



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 30, 2013

**Certified Mail #70123050000053966438**  
**Return Receipt Requested**

Mr. Joseph Kimbrell  
New Mexico Environmental Department  
Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505

Dear Mr. Kimbrell,

**Re: Freeport-McMoRan Chino Mines Company-Technical Revision to NSR Permit 0298M6R1**

Freeport-McMoRan Chino Mines Company (Chino) is pleased to submit this Technical Revision to the New Mexico Environment Department (NMED), Air Quality Bureau (AQB) to incorporate following:

1. North haul road from the In-Pit NW Stockpile to the West Stockpile.
2. Expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
3. Addition of a 1.4 MMBtu/hr propane-fired Boiler (Water Heater)

Pursuant to 20.2.72.219 B. (1) (a)(b) NMAC technical revision may be employed to make this change because;

- a. Chino Mines is incorporating a change in the permit solely involving a change in monitoring, record keeping of through put via the temporary North haul road, and South stockpile footprint expansion.
- b. The potential emission rate from SXEW Boiler No.3 for any single regulated pollutant is less than one pound per hour.

This Technical Revision package consist of one original Reporting Submittal Form, One original application, and Compact Disks with original files and check amount of \$500 for NSR Permit Filing Fee. The following sections of the New Mexico Environmental Department Universal Application Forms and supporting appendices are included in this technical revision application package:

- Section 1: General Facility information
- Section 2: Tables – Table 2-A, D, E, H, I, J
- Section 3: Application Summary
- Section 6: All Calculations
- Section 7: Methods used to Determine Emissions
- Section 9: Proof of Public Notice
- Section 10: Written Description of the Routine Operations of the Facility
- Section 16: Air Dispersion Modeling
- Section 23: Certification
- Appendix A: Calculations
- Appendix B: Proof of Public Notice
- Appendix C: References

Mr. Joseph Kimbrell  
December 30, 2013  
Page 2

We greatly appreciate your attention to this Technical Permit Revision and look forward to obtaining a revised permit as soon as possible. Please do not hesitate to contact me at 575-912-5707 if you have any concerns.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Brack for".

John D. Brack  
President, Chino Acquisition Inc.,  
Freeport-McMoRan Chino Inc. General Partners  
Freeport-McMoRan Chino Mines Company

TEE:fe  
Attachments  
20131230-001





3	Plant Owner(s) name(s): Freeport-McMoRan Chino Mines Company	Phone/Fax: (575) 912-5000 / (575) 537 8012
a	Plant Owner(s) Mailing Address(s): P. O Box 10, Bayard, NM 88023	
4	Bill To (Company): Freeport-McMoRan Chino Mines Company	Phone/Fax: (575) 912-5000 / (575) 537 8012
a	Mailing Address: P. O Box 10, Bayard, NM 88023	E-mail: Sherry_Burt-Kested@fmi.com
5	<input checked="" type="checkbox"/> Preparer: Frederick Ennin <input type="checkbox"/> Consultant:	Phone/Fax: (575) 912 5707 / (575) 912 5010
a	Mailing Address: P. O Box 10, Bayard, NM 88023	E-mail: Frederick_Ennin@fmi.com
6	Plant Operator Contact: Sherry_Burt-Kested@fmi.com	Phone/Fax: (575) 912 5927 / (575) 912 5010
a	Address: 99 Santa Rita Mine Road, Vanadium, NM 88023	E-mail: Sherry_Burt-Kested@fmi.com
7	Air Permit Contact: Frederick Ennin	Title: Air Quality Engineer
a	E-mail: Frederick_Ennin@fmi.com	Phone/Fax: (575) 912 5707 / (575) 912 5010
b	Mailing Address: P. O Box 10, Bayard, NM 88023	

**Section 1-B: Current Facility Status**

1.a	Has this facility already been constructed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, give month and year of shut down (MM/YY): NA
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: P-066R2
7	Has this facility been issued a No Permit Required (NPR)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NPR No. is: NA
8	Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NOI No. is: NA
9	Does this facility have a construction permit (20.2.72 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: NSR 0298M6R1
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the register No. is: NA

**Section 1-I – Submittal Requirements**

Each 20.2.73 NMAC (NOI), a 20.2.70 NMAC (Title V), a 20.2.72 NMAC (NSR minor source), or 20.2.74 NMAC (PSD) application package shall consist of the following:

**Hard Copy Submittal Requirements:**

- 1) One hard copy **original signed and notarized application package printed double sided ‘head-to-toe’ 2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be **head-to-head**. If ‘head-to-toe printing’ is not possible, print single sided. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required.
- 2) If the application is for a NSR or Title V permitting action, include one working hard **copy** for Department use. This copy does not need to be 2-hole punched. **Technical revisions only need to fill out Section 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical revision.** TV Minor Modifications need only fill out Section 1-A, 1-B, 1-H, 3, and those

portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

- 3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically on compact disk(s) (CD). For permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal.
- 4) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver OR** one additional electronic copy of the air dispersion modeling including the input and output files. The dispersion modeling **summary report only** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau. The complete dispersion modeling study, including all input/output files, should be submitted electronically as part of the electronic submittal.
- 5) If subject to PSD review under 20.2.74 NMAC (PSD) include,
  - a. one additional hard copy and one additional CD copy for US EPA,
  - b. one additional hard copy and one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
  - c. one additional hard copy and one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

**Electronic Submittal Requirements** [in addition to the required hard copy(ies)]:

- 1) All required electronic documents shall be submitted in duplicate (2 separate CDs). A single PDF document of the entire application as submitted and the individual documents comprising the application.
- 2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc.), submit these items in hard copy format with the number of additional hard copies corresponding to the number of CD copies required. We must be able to review the formulas and inputs that calculated the emissions.
- 3) It is preferred that this application form be submitted as 3 electronic files (**2 MSWord docs**: Universal Application section 1 and Universal Application section 3-19) and **1 Excel file** of the tables (Universal Application section 2) on the CD(s). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.
- 4) The **electronic file names** shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the **core permit number** (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the **section #** (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the **header information** throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision # (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. The footer information should not be modified by the applicant.

**Table of Contents**

<b>Section 1:</b>	<b>General Facility Information</b>
<b>Section 2:</b>	<b>Tables</b>
<b>Section 3:</b>	<b>Application Summary</b>
<b>Section 4:</b>	<b>Process Flow Sheet</b>
<b>Section 5:</b>	<b>Plot Plan Drawn to Scale</b>
<b>Section 6:</b>	<b>All Calculations</b>
<b>Section 7:</b>	<b>Information Used to Determine Emissions</b>
<b>Section 8:</b>	<b>Map(s)</b>
<b>Section 9:</b>	<b>Proof of Public Notice</b>
<b>Section 10:</b>	<b>Written Description of the Routine Operations of the Facility</b>
<b>Section 11:</b>	<b>Source Determination</b>
<b>Section 12:</b>	<b>PSD Applicability Determination for All Sources &amp; Special Requirements for a PSD Application</b>

- Section 13: Discussion Demonstrating Compliance with Each Applicable State & Federal Regulation**
- Section 14: Operational Plan to Mitigate Emissions**
- Section 15: Alternative Operating Scenarios**
- Section 16: Air Dispersion Modeling**
- Section 17: Compliance Test History**
- Section 18: Addendum for Streamline Applications (streamline applications only)**
- Section 19: Requirements for the Title V (20.2.70 NMAC) Program (Title V applications only)**
- Section 20: Other Relevant Information**
- Section 21: Addendum for Landfill Applications**
- Section 22: Green House Gas Applicability**
- Section 23: Certification Page**



**Table 2-A: Regulated Emission Sources**

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number <sup>1</sup>	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture or Reconstruction <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, ...)	Replacing Unit No.
							Date of Installation /Construction <sup>2</sup>	Emissions vented to Stack #				
CM HR	Chino Mine Haul Road (North Haul Road From NW Stockpile)	N/R	N/A	N/A	N/A	N/A		NA(fugitive )	1021	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
South Stockpiles	Expand foot print to include STS2 and Upper south piles	N/R	N/A	N/A	250 ktpd	250 ktpd		NA		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
SXEW Boiler No. 3	Boiler	Weben-Jarco, Inc.,	AJH140	AJH140.1067	1.4 MMBtu/Hr	1.4 MMBtu/Hr	1996	NA		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
								TBD				

<sup>1</sup> Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

<sup>2</sup> Specify dates required to determine regulatory applicability.

<sup>3</sup> To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

**Table 2-D: Maximum Emissions** (under normal operating conditions)

This Table was intentionally left blank because it would be identical to Table 2-E.

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures<sup>1</sup>. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point.

Unit No.	NOx		CO		VOC		SOx		TSP <sup>2</sup>		PM10 <sup>2</sup>		PM2.5 <sup>2</sup>		H <sub>2</sub> S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SXEW Boiler 3	0.199	0.871	0.115	0.503	0.015	0.067	0.00811	0.0355	0.011	0.047	0.011	0.047	0.011	0.047	-	-	-	-
CH HR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Stockpiles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Totals</b>	<b>0.199</b>	<b>0.871</b>	<b>0.115</b>	<b>0.503</b>	<b>0.015</b>	<b>0.067</b>	<b>0.00811</b>	<b>0.0355</b>	<b>0.011</b>	<b>0.047</b>	<b>0.011</b>	<b>0.047</b>	<b>0.011</b>	<b>0.047</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

<sup>1</sup> Significant Figures Examples: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

<sup>2</sup> Condensables: Include condensable particulate matter emissions in particulate matter calculations.

Emissions from the proposed North haul road and expanded South Stockpile are not indicated in the above table because Chino is not requesting an increase to the Facility wide Haul Road emissions.

A copy of facility wide emissions is attached to Appendix A.

**Table 2-E: Requested Allowable Emissions**

Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures<sup>1</sup>. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point. Please do not change the column widths on this table.

Unit No.	NOx		CO		VOC		SOx		TSP <sup>2</sup>		PM10 <sup>2</sup>		PM2.5 <sup>2</sup>		H <sub>2</sub> S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SXEW Boiler 3	0.199	0.871	0.115	0.503	0.015	0.067	0.00811	0.0355	0.011	0.047	0.011	0.047	0.011	0.047	-	-	-	-
CH HR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Stockpiles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Totals</b>	<b>0.20</b>	<b>0.87</b>	<b>0.12</b>	<b>0.50</b>	<b>0.02</b>	<b>0.07</b>	<b>0.01</b>	<b>0.04</b>	<b>0.01</b>	<b>0.05</b>	<b>0.01</b>	<b>0.05</b>	<b>0.01</b>	<b>0.05</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

<sup>1</sup> Significant Figures Examples: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

<sup>2</sup> Condensables: Include condensable particulate matter emissions in particulate matter calculations.

Emissions from the proposed North haul road and expanded South Stockpile are not indicated in the above table because Chino is not requesting an increase to the Facility wide Haul Road emissions. A copy of facility wide emissions is attached to Appendix A.

**Table 2-H: Stack Exit Conditions**

Unit and stack numbering must correspond throughout the application package.

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H=Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter or
						(acfs)	(dscfs)			L x W (ft)
TBD	SXEW Boiler No. 3	V	Yes	16 est.	400	16		NA	31	0.80

**Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs**

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP			
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
TBD	SXEW boiler 3	-	-																		
No HAPs emissions factor published in AP-42. Chapter 1.5 for Propane (LPG) fired Boiler.																					
<b>Totals:</b>																					

**Table 2-J: Fuel**

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (No. 2 Diesel, Natural Gas, Coal, ...)	Specify Units				
		Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
SXEW Boiler No. 3	Propane (LPG)	91.5 MMBTU/10 <sup>3</sup> Gal	15.3	134,028 gals	NA	NA



# Section 3

## Application Summary

---

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will effect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

**Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM):** Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications ([http://www.nmenv.state.nm.us/aqb/permit/app\\_form.html](http://www.nmenv.state.nm.us/aqb/permit/app_form.html)) for more detailed instructions on SSM emissions.

---

- ❖ Freeport-McMoRan Chino Mines Company (Chino) is submitting to NMED a request for technical revision to NSR Permit 0298M6R1 for the addition of a 1.4 MMBtu/hour Weben-Jarco LPG-fired boiler serial number AJH140.1067 to heat water for washing cathodes at the SXEW facility. Based on AP-42 emission factors and operating 8760 hours per year, the potential emission rate of all regulated pollutants from the proposed additional boiler are less than the NMED modeling waiver threshold of one (1) pound per hour as shown in Table 2 below.
- ❖ Also, included in the requested technical revision will be an update to incorporate the following changes to the Ambient Air Quality Impacts Report submitted in June 2012 as part of the significant revision of NSR Permit 0298M5:
  1. Chino proposes to add a North haul road from the In-Pit NW Stockpile to the West Stockpile. Chino is currently permitted to haul and dump 80,000 tons per day (tpd) on the West Stockpile. In order to comply with ambient air quality standards, delivery through the new proposed haul road will be restricted to 70,000 tpd. Chino proposes to maintain records to demonstrate compliance with this haulage limit through the proposed temporary haul road.
  2. Chino proposes to expand the footprint of the South Stockpile by adding the STS2 and Upper South Areas. The total amount of material delivered to the expanded South Stockpile will not change.

No changes to the existing mining and material delivery limits are necessary or requested. These limits include a maximum mine rate of 350,000 tpd, a maximum delivery rate of 250,000 tpd each to the Lampbright Stockpile and South Stockpile and a maximum delivery rate of 80,000 tpd to the West Stockpile. The only additional monitoring required ensuring continued modeled compliance with the ambient air quality standards, is a restriction on the delivery of material to the West Stockpile using the new proposed In-Pit NW Haul Road. In other words, while Chino may still deliver 80,000 tpd of material to the West Stockpile, only 70,000 tpd of that material may be transported via the new North haul road.

Chino is also not requesting any change to the existing allowable haul road emissions. Although the modeling report submitted in November, 2013 to NMED conservatively estimates that haul road emissions will increase after incorporating the proposed changes, Chino will continue to comply with the existing annual rolling total fugitive emissions limits in the existing permit.

Detailed description of facility process is provided in Section 10 of this technical revision application.



# Section 6

## All Calculations

---

**Show all calculations** used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

**Tank Flashing Calculations:** The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

**SSM Calculations:** It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rationale for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications ([http://www.nmenv.state.nm.us/aqb/permit/app\\_form.html](http://www.nmenv.state.nm.us/aqb/permit/app_form.html)) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

**Glycol Dehydrator Calculations:** The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

**Road Calculations:** Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

**Significant Figures:**

- A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.
- B. At least 5 significant figures shall be retained in all intermediate calculations.
- C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:
  - (1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
  - (2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
  - (3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
  - (4) The final result of the calculation shall be expressed in the units of the standard.

**Control Devices:** In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

---

Detailed emission calculation in support of this technical revision application for NSR Permit 0298M6R1 are provided in Appendix A. Emissions are calculated using emissions factors and equations provided in AP-42, Chapter 13, Unpaved Roads (11/2006). Potential emission rate for the SXEW Weben-Jarco LPG-fired Boiler serial number AJH140.1067 (Water Heater) is determined based on operating at maximum capacity of 1.4MMBtu/hr and 8760 hours a year and based on emission factors for commercial boilers presented in USEPA AP-42 Chapter, Section 1.5 "Liquefied Petroleum Gas Combustion" (7/08), Table 1.5-1. SO<sub>2</sub> emission factor = 0.10S where S = grains Sulfur/100 ft<sup>3</sup> gas vapor. SSM emissions will be minimized by following appropriate manufacture guidelines or written procedures for Startup, Shutdown, and Maintenance Operations.

# Section 7

## Information Used To Determine Emissions

---

**Information Used to Determine Emissions shall include the following:**

- If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
- If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
- √ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- If an older version of AP-42 is used, include a complete copy of the section.
- If an EPA document or other material is referenced, include a complete copy.
- Fuel specifications sheet.
- If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

---

In support of this Technical Revision Permit Application for NSR 0298M6R1, emissions are calculated using emissions factors and equations provided in AP-42, Chapter 13, Unpaved Roads (11/2006). Potential emission rate for the SXEW Weben-Jarco LPG-fired Boiler serial number AJH140.1067 (Water Heater) is determined based on operating at maximum capacity of 1.4MMBtu/hr and 8760 hours a year and based on emission factors for commercial boilers presented in USEPA AP-42 Chapter 1, Section 1.5 "Liquefied Petroleum Gas Combustion" (7/08), Table 1.5-1. SO<sub>2</sub> emission factor = 0.10S where S = grains Sulfur/100 ft<sup>3</sup> gas vapor. These emission factors have been included in Appendix A. A copy of the page containing the emissions factors is attached.

# Section 9

## Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

(This proof is required by: 20.2.72.203.A.14 NMAC “Documentary Proof of applicant’s public notice”)

---

√ **I have read the AQB “Guidelines for Public Notification for Air Quality Permit Applications”**

This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

---

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant’s Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

**New Permit** and **Significant Permit Revision** public notices must include all items in this list.

**Technical Revision** public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. √ A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
  2.  A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
  3.  A copy of the property tax record (20.2.72.203.B NMAC).
  4.  A sample of the letters sent to the owners of record.
  5. √ A sample of the letters sent to counties, municipalities, and Indian tribes.
  6.  A sample of the public notice posted and a verification of the local postings.
  7.  A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
  8.  A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
  9. √ A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
  10. √ A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
  11.  A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.
- 

The public notice documentation required for this Technical Revision is provided in the following pages.

# Section 10

## Written Description of the Routine Operations of the Facility

---

**A written description of the routine operations of the facility.** Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

---

The Freeport-McMoRan Chino Mines Company (Chino) operates an open-pit copper mine in southwest New Mexico. The Chino facility operates under NSR Air Permit 0298M6R1 that regulates its air emissions sources that are spatially separated into three distinct areas: (1) the northernmost Cobre magnetite recovery for off-site delivery operation; (2) the centrally located Santa Rita copper mine, copper and molybdenum concentrator, and SX/EW (Solution Extraction and Electrowinning) plant; and (3) the southernmost Hurley operation that produces electricity for internal use with a natural gas power plant, and blends of copper and molybdenum concentrates prior to their off-site shipment.

Mine is located near Bayard, New Mexico, within Grant County. The mine produces copper cathode using the Solvent Extraction - Electro-winning (SX/EW) process in the SX/EW Plant and produces copper concentrate using a wet flotation process in the Ivanhoe Concentrator. Mine operations associated with the Santa Rita Pit consist of blasting, loading, hauling, placement of waste rock and leach rock on stockpiles, and transport of concentrator ore to the Primary Crusher. Concentrate slurry from the Ivanhoe Concentrator travels approximately seven miles by pipeline to the Filter and Blending Plants near Hurley, New Mexico where the slurry is dewatered and loaded into rail cars for transport to off-site smelters for further processing. Ancillary operations at Chino include a portable screening plant operated in the pit area and operation of the Chino Power Plant near Hurley. The Chino Power Plant produces electric power on an as-needed basis from one (1) Westinghouse natural gas-fired turbine and one (1) Nooter/Ericksen natural gas-fired Heat Recovery Steam Generator (HRSG) duct burner. Cobre Mine is located approximately two miles north of the Chino Mine. The Cobre Mine property is contiguous and adjacent to the Chino Mine property. The primary activity at Cobre is a contractor owned and operated screening plant and the loading of magnetite into over-the-road trucks and rail cars for transport to customers off-site. There are also two (2) diesel-fired emergency generators at Cobre for use during unplanned power outages and a tailings impoundment from past operations at this site.

This Technical revision will incorporate into Chino mines operation, a throughput limitation of 70Ktpd from NW stockpile to West stockpile through the North Haul road and a third SXEW Boiler which will be located at the SXEW plant and will be used to provide hot water for rising copper cathodes prior to transportation.

# Section 13

## Discussion Demonstrating Compliance With Each Applicable State & Federal Regulation

**Provide a discussion demonstrating compliance with applicable state & federal regulation.** If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB, please do not change the any formatting in the table, especially the width of the table.

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

### Example of a Table for Applicable **STATE** REGULATIONS:

<u>STATE REGULATIONS CITATION</u>	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforceable	Does Not Apply	<b>JUSTIFICATION:</b> Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m <sup>3</sup> , 3. VOL)
20.2.7 NMAC	Excess Emissions	x		Yes		All Title V major sources are subject to Air Quality Control Regulations, as defined in 20.2.7 NMAC, and are thus subject to the requirements of this regulation. Also listed as applicable in NSR Permit 0298M6R1.
20.2.61.109 NMAC	Smoke & Visible Emissions	x		No		SXEW boiler will comply with the opacity requirements of 20.2.61 NMAC. Temporary North Haul road will comply with existing visible emissions requirement in NSR 0298M6R1.

# Section 16

## Air Dispersion Modeling

---

**NSR (20.2.72 NMAC) and PSD (20.2.74 NMAC) Modeling:** Provide an air quality **dispersion modeling** demonstration (if applicable) as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines. If air dispersion modeling has been waived for this permit application, attach the AQB Modeling Section modeling waiver documentation.

**SSM Modeling:** Applicants must conduct dispersion modeling for the total short term emissions using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications ([http://www.nmenv.state.nm.us/aqb/permit/app\\_form.html](http://www.nmenv.state.nm.us/aqb/permit/app_form.html)) for more detailed instructions on SSM emissions modeling requirements.

**Title V (20.2.70 NMAC) Modeling:** Title V applications must specify the NSR Permit number for which air quality dispersion modeling was last submitted. Additionally, Title V facilities reporting new SSM emissions require modeling or a modeling waiver to demonstrate compliance with standards.

---

A waiver from air dispersion modeling for this technical revision to NSR Permit 0298M6R1 has been approved by Eric Peters of the NMED Air Dispersion Modeling and Emission Inventory Section. Documentation of the modeling waiver is provided following this page.

<p>New Mexico Environment Department  Air Quality Bureau  Modeling Section  1301 Siler Road, Building B  Santa Fe, NM 87507-3113</p> <p>Phone: (505) 476-4300  Fax: (505) 476-4375  www.nmenv.state.nm.us/aqb</p>		<p><b>For Department use only:</b></p> <p>Approved: <input checked="" type="checkbox"/> <b>Yes</b>    <input type="checkbox"/> <b>No</b></p> <p>Date: December 24, 2013</p> <p>Approved by: Eric Peters</p>
---	--	---

## Air Dispersion Modeling Waiver Request Form

This form must be completed and submitted with all air dispersion modeling waiver requests.

If a permit is required, modeling is normally required for all pollutants, including state air toxics. In some cases, the demonstration that ambient air quality standards and PSD increments will not be violated can be satisfied with a discussion of previous modeling. The purpose of this form is to document and streamline requests to limit the new modeling that is submitted with an application. A waiver may be requested by e-mailing the completed form to the modeling manager, [sufi.mustafa@state.nm.us](mailto:sufi.mustafa@state.nm.us). Permitting staff must approve the total emission rates during the permitting process for this waiver to be valid.

**Contact and facility information:**

Contact name	Frederick Ennin
E-mail Address:	<a href="mailto:Frederick_Ennin@fmi.com">Frederick_Ennin@fmi.com</a>
Phone	575-912-5707
Facility Name	Freeport-McMoRan Chino Mines Company
Air Quality Permit Number(s)	NSR 0298M6R1
AI Number (if known)	526

**General Comments:**

- ❖ Freeport-McMoRan Chino Mines Company (Chino) will be submitting to NMED a request for technical revision to NSR Permit 0298M6R1 for the addition of a 1.4 MMBtu/hour boiler to heat water for washing cathodes at the SXEW facility. Based on AP-42 emission factors and operating 8760 hours per year, the potential emission rate of all regulated pollutants from the proposed additional boiler are less than the NMED modeling waiver threshold of one (1) pound per hour as shown in Table 2 below.
- ❖ Also, included in the requested technical revision will be an update to incorporate the following changes to the Ambient Air Quality Impacts Report submitted in June 2012 as part of the significant revision of NSR Permit 0298M5:
  1. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile. Chino is currently permitted to haul and dump 80,000 tons per day (tpd) on the West Stockpile. In order to comply with ambient air quality standards, delivery through the new proposed haul road will be restricted to 70,000 tpd. Chino proposes to maintain records to demonstrate compliance with this haulage limit through the proposed temporary haul road.
  2. Chino proposes to expand the footprint of the South Stockpile by adding the STS2 and Upper South Areas. The total amount of material delivered to the expanded South Stockpile will not change.

No changes to the existing mining and material delivery limits are necessary or requested. These limits include a maximum mine rate of 350,000 tpd, a maximum delivery rate of 250,000 tpd each to the Lampbright Stockpile and South Stockpile and a maximum delivery rate of 80,000 tpd to the West Stockpile. The only additional

monitoring required to ensure continued modeled compliance with the ambient air quality standards is a restriction on the delivery of material to the West Stockpile using the new proposed In-Pit NW Haul Road.

Chino is also not requesting any change to the existing allowable haul road emissions. Although the modeling report submitted in November, 2013 to NMED conservatively estimates that haul road emissions will increase after incorporating the proposed changes, Chino will continue to comply with the existing annual rolling total fugitive emissions limits in the existing permit.

### **Section 1: Toxic air pollutants**

**Section 1 Comments:** The addition of the SXEW Boiler (water heater) and the In-Pit NW Haul Road will not result in an increase in Toxic Air Pollutants. The proposed boiler burns only pipeline quality LPG fuel. AP-42 Chapter 1.5, Liquefied Petroleum Gas Combustion, provides no emission factors for hazardous or toxic air pollutants from the combustion of propane boilers. The only expected emissions from the proposed haul road and expanded stockpile are TSP, PM10 and PM2.5.

## Section 2: Pollutants with very low emission rates

**Section 2 Comments:** Emissions from the proposed additional SXEW Boiler are provided in the table below with Release Type “Stack”. Emissions of all regulated pollutants are less than the NMED modeling waiver threshold of one (1) pound per hour. Emissions from the proposed temporary haul road and expanded South Stockpile are indicated in the table below with Release Type “Fugitive”. Because Chino is not requesting an increase in the permitted allowable fugitive emissions associated with these fugitive emission sources, the requested allowable emissions rate from these sources is “Not Applicable”.

**Table 2: List of Pollutants with very low emission rates (PTE)**

Pollutant	Requested Allowable Emission Rate From Facility (pounds/hour)	Release Type (select “all from stacks” or “other”)	Waiver Threshold (lb/hr)
TSP/PM	0.011	Stack	1.0
PM10	0.011	Stack	1.0
PM2.5	0.011	Stack	1.0
NOx	0.199	Stack	1.0
CO	0.155	Stack	1.0
S02	0.00811	Stack	1.0
VOC	0.015	Stack	1.0
TSP/PM	NA	Fugitive	0.1
PM10	NA	Fugitive	0.1
PM2.5	NA	Fugitive	0.1

## Section 3: Pollutants that have previously been modeled at equal or higher emission rates

**Section 3 Comments:** A facility-wide EPA approved Air Dispersion Model for the Chino Mine was provided in the NSR renewal application submitted to NMED in June, 2012. The modeling results did not exceed New Mexico Ambient Air Quality Standards or National Ambient Air Quality Standards. As shown in the table below, the previously modeled facility-wide emission rates were substantially greater than the potential emissions increase from the proposed boiler addition.



$v_2$ = exhaust velocity, replacement source, feet per second $T_2$ = absolute temperature of exhaust, replacement source = degree F + 460 $q_2$ = emission rate, replacement source, lbs/hour		
Are all replacement stacks either the same direction as the replaced stack or vertical?	NA	

If you checked “no” for any of the questions, provide an explanation for why you think the previous modeling may still be valid anyway.

Question 3 was answered “No” because the maximum AERMOD modeling results for TSP concentration was  $\leq 96\%$  of the NMAAQS standard. Chino believes that the results remain valid because the potential emissions increase of 0.011 lb/hr TSP/PM from the boiler is 0.000299% of the TSP emission rate of 3,682 lb/hr previously modeled. No increase in emissions is proposed for the additional haul road or South Stockpile expansion. However, to ensure that the change in location of the additional haul road and expanded South Stockpile would not impact Chino’s previously modeled results, Chino included emissions from these locations in an updated model submitted to NMED in November, 2013. This updated model demonstrates that emissions from these locations will not impact previously modeled results as long as haulage is restricted on the proposed In-Pit NW Haul Road to 70,000 tons per day.

**Section 4: Discussions of scaled emission rates and scaled concentrations**

Scaling previous results is not proposed or used for this modeling waiver.

**Appendix 2. Very small emission rate modeling waiver requirements**

Type of emissions	Modeling is waived if emissions of a pollutant for the entire facility (including haul roads) are below the amount:
Point source	0.1 lb/hr of H <sub>2</sub> S or reduced sulfur, 1.0 lb/hr for other pollutants
Fugitive sources	0.01 lb/hr of H <sub>2</sub> S or reduced sulfur, 0.1 lb/hr for other pollutants

# Section 23: Certification

Company Name: Freeport-McMoRan Chino Mines Company

I, Timothy E. Eastep for John D. Brack, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 30 day of December, 2013, upon my oath or affirmation, before a notary of the State of

New Mexico, County of Grant

[Signature]  
\*Signature

12/30/2013

Date

Timothy E. Eastep  
Printed Name

Senior Manager, New Mexico Administration  
Title

Scribed and sworn before me on this 30<sup>th</sup> day of December, 2013.

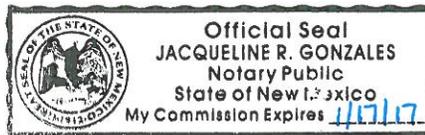
My authorization as a notary of the State of New Mexico expires on the  
County of Grant

17<sup>th</sup> day of January, 2017.

[Signature]  
Notary's Signature

12/30/13  
Date

Jacqueline R. Gonzales  
Notary's Printed Name



\*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.

Appendix A

Calculations

**Freeport-McMoRan Chino Mines Company**  
**NSR Permit Consolidation Application**  
**Dec 2013**  
**Appendix A - Calculations**  
**SX/EW - Propane-fired Boiler Emissions**

Basis	Colored Cells signify operating parameters that can be modified	
Boiler No.1 Max Rating	1.4	MMBtu/hr
Boiler No.2 Max Rating	1.4	MMBtu/hr
LPG Heating Value	91,500	Btu/gallon
Fuel Sulfur content, S	5.3	gr/100 ft <sup>3</sup>
Boiler No.3 Annual Operating Hours	8,760	
Boiler No.4 Annual Operating Hours	8,760	

(4) average national sulfur content of LPG is 0.012% by mass (approximately 2.6 g of SO<sub>2</sub>/GJ of heat input) per Appendix K-2 of undated document at US Department of Energy website: [http://www1.eere.energy.gov/buildings/appliance\\_standards/residential/pdfs/k-2.pdf](http://www1.eere.energy.gov/buildings/appliance_standards/residential/pdfs/k-2.pdf)

ID	Description	Max fuel use, gal/hr <sup>(1)</sup>	Max heat input, MMBtu/hr	Annual operating hours	NOx		CO		VOC		SO <sub>2</sub>		TSP/PM		PM <sub>10</sub>		PM <sub>2.5</sub>	
					lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Boiler No.3	SX/EW Water Heater South	15.30	1.4	8,760	0.199	0.871	0.115	0.503	0.015	0.067	8.11E-03	3.55E-02	0.011	0.047	0.011	0.047	0.011	0.047
<b>TOTAL</b>					<b>0.199</b>	<b>0.87</b>	<b>0.115</b>	<b>0.50</b>	<b>0.0153</b>	<b>0.067</b>	<b>0.0081</b>	<b>0.0355</b>	<b>0.0107</b>	<b>0.047</b>	<b>0.0107</b>	<b>0.047</b>	<b>0.0107</b>	<b>0.047</b>

Units	AP-42 Emission Factors for LPG Combustion <sup>(2)</sup>						
	CO	NO <sub>x</sub>	VOC	TSP/PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>
lb/10 <sup>3</sup> gal	7.5	13	1.0	0.7	0.7	0.7	0.530

**FEDERAL HAP/NM TOXIC AIR POLLUTANT EMISSIONS ESTIMATION<sup>(3)</sup>**

**Notes:**

- (1) Propane fuel usage, gal/hr, is calculated from heat input (MMBtu/hr) given a natural gas heating value, 91.5 MMBtu/10<sup>3</sup> gal.
- (2) Based on emission factors for commercial boilers presented in USEPA AP-42 Section 1.5 "Liquefied Petroleum Gas Combustion" (7/08), Table 1.5-1. SO<sub>2</sub> emission factor = 0.10S where S = grains Sulfur/100 ft<sup>3</sup> gas vapor. Filterable particulate matter (PM) is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. natural gas, a fuel with similar combustion characteristics, all PM is less than 10µm in aerodynamic equivalent diameter (PM-10).
- (3) No HAP/TAP emission factors available in USEPA AP-42 Section 1.5 "Liquefied Petroleum Gas Combustion" (7/08).
- (4) 2.6 grams SO<sub>2</sub>/GJ LPG x 32.064 grams S/64.06 grams SO<sub>2</sub> x 15.43 grains/gram x 1.055 GJ/MMBtu x 0.002516 MMBtu/ft<sup>3</sup> x 100 = 5.3 grains/100ft<sup>3</sup>

**Sample Calculations:**

CO, lb/hr = 7.5 lb/1,000 gal x 15.3 gal/hr = 0.115 lb/hr  
 CO, TPY = 0.1148 lb/hr x 8760 hr/yr x 1.0 ton/2,000 lbs = 0.503 TPY

**EQUIPMENT IDENTIFICATION**

Unit No.	Source Description	Make & Model	Serial No.	Capacity	Manufactured Date
SXEW Boiler No. 3	SXEW Cathode Wash Boiler	Weben-Jarco, Inc, AJH140	AJH140.1067	1.4 MMBTU/hr	1996

Freeport-McMoRan Chino Mines Company  
NSR Permit 0298M5- Significant Revision  
Dec 2013

Appendix A - Calculations

Facility-Wide Criteria Pollutant Emissions Summary (Controlled)

(Non-fugitive sources in red, fugitive sources in black, source changes for this revision in *bold italics*)

SOURCE	CRITERIA POLLUTANT EMISSIONS															
	NOx		CO		VOC		SO <sub>2</sub>		TSP/PM		PM <sub>10</sub>		PM <sub>2.5</sub>		Lead	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Cobre Mine Material Handling	--	--	--	--	--	--	--	--	0.028	0.036	0.011	0.014	0.0016	0.0020	--	--
Cobre Mine Haul Roads	--	--	--	--	--	--	--	--	21.03	25.14	5.14	6.15	0.51	0.61	--	--
<b>Cobre Mine Emergency Generators</b>	<b>64.44</b>	<b>16.11</b>	<b>17.12</b>	<b>4.28</b>	<b>1.81</b>	<b>0.45</b>	<b>0.03</b>	<b>0.01</b>	<b>1.40</b>	<b>0.35</b>	<b>1.15</b>	<b>0.29</b>	<b>0.96</b>	<b>0.24</b>	--	--
Cobre Screening Plant Material Handling	--	--	--	--	--	--	--	--	3.67	4.28	1.53	1.79	0.20	0.24	--	--
<b>Cobre Screening Plant Engine</b>	<b>1.16</b>	<b>2.53</b>	<b>1.02</b>	<b>2.22</b>	<b>0.50</b>	<b>1.10</b>	<b>0.42</b>	<b>0.91</b>	<b>0.45</b>	<b>0.98</b>	<b>0.45</b>	<b>0.98</b>	<b>0.45</b>	<b>0.98</b>	--	--
SXEW Acid Tankhouse	--	--	--	--	--	--	--	--	--	--	0.19	0.84	--	--	--	--
<b>SXEW Boilers</b>	<b>0.597</b>	<b>2.61</b>	<b>0.344</b>	<b>1.51</b>	<b>0.046</b>	<b>0.201</b>	<b>0.024</b>	<b>0.107</b>	<b>0.03</b>	<b>0.14</b>	<b>0.03</b>	<b>0.14</b>	<b>0.03</b>	<b>0.14</b>	--	--
SXEW Mixer/Settler Tanks	--	--	--	--	0.29	1.26	--	--	--	--	--	--	--	--	--	--
SXEW Raffinate Tank	--	--	--	--	0.019	0.083	--	--	--	--	--	--	--	--	--	--
<b>Chino Mine Blasting</b>	<b>523</b>	<b>136</b>	<b>4,617</b>	<b>1,200</b>	--	--	<b>200</b>	<b>52</b>	--	--	--	--	--	--	--	--
<b>Chino Mine Material Handling</b>	--	--	--	--	--	--	--	--	<b>1.22</b>	<b>5.34</b>	<b>0.467</b>	<b>2.04</b>	<b>0.0700</b>	<b>0.307</b>	<b>3.01E-05</b>	<b>1.32E-04</b>
<b>Chino Mine Haul Roads</b>	--	--	--	--	--	--	--	--	<b>2,219</b>	<b>7,935</b>	<b>543</b>	<b>1,940</b>	<b>54.3</b>	<b>194</b>	--	--
<b>Chino Screening Plant Material Handling</b>	--	--	--	--	--	--	--	--	<b>19.8</b>	<b>13.9</b>	<b>8.63</b>	<b>6.06</b>	<b>1.22</b>	<b>0.856</b>	--	--
<b>Chino Screening Plant Engine</b>	<b>0.813</b>	<b>3.56</b>	<b>0.104</b>	<b>0.455</b>	<b>0.0176</b>	<b>0.0772</b>	<b>0.187</b>	<b>0.820</b>	<b>0.200</b>	<b>0.876</b>	<b>0.200</b>	<b>0.876</b>	<b>0.200</b>	<b>0.876</b>	--	--
<b>Ivanhoe Concentrator Crusher Dump Pocket</b>	--	--	--	--	--	--	--	--	<b>0.042</b>	<b>0.18</b>	<b>0.016</b>	<b>0.071</b>	<b>0.0024</b>	<b>0.011</b>	<b>1.14E-06</b>	<b>4.98E-06</b>
<b>Ivanhoe Concentrator Primary Crusher Baghouse</b>	--	--	--	--	--	--	--	--	<b>2.2</b>	<b>9.5</b>	<b>2.2</b>	<b>9.5</b>	<b>2.2</b>	<b>9.5</b>	<b>5.83E-05</b>	<b>2.55E-04</b>
<b>Ivanhoe Concentrator Totals</b>	--	--	--	--	--	--	--	--	<b>3.4</b>	<b>11.4</b>	<b>1.2</b>	<b>4.1</b>	<b>0.21</b>	<b>0.68</b>	<b>9.27E-05</b>	<b>2.16E-04</b>
<b>Ivanhoe Concentrator Moly Scrubber</b>	--	--	--	--	--	--	--	--	<b>0.31</b>	<b>1.36</b>	<b>0.31</b>	<b>1.36</b>	<b>0.31</b>	<b>1.36</b>	<b>3.10E-06</b>	<b>1.36E-05</b>
<b>Ivanhoe Concentrator Lime System</b>	--	--	--	--	--	--	--	--	<b>0.28</b>	<b>0.20</b>	<b>0.28</b>	<b>0.20</b>	<b>0.04</b>	<b>0.03</b>	--	--
<b>Hurley Power Plant - Turbine</b>	<b>39.90</b>	<b>174.76</b>	<b>20.00</b>	<b>87.60</b>	<b>2.80</b>	<b>12.26</b>	<b>0.40</b>	<b>1.75</b>	<b>2.30</b>	<b>10.07</b>	<b>2.30</b>	<b>10.07</b>	<b>2.30</b>	<b>10.07</b>	--	--
<b>Hurley Power Plant - HRSG</b>	<b>2.40</b>	<b>10.51</b>	<b>1.30</b>	<b>5.69</b>	<b>0.60</b>	<b>2.63</b>	<b>0.030</b>	<b>0.13</b>	<b>0.30</b>	<b>1.31</b>	<b>0.30</b>	<b>1.31</b>	<b>0.30</b>	<b>1.31</b>	<b>2.39E-05</b>	<b>1.05E-04</b>
<b>Hurley Power Plant - Cooling Tower</b>	--	--	--	--	--	--	--	--	<b>2.22</b>	<b>9.73</b>	<b>1.62</b>	<b>7.07</b>	<b>0.0049</b>	<b>0.022</b>	--	--
Filter/Blending Plant	--	--	--	--	--	--	--	--	0.89	0.79	0.35	0.31	0.35	0.31	--	--
Chino Mine Tailings	--	--	--	--	--	--	--	--	40.26	176.3	20.13	88.16	3.02	13.22	--	--
Cobre Mine Tailings	--	--	--	--	--	--	--	--	0.27	1.2	0.13	0.59	0.02	0.09	--	--
Gasoline Dispensing Facilities	--	--	--	--	0.22	0.94	--	--	--	--	--	--	--	--	--	--
<b>TOTAL - Fugitive &amp; Non-fugitive sources</b>	<b>632</b>	<b>346</b>	<b>4,657</b>	<b>1,302</b>	<b>6.30</b>	<b>19.0</b>	<b>201</b>	<b>56</b>	<b>2,319</b>	<b>8,208</b>	<b>589</b>	<b>2,082</b>	<b>66.6</b>	<b>235</b>	<b>2.09E-04</b>	<b>7.27E-04</b>
<b>TOTAL - Non-fugitive sources</b>	<b>109</b>	<b>210</b>	<b>39.9</b>	<b>102</b>	<b>5.78</b>	<b>16.7</b>	<b>1.09</b>	<b>3.73</b>	<b>9.66</b>	<b>34.5</b>	<b>8.80</b>	<b>31.8</b>	<b>6.76</b>	<b>24.5</b>	<b>8.53E-05</b>	<b>3.74E-04</b>

(--) Indicates no known emissions

Freeport-McMoRan Chino Mines Company  
NSR Permit 0298M5- Significant Revision  
June 2012

Appendix A - Calculations  
Facility-Wide Criteria Pollutant Emissions Summary (Uncontrolled)

(Non-fugitive sources in red, fugitive sources in black, source changes for this revision in bold italics)

SOURCE	CRITERIA POLLUTANT EMISSIONS															
	NOx		CO		VOC		SO <sub>2</sub>		TSP/PM		PM <sub>10</sub>		PM <sub>2.5</sub>		Lead	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Cobre Mine Material Handling	--	--	--	--	--	--	--	--	0.028	0.036	0.011	0.014	0.0016	0.0020	--	--
Cobre Mine Haul Roads	--	--	--	--	--	--	--	--	105.14	125.69	25.71	30.73	2.57	3.07	--	--
<b>Cobre Mine Emergency Generators</b>	<b>64.44</b>	<b>16.11</b>	<b>17.12</b>	<b>4.28</b>	<b>1.81</b>	<b>0.45</b>	<b>0.03</b>	<b>0.01</b>	<b>1.40</b>	<b>0.35</b>	<b>1.15</b>	<b>0.29</b>	<b>0.96</b>	<b>0.24</b>	--	--
Cobre Screening Plant Material Handling	--	--	--	--	--	--	--	--	20.78	24.24	7.57	8.83	1.14	1.33	--	--
<b>Cobre Screening Plant Engine</b>	<b>1.16</b>	<b>2.53</b>	<b>1.02</b>	<b>2.22</b>	<b>0.50</b>	<b>1.10</b>	<b>0.42</b>	<b>0.91</b>	<b>0.45</b>	<b>0.98</b>	<b>0.45</b>	<b>0.98</b>	<b>0.45</b>	<b>0.98</b>	--	--
SXEW Acid Tankhouse	--	--	--	--	--	--	--	--	--	--	0.19	0.84	--	--	--	--
<b>SXEW Boilers</b>	<b>0.597</b>	<b>2.61</b>	<b>0.344</b>	<b>1.51</b>	<b>0.046</b>	<b>0.201</b>	<b>0.024</b>	<b>0.107</b>	<b>0.03</b>	<b>0.14</b>	<b>0.03</b>	<b>0.14</b>	<b>0.03</b>	<b>0.14</b>	--	--
SXEW Mixer/Settler Tanks	--	--	--	--	0.29	1.26	--	--	--	--	--	--	--	--	--	--
SXEW Raffinate Tank	--	--	--	--	0.019	0.083	--	--	--	--	--	--	--	--	--	--
<b>Chino Mine Blasting</b>	<b>523</b>	<b>136</b>	<b>4,617</b>	<b>1,200</b>	--	--	<b>200</b>	<b>52</b>	--	--	--	--	--	--	--	--
<b>Chino Mine Material Handling</b>	--	--	--	--	--	--	--	--	<b>1.22</b>	<b>5.34</b>	<b>0.467</b>	<b>2.04</b>	<b>0.0700</b>	<b>0.307</b>	<b>3.01E-05</b>	<b>1.32E-04</b>
<b>Chino Mine Haul Roads</b>	--	--	--	--	--	--	--	--	<b>11,095</b>	<b>39,675</b>	<b>2,713</b>	<b>9,700</b>	<b>271</b>	<b>970</b>	--	--
<b>Chino Screening Plant Material Handling</b>	--	--	--	--	--	--	--	--	<b>82.5</b>	<b>57.9</b>	<b>30.9</b>	<b>21.7</b>	<b>4.64</b>	<b>3.26</b>	--	--
<b>Chino Screening Plant Engine</b>	<b>0.813</b>	<b>3.56</b>	<b>0.104</b>	<b>0.455</b>	<b>0.0176</b>	<b>0.0772</b>	<b>0.187</b>	<b>0.820</b>	<b>0.200</b>	<b>0.876</b>	<b>0.200</b>	<b>0.876</b>	<b>0.200</b>	<b>0.876</b>	--	--
Ivanhoe Concentrator Crusher Dump Pocket	--	--	--	--	--	--	--	--	0.14	0.62	0.05	0.24	0.01	0.04	3.79E-06	1.66E-05
<b>Ivanhoe Concentrator Primary Crusher Baghouse</b>	--	--	--	--	--	--	--	--	<b>2.16</b>	<b>9.46</b>	<b>2.16</b>	<b>9.46</b>	<b>2.16</b>	<b>9.46</b>	<b>5.83E-05</b>	<b>2.55E-04</b>
<b>Ivanhoe Concentrator Totals</b>	--	--	--	--	--	--	--	--	<b>3.43</b>	<b>11.39</b>	<b>1.24</b>	<b>4.12</b>	<b>0.206</b>	<b>0.68</b>	<b>9.27E-05</b>	<b>2.16E-04</b>
<b>Ivanhoe Concentrator Moly Scrubber</b>	--	--	--	--	--	--	--	--	<b>0.31</b>	<b>1.36</b>	<b>0.31</b>	<b>1.36</b>	<b>0.31</b>	<b>1.36</b>	<b>3.10E-06</b>	<b>1.36E-05</b>
<b>Ivanhoe Concentrator Lime System</b>	--	--	--	--	--	--	--	--	<b>0.28</b>	<b>0.20</b>	<b>0.28</b>	<b>0.20</b>	<b>0.04</b>	<b>0.03</b>	--	--
<b>Hurley Power Plant - Turbine</b>	<b>39.90</b>	<b>174.76</b>	<b>20.00</b>	<b>87.60</b>	<b>2.80</b>	<b>12.26</b>	<b>0.40</b>	<b>1.75</b>	<b>2.30</b>	<b>10.07</b>	<b>2.30</b>	<b>10.07</b>	<b>2.30</b>	<b>10.07</b>	--	--
<b>Hurley Power Plant - HRSG</b>	<b>2.40</b>	<b>10.51</b>	<b>1.30</b>	<b>5.69</b>	<b>0.60</b>	<b>2.63</b>	<b>0.030</b>	<b>0.13</b>	<b>0.30</b>	<b>1.31</b>	<b>0.30</b>	<b>1.31</b>	<b>0.30</b>	<b>1.31</b>	<b>2.39E-05</b>	<b>1.05E-04</b>
<b>Hurley Power Plant - Cooling Tower</b>	--	--	--	--	--	--	--	--	<b>2.22</b>	<b>9.73</b>	<b>1.62</b>	<b>7.07</b>	<b>0.0049</b>	<b>0.022</b>	--	--
Filter/Blending Plant	--	--	--	--	--	--	--	--	0.89	0.79	0.35	0.31	0.35	0.31	--	--
Chino Mine Tailings	--	--	--	--	--	--	--	--	40.26	176.3	20.13	88.16	3.02	13.22	--	--
Cobre Mine Tailings	--	--	--	--	--	--	--	--	0.27	1.2	0.13	0.59	0.02	0.09	--	--
Gasoline Dispensing Facilities	--	--	--	--	0.22	0.94	--	--	--	--	--	--	--	--	--	--
<b>TOTAL - Fugitive &amp; Non-fugitive sources</b>	<b>632</b>	<b>346</b>	<b>4,657</b>	<b>1,302</b>	<b>6.30</b>	<b>19.0</b>	<b>201</b>	<b>56</b>	<b>11,359</b>	<b>40,113</b>	<b>2,808</b>	<b>9,890</b>	<b>290</b>	<b>1,017</b>	<b>2.12E-04</b>	<b>7.38E-04</b>
<b>TOTAL - Non-fugitive sources</b>	<b>109.3</b>	<b>210.1</b>	<b>39.9</b>	<b>101.8</b>	<b>5.78</b>	<b>16.7</b>	<b>1.09</b>	<b>3.73</b>	<b>9.66</b>	<b>34.5</b>	<b>8.80</b>	<b>31.8</b>	<b>6.76</b>	<b>24.5</b>	<b>8.53E-05</b>	<b>3.74E-04</b>

(--) Indicates no known emissions

**Freeport-McMoRan Chino Mines Company**  
**NSR Permit 0298M5- Significant Revision**  
**Dec 2013**  
**Appendix A - Calculations**  
**Chino Haul Road Emission Factors**

Fugitive emissions from traffic on unpaved surfaces by vehicles such as haul trucks and maintenance vehicles were estimated using EPA AP-42 emission factors, Section 13.2.2, Unpaved Roads (November 2006). The following equations are recommended for industrial sites:

$$E \left( \frac{\text{lb}}{\text{VMT}} \right) = k \left( \frac{s}{12} \right)^a \left( \frac{W}{3} \right)^b$$

(AP-42, Chapter 13.2.2, Equation 1a)

$$E_{\text{ext}} \left( \frac{\text{lb}}{\text{VMT}} \right) = E \left[ \frac{365 - P}{365} \right]$$

By considering annual natural mitigation from rainfall, the annual emission factor is affected:

$$E_h \left( \frac{\text{lb}}{\text{hr}} \right) = E \cdot d \cdot L$$

(AP-42, Chapter 13.2.2, Equation 2)

Hourly Emission Factor:

Where: E = emission factor in lb/VMT  
 lb = pounds of pollutant  
 VMT = vehicle miles traveled  
 k = particle size multiplier (lb/VMT)  
 a = empirical constant (unitless)  
 b = empirical constant (unitless)  
 s = surface silt content, %  
 W = mean vehicle weight, full vs. empty (tons)

Where: E<sub>ext</sub> = emission factor extrapolated for annual natural mitigation, in lb/VMT  
 E = emission factor in lb/VMT  
 P = number of days in a year with at least 0.01 inches of precipitation

Where: E<sub>h</sub> = emission factor (lb/hr)  
 E = emission factor in lb/VMT  
 d = average hourly daytime traffic rate, roundtrips per hour (h<sup>-1</sup>)  
 L = longest haul road length in miles (roundtrip)

*Note: a natural mitigation factor is NOT applied to the hourly emission factor.*

Maximum annual amount handled at Pit <sup>1</sup> :	127,750,000	[tons/yr]
Maximum daily amount handled at Pit:	350,000	[tons/day]
Truck Loadout Maximum Operating Schedule:	365	[days/yr]
	24	[hours/day]
	8,760	[hours/yr]

Haul Truck <sup>2</sup>	Number <sup>2</sup>	[tons/load]
Haul Truck - CAT 793	33	268

**Freeport-McMoRan Chino Mines Company**  
**NSR Permit Consolidation Application**  
**Dec 2013**

**Appendix A - Calculations**

**SX/EW - Propane-fired Boiler Potential Greenhouse Gas (GHG) Emissions**

Basis		
Boiler No.1 Max Rating	1.4	MMBtu/hr
Boiler No.2 Max Rating	1.4	MMBtu/hr
Operating Schedule per Boiler:	8,760	hr/yr
Annual Fuel Usage per Boiler	12,264	MMBtu/yr

TAKEN FROM TABLE C-1 TO SUBPART C OF PART 98—DEFAULT CO<sub>2</sub> EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL & TABLE C-2 TO SUBPART C OF PART 98—DEFAULT CH<sub>4</sub> AND N<sub>2</sub>O EMISSION FACTORS FOR VARIOUS TYPES OF FUEL

Petroleum products	MMBtu/gallon	kg CO <sub>2</sub> /mmBtu	kg CH <sub>4</sub> /MMBtu	kg N <sub>2</sub> O/MMBtu
Liquefied petroleum gases (LPG)	0.092	62.98	3.00E-03	6.00E-04

ID	Description	Maximum Potential CO <sub>2</sub> Equivalent (CO <sub>2</sub> e) Emissions <sup>(2)</sup>												TOTAL Maximum Potential GHG Emissions (short tons)	TOTAL CO <sub>2</sub> e (short tons)
		CO <sub>2</sub>				N <sub>2</sub> O				CH <sub>4</sub>					
		Maximum Potential GHG Emissions <sup>(1)</sup> (metric tons)	Global Warming Potential <sup>(3)</sup> (GWP) (kg CO <sub>2</sub> e/kg GHG)	metric tons CO <sub>2</sub> e	short tons CO <sub>2</sub> e	Maximum Potential GHG Emissions <sup>(1)</sup> (metric tons)	Global Warming Potential <sup>(3)</sup> (GWP) (kg CO <sub>2</sub> e/kg GHG)	metric tons CO <sub>2</sub> e	short tons CO <sub>2</sub> e	Maximum Potential GHG Emissions <sup>(1)</sup> (metric tons)	Global Warming Potential <sup>(3)</sup> (GWP) (kg CO <sub>2</sub> e/kg GHG)	metric tons CO <sub>2</sub> e	short tons CO <sub>2</sub> e		
Boiler No.3	SX/EW Water Heater	772.4	1.0	772.4	851.4	0.007	310.0	2.28	2.51	0.037	21.0	0.773	0.852	851.5	854.8
<b>TOTAL</b>		<b>772.4</b>		<b>772.4</b>	<b>851.4</b>	<b>0.007</b>		<b>2.28</b>	<b>2.51</b>	<b>0.037</b>		<b>0.77</b>	<b>0.85</b>	<b>851</b>	<b>855</b>

**Notes:**  
 (1) CO<sub>2</sub>, CH<sub>4</sub>, or N<sub>2</sub>O = Fuel x HHV x EF x 0.001 (40 CFR Part 98, Subpart C, Eq. C-2a & C-9a- Tier 2 Calculation Methodology)

Where:  
 CO<sub>2</sub> = Annual CO<sub>2</sub> mass emissions for a specific fuel type (metric tons).  
 CH<sub>4</sub> or N<sub>2</sub>O = Annual CH<sub>4</sub> or N<sub>2</sub>O emissions from the combustion of a particular type of fuel (metric tons).  
 Fuel = Mass or volume of the fuel combusted during the year, per § 98.6.  
 HHV = Annual average high heat value of the fuel from all valid samples for the year (mmBtu per mass or volume).  
 EF = Fuel-specific default CO<sub>2</sub> emission factor, from Table C-1 of 40 CFR Part 98, Subpart C (kg CO<sub>2</sub>/mmBtu).  
 Fuel-specific default emission factor for CH<sub>4</sub> or N<sub>2</sub>O, from Table C-2 of 40 CFR Part 98, Subpart C (kg CH<sub>4</sub> or N<sub>2</sub>O per mmBtu).  
 0.001 = Conversion factor from kg to metric tons

(2) CO<sub>2</sub>e = GHG x GWP  
 (3) GWP values from 40 CFR Part 98, Subpart A, Table A-1.

Appendix B

Proof of Public Notice



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966261**  
**RETURN RECEIPT REQUESTED**

The Honorable Charles Kelly  
P.O. Box 728  
Bayard, NM 88023

Dear Mayor Kelly:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

1. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
2. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
3. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Page 2

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966278**  
**RETURN RECEIPT REQUESTED**

The Honorable Richard Bauch  
P.O. Box 316  
Santa Clara, NM 88026, NM 88026

Dear Mayor Bauch:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

4. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
5. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
6. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Page 2

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau

525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966285**  
**RETURN RECEIPT REQUESTED**

The Honorable James Marshall  
P.O. Box 1188  
Silver City, NM 88062

Dear Mayor Marshall:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

7. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
8. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
9. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau

525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966292**  
**RETURN RECEIPT REQUESTED**

The Honorable Edward Encinas  
P. O. Box 65  
Hurley, NM 88043

Dear Mayor Encinas:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

10. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
11. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
12. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Page 2

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau

525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966308**  
**RETURN RECEIPT REQUESTED**

Comissioner Gabriel Ramos  
District 1  
P.O. Box 898  
Silver City, NM 88062

Dear Comissioner Ramos:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

13. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
14. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
15. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau

525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966315**  
**RETURN RECEIPT REQUESTED**

Comissioner Bret Kasten  
District 2  
P.O. Box 898  
Silver City, NM 88062

Dear Comissioner Kasten:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

16. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
17. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
18. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Page 2

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

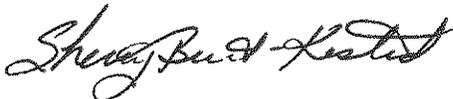
Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau

525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services



Chino Mines Company  
 Box 10  
 Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966322**  
**RETURN RECEIPT REQUESTED**

Comissioner Christy Miller  
 District 3  
 P.O. Box 898  
 Silver City, NM 88062

Dear Comissioner Miller:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

19. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
20. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
21. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau

525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services



Chino Mines Company  
Box 10  
Bayard, NM 88023

December 23, 2013

**CERTIFIED MAIL #70123050000053966339**  
**RETURN RECEIPT REQUESTED**

Mr. John Saari  
Manager, County of Grant  
P.O. Box 898  
Silver City, NM 88062

Dear Mr. Saari:

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

22. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
23. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
24. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355

Page 2

Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2</sub> e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**

**P O Box 10**

**Bayard, NM 88023**

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau

525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services

## Aviso Publico

El siguiente aviso público es una corrección al aviso publico el 23 de diciembre de 2013.

De acuerdo con las nuevas normativas en materia de calidad del aire del estado de Nuevo México, Freeport-McMoran Chino Mines Company (Chino Mines) debe anunciar su intención de solicitar al Departamento de Ambiente de Nuevo México que se modifique su Permiso N° 029M6R1 de la Revisión de Fuentes Nuevas (NSR, por su sigla en inglés). La fecha estimada de presentación de la solicitud en la Oficina de la Calidad del Aire es el, o alrededor del, 30 de diciembre de 2013. Esta carta sirve como notificación escrita de la mencionada intención de efectuar una solicitud.

La ubicación exacta de la mina propuesta, conocida como Freeport-McMoran Chino Mines Company, es en los 32 grados, 47 minutos, 27,23 segundos de latitud norte y 108 grados, 5 minutos, 10,62 segundos de longitud oeste. Freeport-McMoran Chino Mines Company tiene su base de operaciones en 99 Santa Rita Mine Road, Vanadium, Nuevo México, 88023. La ubicación aproximada de esta mina es a 3,54 km (2,2 millas) al noreste de Bayard, Nuevo México en el condado de Grant.

La modificación propuesta incluye los siguientes cambios en el permiso de emisiones de Freeport-McMoRan Chino Mines Company, Permiso N° 0298M6R1:

1. Chino propone agregar una ruta temporal para el transporte de cargas desde el Sitio de Depósito del Yacimiento del NO hacia el Sitio de depósito del oeste.
2. Chino propone expandir la superficie ocupada por el Sitio de depósito del sur agregando un STS2 y Sitios de depósito en el Upper South.
3. La incorporación de una Caldera de 1,4 mmbtu/hora para calentar el agua y limpiar los cátodos de extracción por solventes/electrodeposición (SXEW) previo a su transporte.

De conformidad con estos cambios, las cantidades máximas estimadas de cualquier contaminante del aire regulado para Chino Mines (en el ancho de la mina) se ajustarán a las siguientes especificaciones. Estas estimaciones de emisiones podrían cambiar ligeramente durante el transcurso de la revisión de la solicitud por parte del Departamento.

Contaminante:	Libras por hora	Toneladas por año
Total de partículas suspendidas (TSP, por su sigla en inglés)	1873	8208
Material particulado (PM <sub>10</sub> )	475	2082
Material particulado (PM <sub>2,5</sub> )	54	234,8
Dióxido de azufre (SO <sub>2</sub> )	0,00811	0,0355
Óxidos de nitrógeno (NO <sub>x</sub> )	0,199	0,87
Monóxido de carbono (CO)	0,115	0,50
Compuestos orgánicos volátiles (VOC)	0,015	0,067
Total de contaminantes peligrosos al aire (HAP)	ND	ND

Total de contaminantes tóxicos al aire (TAP)	ND	ND
Emisiones de gases de efecto invernadero, como emisiones totales de dióxido de carbono (CO <sub>2</sub> e)	ND	ND

El cronograma de operaciones estándar y el máximo del Chino Mine será de hasta 24 horas al día, 7 días a la semana y un máximo de 52 semanas por año.

El operador y/o titular de la mina es:

**FreePort-McMoran Chino Mines Company**

**Apartado postal 10**

**Bayard, NM 88023**

Si usted tiene algún comentario acerca de la construcción u operación de la mina antes mencionada y desea que sus comentarios formen parte del proceso de revisión de permisos, debe enviar sus comentarios por escrito a la dirección que se menciona a continuación:

Director del Programa de Permisos  
 Departamento de Ambiente de Nuevo México  
 Oficina de la Calidad del Aire  
 525 Camino de los Marquez, Suite 1  
 Santa Fe, Nuevo México 87505-1816  
 (505) 476-4300

Es posible presentar otros comentarios y preguntas personalmente.

Por favor haga referencia al nombre de la compañía y de la mina (tal como figura en este aviso) o envíe una copia del mismo junto a sus comentarios, ya que el Departamento puede no haber recibido la solicitud de permiso en la fecha de este aviso. Por favor incluya una dirección de correo legible junto a sus comentarios. Una vez que el Departamento haya llevado a cabo una revisión preliminar de la solicitud y de su impacto en la calidad del aire, se publicará el aviso del Departamento en la sección legales de un periódico que circule cerca de la ubicación de la mina.

7929 9655 0000 050E 2T0L

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

BAYARD NM 88023

OFFICIAL USE

Postage	\$	\$0.46
Certified Fee		\$3.10
Return Receipt Fee (Endorsement Required)		\$2.55
Restricted Delivery Fee (Endorsement Required)		\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$6.11</b>



Sent To: The Honorable Charles Kelly  
 Street, Apt. or PO Box No.: P.O. Box 728  
 City, State, ZIP: Bayard, NM 88023

PS Form 3800

8229 9655 0000 050E 2T0L

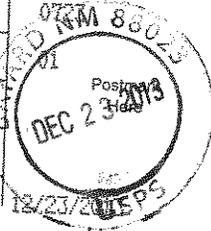
U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

SANTA CLARA NM 88026

OFFICIAL USE

Postage	\$	\$0.46
Certified Fee		\$3.10
Return Receipt Fee (Endorsement Required)		\$2.55
Restricted Delivery Fee (Endorsement Required)		\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$6.11</b>



Sent To: The Honorable Richard Bauch  
 Street, Apt. No. or PO Box No.: P.O. Box 316  
 City, State, ZIP: Santa Clara, NM 88026, NM 88026

PS Form 3800

5929 9655 0000 050E 2T0L

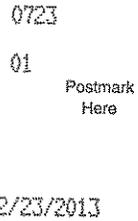
U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

SILVER CITY NM 88062

OFFICIAL USE

Postage	\$	\$0.46
Certified Fee		\$3.10
Return Receipt Fee (Endorsement Required)		\$2.55
Restricted Delivery Fee (Endorsement Required)		\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$6.11</b>



Sent To: The Honorable James Marshall  
 P.O. Box 1188  
 Silver City, NM 88062

PS Form 3800

6229 9655 0000 050E 2T0L

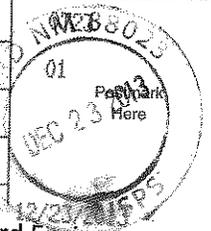
U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

HURLEY NM 88043

OFFICIAL USE

Postage	\$	\$0.46
Certified Fee		\$3.10
Return Receipt Fee (Endorsement Required)		\$2.55
Restricted Delivery Fee (Endorsement Required)		\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$6.11</b>



Sent To: The Honorable Edward Encinas  
 P. O. Box 65  
 Hurley, NM 88043

PS Form 3800, August 2006

8029 9655 0000 050E 2T0L

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

SILVER CITY NM 88062

OFFICIAL USE

Postage	\$	\$0.46
Certified Fee		\$3.10
Return Receipt Fee (Endorsement Required)		\$2.55
Restricted Delivery Fee (Endorsement Required)		\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$6.11</b>



Sent To: Commissioner Gabriel Ramos  
 District 1  
 Street, Apt. No. or PO Box No.: P.O. Box 898  
 City, State, ZIP: Silver City, NM 88062

PS Form 3800

8229 9655 0000 050E 2T0L

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

SILVER CITY NM 88062

OFFICIAL USE

Postage	\$	\$0.46
Certified Fee		\$3.10
Return Receipt Fee (Endorsement Required)		\$2.55
Restricted Delivery Fee (Endorsement Required)		\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$</b>	<b>\$6.11</b>



Sent To: Commissioner Christy Miller  
 District 3  
 Street, Apt. No. or PO Box No.: P.O. Box 898  
 City, State, ZIP: Silver City, NM 88062

PS Form 3800

7012 3050 0000 5396 6315

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

SILVER CITY, NM 88062 OFFICIAL USE

Postage	\$ 0.46	0723
Certified Fee	\$3.10	
Return Receipt Fee (Endorsement Required)	\$2.55	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
<b>Total Postage</b>	<b>\$6.11</b>	



Sent To **Comissioner Bret Kasten**  
District 2  
P.O. Box 898  
Silver City, NM 88062

PS Form 3800

7012 3050 0000 5396 6315

U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

SILVER CITY, NM 88062 OFFICIAL USE

Postage	\$ 0.46	078388022
Certified Fee	\$3.10	
Return Receipt Fee (Endorsement Required)	\$2.55	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
<b>Total Postage</b>	<b>\$6.11</b>	



Sent To **Mr. John Saari**  
Manager, County of Grant  
P.O. Box 898  
Silver City, NM 88062

PS Form 3800

# ing ferrets across Great Plains

in the wild now, said the federal government's ferret recovery coordinator, Peter Gober.

The failure of some prior reintroductions underscores that success is not guaranteed.

"We'd like to scatter those populations across

as many of those 12 states as we can," Gober said. "The best way to work with people is to work with them voluntarily."

Key to the plan is the preservation of prairie dog colonies that ferrets

depend on for survival. Many farmers and ranchers regard prairie dogs as a nuisance because they strip grass from grazing lands, both for the prairie dogs to eat and so they can keep a better eye out for predators.

**Noble Finance**

**\$200 – \$2000**

**We Want To Make You A Loan!!!**

**(575) 388-0500**

1623 Silver Heights Blvd.  
Silver City, NM 88061

## Public Notice

The following public notice is a correction to the public notice published on December 23, 2013.

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

1. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
2. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
3. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM 10	475	2082
PM 2.5	54	234.8
Sulfur Dioxide (SO2)	0.00811	0.0355
Nitrogen Oxides (NOx)	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO2e	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:  
Freeport-McMoRan Chino Mines Company  
P O Box 10  
Bayard, NM 88023

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
New Mexico Environment Department  
Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico 87505-1816  
(505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

## Aviso Publico

**El siguiente aviso público es una corrección al aviso publico el 23 de diciembre de 2013.**

De acuerdo con las nuevas normativas en materia de calidad del aire del estado de Nuevo México, Freeport-McMoran Chino Mines Company (Chino Mines) debe anunciar su intención de solicitar al Departamento de Ambiente de Nuevo México que se modifique su Permiso N° 029M6R1 de la Revisión de Fuentes Nuevas (NSR, por su sigla en inglés). La fecha estimada de presentación de la solicitud en la Oficina de la Calidad del Aire es el, o alrededor del, 30 de diciembre de 2013. Esta carta sirve como notificación escrita de la mencionada intención de efectuar una solicitud.

La ubicación exacta de la mina propuesta, conocida como Freeport-McMoran Chino Mines Company, es en los 32 grados, 47 minutos, 27.23 segundos de latitud norte y 108 grados, 5 minutos, 10.62 segundos de longitud oeste. Freeport-McMoran Chino Mines Company tiene su base de operaciones en 99 Santa Rita Mine Road, Vanadium, Nuevo México, 88023. La ubicación aproximada de esta mina es a 3.54 km (2.2 millas) al noreste de Bayard, Nuevo México en el condado de Grant.

La modificación propuesta incluye los siguientes cambios en el permiso de emisiones de Freeport-McMoRan Chino Mines Company, Permiso N° 0298M6R1:

1. Chino propone agregar una ruta temporal para el transporte de cargas desde el Sitio de Depósito del Yacimiento del NO hacia el Sitio de depósito del oeste.
2. Chino propone expandir la superficie ocupada por el Sitio de depósito del sur agregando un STS2 y Sitios de depósito en el Upper South.
3. La incorporación de una Caldera de 1.4 mmbtu/hora para calentar el agua y limpiar los cátodos de extracción por solventes/electrodeposición (SXEW) previo a su transporte.

De conformidad con estos cambios, las cantidades máximas estimadas de cualquier contaminante del aire regulado para Chino Mines (en el ancho de la mina) se ajustarán a las siguientes especificaciones. Estas estimaciones de emisiones podrían cambiar ligeramente durante el transcurso de la revisión de la solicitud por parte del Departamento.

Contaminante:	Libras por hora	Toneladas por año
Total de partículas suspendidas (TSP, por su sigla en inglés)	1873	8208
Material particulado (PM10)	475	2082
Material particulado (PM2.5)	54	234.8
Dióxido de azufre (SO2)	0,00811	0,0355
Óxidos de nitrógeno (NOx)	0,199	0,87
Monóxido de carbono (CO)	0,115	0,50
Compuestos orgánicos volátiles (VOC)	0,015	0,067
Total de contaminantes peligrosos al aire (HAP)	ND	ND
Total de contaminantes tóxicos al aire (TAP)	ND	ND
Emisiones de gases de efecto invernadero, como emisiones totales de dióxido de carbono (CO2e)	ND	ND

El cronograma de operaciones estándar y el máximo del Chino Mine será de hasta 24 horas al día, 7 días a la semana y un máximo de 52 semanas por año.

El operador y/o titular de la mina es:  
 FreePort-McMoran Chino Mines Company  
 Apartado postal 10  
 Bayard, NM 88023

Si usted tiene algún comentario acerca de la construcción u operación de la mina antes mencionada y desea que sus comentarios formen parte del proceso de revisión de permisos, debe enviar sus comentarios por escrito a la dirección que se menciona a continuación:

Director del Programa de Permisos  
 Departamento de Ambiente de Nuevo México  
 Oficina de la Calidad del Aire  
 525 Camino de los Marquez, Suite 1  
 Santa Fe, Nuevo México 87505-1816  
 (505) 476-4300

Es posible presentar otros comentarios y preguntas personalmente.

Por favor haga referencia al nombre de la compañía y de la mina (tal como figura en este aviso) o envíe una copia del mismo junto a sus comentarios, ya que el Departamento puede no haber recibido la solicitud de permiso en la fecha de este aviso. Por favor incluya una dirección de correo legible junto a sus comentarios. Una vez que el Departamento haya llevado a cabo una revisión preliminar de la solicitud y de su impacto en la calidad del aire, se publicará el aviso del Departamento en la sección legales de un periódico que circule cerca de la ubicación de la mina.

Legal

STATE OF NEW MEXICO  
 COUNTY OF CATRON  
 SEVENTH JUDICIAL DISTRICT COURT

CARMEL ROMERO,  
 Plaintiff,

vs. No. D-728-CV-2013-11

**GROUP ONE:** JUAN ARAGON, TOMASITA A. ROMERO, DAMACIO ARAGON, FERMIN ARAGON, JULIANITA ARAGON, FRANK F. ARAGON, ABEL ARAGON, FIDELINA A. MILLIGAN, EDUVIRGEN MILLIGAN, ABELECIO SANCHEZ, FERMIN SANCHEZ, and AMBROCIO SANCHEZ, if alive, or their UNKNOWN HEIRS if deceased,

**GROUP TWO:** HOWARD T. SPENCE, and THE ESTATE OF HOWARD J. SPENCE,

**GROUP THREE:** UNKNOWN CLAIMANTS OF INTEREST IN THE PREMISES ADVERSE TO THE PLAINTIFF, Defendants.

**NOTICE OF PENDENCY OF SUIT**

THE STATE OF NEW MEXICO  
 TO:

**GROUP ONE:** JUAN ARAGON, DAMACIO ARAGON, JULIANITA ARAGON, FRANK F. ARAGON, FIDELINA A. MILLIGAN, EDUVIRGEN MILLIGAN, ABELECIO SANCHEZ, FERMIN SANCHEZ, and AMBROCIO SANCHEZ, if alive, or Their

**GROUP TWO:** THE ESTATE OF HOWARD J. SPENCE,

**GROUP THREE:** UNKNOWN CLAIMANTS OF INTEREST IN THE PREMISES ADVERSE TO THE PLAINTIFF,

**GREETINGS:**  
 You are hereby notified that Title is now pending in the above captioned cause. CARMEL ROMERO is the Plaintiff and the UNKNOWN CLAIMANTS OF INTEREST IN THE PREMISES ADVERSE TO THE PLAINTIFF are the Defendants. The general objects of said action are to quiet title to the above described premises in Catron County, New Mexico, a description of which is set forth in **TRACT 1**

Legal

Aviso Publico

El siguiente aviso público es una corrección al aviso publico el 23 de diciembre de 2013. De acuerdo con las nuevas normativas en materia de calidad del aire del estado de Nuevo México, Freeport-McMoran Chino Mines Company (Chino Mines) debe anunciar su intención de solicitar al Departamento de Ambiente de Nuevo México que se modifique su Permiso N° 029M6R1 de la Revisión de Fuentes Nuevas (NSR, por su sigla en inglés). La fecha estimada de presentación de la solicitud en la Oficina de la Calidad del Aire es el, o alrededor del, 30 de diciembre de 2013. Esta carta sirve como notificación escrita de la mencionada intención de efectuar una solicitud.

La ubicación exacta de la mina propuesta, conocida como Freeport-McMoran Chino Mines Company, es en los 32 grados, 47 minutos, 27.23 segundos de latitud norte y 108 grados, 5 minutos, 10.62 segundos de longitud oeste. Freeport-McMoran Chino Mines Company tiene su base de operaciones en 99 Santa Rita Mine Road, Vanadium, Nuevo México, 88023. La ubicación aproximada de esta mina es a 3.54 km (2.2 millas) al noreste de Bayard, Nuevo México en el condado de Grant. La modificación propuesta incluye los siguientes cambios en el permiso de emisiones de Freeport-McMoran Chino Mines Company, Permiso N° 0298M6R1:

1. Chino propone agregar una ruta temporal para el transporte de cargas desde el Sitio de Depósito del Yacimiento del NO hacia el Sitio de depósito del oeste.
  2. Chino propone expandir la superficie ocupada por el Sitio de depósito del sur agregando un STS2 y Sitios de depósito en el Upper South.
  3. La incorporación de una Caldera de 1,4 mmbtu/hora para calentar el agua y limpiar los cátodos de extracción por solventes/electrodeposición (SXEW) previo a su transporte.
- De conformidad con estos cambios, las cantidades máximas estimadas de cualquier contaminante del aire regulado para Chino Mines (en el ancho de la mina) se ajustarán a las siguientes especificaciones. Estas estimaciones de emisiones podrían cambiar ligeramente durante el transcurso de la revisión de la solicitud por parte del Departamento.

Contaminante:	Libras por hora	Toneladas por año
Total de partículas suspendidas (TSP, por su sigla en inglés)	1873	8208
Material particulado (PM <sub>10</sub> )	475	2082
Material particulado (PM <sub>2.5</sub> )	54	234.8
Dióxido de azufre (SO <sub>2</sub> )	0.00811	0.0355
Oxidos de nitrógeno (NO <sub>x</sub> )	0.199	0.87
Monóxido de carbono (CO)	0.115	0.50
Compuestos orgánicos volátiles (VOC)	0.015	0.067
Total de contaminantes peligrosos al aire (HAP)	ND	ND
Total de contaminantes tóxicos al aire (TAP)	ND	ND
Emisiones de gases de efecto invernadero, como emisiones totales de dióxido de carbono (CO <sub>2</sub> e)	ND	ND

El cronograma de operaciones estándar y el máximo del Chino Mine será de hasta 24 horas al día, 7 días a la semana y un máximo de 52 semanas por año.

El operador y/o titular de la mina es:  
**FreePort-McMoran Chino Mines Company**  
 Apartado postal 10  
 Bayard, NM 88023

Si usted tiene algún comentario acerca de la construcción u operación de la mina antes mencionada y desea que sus comentarios formen parte del proceso de revisión de permisos, debe enviar sus comentarios por escrito a la dirección que se menciona a continuación:

Director del Programa de Permisos  
 Departamento de Ambiente de Nuevo México  
 Oficina de la Calidad del Aire  
 525 Camino de los Marquez, Suite 1  
 Santa Fe, Nuevo México 87505-1816  
 (505) 476-4300

Es posible presentar otros comentarios y preguntas personalmente. Por favor haga referencia al nombre de la compañía y de la mina (tal como figura en este aviso) o envíe una copia del mismo junto a sus comentarios, ya que el Departamento puede no haber recibido la solicitud de permiso en la fecha de este aviso. Por favor incluya una dirección de correo legible junto a sus comentarios. Una vez que el Departamento haya llevado a cabo una revisión preliminar de la solicitud y de su impacto en la calidad del aire, se publicará el aviso del Departamento en la sección legales de un periódico que circule cerca de la ubicación de la mina.

ON, TOMASITA A. ROMERO, ARAGON, FERMIN ARAGON, JUNON, FRANK F. ARAGON, ABELINA A. MILLIGAN, EDUVIRN, ABELECIO SANCHEZ, FERRE, and AMBROCIO SANCHEZ, if UNKNOWN HEIRS, if deceased OF HOWARD J. SPENCE CLAIMANTS OF INTEREST IN ES ADVERSE TO THE PLAIN in Amended Complaint For Quiet entitled Court wherein CARMEL at you are named Defendant(s). are to obtain a judgment of said to the property situate in Catron n of which is as follows:

A 6.165± acre tract of land situated in the SE ¼ SW ¼ of Section 8, T. 5S., R. 16W., N.M.P.M., Catron County, New Mexico, being described more particularly as follows:  
 Beginning at Corner No. 1, a point identical with the South Sixteenth Corner of Section 8, a found 1935 USGLO monument;  
 thence S00° 21' 21"W for 268.90 ft. to Corner No. 2, a point on the North side of New Mexico State Highway 12;  
 thence, along New Mexico State Highway 12, S80° 02' 19"W for 267.24 ft. to Corner No. 3;  
 thence, along a spiral curve, with a chord of S79° 49' 41 "W and 114.83 ft. to Corner No. 4;  
 thence, leaving New Mexico State Highway 12, N10° 17' 00"W for 124.57 ft. to Corner No. 5;  
 thence S79° 43' 00"W for 120.00 ft. to Corner No. 6;  
 thence S02° 55' 01 "W for 134.13 ft. to Corner No. 7, a point on the North side of New Mexico State Highway 12;  
 thence, along New Mexico State Highway 12, Southwesterly along a 1959.86 ft. radius curve to the Left for an arc length of 99.42 ft. to Corner No. 8, said curve having a chord bearing of S73° 52' 11"W, and a chord distance of 99.41 ft.;  
 thence N17° 35' 01 "W for 40.00 ft. to Corner No. 9;  
 thence Southwesterly along a 1999.86 ft. radius curve to the Left

CONTINUED ON Page 18

Legal

Public Notice

The following public notice is a correction to the public notice published on December 23, 2013.

According to New Mexico air quality regulations, Freeport-McMoRan Chino Mines Company (Chino Mines) must announce its intent to apply to the New Mexico Environment Department for a modification of its NSR Permit No. 029M6R1. The expected date of application submittal to the Air Quality Bureau is on or about December 30, 2013. This letter serves as your written notification of this intent to apply.

The exact location for the proposed facility known as Freeport-McMoRan Chino Mines Company is at latitude 32 degrees, 47 minutes, 27.23 seconds north and longitude 108 degrees, 5 minutes, 10.62 seconds west. Freeport-McMoRan Chino Mines Company operations are located at 99 Santa Rita Mine Road, Vanadium, New Mexico, 88023. The approximate location of this facility is 2.2 miles northeast of Bayard, New Mexico in Grant County.

The proposed modification consists of the following changes to the Freeport-McMoRan Chino Mines Company air permit, NSR Permit No. 0298M6R1:

1. Chino proposes to add a temporary haul road from the In-Pit NW Stockpile to the West Stockpile.
2. Chino proposes to expand the footprint of the South Stockpile by adding STS2 and Upper South Stockpiles.
3. Addition of 1.4 MMBtu/hr Boiler (Water heater) for heating water to wash SXEW cathodes prior to transportation.

Following these changes, the estimated maximum quantities of any regulated air contaminant for Chino Mines (facility wide) will be as noted below. These emission estimates could change slightly during the course of the Department's review of the application.

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	1873	8208
PM <sub>10</sub>	475	2082
PM <sub>2.5</sub>	54	234.8
Sulfur Dioxide (SO <sub>2</sub> )	0.00811	0.0355
Nitrogen Oxides (NO <sub>x</sub> )	0.199	0.87
Carbon Monoxide (CO)	0.115	0.50
Volatile Organic Compounds (VOC)	0.015	0.067
Total sum of all Hazardous Air Pollutants (HAPs)	NA	NA
Total sum of all Toxic Air Pollutants (TAPs)	NA	NA
Green House Gas Emissions as Total CO <sub>2e</sub>	NA	NA

The standard and maximum operating schedule of the Chino Mine will be up 24 hours per day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the facility is:

**Freeport-McMoRan Chino Mines Company**  
 P O Box 10  
 Bayard, NM 88023

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Permit Programs Manager  
 New Mexico Environment Department  
 Air Quality Bureau  
 525 Camino de los Marquez, Suite 1  
 Santa Fe, New Mexico 87505-1816  
 (505) 476-4300

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Appendix C

References

**Freeport-McMoRan Chino Mines Company**  
**NSR Permit 0298M5- Significant Revision**  
**Dec 2013**  
**Appendix A - Calculations**  
**Chino Haul Road Emission Factors**

<b>Emission Factor Summary:</b>		<b>Chino Mine Haul Roads</b>				
<b>From:</b>	<b>Production</b>			<b>Other Vehicle - Passenger/Maintenance/Delivery</b>		
<b>Source:</b>	<b>Haul Truck - CAT 793</b>			<b>Varies</b>		
<b>Parameter</b>	<b>PM<sub>2.5</sub></b>	<b>PM<sub>10</sub></b>	<b>TSP</b>	<b>PM<sub>2.5</sub></b>	<b>PM<sub>10</sub></b>	<b>TSP</b>
k <sup>3</sup>	0.15	1.5	4.9	0.15	1.5	4.9
a <sup>3</sup>	0.9	0.9	0.7	0.9	0.9	0.7
b <sup>3</sup>	0.45	0.45	0.45	0.45	0.45	0.45
s <sup>4</sup>	3.9	3.9	3.9	3.9	3.9	3.9
Empty Weight <sup>2</sup> [ton]	169			--		
Vehicle Load <sup>2</sup> [ton]	268			40.65		
W <sup>5</sup> [ton]	303			40.65		
<b>E (lb/VMT) Hourly</b>	<b>0.44</b>	<b>4.35</b>	<b>17.80</b>	<b>0.18</b>	<b>1.76</b>	<b>7.21</b>
P [days] <sup>6</sup>	67	67	67	67	67	67
<b>E<sub>ext</sub> (lb/VMT) Annually</b>	<b>0.36</b>	<b>3.55</b>	<b>14.53</b>	<b>0.14</b>	<b>1.44</b>	<b>5.89</b>
d <sup>7</sup> (trips/hour)		54.42			--	
L <sup>8</sup> (mile/trip)		10.83			--	
VMT <sup>9</sup> (mile/hr)		589			83.8	
<b>E<sub>n</sub> (lb/hr) Hourly</b>	<b>256.50</b>	<b>2,564.96</b>	<b>10,490.82</b>	<b>14.77</b>	<b>147.69</b>	<b>604.06</b>
<b>E<sub>ext,h</sub> (lb/hr) Annual</b>	<b>209.41</b>	<b>2,094.14</b>	<b>8,565.11</b>	<b>12.06</b>	<b>120.58</b>	<b>493.18</b>

**Notes:**

<sup>1</sup> Maximum production rate for mining activities provided by Sherry Burt-Kested, email 5/17/2012.

<sup>2</sup> Haul Truck - Type and number of trucks per Chino Mine Engineering Department (E P Bock)

Other Vehicle - Weight per 2010 GRI Air Quality Emission Inventory Workbook for Mining and Unpaved Roads. Information from Water trucks, dozers, scrapers, graders, loaders and smaller trucks. Normalized ton weighted avg. based on info from Caterpillar Performance Handbook.

<sup>3</sup> Values for k, a, and b obtained from AP-42, Chapter 13.2.2, Unpaved Roads, Table 13.2.2-2 (November 2006)

<sup>4</sup> Value for s based on NMED default value of 3.9% from [http://www.epa.gov/ttn/chief/ap42/ch13/related/r13s0202\\_dec03.xls](http://www.epa.gov/ttn/chief/ap42/ch13/related/r13s0202_dec03.xls)

<sup>5</sup> Value for W based on the empty hauling truck weight and full truck weight (empty weight + vehicle load) of the vehicle load:  
 For Haul Truck - CAT 793: (169 tons + (169 + 268) tons)/2 = 303 tons mean weight

<sup>6</sup> Value for P based on Bayard, NM meteorological data

<sup>7</sup> Value for d based on Maximum Production Rate and Vehicle Load.

<sup>8</sup> Value for L, roundtrip distance, based on Mine Engineering estimates of maximum one-way haul distances projected for 2012 in the mine pit and above the mine pit. One-way distances doubled for roundtrip total.

<sup>9</sup> For haul trucks, VMT [mile/hr] = d [trips/hour] x L [miles/trip]. For 'other' vehicles, VMT is 734,000 miles/year x 1 year/8,760 hours.

Table 1.5-1. EMISSION FACTORS FOR LPG COMBUSTION<sup>a</sup>

## EMISSION FACTOR RATING: E

Pollutant	Butane Emission Factor (lb/10 <sup>3</sup> gal)		Propane Emission Factor (lb/10 <sup>3</sup> gal)	
	Industrial Boilers <sup>b</sup> (SCC 1-02-010-01)	Commercial Boilers <sup>c</sup> (SCC 1-03-010-01)	Industrial Boilers <sup>b</sup> (SCC 1-02-010-02)	Commercial Boilers <sup>c</sup> (SCC 1-03-010-02)
PM, Filterable <sup>d</sup>	0.2	0.2	0.2	0.2
PM, Condensable	0.6	0.6	0.5	0.5
PM, Total	0.8	0.8	0.7	0.7
SO <sub>2</sub> <sup>e</sup>	0.09S	0.09S	0.10S	0.10S
NO <sub>x</sub> <sup>f</sup>	15	15	13	13
N <sub>2</sub> O <sup>g</sup>	0.9	0.9	0.9	0.9
CO <sub>2</sub> <sup>h,j</sup>	14,300	14,300	12,500	12,500
CO	8.4	8.4	7.5	7.5
TOC	1.1	1.1	1.0	1.0
CH <sub>4</sub> <sup>k</sup>	0.2	0.2	0.2	0.2

<sup>a</sup> Assumes PM, CO, and TOC emissions are the same, on a heat input basis, as for natural gas combustion. Use heat contents of 91.5 x 10<sup>6</sup> Btu/10<sup>3</sup> gallon for propane, 102 x 10<sup>6</sup> Btu/10<sup>3</sup> gallon for butane, 1020 x 10<sup>6</sup> Btu/10<sup>6</sup> scf for methane when calculating an equivalent heat input basis. For example, the equation for converting from methane's emissions factors to propane's emissions factors is as follows: lb pollutant/10<sup>3</sup> gallons of propane = (lb pollutant/10<sup>6</sup> ft<sup>3</sup> methane) \* (91.5 x 10<sup>6</sup> Btu/10<sup>3</sup> gallons of propane) / (1020 x 10<sup>6</sup> Btu/10<sup>6</sup> scf of methane). The NO<sub>x</sub> emission factors have been multiplied by a correction factor of 1.5, which is the approximate ratio of propane/butane NO<sub>x</sub> emissions to natural gas NO<sub>x</sub> emissions. To convert from lb/10<sup>3</sup> gal to kg/10<sup>3</sup> L, multiply by 0.12. SCC = Source Classification Code.

<sup>b</sup> Heat input capacities generally between 10 and 100 million Btu/hour.

<sup>c</sup> Heat input capacities generally between 0.3 and 10 million Btu/hour.

<sup>d</sup> Filterable particulate matter (PM) is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. For natural gas, a fuel with similar combustion characteristics, all PM is less than 10 μm in aerodynamic equivalent diameter (PM-10).

<sup>e</sup> S equals the sulfur content expressed in gr/100 ft<sup>3</sup> gas vapor. For example, if the butane sulfur content is 0.18 gr/100 ft<sup>3</sup>, the emission factor would be (0.09 x 0.18) = 0.016 lb of SO<sub>2</sub>/10<sup>3</sup> gal butane burned.

<sup>f</sup> Expressed as NO<sub>2</sub>.

<sup>g</sup> Reference 12.

<sup>h</sup> Assuming 99.5% conversion of fuel carbon to CO<sub>2</sub>.

<sup>j</sup> EMISSION FACTOR RATING = C.

<sup>k</sup> Reference 13.