MEMORANDUM

Date: March 12, 2013

To: The Honorable Chairman and Members  
   Pima County Board of Supervisors

From: C.H. Huckelberry  
   County Administrator

Re: Economic Development and Mining

A pillar of the Economic Development Plan adopted by the Board of Supervisors is protecting our existing employment base and allowing it to expand in place. This component of the plan applies directly to the mining industry within Pima County. Mining is, has been and will continue to be a significant part of our local economy.

I recently asked Freeport-McMoRan Copper and Gold (Freeport) a number of questions related to their operations in Pima County and Arizona and, specifically, questions regarding employment and our ranking on a national level regarding production. Attached for your information is my February 7, 2013 letter to Freeport and their March 5, 2013 response, which provides a fundamental basis for the County assisting Freeport and other mining activities within Pima County to protect their existing employment base and expand in place.

It is important to note that Freeport is actually expanding employment in Pima County, and the value of their activities in molybdenum facilities is significant to our tax base.

Statewide comparisons indicate Pima County ranks second to Maricopa County for income and direct, as well as indirect, employment from mining activities; with Pima County employing approximately 14,000 and Maricopa 18,000. When considering Maricopa County’s population is four times greater than Pima County, this is a significant amount of employment dedicated to mining activities. More importantly, for direct employment, Pima County has the greatest number of employees actively engaged in mining activities within Arizona; nearly twice any other county and three times higher than Maricopa County. For these reasons, Pima County has and will continue to cooperate with Freeport in their expansion activities related to their Sierrita facilities.

We will also continue to assist ASARCO, LLC with their continuing operations at their Mission and Silverbell facilities. County management and other County regulatory departments meet quarterly with Freeport and will do so with ASARCO as well. The purpose of these meetings is to discuss industry activities, as well as understand how
Pima County can assist these mining operations to be successful and continue to employ Pima County residents, providing an essential component of our tax base.

I have also attached additional information related to Freeport’s active and inactive mining operations in Arizona.

CHH/dph

Attachment

c:    John Bernal, Deputy County Administrator for Public Works
      Dr. John Moffatt, Director, Strategic Planning
      Ursula Kramer, Director, Environmental Quality
      Diana Durazo, Special Staff Assistant to the County Administrator
      Lyn Harry White, Government and Public Relations Manager, Freeport-McMoRan
      Copper and Gold, Inc.
February 7, 2013

Ms. Lyn Harry White  
Director, Government Relations  
Freeport-McMoRan Copper & Gold, Inc.  
One North Central Avenue  
Phoenix, Arizona 85004

Re: Mining Activities in Pima County

Dear Ms. White:

County staff and I are looking forward to meeting with you and other Freeport representatives on March 5, 2013 to discuss current Freeport activities and those of the County.

I believe you are aware the County, Raytheon, Tucson Airport Authority, Tucson Regional Economic Opportunities, Inc. and others are engaged in activities to retain jobs and increase employment in Pima County, including developing a research and business park in the Tucson International Airport environs. Relative to this effort, I would be very interested in receiving information regarding Freeport’s economic impact in Pima County, as well as the economic impacts of mining in Arizona as compared to mining activities nationally.

It would be very helpful to review the following data:

1. How many employees does Freeport have in Pima County?
2. What is the dollar value of Freeport’s Pima County mining activity and molybdenum facilities?
3. Does the Arizona Mining Association have similar data for all mining activity in Pima County?
4. Does the National Mining Association compile data on how many counties in the nation have registered copper or molybdenum mines?
5. If yes, what is Pima County’s ranking in comparison with other counties?
6. How does Pima County rank nationally in terms of the total dollar value of mine production?

Any assistance you and your staff could provide in obtaining this information would be greatly appreciated. Again, we look forward to meeting with you on March 5.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/mjk
March 5, 2013

Mr. C.H. Huckleberry
Pima County Governmental Center
130 W. Congress
Tucson, AZ 85701-1317

Re: Mining Activities in Pima County

Dear Mr. Huckleberry:

This letter is in response to your request dated February 7, 2013, for more information on Freeport-McMoRan Copper & Gold’s (FCX) economic impact on Pima County and the economic impacts of mining in Arizona.

1. **How many employees does FCX have in Pima County?**

   As of December 31, 2012, 1,676 FCX employees work at a Pima County facility and 1,500 FCX employees live in Pima County.

   In late 2012, FCX announced that we are moving a portion of our mining, process and environmental technology activities along with administrative functions from Safford, Arizona to an 85,000 sq. ft. facility at 3350 E. Valencia Road in Tucson, Arizona. The facility was previously owned by American Airlines. Approximately 100 employees are scheduled to begin to relocate to Tucson in the third quarter of 2013.

2. **What is the dollar value of FCX’s Pima County mining activity and molybdenum facilities?**

   As of December 31, 2011, the total direct and indirect economic impact of the FCX Sierrita Mine on Pima County was $237 million. The total direct and indirect economic impact of the FCX Sierrita Mine on the state of Arizona was $359 million.

   The value of our FCX Sierrita site which comprises most of our Pima County mining assets was $699 million for the 2013 valuation period.

   The value of our FCX Sahuarita Moly Tech Center was $631,778 for the 2013 valuation period.

   There may be some other Pima County located assets that are not included within this figure but that value is not significant.
3. **Does the Arizona Mining Association have similar data for all mining activity in Pima County?**

As of December 31, 2011, the total (direct and indirect) employee impact from mining activity in Pima County was 13,870 (see Table 1). Of those 13,870, 2,056 are Arizona mining employees who work at a Pima County facility and 2,449 of those employees live in Pima County (see Table 2).

It’s also important to note that the average labor income for employees directly and indirectly employed by the Arizona mining industry is $65,000 compared to the $47,000 labor average of all Arizona workers.

**Table 1: Total (direct and indirect) Economic Impact of Mining Activities by County, 2011**

<table>
<thead>
<tr>
<th>County</th>
<th>Total Income (in mill $s)</th>
<th>Labor Income (in mill $s)</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache</td>
<td>27</td>
<td>22</td>
<td>435</td>
</tr>
<tr>
<td>Cochise</td>
<td>64</td>
<td>46</td>
<td>721</td>
</tr>
<tr>
<td>Coconino</td>
<td>65</td>
<td>46</td>
<td>771</td>
</tr>
<tr>
<td>Gila</td>
<td>269</td>
<td>231</td>
<td>3,224</td>
</tr>
<tr>
<td>Graham</td>
<td>217</td>
<td>190</td>
<td>2,348</td>
</tr>
<tr>
<td>Greenlee</td>
<td>237</td>
<td>192</td>
<td>2,208</td>
</tr>
<tr>
<td>La Paz</td>
<td>5</td>
<td>4</td>
<td>75</td>
</tr>
<tr>
<td>Maricopa</td>
<td>1,700</td>
<td>1,095</td>
<td>16,177</td>
</tr>
<tr>
<td>Mohave</td>
<td>222</td>
<td>85</td>
<td>1,016</td>
</tr>
<tr>
<td>Navajo</td>
<td>161</td>
<td>78</td>
<td>1,377</td>
</tr>
<tr>
<td>Pima</td>
<td>1,268</td>
<td>879</td>
<td>13,870</td>
</tr>
<tr>
<td>Pinal</td>
<td>272</td>
<td>221</td>
<td>2,787</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>5</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>Yavapai</td>
<td>174</td>
<td>126</td>
<td>1,752</td>
</tr>
<tr>
<td>Yuma</td>
<td>24</td>
<td>18</td>
<td>347</td>
</tr>
<tr>
<td><strong>Total Impact</strong></td>
<td><strong>4,631</strong></td>
<td><strong>3,238</strong></td>
<td><strong>49,966</strong></td>
</tr>
</tbody>
</table>

Source: L. William Seidman Research Institute, W.P. Carey School of Business, Arizona State University

Per the chart above, you can see that Pima County ranks 2nd to Maricopa County in total economic impacts of mining activity in Arizona.

**Table 2: Arizona Mining Employees by County of Residence, 2011**

Source: L. William Seidman Research Institute, W.P. Carey School of Business, Arizona State University
4. Does the National Mining Association compile data on how many counties in the nation have registered copper or molybdenum mines?

Per the NMA, they do keep a register of companies and their location based on their primary commodity. Please see chart below.

<table>
<thead>
<tr>
<th>Copper</th>
<th>Molybdenum</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASARCO LLC, A DELAWARE LIMITED</td>
<td>MISSION/SAN XAVIER/EISENHOWER</td>
</tr>
<tr>
<td>ASARCO LLC, A DELAWARE LIMITED</td>
<td>SAHUARITA AZ 85629</td>
</tr>
<tr>
<td>ARIP COPPER INC.</td>
<td>SILVER BELL MINING LLC</td>
</tr>
<tr>
<td>CARLOTA COPPER COMPANY</td>
<td>MARANA AZ 85653</td>
</tr>
<tr>
<td>COPRECO LLC (FREEPORT MCMORAN)</td>
<td>MIAMI AZ 85539</td>
</tr>
<tr>
<td>CYPRIUS TOHONO CORP (FREEPORT MCMORAN)</td>
<td>MIAMI AZ 85539</td>
</tr>
<tr>
<td>FREEPORT MCMORAN CORPORATION</td>
<td>MIAMI AZ 85539</td>
</tr>
<tr>
<td>FREEPORT MCMORAN MIAMI INC</td>
<td>CASA GRANDE AZ 85130</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN BAGDAD INC</td>
<td>CLAYPOOL AZ 85324</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN CHINO MINES INC</td>
<td>BAGDAD AZ 86321</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN COBRE MINING</td>
<td>BAYARD NM 88023</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN MORENCI INC</td>
<td>BAYARD NM 88023</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN SFORD INC</td>
<td>BAYARD NM 88023</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN SIERRITA INC</td>
<td>BAYARD NM 88023</td>
</tr>
<tr>
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<tr>
<td>FREEPORT-MCMORAN SIERRITA INC</td>
<td>BAYARD NM 88023</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN SIERRITA INC</td>
<td>BAYARD NM 88023</td>
</tr>
<tr>
<td>FREEPORT-MCMORAN TIRONE INC</td>
<td>TIRONE NM 88065</td>
</tr>
<tr>
<td>KENNECOTT UTAH COPPER LLC</td>
<td>MAGNA UT 84044</td>
</tr>
<tr>
<td>LISBON VALLEY MINING CO LLC</td>
<td>LISBON VALLEY MINING CO</td>
</tr>
<tr>
<td>MINERAL PARK INC.</td>
<td>GOLDEN VALLEY AZ</td>
</tr>
<tr>
<td>MONTANA RESOURCES</td>
<td>CONTINENTAL MINE</td>
</tr>
<tr>
<td>NORD RESOURCES CORPORATION</td>
<td>BUTTE MT 59701</td>
</tr>
<tr>
<td>POLYMET MINING INC</td>
<td>JOHNSON CAMP MINE</td>
</tr>
<tr>
<td>ROBINSON NEVADA MINING COMPANY</td>
<td>HOYT LAKES MN 55750</td>
</tr>
<tr>
<td>ROSEMONT COPPER COMPANY</td>
<td>ROSEMONT COPPER PROJECT</td>
</tr>
<tr>
<td>CLIMAX MOLYBDENUM (FREEPORT MCMORAN)</td>
<td>CLIMAX CO 80429</td>
</tr>
<tr>
<td>CLAYTON CO 83227</td>
<td></td>
</tr>
<tr>
<td>THOMPSON CREEK MINING CO</td>
<td>CLAYTON ID 83227</td>
</tr>
</tbody>
</table>

5. If yes, what is Pima County's ranking in comparison with other counties?

Per the NMA, they do not track that data.

6. How does Pima County rank nationally in terms of the total dollar value of mine production?

Per the NMA, they do not track that data.

Please let me know if further information is needed, we are more than happy to provide.

Sincerely,

[Signature]
Lyn Harry-White
Economic Impact Upon the Economy of Arizona – 2011

Freeport-McMoRan Copper & Gold contributes in many ways to the sustainability of the various communities, counties and states in which we operate. They rely heavily on the economic benefits directly and indirectly provided by our various operations in the form of wages and taxes we pay as well as the goods and services we buy. The economic benefits derived from our operations not only fuel the local economy but, thanks to the multiplier effect, extend across the economic landscape of Arizona.

The top chart reveals the estimated total direct and indirect economic impact of Freeport-McMoRan on Arizona in 2011, which was approximately $2.8 billion. Direct impacts include approximately $860 million from operations and $627 million from supplier purchases. Indirect impacts were estimated to be $330 million from spending by employees and $546 million from supplier purchases. There was approximately $386 million from spending out of new state and local tax revenues and $28 million in effects from spending from pension income.

Included in these figures is an estimated $274 million impact of FCX operations on state and local tax revenues in 2011. These figures encompass all of the taxes directly and indirectly generated throughout the economic impact process.

Across the state, Freeport-McMoRan employed over 7,600 workers at the end of 2011. The total direct and indirect impact of Freeport-McMoRan operations on the Arizona economy was estimated to be nearly 30,000 jobs.

Finally, Freeport-McMoRan is committed to ongoing engagement with the communities in which we operate, investing in programs that help communities realize plans and initiatives that help them become increasingly sustainable over time and less dependent on a single industry. In 2011, we contributed over $26 million to Arizona communities focusing our efforts on education and training, economic development, safety and wellness, the environment and cultural heritage programs.

All economic impact numbers here were produced by the L. William Slidman Research Institute, Arizona State University.
Economic Impact of the Sierrita Mine Upon Pima County and Arizona – 2011

Freeport-McMoRan Copper & Gold contributes in many ways to the sustainability of the various communities, counties and states in which we operate. They rely heavily on the economic benefits directly and indirectly provided by our various operations in the form of wages and taxes we pay as well as the goods and services we buy. The economic benefits derived from our operations not only fuel the local economy but, thanks to the multiplier effect, extend across the economic landscape of Arizona.

The top chart reveals the estimated total direct and indirect economic impact of the Sierrita mine on Pima County in 2011, which was $237 million. Direct impacts include approximately $106 million from operations and $47 million from supplier purchases. Indirect impacts were estimated to be $33 million from spending by employees and $28 million from supplier purchases. There was an estimated $23 million from spending out of new state and local tax revenues.

The bottom chart reveals the estimated total direct and indirect economic impact of the Sierrita mine on the state of Arizona in 2011, which was $359 million. Direct impacts include approximately $124 million from operations and $74 million from supplier purchases. Indirect impacts were estimated to be $44 million from spending by employees and $58 million from supplier purchases. There was an estimated $59 million of indirect effects from spending out of new state and local tax revenues.

At the end of 2011 Freeport-McMoRan had over 1,100 employees at Sierrita. Across the entire state, Sierrita was directly and indirectly responsible for approximately 3,860 jobs in 2011.

All economic impact numbers here were produced by the L. William Seidman Research Institute, Arizona State University.
How The Arizona Copper Mines Of Freeport-McMoRan Copper & Gold Helped The State Blossom Over The Last Century and Position the State for Future Success
Arizona's flag is made of thirteen red and gold rays of a western sunset for the thirteen original colonies. The lower half is Liberty blue to match that of the U.S. flag. And in the center, it's no coincidence that the flag proudly displays a large copper star.

For more than a century, copper mining has played a significant role in Arizona. The red metal has long been a source of growth, community building, economic prosperity and pride for the state.

As we move closer to celebrating our state's centennial, we take a glance at the role the copper mines of Freeport-McMoRan Copper & Gold Inc. played in Arizona's history.

**Our Arizona Operations**

<table>
<thead>
<tr>
<th>Morenci</th>
<th>Bagdad</th>
<th>Safford</th>
<th>Sierrita</th>
<th>Miami</th>
<th>Worldwide Headquarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>An open-pit copper mining complex located in Greenlee County. The expansive operations make it one of North America's largest producers of copper and one of the largest open-pit mines in the world.</td>
<td>Located in Yavapai County, our northernmost active mine in Arizona. The open-pit mine produces both copper and molybdenum. The mine is an important part of our North American operations, accounting for roughly 20% of our North American copper production.</td>
<td>Our newest mine; it has been in operation since 2007. The mine, located in Graham County, is a zero-discharge facility and one of the most environmentally advanced open-pit copper mines ever built. Within the city of Safford we also operate a Technology Center, providing direct support and innovative mining, processing and environmental solutions to our operations around the world.</td>
<td>An open-pit copper and molybdenum mining complex located in Pima County. It began producing copper in 1970 and significantly expanded production of the then-existing mining operations in the area.</td>
<td>Located in Gila County, the open-pit mine is also home to our only smelter and rod mill in Arizona. Limited mining activities have been initiated at the mine to improve efficiencies of ongoing reclamation projects associated with historical mining operations at the site.</td>
<td>Located in downtown Phoenix, the staff of approximately 700 employees provides management for the company's worldwide businesses as well as technical and administrative support for our operations.</td>
</tr>
</tbody>
</table>

1866 Robert Metcalf discovers copper outcroppings at what became Morenci

1870

1872 First commercial mining operations are developed at Morenci

1872 First mining claims staked in Jerome

1876 First mining claims staked in Bisbee

1880
More than a century ago, scores of prospectors came to the Arizona Territory in search of minerals yet unsure of what they would find. Harsh summers, a rough desert environment, and the lawlessness of the Old West were just some of the challenges these mining pioneers faced.

Traversing the state they carried on. Prospecting in the Miami/Globe area dates back to the 1860s. Minerals at what is now Morenci were discovered in 1866. Mining claims were first staked in Ajo in 1872, Jerome in 1876, Bagdad in 1882 and the Green Valley/Sahuarita area in 1895.

Workers gather at the junction shaft in Bisbee in the early 1900s.

The area now known as Bisbee was discovered in the mid-late 1880s when Army scouts on a mission noticed signs of mineralization in the area. By the 1910s Bisbee, led by the Copper Queen mine, quickly transformed from a sleepy mine camp into one of Arizona’s largest cities.

Near the turn of the 20th century, a new smelter was built in what is now the City of Douglas, driven by the need for larger, more modern and accessible processing facilities.

The sudden growth in mining communities also brought the need for schools, libraries, churches and hospitals to serve the miners and their families. Community development and outreach became key to running a successful mining operation and ultimately played a vital role in helping the Arizona Territory grow.

An early prospector, George Warren, in mining’s early days. His likeness appears on Arizona’s official state seal.

1886 Bisbee’s first company mercantile store was established

1886 Arizona’s first copper concentrator was built at Morenci

1895 First mining claims staked in what is now the Green Valley/Sahuarita area

1890 United Verde Mine in Jerome was the world’s sixth largest copper producer

1900 Bisbee smelter closes; relocated to Douglas

1904 Bisbee’s #1 asset is an understatement.

To say employees are our #1 asset is an understatement. We are often the largest employer in communities where we operate around the globe and our success relies on the individual contributions of all employees. For this reason, we seek to attract and retain the most qualified employees for every position. At the end of 2010, our diverse workforce included approximately 30,000 employees, of which over 7,000 were here in Arizona.

The safety of all Freeport-McMoRan employees and contractors is a core value. Central to safe production are the training and incentive programs we have in place to safeguard from accidents.

We also recognize that having up-to-date, specialized and technical skills help our employees perform their jobs better. One way we support this important initiative is the state-of-the-art Mine Training Institute we opened south of Tucson.

Today’s mining process requires a variety of personnel in order to be a successful operation. Engineers, geologists, truck drivers, mechanics and administrative personnel are just a few of the many team players needed to successfully produce copper and other metals.

We also highly encourage employees to become more involved in their communities. From our company-matching charitable contribution program to company-organized volunteer opportunities, we applaud our employees in supporting the communities where they live, work and play.
Sustaining Long Term Success In Our Communities

Dating back to the early days of mining, our Arizona operations quickly recognized the importance of a strong community infrastructure.

Mercantiles, churches, hospitals and schools were some of the first installations added by the operations to support the miners and their families. Movie theaters, swimming pools and community centers were among the facilities added in later years.

Today, we remain committed to working with all of the communities where we have a presence to support social development and sustainability. We do this by engaging with community leaders and members through our Community Partnership Panels, which provide an avenue for open dialogue with a goal of identifying the community’s self-defined priorities. Members of the Community Partnership Panel in Green Valley/Sahuarita area are featured in the photo below. Additionally, the company sets aside Community Investment Funds to support sustainable solutions addressing these priorities.

Our success has mutually benefited the state. In 2010, Freeport-McMoRan had a total estimated impact of $2.1 billion on Arizona’s economy, of which $920 million benefitted the southern Arizona counties where we operate. The impacts come in the form of wages and taxes we pay as well as the goods and services we buy. Separately, in 2010 we invested more than $23 million in Arizona community programs, mostly in southern Arizona communities, to bolster education, economic development, social services, health, safety, the environment and cultural heritage programs.

While the Roaring Twenties were good to the state, the 1930s would be much different. The Great Depression would prove to be devastating to many Arizonans and the biggest test to date for Arizona’s copper mines.

With a low demand for copper, some mines closed temporarily and others never reopened.

By the end of the decade, global tensions took center stage leading to a second World War.

The Allies — ever in need of more copper for communications and artillery — relied, in part, on copper from Arizona’s mines to help meet demand.

During the 1910s, worldwide events drove the need for more of Arizona’s red metal. America was growing rapidly, the world became more reliant on electricity, and the Allies needed artillery and communications in World War I.

All of this required copper, and Arizona mines were able to deliver.

In 1912, Arizona’s prosperity had earned it a spot as the forty-eighth state in the United States. Copper was quickly recognized as an integral part of Arizona’s economy and the state’s transformation to statehood.

By the 1920s, booming copper mining towns dotted the Grand Canyon state. Bisbee had become one of Arizona’s largest cities. Further north, people were also flocking to Jerome, a budding community atop Cleopatra Hill to mine its copper creating another one of Arizona’s more populous towns.

1910 | 1912 | 1915 | 1917 | 1919 | 1920 | 1928 | 1930
---|---|---|---|---|---|---|---
 Arizona becomes the 48th state in the U.S. | Bisbee becomes the 48th state in the U.S. | Clarksdale smelter operations commence | Open-pit mining begins in Bisbee | Bisbee’s population swells to 25,000; one of the state’s largest cities | Baadad’s mill begins to process ore from its underground mine | Production reduced at Bisbee & Temporarily suspended at Ajo, Jerome & Morenci

While the Roaring Twenties were good to the state, the 1930s would be much different. The Great Depression would prove to be devastating to many Arizonans and the biggest test to date for Arizona’s copper mines.

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By the 1920s, booming copper mining towns dotted the Grand Canyon state. Bisbee had become one of Arizona’s largest cities. Further north, people were also flocking to Jerome, a budding community atop Cleopatra Hill to mine its copper creating another one of Arizona’s more populous towns.
During the early 1940s with World War II in full swing, the mines quickly expanded production and many mining communities, particularly Morenci and Clifton, grew rapidly. The mining operations responded by adding or expanding hospitals, schools, homes, shopping and recreational facilities to nearby communities for the new arrivals.

Arizona’s miners were doing everything possible to produce more of the red metal which was in high demand. Morenci completed its conversion to open-pit mining and was becoming an increasingly significant copper producer. The Copper Queen Mine in Bisbee was operating at full production. Ajo’s mine was running at peak capacity around the clock and the town’s population swelled. The mine in Jerome was performing well, although its production began to decline. The smelter in Clarkdale, near Jerome, had extra capacity to handle additional loads from elsewhere to meet war-time needs.

Arizona’s miners joined with the rest of the U.S. by working to support Allied efforts or were drafted into military service and an increasing number of women throughout the U.S. entered the workforce, including in Arizona’s mining operations.

In 1954, Bisbee’s Lavender Pit opened which further increased copper production. Also during the 1950s, on-going mineral exploration activity led to the discovery of a large ore body at Safford. However, times were changing in Jerome. After decades of copper mining, production ceased, resulting in the closing of this historic operation.

### Timeline:

| 1936 | Ajo mine is the state’s leading copper producer |
| 1937 | Morenci launches development of open-pit mining |
| 1940 | Morenci’s new mine, mill, & smelter complex begins production from its new open-pit mine |
| 1942 | Morenci adds 770 new homes & expands hospital due to growth |
| 1944 | Morenci commences construction of copper smelter |
| 1945 | Bagdad transitions to open-pit mining |
| 1948 | Ajo commences construction of copper smelter |
| 1950 | Clarkdale smelter closes |
| 1953 | United Verde Mine in Jerome ceases production |
| 1954 | Bisbee’s new Lavender open-pit mine begins producing |
| 1957 | Commercial exploration of Safford begins |

Recognizing The Past, Building For The Future

We endeavor to take land once used for mining operations and convert it to economically productive land or restore it back to its natural or semi-natural state. In the U.S., a team of Freeport-McMoRan project managers, technical experts, and equipment operators are currently executing projects to reclaim areas no longer required for current or future operations.

At the Bisbee mine, we completed the reclamation of several historic stockpiles during 2010. During 2011, reclamation activities will transition from stockpile areas to the former tailings areas. This three-year voluntary test reclamation tailings project will allow our teams to evaluate innovative reclamation designs that may be applicable to other Freeport-McMoRan tailings facilities.

In the Jerome/Clarkdale area, mining-related activities ceased many decades ago, yet we continue to be active in the community through environmental and sustainable development efforts to remedy the effects of previous mining-era. The environmental reclamation project in Clarkdale, completed in 2007, was honored with an award from the U.S. Bureau of Land Management.

As a leader in our industry, we understand our commitments to the global community and the environment in which we live. We recognize our obligation to mine our properties in balance with our corporate, social and environmental responsibilities to safeguard future generations. We embrace this core concept of sustainable development both as our corporate civic duty and as a prudent business practice.
We mine and process ore to supply metals that connect and sustain the world’s infrastructure. Here in Arizona we primarily produce copper and molybdenum.

Copper is closely tied to economic growth, as it is a key component of energy, aerospace, transportation, and telecommunications systems throughout the world. The red metal remains essential to plumbing, conductivity and connectivity, and is a critical element in new technology. And antimicrobial copper is gaining prominence for its ability to reduce the spread of infections.

Molybdenum strengthens steel, resists heat and adds corrosion resistance to a wide variety of products. Molybdenum chemical products remove sulfur from crude oil, which results in cleaner-burning fuels and cleaner air. Molybdenite is used as a lubricant that can sustain its durability in tough operating conditions, such as with automotive brakes.

In the 1960s, Morenci’s plans for expansion left it with a unique challenge—the original town was built over part of its ore body. Typically, mine expansions require a building or processing facility to be moved but this time it would require the entire town to be relocated. No small feat, a relocation of the entire Morenci community started in 1965 and took 17 years to complete.

Later that decade, Morenci also opened the Metcalf pit (across the valley from the Morenci pit), where much of the original mining in the Morenci district had taken place. By the mid-1970s, this expansion of the Morenci mine was complete.

During the 1970s, the state also welcomed a new mine when Serrita began producing. The mine significantly expanded production capacity and efficiency of the then-existing mining operations in the Green Valley/Sahuarita area.

Sadly, the decade of the ’70s also brought an end to a century of production at Bisbee. For the first time ever, mining did not set the pace of life in this long-standing mining community. The city has now transformed itself into a charming and picturesque community that celebrates its nostalgic past.

Heading into the 1980s, times were tough on Arizona’s copper mines. The economy was in a recession leading to low copper prices and decreased production. A number of Arizona mines closed. Lingering uncertainty in the international copper market made it difficult for higher cost producing mines to continue operating.

Tough times called for creative and innovative solutions in order to survive. By the mid-1980s, a process technology called solution extraction-electrowinning (SX-EW) was implemented at Morenci. This process, although not new, helped Morenci and other mines produce copper more cost-effectively.
Nonetheless, some operations could not survive these turbulent times. The mine at Ajo shut down. Smelters at Ajo, Douglas and Morenci were closed and eventually decommissioned.

By the 1990s, an increase in the use of new technologies improved production efficiencies. Global positioning system (GPS) technology was first introduced at the Morenci mine. The technology was initially used as a surveying tool but later was adapted to other mine applications to improve efficiencies for drilling, loading and hauling in the mines.

Although the dawn of a new millennium brought hope for a bright future, copper prices lingered near unfamiliar lows. By the middle of the decade, a resurgence of the global economy, particularly in China, sparked an increase in demand for the red metal and a rebound in price. Averaging just $0.76 per pound from 2000 to 2003, the price of copper began its sharp upswing in 2004 and averaged approximately $3.25 per pound from 2007 through 2010, stimulating a period of strong growth opportunities for the copper industry.

Bisbee no longer relies on mining but now attracts tourists, artists and retirees. Ajo is a large draw for seasonal visitors when the Arizona sun is less intense. Jerome and Clarkdale, known historically for their mining-related activities, now rely on their comfortable climate and Old West nostalgia to attract tourists and ghost hunters.

Although production has ceased at some of our historic locations, we are committed to environmental remediation of our properties that operated in past mining eras. And today's mining takes into account detailed planning, including environmental impacts, from start-up through closure.

For over 100 years, our copper mines have helped Arizona's communities and economic development by producing metals used throughout society. At Freeport-McMoRan, we're glad to be part of this joyful centennial celebration and look forward to a bright future led by the star of our state—copper.

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**So where are we today and what lies ahead?**

Our Morenci Mine continues to be a top producer with room for possible expansion. Bagdad continues to play a significant role in our North America Operations, and Sierrita produces significant quantities of molybdenum in addition to copper.

The Safford Mine is our newest open-pit copper mining complex with its first copper production occurring in late 2009. It is one of the most environmentally advanced copper mines ever built. The Miami Operations include an open-pit copper mine, an operating smelter and a rod mill, our only operation in Arizona of this kind.

**1985**
- Ajo Smelter closes

**1987**
- Douglas Smelter closes

**1990**
- SX/EW plant commissioned in Morenci

**1995**
- Morenci adds a second, larger SX/EW plant

**2000**
- Production from Safford Mine begins

**2006**
- Construction of Safford Mine begins

**2007**
- Ajo Smelter closes

**2010**
- Ajo Smelter closes
Linking to the Past. Connecting the Future.

Freeport-McMoRan Copper & Gold proudly looks forward to Arizona's centennial celebration in February 2012. For more than 100 years, our copper mines in Arizona have played a significant role in connecting the world by producing metals that are vital to the world's economies and today's standard of living.