Mineral Resources Estimate
Technical Report for the Rosemont Deposit
Pima County, Arizona, USA

Date: February 15, 2006

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Augusta Resource Corporation (Augusta) has recently completed a 15-hole, 27,402 feet (8,352 meters) diamond drilling program on the Rosemont Cu-Mo-Ag Deposit, located in Pima County, Arizona, USA approximately 30 miles (50 km) southeast of the city of Tucson, Arizona. The results of this drilling have been integrated with approximately 184,000 feet (56,100 m) of previous drilling, conducted by other companies prior to Augusta’s involvement, to estimate the mineral resources presented in this report.

The Rosemont Deposit is the principal known mineral deposit 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 the right to purchase 100% of the Rosemont Property, 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 large-scale skarn mineralization developed in Palaeozoic-aged carbonate sedimentary rocks around their contact with quartz-latite or quartz-monzonite porphyry intrusive rocks. The deposit has been extensively drilled using predominantly diamond core holes.

A block model of the Rosemont Deposit was constructed using MEDSystem® software and geologic plan maps and cross sections developed 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.

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). Copper equivalent (CuEqv) values are based on three-year trailing average prices of $1.25/lb Cu and $18.00/lb Mo, with no applied recovery factors.
Table 3.1  
Rosemont Deposit  
**Measured** Mineral Resources

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Tons (thousands)</th>
<th>% Cu</th>
<th>% Mo</th>
<th>% CuEqv*</th>
<th>lbs Cu (millions)</th>
<th>lbs Mo (millions)</th>
<th>lbs CuEqv* (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20% Cu</td>
<td>94,000</td>
<td>0.55</td>
<td>0.015</td>
<td>0.77</td>
<td>1,040</td>
<td>28</td>
<td>1,440</td>
</tr>
<tr>
<td>0.25% Cu</td>
<td>87,000</td>
<td>0.58</td>
<td>0.015</td>
<td>0.79</td>
<td>1,000</td>
<td>26</td>
<td>1,380</td>
</tr>
<tr>
<td>0.30% Cu</td>
<td>80,000</td>
<td>0.60</td>
<td>0.015</td>
<td>0.82</td>
<td>970</td>
<td>24</td>
<td>1,310</td>
</tr>
</tbody>
</table>

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

Table 3.2  
Rosemont Deposit  
**Indicated** Mineral Resources

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Tons (thousands)</th>
<th>% Cu</th>
<th>% Mo</th>
<th>% CuEqv*</th>
<th>lbs Cu (millions)</th>
<th>lbs Mo (millions)</th>
<th>lbs CuEqv* (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20% Cu</td>
<td>348,000</td>
<td>0.50</td>
<td>0.015</td>
<td>0.72</td>
<td>3,500</td>
<td>104</td>
<td>5,010</td>
</tr>
<tr>
<td>0.25% Cu</td>
<td>311,000</td>
<td>0.54</td>
<td>0.016</td>
<td>0.77</td>
<td>3,350</td>
<td>100</td>
<td>4,800</td>
</tr>
<tr>
<td>0.30% Cu</td>
<td>277,000</td>
<td>0.57</td>
<td>0.016</td>
<td>0.80</td>
<td>3,160</td>
<td>90</td>
<td>4,450</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Tons (thousands)</th>
<th>% Cu</th>
<th>% Mo</th>
<th>% CuEqv*</th>
<th>lbs Cu (millions)</th>
<th>lbs Mo (millions)</th>
<th>lbs CuEqv* (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20% Cu</td>
<td>442,000</td>
<td>0.51</td>
<td>0.015</td>
<td>0.73</td>
<td>4,540</td>
<td>132</td>
<td>6,450</td>
</tr>
<tr>
<td>0.25% Cu</td>
<td>398,000</td>
<td>0.55</td>
<td>0.016</td>
<td>0.78</td>
<td>4,350</td>
<td>126</td>
<td>6,180</td>
</tr>
<tr>
<td>0.30% Cu</td>
<td>357,000</td>
<td>0.58</td>
<td>0.016</td>
<td>0.81</td>
<td>4,130</td>
<td>114</td>
<td>5,760</td>
</tr>
</tbody>
</table>

* Equivalency based on prices of $1.25/lb Cu and $18.00/lb Mo, 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 442 million tons of measured and indicated material grading 0.51% Cu at a 0.20% Cu cutoff. An additional 145 million tons of inferred mineral resources are estimated at a grade of 0.45% Cu 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 145 million tons of estimated inferred resources.

WLRC and the other qualified persons who worked on this study recommend that Augusta proceed with a calculation of mineral reserves and the completion of a prefeasibility study of the Rosemont project. These evaluations should include the possible treatment of low-grade oxide mineralization to supplement traditional sulfide milling and concentration.
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 a recent diamond drilling program carried out by Augusta, as well as the drillhole results of previous exploration and mining companies. Although the focus of the report is the Rosemont Deposit, some information on other deposits within the Rosemont Property has been included on the premise that this information may be relevant to the possible future development of the Rosemont Property.

Information regarding the historical background and geology has come primarily from published reports (Anzelone\textsuperscript{1}, Mosher\textsuperscript{2}). Past engineering reports produced by Pincock, Allen & Holt, Inc.\textsuperscript{3} and The Winters Company\textsuperscript{4} provided information regarding previous resource estimates and metallurgical test work. Legal property information and previous owner drillhole information has come from private reports stored in the offices of the current property owner, Genesis Real Estate and Development, Inc., Tucson, Arizona. 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 company offices in Denver, Colorado. The assays from Augusta’s drilling program were performed by Skyline Laboratories in Tucson.

The report has been prepared under the direction of Mr. William L. Rose, an independent Qualified Person 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 Pawlowski, a consulting geologist and independent Qualified Person from Phoenix, Arizona, was present on the property on a daily basis during the same drilling program. Mr. Michael Clarke, Augusta Vice President of Exploration, visited and reviewed the project site numerous times during the drilling program. Mr. Kenneth Lovstrom, a Qualified Person involved with QA/QC for the drilling project, visited the project and provided recommendations for the QA/QC program. After Mr. Lovstrom’s unexpected death, Mr. Shea Clark Smith, a Qualified Person from Reno, Nevada, took over the QA/QC assessment but, because of Mr. Smith’s late start, was unable to visit the project. Mr. Donald Podobnik, an experienced metallurgist working for Washington Group International, has visited the project site and offices of Genesis Real Estate and Development, Inc. as a part of his review of past metallurgical test work. Mr. James Sturgess, Augusta Vice President of Projects and Environment, has also visited the project site numerous times and reviewed the environmental and permitting issues that affect the project.
4.1 **Terms of Reference**

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 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
- GRED - Genesis Real Estate and Development, Inc.
- PAH - Pincock, Allen & Holt, Inc.
- Skyline - Skyline Labs Inc.
- Stantec - Stantec Inc.
- 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
- ft - foot or feet
- ft³ - 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
- Mo - molybdenum
- NSR - Net Smelter Return
- oz - troy ounce
- oz/ton - troy ounces per ton
- ppm - parts per million
- ton - short ton (2000 lbs)
- tonne - metric tonne (1000 kg or 2204.6 pounds)
- XRF - x-ray fluorescence
RELIANCE ON OTHER EXPERTS

WLR Consulting, Inc. has relied on the opinions of Augusta Resource Corporation personnel and documents from Augusta’s due diligence evaluation (in relation to its April 2005 agreement to acquire the Rosemont Properties) 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.
6 PROPERTY DESCRIPTION AND 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 in the American Southwest, approximately 30 miles (50 km) southeast of Tucson, Pima County, Arizona (see Figure 6-1). In geographical terms, the Rosemont Property location coordinates are approximately 31° 50'N and 110° 45'W.

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).

The patented lode claims and fee land parcels have no expiration date and are subject to annual taxes amounting to several thousand US dollars in total. The unpatented lode claims also have no expiration and are maintained through the payment of annual fees of $150.00 (US) per claim. A 3% NSR royalty applies to the patented claims, the bulk of the unpatented claims, and some of the fee land. Augusta has entered into an agreement to purchase a 100% interest in the property for a total of $20.8M (US). Augusta has made the first payment of $6.6M (US) and has until July 29, 2006 and July 29, 2007 to make the second and final installments.

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.

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**

**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.
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 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 easily 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.

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 process. The EIS process includes interagency consultation on endangered species and consultation with on cultural resources. The use of the project surface rights will also require completion of permit applications for obtaining a number of state, federal, and local permits and approvals.

Power is available from existing high voltage lines that pass within a few miles of the site, although project requirements and surplus line capacities have yet to be defined. Sufficient water rights are available for purchase or lease from adjacent sources, although sufficient water is not available on the site at this time. Approval of utility corridors and pipelines will be required to deliver both water and power to the site.

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.
8 HISTORY

The early history and production from the Rosemont Property has been described in Anzelone, from which the 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 the 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 to Rosemont 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 (see Figure 6-2). The Rosemont project carried on after Amax and Anaconda joined in the Anamax partnership until 1986 when Anamax sold the Peach-Elgin – Rosemont property to a real estate company during the 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 232,000 feet (70,713 meters) define the Rosemont deposit. The results of these programs are described in Mosher.

In 1964, Anaconda produced a geological resource estimate for the Peach-Elgin deposit that 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 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 Mosher 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).

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 a small number of geotechnical 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 and in 1997 commissioned The Winters Company to conduct 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 Mosher. 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.
9 GEOLOGICAL SETTING

The regional, local and property geology of the Rosemont deposit has been described in Anzelone\(^1\) and Mosher\(^2\), from which that following summarization is taken.

Precambrian sedimentary and intrusive rocks form the regional basement beneath a Palaeozoic sequence of quartzites, siltstones and carbonate rocks. Sedimentary deposition ceased for a time during uplift and formation of a widespread unconformity in the early Mesozoic, and then resumed with the deposition of continental and shallow marine deposits. Subsequent granitic intrusions and felsic volcanic eruptions 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 created both low-angle thrust faults and high-angle strike-slip faults. Extensional tectonic activity followed the Laramide Orogeny and was accompanied by voluminous felsic volcanic eruptions. Numerous low-angle normal faults formed during this time, and these have been particularly important in the Rosemont area. The extensional tectonics eventually produced the large-scale block faulting that produced the present Basin and Range Provence. A generalized geologic map of the Rosemont Property is presented in Figure 9-1. A smaller-scale geologic plan and cross section of the Rosemont Deposit is shown in Figures 9-2 and 9-3, respectively.

The Rosemont area has suffered a complex history of high-angle and low-angle faulting during and after the Laramide Orogeny. As a consequence, the Peach-Elgin deposit occupies a klippe floored by a low-angle fault. The Copper World Mine deposit is situated in a complexly faulted sliver of Palaeozoic rocks. The Broadtop Butte deposit is located on the western side of a still poorly understood fault system, as is the Rosemont Deposit.
10 DEPOSIT TYPES

The Rosemont Deposit is principally a Cu-Mo-Ag skarn deposit formed in the Palaeozoic sedimentary rocks. Less-important deposits of disseminated and fracture-related copper oxide minerals occur in the Mesozoic continental sediments. Oxidation of the upper portions of the sulfide deposits has produced a suite of oxide copper minerals and minor chalcocite enrichment.

As described in Section 8 (History) above, the Rosemont Deposit has been drilled extensively. The Augusta drilling program filled in areas of relatively widely-spaced drilling in order to increase the measured and indicated classifications of the mineral resource estimate presented in Section 19.
11 MINERALIZATION

The Rosemont Deposit is primarily a garnet-diopside (with minor magnetite) skarn that apparently formed in the Palaeozoic rocks as a result of the quartz latite to quartz monzonite porphyry intrusion. Marble accompanies the skarn in the more pure carbonate lithologies, while the more silty rocks were converted to hornfels. Bornite-chalcopyrite-molybdenite mineralization accompanied by quartz, amphibole, serpentine and chlorite occurs as veinlets and disseminations in the earlier garnet-diopside skarn and associated marble and hornfels. Quartz latite to quartz monzonite intrusive rocks host strong quartz-sericite-pyrite mineralization with minor chalcopyrite, molybdenite and bornite. More weakly mineralized Mesozoic-age limestone, siltstone, sandstone and andesite overlie much of the deposit in an angular conformity. Mineralization in the Mesozoic rocks consists primarily of disseminated and fracture-controlled oxide Cu minerals and secondary chalcocite.

Silver occurs in minor, but economically significant quantities. The gold content appears to be negligible.

The hosting Palaeozoic-age sedimentary rocks are aligned along a generally northerly strike and dip steeply to the east. Drilling has so far identified a significant resource 3,500 feet (1,000 meters) square that extends to a depth of at least 2,000 feet (600 meters) below the surface. To the south, the Cu-Mo-Ag mineralization appears to weaken and eventually die out. Cu-Mo-Ag mineralization in the Palaeozoic rocks continues to the north beneath deep Mesozoic cover and amid complex faulting. A large northerly-striking, easterly-dipping fault forms the western boundary of the deposit. Significant mineralization in the Palaeozoic-age rocks extends down-dip to the east to the present limits of drilling. Oxide Cu and chalcocite mineralization occurs widely in the Mesozoic-age rocks that overlie the Palaeozoic-age rocks.
12 EXPLORATION

Exploration work by previous owners has been described under Section 8 (History) above.

Exploration work by Augusta Resource Corporation was confined to the Rosemont Deposit infill diamond drilling program, which is described in Section 13 (Drilling).
13 DRILLING

The Augusta diamond drilling program was designed to augment and be combined with the previous drilling information to create the underlying database for a NI 43-101 compliant resource estimate.

The previous Anaconda and Anamax drilling on the Rosemont Deposit amounted to approximately 184,000 feet (56,100 meters) of mostly NQ-size diamond drilling in about 150 holes. Most of the holes were vertical, although many were inclined -45° to -55° in order to provide samples cored perpendicular to the hosting lithology bedding, which dips 50-60° to the east. Drillhole orientation is considered of minor importance owing to the large-scale morphology of the deposit that would be most amenable to large-scale, open-pit mining methods. Down-hole surveys were conducted during drilling or immediately following drillhole completions. Drillhole collars were surveyed by company surveyors.

Augusta carried out its diamond-drilling program in the last half of 2005, drilling a total of 27,402 feet (8,352 meters) in 15 holes. Layne-Christensen and Boart Longyear were the drilling contractors. Holes were drilled HQ as far as possible, then finished NQ. Most of the holes were oriented vertically, although three of the holes were oriented in other directions and inclinations in order to accommodate drill targets to the available surface access. All drillholes were surveyed down hole with a Reflex EZ-Shot drillhole survey that measured inclination/dip and azimuth direction every 500 feet down hole. The drillhole collar locations were surveyed by Putt Surveying of Tucson, Arizona.

A total of 161 drillholes have been drilled to date within the Rosemont model area, which are summarized by company in Table 13.1 and spatially illustrated in Figure 13-1.

<table>
<thead>
<tr>
<th>Company</th>
<th>Time Period</th>
<th>Drill Holes</th>
<th>No.</th>
<th>Feet</th>
<th>Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banner</td>
<td>1950s</td>
<td>4</td>
<td>4,484</td>
<td>1,367</td>
<td></td>
</tr>
<tr>
<td>Anaconda</td>
<td>1963-1973</td>
<td>100</td>
<td>130,347</td>
<td>39,728</td>
<td></td>
</tr>
<tr>
<td>Anamax</td>
<td>1973-1983</td>
<td>42</td>
<td>49,203</td>
<td>14,996</td>
<td></td>
</tr>
<tr>
<td>Augusta</td>
<td>2005</td>
<td>15</td>
<td>27,402</td>
<td>8,352</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>161</td>
<td>211,436</td>
<td>64,443</td>
<td></td>
</tr>
</tbody>
</table>

Almost all of the holes are diamond drillholes. Most were cored from the surface or after about 10 ft of rock-bit drilling to set the surface casing. However, an as-yet undetermined number of the core holes were pre-collared by hammer or rotary drilling until they approached projected depths of mineralization. Hammer or rotary cuttings were generally sampled on intervals ranging from 10 to 20 ft, although a few holes were sampled on 50-ft intervals. No details have been recorded regarding the methods of sample collection for rotary or hammer cuttings.
14 SAMPLING METHOD AND APPROACH

The present study did not involve any sampling other than the drillhole sampling described below.

Both Anaconda-Anamax and Augusta drillhole core recoveries averaged over 90% in calcareous sedimentary rocks and andesites. Near-surface recoveries in silty and shaley Mesozoic rocks were typically about 65%, but improved to over 90% below depths of about 50-75 feet (15-23 meters). The samples provided by the drilling are considered adequate for purposes of resource estimation.

Sulfide mineralization hosted by carbonate sedimentary rocks occurs in rock alteration that ranges from marble to skarn as described previously. Marble tends to host disseminated sulfide mineralization while sulfide mineral distributions in skarn range from disseminated to massive. Individual lenses of massive sulfide typically measure a few inches or cm in width, but may rarely range up to about 15 feet (5 meters) in true width. The style of sulfide mineralization in hornfels ranges from veinlet to disseminated. These styles of mineralization occur intermittently over true widths ranging from about 100 feet (30 meters) at the edges of the deposit up to approximately 1,300 feet (400 meters) near the deposit center.

Individual core samples were taken over nominal 5-foot (1.5-meter) lengths during both the Banner-Anaconda-Anamax and Augusta programs. Shorter intercepts of massive or near-massive sulfide mineralization measuring more than a nominal foot (0.3 meter) or so in length were sampled over widths matching the width of such mineralization. Occasionally, long stretches of very uniform mineralization was sampled over widths ranging up to 10 feet (about 3 meters).

Drillhole sample assay values were composited as one of the steps in creating a block model of the deposit as described in Section 19.6. This process effectively addresses issues related to the comparison of drilled and true widths.

Additionally, a sample of split core from each rock formation unit was selected from every Anaconda-Anamax hole, as well every Augusta drillhole for specific-gravity measurements. The samples were typically about 6 inches (15 cm) in length. The specific-gravity determinations were carried out by Skyline Labs of Tucson, Arizona, using standard weight-in-water, weight-out-of-water methods on a total of 392 samples.

Other sample handling, preparation and security procedures are described in the following section.
15 SAMPLE PREPARATION, ANALYSES AND SECURITY

15.1 Sample Handling and Security

Sample preparation from the Banner and Anaconda-Anamax programs was conducted by employees of those companies. During the Augusta program, samples were marked, cut and transported to the laboratory by contractors hired by Augusta. No Augusta employee, director or associate was involved in these tasks.

Banner and Anaconda-Anamax selected drill-core samples for assay and split them using standard mechanical core splitters. Other details are not known, but since this work carried out by large copper companies for their internal use, it is believed that the work was carried out to industry standards for that time and is reliable.

The historical Rosemont methods of copper and molybdenum wet chemical analyses and copper and molybdenum x-ray fluorescence (XRF) used by Anaconda and Anamax were all standard procedures in the 1960s and 1970s, according to Mr. Dale Wood, Anaconda Chief Chemist (based on meetings and telephone conversations on November 28, 2005 and January 21, 2006). Details of the procedures used are as follows: Crushing and grinding reduced all pulp samples to minus 100 mesh size, with constant screen size testing. Pulp samples for the wet chemical method was brought into solution by hot acid digestion on a shaker table with hydrochloric acid, nitric acid, and perchlorate acid was added to the boiling solution followed by a few drops of hydrofluoric acid. Analysis for molybdenum was by the colorimetric iodine titration method and copper analyses were done by the colorimetric phenolthylanaline 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.

During the Augusta program, the contract drillers placed the core into cardboard core boxes with the footage marked on wood blocks inside the boxes as well as on the outside of the core boxes. The drilling companies kept the core in a secure area next to the drill rig before delivering it to the Rosemont Ranch core logging area, approximately three miles from the drilling area, on a daily basis. No core handling problems or core security problems during the drilling or sampling program were observed by the drillers, geologist or samplers.

All drillholes were logged by experienced Arizona geologists who measured percent core recovery, rock quality data, rock type, alteration, mineralization and structure. After logging, the geologist marked the sample intervals and cut-lines directly on the core, splitting evenly mineralization or structures for diamond core sawing and sampling. Sample intervals were generally 5 feet (1.5 meters) in length, except where massive copper or molybdenum veining, structures or lithologic breaks exist.
Intervals for core sawing were marked on the core boxes with a black marker and given a sequenced sample number with the footage noted in a booklet and on a paper copy. Each sample interval was labeled with a unique sample number. The drill core boxes were then photographed with a digital camera before delivery to the diamond saw core cutting area. 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 tag, half of which was placed into the bag. The plastic bags were then sealed with adhesive tape, leaving the sample number visible. The samples were delivered directly to Skyline Labs office in Tucson, by contract geologists, either Michael R. Pawlowski or Thornwell Rogers. All samples were delivered to a secured, locked area in the Skyline Laboratory building in Tucson along with a sample inventory paper sheet.

All core boxes, sample coarse, rejects and sample pulps are currently stored at the project site. The core boxes and sample coarse rejects are stored on pallets that are wrapped in plastic and the sample pulps are stored in sealed 55 gallon drums.

The principal assay laboratory for this project is Skyline Labs (Tucson, AZ, USA), formerly known as Actlabs-Skyline and owned by ACTLABS (Ancaster, ON, Canada) since 1997. 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. Primary and secondary (duplicates) analyses are done at Skyline. ALS Chemex (Vancouver, BC, Canada) is used by the project for assay checks of duplicate samples. ALS Chemex has accreditation through ISO 9001:2000 in North America.

15.2 Quality Assurance and Quality Control Protocol

The following protocol was recommended on July 26, 2005 by Kenneth A. Lovstrom, Geochemist, and followed for the Rosemont feasibility study. Shea Clark Smith, Geochemist, assumed guidance for aspects of quality assurance and quality control (QA/QC) after January 10, 2006, following the same protocols:

1. Standards should be inserted with a frequency of one per 20 drill samples. Standards should be developed from Project matrix and include cut-off, run-of-mine and high grade concentrations. Inserted standard should estimate interval grades as determined by preliminary logging.

2. Duplicate samples should be submitted with a frequency of one per 20 drill samples.

3. Blank samples should be submitted with a frequency of one per 40 samples.

4. Five percent (5%) of drill samples should be analyzed by a secondary laboratory and include sub-ore and ore-grade intervals. Project standards must be included with a frequency of one per 10 samples.
5. Primary and secondary laboratories must be audited annually by an external, independent source with detailed reports completed.

6. Primary laboratory data reports must contain internal laboratory quality control data. An original, certified report(s) must be filed with each drillhole.

Seven standard reference materials (SRMs) of various grades of copper, molybdenum, and silver, and a blank that contains metal concentrations at or below the analytical limits of detection, were used to monitor assay accuracy and precision. The range of copper concentrations in these SRM is 0.01% to 1.95%, while the range of molybdenum values is 0.017% to 0.078%. Silver concentrations range from 2.7 ppm to 7.0 ppm. Full chemical characterization and stability (accuracy and precision) for each of these SRMs were determined by Round Robin analysis at 3 to 7 analytical laboratories, where 5 to 20 aliquots of each material was analyzed. Average (arithmetic mean), standard deviation (SD), and relative standard deviation (%RSD) were determined, and these criteria were used for comparison to SRM values that were returned with drill core sample data. Lovstrom assessed the data for all submittals and determined that, within a few percent; the values for Total Cu (TCu) and Mo were within satisfactory accuracy limits (0% to 7% difference between expected and reported SRM values).

Metal concentrations in drill core from drillholes AR2000 through AR2014 range from 0-5.3% Cu (90% of the concentrations are less than 2%), from 0-0.6% Mo (90% of the concentrations are less than 0.1%), and from 0-70 ppm Ag (90% of the concentrations are less than 20 ppm). SRMs used to monitor these concentration ranges adequately cover 90% of the reported values.

15.3 Skyline Sample Preparation Procedures

Split core samples from a locked core shed at the Rosemont Ranch were delivered daily by Augusta Resource personnel directly to Skyline Labs (Tucson, AZ). At Skyline, the entire sample was crushed using a TM Terminator to produce an 80% pass 10-mesh product. Samples were blended and divided using a two-stage riffle splitter, from which a 300-400 gram aliquot was pulverized to 90% pass 150-mesh product using a TM Max 2 Pulverizer. Wash gravel and sand were used to clean the crushers and pulverizers only when deemed necessary by the operator. Reject material from each sample was saved in locked storage and one of every 20 core samples was used for duplicate analytical testing at a later time.

The SRMs are packaged in small Kraft envelopes, which make them easily identified by the laboratory as QA monitors, along side canvas bags of unpulverized core. Since a relatively large number of SRMs were used, each with a different concentration range of Cu, Mo and Ag, these standards were relatively “unknowns” to the analyst. However, both SRMs and blanks would have bypassed crushing and pulverizing stages in the lab, and were thus of limited use as a check on sample preparation processes.

15.4 **Skyline Analytical Procedures**

Assay pulps were weighed and digested using industry accepted laboratory equipment and procedures. Copper and molybdenum were digested using a three-acid procedure, with copper content being determined by atomic absorption spectrometry (AAS), and molybdenum content being determined by inductively coupled plasma/optical emission spectrometry (ICP/OES). Silver was determined from a different aliquot by aqua regia digestion followed by AAS. Standards and blanks were provided by Augusta personnel and properly inserted into the analytical stream where indicated. Concentrations of copper and molybdenum are reported in percent, while silver is reported in parts per million (ppm).

15.5 **QA Results for Drillholes AR2000 – AR2002**

Lovstrom reviewed analytical data for submittals related to samples from drillholes AR2000, AR2001, and AR2002, and reported his findings dated August 26, September 15, October 13, and October 14. Invariably, Lovstrom found that SRMs and Blanks reported within 0% to ±2% of the expected Cu and Mo value and deemed these data to be accurate and reliable. Duplicate analyses also reported within narrow bounds (-5% to +5% of the original analysis) and Lovstrom also deemed these data to be accurate and reliable.

Assay checks at ALS Chemex (Vancouver, BC, Canada) were reported by Lovstrom on October 13, 2005. SRMs reported within ±2% of the expected values for Cu and Mo, and duplicate assays similarly showed acceptable differences between Skyline and ALS Chemex of ±2% Cu and ±7% Mo.

Lovstrom reported SRM and duplicates data for drillholes AR2001 and AR2002 on October 14, 2005. The SRM data demonstrate excellent comparison between expected and reported concentrations for Cu of +1% to +3%, with precision of 1% RSD. Data for Mo between expected and reported SRM concentrations show variances of -8% to -11%. From drillhole AR2001, Skyline analyzed five duplicates and was within an acceptable error range for Cu and Mo. Similarly, eight duplicate assays from Skyline for drillhole AR2002 were reported within an acceptable error range for Cu and Mo.

S.C. Smith has reviewed all of this work and concurs with Lovstrom that these SRMs have been acceptable monitors of accuracy and precision for Total Cu and Mo, and that the assay data for core samples are reliable. Silver data for samples may be somewhat less reliable because of low stability in the SRM data, which is more a function of the standard itself than lab performance.
15.6 QA Results for Drillholes AR2003 – AR2014

An SRM provided by Lovstrom was used to monitor laboratory accuracy during analysis of

drillholes AR2003 through AR2006, and beginning with AR2005, new standards R1 and R2

were introduced as new monitors. All standards reported within acceptable limits for Cu and

Mo, while Ag concentrations displayed wider variability that may be more a function of the

standard itself than lab performance.

Round Robin and run-of-assay data have been used to establish a statistical and chemical
caracterization of standards R1 and R2. Time-series charts have been used to determine the

stability of these standards over time during analysis of samples at the primary laboratory

(Skyline). R1 contains stable concentrations of 0.48% Cu, 0.025% Mo, and 5.0 ppm Ag. R2

contains stable concentrations of 0.73% Cu, 0.017% Mo, and 6.9 ppm Ag. These values, with

variances of only 1-2%, have been consistently reported through assay submittals to Skyline for

drillholes AR2005 through AR2014. Blank data reports consistently below the analytical
detection limit for Cu and Mo, but at 0.5 ppm Ag with a variance of about 300%, calling into
question the validity of the silver data reported in this concentration range.
16 DATA VERIFICATION

Quality control measures for sample assaying are described in detail in Section 15. This section briefly describes the verification of the drillhole database by comparison to assay certificates, both from previous owners and independent commercial laboratories.

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 drillholes were inspected, representing approximately 14% of the total database. 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.
17 ADJACENT PROPERTIES

The Peach-Elgin, Broadtop Butte and Copper World Mine deposits are within several miles of the subject Rosemont Deposit and are included in the properties being 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.
The majority of the metallurgical testing and process development information that was available for review during a visit by Mr. Donald Podobnik to the Rosemont Ranch LLC office in Tucson, AZ, was based on a diamond drill campaign and subsequent metallurgical testing program performed during 1974 and 1975. The results of this program are summarized in this section, with references to previous studies, and are indicative that the Rosemont deposit has the potential to achieve metallurgical performance similar to other operations in the Tucson, Arizona area.

An order-of-magnitude project evaluation study was prepared by the Winters Company in 1997. This 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 is described as typical of Arizona 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. In this report, assumptions concerning metallurgical performance and design criteria were based on:

- The metallurgical test data,
- Limited information from the ASARCO Mission Mine, and
- Washington Group International’s experience at other, similar, plants.

### 18.1 Metallurgical Test Samples

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

Sample composites were selected by ASARCO based on rock type and grade. The samples listed were plotted on a drillhole plan map and were located in the central portion of the Rosemont deposit.

### 18.2 Grinding

Two types of standard grinding 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.
18.3 **Primary Autogenous Grinding Tests**

The results of the MacPherson test program indicated that the potential ores would perform well using autogenous grinding mills, requiring no grinding media to achieve the required primary reduction. The current flow sheet, however, has assumed that semi-autogenous mills will be used. Three mineralized samples were tested and their resulting autogenous work indexes and actual power requirements are presented in the following table.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Autogenous Work Index (kWh/ton)</th>
<th>Actual Power Required (kWh/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1 – High grade garnetized limestone</td>
<td>10.42</td>
<td>10.0</td>
</tr>
<tr>
<td>Sample 2 – Low grade garnetized limestone</td>
<td>10.16</td>
<td>9.8</td>
</tr>
<tr>
<td>Sample 3 – Quartz monzonite porphyry</td>
<td>20.58</td>
<td>15.5</td>
</tr>
</tbody>
</table>

The MacPherson report indicated that the above mix of potential ore types would be beneficial for 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) when they will be available for plant feed. Since this information was not available, the option of using autogenous mills was ruled out, but may be reinstated at a later date.

It is recommended that additional testing be performed to assess the variability of the ore and to confirm that the mill selection is correct.

18.4 **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 drillhole DDH A861. Descriptions of the samples and the resulting rod and ball mill work indices are given in the following tabulation.

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

18.5 Flotation

A flotation test program was conducted by Mountain States Research and Development (MSRD) in Tucson, Arizona. Test results from two sequential test periods were found in the Rosemont Ranch files, including an initial set of single-cycle tests that were performed 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 MSRD, but no information has been found suggesting that they were ever completed.

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>
<thead>
<tr>
<th>Table 18.3</th>
<th>Single-Cycle Bench-Scale Rougher Flotation Test Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample ID</td>
<td>Number of Samples</td>
</tr>
<tr>
<td>Composite 1504-3</td>
<td>69</td>
</tr>
<tr>
<td>Composite 1504-4</td>
<td>15</td>
</tr>
<tr>
<td>Composite 1504-5</td>
<td>61</td>
</tr>
<tr>
<td>Composite 1507-6</td>
<td>106</td>
</tr>
<tr>
<td>Composite 1507-7</td>
<td>33</td>
</tr>
<tr>
<td>Composite 1507-8</td>
<td>14</td>
</tr>
</tbody>
</table>

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 the Table 18.4. 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 18.4
Standard Rougher Flotation Test Results

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

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

Results and recommendations presented by MSRD 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 sulfidation in the scavenger cells. A reduction in the tailing concentrations were achieved, but resulted in a lower concentrate grade and nearly the same overall recoveries.

- Differential molybdenum flotation tests were not found in the available information.

- 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.

- It is recommended that additional flotation testing be performed and that locked-cycle tests be included to determine reagent consumptions.
18.6 Washington Group’s Recommendations for Additional Testing

Washington Group suggests that Augusta approve two work index determinations using the MacPherson Autogenous Grindability Test Procedure on a five-year composite sample. Generally, two tests are needed to establish reproducibility. Each test will require 175 kg of sample, with a top size larger than 1.25 inches.

In addition, Washington Group suggests that Bond Rod Mill Work Index, the Bond Ball Mill Work Index, the Abrasion Index, and the JK Drop Weight Test Index be determined on each sample used for the MacPherson Test. The data could be evaluated using the JKTech mass modeling program and an operating plant simulation should be developed. The simulation should be useful for finalizing the design criteria for the crushing and grinding circuits.

In addition to the work described above, Bond Rod and Ball Indices should be determined on 10 to 20 samples distributed throughout the ore body. The exact number of samples will be determined from the geological model (different rock types) and from the core drill penetration rates. The Abrasion Index and the JK Drop Weight Test Index should be determined on 25 to 50 percent of these samples.

The flotation test work is designed to:

- Provide metallurgical data to develop definitive design criteria for final process equipment specifications and selection,
- Determine metallurgical data (primarily recovery of the copper, molybdenite and silver) for use in the geological model and mine plan, and
- Generate data for utilization in the economic model and sensitivity analyses.

The program assumes that the ore will respond as other ores in the region and that serious metallurgical problems will not be encountered.

Flotation testing should evaluate grind size, pH, residence times, regrinding and cleaning. Open circuit cleaning tests can be used to provide an initial indication of results, but MUST be followed by locked cycle tests.

18.7 Disclaimer and Limitations of Use

Washington Group’s scope of work involved only the review of such pre-existing documentation. Washington Group has not verified the accuracy or completeness of the data used in its review of the Rosemont Project and Washington Group thus makes no representation as to its accuracy and disclaims all liability with respect thereto. The findings in this report reflect Washington Group’s professional opinions concerning the data reviewed, using its professional judgment and reasonable care, and cannot be taken as scientific certainties.
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 Imperial units (i.e., feet) and was developed by previous property owners. A 25 ft by 25 ft lateral block dimension was selected to better fit the moderating dipping lithologies at Rosemont. Table 19.1 summarizes the limits of the 3D block model expressed in mine coordinates.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Block Size (ft)</th>
<th>No. of Blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>X (East)</td>
<td>856,500</td>
<td>863,500</td>
<td>25</td>
<td>280</td>
</tr>
<tr>
<td>Y (North)</td>
<td>301,000</td>
<td>308,000</td>
<td>25</td>
<td>280</td>
</tr>
<tr>
<td>Z (Elevation)</td>
<td>2,500</td>
<td>6,500</td>
<td>50</td>
<td>80</td>
</tr>
</tbody>
</table>

19.2 Surface Topography

Raw topographic data for the project area was downloaded from the National Elevation Dataset (NED) 1/3 Arc Second database that has been assembled and maintained by the U.S. Geological Survey (USGS). These data provide an approximate 10m resolution using the NAD83 horizontal datum and the NAVD88 vertical datum. Stantec, Inc., working as a consultant to Augusta, converted these elevation data into 10-ft contours covering about 100 square miles in and around the project site. The contours were expressed in longitude and latitude coordinates and elevations in feet. The topographic data were then passed to WLRC as an ArcView® shape file.

The shape file was converted by WLRC into an AutoCAD DXF format. Coordinates were converted into UTM NAD 83 Zone 12 metric values and then to Imperial units. Two National Geodetic Survey control points, Helvetia (PID CG1065) and Huerfano (PID CG1067), have been surveyed in both UTM NAD83 and mine coordinate systems. The Helvetia marker is located along the northern edge of the deposit model, providing a good control point for determining the...
origin and rotation of the mine coordinate system in terms of UTM NAD83 Imperial values. No adjustments or conversions were made to the elevations.

The following best fit mine origin (0,0) was computed in UTM Imperial coordinates:

Mine system origin -
    UTM East 852,971.65 feet
    UTM North 11,257,354.12 feet

Mine system rotation -
    0.4834° (clockwise)

With only two control points, the topographic contours were not rubber-sheeted to fit both markers. Instead, the above origin and rotation provides an exact match in both coordinate systems for the Helvetia marker, but produces a 9.39 ft lateral difference for the Huerfano marker located about four miles to the west-northwest. This difference is likely the result of mine system survey errors between the control points. Comparisons with previous topographic contour maps and visual inspections of the land forms with respect to drillhole locations indicate a good fit for use in a preliminary mineral resource evaluation.

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 that is below topography.

19.3 Drillhole Database

The Rosemont deposit drillhole database contains collar locations, down-hole deviation surveys, sample assay results and geological information from a recent drilling program 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, 161 drillholes comprise the database contained within the project area. 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 diamond core, although a small number, less than five percent, were drilled by open hole rotary and reverse circulation techniques.

Stored in the database are 44,496 individual sample values representing approximately 211,436 feet (64,443 meters) of drilling. Each sample interval record contains assayed values for Cu and Mo. Some intervals have assays for recoverable oxide Cu and also for Ag. The reliability of the Ag values, however, has not yet been established and the Ag assays were not considered in this study.

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 drillholes were inspected, representing approximately 14% of the total database. 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.

A statistical study including frequency distribution histograms for each rock type and lognormal cumulative probability graphs were generated for both Cu and Mo for the deposit as a whole (see Figures 19-3 and 19-4 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. The cumulative probability plot of Mo grades exhibits a better behaved population with no high grade outlier segment and, therefore, no grade capping adjustment was made.

19.4 Geologic Model

A detailed geologic representation for the deposit was developed in the computer model from drillhole cross-section and level plan maps. Rock type and structural outlines were digitized on 50-ft-interval level plans and loaded into the model blocks. In all, 12 individual rock 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 13. 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 chemical composition and/or close relationship to feeder structures. For this reason, each rock type was considered as an independent unit for grade estimation purposes. Only grades from drillholes that pierced a particular rock type were use to evaluate that rock type.
19.6 Compositing of Drillhole Data and Statistics

The drillhole sample assay intervals were weight averaged to 50-ft 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 and Mo composite grades. Coefficients of variation for of all rock types were 1.22 for Cu and 0.94 for Mo. 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 Cu rock type composites were grouped to provide a clear variogram (see Figure 19-5) from which parameters could be selected for the block grade estimation equations. A spherical model was fit to the experimental variogram and the following parameters were selected:

\[
\begin{align*}
\text{Nugget} &= 0.01517 \\
\text{Sill} &= 0.18901 \\
\text{Range} &= 236 \text{ feet (72 m)}
\end{align*}
\]

The orientation of the variogram was at an azimuth of 90 degrees, plunging at a dip of -48 degrees. This is consistent with the measured dip angles of the sedimentary rock formations.

Since the Mo variograms were not sufficiently clear enough to be useable and the relationship between Cu and Mo shows excellent correlation with a coefficient of 0.847, the variogram selected for Cu was used for Mo grade estimation as well.

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 and Mo 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 is 90 degrees azimuth, -48 degrees dip, with a range of 240 feet (73 m), and the secondary direction is 0 degrees azimuth, 0 degrees dip, with a range of 240 feet.
A maximum of nine and a minimum of two composites, with only three composites allowed from any one drillhole, were used in the calculation of any one block grade.

### 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 one third of the variogram range (approximately 80 feet) and was estimated by at least three drillholes. A block was considered to be indicated if it was within the variogram range (236 feet) and was estimated by at least two drillholes, or was within 80 feet and less than three drillholes were used for estimation. A block was designated as inferred if it was greater than 236 feet from any drillhole or did not meet the minimum number of drillholes 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>
<thead>
<tr>
<th>Rock/Formation Description</th>
<th>Rock Code</th>
<th>Tonnage Factor (ft³/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overburden, unconsolidated</td>
<td>1</td>
<td>14.50</td>
</tr>
<tr>
<td>Epitaph</td>
<td>2</td>
<td>12.33</td>
</tr>
<tr>
<td>Colina</td>
<td>3</td>
<td>11.81</td>
</tr>
<tr>
<td>Earp</td>
<td>4</td>
<td>11.79</td>
</tr>
<tr>
<td>Horquilla</td>
<td>5</td>
<td>11.27</td>
</tr>
<tr>
<td>Escabrosa</td>
<td>6</td>
<td>11.60</td>
</tr>
<tr>
<td>Martin</td>
<td>7</td>
<td>11.77</td>
</tr>
<tr>
<td>Quartz Monzonite Porphyry</td>
<td>8</td>
<td>12.26</td>
</tr>
<tr>
<td>Andesite</td>
<td>9</td>
<td>11.65</td>
</tr>
<tr>
<td>Arkose, Akcg</td>
<td>10</td>
<td>12.15</td>
</tr>
<tr>
<td>Limestone, Lscg</td>
<td>11</td>
<td>11.58</td>
</tr>
<tr>
<td>Scherrer</td>
<td>12</td>
<td>12.00</td>
</tr>
<tr>
<td>Undefined</td>
<td>13</td>
<td>12.00</td>
</tr>
</tbody>
</table>
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 $2.25/lb and a molybdenum price of $35.00/lb.

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. Imperial units are used in these estimations, where tons refer to short tons (2000 lbs). Cu refers to copper and Mo refers to molybdenum. Copper equivalent (CuEqv) values are based on three-year trailing average prices of $1.25/lb Cu and $18.00/lb Mo, with no applied recovery factors.

Table 19.3
Rosemont Deposit
Measured Mineral Resources

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Tons (thousands)</th>
<th>% Cu</th>
<th>% Mo</th>
<th>% CuEqv*</th>
<th>lbs Cu (millions)</th>
<th>lbs Mo (millions)</th>
<th>lbs CuEqv* (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20% Cu</td>
<td>94,000</td>
<td>0.55</td>
<td>0.015</td>
<td>0.77</td>
<td>1,040</td>
<td>28</td>
<td>1,440</td>
</tr>
<tr>
<td>0.25% Cu</td>
<td>87,000</td>
<td>0.58</td>
<td>0.015</td>
<td>0.79</td>
<td>1,000</td>
<td>26</td>
<td>1,380</td>
</tr>
<tr>
<td>0.30% Cu</td>
<td>80,000</td>
<td>0.60</td>
<td>0.015</td>
<td>0.82</td>
<td>970</td>
<td>24</td>
<td>1,310</td>
</tr>
</tbody>
</table>

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

Table 19.4
Rosemont Deposit
Indicated Mineral Resources

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Tons (thousands)</th>
<th>% Cu</th>
<th>% Mo</th>
<th>% CuEqv*</th>
<th>lbs Cu (millions)</th>
<th>lbs Mo (millions)</th>
<th>lbs CuEqv* (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20% Cu</td>
<td>348,000</td>
<td>0.50</td>
<td>0.015</td>
<td>0.72</td>
<td>3,500</td>
<td>104</td>
<td>5,010</td>
</tr>
<tr>
<td>0.25% Cu</td>
<td>311,000</td>
<td>0.54</td>
<td>0.016</td>
<td>0.77</td>
<td>3,350</td>
<td>100</td>
<td>4,800</td>
</tr>
<tr>
<td>0.30% Cu</td>
<td>277,000</td>
<td>0.57</td>
<td>0.016</td>
<td>0.80</td>
<td>3,160</td>
<td>90</td>
<td>4,450</td>
</tr>
</tbody>
</table>

* Equivalency based on prices of $1.25/lb Cu and $18.00/lb Mo, with no applied recovery factors.
Table 19.5
Rosemont Deposit
**Measured and Indicated** Mineral Resources

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Tons (thousands)</th>
<th>% Cu</th>
<th>% Mo</th>
<th>% CuEqv*</th>
<th>lbs Cu (millions)</th>
<th>lbs Mo (millions)</th>
<th>lbs CuEqv* (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20% Cu</td>
<td>442,000</td>
<td>0.51</td>
<td>0.015</td>
<td>0.73</td>
<td>4,540</td>
<td>132</td>
<td>6,450</td>
</tr>
<tr>
<td>0.25% Cu</td>
<td>398,000</td>
<td>0.55</td>
<td>0.016</td>
<td>0.78</td>
<td>4,350</td>
<td>126</td>
<td>6,180</td>
</tr>
<tr>
<td>0.30% Cu</td>
<td>357,000</td>
<td>0.58</td>
<td>0.016</td>
<td>0.81</td>
<td>4,130</td>
<td>114</td>
<td>5,760</td>
</tr>
</tbody>
</table>

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

Table 19.6
Rosemont Deposit
**Inferred** Mineral Resources

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Tons (thousands)</th>
<th>% Cu</th>
<th>% Mo</th>
<th>% CuEqv*</th>
<th>lbs Cu (millions)</th>
<th>lbs Mo (millions)</th>
<th>lbs CuEqv* (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20% Cu</td>
<td>145,000</td>
<td>0.45</td>
<td>0.015</td>
<td>0.67</td>
<td>1,300</td>
<td>43</td>
<td>1,930</td>
</tr>
<tr>
<td>0.25% Cu</td>
<td>116,000</td>
<td>0.51</td>
<td>0.016</td>
<td>0.74</td>
<td>1,170</td>
<td>37</td>
<td>1,710</td>
</tr>
<tr>
<td>0.30% Cu</td>
<td>96,000</td>
<td>0.56</td>
<td>0.017</td>
<td>0.80</td>
<td>1,070</td>
<td>33</td>
<td>1,540</td>
</tr>
</tbody>
</table>

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

The above estimates include oxide, mixed and sulfide mineralization. At a 0.20% Cu cutoff, the breakdown of the estimated 442 million tons of measured plus indicated mineral resources is approximately 5% oxide, 41% mixed and 54% sulfide. The mixed mineralization contains oxide, sulfide and occasional native copper mineralization. It is currently believed that sulfides comprise the majority of the mixed mineralization.

Silver is also present in this deposit, but at low concentrations. An average silver grade of 0.21 oz/ton (7.2 g/t) was reported in the 2005 drillhole program. However, silver was assayed only sporadically in the historic work; therefore, there is insufficient data to quantify a silver resource at this time. Augusta is planning further silver assay work with the view towards future resource estimation for this mineral.

Rosemont deposit mineral resources are on patented lands owned or controlled by Augusta Resource Corporation. Notwithstanding the existence of a 3% NSR mineral royalty, the estimates of mineral resources are not affected by known legal, title, taxation, socio-economic, marketing, political, or other relevant issues.

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.

The estimates of mineral resources will not be materially affected by mining, metallurgical, infrastructure, or other relevant 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.
WLRC is not aware of other relevant data or information regarding the Rosemont Project.
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 those presented in Pincock, Allen & Holt's \(^3\) (PAH) study completed in 1977. Estimated measured and indicated mineral resources have increased by 125 million tons, to a total of 442 million tons grading 0.51% Cu at a 0.20% Cu cutoff. An additional 145 million tons of inferred mineral resources are estimated at a grade of 0.45% Cu 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 145 million tons of estimated inferred resources.
22 RECOMMENDATIONS

Based on the results of this Technical Report, the recommendation from the team of qualified persons is to proceed to calculation of mineral reserves and the completion of a prefeasibility study of the Rosemont project. These evaluations should include the possible treatment of low-grade oxide mineralization to supplement traditional sulfide milling and concentration.
23 REFERENCES


(4) The Winters Company, October 1997, Rosemont project validation order of magnitude study, Private report for ASARCO.

The effective date of this report is February 15, 2006.

The principal author and Qualified Person for this Technical Report is Mr. William L. Rose, P.E. His certificate, with signature, and those of the other contributors are presented on the following pages.
CERTIFICATE of PRINCIPAL AUTHOR

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)
   - Member of the Society for Mining, Metallurgy and Exploration, Inc.

4. I have worked as a mining engineer for 28 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 19.2 (Surface Topography), Subsection 19.10 (Material Densities), Subsection 19.11 (Mineral Resource Estimate), Section 21 (Interpretation and Conclusions), Section 22 (Recommendations) and portions of Section 3 (Summary) of the technical report titled Mineral Resources Estimate, Technical Report for the Rosemont Deposit, Pima County, Arizona, USA and dated February 15, 2006 (the “Technical Report”) relating to the Rosemont property.

7. I have not had prior involvement with the property that is the subject of the Technical Report. I have visited the subject property on August 9, 2005.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

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 for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th day of February 2006.

"William L. Rose" (signed and sealed)

Signature of Qualified Person

William L. Rose
Print Name of Qualified Person
CERTIFICATE of AUTHOR

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 the preparation of portions of Section 6 (Property Description and Location), portions of Section 7 (Accessibility, Climate, Local Resources, Infrastructure and Physiography), Section 8 (History), Section 9 (Geological Setting), Section 10 (Deposit Types), Section 11 (Mineralization), Section 12 (Exploration) and Section 13 (Drilling) and Section 17 (Adjacent Properties) of the technical report titled Mineral Resources Estimate, Technical Report for the Rosemont Project, Pima County, Arizona, USA and dated February 15, 2006 (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 holds an option agreement for the purchase of the Rosemont Project. I have visited the subject property repeatedly since April 27, 2005.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

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 for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th day of February 2006.

"Michael Clarke"

Signature of Qualified Person

_________________________________________
Michael Clarke
Print Name of Qualified Person
CERTIFICATE of AUTHOR

I, Donald C. Elkin, do hereby certify that:

1. I am currently employed as Principal Geological Engineer by:
   Mine Reserves Associates, Inc.
   13005 Willow Lane
   Golden, Colorado 80401
   U.S.A.

2. I graduated with a Bachelor of Science degree in Geological Engineering from the University of Arizona in 1960.

3. I am a member of the Society for Mining, Metallurgy and Exploration, Inc.

4. I have worked as a geological engineer for 46 years since my graduation from college.

5. I am not a "Qualified Person" as defined in National Instrument 43-101 as I do not have an affiliation with a Canadian professional association or recognized foreign association. However, by reason of my education and past 40 plus years of relevant work experience in the field of ore deposit modeling, I present myself as competent to have prepared the portions of this report detailed in Item 6 below.

6. I am responsible for the preparation of Section 16 (Data Verification), Subsection 19.1 (Model Extents), Subsection 19.3 (Drill Hole Database), Subsection 19.4 (Geologic Model), Subsection 19.5 (Mineralization Controls), Subsection 19.6 (Compositing of Drillhole Data and Statistics), Subsection 19.7 (Variography), Subsection 19.8 (Block Grade Interpolations) and Subsection 19.9 (Resource Classification) of the technical report titled Mineral Resources Estimate, Technical Report for the Rosemont Project, Pima County, Arizona, USA and dated February 15, 2006 (the "Technical Report") relating to the Rosemont property.

7. I have not had prior involvement with the property that is the subject of the Technical Report.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

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 for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th day of February 2006.

"Donald C. Elkin"

Signature of Contributor

Donald C. Elkin
Printed Name of Contributor
CERTIFICATE of AUTHOR

I, Michael R. Pawlowski, Registered Geologist, do hereby certify that:

1. I am currently employed as a Consulting Geologist and Principal at:

   MRP GEO Company LLC
   an Arizona Registered Company
   1700 E. Lakeside Drive #57
   Gilbert, Arizona 85234
   U.S.A.

2. I graduated with a Master of Science degree in Geology from University of Idaho, College of Mines, Moscow, Idaho in 1982.

3. I am a:
   - Registered Professional Geologist by the State Board of Technical Registration, State of Arizona, #24509
   - Certified Professional Geologist by American Institute of Professional Geologist, #7681
   - 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 24 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.


7. I have not had prior involvement with the property that is the subject of the Technical Report. I have worked continuously on the Augusta Rosemont Project since June 2005 through February 2006. I have been responsible for supervising the 2005 Augusta Rosemont drilling and sampling program along with adding QA/QC procedures as blind standards, blanks and second laboratory assay checks.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of the issuer applying the tests in Section 1.4 of National Instrument 43-101, except I do have an interest in Augusta Resource Inc. stock, as a result of the Lone Mountain, New Mexico, Augusta Resource Inc. acquisition in 2005.

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 for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th day of February 2006.

"Michael R. Pawlowski"

Signature of Qualified Person

Michael R. Pawlowski
Print Name of Qualified Person
CERTIFICATE of AUTHOR

I, Donald M. Podobnik, do hereby certify that:

1. I am currently employed as a part time Contract Consulting Metallurgist by:

   Washington Group International
   7800 E. Union Ave. Suite 100
   Denver, CO USA

2. I graduated with a Bachelor of Science degree in Metallurgical Engineering from the Montana School of Mines in 1965 and a Master of Science in Mineral Dressing Engineering from the Montana College of Mineral Sciences and Technology in 1967.

3. I am not a Registered Professional Engineer.

4. I have worked in the mining industry for 39 years since my graduation from college.

5. I am not a “Qualified Person” as defined in National Instrument 43-101 as I do not have an affiliation with a Canadian professional association or recognized foreign association. However, by reason of my education and past 40 plus years of relevant work experience in the field of extractive metallurgy, I present myself as competent to have prepared the portions of this report detailed in Item 6 below.


7. I have not had prior involvement with the property that is the subject of the Technical Report. I have visited the subject property on August 9, 2005.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.


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 for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th day of February 2006.

"Donald M. Podobnik"

Signature of Contributor

Donald M. Podobnik

Print Name of Contributor
CERTIFICATE of AUTHOR

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.


7. I have not had prior involvement with the property that is the subject of the Technical Report. I have not visited the subject property.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

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 for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th day of February 2006.

"Shea Clark Smith"

Signature of Qualified Person

Shea Clark Smith
Print Name of Qualified Person
CERTIFICATE of AUTHOR

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 Mineral Resources Estimate, Technical Report for the Rosemont Project, Pima County, Arizona, USA and dated February 15, 2006 (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 holds an option agreement for the purchase of the Rosemont Project. I have visited the subject property repeatedly since 2004.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

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 for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 15th day of February 2006.

"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.
ILLUSTRATIONS

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Figure 6-1
Rosemont Deposit Location Map
Figure 6-2
Rosemont Property Land Tenure

Unpatented Mining Claims

Peach-Elgin Deposit

Patented Mining Claims

Copper World Mine

Broadtop Butte Deposit

Fee Lands

Rosemont Deposit

Highway 83

(To US Highway 10 and Tucson)

110° 45' W

31° 50' N

1 Km

1 Mile

WLR Consulting, Inc.
February 15, 2006

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Rosemont Mineral Resources Estimate
Augusta Resource Corporation
Figure 9-1
Rosemont Property Generalized Geologic Map

Generalized from Hardy, J.J., Jr., 1997.5
Figure 9-2
Rosemont Deposit Geologic Plan Map
4000 Ft Elevation

Rosemont Deposit - Approximate Outline

Section 304,325N

Scherrer

Eocene

Tepee

Colima

Espeut

Esp

Martín

Escabrosa

Horquilla

qdp
Figure 9-3
Rosemont Deposit Geologic Cross Section
at N 304,325 (looking north)
Figure 13-1
Rosemont Drillhole Collar Locations
Figure 19-1
XRF-Wet Assay Correlation Plot for Cu

XRF-Wet Assay Correlation Plot for Cu

Y = 0.679 * X + 0.084
COR. COEF = 0.944

X- MEAN= 0.492 MIN.= 0.000 NO. = 9009
STD DEV= 0.926 MAX.= 24.700 C.V.= 1.882

Y- MEAN= 0.417 MIN.= 0.000 NO. = 9009
STD DEV= 0.665 MAX.= 14.700 C.V.= 1.594
Figure 19-2
XRF-Wet Assay Correlation Plot for Mo

CORRELATION Moor TO MoWt

Y = 0.881 * X + 0.012
CORR. COEF = 0.874

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Figure 19-3
Lognormal Cumulative Probability Plot for Cu

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<tr>
<td>MINIMUM</td>
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<tr>
<td>MAXIMUM</td>
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<td>2.303</td>
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<tr>
<td>VARIANCE</td>
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<td>ST.DEV.</td>
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<td>1.374</td>
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TOTAL DEPOSIT - TCU VALUES
Figure 19-4
Lognormal Cumulative Probability Plot for Mo

** PROBABILITY DISTRIBUTION PLOT OF MO **

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<td>ST.DEV.</td>
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TOTAL DEPOSIT - Mo VALUES
Figure 19-5
Variogram of Cu 50-Ft Composited Values

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<th>Value</th>
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<tr>
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<td>Log Stdv</td>
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<td>RANGE</td>
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Figure 19-5 Variogram of Cu 50-Ft Composited Values