessary to verify the classification of this resource and is not treating the above resource figure as a NI 43-101 defined resource verified by a Qualified Person and, therefore, the resource figures should not be relied upon by investors.*

Augusta Resource Corporation became interested in the in the Rosemont Property in 2005 and began a program to confirm the results from previous work. Augusta completed the purchase of the property in March 2006. In 2005, Augusta completed a Phase I drilling program consisting of 15 core holes. Based on the new Augusta and previous Anaconda drilling, WLR Consulting, Inc. in conjunction with Mine Reserve Associates, Inc. prepared a mineral resource estimate that was presented in an April 21, 2006 report entitled *Mineral Resource Estimate Revised Technical Report For The Rosemont Deposit, Pima County, Arizona, USA*.

Based on the encouraging results of that program, Augusta continued with a Phase II drilling program in 2006 that consisted of 40 core holes for resource definition, metallurgical, and geotechnical purposes. Additional drill holes were incorporated into a resource estimate update that was announced in a March 16, 2006 press release, support for which is provided by this Technical Report.

Augusta initiated a feasibility study in the middle of 2006 that is currently in progress by M3 Engineering & Technology Corporation of Tucson, Arizona. It is planned that the feasibility study will be completed in mid 2007.

9 GEOLOGICAL SETTING

The regional, local and property geology of the Rosemont deposit has been previously described in Anzalone (1995) and Wardrop (2005), as well as by Augusta (2007) from which that following summarization is taken.

Precambrian meta-sedimentary and intrusive rocks form the regional basement beneath a Paleozoic sequence of quartzite, siltstone and carbonate rocks. The Paleozoic-Mesozoic transition is an angular unconformity representing a period of uplift and erosion. Mesozoic rocks above the unconformity are mostly continental and shallow marine deposits.

Granitic intrusions and coeval volcanism dominated the late Mesozoic and early Cenozoic corresponding to the Laramide Orogeny when most of the porphyry copper deposits of the region formed. Compressional tectonics during the Laramide Orogeny resulted in complex folding and faulting across the region, including reverse faults, thrust faults and strike-slip faults.

Tertiary extensional tectonism followed the Laramide Orogeny, accompanied by voluminous felsic volcanism. Steeply- to shallowly-dipping normal faults became active during this time, some of which are particularly important in the Rosemont area. The extensional tectonics eventually produced the large-scale block faulting that produced the present Basin and Range Province. Faulting in the area of the Rosemont deposit has been significant.

A generalized geologic map of the Rosemont Property is presented in Figure 9-1. The Rosemont area has suffered a complex history of high-angle and low-angle faulting both previous to and contemporaneously with the mineralization during the Laramide Orogeny, as well as subsequent post mineralization faulting. The Rosemont deposit is contained within Paleozoic and Mesozoic sedimentary rocks associated with quartz-monzonite to quartz-latitude intrusions, where major structural trends intersect.

To the north of the Rosemont deposit, the Broadtop Butte deposit is associated with related fault systems. The Copper World Mine deposit is located to the northwest of Broadtop Butte, situated in a complexly faulted block of Paleozoic rocks. Further to the northwest, the Peach-Elgin deposit occurs in a gravity slide block floored by a low-angle fault and is believed to represent the upper part of the Copper World mineralization.

10 DEPOSIT TYPES

The Rosemont Deposit consists of skarn-hosted copper-molybdenum-silver mineralization related to quartz-monzonite porphyry intrusions. Genetically, it is a porphyry copper deposit type, although intrusive rocks are volumetrically small within the resource area at Rosemont. The skarns formed as the result of thermal and metasomatic alteration of Paleozoic and to a lesser extent Mesozoic sedimentary rocks.

Mineralization is mostly as primary (hypogene) copper-molybdenum-silver sulfides. Less important is supergene copper mineralization, the result of the near-surface oxidation in the upper portion of the sulfide deposits. The supergene mineralization is primarily hosted in Mesozoic rocks, but is also found in Paleozoic rocks where those outcrop on the west side of the Rosemont Deposit. The supergene mineralization is comprised of oxide copper minerals and minor chalcocite enrichment.

The Twin Buttes Mine, operated by Anaconda and later by Cyprus, was developed on an analogous deposit located about 20 miles (32 kilometers) to the west of Rosemont. The Twin Buttes mine was in production from 1969 to 1994.

11 MINERALIZATION

The Rosemont Deposit contains copper-molybdenum-silver primarily hosted in an east-dipping package of Paleozoic-age sedimentary rocks. Two geologic plans and a cross section of the Rosemont Deposit are shown in Figures 11-1, 11-2 and 11-3. Drilling has identified a significant mineral resource 3,500 feet (1,100 meters) square that extends to a depth of at least 2,000 feet (600 meters) below the surface. A significant, steeply east-dipping fault forms the western boundary of the deposit and is referred to as the Backbone Fault. To the south, the mineralization appears to weaken and eventually die out. Mineralization in the Paleozoic rocks continues to the north amid complex faulting and to the east beneath increasingly-thick Mesozoic cover, to the present limits of drilling. A regional angular unconformity separates the Paleozoic sequence from the overlying, weakly mineralized Mesozoic sequence. The angular unconformity and Mesozoic rocks dip shallowly to moderately to the east. Oxide copper and chalcocite mineralization occurs widely in the Mesozoic-age rocks.

The Paleozoic host rocks include, from oldest to youngest, the Escabrosa Limestone, Horquilla Limestone, Earp Formation, Colina Limestone, and Epitaph Formation. The Horquilla Limestone is the most significant, accounting for almost half of the mineralized sulfide material. Significant mineralization also occurs in the Earp Formation, and Colina Limestone, as well as minor amounts in other Paleozoic units.

The Mesozoic host rocks consist predominantly of continentally-derived arkosic siltstones, sandstones, and conglomerate. Within the arkose is a local andesite unit that ranges from a few tens of feet to several hundred feet thick. Near the base of the arkose is the Glance Conglomerate, a limestone-cobble conglomerate. Locally underlying the Glance Conglomerate, but still apparently part of the Mesozoic sequence, is a thick-bedded limestone informally referred to as the Mystery Limestone.

The Rosemont Deposit is primarily a garnet-diopside (with minor magnetite) skarn that formed in the Paleozoic rocks as a result the intrusion of quartz latite to quartz monzonite porphyry. Marble accompanies the skarn in the more pure carbonate lithologies, while the more siliceous, silty rocks were converted to hornfels. Bornite-chalcopyrite-molybdenite mineralization occurs as veinlets and disseminations in the garnet-diopside skarn and associated marble and hornfels, accompanied by quartz, amphibole, serpentine, and chlorite alteration. Quartz latite to quartz monzonite intrusive rocks host strong quartz-sericite-pyrite mineralization with minor chalcopyrite, molybdenite and bornite. Where the mineralized package of Paleozoic rocks and quartz-latite intrusives outcrops on the western side of the deposit, near surface weathering and oxidation has produced disseminated and fracture-controlled copper oxide minerals.

More weakly mineralized Mesozoic-age limestone, siltstone, sandstone, conglomerate, and andesite comprises the near-surface portion over most of the deposit area, separated from the underlying Paleozoic rocks by a regional angular conformity. Primary mineralization originally occurred in the Mesozoic rocks, but these rocks are susceptible to near surface weathering and oxidation which has transformed the mineralization into disseminated and fracture-controlled

copper oxide minerals and local secondary chalcocite. The chalcocite and black copper oxides are typically associated with copper remobilization and local enrichment in the andesite unit.

Silver occurs in minor, but economically significant quantities in the primary sulfide mineralization in the Paleozoic sequence. The silver is associated with the copper mineralization. The gold content is very low, but may contribute to a by-product credit.

12 EXPLORATION

Prospecting began in the Rosemont and Helvetia Mining Districts sometime in the middle 1800s and by the 1880s copper production is recorded, which continued sporadically until 1951. By the late 1950s exploration drilling had resulted in the discovery of the Rosemont Deposit. A succession of major mining companies subsequently conducted exploratory drilling of the Rosemont Deposit and other deposits of the region.

Additional information regarding exploration and evaluations performed on the Rosemont Deposit is presented in Sections 8 (History) and 13 (Drilling).

13 DRILLING

Extensive drilling has been conducted at the Rosemont Deposit by several property owners. The most recent drilling was by Augusta; prior drilling campaigns were completed by Banner Mining Company, The Anaconda Company, Anamax and ASARCO, all of which had previously held the property. Augusta's drilling was tailored to primarily infill the pre-existing drill hole pattern and thereby expand and increase the confidence in the database for the current NI 43-101 compliant resource estimate. Table 13-1 summarizes the drill holes used in the current resource estimate.

Table 13.1
Rosemont Deposit Drilling Summary

Company	Time Period	Drill Holes		
		Number	Feet	Meters
Banner	1950s-1963	3	4,226	1,288
Anaconda	1963-1973	113	136,728	41,675
Anamax	1973-1988	52	54,350	16,566
ASARCO	1988-1998	11	14,695	4,479
Augusta	2005-2006	55	96,356	29,369
Total		234	306,355	93,377

The drill holes utilized in the database were all drilled using diamond drilling (coring) methods. In some cases the top of the holes were drilled using a rock bit to set the collar and in other cases the upper part of some of the older holes were drilled with rotary drilling and then switched to core drilling before intercepting mineralization. Exploration holes drilled using rotary or older "churn" drill holes were excluded from the resource database. A map showing the location of these drill holes is provided in Figure 13-1, along with a general outline of the Rosemont deposit limits.

In all of the drilling campaigns, efforts were consistently made to obtain representative samples with the predominant drilling of larger N (1.9 inch diameter) and H (2.5 inch diameter) size core. Core recoveries were generally good (typically in the range of 86-93%), lending confidence that quality samples were obtained. All of the Rosemont drilling was been conducted on east-west lines that are approximately 200 feet apart. Currently, the average spacing of drill holes along these lines average about 250 feet .

Most of the Anaconda, Anamax and ASARCO drill core was still available on site or was obtained by Augusta and brought back to the Rosemont property, where it was rigorously relogged by Augusta personnel to be geologically consistent with the current Augusta drill hole logging. Along with relogging, this core was also resampled for additional geochemical analyses as described in the sampling section (Section 14).

13.1 Banner Mining Company Drilling

The first significant core drilling campaign on the Rosemont Property was by the Banner Mining Company, beginning in about 1961. Banner completed mostly shallow diamond drill holes, many of which were subsequently deepened by Anaconda. Three drill holes included in the resource database were shallow holes started by the Banner Mining Company that were significantly deepened during subsequent Anaconda drilling programs. These holes have a combined length of 4,226 feet.

13.2 The Anaconda Company Drilling

Anaconda took over Banner's Rosemont holdings around 1963 and conducted exploration at the Rosemont Deposit and in adjacent mineralized areas. Between the years of 1963 and 1973 they completed 113 diamond drill holes at Rosemont for a total of 136,728 feet. These holes were primarily drilled vertically. Down-hole surveys were conducted during drilling or immediately following drill hole completion for selected holes. Drill hole collars were surveyed by company surveyors. Anaconda drilled approximately 85 percent of the larger N-sized core (1.9 inch diameter) and 15 percent of the smaller B-sized core (1.4 inch diameter). Overall core recovery was more than 85 percent.

Exploration subsequently transferred to the Anamax Mining Company (an Anaconda-AMAX joint venture) around 1973, which continued the extensive diamond drilling and analytical work until at least 1985. Anamax completed 52 core holes for a total of 54,350 feet. These holes were almost exclusively drilled as angle holes inclined -45° to -55° to the west, approximately perpendicular to the east-dipping, Paleozoic, metasedimentary host rocks. Down-hole surveys were conducted during drilling or immediately following drill hole completion for the majority of the holes. Drill hole collars were surveyed by company surveyors. Anamax drilled approximately 80 percent N-sized core (1.9 inch diameter) and 20 percent B-sized core, with an overall core recovery of more than 88 percent.

During drilling, the core was placed in standard cardboard core boxes by the drillers, with wooden blocks marking the beginning and ending footages of core runs. Core boxes were labeled with the drill hole number, footage interval and other information by the drillers.

13.3 ASARCO Mining Company Drilling

ASARCO acquired the Rosemont Property in 1988 and conducted exploration until 1998, completing 11 vertical drill holes for a total of 14,695 feet in the deposit area (a 12th hole was drilled to the east of the deposit). Data was available from eight of the ASARCO core holes and was incorporated into Augusta's resource database. Down-hole survey data, if taken, was not available for the ASARCO holes. Drill hole collars were surveyed by company surveyors. The size of core collected by ASARCO was predominantly N-sized (1.9 inch diameter). Core

recovery information was not available but Augusta relogging indicated it to generally be good, similar to that of other drilling campaigns.

ASARCO sold the Rosemont property in 1998 to real estate interests.

13.4 Augusta Drilling

Augusta has conducted diamond drilling in two campaigns, the first starting in the second half of 2005 and continuing into early 2006 (Phase I) and the second starting in mid 2006 and continuing into early 2007 (Phase II). In total, Augusta has completed 55 core holes for a total of 96,356 feet. Of these, 40 drill holes were planned as resource holes to infill where previous drilling had left gaps in the classification of measured or indicated mineral resources. The remaining 15 Augusta core holes were drilled in support of geotechnical (13) or metallurgical (2) studies, and were not sampled for resource work purposes.

Augusta drill holes were rock-bitted through overburden, then drilled with larger HQ-sized core as deeply as possible and finished with NQ-sized core (1.9 inch diameter) when a reduction in core size was required by ground conditions. Most of the holes were oriented vertically, although 10 of the holes were inclined in order to intercept target blocks from reasonably accessible drill locations. Layne-Christensen and Boart Longyear were the drilling contractors. All drill holes were surveyed down-hole with a Reflex EZ-Shot survey instrument that measured inclination/dip and azimuth direction, with readings generally taken every 500 feet down hole. Phase I drill hole collar locations were surveyed by Putt Surveying of Tucson, Arizona, while Phase II locations were by Darling Environmental & Surveying. Augusta drill core was approximately 80 percent N-sized (1.9 inch diameter) and about 20 percent being larger H-sized (2.5 inch diameter). Augusta's overall core recovery was more than 93%.

During drilling, the core was placed in standard cardboard core boxes by the drillers, with wooden blocks that marked the footages of core runs. Core boxes were labeled with the drill hole number, footage range and other information by the drillers.

14 SAMPLING METHOD AND APPROACH

The Rosemont resource database is based on core samples recovered from diamond drill holes. The drill core from mineralized intervals was generally sampled continuously down the hole, at a nominal five-foot sample length. In taking a sample, the core is generally halved (split) along the long axis, taking care to evenly distribute veinlets and other small-scale mineralized features, where present, into both halves of the core.

14.1 Banner, Anaconda and Anamax Sampling

The Banner, Anaconda and Anamax sampling is discussed as a group because the sampling took place as part of a more or less continuous program. The analytical data in the resource database for the three Banner drill holes came from the Anaconda laboratory, as most of the length of these holes came from subsequent Anaconda drilling that significantly deepened these holes. The exploration transition from Anaconda to Anamax (Anaconda-Amax Joint Venture) drilling did not appear to immediately utilize a different laboratory or techniques.

In analyzing the Banner, Anaconda and Anamax drill core, the geochemical suite was determined by whether an interval retained its primary sulfide mineralization or had been oxidized. Core with primary sulfide mineralization above trace levels was comprehensively analyzed for total copper and molybdenum. For some intervals, lead and zinc metal concentrations were analyzed where indicated by mineralogy, but that was not common. Relatively late in the program, particularly in the Anamax drill core, silver analysis was routinely included in the sulfide zone, especially for well-mineralized intervals. Oxide zone drill core with visible copper oxide mineralization (chrysocolla, cuprite, copper wad, etc.) was analyzed for acid-soluble copper in addition to total copper, and molybdenum was excluded or only intermittently analyzed in the oxide zone core.

The core was sampled at geologic intervals, based on changes in mineralization and alteration, that generally ranged from one to six feet in length and averaged about five feet in length. In poorly mineralized intervals, analytical samples were collected only intermittently, typically with one five-foot sample collected every 20 to 30 feet, to characterize the rock as having low to no grade values.

The core was first logged to record the core run intervals and percent recovery, along with lithology, structure, alteration and mineralization. After sampling intervals were assigned, the core was split with a mechanical splitter along its long axis, and one-half of the core was retained in the original core box. Sample preparation during the Banner, Anaconda and Anamax programs was conducted by employees of those companies. Other details of the sampling process are not well known, but since this work carried out by major copper companies for their internal use, it is believed that the work was carried out to industry standards for that time.

14.2 ASARCO Sampling

The ASARCO drill core was routinely analyzed for total copper, acid-soluble copper and molybdenum. Oxide zone core does not appear to have been analyzed differently than the sulfide-bearing core. The core was sampled with preference towards a 10-ft sample length, but, as for the Banner, Anaconda and Anamax core, the geologists appear to have had considerable latitude in choosing longer or shorter intervals. In some poorly-mineralized intervals, it appears that only one analysis was run for intervals exceeding 100 feet in length, although that is rare. The ASARCO drill core was apparently logged and sampled in much the same style as is described above for the Banner, Anaconda and Anamax core.

14.3 Augusta Sampling

Augusta Core

Sampling of new Augusta drill holes took place at the Rosemont Ranch sampling facility. Core drilled for the resource database by Augusta Resource (2005-2006) was analyzed using a geochemical suite that varied depending on whether or not the core retained its primary sulfide mineralization or had been oxidized, similar to the approach described above for Anaconda. In the oxidized zone, the core was routinely analyzed for total and acid-soluble copper. Sulfide zone core was analyzed for total copper, molybdenum and silver. Much of this core was also analyzed for gold, although that was discontinued late in 2006 when the gold content had been adequately characterized and the cost of additional gold analyses was no longer considered warranted.

Augusta core was sampled at even five-foot intervals, except where massive copper or molybdenum veining, structures or lithologic breaks warranted special investigation through the selection of shorter intervals. Sample intervals would return to footages evenly divisible by five as soon as possible thereafter.

Geotechnically oriented Rock Quality Data (RQD) logging was performed on all core drilled by Augusta to systematically quantify core recovery, rock quality, fracture frequency, core hardness, joint condition, large-scale joint expression and down hole water conditions. Then experienced exploration geologists familiar with the project lithologies logged the rock type, alteration, mineralization and structure evident in the core. After logging, the geologist assigned and marked the sample intervals and cut-lines directly on the core and on the core box interior with a black marker. Each sample was given a unique, sequenced sample number with the footage noted in a sample tag booklet and on a paper copy. The drill core boxes were then photographed with a digital camera.

The core was split by cutting it in half with a diamond rock saw. All cuts were carefully planned and marked on the core by the logging geologist to evenly divide mineralization between the two halves of the core. All core cutting was done with water using no additives and the sawed drill core was placed directly back in the core box to dry before sampling. When dried, the left-hand

half of the split core was placed in bags labeled according to the sequenced paper sample tags. The plastic bags were then sealed with adhesive tape, leaving the sample number visible.

Banner, Anaconda, Anamax and ASARCO Core Resampling

Augusta also sampled available core drilled by Anaconda, Anamax, and ASARCO to fill-in missing analytical information and to validate the older analyses. Resampling of older pre-Augusta drill holes took place at the Hidden Valley Ranch sampling facility. Oxide zone intervals were resampled and analyzed for both total and acid-soluble copper in cases where total copper was estimated to be >0.1% Cu, but which had not yet been analyzed. All sulfide zone core from within the deposit area that had not been analyzed for both total copper and molybdenum were sampled and analyzed to provide complete, continuous copper and molybdenum data.

In addition to infilling the missing copper and molybdenum analyses in the sulfide zone, all of the available Banner, Anaconda, Anamax and ASARCO core that, on average, contained greater than 0.2% Cu over a 50-foot continuous length was resampled and analyzed for silver and sometimes gold, both of which were usually missing from the previous analytical work. Gold analyses were discontinued late in 2006 after the gold mineralization was sufficiently characterized, as described above for the Augusta-drilled core.

Whenever possible, the sample intervals for additional analyses conformed to the original sample intervals as determined from the historic core logs and analytical results. Augusta required all samples to be seven feet or shorter. Where previously only intermittent samples had been collected (i.e., a five-ft sample every 20-30 feet), original intervals were divided into multiple new sample intervals of approximately five feet in length, preserving the starting and ending footages of the original sample intervals. Another circumstance that required deviation from the original sample intervals was when core was missing – either lost or previously taken for metallurgical work. In such cases, Augusta sample intervals were aligned to reflect the missing core intervals.

Augusta geologists identified intervals requiring additional (infill) analyses by referring to the previously logged mineral and analyzed geochemical content of the core. Whenever possible the sample intervals for additional analyses conformed to the original sample intervals as determined from the historic core logs and analytical results. New Augusta assays were assigned unique, sequenced sample numbers from sample tag books. Intervals and corresponding sample numbers were recorded in an Excel-based computer file. For the purposes of silver and gold grade determinations, the new sample intervals were combined into length-weighted 50-ft composite samples before analysis, reducing the total number of samples. This compositing was performed on pulp samples at the analytical laboratory using relative weight contributions for each component sample calculated by Augusta geologists.

After sample intervals and sequential sample numbers were assigned for the core to be re-analyzed, the core boxes were carefully photographed using a digital camera. Photos were inspected and archived before samples were collected. The assigned intervals were then

measured and collected by sampling technicians, taking the entire remaining core with the exception of some small, representative archive samples. The individual samples were placed in plastic sample bags marked with the new sample number. The paper sample tags from the sample book in which drill hole identification and sample interval had previously been recorded were placed in the bag with the core.

15 SAMPLE PREPARATION, ANALYSIS AND SECURITY

15.1 Sample Handling and Security

Sample handling during the Banner, Anaconda, Anamax, and ASARCO programs was conducted by employees of those companies. These were major mining companies conducting work for their internal use. Augusta assumes that professional care was taken in the handling of samples by their employees and has found no evidence to the contrary.

For the new Augusta drilling program, the drilling contractors kept the core in a secure area next to the drill rig before delivering it to the Rosemont Ranch sampling facility, approximately three miles from the drilling area. Resampling of old pre-Augusta core occurred at the Hidden Valley Ranch sampling facility.

At the Rosemont Ranch facility, samples were logged, marked, cut and placed in sample bags by geologists and helpers contracted by Augusta. At the Hidden Valley facility, samples were marked to conform to the original sample intervals and placed in sample bags by geologists and helpers contracted by Augusta. At both locations, the samples were kept in a locked storage unit on site until they could be transported to the laboratory. The logging and sampling areas were kept under closed-circuit video surveillance to provide a record of the personnel that had accessed the logging and sampling areas. Additional security was afforded by ranch personnel that oversaw the premises at night. No core handling or core security issues were experienced during the drilling or sampling program.

Locked sample boxes were picked up by Skyline employees, who officially took custody of the samples at the two sampling facilities set up on the Rosemont Property. After completion of the laboratory work, the pulp samples and coarse rejects were returned to site for long-term storage and possible future use.

15.2 Banner, Anaconda and Anamax Sample Preparation and Analysis

The Banner, Anaconda and Anamax sampling is discussed as a group because the sampling took place as part of a more or less continuous program. The analytical data in the resource database for the three Banner drill holes came from the Anaconda laboratory, as most of the length of these holes came from subsequent Anaconda drilling that significantly deepened these holes. The exploration transition from Anaconda to Anamax (Anaconda-Amax Joint Venture) drilling did not appear to utilize a different laboratory or analytical techniques.

Geochemical analyses for the Banner, Anaconda and Anamax core were conducted in-house at Anaconda and Anamax laboratories. The following information was obtained from Mr. Dale Wood, Anaconda Chief Chemist in meetings and telephone conversations on November 28, 2005 and January 21, 2006. Copper and molybdenum were determined by wet chemical analyses and

by x-ray fluorescence (XRF) methods, using analytical procedures that were industry standard for the 1960s and 1970s. Crushing and grinding reduced all pulp samples to minus 100 mesh size, with constant screen size testing. Pulp samples for the wet chemical method were brought into solution by hot acid digestion on a shaker table with hydrochloric acid, nitric acid and perchlorate acid added to the boiling solution followed by a few drops of hydrofluoric acid. Analyses for molybdenum were by the colorimetric iodine titration method. Copper analyses were done by the colorimetric phenolthylalanine titration method. The XRF analytical technique consisted of either a quick screening method by compressing a pulp sample on mylar film and placing it under the x-ray beam or, alternatively, adding cellulite to the pulp sample, pressing it into a ring and then placing under the x-ray beam. Samples with XRF-determined grades above 0.2% Cu and 0.02% Mo were selected for wet chemical analyses.

15.3 ASARCO Sample Preparation and Analysis

The ASARCO geochemical analyses that Augusta obtained from ASARCO were conducted by Skyline Analytical Laboratory, Tucson, Arizona. Skyline is a large, certified, commercial laboratory that utilized industry-standard analytical techniques; therefore these data obtained for the ASARCO core are considered reliable. No detailed descriptions of Skyline's sample preparation and analytical methods during those years are available at this time.

15.4 Augusta Sample Preparation and Analysis

Geochemical analyses for Augusta-drilled core and for the Augusta resampling of the Anaconda, Anamax, and ASARCO core were primarily performed by Skyline Assayers and Laboratories (Skyline) in Tucson, Arizona. During 2005, Skyline was formally known as Actlabs-Skyline and had been owned by ACTLABS (Lancaster, ON, Canada) since 1997. Skyline became independent of ACTLABS in January, 2006. Skyline is accredited in international quality standards through ISO/IEC 17025, with CAN-P-1579 for specific registered tests through the Standards Council of Canada. Augusta had both primary and secondary (duplicates) analyses done at Skyline in 2006 and 2007. ALS Chemex (Vancouver, BC, Canada) was used by the project for duplicate checks sample analyses in 2005. ALS Chemex has accreditation through ISO 9001:2000 in North America.

At Skyline, the entire sample was crushed using a TM Terminator to produce a greater than 80% pass 10-mesh product. Samples were blended and divided using a two-stage riffle splitter, from which a 300-400 gram split was pulverized to a 90% passing 150-mesh product using a TM Max 2 Pulverizer. Wash gravel and sand were used by Skyline to clean the crushers after each batch of samples were processed. Pulverizers were cleaned after each batch of samples and/or after each sample if the material adhered to inside walls of the grinding vessel. Coarse reject and pulp material was saved and returned to Augusta.

For the determination of total copper and molybdenum, Skyline digests 0.2000 to 0.2300 grams of the sample with 10.0 milliliters (ml) of hydrochloric acid, 3.0 ml nitric acid and 1.0 ml

perchloric acid at 250° C, in a 200-ml phosphoric acid flask. When the only remaining acid present is perchloric acid and the volume of the liquid in the flask is less than 1 ml, the solution is allowed to cool. About 25 ml demineralized water and 10.0 ml hydrochloric acid are then added and the solution is gently boiled for 10-20 minutes. The flask is again cooled to room temperature and the contents are diluted with demineralized water and shaken well to mix. Copper and molybdenum content are determined by atomic absorption, with reference to standards made up in 5% hydrochloric acid.

Acid soluble copper is determined by leaching one gram of pulverized sample in 10% sulfuric acid solution for one hour. The copper content of the resulting solution is determined by atomic absorption.

For the determination of silver, Skyline digests 0.25 grams of sample with 0.5 ml nitric acid and 1.5 ml hydrochloric acid in a disposable, 18-mm x 150-mm borosilicate glass test tube. After agitation and the cessation of any effervescence due to carbonates, the test tubes are placed in a test tube rack in a hot water bath that is maintained between 90 °C and 95 °C, where digestion continues for 90 minutes. After cooling to room temperature the contents are diluted to 10 ml with demineralized water and again agitated to mix well. The solutions are then read by atomic absorption for silver.

15.5 Quality Assurance and Quality Control Protocol

General

The Quality Assurance and Quality Control (QA/QC) protocols in place during the Anaconda, Anamax and ASARCO exploration programs are not documented in records available to Augusta, although all the available evidence shows that they took great care in sample handling and storage, and that the laboratories analyzing the geochemical samples used industry standard practices (see Section 14).

Augusta adopted a systematic QA/QC protocol to support its analytical laboratory results. QA/QC oversight was provided initially by Kenneth A. Lovstrom, Geochemist, and was subsequently continued by Shea Clark Smith, Geochemist, who assumed guidance for QA/QC after January 10, 2006. The QA/QC procedures used by Augusta consisted of the routine use of standards, blanks, and marble preparation blanks, as well as repeat analysis of pulps.

1. Standards were submitted with a frequency of one per 20 samples.
2. Blank samples were submitted with a frequency of one per 40 samples.
3. Marble preparation blanks were submitted as needed following select high-grade sample intervals, as a check of the subsequent cleanliness of the preparation equipment. This was implemented in the middle of the Augusta Phase II drilling program. This material was presumed to be, but was not, certifiably blank.

4. Pulp reanalysis was conducted on 600 of the samples analyzed by Augusta. Each batch of 16 pulps was accompanied by a copper standard, a molybdenum standard, a silver standard and a blank. In addition, each batch included the laboratories own internal standards. This check served to evaluate the repeatability of the sample values.

In addition to Augusta's QA/QC work, Skyline had their own internal control procedures that included standards and repeat analysis. Augusta's primary laboratory data reports contained internal laboratory quality control data. For each laboratory job, an original, certified report(s) was sent to Augusta and has been filed with each drill hole.

Assay results for drill holes AR-2000 through AR-2014 were discussed in the previous mineral resource report (WLRC, 2006). The current report includes all Augusta drill hole data through AR-2043, along with data for the Augusta fill-in sampling of the Anaconda core. This data was provided in a spreadsheet prepared by Augusta.

Standard Reference Materials

The suite of standard reference materials (SRMs) was expanded from seven (7) in the previous work to fourteen (14) for the current work, incorporating a range of copper, molybdenum and silver concentrations that approximate the range of metal concentrations encountered in Rosemont and earlier Anaconda drill cuttings.

The following SRMs were used for project work in 2005: KM-5, GRS-3, GRS-4, OC-43, OC-48, R1 and R2. These were created under Lovstrom's direction and for which he provided statistical documentation. A new suite of SRMs was created in 2006 and includes: R4-A, R4-B, R4-C, R4-D, R4-E, R4-F and R4-G. In addition to R1 and R2, the R4-suite was prepared at MEG Labs (Carson City, NV) from naturally mineralized rock that had been collected at the Rosemont Project area. Round robin assays were compiled from a minimum of 25 samples of each SRM that had been sent to five or more laboratories. MEG Labs has certified the R1, R2 and R4-suite of standards.

There is a good match between the SRMs used and the average economic metal concentration in the drill samples. For instance, on average, only 5% of the copper concentration in the drill samples lie above the highest copper concentration in the SRM suite (>1.4% Cu). Similarly, on average, only 7% of the molybdenum concentration in the drill samples lie above the highest molybdenum concentration in the SRM suite (>0.034% Mo) and, on average, only 12% of the silver concentration in the drill samples lie above the highest silver concentration in the SRM suite (>6.98 ppm Ag).

The performance of mineralized SRMs in the analytical stream is similarly good to excellent for copper and molybdenum. Silver values vary more widely from expected values. For instance, standard GRS-3 reported total copper concentrations (TCu) that are 9% lower than expected. Similarly, GRS-4 reported 8% below expectations, R2 reported 1% below expectations, and R4-E reported 3% below expectations. However, KM-5 reported copper concentrations 2% above

expectations and R4-B reported 2% above expectations. Finally, R1, R4-D, R4-F and R4-G reported concentrations of copper that were very close to the expected round robin assays for these SRMs. Generally, the analytical laboratory is reporting conservatively by about 2% with respect to the expected SRM concentrations of copper.

Molybdenum concentrations from mineralized SRMs report lower than expected by 6% for OC-48, 3% for OC-43, 3% for R4B, 16% for R4E, 9% for R4F and 13% for R4G, but higher than expected by 6% for R2. On the other hand, R1 and R4D reported concentrations of molybdenum that were very close to the expected round robin assays for these SRMs. Generally, the analytical laboratory is reporting conservatively by about 5% with respect to the expected SRM concentrations of molybdenum.

Silver concentrations from mineralized SRMs report lower than expected by 2% for R2, 4% for R4-B, 14% for R4-D, 30% for R4E, 31% for R4F, 54% for R4G, but as expected for R1. As silver concentrations decrease, the difference between reported and expected concentrations increases. Consequently, silver concentrations below 0.06 opt (2 ppm) are not reliable. In general, the analytical laboratory is reporting conservatively by about 5% with respect to the expected SRM concentrations of silver.

The performance of the standard reference materials in the analytical stream was acceptable for the three economic metals under consideration. For this assessment, Augusta's fill-in sampling of Anaconda core data and Augusta's Rosemont Project new drilling data were combined into one file by Augusta staff for evaluation. It is noted that copper accounts for approximately 80% of mine valuation, while molybdenum accounts for 15% and silver accounts for about 5%. The performance of the SRMs is in line with these parameters of mine valuation and, in particular, any potential inaccuracies in the contained Ag suggested by the SRM performance are economically insignificant.

Blanks

Materials that contain metal concentrations at or below the analytical limits of detection (Blanks) were also submitted with drill cuttings and SRMs to monitor sample preparation and analytical background.

Two types of blank materials were used to monitor the limit of detection concentrations of Cu, Mo and Ag at the assay lab. An "Analytical Blank" (made from barren quartz sand) tested digestion and instrumental methods, while a "Prep Blank" (made from marble landscape rock) was intentionally placed after high-grade samples as a monitor of metal carryover to subsequent samples in the preparation sequence. Blank samples were submitted with a frequency of one per 40 drill samples. Out of 548 assays that were done on the Analytical Blank, only 26 (4.7%) reported concentrations for copper above the limit of detection (0.01% Cu), of which 21 values were at the threshold limit of 0.01% Cu.

The Prep Blank (assayed 304 times) reported concentrations above the limit of detection 121 times (39.8%), of which 78 values were at the threshold limit of detection of 0.01%Cu. The

average concentration of those samples that reported above the detection limit is about 0.015% Cu for the Analytical Blank and 0.015% Cu for the Prep Blank. This constitutes negligible contamination as carryover since the frequency and/or carry-over concentrations are minimal. A few of the anomalous blanks that reported above this concentration are suspected of possibly being due to sample mix-ups.

There were 70 values out of 411 (17.0%) reported for the "Analytical Blank" that were above the limit of detection for molybdenum, of which 60 values were at the threshold value of 0.001% Mo. The "Prep Blank" reported concentrations above the limit of detection 63 times out of 174 analyses (36.2%), of which 53 values were at the threshold value of 0.001% Mo. The average concentration of those samples that reported above the detection limit is about 0.002% Mo for the Analytical Blank and 0.001% Mo for the Prep Blank. This constitutes negligible carryover contamination. A few of the anomalous blanks that reported above this concentration are suspected of possibly being due to sample mix-ups.

Finally, there were 243 values out of 416 analyses (58.4%) reported for the "Analytical Blank" that were above the limit of detection for silver, of which 65 values were at the threshold value of 0.003 opt Ag (0.10 ppm Ag). The "Prep Blank" reported concentrations above the limit of detection 80 times out of 173 analyses (46.2%), of which 19 values were at the threshold limit of 0.003 opt Ag (0.10 ppm Ag). The average concentration of those samples that reported above the detection limit is about 0.011 opt Ag (0.38 ppm) for the Analytical Blank and about 0.008 opt Ag (0.27 ppm) for the Prep Blank. This constitutes relatively negligible carryover contamination.

Internal Laboratory Standards

Internal standards used by the analytical laboratory indicate that precision is within rather tight tolerances of 0.0% to 3.4% for copper, 0.001% to 2.1% for molybdenum and 0.01% to 6.3% for silver.

Check Assays

Check analyses were conducted on Rosemont and Anaconda sample pulps, with the results compiled by Augusta and provided for evaluation. SRMs from this project included Blanks, OC-43, MEG-Cu-2, R4-B, and the analytical laboratory's internal standards CGS2, CGS3, CGS4, CGS6 (copper standards), and GXR1, GXR2 and GXR4 (silver standards). Pulp reanalysis was conducted on 600 of the samples analyzed by Augusta. A copper standard, a molybdenum standard, a silver standard and a blank accompanied each batch of 16 pulps. In addition, each batch included the laboratories own internal standards.

The Check Assay Program demonstrated excellent repeatability for copper when comparing the original and check analyses, with 92% of all reanalyzed samples returning values within +/-10% of the original value. Molybdenum showed slightly more scatter. Silver showed the most scatter, especially for samples having low silver contents and is consistent with the performance

of Augusta's SRMs. None of the metals showed any significant systematic bias for the repeat analyses to be higher or lower than the original analyses.

Performance of the various SRMs was good to excellent with respect to expected versus reported concentrations. For instance, Blank standards showed only minor (0.13%) variance for silver, MEG-Cu-2 showed a 6% variance and R4-B showed only 0.1% variance for silver. Internal silver standards showed equally low variance in the range of 0.2% to 4%. Molybdenum variance ranged from 4% (OC-43) to 5% (R4-B). Copper variance ranged from 0% (Blanks, MEG-Cu-2, and laboratory internal standards) to 4% (R4-B).

16 DATA VERIFICATION

Augusta took a number of steps to verify the results of earlier exploration results by other companies. Augusta's own work was conducted with appropriate sampling handling and QA/QC measures to ensure that resulting data were reasonable. Quality control measures for sample assaying are described in detail in Section 15.

A number of checks were made to appraise the validity of the data entry in the database. A visual inspection was conducted comparing a random sampling of the values shown on the original assay certificates to those listed in the database files to check for data entry errors. Fifty two individual drill holes were inspected in March 2006, representing approximately 14% of the total database up to that time. The sampling included some data from each of the drilling campaigns conducted by Anaconda, Anamax and Augusta. As no assay value errors were found, the data entry error rate for the group sampled was zero. Computer editing techniques were also employed as an additional check to search for out-of-range values, duplicate entries and depth from-to inconsistencies. One collar location elevation bust was found and corrected. No other errors were encountered.

Augusta's recent 2006 drilling campaign added 25 new resource drill holes to the database. A similar program to check assay certificates against entered values in the database was conducted. Seven of the new drill holes, representing approximately 28% of the total, were checked. One transposition error in a Cu value was found and one error involving an assay standard value replacing a Cu value was noted. Also, two from-to footage errors were also found. No other problems were found, and the errors were corrected in the database. The error rate for this sampled group was 0.20%. WLRC is satisfied that the drill hole database is reasonably representative of the deposit.

WLRC has not conducted any of its own sampling, as this was not deemed necessary.

17 ADJACENT PROPERTIES

The Peach-Elgin, Broadtop Butte and Copper World Mine deposits occur within 1.5-2.5 miles to the north and northwest of the Rosemont Deposit. These deposits consist of similar types of mineralization along related structural trends and are within the property package acquired by Augusta. The following summarizes the historical resource estimates for two of these deposits for informational purposes only. None of the resources estimates presented below are included in the Rosemont mineral resource estimates presented in Section 19.

In 1964, Anaconda produced a geological resource estimate for the Peach-Elgin deposit that identified 13,700,000 tons of sulfide material averaging 0.78% Cu and 9,700,000 tons of oxide material averaging 0.72% Cu. The estimate was based on assays from 67 churn and diamond drillholes. After calculation of that resource, Anaconda and Asarco drilled approximately 140 additional diamond drillholes, but did not update the 1964 estimate. The methodology of the 1964 estimate did not conform to modern NI 43-101 requirements but, as it was made by a reputable major copper company, it is taken as a fairly reliable estimate to be viewed in an historical context. *Augusta Resource Corporation has not done the work necessary to verify the classification of this resource and is not treating the above resource figures as a NI 43-101 defined resource verified by a Qualified Person and, therefore, the resource figures should not be relied upon by investors.*

Anamax carried out a resource estimate for the Broadtop Butte deposit in 1979. That estimate, based on approximately 18 widely-spaced (200-500 feet, or 60-150 meters) diamond drillholes, was 8,800,000 tons at an average grade of 0.77% Cu and 0.037% Mo. The estimate was made by a reputable major copper company and on that basis it is taken as a fairly reliable estimate to be viewed in an historical context. *Augusta Resource Corporation has not done the work necessary to verify the classification of this resource and is not treating the above resource figure as a NI 43-101 defined resource verified by a Qualified Person and, therefore, the resource figures should not be relied upon by investors.*

There are no historical or modern resource estimates for the Copper World Mine area.

18 MINERAL PROCESSING AND METALLURGICAL TESTING

Historical metallurgical testing and process development information for the Rosemont Project is based on a diamond drill campaign and subsequent metallurgical testing program performed during 1974 and 1975 by Anamax. The results of this program are summarized in this section, with references to other, more current studies. Recent metallurgical tests and work still in progress are described, but analyses of these results have not yet been completed.

An order-of-magnitude project evaluation study was prepared by the Winters Company in 1997 for ASARCO. Their report presents what was then the most current and complete project metallurgy description available and contains the process design criteria, flow sheets, process description, and capital and operating cost estimates for process facilities. The design criteria developed in the Winters report were based on the 1974-1975 metallurgical test results.

The metallurgy of the Rosemount deposit has been characterized as being typical of Arizona skarn and porphyry copper deposits. The mineralogy and processing characteristics of the Rosemont ore was considered by ASARCO to be very similar to the ASARCO Mission mine. However the sulfide mineralogy of the Mission deposit occurs principally as chalcopyrite, while part of the Rosemont Deposit contains substantial bornite and chalcocite.

Recently, in early 2006, Mountain States Research and Development, Inc. (MSRDI) performed additional test work. In late 2006 and continuing in 2007, still more testing was performed and some analyses are still in progress. The results of the late 2006-early 2007 work have not been completely analyzed, but there are no indications to date of metallurgical fatal flaws or serious processing problems.

In this report, metallurgical performance estimates and design criteria are based on:

- The metallurgical test data,
- Information from the ASARCO Mission Mine,
- Experience at other, similar plants, and
- Test work in early 2006 by MSRDI.

Recommendations by the Washington Group, International (WGI) in their report *Preliminary Assessment and Economic Evaluation for the Rosemont Project*, dated June 13, 2006, have been carried out and analysis of the results is underway. Additional work was also recommended by Jerry T. Hanks, P.E. (Hanks). Some of this work has been completed while some is still in progress. In either case, metallurgical analysis is pending.

18.1 Metallurgical Test Samples

Previous metallurgical testing for the project was limited and consisted of a test campaign performed in 1974 and 1975 by Anamax. The test samples consisted of half-core samples taken from intervals of selected diamond drill core holes.

In 2006 additional tests were contracted by Augusta for the WGI Preliminary Assessment report. The work, which was performed by MSRDI, also utilized split core samples from earlier drill campaigns.

For the comminution tests recommended by WGI in early 2006, a single composite from drill hole AR-2018 to a depth of 727 ft was used. The hole, located on the western side of the Rosemont Deposit, was drilled entirely in the Horquilla rock type. The sample was intended to represent a large portion of the sulfide ore to be mined, particularly in the first five years of the mine's life.

In mid 2006, Augusta contracted MSRDI to carry out 50 additional rougher flotation variability tests on coarse rejects from diamond drill holes and contracted SGS-MinnovEX to perform additional comminution tests on 47 samples of split core from the same intervals as the flotation tests. (Three intervals of the split core had already been used in earlier testing and were not available.) The samples were collected from around the deposit in order to be representative of lithologies, alteration, and mineralogic variations in the deposit and will be presented in the planned reports by MSRDI and SGS, respectively.

Augusta has recently (early 2007) prepared three composite samples from diamond drill coarse rejects presenting the Horquilla, Colina, and Earp rock types. Flotation tests are now being conducted on these samples. Lists of samples used for these composites will be included in the MSRDI report covering the test work.

Augusta has also submitted additional split core and coarse reject composite rock type samples to Hazen Research, Inc (HRI) for additional rod and ball mill work index determinations. The exact sample interval used will be reported when the test work has been completed.

Both core and bulk samples have been used for hydrometallurgical test work by MSRDI. The samples will be documented in the MSRDI final report.

18.2 Comminution

Early comminution tests were performed on core samples from the Rosemont Deposit. A. R. MacPherson Consultants Ltd. investigated the primary grinding characteristics of the mineralized rock using Aerofall mills and Allis Chalmers performed standard Bond ball mill work index testing on the samples to obtain data for sizing the ball mills. It is noted that this work is in the process of being updated by current testing at HRI.

Crushing Tests

One standard Bond, low-energy impact crushing test has been completed. The crushing index (CWI) was 9.1 kWh/ton. Samples are being collected for several additional tests using rock type composites made up of whole core.

Primary Autogenous and Semiautogenous Grinding Tests

Three mineralized samples were tested using the MacPherson method; their resulting autogenous work indices and actual power requirements are presented in the following table.

Table 18.1
Autogenous Grinding Test Results

Sample	Autogenous Work Index (kWh/ton)	Actual Power Required (kWh/ton)
Sample 1 – High grade garnetized limestone	10.42	10.0
Sample 2 – Low grade garnetized limestone	10.16	9.8
Sample 3 – Quartz monzonite porphyry	20.58	15.5

The MacPherson report indicated that the above mix of potential ore types would be beneficial for fully autogenous grinding as the high and low grade ores are relatively soft and the quartz monzonite would provide a source of grinding media. This assumption is dependent upon the relative amounts of the three rock types and the period(s) in which they will be available for plant feed. Since the time that the MacPherson analysis was done, comminution circuit design has evolved considerably. Most of newer and more successful modern plants have utilized semi-autogenous mills operating in closed circuit with pebble crushers and followed by ball mills (SABC circuit.) The SABC circuit does not depend on any particular mixture of hard and soft ore; it is the circuit now proposed for the Rosemont Project.

Additional testing as recommended by WGI has been completed:

- The JK Drop-weight and Abrasion Test
- The MinnovEX SAG Power Index Test (SPI)
- The MacPherson Autogenous Grindability Test
- The Bond Low-energy Impact (Crushing) Test (see above)
- The Bond Ball Mill Work Index Test
- The Bond Rod Mill Work Index Test
- Bond Abrasion Test
- Specific Gravity Determination

Analysis of these tests will be presented in the project feasibility study to be completed by mid 2007.

Some of the test work recommended by Hanks has been completed using 47 split core intervals. The testing encompassed:

- 47 Crusher Index Tests (CI)
- 47 MinnovEX SPI® tests
- 47 Modified Bond Ball Mill Work index tests
- 5 Standard Ball Mill Work Index tests

Analysis of these tests is pending and will be reported in the forthcoming feasibility study.

Rod Mill and Ball Mill Grindability Tests

Standard Bond rod and ball mill grindability tests were performed by Allis Chalmers on three composites of potential Rosemont ore taken from drill hole DDH A861. Descriptions of the samples and the resulting rod and ball mill work indices are given in the following tabulation.

Table 18.2
Rod and Ball Mill Grinding Test Results

Sample	Rod Mill Work Index @ 1.2mm (kWh/ton)	Ball Mill Work Index @ 150 micron (kWh/ton)
Composite No. 1 - Calcium silicated argillite	15.5	14.2
Composite No. 2 - Garnetite	13.9	13.1
Composite No. 3 - Silicated silty limestone	14.7	11.3

The Winters Company, in their 1997 report, selected what they termed a weighted-average ball mill work index for the deposit of 14.5 kWh/ton, which would be appropriate based on the above test work. The grind size selected in the Winters report was 80 percent passing 145 microns.

Additional Ball Mill Work Index tests were performed by MSRDI for Augusta in early 2006 with the following results.

Table 18.3
MSRDI Ball Mill Work Index Test Results

Sample ID	BWI kWh/t
194652	11.0
194653	11.0
194654	12.1
194655	12.9
194656	10.5
194657	10.1
194658	9.2
194659	9.4
Average	10.8

As noted above, the work recommended by Hanks included standard and modified Bond Ball Mill Work Index tests. Analysis of the results of these tests is pending. Hanks also recommended performing 13 additional Bond Rod Mill Work Index tests and eight additional Bond Ball Mill Work Index tests. These tests are in progress.

18.3 Copper Flotation

Beginning as early as 1974, flotation test programs were conducted on samples from the Rosemont deposit. MSRDI in Tucson, Arizona performed an initial set of single-cycle tests in September 1974. A second set of tests were performed in March of 1975, which were based on the results of the first test series and were intended to better define the required flow sheet. Locked-cycle tests were recommended by MSRDI, but, in recent conversations MSRDI, reports that the locked-cycle tests were not performed.

The initial, single-cycle, bench-scale, rougher flotation tests were performed on a set of six drill core composite samples, which were prepared from intervals of holes DDH 1504 and DDH 1507 by ASARCO. These tests were carried out in the fall of 1974.

Table 18.4
Single-Cycle Bench-Scale Rougher Flotation Test Samples

Sample ID	Number of Samples	Length (ft)	% Total Cu	% AS Cu	% Mo
Composite 1504-3	69	343	0.70	0.07	0.020
Composite 1504-4	15	73	1.10	0.57	0.004
Composite 1504-5	61	305	0.54	0.05	0.008
Composite 1507-6	106	506	0.83	0.04	0.017
Composite 1507-7	33	158	0.39	0.02	0.012
Composite 1507-8	14	65	0.85	0.64	0.006

Standard flotation tests were performed using grind sizes ranging from 40 to 75 percent passing 200 mesh, approximately 80 percent passing 150 microns. A summary of these test results is presented in Table 18.5. The mass pull for the series of tests ranged from approximately three to six percent of the feed and the primary characteristic affecting flotation performance was found to be the degree of oxidation.

Table 18.5
Standard Rougher Flotation Test Results

Sample	Rougher Concentrate (%)	Rougher Recovery (%)
Composite 1504-3	16.5 - 20.0	90.0 - 92.5
Composite 1504-4 (Highly Ox)	21.5 - 24.0	58.6 - 55.6
Composite 1504-5	12.6 - 18.6	82.6 - 88.7
Composite 1507-6	13.5 - 20.4	89.7 - 97.1
Composite 1507-7	15.45 - 16.35	90.9
Composite 1507-8 (Highly Ox)	10.8 - 11.1	18.1 - 19.6

A subsequent set of tests were performed by MSRDI on two additional composite samples. The tests included bench-scale rougher scavenger tests with two stages of cleaning.

Results and recommendations presented by MSRDI from these tests are as follows:

- A high grade, greater than 30%, concentrate can be achieved from a second stage of cleaning; however, losses to the second cleaner tailing are not acceptable. It is recommended that one stage of cleaning be used.
- By combining the first cleaner concentrate with the scavenger concentrate, a concentrate grade of 27% copper and 0.36% molybdenum is achieved with overall recoveries of 90% for copper and 70% for molybdenum.
- Precious metal assays of concentrates yielded gold grades of 0.06 to 0.07 ounces per ton and silver grades of 7.0 ounces per ton. The concentration ratios were reported to be 40 to 50:1.
- Two additional tests were performed in an effort to reduce the scavenger tailing by using sulfidization in the scavenger cells. A reduction in the tailing concentrations was achieved, but resulted in a lower concentrate grade and nearly the same overall recoveries.
- ASARCO indicated that the results achieved, including recoveries, required about 100 mesh liberation size and that the higher than typical collector consumptions were very similar to the performance of the Mission, Pima and Twin Buttes ores.

In early 2006, MSRDI performed additional test work for Augusta (*Final Report, Rosemont Copper Project, Arizona, Preliminary Development of Flotation Flowsheet Using Selected Composite Sample, Primarily Chalcocite-Bornite Mineralization*, MSRDI, June 26, 2006.) This was also reported in the June 2006 WGI report. The work included:

- Rougher flotation scoping tests,
- A Box statistical study to evaluate the influence of grind size, reagents and pH in rougher flotation,
- Kinetics of rougher flotation using the optimum conditions from the Box study,
- Rougher-cleaner flotation tests to compare four different flow sheets, and
- Production of concentrates and tailings for additional testing.

The composite sample used for these tests had the following elemental and approximate mineralogical analyses:

Table 18.6
MSRDI 2006 Flotation Sample Head Grades

Total Cu %	Acid Soluble Cu %	CN Soluble Cu %	Mo %	Fe %	Au Oz/ton	Ag Oz/ton
0.74	0.104	0.55	0.175	2.5	0.002	0.29
<i>Approximate Copper Mineralogy:</i>						
Malachite-Azurite-Chrysocolla		Chalcocite-Bornite		Chalcopyrite		
14.0%		72.5%		13.5%		

Based on these tests, the selected flotation conditions included:

- Primary grinding to P80=105 μ ,
- Rougher flotation pH= 9.7 to 10.8,
- AP-238 and AX-343 collectors,
- Regrind to P80= 74 μ , and
- One stage of cleaner flotation.

These conditions yielded 84.2 % recovery of the total Cu and 68.5% Mo recovery to the first cleaner concentrate with the following concentrate assays:

Table 18.7
MSRDI 2006 Cleaner Concentrate Grades

Total Cu %	Mo %	Fe %	S %	Insol %	Au Oz/ton	Ag Oz/ton
30.2	0.5	8.9	17.3	22.5	0.064	9.23

The percentage recovery of sulfide copper was not reported, but from the amount of acid soluble copper in the head, the sulfide recovery should be over 90%. Trace elements analysis indicated that the concentrates are clean and should be readily marketable.

Sand-slime flotation tests were also performed by MSRDI using the same composite. No advantages were seen for the sand-slime process compared to whole-ore flotation.

18.4 Copper-Molybdenite Separation and Upgrading

In early 2006, MSRDI also performed one test of copper-molybdenum separation followed by four stages of cleaner flotation. Results indicated more work is needed for both the copper-molybdenum separation and the molybdenum cleaner flotation. Examination of the test results indicates that an insufficient amount of copper depressant was probably used. Additional work is in progress.

18.5 Additional Flotation Testing

Additional flotation testing, some recommended by WGI and some by Hanks, was conducted starting in late 2006 and continuing through the date of this Technical Report. The work includes:

- Fifty rougher flotation variability tests conducted on coarse reject samples from throughout the deposit;
- Grind-Grade-Recovery and reagent screening tests on three rock-type composites –
 - Horquilla,
 - Colina, and
 - Earp;
- Copper-Molybdenum separation and molybdenum upgrading tests;
- Tests using water from the proposed Rosemont well field; and
- Large-scale, locked-cycle tests to produce samples for additional analysis –
 - Tailing thickening and filtration tests,
 - Concentrate thickening and filtration tests, and
 - Smelter acceptance samples.

None of this work has been completely analyzed, but there are no indications to date of any metallurgical fatal flaws or unusual operating characteristics that would prevent the tested mineralization from being considered as “Resources” according to the NI 43-101 definition.

18.6 Tests on Oxide Mineralization

The first recorded test work aimed at recovering copper from oxidized copper mineralization was conducted by MSRDI in early 2006. The work is described in *Final Report, Preliminary Column Leach of Oxide Ore Samples from the Rosemont Deposit*, MSRDI, July 18, 2006.

Column tests were conducted at minus 3/4-inch particle size on three composite rock-type samples with the following results after 50 days of leaching:

Table 18.8
MSRDI 2006 Column Test Results

Rock Type	Copper Extraction %	Net Acid Consumption kg acid/kg Cu
Arkose	41.2	20.3
Quartz-Latite-Porphyry	60.5	2.2
Andesite	53.1	10.2

Additional column leach tests are now in progress utilizing other composites of the same ore types with particle sizes up to approximately four inches. In addition to particle size, the effects of irrigation rates and curing are being investigated.

19 MINERAL RESOURCE ESTIMATES

Only mineral resources are estimated for the Rosemont Deposit in this report. Engineering studies and economic evaluations, while in progress at the time of this writing, have not yet progressed sufficiently to quantify an estimate of mineral reserves.

A three-dimensional (3D) block model of the Rosemont Deposit was built and mineral resources were estimated using Mintec's MineSight® mining software package. The subsections that follow describe the parameters and methodology for this work.

19.1 Model Extents

The mine coordinate system is based on UTM NAD 83 standards. The UTM NAD 83 Zone 12 coordinates were converted to metric values and then to Imperial units (i.e., feet). Block dimensions of 50 ft by 50 ft by 50ft were selected as appropriate to adequately model the deposit geology and to also reflect the proposed mining bench height for the project. Table 19.1 summarizes the limits of the 3D block model expressed in mine coordinates. The current model has been expanded to covers a larger area than the previous 2006 model.

Table 19.1
Deposit Model Limits

Direction	Minimum	Maximum	Block Size (ft)	No. of Blocks
X (East)	1,710,000	1,722,000	50	240
Y (North)	11,550,000	11,560,000	50	200
Z (Elevation)	2,500	6,500	50	80

19.2 Surface Topography

The topographic data for the project area was captured from an aerial survey flown by Cooper Aerial Surveys Company of Tucson, Arizona in the summer of 2006. The vertical datum is based on the NAVD 88 standard. Cooper provided electronic files with elevation data on 10-foot contour intervals covering the project area.

The topographic surface elevations were then loaded into 2D surface and 3D block model files in MEDSystem®. A block model variable stores the percentage of each block below topography.

19.3 Drill Hole Database

The Rosemont Deposit drill hole database contains collar locations, down-hole deviation surveys, sample assay results and geological information from several recent drilling programs

by Augusta Resources and from a series of exploration drilling campaigns conducted by a number of companies in the past (see Table 13.1). In all, 219 resource drill holes comprise the drill hole database contained within the model area used for grade modeling. Another 15 geotechnical and metallurgical holes were used for geologic modeling purposes. The drilling programs included a good mix of vertical and inclined holes designed to test both the shallower stratigraphic units and the high angle structures. The majority of the holes were drilled using diamond core, although a small number of holes, less than five percent, were started by open-hole rotary techniques, but the mineralized zones were drilled with core.

Stored in the drill hole database used for grade modeling are 52,054 individual sample values representing approximately 290,000 feet (88,000 meters) of drilling. Each sample interval record contains values for Cu, Mo and Ag. Intervals in the upper parts of the drill holes were also commonly assayed for recoverable oxide Cu.

During the period from 1964 to 1983, Rosemont samples analyzed by the Anaconda and Anamax labs were processed via a first-pass x-ray method to screen out low grade or waste samples. Sample values greater than 0.2% Cu and 0.02% Mo were then re-assayed by wet chemical techniques. Values for both methods are entered in the database; however, the question arose as to the suitability of the lower XRF assay values for grade estimation in the model. A statistical study was conducted to determine the correlation coefficient between XRF and wet chemical values for both Cu and Mo. The study shows excellent agreement with correlation coefficients of 0.944 for Cu and 0.874 for Mo (see Figures 19-1 and 19-2 in Section 26). These results indicate that the lower grade XRF values would be valid for use in grade estimation in the model.

A number of checks were made to appraise the validity of the data entry in the database. A visual inspection was conducted comparing a random sampling of the values shown on the original assay certificates to those listed in the database files to check for data entry errors. Fifty two individual drill holes were inspected in March 2006, representing approximately 14% of the total database up to that time. The sampling included some data from each of the drilling campaigns conducted by Anaconda, Anamax and Augusta. As no assay value errors were found, the data entry error rate for the group sampled was zero. Computer editing techniques were also employed as an additional check to search for out-of-range values, duplicate entries and depth from-to inconsistencies. One collar location elevation bust was found and corrected. No other errors were encountered.

Augusta's recent 2006 drilling campaign added 25 new resource drill holes to the database. A similar program to check assay certificates against entered values in the database was conducted. Seven of the new drill holes, representing approximately 28% of the total, were checked. One transposition error in a Cu value was found and one error involving an assay standard value replacing a Cu value was noted. Also, two from-to footage errors were also found. No other problems were found, and the errors were corrected in the database. The error rate for this sampled group was 0.20%.

A major Ag sampling and assaying program was recently completed. Very little Ag assaying had been done in the past and the intent of this program was to provide sufficient new sample values to allow Ag grade estimation in the model. Approximately 20% of the drill hole database was checked for Ag data entry problems. No errors were found in the final database compilation.

A statistical study was conducted and included frequency distribution histograms for each rock type and lognormal cumulative probability graphs for Cu, Mo and Ag for the deposit as a whole (see Figures 19-3, 19-4 and 19-5 in Section 26). High grade outliers are common in skarn-type deposits and the Rosemont Deposit is no exception. Inspection of the cumulative probability graph for all Cu assays shows an inflection point in the curve at approximately 10% Cu. The high grade outlier portion of the population above the 10% Cu threshold accounts for approximately 0.20% of the total population, but, if left unadjusted, would bias the model grade estimation upward. For that reason, the Cu assays were capped at 10.0% Cu. A similar situation existed with Ag and a cap was applied at 3.0 ounces per ton. The cumulative probability plot of Mo grades exhibits a better behaved population, with no high grade outlier segment; consequently, no Mo grade capping adjustments were made.

19.4 Geologic Model

A detailed geologic representation for the deposit was developed in the computer model from drill hole cross sections and level plan maps. Lithologic types and structural outlines were digitized on 200-ft sections, then modified on 50-ft-interval level plans and loaded into the model blocks. In all, 16 individual lithology types were delineated (see Table 19.2 in Section 19.10). Material not defined from the geologic section and plan maps was assigned a code of 20. The model was checked by plotting out model levels and comparing against the original plan maps. Problem areas from the block tagging algorithm were noted and adjustments/corrections were made.

19.5 Mineralization Controls

In this deposit, all of the rock types are mineralized to some degree. Some lithologies are significantly better hosts due to favorable protolith composition and/or close relationship to feeder structures.

19.6 Compositing of Drill Hole Data and Statistics

The drill hole sample assay intervals were weight averaged to 50-foot composites on even level intervals to approximate a potential mining bench height. Geological rock type unit codes were added to the composites by back-assignment from model blocks. All further statistical analyses and model grade estimation were based on these composite data. Frequency distribution histograms and cumulative probability plots were again generated for the individual rock types

using the Cu, Mo and Ag composite grades. Coefficients of variation for of all rock types were 1.22 for Cu, 0.94 for Mo and 1.15 for Ag. These values are very much in line with what one would expect in this type of deposit.

19.7 Variography

Variograms were calculated to determine the continuity directions and ranges of mineralization. Again, each rock type was reviewed separately, but definitive variograms could not be developed for many of the rock types because not enough composite data points were available. This was especially true for Mo composite variograms. Ultimately, all the individual rock type composites were grouped to provide variograms (see Figures 19-6, 19-7 and 19-8) from which parameters could be selected for the block grade estimation equations. A spherical model was fit to each of the experimental variograms and the following parameters were selected:

	Cu	Mo	Ag
Nugget =	0.00326	0.00009	0.00592
Sill =	0.15194	0.00035	0.01998
Range =	264 ft (80 m)	251 ft (76 m)	254 ft (77 m)

The general orientations of the primary direction variograms for Cu and Ag were at azimuths of approximately 110-130° and a dips of -40° to -45°. This is consistent with the measured dip angles of the sedimentary rock formations. The secondary direction follows the general strike of the beds at azimuths of 10-30° with a northerly plunge of 0° to -20°. No clear preferential directions could be determined for Mo, so an omni-directional variogram was selected.

19.8 Block Grade Interpolations

Ordinary kriging was selected as the interpolation method to estimate model block grades because of the low coefficients of variation exhibited by the Cu, Mo and Ag composite grade populations. The search ellipse alignment and ranges used in the interpolation process were oriented to reflect the mineralized trends and continuity ranges detected in the variogram analysis. The primary direction for Cu is 110° azimuth, -45° dip, with a range of 264 feet (80 m), and the secondary direction is 10° azimuth, 20° plunge, with a range of 227 feet (69 m). Mo used a circular, omni-directional search radius of 251 feet (76 m). The primary direction for Ag is 130° azimuth, -40° dip, with a range of 254 feet (77 m). The secondary direction for Ag interpolation is 30° azimuth, 0° plunge, with a range of 232 feet (71 m). The Z search direction was held to 110 feet (34 m) in all cases.

A maximum of nine and a minimum of two composites, with only three composites allowed from any one drill hole, were used in the calculation of any one block grade. The majority of the rock units were interpolated independently so as to maintain the integrity of the individual

formations. However, because of similar grade populations and lithologies, the Horquilla Limestone and Earp Formations were grouped and interpolated together. The Epitaph Formation and Colina Limestone were also grouped for interpolation purposes.

For purposes of projecting grades for inferred blocks, a second-pass grade interpolation was made with a 350-ft search distance. This was applied only to blocks that did not receive a grade assignment using the above search parameters.

19.9 Resource Classification

Resources were classified into measured, indicated and inferred categories following Canadian NI 43-101 compliant standards. The category assignments are based on composite to block distances and the number of composites used in the kriging calculations. A block was designated as measured if it was within 75 feet (22.9 m), roughly 30 percent of the variogram range, and was estimated by at least three drill holes. A block was considered to be indicated if it was within the variogram range of 260 feet (79.2 m) and was estimated by at least two drill holes, or was within 75 feet and less than three drill holes were used for estimation. A block was designated as inferred if it was greater than 260 feet from any drill hole or did not meet the minimum number of drill holes required for the indicated classification.

19.10 Material Densities

Table 19.2 lists the bulk tonnage factors that were assigned in the block model according to rock type. A default tonnage factor of 12.00 ft³/ton was used where no lithology codes exist.

Table 19.2
Rock Types and Bulk Tonnage Factors

Rock/Formation Description	Rock Code	Tonnage Factor (feet ³ /ton)
Overburden, unconsolidated	1	13.72
Epitaph Formation	2	12.11
Colina Limestone	3	11.69
Earp Formation	4	11.73
Horquilla Limestone	5	11.18
Escabrosa Limestone	6	11.56
Martin Formation	7	11.98
Quartz Monzonite Porphyry	8	12.31
Mesozoic Andesite	9	11.53
Willow Canyon Arkose	10	12.08
Glance Conglomerate/Ls	11	11.68
Scherrer Formation	12	12.00
Abrigo Formation	13	11.35
Concha Limestone	14	12.11
Bolsa Quartzite	15	11.91
Precambrian Granite	16	11.91
Undifferentiated Paleozoic Units	17	11.18
Undefined	20	12.00

19.11 Mineral Resource Estimate

The mineral resource estimation work was performed by or under the direction of Mr. William Rose, P.E., WLRC's Principal Mining Engineer and an independent Qualified Person under the standards set forth by Canadian National Instrument 43-101 (Mr. Rose's qualifications are described in Section 24). The mineral resource estimates were based on the above described deposit model and bulk tonnage factors, and were constrained by a floating cone pit shell based on a copper price of \$3.50/lb, a molybdenum price of \$35.00/lb and a silver price of \$14.00/oz.

Measured and indicated mineral resource estimates for the Rosemont Deposit are summarized in Tables 19.3 and 19.4, respectively. The combined measured and indicated mineral resource estimates are presented in Table 19.5. Inferred mineral resource estimates are shown in Table 19.6. The mineral resource estimates contained herein are effective as of April 26, 2007. Imperial units are used in these estimates, where tons refer to short tons (2000 lbs). Cu refers to copper, Mo refers to molybdenum and Ag refers to silver. For comparison with the previous mineral resource estimate (WLRC, April 21, 2006), copper equivalent (CuEqv) values are based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 19.3
Rosemont Deposit
Measured Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	14,300	0.21	-	-	-	61	-	-	-
0.15	9,000	0.27	-	-	-	48	-	-	-
0.20	5,000	0.35	-	-	-	35	-	-	-
Sulfides:									
0.15	132,400	0.51	0.015	0.14	0.77	1,350	39.7	18.1	2,046
0.20	120,400	0.55	0.016	0.15	0.82	1,312	38.5	17.5	1,986
0.25	108,900	0.58	0.016	0.15	0.86	1,261	34.8	16.6	1,875
0.30	98,300	0.61	0.016	0.16	0.90	1,203	31.5	15.5	1,762

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 19.4
Rosemont Deposit
Indicated Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	60,200	0.20	-	-	-	236	-	-	-
0.15	34,300	0.25	-	-	-	174	-	-	-
0.20	16,500	0.35	-	-	-	116	-	-	-
Sulfides:									
0.15	476,600	0.45	0.014	0.11	0.69	4,289	133.4	52.0	6,564
0.20	422,700	0.49	0.014	0.12	0.73	4,109	118.4	49.0	6,146
0.25	373,100	0.52	0.014	0.12	0.76	3,888	104.5	45.9	5,704
0.30	325,300	0.56	0.015	0.13	0.82	3,630	97.6	42.3	5,323

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 19.5
Rosemont Deposit
Combined **Measured and Indicated** Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	74,500	0.20	-	-	-	297	-	-	-
0.15	43,300	0.26	-	-	-	222	-	-	-
0.20	21,500	0.35	-	-	-	151	-	-	-
Sulfides:									
0.15	609,000	0.46	0.014	0.12	0.71	5,640	173.2	70.1	8,610
0.20	543,100	0.50	0.014	0.12	0.75	5,421	156.9	66.5	8,132
0.25	482,000	0.53	0.014	0.13	0.79	5,149	139.3	62.4	7,580
0.30	423,600	0.57	0.015	0.14	0.84	4,834	129.0	57.8	7,085

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Table 19.6
Rosemont Deposit
Inferred Mineral Resources

Material / Cutoff (% Cu)	Ktons	% Cu	% Mo	Ag Oz/ton	% CuEqv*	lbs Cu (millions)	lbs Mo (millions)	oz Ag (millions)	lbs CuEqv* (millions)
Oxides:									
0.10	30,000	0.20	-	-	-	121	-	-	-
0.15	15,700	0.28	-	-	-	87	-	-	-
0.20	9,000	0.36	-	-	-	64	-	-	-
Sulfides:									
0.15	205,100	0.37	0.007	0.05	0.49	1,526	28.7	10.3	2,009
0.20	163,000	0.43	0.007	0.06	0.55	1,386	22.8	9.3	1,777
0.25	137,900	0.46	0.008	0.06	0.60	1,274	22.1	8.7	1,651
0.30	109,800	0.51	0.008	0.07	0.65	1,124	17.6	7.7	1,430

* Equivalency based on prices of \$1.25/lb Cu, \$18.00/lb Mo and \$8.50/oz Ag, with no applied recovery factors.

Oxide and sulfide mineral resources have been segregated in the above estimates as the average grades between these material types are markedly different. Moreover, if the project is developed, oxides and sulfides will likely be treated by different processing methods, with different costs, recoveries and cutoff grades. *Mineral resources that are not mineral reserves do not have demonstrated economic viability.* No estimate of mineral reserves is presented in this report.

It should be noted that there is environmental and political opposition to the development of the Rosemont open pit copper mining project. On January 16, 2007, the Pima County Board of Supervisors voted to oppose the project. However, the right to mine and extract the mineral resources will be subject to obtaining permits and approvals from federal and state agencies. There are well documented procedures in place related to obtaining these environmental and permitting approvals, which are subject to background data gathering, technical application preparation, agency review, public review and specified administrative procedures.

Rosemont Deposit mineral resources are on mostly patented and some unpatented lands owned by Augusta Resource Corporation. Notwithstanding the existence of a 3% NSR mineral royalty and the existence of environmental and political groups opposing the development of the project as noted above, the estimates of mineral resources are not affected by any other known legal, title, taxation, socio-economic, marketing, political or other relevant issues.

The estimates of mineral resources will not be materially affected by mining, metallurgical, infrastructure or other relevant technical factors. The metallurgical characteristics of the Rosemont mineral resource are substantially similar to other deposits successfully mined and processed in the area. The greater Tucson area has seen the development of numerous large-scale open pit copper mines, and has an experienced labor force and well developed infrastructure to support a new mining project.

19.12 Additional Mineral Resource Potential

Potential exists in the Rosemont Deposit to improve the classification of currently inferred sulfide and oxide mineralization. Mineralization trends also continue down dip to the east in the Paleozoic formations and to the north, which can be tested with further drilling.

In addition, previous work by Anaconda, Anamax, and ASARCO found significant areas of mineralization to the north and northeast of the Rosemont Deposit on the Rosemont Property. These deposit areas at Broadtop Butte, Copper World and Peach-Elgin are characterized by similar styles of mineralization and occur along related structural zones to that of the Rosemont Deposit. Historic drilling intercepted significant copper grades in often widely spaced holes, constituting encouraging targets for further exploration.

20 OTHER RELEVANT DATA AND INFORMATION

WLRC is not aware of other relevant data or information regarding the Rosemont Project.

21 INTERPRETATION AND CONCLUSIONS

Augusta's recent drilling campaign at the Rosemont Deposit has increased both the quantity and confidence level of the estimated mineral resources as compared to previous estimates by WLRC (2006) and those presented by Pincock, Allen & Holt, Inc. (1977). Estimated measured and indicated sulfide mineral resources have increased by 101 million tons, to a total of 543 million tons grading 0.50% Cu, 0.014% Mo and 0.12 opt Ag, at a 0.20% Cu cutoff. An additional 163 million tons of inferred sulfide mineral resources are estimated at a grade of 0.43% Cu, 0.007% Mo and 0.06 opt Ag, using the same cutoff. Augusta's drilling program was successful in converting significant tonnages of inferred material into measured and indicated classifications. Additional potential for such conversion still exists as evidenced by the 163 million tons of estimated inferred resources.

In addition, geologic and metallurgical studies conducted by Augusta have shown the potential for considering the oxide copper mineralization that overlies the sulfide deposit. Measured and indicated oxide mineral resources are estimated at nearly 75 million tons grading 0.20% Cu, using a 0.10% Cu cutoff. An additional 30 million tons of inferred oxide mineral resources are estimated at a grade of 0.20% Cu, using the same cutoff.

The classification of currently inferred sulfide and oxide mineral resources can potentially be improved with further drilling. Additional mineral resources may be found in extensions to the north and east of the Rosemont Deposit. Mineralization also is known to occur in the Broadtop Butte, Copper World and Peach-Elgin deposits on the Rosemont Property, which could potentially add to the total mineral resource base of the Rosemont area.

22 RECOMMENDATIONS

Based on the results of this Technical Report, the recommendation from the team of qualified persons and other experts is to proceed to calculation of mineral reserves and the completion of a feasibility study of the Rosemont project. The feasibility study will incorporate this resource work as the basis for the estimation of extractable mineral reserves and to determine the economic viability of the project. In fact, much of the feasibility evaluations, including mine planning, metallurgical analyses and economic compilations, are now underway with an expected completion in mid 2007.

No additional recommendations or cost estimates are offered at this time pending completion of the project feasibility study.

23 REFERENCES

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11. WLR Consulting, Inc., February 15, 2006, Mineral Resource Estimate, Technical Report for the Rosemont Deposit, Pima County, Arizona, USA.
12. WLR Consulting, Inc., April 21, 2006, Mineral Resource Estimate, Revised Technical Report for the Rosemont Deposit, Pima County, Arizona, USA.

24 DATE AND SIGNATURES

The effective date of this report is April 26, 2007.

The principal author and Qualified Person for this Technical Report is Mr. William L. Rose, P.E. His certificate and those of the other Qualified Persons contributing to this report are presented on the following pages.

CERTIFICATE of QUALIFIED PERSON

I, William L. Rose, P.E., do hereby certify that:

1. I am currently employed as Principal Mining Engineer by:

WLR Consulting, Inc.
9386 West Iowa Avenue
Lakewood, Colorado 80232-6441
U.S.A.

2. I graduated with a Bachelor of Science degree in Mining Engineering from the Colorado School of Mines in 1977.

3. I am a:

- Registered Professional Engineer in the State of Colorado (No. 19296)
- Registered Professional Engineer in the State of Arizona (No. 15055)
- Registered Member of the Society for Mining, Metallurgy and Exploration, Inc. (no. 2762350RM)

4. I have worked as a mining engineer for 29 years since my graduation from college.

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

6. I am responsible for the overall preparation of the technical report titled *2007 Mineral Resource Update for the Rosemont Project, Pima County, Arizona, USA* and dated April 26, 2007 (the “Technical Report”), prepared for Augusta Resource Corporation and, in particular, I prepared Subsection 19.10 (Material Densities), Subsection 19.11 (Mineral Resource Estimate), Subsection 19.12 (Additional Mineral Resource Potential), Section 21 (Interpretation and Conclusions), Section 22 (Recommendations) and portions of Section 3 (Summary) of the Technical Report.

7. I have had prior involvement with the property that is the subject of the Technical Report. I have completed prior mineral resource estimates and technical reports during February-April 2006 and participated in the Preliminary Assessment evaluation that was completed in June 2006. I have visited the subject property on August 9, 2005.

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

9. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th day of April 2007.

(signed by) "*William L. Rose*" (sealed)

Signature of Qualified Person

William L. Rose

Print Name of Qualified Person

CERTIFICATE of QUALIFIED PERSON

I, Michael Clarke, do hereby certify that:

1. I am currently employed as Vice President, Exploration by:

Augusta Resource Corporation
4500 Cherry Creek South Drive
Denver, Colorado 80246
U.S.A.

2. I graduated with a Bachelor of Science degree in Earth Sciences from the University of Arizona in 1975 and I graduated with a PhD from the University of Arizona in 1986.
3. I am a Registered Professional Geologist in the State of Arizona (No. 22739).
4. I have worked as a Geologist for over 30 years since my graduation from college.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, professional registration (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for report oversight and report QA/QC on behalf of Augusta for the technical report titled *2007 Mineral Resource Update for the Rosemont Project, Pima County, Arizona, USA* and dated April 26, 2007 (the “Technical Report”) relating to the Rosemont property.
7. I have had prior involvement with the property that is the subject of the Technical Report in my role as Vice President Exploration for Augusta, which owns the Rosemont Project. I have visited the subject property repeatedly since April 27, 2005.
8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
9. As an officer of Augusta Resource Corporation, I am **not** independent of the issuer according to the guidelines set out in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th day of April 2007.

(signed by) "*Michael Clarke*" (sealed)

Signature of Qualified Person

Michael Clarke

Print Name of Qualified Person

CERTIFICATE of QUALIFIED PERSON

I, Mark G. Stevens, Certified Professional Geologist, do hereby certify that:

1. I am currently employed as Chief Project Geologist by:

Augusta Resource Corporation
4500 Cherry Creek South Drive
Denver, Colorado 80246
U.S.A.

2. I graduated with a Master of Science degree in Geology from University of Utah in 1981 and with a Bachelors degree in Geology from Colorado State University in 1977.
3. I am a:
 - Certified Professional Geologist by American Institute of Professional Geologist, CPG-08388
 - Professional Geologist by the Wyoming Board of Professional Geologists, PG-651
 - Licensed Geologist by the Washington State Department of Licensing, LG-477.
 - Member of the Society for Mining, Metallurgy and Exploration, Inc.; Society of Economic Geologists and Arizona Geological Society
4. I have worked as a geologist for 26 years since my graduation from college.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for the preparation of general information, geology, and exploration sections (Sections 4-17) of the technical report titled *2007 Mineral Resource Update for the Rosemont Project, Pima County, Arizona, USA* and dated April 26, 2007 (the “Technical Report”) relating to the Rosemont property.
7. I have had prior involvement with the property that is the subject of the Technical Report in my role as Chief Project Geologist for Augusta, which owns the Rosemont Project. I have visited the subject property repeatedly since August, 2006.
8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. As an employee of Augusta, I am **not** independent of the issuer according to the guidelines set out in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th day of April 2007.

(signed by) "*Mark G. Stevens*" (sealed)

Signature of Qualified Person

Mark G. Stevens

Print Name of Qualified Person

CERTIFICATE of QUALIFIED PERSON

I, Jerry T. Hanks, P.E. do hereby certify that:

1. I am a self-employed consulting engineer in the areas of metallurgy and mineral processing. My office is located at:

7307 W. Mesquite River Dr.
Tucson, AZ 85743
U.S.A.

2. I graduated with the degree of Metallurgical Engineer from the Colorado School of Mines in 1963.
3. I am a:
 - Registered professional engineer in Arizona (No. 21106)
 - Registered professional engineer in Colorado (No. 10042)
 - Member of the Society for Mining, Metallurgy and Exploration, Inc.
4. I have worked as a metallurgist / mineral processing engineer for 44 years since my graduation from the Colorado School of Mines.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for the preparation of Section 18 (Mineral Processing and Metallurgical Testing) in the technical report titled *2007 Mineral Resource Update for the Rosemont Project, Pima County, Arizona, USA* and dated April 26, 2007 (the “Technical Report”) relating to the Rosemont property.
7. I have had prior involvement with the property that is the subject of the Technical Report in my role as metallurgical consultant to M3 Engineering and Technology Corporation for a feasibility study they are currently performing for the project. I visited the subject property in August 2006.
8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
9. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.

11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th day of April 2007.

(signed by) "*Jerry T. Hanks*" (sealed)

Signature of Qualified Person

Jerry T. Hanks

Print Name of Qualified Person

CERTIFICATE of QUALIFIED PERSON

I, Shea Clark Smith, P.G., do hereby certify that:

1. I am currently employed as Principal Geochemist by:

Minerals Exploration & Environmental Geochemistry
2235 Lakeshore Drive
Washoe Valley, Nevada 89704-9215
U.S.A.

2. I graduated with a Bachelor of Arts degree in Chemistry from Colby College, Waterville, Maine in 1970, and a Master of Science degree in Geochemistry from the Colorado School of Mines, Golden, Colorado in 1977.
3. I am a:
 - Registered Professional Geologist in the State of Wyoming (No. 3138)
 - Fellow of the Association of Applied Geochemists
 - Member of the Society of Economic Geologists.
 - Member of the American Chemical Society
4. I have worked as a mineral exploration geochemist for 31 years since my graduation from college.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for the preparation of Subsection 15.5 (Sample Preparation, Analyses and Security) of the technical report titled *2007 Mineral Resource Update for the Rosemont Project, Pima County, Arizona, USA* and dated April 26, 2007 (the “Technical Report”) relating to the Rosemont property.
7. I have had prior involvement with the property that is the subject of the Technical Report. I have contributed to the sample preparation and analysis sections for prior mineral resource estimates and technical reports completed during February-April 2006. I have not visited the subject property.
8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th day of April 2007.

(signed by) "*Shea Clark Smith*" (sealed)

Signature of Qualified Person

Shea Clark Smith
Print Name of Qualified Person

CERTIFICATE of QUALIFIED PERSON

I, James A. Sturgess, do hereby certify that:

1. I am currently employed as Vice President, Projects and Environment by:

Augusta Resource Corporation
4500 Cherry Creek South Drive
Denver, Colorado 80246
U.S.A.

2. I graduated with a Bachelor of Science degree in Renewable Natural Resources from the University of California at Davis in 1973 and I graduated with a Master of Science in Ecology from the University of California at Davis in 1976.
3. I am registered as a Certified Environmental Manager in the State of Nevada (No. 1601).
4. I have worked in Environmental Management for over 30 years since my graduation from college.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, professional registration (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for the preparation of portions of Section 6 (Property Description and Location) and portions of Section 7 (Accessibility, Climate, Local Resources, Infrastructure and Physiography) of the technical report titled *2007 Mineral Resource Update for the Rosemont Project, Pima County, Arizona, USA* and dated April 26, 2007 (the “Technical Report”) relating to the Rosemont property.
7. I have had prior involvement with the property that is the subject of the Technical Report in my role as Senior Associate for Stantec Consulting Inc, which assisted in property due diligence for the party that sold the Rosemont Properties to Augusta, as well as in my role as Vice President Projects and Environment for Augusta, which owns the Rosemont Project. I have visited the subject property repeatedly since 2004.
8. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
9. As an officer of Augusta Resource Corporation, I am **not** independent of the issuer according to the guidelines set out in Section 1.4 of National Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26th day of April 2007.

(signed by) "*James A. Sturgess*"

Signature of Qualified Person

James A. Sturgess

Print Name of Qualified Person

25 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

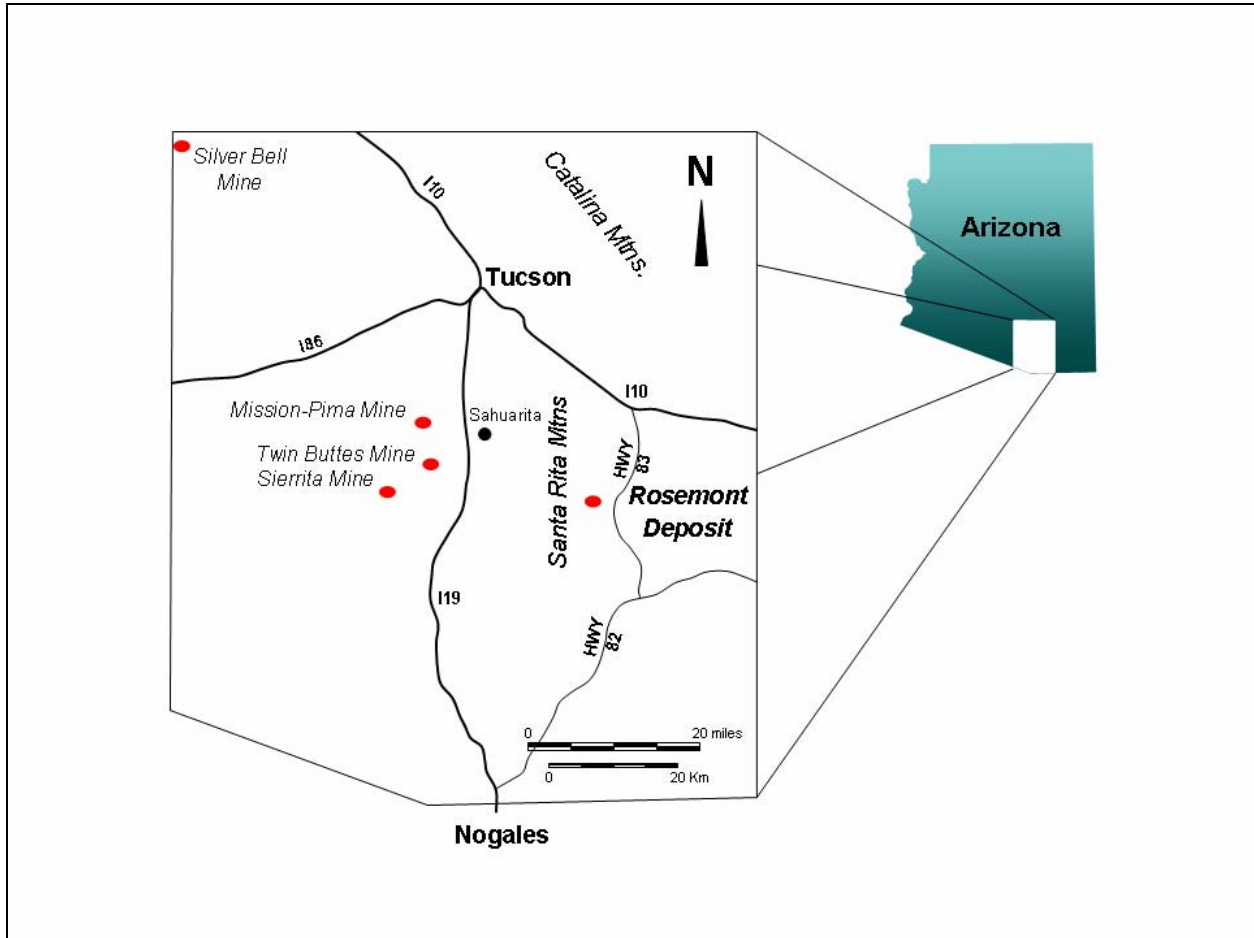
This section is not applicable.

26 ILLUSTRATIONS

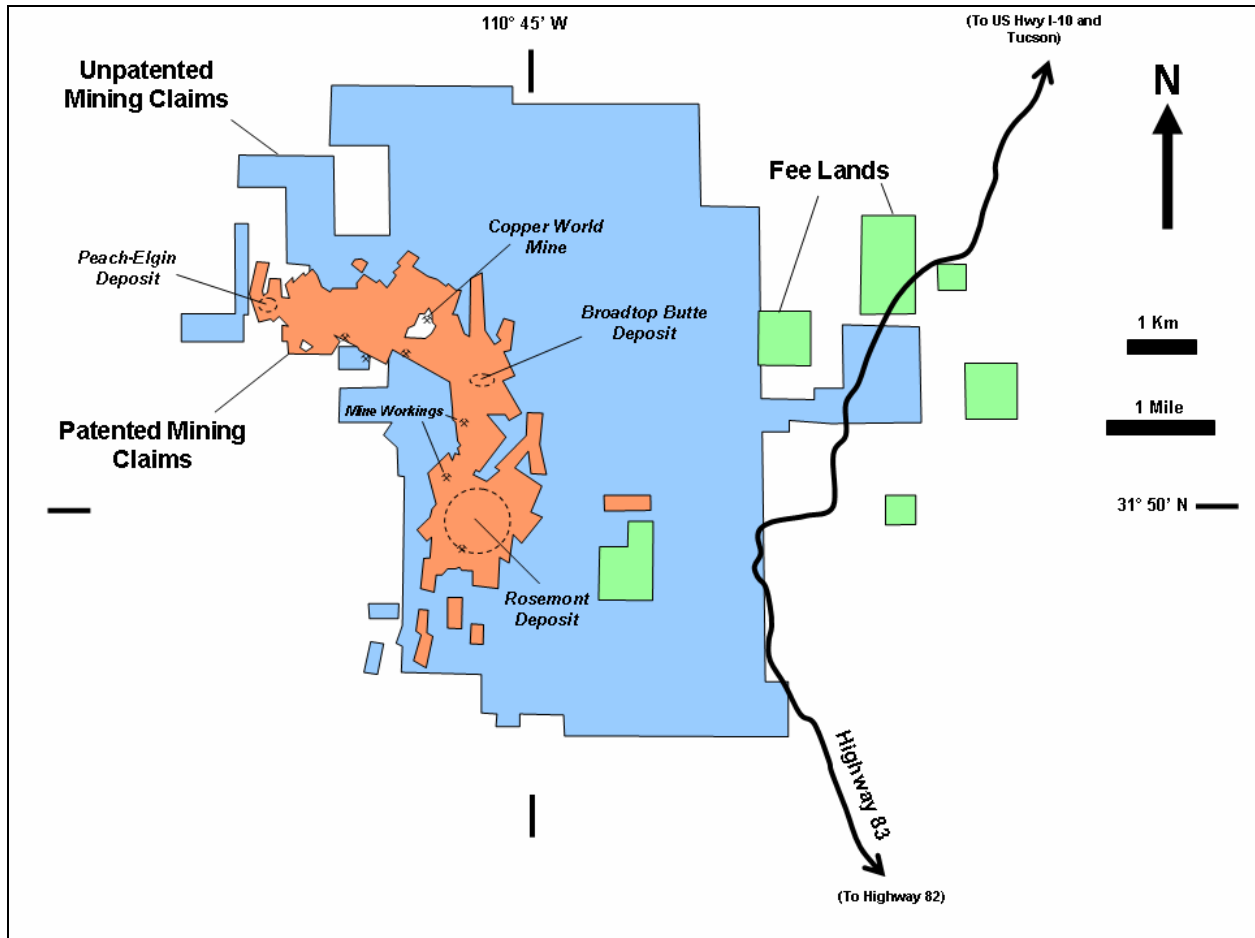
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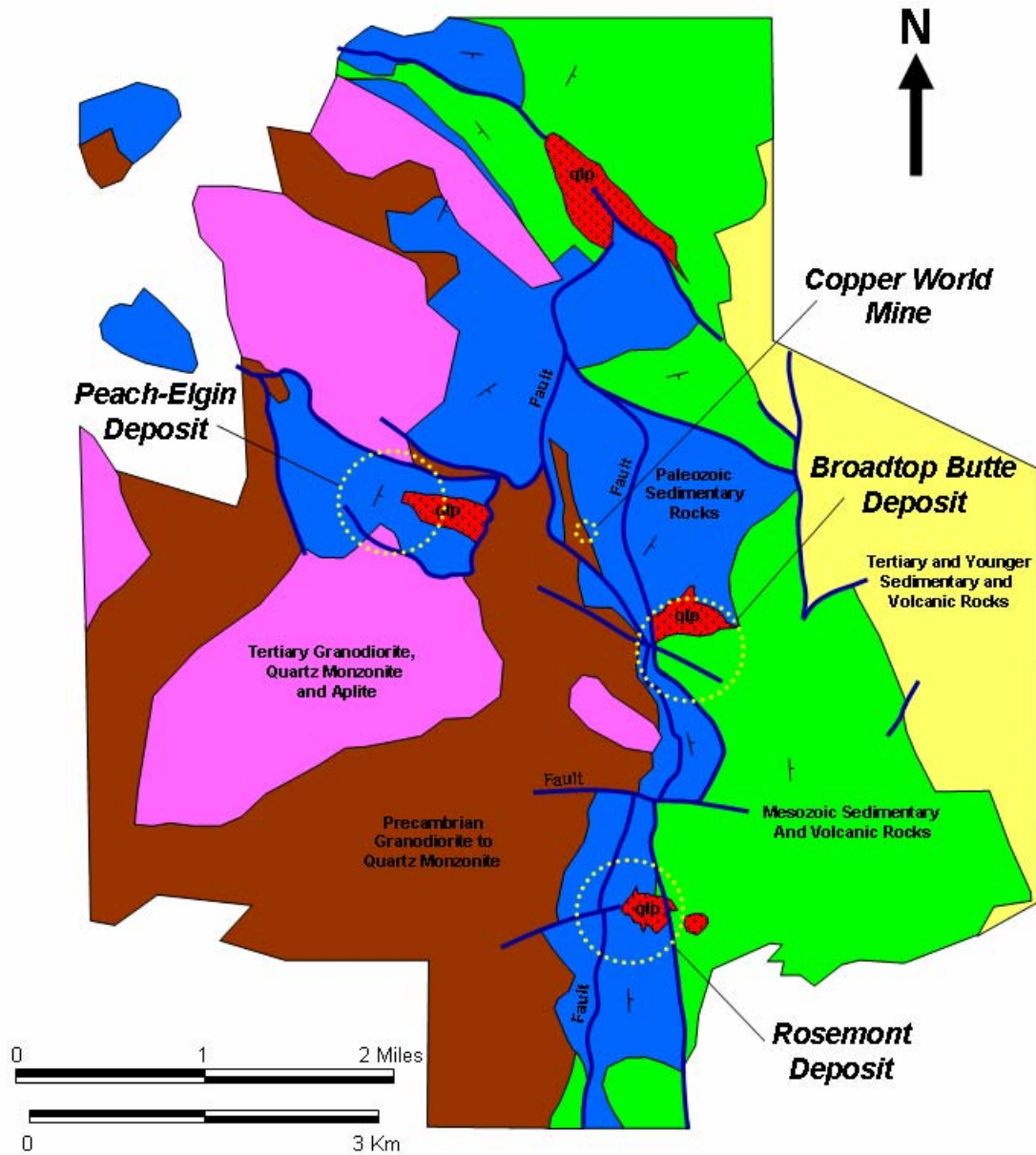
**Figure 6-1
Rosemont Deposit Location Map**



**Figure 6-2
Rosemont Property Land Tenure**

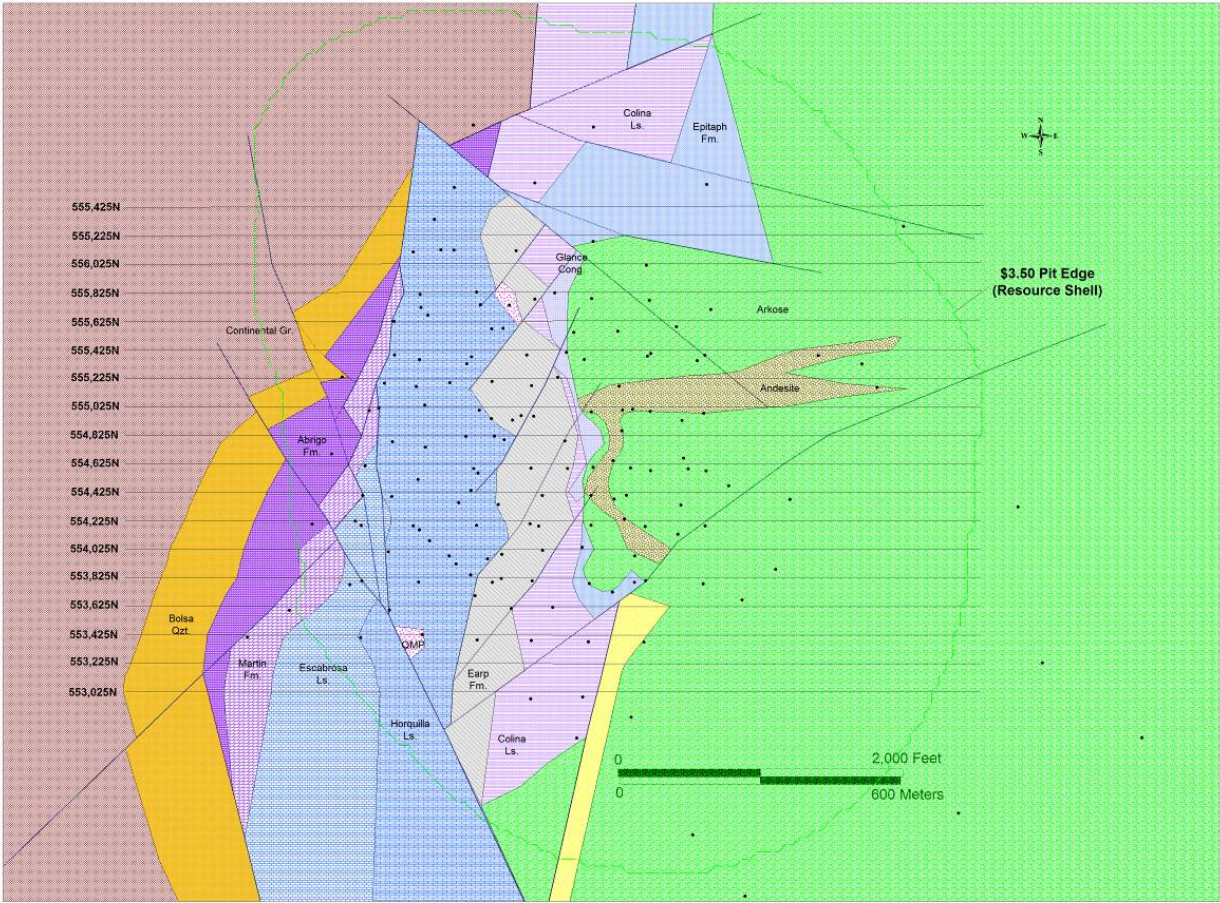


**Figure 9-1
Rosemont Property Generalized Geologic Map**



Generalized from Hardy, J.J., Jr., 1997.⁵

Figure 11-1
Rosemont Deposit Geologic Plan Map
4500 Ft Elevation



**Figure 11-2
Rosemont Deposit Geologic Plan Map
3500 Ft Elevation**

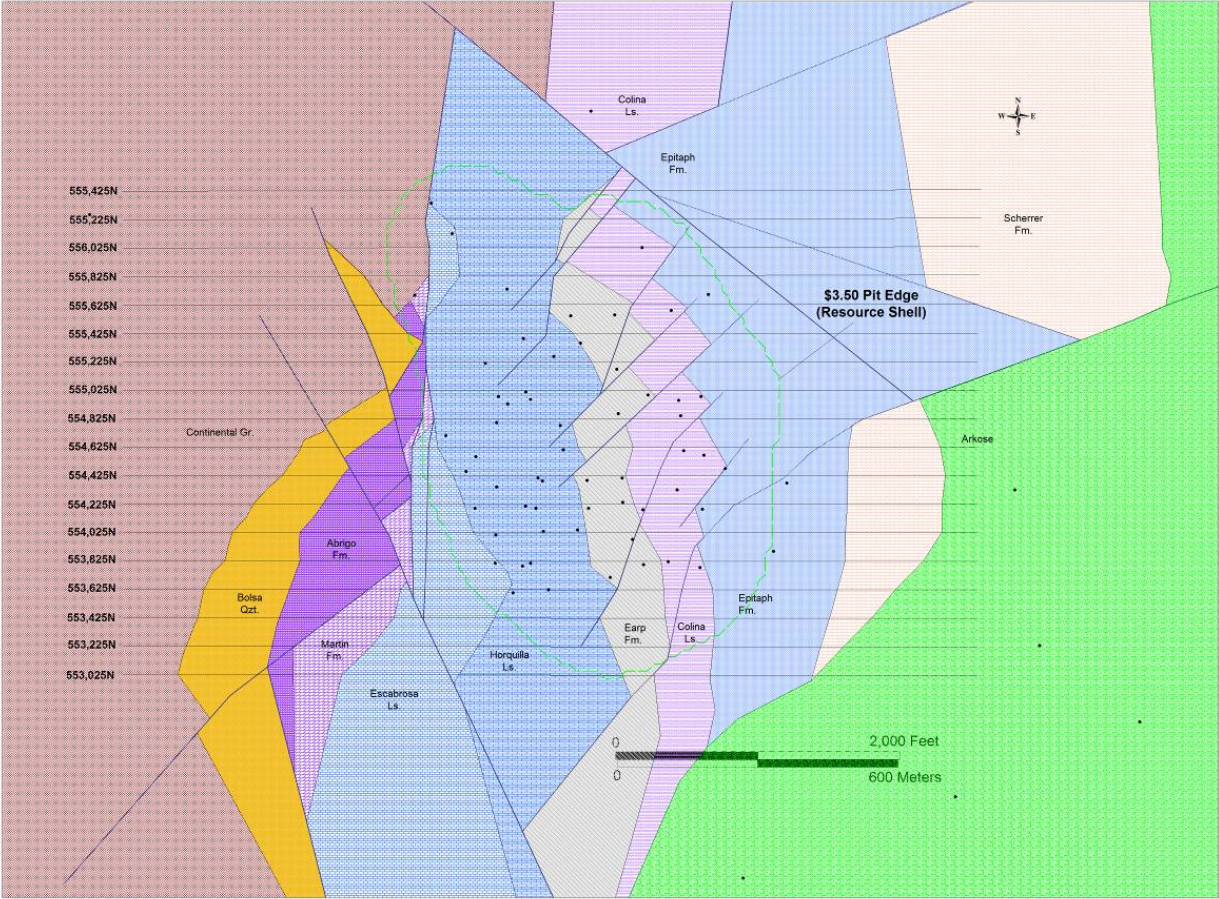
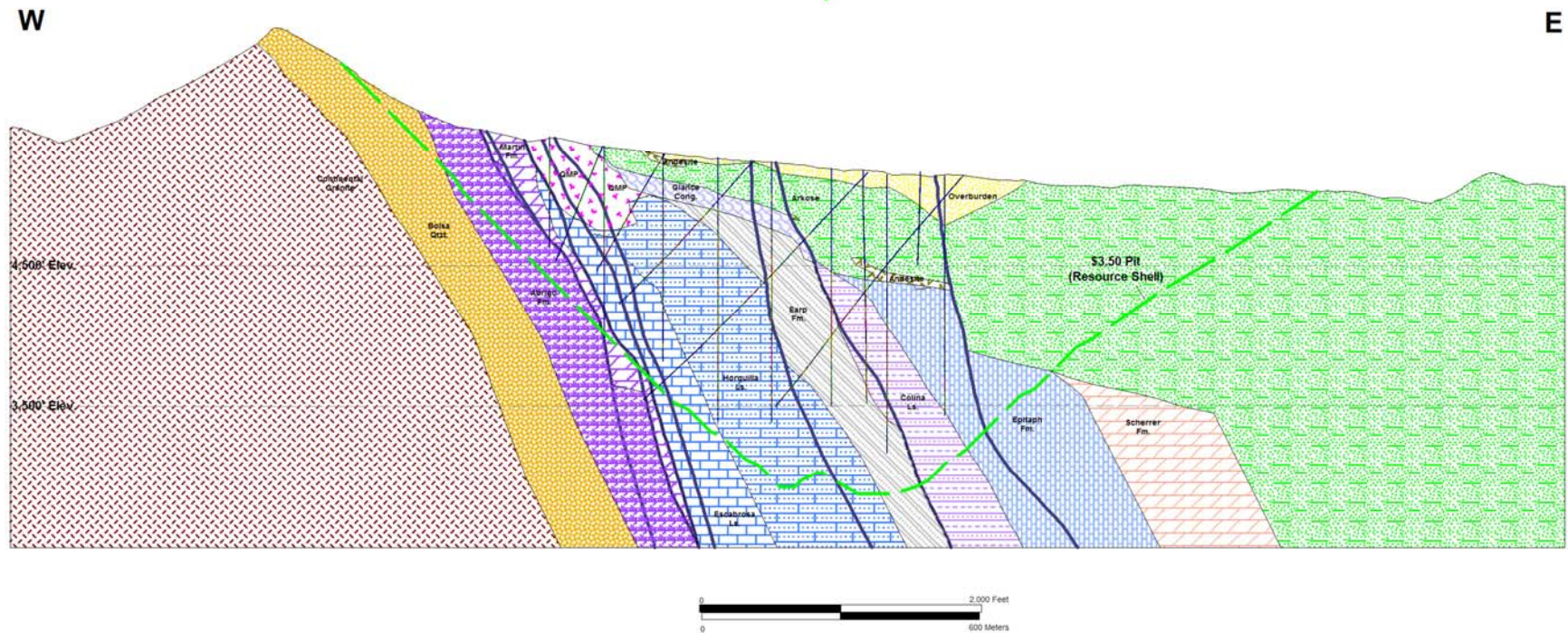
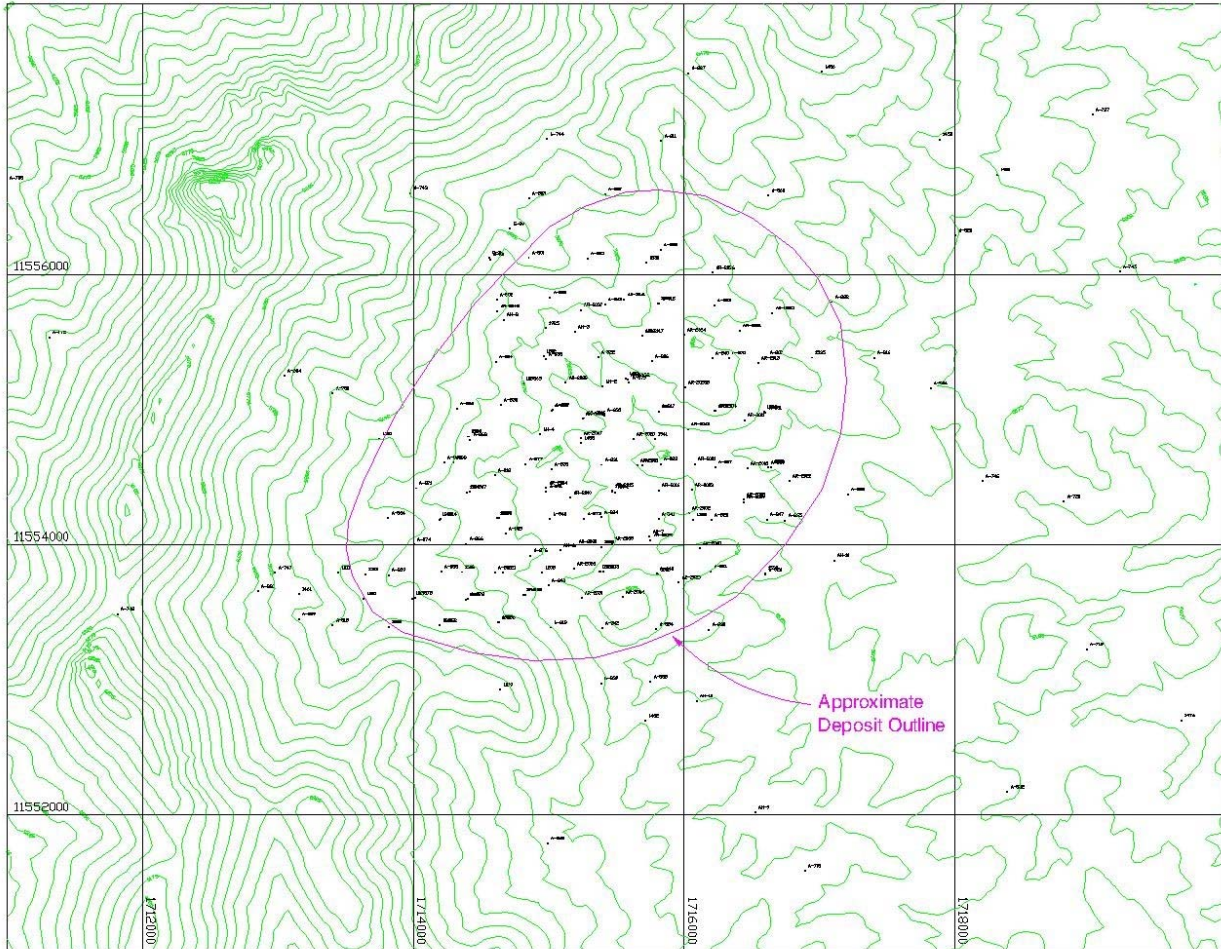


Figure 11-3
Rosemont Deposit Geologic Cross Section
At 11,554,225 N (looking north)



**Figure 13-1
Rosemont Drill Hole Collar Locations**



**Figure 19-1
XRF-Wet Assay Correlation Plot for Cu**

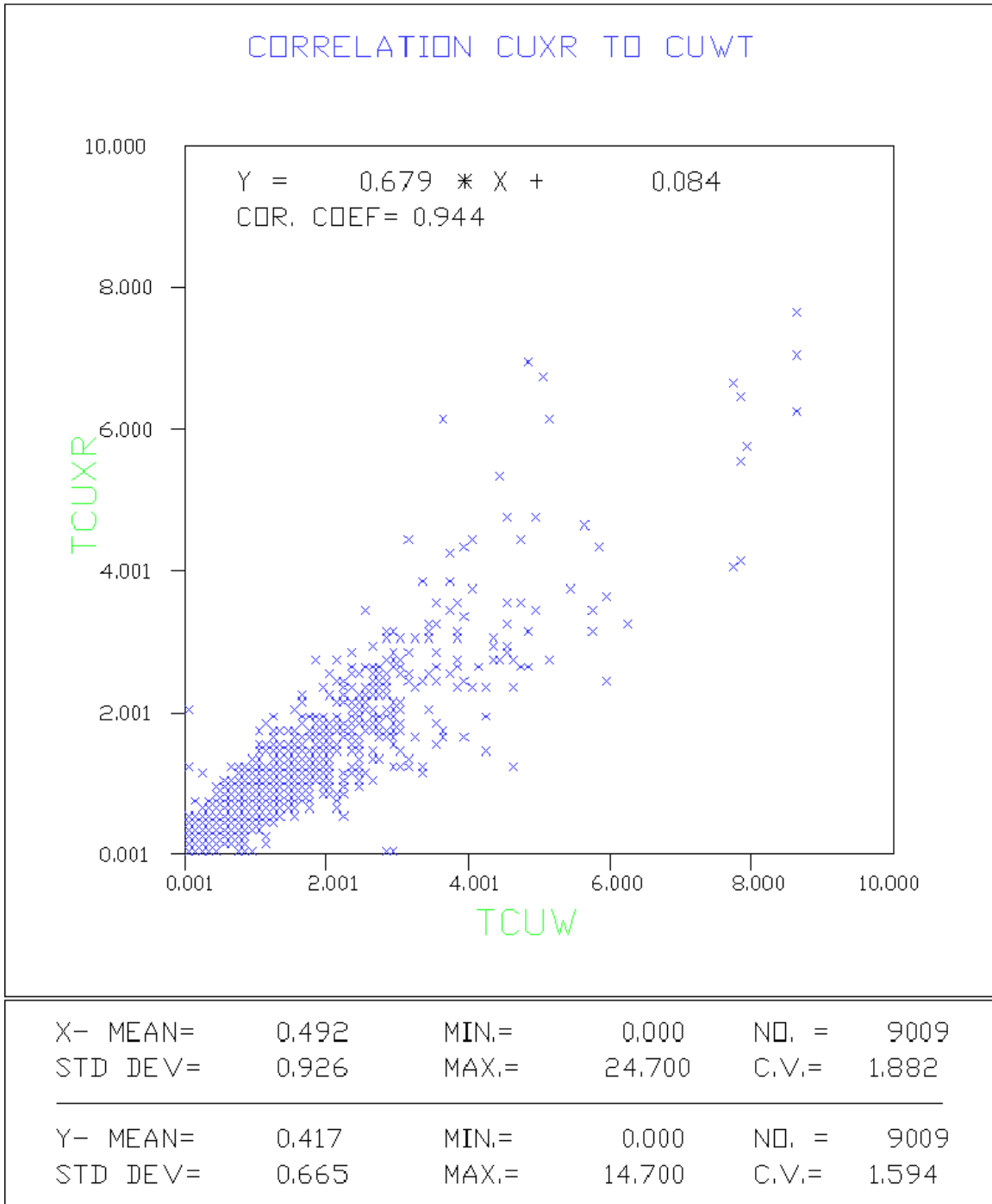
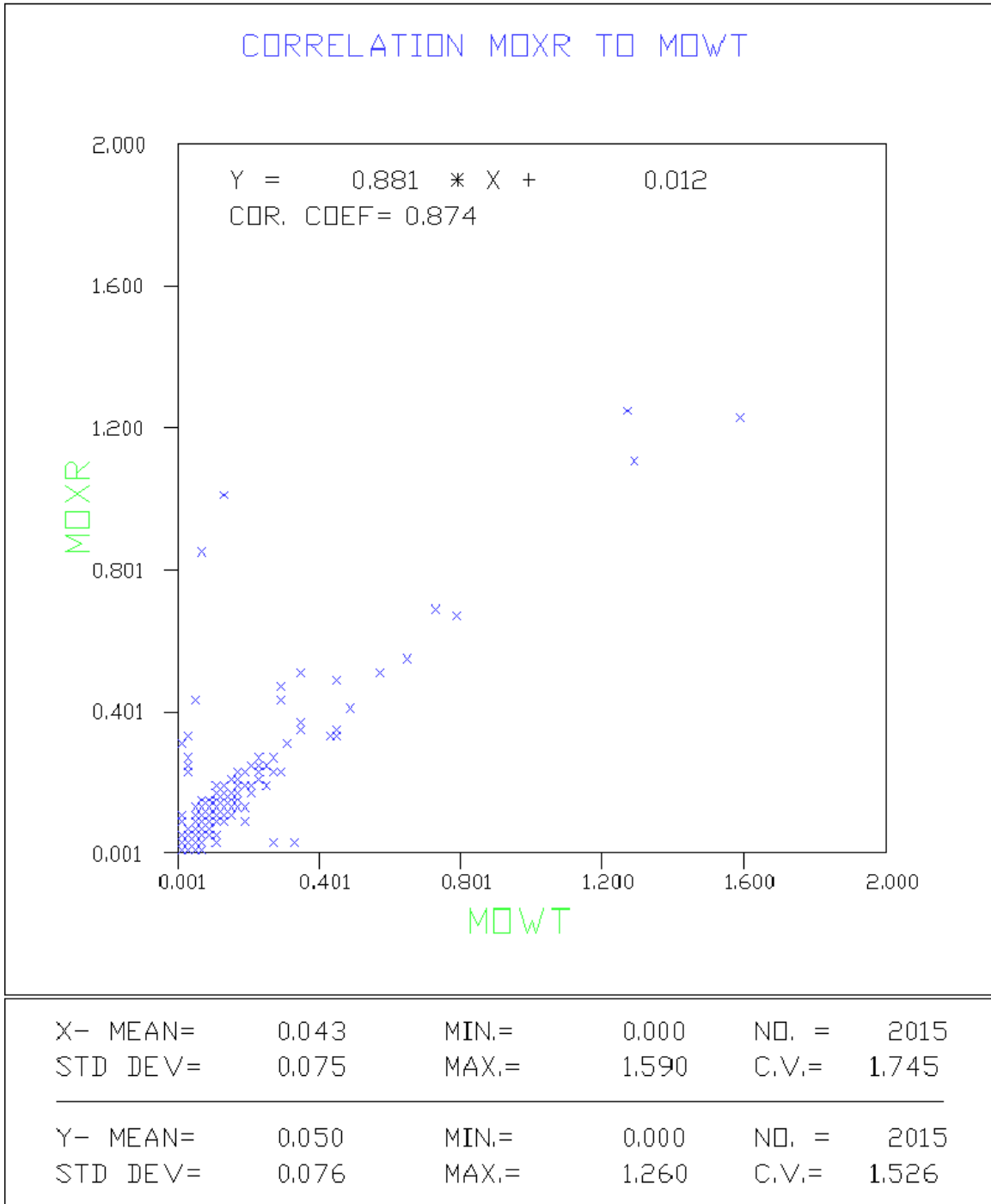
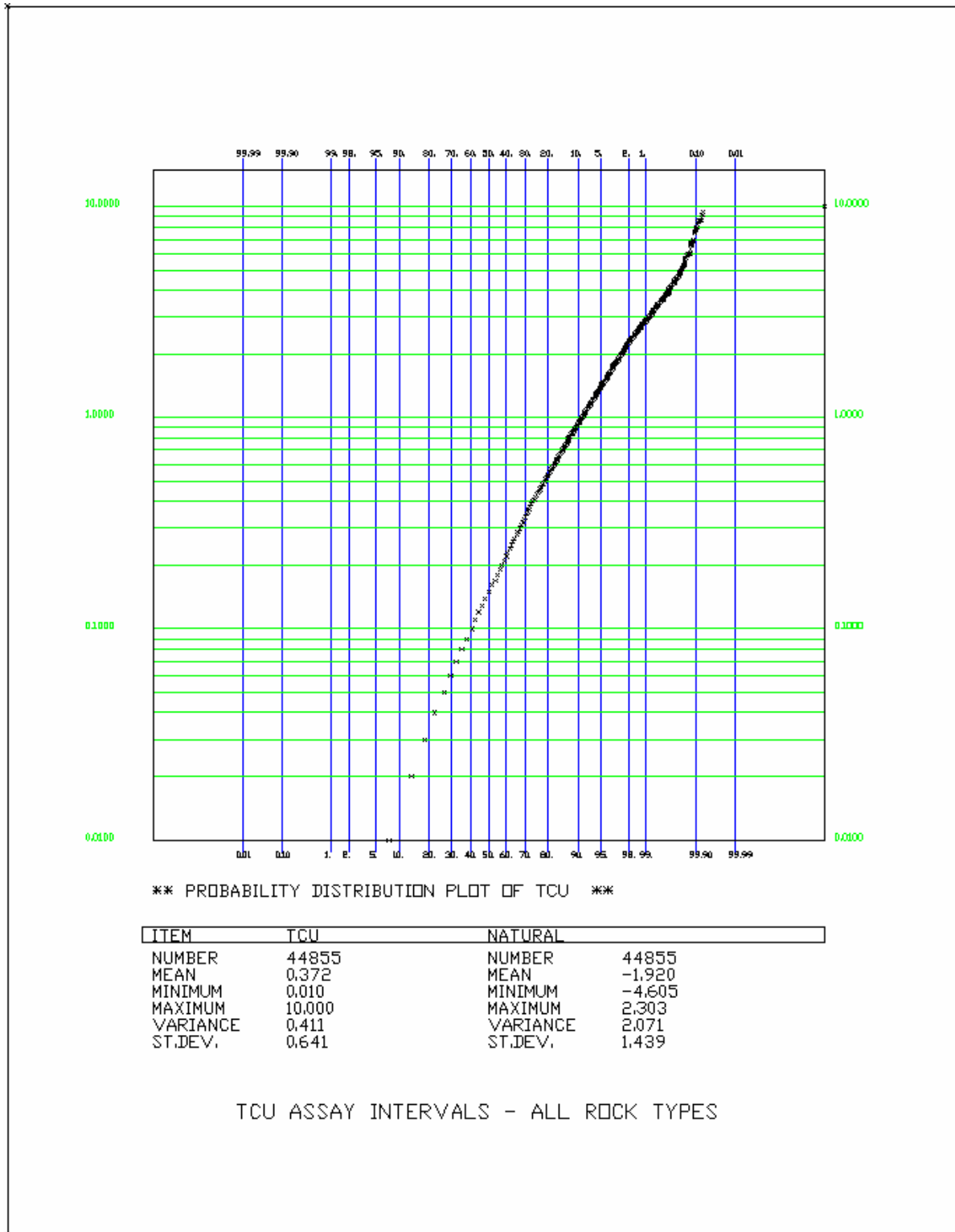


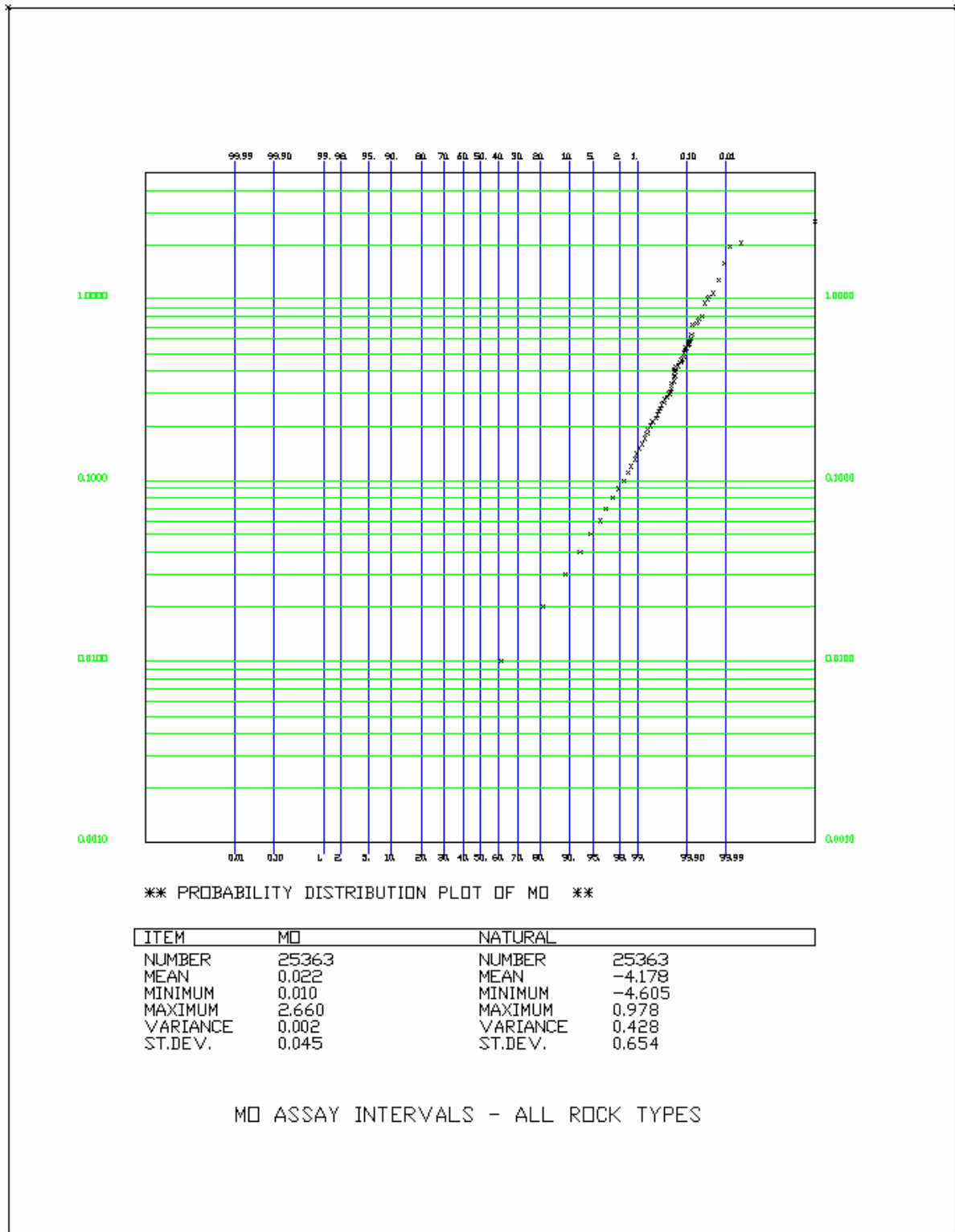
Figure 19-2
XRF-Wet Assay Correlation Plot for Mo



**Figure 19-3
Lognormal Cumulative Probability Plot for Cu**



**Figure 19-4
Lognormal Cumulative Probability Plot for Mo**



**Figure 19-5
Lognormal Cumulative Probability Plot for Ag**

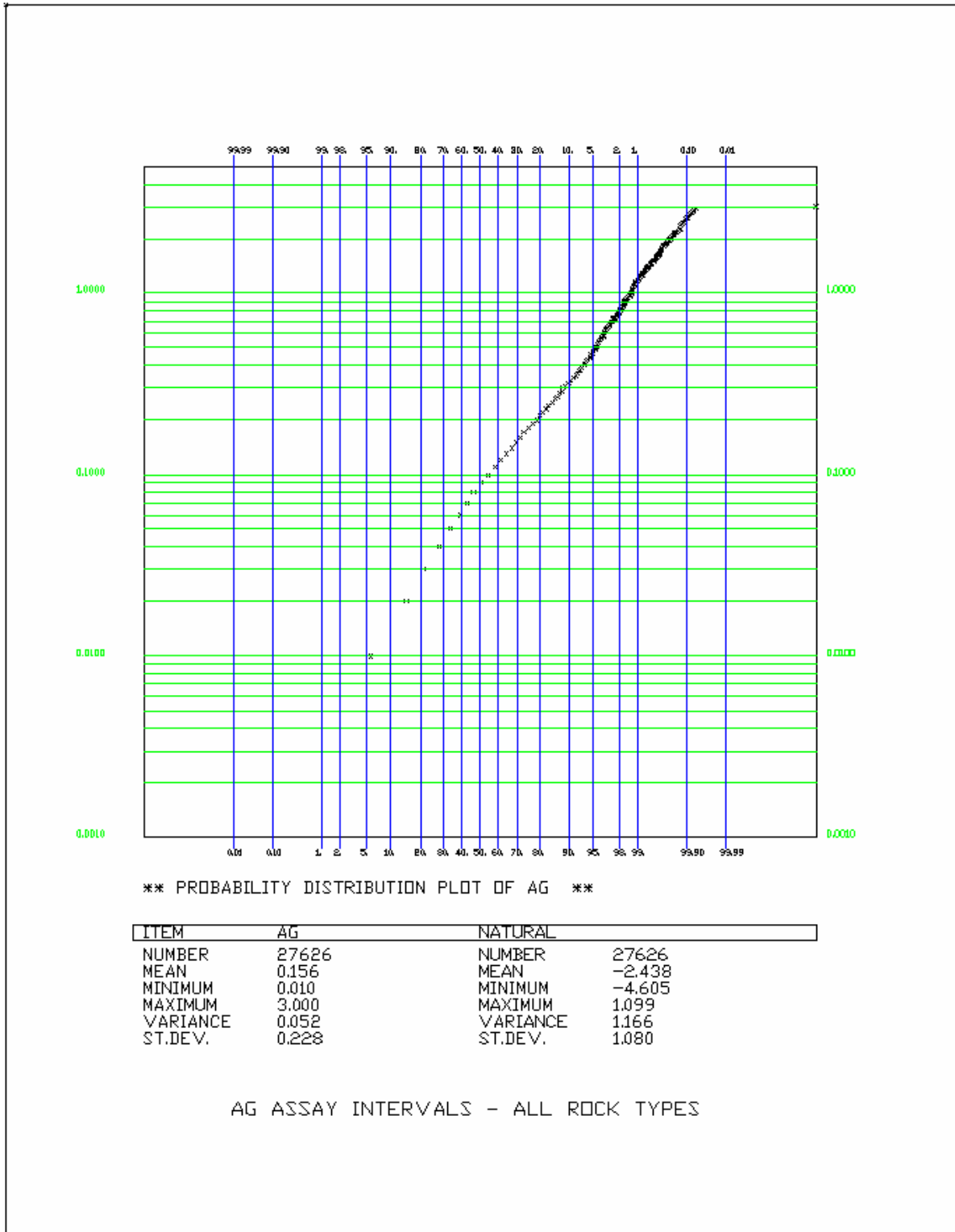
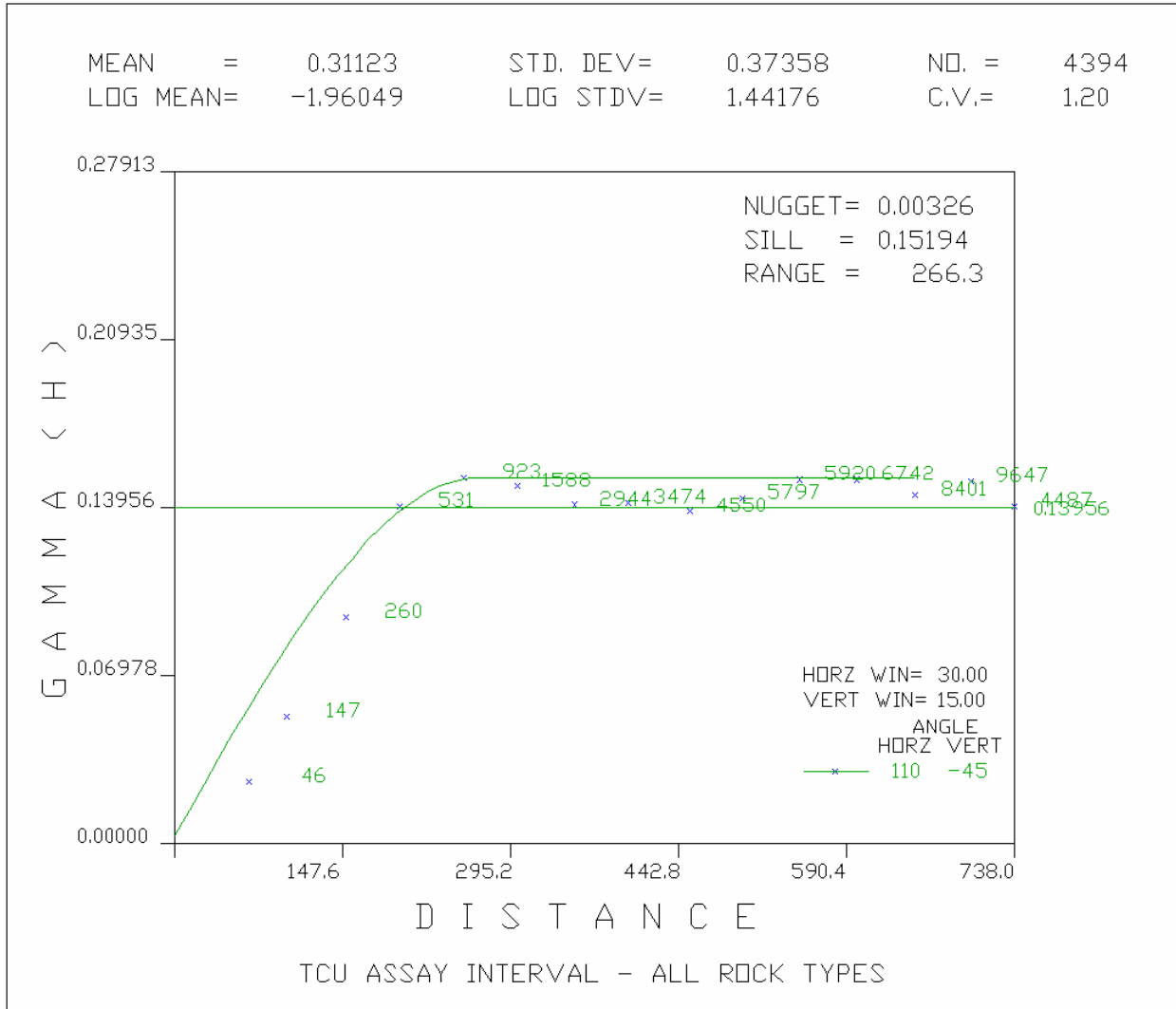


Figure 19-6
Variogram of 50-Ft Composited Cu Values



**Figure 19-7
Variogram of 50-Ft Composited Mo Values**

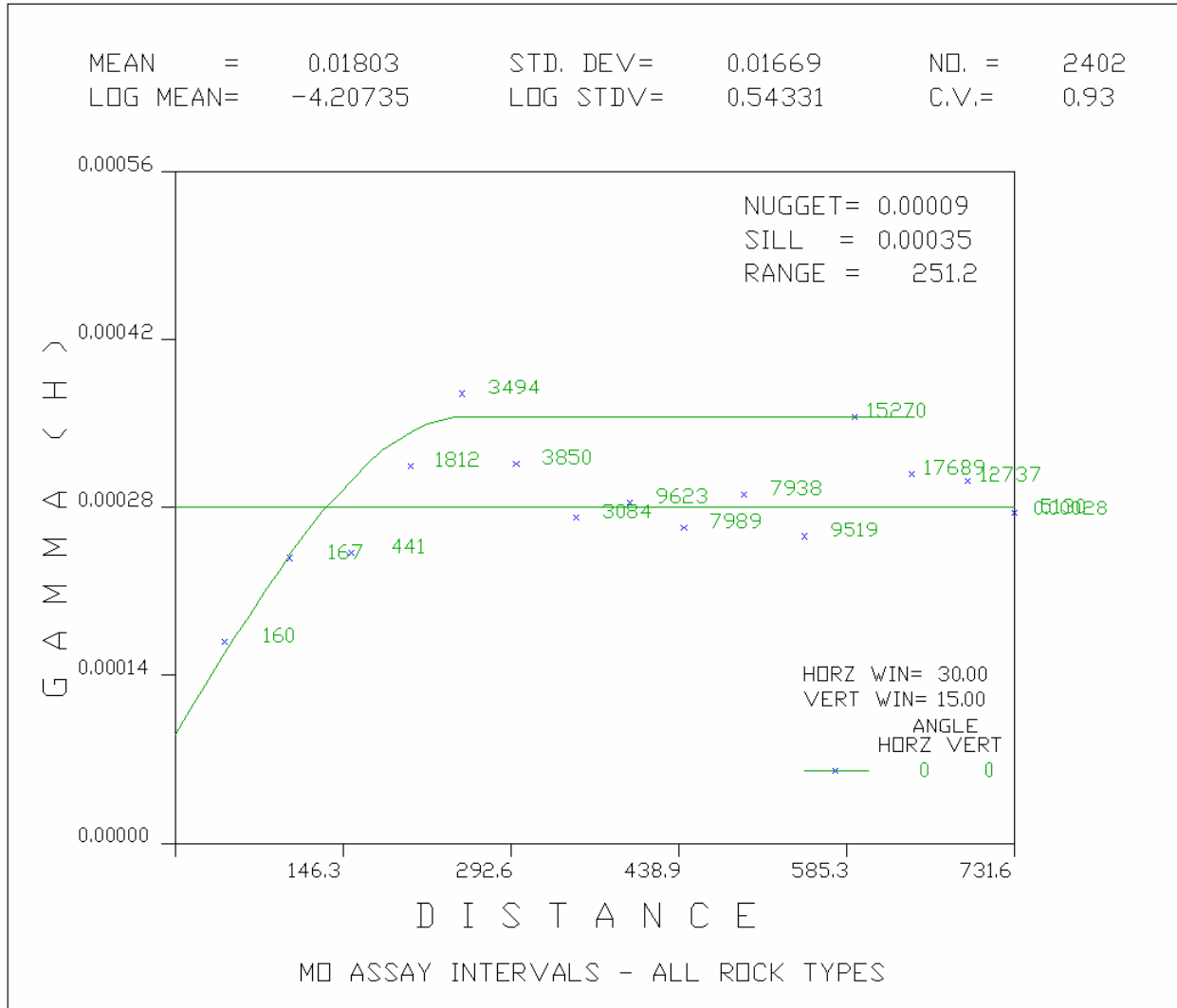


Figure 19-8
Variogram of 50-Ft Composited Ag Values

