

**ASARCO LLC**

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## 1. INTRODUCTION

This permit pertains to an integrated copper production facility, owned and operated by Asarco LLC, a Delaware limited liability company. The facility, commonly known as Ray Complex, lies 8 miles north of Kearny, Arizona, on State Highway 177, upon a parcel also identified by Pinal County Assessor's Parcel numbers 106-38-0001, 106-38-003, 106-39-003, 106-39-002, 106-26-002 etc. This facility is located in an area designated as non-attainment for PM<sub>10</sub>.

## 2. PERMITTING HISTORY

Minor Permit Revision V20675.R02 authorizes the facility to install and operate a spray based evaporation system in the mine pit to support the forced evaporation of water retained within the pit. The proposed spray evaporators are being installed to support and supplement the existing mine pit dewatering that is currently accomplished using portable pumps.

Minor Permit Revision V20675.R01 authorized the facility to make the following changes:

1. Installation and operation of a cone crusher, as a part of the existing CR4 crushing circuit, to support crushing harder core.
2. Replace existing emergency generator, ID 2020, with a new emergency generator.
3. Update the regulatory applicability for two existing generators ID 2012, and ID 2013 from NSPS Subpart IIII to NESHAP Subpart ZZZZ
4. Remove emergency pump, ID 1025, and emergency generator ID 2007.

Renewal V20675.000 deleted the various operating scenarios associated with the CR1 Primary Crushing Circuit, CR4 Primary Crushing Circuit, and the SAG Mill Grinding Circuit. This renewal also updated the list of the engines subject to Subpart IIII and Subpart ZZZZ.

Minor Revision V20654.R03 authorized the facility to perform abrasive blasting.

Significant Revision V20654.R02 authorized the facility to make the following changes:

1. Installation of new engines.
2. Correction to CR1 crushing circuit throughput.
3. Deletion of CR4 Operating Scenarios 1, 2, and 3.
4. Change the current permitted engines classification from emergency to non-emergency.
5. Replacement of existing engines (Engine ID 1058 and 1059).
6. Revisions to CR4 baghouse CAM plan.
7. Revisions to CR4 baghouse QIP
8. Alternate operating scenarios for CR1, CR4 and SAG Mill Circuits.
9. Update the list of insignificant activities.

Revision V20654.R02 also incorporated Scenario 3 in Section 6B of this permit for the CR1 crusher as being subject to the New Source Performance Standards for Metallic Mineral Processing Plants, Subpart LL. CR1 crusher is subject to Subpart LL only after the CR1 circuit begins operating in Operating Scenario 2 (low moisture ore) and until the performance test required by this permit shows that the rotoclone scrubber achieves the grain loading emissions of at least 0.006 grains/dscf or lower. Once the performance test confirms the grain loading efficiency, CR1 will no longer be subject to Subpart LL, and Scenario 3 can be deleted from the permit through a minor revision process.

Significant Revision V20654.R01 authorized the facility to make the following changes:

1. Installation of mine equipment (belt conveyors, storage bin etc.) to allow Asarco to use a portion of the existing oversize ore from the existing Pebble Crusher oversize ore

- circuit as road base for haul roads located within the Ray Mine. This project is referred to as the Pebble Crusher Bypass project.
2. Installation of four stationary diesel engines to support the existing mine operations.
  3. Reducing the Pebble Crusher permitted throughput from 3,066,000 tons/year to 2,750,000 tons/year.

Calculations show that the combined PM<sub>10</sub> emissions from the above changes are below the 15 tpy significance threshold for PM<sub>10</sub> and therefore do not trigger the major NSR.

Minor Permit Revision V20633.R04 authorized the facility to add a feed conveyor to feed crushed ore from the CR4 primary crusher coarse ore stockpile directly to the Omni cone crusher (Pebble Crusher). The throughput capacity of the new conveyor is 375 tons per hour. The expected PM<sub>10</sub> increase is 10.5 tons per year. Since the increase is less than the significance level for PM<sub>10</sub> and does not change any monitoring, recordkeeping and regulatory requirements (locally or federally), this revision is a minor revision.

Minor Permit Revision V20633.R03 authorized the installation of an additional 250,000 gallon diesel tank. While this unit is not considered an insignificant activity per our rules, there are no applicable requirements. This unit is not subject to CAA §111. The expected VOC emission increase is approximately 0.1 tons per year. Due to the low emissions increase, and the fact that there are no new applicable requirements, no Technical Support Document was prepared for this revision.

Minor Permit Revision V20633.R02 authorized the installation of a 2.9 MM Btu/hr natural gas fired boiler for heating operations associated with the Solvent Extraction-Electrowinning (SX-EW) operations. This will increase the number of SX-EW boilers (hot water heaters) to 5. The addition of this boiler represents a potential emissions increase of 1.2 tons of NO<sub>x</sub> and 1.04 tons of CO.

Significant Permit Revision V20633.R01 authorized the exchange of the required scrubber(s) to control emissions from the crusher CR4 with a baghouse. The scrubber(s) was required by revision V20600.R04 to control 95% of the PM<sub>10</sub> emissions generated at the bottom of the new near-pit crusher CR4, as well as the drop from the 40' transfer conveyor (equip. #397) to the overland conveyor. The proposed baghouse is a pulse jet baghouse with a control efficiency of at least 99.99%.

Permit Renewal V20633.000 contained equipment previously missing from the equipment list which has been at the facility since it was permitted. It also revises the "Insignificant Activity" list to include previously left out equipment and activities.

The applicant indicated in the renewal application that their fleet of (37) 240 ton haul trucks will be phased out and replaced by (21) 400 ton haul trucks. Due to the larger capacity of these trucks, less trucks will be needed and therefore less miles will be traveled. Also, the existing shovel and loader in the pit will be replaced by a new diesel-powered four-wheel loader with a larger capacity bucket. The use of this new loader will result in a decrease of PM<sub>10</sub> emissions. The changes in the truck fleet and loader are associated with the replacement of the in-pit crusher approved through revision V20600.R04.

This renewal also corrected the number of electrowinning cells at the facility. Even though the 1997 Title V application indicates there are 300 of these cells, the permit mistakenly indicated only 60 cells. This typo has been overlooked through previous revisions, probably due to the minimal emissions from the units.

The secondary crusher unit and all of its requirements have been removed from this permit since it is currently being dismantled, as of the date of the public notice for the permit renewal.

Revision "V20600.R04" allowed the construction and operation of a new near-pit crusher (CR4) to replace the current in-pit (CR3a), and the secondary crusher systems. While all three crusher systems will be on site at the same time for a period of 6-9 months, they will never operate simultaneously. The in-pit and secondary crushers will be decommissioned as soon as the new near-pit crusher is performing as required. Uncontrolled emissions from the crusher system alone could potentially trigger New Source Review (NSR), but the level of control required by this permit, limitations on production and netting out emissions reductions from retiring two existing crushers reduces emissions to below applicable

thresholds. The planned throughput of CR4 is limited to 22,000,000 tons per year. (Note: The in-pit crusher and the secondary crushers have been decommissioned).

This revision also allowed the installation of a portable screening plant with a capacity of 1,500,000 tons per year, which will be used to produce the aggregate needed for building haul road base.

Revision V20600.R03 allowed the operation of a landfill cell for regulated asbestos containing materials (RACM). During the processing of this revision, it was found that the current permit does not properly describe the existing waste landfill at the site, a 50 acre area located in Section 10, Township 3S, Range 13E. The operations at this landfill and their emissions have been permitted under operations "Loading" (130), "Watering Roads" (150), "Dozing" (160), "Blading" (170) and "Dumping" (190). The landfill accepts only non-hazardous operational, maintenance and construction waste from the mine, approximately 16,000 cubic yards of waste per year. Types of solid waste which are accepted are:

- Construction and demolition debris (mine timbers and building materials)
- Non-tire rubber products
- Solid waste petroleum-contaminated soil with total petroleum hydrocarbon concentrations of 5,000 ppm or less.
- Metal and other types of non-hazardous soils and debris which meet the State of Arizona definition of solid waste
- Empty containers.

The RACM cell is a 14 acre area located in T3S, R13E, Section 1, SW 1/4, SE 1/4 of the Hot Tamale Peak Quadrangle. It will accept only asbestos-containing debris resulting from the incidental demolition of building or structures, generated from the ASARCO Ray Mine. This type of activities do not happen on a regular basis. The RACM cell triggers the applicability of a National Emission Standard for Hazardous Air Pollutants (NESHAP) that requires asbestos-containing waste materials be properly identified, documented and handled.

Revision V20600.R02 clarified the language that authorizes the facility to conduct periodic abrasive blasting operations. Also, this revision authorizes the Permittee to conduct open burning of clean pallets for instruction and training purposes of the fire brigade.

Revision V20600.R01 authorized the facility to paint their heavy duty equipment used in mining operations including, haul trucks, drilling rigs water trucks etc. as a part of their operation and equipment maintenance. ASARCO will implement this operation and maintenance activity as needed. The approximate emissions of Volatile Organic Compounds (VOCs) and Particulate Matter (PM<sub>10</sub>) from this activity will be 4.0 tons per year and 1.8 tons per year respectively.

This source constitutes a "major source" for particulate matter (PM<sub>10</sub>) within the meaning of CAA §302(j), which does trigger a requirement for an operating permit under CAA §501 *et seq.* The source also constitutes a "major emitting source" for particulate matter (PM<sub>10</sub>) within the meaning of 40 CFR §51.166, but still enjoys "grand fathered" status with regard to the PSD permitting program.

For additional background information on this permit or the initial Title V permit, see the related "Technical Support Documents."

Appendix A presents a suggested semi-annual reporting form.

Section §22 of this permit also identifies a number of activities designated as "insignificant" for purposes of this permit-

### 3. FACILITY EMISSIONS INVENTORY

#### A CR1 Primary Crushing Circuit

Equipment ID	Description	Controls	Opacity Limit	Pollutant	Emission Limit
412	CR1 Dump Pocket and Primary Crusher	Water Sprays (top of crusher)  Wet Scrubber (bottom of crusher)	20% (6-minute average)  20% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr  5.63 tons (consecutive 12 month period, combined for 412 and 414)
414	Transfer of Ore from CR1 Picking Conveyor to Stacker Conveyor	Wet Scrubber	20% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr  5.63 tons (consecutive 12 month period, combined for 412 and 414)
421	Transfer of Ore from the CR1 Stacker Conveyor to the Hayden Stockpile	Water Sprays	20% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr
430	Hayden Stockpile	Water Sprays	20% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr
441	Transfer of Ore from the Hayden Load-out Tunnel	Water Sprays	20% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr

#### B. CR4 Primary Crushing Circuit

Equipment ID	Description	Controls	Throughput Limit	Opacity Limit	Pollutant	Emission Limit
396-1 (Point 1)	CR4 Dump Pocket	Water Sprays	22,000,000 tons (consecutive 12-month period)	20% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr

396-2a (Point 2a)	Primary Crushing (Top of Primary Crusher)	Water Sprays	22,000,000 tons (consecutive 12-month period)	20% (6- minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr
396 (Point 2a)	Primary Crushing Bottom of Crusher to Picking Conveyor	CR4 Baghouse	22,000,000 tons (consecutive 12-month period)	10% (6- minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr
396 (Point 2b)	Transfer from Picking Conveyor to Overland Conveyor					
396 (Point 2a - 2b)	Primary Crushing Bottom of Crusher to Picking Conveyor	Baghouse (stack emissions)	22,000,000 tons (consecutive 12-month period)	7% (6- minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr
					PM <sub>10</sub>	9.01 tons (Consecutive 12-month period, combined for 396 Point 2a
396-2c (Point 2c)	Transfer from Primary Crusher Discharge Conveyor to the Splitter Cart	Dry Dust Collector	22,000,000 tons (consecutive 12-month period)	7% (6- minute average)	PM	5.63 ton
	Transfer from Splitter Cart to Cone Crusher				PM <sub>10</sub>	5.63 ton (Consecutive 12-month period)

	Transfer from Cone Crusher to Stockpile Feed Conveyor					
	Transfer from Splitter Cart to Stockpile Feed Conveyor					
330	CR4 Coarse Ore Stockpile	Water Sprays	22,000,000 tons (consecutive 12-month period)	20% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr

## C. Sag Mill Grinding Circuit

Equipment ID	Description	Controls	Throughput Limit	Opacity Limit	Pollutant	Emission Limit
331	CR4 Coarse Ore Stockpile Apron Feeders	Baghouse	22,000,000 tons (consecutive 12-month period)	7% (6-minute average)	PM PM10	55.0 P <sup>0.11</sup> -40.0 lb/hr 5.63 tpy Consecutive 12 month period
341	SAG Mill Feed Conveyor	Water Sprays	22,000,000 tons (consecutive 12-month period)	10% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr
344	SAG Oversize Return	Water Sprays	22,000,000 tons (consecutive 12-month period)	10% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr
345	Inlet and Outlet of the Pebble Crusher	Water Sprays (Outlet Only)	N/A	10% (6-minute average)	PM	55.0 P <sup>0.11</sup> -40.0 lb/hr

## D. CR4 Lime Receiving and Storage

Equipment ID	Description	Controls	Throughput Limit	Opacity Limit	Pollutant	Emission Limit
367	Lime Silo Vent	Baghouse	40,000 tons (consecutive 12-month period)	20% (6-minute average)	PM	4.10 P <sup>0.67</sup> lb/hr
368	Lime Transfer	Enclosure	40,000 tons (consecutive 12-month period)	20% (6-minute average)	PM	4.10 P <sup>0.67</sup> lb/hr

## E. Pebble Crusher Bypass Circuit

Equipment ID	Description	Controls	Throughput Limit	Opacity Limit	Pollutant	Emission Limit
346-1	Conveyor Transfer Point	None	3,066,000	10%	PM	0.43 tpy
346-2	Conveyor Transfer Point	None	3,066,000	10%	PM	0.43 tpy
346-3	Conveyor Transfer Point	None	3,066,000	10%	PM	0.43 tpy
346-4	Transfer to Main Transfer Bin	None	3,066,000	10%	PM	0.43 tpy
346-5	Transfer to Haul Truck	None	3,066,000	10%	PM	0.43 tpy
346-6A	Transfer to Stockpile	None	3,066,000	20%	PM	0.43 tpy
346-6B	Transfer to Haul Truck	None	3,066,000	20%	PM	0.43 tpy

#### 4. GENERAL REQUIREMENTS

##### A. Compliance Certification

###### 1. Compliance Plan [*Mandated by 40 CFR §70.5(c)(8)*]

As the Permittee is currently in compliance with all applicable requirements, the compliance plan consists of continued adherence to the requirements of this permit and those requirements set forth in applicable regulations and statutes.

##### B. Compliance Schedule [*Mandated by 40 CFR §§ 70.5(c)(8), 70.6(c)(3)*]

As the Permittee is currently in compliance, no compliance schedule to attain compliance is required.

##### C. Applicable Limitations (*Code §3-1-082*)

Where different standards or limitations apply under this permit, the most stringent combination shall prevail and be enforceable.

##### D. Allowable Emissions (*Code § 3-1-081.A.2.*)

Permittee is authorized to discharge or cause to discharge into the atmosphere those emissions of air contaminants as set forth below. Unless exempted under Code §3-1-040.C., or authorized by a separate permit, by this permit or by a revision or operational change allowed under Chapter 3, Article 2 of the Code, Permittee shall not commence construction of, operate or make any modification to this source in a manner which will cause emissions of any regulated air pollutant in excess of the de minimis amount.

E. General Maintenance Obligation (*Code §§3-1-081.E., 8-1-030.A.3*)

At all times, including periods of start-up, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate the permitted facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

F. Stratospheric Ozone and Climate Protection

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Recycling and Emissions Reduction

G. Term [*Mandated by 40 CFR §70.6(a)(2)*] (*Code §3-1-089*)

This permit shall have a term of five (5) years, measured from the date of issuance.

H. Basic Obligation [*Mandated by 40 CFR §§70.4(b)(15), 70.6(a)(6)(I), 70.6(a)(6)(ii), 70.7.b*] (*Code §3-1-081.*)

1. The owner or operator ("Permittee") of the facilities shall operate them in compliance with all conditions of this permit, the Pinal County Air Quality Control District ("the District") Code of Regulations ("Code"), and consistent with all State and Federal laws, statutes, and codes relating to air quality that apply to these facilities. Any permit noncompliance is grounds for enforcement action; for a permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application and may additionally constitute a violation of the Clean Air Act (1990).
2. All equipment, facilities, and systems used to achieve compliance with the terms and conditions of this permit shall at all times be maintained and operated in good working order.
3. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I. Duty to Supplement Application [*Mandated by 40 CFR §§70.5(b), 70.6(a)(6)(v)*] (*Code §3-1-081.A.8.e.*)

Permittee shall furnish to the District within a reasonable time, which shall not exceed thirty days unless the Control Officer fixes some other time period for response, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking, reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required under this permit. For information claimed to be confidential, Permittee shall submit along with the requested information or records a showing as required under Code §3-1-120, and shall separately submit a full duplicate copy to the EPA Regional Office (Regional Administrator c/o Air Division Permits Office, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105-3901).

J. Right to Enter [*Mandated by 40 CFR §70.6(c)(2)*] (*Code §§ 3-1-083.A.6, 3-1-132*)

Authorized representatives of the District shall, upon presentation of proper credentials and while observing reasonable standard safety requirements as set forth by the owner or operator of the source, be allowed for purposes of ascertaining compliance with this permit and with other applicable requirements:

1. to enter upon the premises where the source is located, where emissions-related activity is conducted, or in which any records are required to be kept under the terms and conditions of this permit;
2. to inspect any equipment, operation, or method required in this permit;
3. to sample or monitor emissions from the source, or other substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements;
4. to have access to and copy, at reasonable times, any records that are required to be kept under the terms of this permit; and
5. to record any inspection by use of written, electronic, magnetic and photographic media.

**K. Transfer of Ownership [*Mandated by 40 CFR §70.7(d)(4)*] (*Code §3-1-090*)**

This permit may be transferred under an administrative permit amendment from one person to another by notifying the District at least 30 days in advance of the transfer. The notice shall contain all the information and items required by Code § 3-1-090. The transfer may take place if not denied by the District within 10 days of the receipt of the transfer notification.

**L. Posting of Permit (*Code §3-1-100*)**

Permittee shall firmly affix the permit, an approved facsimile of the permit, or other approved identification bearing the permit number, upon such building, structure, facility or installation for which the permit was issued. In the event that such building, structure, facility or installation is so constructed or operated that the permit cannot be so placed, the permit shall be mounted so as to be clearly visible in an accessible place within a reasonable distance of the equipment or maintained readily available at all times on the operating premises.

**M. Permit Revocation for Cause [*Mandated by 40 CFR §70.6(a)(6)(iii)*] (*Code §3-1-140*)**

The Director of the District ("Director") may issue a notice of intent to revoke this permit for cause pursuant to Code §3-1-140, which cause shall include occurrence of any of the following:

1. The Director has reasonable cause to believe that the permit was obtained by fraud or material misrepresentation;
2. Permittee failed to disclose a material fact required by the permit application form or a regulation applicable to the permit;
3. The terms and conditions of the permit have been or are being violated.

**N. Certification of Truth, Accuracy, and Completeness [*Mandated by 40 CFR §§70.5(a)(2), 70.6(a)(3)(iii)(B)*] [*Federally enforceable - Code §§3-1-083.A.5, 3-1-175 (as amended 10/12/95) approved as SIP Elements at 61 FR 15717 (4/9/96)*]**

Any application form, report, or compliance certification submitted pursuant to the Code shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under Chapter 3 of the Code shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

- O. Renewal of Permit *[Mandated by 40 CFR §§70.5(a)(1)(iii), 70.7(c)] (Code §3-1-050.C.2)*
- Expiration of this permit will terminate the facility's right to operate unless either a timely application for renewal has been submitted in accordance with §§3-1-050, 3-1-055 and 3-1-060, or a substitute application for a general permit under §3-5-490. For Class I permit renewals, a timely application is one that is submitted at least 6 months, but not greater than 18 months prior to the date of the permit expiration. For Class II or Class III permit renewals, a timely application is one that is submitted at least 3 months, but not greater than 12 months prior to the date of permit expiration.
- P. Severability *[Mandated by 40 CFR §70.6(a)(5)] (Code §3-1-081.A.7)*
- Pursuant to Code § 3-1-081.A.7., the provisions of this permit are severable, and if any provision of this permit is held invalid the remainder of this permit shall not be affected thereby.
- Q. Permit Shield *[Mandated by 40 CFR §70.6(f)] (Code § 3-1-102.)*
1. Exclusions Generally
 

Subject to the following schedule of exclusions, compliance with the terms of this permit shall be deemed compliance with any applicable requirement identified in this permit. The permit-shield exclusions include:

    - a. PGCAQCD Rule §7-3-1.3 Open Burning;
    - b. PGCAQCD Rule §7-3-4.1 Industrial - Carbon Monoxide Emissions
    - c. Appendix A - Reporting Form
    - d. Appendix B - Insignificant Activities
  2. Non-Road Engine Exclusion *(40 CFR Part 89)*

Notwithstanding the possible inclusion in Section 11 defining "processes," or Section 12 reciting an "equipment list," or Section 13 defining an "emission inventory," operation of non-road engines in self-propelled equipment, manually propelled equipment, and short-term portable equipment is not subject to regulation under this permit, and is therefore also excluded from the permit shield.
  3. Additional Inclusions under the Permit Shield
 

The permit shield also extends to the following provisions of the code, due to a finding by the Control Officer of non-applicability:

    - a. Code §§5-22-950, 5-22-960 & 5-22-970, all dealing with Fossil Fuel-Fired Steam Generators.
- R. Permit Revisions *[Mandated by 40 CFR §70.7(d), 70.7(e)] (Code Chapter 3, Article 2, specifically Code §3-1-081.A.8.c)*
1. This permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
  2. Permit amendments, permit revisions, and changes made without a permit revision shall conform to the requirements in Article 2, Chapter 3, of the Code.
- S. Permit Re-opening *[Mandated by 40 CFR §§70.6(a)(6)(iii), 70.7(f), 70.7(g)] (Code §3-1-087)*
1. This permit shall be reopened if:

- a. Additional applicable requirements under the Clean Air Act (1990) become applicable to this source, and on that date, this permit has a remaining term of three or more years. Provided, that no such reopening under this subparagraph is required if the effective date of the newly applicable requirement is later than the date on which this permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to Code §3-1-089.C.
  - b. The Control Officer determines that it contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of it;
  - c. The Control Officer determines that it needs to be revised or revoked to assure compliance with the applicable requirements; or
  - d. The EPA Administrator finds that cause exists to terminate, modify, or revoke and reissue this permit.
2. If this permit must be reopened or revised, the District will notify the permittee in accord with Code §3-1-087.A.3.
- T. Record Retention *[Mandated by 40 CFR §70.6(a)(3)(ii)(B)] (Code §3-1-083.A.2.b)*
- Permittee shall retain for a period of five (5) years all documents required under this permit, including reports, monitoring data, support information, calibration and maintenance records, and all original recordings or physical records of required continuous monitoring instrumentation.
- U. Scope of License Conferred *[Mandated by 40 CFR §70.6(a)(6)(iv)] (Code §3-1-081.A.8.d)*
- This permit does not convey any property rights of any sort, or any exclusive privilege.
- V. Fee Payment *[Mandated by 40 CFR §§70.6(a)(7), 70.9] (Code §3-1-081.A.9)*
- As an essential term of this permit, an annual permit fee shall be assessed by the District and paid by Permittee in accord with the provisions of Code Chapter 3, Article 7 generally, and Code §3-1-081.A.9 specifically. The annual permit fee shall be due on or before the anniversary date of the issuance of an individual permit, or formal grant of approval to operate under a general permit. The District will notify the Permittee of the amount to be due, as well as the specific date on which the fee is due.
- W. General Mechanical and Electrical Maintenance
- Provided Permittee complies with the foregoing limitations pertaining to the use of Solvent Containing Products, Permittee is authorized to conduct regular inspection, maintenance and repair of the equipment covered by this permit, without notice to the District, provided further that this provision shall not relieve the Permittee from the obligation to provide any notice or application required under the Code or this permit, including a change notice under Code §3-2-180.D, a revision application under §§3-2-190 or 3-2-195, or any notice of deviation, upset or emergency.
- X. Open Burning
- Permittee may conduct open burning for the instruction and training of the fire brigade. The material to be burned shall consist of clean pallets, numbering one-hundred (100) or fewer with a frequency not exceeding once in any period of two (2) consecutive months.
- Y. Abrasive Blasting (Code §5-4-140)

1. Applicability and Performance Standard (Code §5-4-175)

The provisions of this section are applicable to sandblasting and other abrasive blasting operations, and no person shall cause or permit sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Examples of good modern practices include wet blasting and the use of effective enclosures with necessary dust collecting equipment.

2. Performance Standards (Code §5-4-160)

- a. The opacity of emissions from abrasive blasting shall not be greater than 40% measured in accordance with the Arizona Testing Manual Reference Method 9.
- b. Any abrasive blasting operation shall use at least one of the following control measures:
  - i. Confined blasting.
  - ii. Wet abrasive blasting.
  - iii. Hydro blasting.
  - iv. A control measure that is determined by the Control Officer to be equally effective to control particulate emissions.

3. Monitoring and Records (Code §5-4-170)

Visible emission evaluation of abrasive blasting operations shall be conducted in accordance with the following provisions:

1. Emissions from unconfined blasting employing multiple nozzles shall be Judged as single source unless it can be demonstrated by the owner or operator that each nozzle, evaluated separately, meets the emission standards of this article.
2. Emissions from confined blasting shall be read at the densest point after the air contaminant leaves the enclosure.

## 5. FUGITIVE PARTICULATE EMISSIONS

### A. Emissions Limitations, Control, and Compliance Requirements

1. Particulate Emissions - Control of Fugitive Dust [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)*]

Permittee shall not cause, suffer, allow or permit:

- a. A building or its appurtenances or open area to be used, constructed, repaired, altered or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Particulate emissions shall be kept to a minimum by such measures as wetting down, covering, landscaping, paving, and treating or by other reasonable means.
- b. The repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust palliatives, wetting down, detouring or by other reasonable means. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.
- c. Transportation of material likely to give rise to airborne dust without taking reasonable precautions to prevent particulate matter from becoming airborne.
- d. Crushing, screening, handling or conveying of materials or other operations likely to give rise to airborne dust without taking reasonable precautions to prevent particulate matter from becoming airborne such as spray bars and wetting agents.

2. Particulate Emissions - Stockpiles [*Currently federally enforceable; see ¶5.C.2.a. and .d. supra*]

Permittee shall effect reasonable precautions to prevent particulate matter emissions from stockpiles; illustrative precautions include wetting down, covering, landscaping, paving treating or other reasonable means.

3. Fugitive Emissions - Open Areas, Roadway Construction, Haul Road Operations [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2. (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)*]

A principal emissions control required under this permit constitutes sprinkling unpaved roads with a water truck as necessary to effectively prevent fugitive dust from becoming airborne. A minimum of 2,500 gallons of water shall be sprayed on the roads each day they are used by trucks for hauling product and the roads are not visibly moist due to rainfall. As an alternative, the facility may use a chemical dust suppressant, as necessary, for control of fugitive dust from unpaved roads. This requirement is applicable at all times except when the road surface has adequate entrained moisture.

4. Fugitive Emissions – Solid Waste Landfill [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as SIP element at 43 FR 50531 (11/15/78)*]

Permittee shall use dust control, such as wetting down or other measures, to minimize fugitive emissions from the landfill site.

5. Fugitive Emissions – Elder Gulch Tailings Storage Facility [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as SIP element at 43 FR 50531 (11/15/78)*]

Permittee shall use dust control, following best management practices such as wetting down or other reasonable measures to minimize fugitive emissions from the tailings storage facility.

6. Fugitive Emissions – Ripsey Wash Tailings Storage Facility [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as SIP element at 43 FR 50531 (11/15/78)*]

Permittee shall use dust control, following best management practices such as wetting down or other reasonable measures to minimize fugitive emissions from the tailings storage facility.

7. Fugitive Emissions – Spray Evaporation System [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (8/7/80) approved as SIP element at 47 FR 15580 (4/12/82)*]

Permittee shall maintain and operate the spray evaporation system in accordance with manufacturer’s recommendations to minimize fugitive emissions.

B. Recordkeeping Requirements

1. Permittee shall maintain the following records:
  - a. The total gallons of water applied to the unpaved road surface recorded in accordance with the requirement §5.A.3 of this section;
  - b. The total quantity of chemical dust suppressant applied to the unpaved road surface recorded in accordance with the requirement §5.A.3 of this section;

## 6. CR1 PRIMARY CRUSHING CIRCUIT

- A. Affected Emission Units
1. Equipment ID 412: CR1 Dump Pocket and Primary Crusher
  2. Equipment ID 414: Transfer of Ore from CR1 Picking Conveyor to CR1 Stacker Conveyor
  3. Equipment ID 421: Transfer of Ore from CR1 Stacker Conveyor to Hayden Stockpile
  4. Equipment ID 441: Transfer of Ore in Hayden Loadout Tunnel
- B. Emissions Limitations
1. Opacity Limitation
    - a. SIP Limitation [*Federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (8/7/80) approved as a SIP element at 47 FR 15580 (4/12/82)*]  
  
The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual.
    - b. Visibility Limiting Standard [*Federally enforceable pursuant to Code §2-8-300 (5/18/05) approved as a SIP element at 71 FR 15043 (3/27/06)*]  
  
The opacity of any plume or effluent from any point source not subject to a New Source Performance Standard adopted under Chapter 6 of the Code, and not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR 60, Appendix A. Affected sources include:
      1. Equipment ID 412: CR1 Dump Pocket and Primary Crusher
      2. Equipment ID 414: Transfer of Ore from CR1 Picking Conveyor to Stacker Conveyor
      3. Equipment ID 421: Transfer of Ore from CR1 Stacker Conveyor to Hayden Stockpile
      4. Equipment ID 441: Transfer of Ore in Hayden Loadout Tunnel

Nothing in this limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined water vapor, to the open air.
  2. Particulate Emissions – Control of Fugitive Dust [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)*]  
  
Permittee shall not cause, suffer, allow or permit crushing, screening, handling or conveying of materials or other operations likely to give rise to airborne dust without taking reasonable precautions to prevent particulate matter from becoming airborne such as spray bars and wetting agents.
  3. Particulate Emissions – Process Industries [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.8 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78), Code §5-5-190*]

Permittee shall capture, to the maximum practical extent, all particulate matter resulting from operation of individual equipment comprising the complete process. Permittee not cause, suffer, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing process source whatsoever, except fuel-burning equipment, in total quantities in excess of the amount calculated by the following equation:

$$E = (55.0 P^{0.11} - 40.0) \text{ pounds per hour.}$$

Where, P: production process weight rates in ton/hour

4. **PM<sub>10</sub> Emissions** [*Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94) Code §3-1-081.A*]

Permittee shall limit PM<sub>10</sub> emissions from the listed affected facilities, in any consecutive twelve-month period, to 5.63 tons:

- a. Equipment ID 412: Dump Pocket and Primary Crusher
- b. Equipment ID 414: Transfer of Ore from CR1 Picking Conveyor to Stacker Conveyor

C. **Operational Limitations and Controls**

1. The rotoclone scrubber shall be operated by the Permittee to reduce particulate matter to a minimum of 0.006 grains/dscf from the transfer of the crushed ore to the CR1 Picking and transfer to CR1 Stacker Conveyor (Equipment ID 412 & Equipment ID 414); [*Currently federally enforceable; see ¶5. C. 2.d and ¶5. C. 3 supra., Code §4-2-040.E and F*]
2. A water or surfactant spray system shall be operated by the Permittee to reduce particulate matter to the maximum extent practical from Transfer of Ore from the CR1 Stacker Conveyor to the Hayden Stockpile (Equipment ID 421), and Transfer of ore from the Hayden load out tunnel (Equipment ID 441). This requirement is applicable at all times except when the ore has entrained moisture as provided in Condition 6A.C.3 [*Currently federally enforceable; see ¶5. C. 2.d and ¶5. C. 3 supra., Code §4-2-040.E*]
3. Spray bar pollution controls shall be utilized, as applicable, in accordance with "EPA Control of Air Emissions from process operations in the Rock Crushing Industry" (EPA 340/1-79-002), "Wet Suppression Systems" (Jan. 1979), with placement of spray bars and nozzles as required to minimize air pollution. The spray bars required under this subsection need not be operated during periods when entrained moisture already saturates process materials to the extent that process emissions conform to the opacity limitations under this permit, even without the operation of such spray bars. At all other times during process operations, the spray bars shall be operated as required by this permit condition. [*Not Federally Enforceable, Code §5-5-190.C*]

D. **Compliance Requirements**

1. **Ore Throughput Monitoring** [*Mandated by 40 CFR §70.6(a)(3)*]
  - a. Since the emissions authorized under this permit constitute a direct function of the material throughput at the source, the Permittee shall maintain monthly records, of the amount of material delivered to the following systems:

1. Equipment ID 412: CR1 Dump Pocket and Primary Crusher  
 Prior to the end of the current month, the Permittee shall calculate ore throughput for the previous 12-months of operation, to each system listed above.
2. Opacity Monitoring (Non-NSPS Subpart LL)*[Currently federally enforceable; see ¶5. C.1 supra]*
  - a. A certified EPA Reference Method 9 observer shall conduct a monthly visible emissions survey from the following emission points:
    1. Equipment ID 412: CR1 Dump Pocket
    2. Equipment ID 412 and Equipment ID 414: CR1 Wet Scrubber
    3. Equipment ID 421: Transfer of Ore from CR1 Stacker Conveyor to Hayden Stockpile
    4. Equipment ID 441: Transfer of Ore in Hayden Loadout Tunnel
  - b. The visible emissions survey will include the following:
    1. The date and time of the survey; and
    2. The presence or absence of any visible emissions.
 Permittee shall keep a record of the visible emissions survey, signed by the observer.
  - c. If a survey identifies any emissions that may exceed the 20% opacity standard, the certified observer shall attempt to perform a visible emission observation of the emission point in accordance with EPA Method 9. If the Method 9 results indicate that an observed opacity greater than 20%, it shall be reported as an excess emission in accordance with Section §19 of this permit.  
  
 Record the following information on a Method 9 Visible Emission Observation form
    1. The date and time of the observation;
    2. The results of the Method 9 observation;
    3. If a Method 9 visible emissions observations could not be performed, a reason why the observation could not be performed.
3. Compliance Assurance Monitoring (CAM)*[Currently federally enforceable; see 40 CFR §64.1 et seq. (1997)]*
  - a. Affected emission unit(s):
    - i. CR1 Scrubber;
  - b. Indicators:

- ii. Pressure drop (differential pressure) across the scrubber
- c. Permittee shall monitor as follows:
  - i. Change in pressure of the gas stream through the scrubber – monitored and averaged hourly;
- d. Pressure drop across the scrubber shall be established as follows:
  - i. Use manufacturer recommended range of 8 – 10.5 inches of water OR
  - ii. Operating Range = +/-30% of the average value recorded during the most recent performance test
- e. The following shall constitute an “excursion” while the crusher is in operation:
  - i. Pressure Drop – two or more hourly average pressure drops in any 24-hour day outside the range as established by Condition §6A.E.4 of this section.
- f. Any excursion shall trigger a requirement to conduct an inspection and perform necessary correction action.
- g. Permittee shall maintain the monitoring, including but not limited to maintaining necessary parts for routine repair of the monitoring equipment.
- h. Monitor the pressure drop across the scrubber at all times when the crusher is operating, except for, as applicable, monitoring malfunctions, associated repairs, required quality assurance/quality control activities.
- i. Malfunction of the monitoring gauge or failure to conduct or record the observations due to the malfunction shall constitute a monitoring malfunction. Records shall identify the emission point or points affected by any monitoring malfunction.
- j. Any excursion, exceedance, or monitoring malfunction shall require the operator to restore operation of the control and/or monitoring system to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of startup, shutdown, or malfunction, and taking necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance.
- k. Permittee shall submit a Quality Improvement Plan (QIP) in accordance with 40 CFR §64.8 if any combination of excursions or monitoring malfunctions exceeds 5% of operating time, where operating time is defined as each semi-annual reporting period under Condition §18.A of this permit.
- l. Logs, excursion observations, exceedance observations, and summaries of downtime incidents shall all be subject to the

recordkeeping and reporting requirements under the permit.

- m. If Permittee identifies a failure to achieve compliance with the CAM requirements, Permittee shall promptly notify the Department, and if necessary submit a revision to the permit to address the necessary monitoring changes.

E. Inspection Requirements

1. Permittee shall conduct a visual inspection of the spray heads on at least a weekly basis. The inspection records shall include the following:
  - a. Date of inspection;
  - b. Any spray system malfunctions observed; and
  - c. Any corrective actions taken.
2. The Permittee shall inspect the Rotoclone Scrubber at least once per week to determine it is operating properly. Records of these inspections shall be maintained.

F. Testing Requirements [*Federally enforceable pursuant to Code §6-1-030.43 and 40 CFR §§60.380-386 Code §3-1-160*]

1. Permittee shall conduct a performance test on the CR1 wet scrubber to ensure compliance with the 0.006 grains/dscf grain loading concentration of the scrubber. Tests shall be performed at the maximum practical production rate.
2. Required tests shall use standard EPA Reference Methods as provided within 40 CFR Part 60. At least 30 days before the test, Permittee shall submit a test protocol to PCAQCD for review and approval; Permittee shall provide notice of the performance test at least 15 days prior to running the test.
3. Test reports shall be submitted to the District for approval within forty-five (45) days after the test. The test reports shall define the scrubber operating parameters, namely the range of pressure drops across the scrubber. Upon approval of the testing report by the District, Permittee shall operate the scrubber within the operating parameters defined in requirements §6.D.3.d of this section.
4. Permittee shall within 30 days after a performance test, verify the indicator operational ranges as listed in the requirement §6.D.3.d of this section. If necessary, the Permittee shall submit to the Department and the Administrator, a revised CAM plan which includes pressure differential for the scrubber.
5. Subsequent tests shall be performed within five (5) years of the previous performance test.

G. Recordkeeping Requirements [*Mandated by 40 CFR §70.6(a)(3)Code §3-1-083*]

1. Permittee shall maintain the following records:
  - a. Ore throughput recorded in accordance with the requirement §6.D.1.a of this section;
  - b. Visible emission surveys recorded in accordance with the requirement §6.D.2.b of this section.
  - c. Inspection records for the water sprays in accordance with the requirement §6.F.1 of this section;
  - d. Inspection records for the scrubber in accordance with the requirement §6.F.2 of this section.

2. Permittee shall maintain at the source, a file, as applicable, of all measurements, including continuous monitoring system, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration QA/QC checks; adjustments and maintenance performed on these systems or devices; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.
3. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of the permitted facility or any air pollution control equipment. For purposes of this provision, a "shut-down" means a cessation of operations at the entire facility for more than seven days, and a "start-up" constitutes the reactivation of the facility after a "shut-down."

H. Reporting Requirements

1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. *[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A]*
2. Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit. *[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]*

## 7. CR4 PRIMARY CRUSHING CIRCUIT

### A. Affected Emission Units

1. Equipment ID 396-1: CR4 Dump Pocket
2. Equipment ID 396-2a: Top of Primary Crusher, Primary Crushing, Transfer to Picking Conveyor
3. Equipment ID 396-2c:
  - a. Transfer from Primary Crusher Discharge Conveyor to the Splitter Cart
  - b. Transfer from Splitter Cart to Cone Crusher
  - c. Transfer from Cone Crusher to Stockpile Feed Conveyor
  - d. Transfer from Splitter Cart to Stockpile Feed Conveyor
4. Equipment ID 330: Transfer to CR4 Coarse Ore Stockpile

### B. Emissions Limitations

#### 1. Opacity Limitation

- a. SIP Limitation *[Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP element at 47 FR 15579 (4/12/82)]*

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual.

- b. Visibility Limiting Standard *[Code §2-8-300]*

The opacity of any plume or effluent from any point source not subject to a New Source Performance Standard adopted under Chapter 6 of the Code, and not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR 60, Appendix A. Affected sources include:

- i. Equipment ID 396-1: CR4 Dump Pocket
- ii. Equipment ID 330: Transfer to CR4 Coarse Ore Stockpile
- c. NSPS Subpart LL *[Federally enforceable pursuant to Code §6-1-030.41 and 40 CFR §60.382. (a). (2) & (b)]*
  - i. On and after the date on which the performance test required to be Conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any stack emissions that exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.
    1. Equipment ID 396-2a: Transfer to Picking conveyor, controlled by CR4 baghouse (stack emissions) – 7%
    2. Equipment ID 396-2c: Controlled by cone crusher dust

collector (stack emissions) – 7%

- a. Transfer from Primary Crusher Discharge Conveyor to the Splitter Cart – 7%
  - b. Transfer from Splitter Cart to Cone Crusher – 7%
  - c. Transfer from Cone Crusher to Stockpile Feed Conveyor – 7%
  - d. Transfer from Splitter Cart to Stockpile Feed Conveyor – 7%
- ii. On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity-
1. Equipment ID 396-2a (Transfer to Picking Conveyor) - 10%
  2. Equipment ID 396-2c
    - a. Transfer from Primary Crusher Discharge Conveyor to the Splitter Cart – 10%
    - b. Transfer from Splitter Cart to Cone Crusher – 10%
    - c. Transfer from Cone Crusher to Stockpile Feed Conveyor – 10%
    - d. Transfer from Splitter Cart to Stockpile Feed Conveyor – 10%

## 2. Particulate Emissions

- a. Control of Fugitive Dust [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)*]

Permittee shall not cause, suffer, allow or permit crushing, screening, Handling or conveying of materials or other operations likely to give rise to airborne dust without taking reasonable precautions to prevent particulate matter from becoming airborne such as spray bars and wetting agents.

- b. Process Industries [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.8 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78), Code §5-5-190*]

Permittee shall capture, to the maximum practical extent, all particulate matter resulting from operation of individual equipment comprising the complete process. Permittee not cause, suffer, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing process source whatsoever, except fuel-burning equipment, in total quantities in excess of the amount calculated by the following equation:

$$E = (55.0 P^{0.11} - 40.0) \text{ pounds per hour.}$$

Where, P: production process weight rates in ton/hour

- c. NSPS Subpart LL [*Federally enforceable pursuant to Code §6-1-030.43 and 40 CFR §§60.382 Code (§4-2-040)*]

On and after the date on which the performance test required to be conducted By §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any stack emissions contain particulate matter in excess of 0.05 grams per dry standard cubic meter (0.05 g/dscm).

- i. CR4 Baghouse
- ii. CR4 Cone Crusher Baghouse

3. PM<sub>10</sub> Emissions [*Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94) Code §3-1-081.A*]

Permittee shall limit PM<sub>10</sub> emissions from the listed affected facilities in any consecutive twelve-month period to the following:

- a. Equipment ID 396-2a: Transfer to Picking Conveyor – 9.01 tons
- b. Equipment ID 396-2c – 5.63 tons

C. Operational Limitations and Controls

- 1. To stay within the preceding emission cap for PM<sub>10</sub> emissions, and thereby also avoid triggering NSR, Permittee shall:
  - a. Limit the ore processed in the CR4 Crusher, in any consecutive 12-month period to 22,000,000 tons;
  - b. Install and operate at all times during operation of the crusher:
    - i. A baghouse system with a maximum exhaust emission rate of 0.006 gr/dscf to reduce particulate matter from Equipment ID 396-2a: Transfer to Picking Conveyor. The baghouse shall be equipped with a differential pressure gauge.
    - ii. A baghouse system with a maximum exhaust emission rate of 0.006 gr/dscf to reduce particulate matter from Equipment ID 396-2c: CR4 Cone Crusher. The baghouse shall be equipped with a differential pressure gauge.

D. Compliance Requirements

- 1. Ore Throughput Monitoring [*Mandated by 40 CFR §70.6(a)(3)*]
  - a. Since the emissions authorized under this permit constitute a direct function of the material throughput at the source, the Permittee shall maintain monthly records, of the amount of material delivered to the following systems:
    - i. Equipment ID 396-2a CR4 Crusher
    - ii. Equipment ID 396-2c CR4 Cone Crusher

Prior to the end of the current month, the Permittee shall calculate ore throughput for the previous 12-months of operation, to each system listed above.

2. Opacity Monitoring (Non-NSPS Subpart LL) [*Currently federally enforceable; see ¶5.C.1 supra*]
- a. A certified EPA Reference Method 9 observer shall conduct a monthly visible emissions survey from the following emission points:
    - i. Equipment ID 396-1: CR4 Dump Pocket
    - ii. Equipment ID 330: Transfer to CR4 Coarse Ore Stockpile
  - b. The visible emissions survey will include the following:
    - i. The date and time of the survey; and
    - ii. The presence or absence of any visible emissions.  
Permittee shall keep a record of the visible emissions survey, signed by the observer.
  - c. If a survey identifies any emissions that may exceed the 20% opacity standard, the certified observer shall attempt to perform a visible emission observation of the emission point in accordance with EPA Method 9. If the Method 9 results indicate that an observed opacity greater than 20%, it shall be reported as an excess emission in accordance with Section §19 of this permit.  
  
Record the following information on a Method 9 Visible Emission Observation form
    - i. The date and time of the observation;
    - ii. The results of the Method 9 observation;
    - iii. If a Method 9 visible emissions observations could not be performed, a reason why the observation could not be performed.
3. Opacity Monitoring (NSPS Subpart LL) [*Currently federally enforceable; see ¶5.C.1 supra*]
- a. A certified EPA Reference Method 9 observer shall conduct a monthly visible emissions survey from the following emission points:
    - i. Equipment ID 396-2a: Transfer to Picking Conveyor (CR4 Baghouse Exhaust)
    - ii. Equipment ID 396-2c
      - a. Transfer from Primary Crusher Discharge Conveyor to the Splitter Cart
      - b. Transfer from Splitter Cart to Cone Crusher
      - c. Transfer from Cone Crusher to Stockpile Feed Conveyor
      - d. Transfer from Splitter Cart to Stockpile Feed Conveyor
    - iii. A certified EPA Reference Method 9 observer shall conduct a monthly visible process fugitive emissions survey from all the affected facilities.
    - iv. The visible emissions survey will include the following:

1. Equipment ID;
2. The date and time of the survey; and
3. The presence or absence of any visible emissions

Permittee shall keep a record of the visible emissions survey, signed by the observer.

- b. If the survey identifies any emissions that may exceed the 7% opacity from the baghouse stack or any process fugitive emissions that may exceed 10% opacity, the certified observer shall:

1. Attempt to perform a visible emissions observation of the emission point in accordance with EPA Method 9. If the Method 9 results indicate an observed opacity greater than 7% opacity (for stack emissions) or 10% opacity (for fugitive emissions), it shall be reported as an excess emission in accordance with Section §19 of this permit.
2. Record the following information on a Method 9 Visible Emission Observation form:
  - i. Equipment ID;
  - ii. The date and time of the observation;
  - iii. The results of the Method 9 observation
  - iv. If a Method 9 visible emissions observations could not be performed, a reason why the observation could not be performed.

4. Compliance Assurance Monitoring (CAM)[*Currently federally enforceable; see 40 CFR §64.1 et seq. (1997)*]

- a. Affected emission unit(s):
  - i. CR4 Crusher Baghouse;
  - ii. CR4 Cone Crusher Baghouse
- b. Indicators: Pressure drop (differential pressure) across the baghouse;
- c. Permittee shall install a differential pressure gauge at the baghouse, and shall monitor and record as follows:
  - i. The pressure drop across the baghouse - measured with a differential pressure gauge - monitored and averaged hourly.
  - ii. Daily zero-check;
- d. The following shall constitute an “excursion” while the crusher is in operation:

Two or more hourly average pressure drops in any 24-hour day outside the following range as established by the most recent performance test or manufacturer data:

0.0 – 6.0 inches of water.

- e. Any excursion shall trigger a requirement to conduct an inspection and perform necessary correction action.
- f. Permittee shall maintain the monitoring, including but not limited to maintaining necessary parts for routine repair of the monitoring equipment.
- g. Monitor the baghouse differential pressure at all times using a differential pressure gauge, when the CR4 crusher or CR4 Cone Crusher is operating, except for, as applicable, monitoring malfunctions, associated repairs, required quality assurance/quality control activities.
- h. Malfunction of the pressure gauge or failure to conduct or record the observations due to the malfunction shall constitute a monitoring malfunction. Records shall identify the emission point or points affected by any monitoring malfunction.
- i. Any excursion, exceedance, or monitoring malfunction shall require the operator to restore operation of the control and/or monitoring system to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of startup, shutdown, or malfunction, and taking necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance.
- j. Permittee shall submit a Quality Improvement Plan (QIP) in accordance with 40 CFR §64.8 if any combination of excursions or monitoring malfunctions exceeds 5% of operating time, where operating time is defined as each semi-annual reporting period under Condition 18.A.
- k. Logs, excursion observations, exceedance observations, and summaries of downtime incidents shall all be subject to the recordkeeping and reporting requirements under the permit.
- l. If Permittee identifies a failure to achieve compliance with the CAM requirements, Permittee shall promptly notify the Department, and if necessary submit a revision to the permit to address the necessary monitoring changes.

#### E. Inspection Requirements

- 1. Permittee shall conduct a visual inspection of the spray heads on at least a weekly basis. The inspection records shall include the following:
  - a. Equipment ID;
  - b. Date of inspection;
  - c. Any spray system malfunctions observed; and
  - d. Any corrective actions taken.
- 2. Weekly Inspection

- a. The Permittee shall inspect the baghouse and baghouse final exhaust fan at least once per week to determine they are operating properly. Records of these inspections shall be maintained.
- b. CR4 Crusher Inspections shall be conducted as follows:
  - i. Open the intake plenum latch and confirm that dust is not accumulating in the cone.
  - ii. Visually check the cartridge filters for rips, tears, bulges, separations or build-up of dust in the paper fins. Remove and replace cartridges if damaged or must be moved for other required maintenance. Do not use an air lance or any other tool/device to remove accumulated dust. Cartridges are very fragile and if the system is working properly, the system will clean itself automatically as needed.
  - iii. If dust accumulation at the cartridge filters is observed, switch the dial on the control panel to “continuous cleaning” for approximately 30 minutes then re-check. If the continuous cleaning does not resolve the problem, contact the Environmental Department and document on weekly emissions inspection report.
  - iv. Visually check the Pamic filter for any damage or build-up of dust. If replacing a new Pamic filter, seal the connection with regular silicon to prevent leakage.
  - v. Check pressure regulator on incoming plant air line to the pulse-jet system. Pressure must be maintained at 90 psi (+ /- 10%). If pressure is not in the target range, adjust the pressure regulator to target 90 psi level. If the level cannot be set, the regulator and or gauge may need to be cleaned/replaced. Any findings in the inspection and follow-up actions must be documented on the weekly emission inspection report.
  - vi. Check for accumulation of dust within the pressure differential air lines between the plenums and gauge. Clean/purge lines with clean air, if necessary, to support continued operation of dP recording system.
  - vii. Inspect pressure differential air lines for cracking, unusual wear, and kinks.
  - viii. Inspect weather stripping around the doors for cracks, holes, tears, or other visual leakage/damage. Remove built up dust and clean stripping prior to closing doors.
  - ix. Inspect the vibrators on the cone for proper operation and check cone itself for cracks or visual wear. Notify Environmental Department of cracks or excessive wear to allow repairs, where needed.
  - x. Inspect the roto-valve for proper operation. Clear and clean any build-up of dust or debris on/in the valve.
- 3. Annual Inspection
  - a. Annual maintenance in accordance with manufacturer instructions
  - b. Annually, the digital differential pressure gauge must be inspected/verified/calibrated, as necessary. The gauge may need to be replaced if the system does not meet operating specifications.
- F. Testing Requirements *[Federally enforceable pursuant to Code §6-1-030.43 and 40 CFR*

**§§60.380-386, 40 CFR§60.8 Code §3-1-160]**

1. Within 60 days after achieving the maximum production rate at which the affected unit will be operated, but no later than 180 days after initial startup of such unit, Permittee shall conduct a performance test on the CR4 Cone Crusher Baghouse to ensure compliance with the 0.006 grains/dscf grain loading concentration. This test shall be performed at the maximum practical production rate.
2. Permittee shall conduct a performance test on the CR4 Crusher Baghouse to ensure compliance with the 0.006 grains/dscf grain loading concentration. This test shall be performed at the maximum practical production rate.
3. Required tests shall use standard EPA Reference Methods as provided within 40 CFR Part 60, Subpart LL. At least 30 days before the test, Permittee shall submit a test protocol to PCAQCD for review and approval; Permittee shall provide notice of the performance test at least 30 days prior to running the test.
4. Test reports shall be submitted to the District for approval within forty-five (45) days after the test. The test reports shall define the baghouse operating parameters, namely the range of pressure drops across the baghouse. Upon approval of the testing report by the District, Permittee shall operate the baghouse within the operating parameters in accordance with condition §7.D.4.d of this section.
5. Permittee shall within 30 days after a performance test, verify the indicator operational ranges as listed in the requirement §7.D.4.d of this section. If necessary, the Permittee shall submit to the Department and the Administrator, a revised CAM plan which includes pressure differential for the baghouse.
6. Subsequent test shall be performed within five (5) years of the previous performance tests.

**G. Recordkeeping [Mandated by 40 CFR §70.6(a)(3)Code §3-1-083]**

1. Permittee shall maintain the following records:
  - a. Ore throughput recorded in accordance with the requirement §7.D.1.a of this section;
  - b. Visible emission surveys for non-NSPS and NSPS emission units recorded in accordance with the requirement §7.D.2 and §7.D.3 of this section;
  - c. Records for the CR4 Baghouse and CR4 Cone Crusher Baghouse recorded in accordance with requirement §7.D.4.c of this section;
  - d. Inspection records for the water sprays in accordance with the requirement §7.E.1 of this section;
  - e. Inspection records for the CR4 Baghouse and CR4 Cone Crusher Baghouse in accordance with the requirements §7.E.2 and §7.E.3 of this section;
  - f. Report of performance testing conducted in accordance with the requirement §7.F of this section.
2. Permittee shall maintain at the source, a file, as applicable, of all measurements, including continuous monitoring system, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration QA/QC checks; adjustments and maintenance performed on these systems or devices; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.
3. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of the permitted facility or any air pollution

control equipment. For purposes of this provision, a "shut-down" means a cessation of operations at the entire facility for more than seven days, and a "start-up" constitutes the reactivation of the facility after a "shut-down."

H. Reporting Requirements

1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. *[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A]*
2. Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit *[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]*

## 8. SAG MILL GRINDING CIRCUIT

### A. Affected Emission Units

1. Equipment ID 331: CR4 Stockpile Apron Feeders
2. Equipment ID 341: SAG Mill Feed
3. Equipment ID 344: SAG Mill Oversize Return
4. Equipment ID 345: Pebble Crusher

### B. Emissions Limitations

#### 1. Opacity Limitation

- a. SIP Limitation - *[Federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (8/7/80) approved as a SIP element at 47 FR 15580 (4/12/82)]*

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual (ADEQ, 1992). Nothing in this limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined water vapor, to the open air.

- b. NSPS Subpart LL *[Federally enforceable pursuant to Code §6-1-030.41 and 40 CFR §60.382.b]*

1. On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the Provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.
  - i. Equipment ID 331 (Fugitive): CR4 Stockpile Apron Feeders - 10%
  - ii. Equipment ID 341: SAG Mill Feed - 10%
  - iii. Equipment ID 344: SAG Mill Oversize Return -10%
  - iv. Equipment ID 345: Pebble Crusher - 10%
2. On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any stack emissions that exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.

- i. Equipment ID 331: CR4 Stockpile Apron Feeders - Transfer to SAG Feed Conveyor, controlled by SAG Mill baghouse (stack emissions) – 7%

2. Particulate Emissions

- a. Control of Fugitive Dust [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)*]

Permittee shall not cause, suffer, allow or permit crushing, screening, handling or conveying of materials or other operations likely to give rise to airborne dust without taking reasonable precautions to prevent particulate matter from becoming airborne such as spray bars and wetting agents.

- b. Process Industries [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.8 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78), Code §5-5-190*]

Permittee shall capture, to the maximum practical extent, all particulate matter resulting from operation of individual equipment comprising the complete process. Permittee not cause, suffer, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing process source whatsoever, except fuel-burning equipment, in total quantities in excess of the amount calculated by the following equation:

$$E = (55.0 P^{0.11} - 40.0) \text{ pounds per hour.}$$

Where, P: production process weight rates in ton/hour

- c. NSPS Subpart LL [Federally enforceable pursuant to Code §6-1-030.43 and 40 CFR §§60.382 Code (§4-2-040)]

On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any stack emissions contain particulate matter in excess of 0.05 grams per dry standard cubic meter (0.05 g/dscm)

1. SAG Mill Baghouse

- 3. PM<sub>10</sub> Emissions [*Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94) Code §3-1-081.A*]

Permittee shall limit PM<sub>10</sub> emissions from the listed affected facilities, in any consecutive twelve-month period, to 5.63 tons:

- a. Equipment ID 331: CR4 Coarse Ore Stockpile Apron Feeders

C. Operational Limitations and Controls

- 1. To stay within the preceding emission cap for PM<sub>10</sub> emissions, and thereby also avoid triggering NSR, Permittee shall:

- a. Limit the ore processed in the SAG Mill Grinding Circuit, in any consecutive 12-month period to 22,000,000 tons;

2. The baghouse shall be operated by the Permittee to reduce particulate matter to a minimum of 0.006 grains/dscf from the transfer of the crushed ore to the SAG feed conveyor (Equipment ID 331);<sup>1</sup>
3. Equipment ID 341, 344 - Water spray or surfactant systems shall be operated by the Permittee to reduce particulate matter to the maximum practical extent. This Requirement is applicable at all times except when the ore has entrained moisture as provided in Condition §8.C.4 of this section. The water spray shall be installed with a flow meter.
4. Spray bar pollution controls shall be utilized, as applicable, in accordance with "EPA Control of Air Emissions from process operations in the Rock Crushing Industry" (EPA 340/1-79-002), "Wet Suppression Systems" (Jan. 1979), with placement of spray bars and nozzles as required to minimize air pollution. The spray bars required under this subsection need not be operated during periods when entrained moisture already saturates process materials to the extent that process emissions conform to the opacity limitations under this permit, even without the operation of such spray bars. At all other times during process operations, the spray bars shall be operated as required by this permit condition. *[Not Federally Enforceable, Code §5-5-190.C]*

D. Compliance Requirements

1. Ore Throughput Monitoring *[Mandated by 40 CFR §70.6(a)(3)]*
  - a. Since the emissions authorized under this permit constitute a direct function of the material throughput at the source, the Permittee shall maintain monthly records, of the amount of material delivered to the following systems:
    - i. Equipment ID 331: CR4 Stockpile Apron Feeder
 

Prior to the end of the current month, the Permittee shall calculate ore throughput for the previous 12-months of operation, to each system listed above.
2. Opacity Monitoring (NSPS Subpart LL)
  - a. A certified EPA Reference Method 9 observer shall conduct a monthly visible emissions survey from the following emission points:
    - i. Equipment ID 331: CR4 Stockpile Apron Feeder (Stack Only)
    - ii. Equipment ID 341: SAG Mill Feed
    - iii. Equipment ID 344: SAG Mill Oversize Return
    - iv. Equipment ID 345: Pebble Crusher
  - b. The visible emissions survey will include the following:
    - i. Equipment ID;
    - ii. The date and time of the survey; and
    - iii. The presence or absence of any visible emissions

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<sup>1</sup> Only one dust collector is operated at a time to control emissions.

Permittee shall keep a record of the visible emissions survey, signed by the observer.

- c. If the survey identifies any emissions that may exceed 7% opacity from the baghouse stack or any process fugitive emissions that may exceed 10% opacity standard, the certified observer shall:
    - i. Attempt to perform a visible emissions observation of the emission point in accordance with EPA Method 9. If the Method 9 results indicate an observed opacity greater than 7% opacity (for stack emissions) or 10% opacity (for fugitive emissions), it shall be reported as an excess emission in accordance with Section §19 of this permit.
    - ii. Record the following information on a Method 9 Visible Emission Observation form:
      - 1. Equipment ID;
      - 2. The date and time of the observation;
      - 3. The results of the Method 9 observation
      - 4. If a Method 9 visible emissions observations could not be performed, a reason why the observation could not be performed
3. Compliance Assurance Monitoring (CAM)[*Currently federally enforceable; see 40 CFR §64.1 et seq. (1997)*]
- a. Affected emission unit(s):
    - i. SAG Baghouse
  - b. Indicators:
    - i. Pressure drop (differential pressure) across the baghouse
  - c. Permittee shall install a differential pressure gauge at the baghouse, and shall monitor and record as follows:
    - i. The pressure drop across the baghouse - measured with a differential pressure gauge - monitored and averaged hourly.
    - ii. Daily zero-check
  - d. The following shall constitute an “excursion” while the SAG Mill is in operation:
 

Two or more hourly average pressure drops in any 24-hour day outside the range as established by the most recent performance test or manufacturer data.

0.0 – 6.0 inches of water
  - e. Any excursion shall trigger a requirement to conduct an inspection and perform necessary correction action.

- f. Permittee shall maintain the monitoring, including but not limited to maintaining necessary parts for routine repair of the monitoring equipment.
- g. Monitor the baghouse differential pressure at all times using a differential pressure gauge when the SAG Mill is operating, except for, as applicable, monitoring malfunctions, associated repairs, required quality assurance/quality control activities.
- h. Malfunction of the pressure gauge or failure to conduct or record the observations due to the malfunction shall constitute a monitoring malfunction. Records shall identify the emission point or points affected by any monitoring malfunction.
- i. Any excursion, exceedance, or monitoring malfunction shall require the operator to restore operation of the control and/or monitoring system to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of startup, shutdown, or malfunction, and taking necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance.
- j. Permittee shall submit a Quality Improvement Plan (QIP) in accordance with 40 CFR §64.8 if any combination of excursions or monitoring malfunctions exceeds 5% of operating time, where operating time is defined as each semi-annual reporting period under Condition 18.A.
- k. Logs, excursion observations, exceedance observations, and summaries of downtime incidents shall all be subject to the recordkeeping and reporting requirements under the permit.
- l. If Permittee identifies a failure to achieve compliance with the CAM requirements, Permittee shall promptly notify the Department, and if necessary submit a revision to the permit to address the necessary monitoring changes.

E. Inspection Requirements

- 1. Permittee shall conduct a visual inspection of all the spray heads on at least a weekly basis. The inspection records shall include the following:
  - a. Equipment ID;
  - b. Date of inspection;
  - c. Any spray system malfunctions observed; and
  - d. Any corrective actions taken.
- 2. The Permittee shall inspect the baghouse at least once per week to determine it is operating properly. Records of these inspections shall be maintained.
- 3. Annual inspections in accordance with manufacturer instructions.

F. Testing Requirements [*Federally enforceable pursuant to Code §6-1-030.43 and 40 CFR §§60.380-386 Code §3-1-160*]

- 1. Permittee shall conduct a performance test on the SAG baghouse to ensure compliance with the 0.006 grains/dscf grain loading concentration of the baghouse.

Tests shall be performed at the maximum practical production rate.<sup>2</sup>

2. Required tests shall use standard EPA Reference Methods as provided within 40 CFR Part 60. At least 30 days before the test, Permittee shall submit a test protocol to PCAQCD for review and approval; Permittee shall provide notice of the performance test at least 15 days prior to running the test.
3. Test reports shall be submitted to the District for approval within forty-five (45) days after the test. The test reports shall define the baghouse operating parameters, namely the range of pressure drops across the baghouse. Upon approval of the testing report by the District, Permittee shall operate the baghouse within the operating parameters in accordance with condition §8.D.3.d of this section.
4. Permittee shall within 30 days after a performance test, verify the indicator operational ranges as listed in the requirement §8.D.3.d of this section. If necessary, the Permittee shall submit to the Department and the Administrator, a revised CAM plan which includes pressure differential for the baghouse.
5. Subsequent tests shall be performed within five (5) years of the previous performance test.

G. Recordkeeping [*Mandated by 40 CFR §70.6(a)(3) Code §3-1-083*]

1. Permittee shall maintain the following records:
  - a. Ore throughput recorded in accordance with the requirement §8.D.1.a of this section;
  - b. Visible emission surveys for emission units recorded in accordance with the requirements §8.D.2 of this section;
  - c. Records for the SAG baghouse recorded in accordance with requirements §8A.D.3.c of this section.
  - d. Inspection records for the water sprays in accordance with the requirement §8A.E.1 of this section.
  - e. Inspection records for the baghouse in accordance with the requirement §8.E.2 of this section.
2. Permittee shall maintain at the source, a file, as applicable, of all measurements, including continuous monitoring system, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration QA/QC checks; adjustments and maintenance performed on these systems or devices; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.
3. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of the permitted facility or any air pollution control equipment. For purposes of this provision, a "shut-down" means a cessation of operations at the entire facility for more than seven days, and a "start-up" constitutes the reactivation of the facility after a "shut-down."

H. Reporting Requirements

1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. [*Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A*]

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<sup>2</sup> Performance tests can be alternated between the main and the backup dust collector.

2. Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit. ***[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]***

## 9. CR4 LIME RECEIVING AND STORAGE

### A. Affected Emission Units

1. Equipment ID 367: Dry Lime Receiving
2. Equipment ID 368: Dry Lime Transfer

### B. Emissions Limitations

#### 1. Opacity Limitation

- a. **SIP Limitation - [Federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (8/7/80) approved as a SIP element at 47 FR 15580 (4/12/82)]**

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual (ADEQ, 1992). Nothing in this limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined water vapor, to the open air.

- b. **Visibility Limiting Standard [Federally enforceable pursuant to Code §2-8-300 (5/18/05) approved as a SIP element at 71 FR 15043 (3/27/06)]**

The opacity of any plume or effluent from any point source not subject to a New Source Performance Standard adopted under Chapter 6 of the Code, and not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR Part 60, Appendix A.

1. Equipment ID 367: Dry Lime Receiving
2. Equipment ID 368: Dry Lime Transfer

Nothing in this limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined vapor, to the open air.

#### 2. Particulate Emissions

- a. **Control of Fugitive Dust [Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)]**

Permittee shall not cause, suffer, allow or permit crushing, screening, handling or conveying of materials or other operations likely to give rise to airborne dust without taking reasonable precautions to prevent particulate matter from becoming airborne such as spray bars and wetting agents.

- b. **Process Industries [Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.8 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78), Code §5-5-190]**

Permittee shall capture, to the maximum practical extent, all particulate matter resulting from operation of individual equipment comprising the complete process. Permittee not cause, suffer, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing process source whatsoever, except fuel-burning equipment, in total quantities in excess of the amount calculated by the following equation:

$$E = (55.0 P^{0.11} - 40.0) \text{ pounds per hour.}$$

Where, P: production process weight rates in ton/hour

C. Operational Limitations and Controls

1. Limit the lime throughput, in any consecutive 12-month period, to 40,000 tons;
2. During any operation transferring lime to the storage silo, Permittee shall operate a Lime Silo Baghouse to either reduce particulate matter emissions from the storage silo at a nominal efficiency of ninety-nine (99) percent or maintain an emission rate that does not exceed 0.02 grains per cubic foot per minute.

D. Compliance Requirements

1. Lime Throughput Monitoring [*Mandated by 40 CFR §70.6(a)(3)*]
  - a. Since the emissions authorized under this permit constitute a direct function of the material throughput at the source, the Permittee shall maintain monthly records, of the amount of material delivered to the following systems:
    1. Equipment ID 367: Dry Lime Receiving
 

Prior to the end of the current month, the Permittee shall calculate ore throughput for the previous 12-months of operation, to each system listed above.
2. Opacity Monitoring (Non-NSPS Subpart LL)[*Currently federally enforceable; see ¶5.C.1 supra*]
  - a. A certified EPA Reference Method 9 observer shall conduct a monthly visible emissions survey from the following emission points:
    1. Equipment ID 367: Dry Lime Receiving
    2. Equipment ID 368: Dry Lime Transfer
  - b. The visible emissions survey will include the following:
    1. Equipment ID;
    2. The date and time of the survey; and
    3. The presence or absence of any visible emissions.

Permittee shall keep a record of the visible emissions survey, signed by the observer.
  - c. If a survey identifies any emissions that may exceed the 20% opacity standard, the certified observer shall:
    1. Attempt to perform a visible emission observation of the emission point in accordance with EPA Method 9. If the Method 9 results indicate that an observed opacity greater than 20%, it shall be reported as an excess emission in accordance with Section §19 of this permit.
    2. Record the following information on a Method 9 Visible Emission Observation form:
      - i. Equipment ID;
      - ii. The date and time of the observation;
      - iii. The results of the Method 9 observation;

- iv. If a Method 9 visible emissions observations could not be performed, a reason why the observation could not be performed.

E. Inspection Requirements

Permittee shall inspect the Lime Silo Baghouse at least once per week to determine if it is operating properly. Records of these inspections shall be maintained.

F. Recordkeeping Requirements [*Mandated by 40 CFR §70.6(a)(3)Code §3-1-083*]

1. Permittee shall maintain the following records:
  - a. Lime throughput recorded in accordance with the requirement §9.D.1.a of this section;
  - b. Visible emission surveys recorded in accordance with the requirement §9.D.2.c. of this section;
  - c. Inspection records for the baghouse in accordance with the requirement §9.E of this section.
2. Permittee shall maintain at the source, a file, as applicable, of all measurements, including continuous monitoring system, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration QA/QC checks; adjustments and maintenance performed on these systems or devices; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.
3. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of the permitted facility or any air pollution control equipment. For purposes of this provision, a "shut-down" means a cessation of operations at the entire facility for more than seven days, and a "start-up" constitutes the reactivation of the facility after a "shut-down."

G. Reporting Requirements

1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. [*Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A*]
2. Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit. [*Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)*]

**10. PEBBLE CRUSHER BYPASS CIRCUIT**

A. Affected Emission Units

1. Equipment ID 346-1: Transfer to Conveyor
2. Equipment ID 346-2: Transfer to Conveyor
3. Equipment ID 346-3: Transfer to Stacker Conveyor
4. Equipment ID 346-4: Transfer to Main Transfer Bin
5. Equipment ID 346-5: Transfer to Haul Truck
6. Equipment ID 346-6A Transfer to Storage Pile
7. Equipment ID 346-6b Transfer to Haul Truck

B. Emissions Limitations

1. Opacity Limitation

- a. SIP Limitation [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP element at 47 FR 15579 (4/12/82)*]

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual.

- b. Visible Limiting Standard [*Federally enforceable provision, pursuant to Code §2-8-300 (as amended 5/18/05) approved as a SIP element at 47 FR 15043 (3/27/06)*](Code §§2-8-300. and 4-2-040)

The opacity of any plume or effluent from any point source not subject to a New Source Performance Standard adopted under Chapter 6 of the Code, and not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR 60, Appendix A. Affected sources include:

- a. Equipment ID 346-6A: Transfer to Storage Pile  
b. Equipment ID 346-6B: Transfer to Haul Truck

- c. NSPS Subpart LL [*Federally enforceable pursuant to Code §6-1-030.41 and 40 CFR §60.382.(a).(2) & (b)*]

The opacity of the listed affected facilities shall not be greater than the following percent as determined by 40 CFR Part 60, Appendix A, Method 9 in the Arizona Testing Manual:

- a. Equipment ID 346-1: Transfer to Conveyor – 10%  
b. Equipment ID 346-2: Transfer to Conveyor – 10%  
c. Equipment ID 346-3: Transfer to Stacker Conveyor – 10%  
d. Equipment ID 346-4: Transfer to Main Transfer Bin – 10%  
e. Equipment ID 346-5: Transfer to Haul Truck – 10%

2. Particulate Emissions

- a. Control of Fugitive Dust [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.2 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)*]

Permittee shall not cause, suffer, allow or permit crushing, screening, handling or conveying of materials or other operations likely to give rise to airborne dust without taking reasonable precautions to prevent particulate matter from becoming airborne such as spray bars and wetting agents.

- b. Process Industries [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.8 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78), Code §5-5-190*]

Permittee shall capture, to the maximum practical extent, all particulate matter resulting from operation of individual equipment comprising the complete process. Permittee not cause, suffer, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing process source whatsoever, except fuel-burning equipment, in total quantities in excess of the amount calculated by the following equation:

(55.0 P<sup>0.11</sup> - 40.0) pounds per hour  
Where, P: production process weight rates in ton/hour

c. PM<sub>10</sub> Emissions

Permittee shall limit PM emissions from the listed affected facilities, in any consecutive twelve-month period, to 0.43 tons:

- i. Equipment ID 346-1: Transfer to Conveyor
- ii. Equipment ID 346-2: Transfer to Conveyor
- iii. Equipment ID 346-3: Transfer to Stacker Conveyor
- iv. Equipment ID 346-4: Transfer to Main Transfer Bin
- v. Equipment ID 346-5: Transfer to Haul Truck

C. Operational Limitations and Controls [*Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94), Code §3-1-081.A*]

- a. To stay within the preceding emission cap for PM<sub>10</sub> emissions, and thereby also avoid triggering NSR, Permittee shall:

- 1. Limit the ore processed in the Pebble Crusher Bypass Circuit, in any consecutive 12-month period to 3,066,000 tons.

D. Compliance Requirements

1. Ore Throughput Monitoring [*Mandated by 40 CFR §70.6(a)(3)*]

Since the emissions authorized under this permit constitute a direct function of the material throughput at the source, the Permittee shall maintain monthly records, of the amount of material delivered to the following systems:

- a. Equipment ID 346-1: Transfer to Conveyor

Prior to the end of the current month, the Permittee shall calculate ore throughput for the previous 12-months of operation, to each system listed above.

2. Opacity Monitoring (Non-NSPS Subpart LL)[*Currently federally enforceable; see ¶5.C.1 supra*]

- a. A certified EPA Reference Method 9 observer shall conduct a monthly visible emissions survey from the following emission points:

- i. Equipment ID 346-6A: Transfer to Storage Pile
- ii. Equipment ID346-6B: Transfer to Haul Truck

- b. The visible emissions survey will include the following:

- i. Equipment ID;
- ii. The date and time of the survey; and
- iii. The presence or absence of any visible emissions

Permittee shall keep a record of the visible emissions survey, signed by the observer.

- c. If the survey identifies any emissions that may exceed 20% opacity standard, the

certified observer shall:

- i. Attempt to perform a visible emissions observation of the emission point in accordance with EPA Method 9. If the Method 9 results indicate an observed opacity greater than 20% opacity, it shall be reported as an excess emission in accordance with Section §19 of this permit.
  - ii. Record the following information on a Method 9 Visible Emission Observation form:
    - i. Equipment ID;
    - ii. The date and time of the observation;
    - iii. The results of the Method 9 observation;
    - iv. If a Method 9 visible emissions observations could not be performed, a reason why the observation could not be performed.
3. Opacity Monitoring (NSPS Subpart LL) ***[Federally enforceable pursuant to §6-1-030.43 and 40 CFR §60.382.(a).(2) & (b)]***
- a. A certified EPA Reference Method 9 observer shall conduct a monthly visible emissions survey from the following emission points:
    - i. Equipment ID 346-1: Transfer to Conveyor
    - ii. Equipment ID 346-2: Transfer to Conveyor
    - iii. Equipment ID 346-3: Transfer to Stacker Conveyor
    - iv. Equipment ID 346-4: Transfer to Main Transfer Bin
    - v. Equipment ID 346-5: Transfer to Haul Truck
  - b. The visible emissions survey will include the following:
    - i. Equipment ID;
    - ii. The date and time of the survey; and
    - iii. The presence or absence of any visible emissions
    - iv. Permittee shall keep a record of the visible emissions survey, signed by the observer
  - c. If the survey identifies any emissions that may exceed the 10% opacity, the certified observer shall:
    - i. Attempt to perform a visible emissions observation of the emission point in accordance with EPA Method 9. If the Method 9 results indicate an observed opacity greater than 10% (for fugitive emissions), it shall be reported as an excess emission in accordance with Section §19 of this permit.
    - ii. Record the following information on a Method 9 Visible Emission Observation form:
      - a. Equipment ID;
      - b. The date and time of the observation;
      - c. The results of the Method 9 observation; and
      - d. If a Method 9 visible emissions observations could not be performed, a reason why the observation could not be performed.

E. Recordkeeping ***[Mandated by 40 CFR §70.6(a)(3)Code §3-1-083]***

1. Permittee shall maintain the following records:
  - a. Ore throughput recorded in accordance with the requirement §10.D.1. (Compliance Requirements) of this section;
  - b. Visible emission surveys for emission units recorded in accordance with the requirements §10.D.2-~~e~~ (Non-NSPS Opacity Monitoring) and §10.D.3-~~e~~ (NSPS Opacity Monitoring) of this section;
2. Permittee shall maintain at the source, a file, as applicable, of all measurements, including continuous monitoring system, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration QA/QC checks; adjustments and maintenance performed on these systems or devices; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.
3. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of the permitted facility or any air pollution control equipment. For purposes of this provision, a "shut-down" means a cessation of operations at the entire facility for more than seven days, and a "start-up" constitutes the reactivation of the facility after a "shut-down."

F. Reporting Requirements

1. Permittee shall submit a semi-annual report in accordance with the Section §18.A of this permit. *[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A]*
2. Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit. *[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]*

## 11. EXTERNAL COMBUSTION UNITS

### A. Affected Emission Units

- a. Equipment ID 655: Hot Water Heaters

### B. Emission Limitations

#### 1. Opacity Limitation

- a. SIP Limitation [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP element at 47 FR 15579 (4/12/82)*]

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual.

- b. Visibility Limiting Standard [*Code §2-8-300*]

The opacity of any plume or effluent from any point source not subject to a New Source Performance Standard adopted under Chapter 6 of the Code, and not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR 60, Appendix A. Affected sources include:

- i. Equipment ID 655: Hot Water Heaters

Nothing in this limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined water vapor, to the open air.

- ii. Particulate Emissions - Fuel Burning Equipment [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.7 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78), Code §5-21-930*]

Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, in excess of the amount calculated by the following equation:

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the total heat input of all operating fuel-burning units in million btu/hour.

C. Operational Limitations and Controls

1. Primary Fuel *[Not Federally Enforceable, Code §3-1-081]*

Permittee is allowed to burn natural gas as a primary and propane as a secondary fuel in the Equipment ID 655: Hot Water Heaters

2. Other Fuels Prohibited

Permittee shall not use fuel oil, or hazardous waste (as defined in federal, state, or county codes and rules) in Equipment ID 655: Hot Water Heaters, without first obtaining a separate permit or an appropriate permit revision.

D. Recordkeeping *[Mandated by 40 CFR §70.6(a)(3), Code §3-1-083]*

1. Permittee shall maintain the following records:

a. Annual natural gas throughput for Equipment ID:655

2. Permittee shall maintain at the source, a file, as applicable, of all measurements, including continuous monitoring system, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration QA/QC checks; adjustments and maintenance performed on these systems or devices; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.

3. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of the permitted facility or any air pollution control equipment. For purposes of this provision, a "shut-down" means a cessation of operations at the entire facility for more than seven days, and a "start-up" constitutes the reactivation of the facility after a "shut-down."

E. Reporting

1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. *[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A]*

2. Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit. *[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]*

**12. INTERNAL COMBUSTION UNITS (NSPS)****A. Affected Emission Units**

<b>ID</b>	<b>Description</b>	<b>Engine Capacity kW (HP)</b>	<b>Opacity Limit</b>
1305	Non-Emergency Compressor	328 (440)	40% (10 consecutive seconds)
1082	Non-Emergency Compressor	556 (745)	40% (10 consecutive seconds)
2016	Non-Emergency Generator	20 (27)	40% (10 consecutive seconds)
2017	Non-Emergency Generator	60 (80)	40% (10 consecutive seconds)
2019	Non-Emergency Generator	37 (49)	40% (10 consecutive seconds)
2020	Emergency Generator	118 (158)	40% (10 consecutive seconds)
2021	Non-Emergency Generator	17 (23)	40% (10 consecutive seconds)
2022	Non-Emergency Generator	25 (34)	40% (10 consecutive seconds)
2025	Non-Emergency Generator	47 (63)	40% (10 consecutive seconds)
2026	Non-Emergency Generator	400 (536)	40% (10 consecutive seconds)
2027	Non-Emergency Generator	400 (536)	40% (10 consecutive seconds)

**B. Emission Limitations****1. Opacity Limitation**

- a. Sip Limitation [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP element at 47 FR 15579 (4/12/82)*]

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual.

- b. Visibility Limiting Standard [*Code §5-23-1010.C*]

No person shall cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40% opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

2. Particulate Emissions [*Code §5-23-1010.C*]

Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, in excess of the amount calculated by the following equation:

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the total heat input of all operating fuel-burning units in million btu/hour.

## 3. NSPS Subpart III Emission Standards

Emission from the following non-emergency engines listed below shall not be greater than the emission standard as provided below:

a. Equipment ID 1305 – 328 kW [*40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112*]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.0	3.5	0.2

b. Equipment ID 1082 – 556 kW [*40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112*]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.0	3.5	0.2

e. Equipment ID 2016 – 20 kW [*40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112*]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
7.5	5.5	0.6

f. Equipment ID 2017 – 60 kW [*40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112*]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.7	5.0	0.4

- g. Equipment ID 2019 – 37 kW [40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.7	5.0	0.4

- h. Equipment ID 2020 – 118 kW [40 CFR §60.42054.(b), 40 CFR §60.4202.(a).(2), 40 CFR §89.112]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.0	5.0	0.3

- i. Equipment ID 2021 – 17 kW [40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
7.5	6.6	0.8

- j. Equipment ID 2022 – 25 kW [40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
7.5	5.5	0.6

- k. Equipment ID 2025 – 47 kW [40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112]

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.7	5.0	0.4

- l. Equipment ID 2026 – 400 kW [40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112]

NOx + NMHC	CO	PM

(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.0	3.5	0.2

m. Equipment ID 2027 – 400 kW *[40 CFR §60.4204.(b), 40 CFR §60.4201.(a), 40 CFR §89.112]*

NOx + NMHC	CO	PM
(grams/kW-hr)	(grams/kW-hr)	(grams/kW-hr)
4.0	3.5	0.2

C. Fuel Requirements *[40 CFR §60.4207, Code §6-1-030.81]*

Diesel fuel is subject to the following per-gallon standards:

1. Sulfur content - 15 ppm maximum
2. Cetane Index
  - a. A minimum Cetane Index of 40, or
  - b. A maximum aromatic content of 35 volume percent.

D. Compliance Requirements *[40 CFR §60.4211, Code §6-1-030.81]*

1. Operate and maintain the stationary CI internal combustion engine according to the manufacturer's emission-related written instructions;
2. Purchase an engine certified to the applicable emission standards, for the same model year and maximum engine power.

E. Recordkeeping Requirements *[Mandated by 40 CFR §70.6(a)(3), Code §3-1-083]*

1. Permittee shall maintain records of annual operating hours of the engines listed above.
2. Permittee shall maintain a record of the sulfur content, cetane index, and the fuel lower heating value for each shipment of diesel fuel received by the facility and which was subsequently used by the engines as required by Section §12.C.1. of this section.
3. The Permittee shall maintain records of operation and maintenance in accordance with the requirement §12.D.1 of this section.
4. The Permittee shall maintain records of engine certification demonstration in accordance with the requirement §12.D.2 of this section.

F. Reporting Requirements

1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. *[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A]*

Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit. *[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]*

### 13. INTERNAL COMBUSTION UNITS (NESHAP)

#### A. Affected Emission Units

<b>ID</b>	<b>Description</b>	<b>Engine Capacity kW (HP)</b>	<b>Operational Limitation (Hours) (see note below)</b>	<b>Opacity Limit</b>
2012	Non-emergency Generator	30 (40)	N/A	40% (10 consecutive seconds)
2013	Non-emergency Generator	25 (34)	N/A	40% (10 consecutive seconds)

Note: The operational limit is not applicable during an emergency.

1. Equipment ID 2012: Non-emergency Generator

2. Equipment ID 2013: Non-emergency Generator
- B. Emission Limitations
1. Opacity Limitation
    - a. Sip Limitation [*Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP element at 47 FR 15579 (4/12/82)*]
 

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual.
    - b. Visibility Limiting Standard [*Code §5-23-1010.C*]
 

No person shall cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40% opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.
  2. Particulate Emissions [*Code §5-23-1010.C*]
 

Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, in excess of the amount calculated by the following equation:

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the total heat input of all operating fuel-burning units in million btu/hour.
  3. Sulfur Dioxide Emissions [*Code §5-23-1010.D*]
 

Permittee shall not cause, allow, or permit the emission of sulfur dioxide, caused by the combustion of low sulfur oil (0.5% < percent sulfur in fuel < 0.9%), in excess of 1.0 pound per million Btu heat input.
- C. Operational Limitations and Controls [*Subpart ZZZZ, 40 CFR §63.6603.(a), Table 2d.1, Code §6-1-030.81*]
1. Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
  2. Change oil and filter every 1,000 hours of operation or annually, whichever comes first
  3. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
  4. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
- D. Compliance Requirements [*40 CFR §63.6625(e), Code §7-1-030.B.99*]

Operate and maintain the stationary CI internal combustion engine according to the manufacturer's emission-related written instruction or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

- E. Recordkeeping Requirements *[Mandated by 40 CFR §70.6(a)(3), Code §3-1-083]*
1. Permittee shall maintain records of annual operating hours recorded in accordance with the requirement §13.C.2 (Operating Hours) of this section. For the hours recorded, Permittee will:
    - a. Document how many hours are spent for emergency operation including what classified the operation as emergency, and;
    - b. How many hours are spent for non-emergency operation.
  2. Permittee shall maintain a record of the sulfur content, and the fuel lower heating value for each shipment of diesel fuel received by the facility and which was subsequently used by the engines.
  3. Permittee shall maintain records of maintenance conducted in accordance with the requirement §13.C.6, 7 & 8 (Operational Limitations and Controls) of this section.
  4. The Permittee shall maintain records of operation and maintenance in accordance with the requirement §13.D (Compliance Requirements) of this section.
- F. Reporting Requirements
1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. *[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A]*
  2. Permittee shall annually submit a certification of compliance with the provisions of this permit in accordance with Section §18.C of this permit. *[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]*

**14. ORGANIC LIQUID STORAGE****A. Affected Emission Units**

1. Equipment ID 231: Gasoline Storage Tank
2. Equipment ID 234: Bulk Diesel Storage Tank (Note: The Equipment ID is associated with two bulk diesel storage tanks at 250,000 gallons and 207,000 gallons storage capacity).
3. Equipment ID 611: Pregnant Leach Solution (PLS) Storage Vats
4. Equipment ID 617: Raffinate Storage Vats
5. Equipment ID 618: Reclaim Tanks
6. Equipment ID 619: Raffinate Sump
7. Equipment ID 621: Diluent Tank
8. Equipment ID 622: Kerosene Tank

**B. Operational Limitation and Controls**

1. For Equipment ID 231 [*Currently federally enforceable pursuant to PGAQCD Code §5-18-740 (2/22/95) approved as a SIP element at 65 FR 81371 (12/26/00), 40 CFR Part §63.11117, Subpart CCCCCC*]
  - a. A Stage I vapor recovery system shall be operated to control emissions of volatile organic compounds (VOCs) from the gasoline storage vessel during loading gasoline into the tank;
  - b. Fill tubes shall be used on the gasoline storage vessel, the liquid level of the storage vessel shall not be allowed to drop below the bottom of the fill tube, and the bottom of the fill tube shall be within 6 inches of the bottom of the storage vessel;
  - c. A vapor tight bulk head shall be maintained between the gasoline and diesel portions of the storage tank.
  - d. Spills shall be minimized during loading of the gasoline storage vessel and cleaned up as soon as possible; fill pipes shall be covered with gasketed seals when they are not in use; and [if applicable] any gasoline sent to an open waste or recycling system shall be minimized.

**C. Recordkeeping Requirements**

As a surrogate measurement for monitoring emissions of VOCs, Permittee shall:

1. Maintain annual records of gasoline deliveries to the gasoline storage vessel;
2. Maintain annual records of organic make-up to the solvent extraction system.
3. In any event, Permittee shall maintain records, available for inspection upon request, of gasoline throughput. Such records shall establish the monthly throughput by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage vessels at each gasoline dispensing facility during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage vessels at each gasoline dispensing facility during the previous 364 days, and then dividing that sum by 12.

**D. Reporting Requirements**

1. Permittee shall submit a semi-annual report in accordance with Section §18.A of this permit. *[Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A]*
2. Permittee shall annually submit a certification of compliance in accordance with Section §18.C of this permit. *[Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(4), 70.6(c)(5)]*

**15. ELECTROWINNING**

- A. Affected Emission Units
  - 1. Equipment ID 644: Electrowinning Cells
- B. Recordkeeping

As a surrogate measurement for monitoring emissions of sulfuric acid, Permittee shall maintain records of annual sulfuric acid added to the electrowinning process.

**16. SURFACE COATING**

## A. Affected Emission Units

1. Equipment ID 232: Spray Painting

## B. Operational Limitations and Controls

1. Solvent Use [*Currently federally enforceable, §Code 3-1-150 - SIP Approved at 61 FR 15717 (4/9/96)*]

Permittee may use solvent materials (Including paint, thinners and solvents, collectively designated "Solvent Containing Product(s)"), whether for purposes of painting, general maintenance or otherwise, provided Permittee maintains a log of a current material safety data sheet (MSDS) or certified product data sheet (CPDS) for each such Solvent Containing Product used at the site, as well as a dated record of the quantity of such material used at the site.

2. Spray Paint and Surface Coating Operations [*Not Federally Enforceable, Code §5-13-390*]

To limit emissions of volatile organic compounds, no person shall conduct any spray paint operation except architectural coating, as defined in §5-12-370, without utilizing an enclosed area designed to contain not less 96% by weight of the overspray. For purposes of this rule an enclosed area means a 3-sided structure with walls a minimum of 8 feet high.

3. Maintenance Painting [*Not Federally Enforceable, Code §5-12-370*]

## a. Product Formulation

Permittee may conduct open-air architectural maintenance painting operations, but neither the coating product nor any solvent used to thin or dilute the coating product may contain a photo chemically reactive solvent, which for these purposes means a solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations, referred to the total volume of solvent:

1. A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cycloolefinic type of unsaturation: 5 percent;
2. A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethyl benzene: 8 percent;
3. A combination of ethyl benzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

4. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups or organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

## b. Disposal Limitation

No person shall, during any one day, dispose of a total of more than one and one-half gallons of any photo chemically reactive solvent or of any material containing more than one and one-half gallons of any such photo chemically reactive solvent by any means which will permit the evaporation of such solvent into the atmosphere.

C. Recordkeeping Requirements

1. As a surrogate measurement for monitoring emissions of VOCs, Permittee shall maintain annual records of all the paint operations done on the mining equipment including but not limited to haul trucks, drilling rigs, water trucks, etc.;
2. To assess compliance with the maintenance paint product formulation limitation, Permittee shall maintain adequate records of organic composition of each coating product, solvent or thinner used for architectural maintenance painting operations.

**17. ASBESTOS LANDFILL [Currently federally enforceable; 40 CFR Part 61, Subpart M, Code §§7-1-030, 7-1-060]**

A. Affected Emission Units

1. Asbestos Landfill

B. Compliance Requirements

1. Permittee shall comply with Code §§7-1-030.A. and 7-1-060 and 40 CFR Part 61, Subpart M, when conducting any renovation or demolition activities at the facility;
2. Signage Requirements

Permittee shall post and maintain signs identifying the landfill as an asbestos-containing landfill, signs will be placed at all entrances to the landfill area and at intervals of 300 feet or less along the asbestos landfill perimeter. The following three signs will be posted: (1) Asbestos Waste Disposal Site, (2) Do Not Create Dust, and (3) Breathing Asbestos is Hazardous to Your Health.

C. Recordkeeping Requirements

1. Asbestos-containing Waste Area Definition

Permittee shall maintain, until facility closure, records of the location, depth, area and quantity (in volume) of asbestos-containing waste material, as well as a map or diagram showing the disposal area.

2. Asbestos-containing Waste Deposition Activity

For all asbestos containing material from sources covered by 40 CFR §61.150 (demolition, renovation, fabricating and manufacturing) which are transported to the landfill from abatement/demolition sites where travel off of ASARCO Ray Mine owned property or on public roadways is required, receipt, handling and disposal of asbestos containing waste must meet the following standards:

- a. Waste Shipment Records Required

Asbestos containing waste may only be accepted when the transporter presents a complete waste shipment record, identifying:

1. The name, address, and telephone number of the waste generator;
2. The name, address and telephone number of the transporter; and
3. The quantity of asbestos-containing waste material, expressed in cubic yards or cubic meter.

- b. Waste Shipment Receiving Requirements

At the time of accepting asbestos containing waste for disposal, the Permittee shall:

1. Record the date of receipt of the material;

2. Record the presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers;
3. Inspect the materials, determine whether or not the quantity of asbestos containing waste material differs from the quantity indicated on the waste shipment record, and record any discrepancies. Report discrepancies as outlined in 40 CFR 61.154(e)(3);
4. Inspect the materials to determine the presence, and quantity, of improperly enclosed or uncovered asbestos-containing waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report discrepancies as outlined in 40 CFR 61.154(e)(1)(iv).

c. Daily Cover / Suppressant Application Requirement

At the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, then all asbestos containing waste material that have been deposited at the site during the operating day or previous 24-hour period shall:

1. Be covered with at least 6 inches of compacted non-asbestos containing material; or
2. Be covered with a resinous or petroleum based dust suppressant agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Used, spent, or other waste oil may not be used as a dust suppression agent.

D. Notification Requirements

1. Generator Return Notification Requirement

If asbestos containing waste is accepted from a location off-site, as soon as possible, and within 30 days after receipt of the asbestos containing waste, the Permittee shall send a copy of the signed waste shipment record to the waste generator.

2. Asbestos Cell Re-opening Notification Requirement

At least 45 days before excavating or otherwise disturbing any asbestos-containing waste material that has been deposited and covered at the site, Permittee shall notify the Control Officer in writing. The notice shall include:

- a. The scheduled starting and completion dates.
- b. The reason for disturbing the waste.
- c. The procedures to be used to control emissions during excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material.
- d. The location of any temporary storage site and the final disposal site.

If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Control Officer at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification.

3. Asbestos NESHAP Reporting Operational Changes; Closure Notification

Upon facility closure, Permittee shall:

- a. Submit to the Control Officer a copy of the asbestos waste disposal locations and quantities.
- b. Comply with all the requirements of 40 CFR §61.151, including those pertaining to post-closure obligations.

E. Reporting Requirements

Receipt, handling and disposal of asbestos containing waste must meet the following standards:

1. If Permittee discovers improperly enclosed or uncovered asbestos-containing waste materials, or any asbestos-containing waste material not sealed in leak-tight containers, Permittee shall by the following working day report in writing to the Control Officer, as well as to any additional local, State, or EPA Regional Office responsible for administering the asbestos NESHAP program, reporting the incident and submitting a copy of the waste shipment record.
2. If Permittee discovers a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, Permittee shall attempt to reconcile the discrepancy. If the discrepancy is not resolved within 15 days after accepting the waste, Permittee shall immediately report in writing to the Control Officer, as well as to any additional local, State or EPA Regional office responsible for administering the asbestos NESHAP program, describing the discrepancy, the attempts to reconcile the discrepancy, and submit an accompanying copy of the waste shipment record.

**18. COMPLIANCE REPORTING**

A. Semi-Annual Report [*Mandated by 40 CFR §§70.6(a)(3) and 70.6(c)(4), Code §3-1-083.A*]

Permittee shall submit a semi-annual report containing a summary of the information required to be recorded pursuant to this permit, which summary shall clearly show whether or not Permittee has complied with the operational requirements and emissions limitations under this permit. All instances of deviations from permit requirements shall be clearly identified in such reports. For brevity, such deviation reports may incorporate by reference any written supplemental upset reports filed by Permittee during the reporting period. The report shall be submitted to the District by January 31, for the reporting period July 1 – December 31, and by July 31, for the reporting period January 1 – June 30. Appendix A of this permit is a form which may be used for the report.

B. Annual Emissions Inventory [Code §3-1-103 (Nov 93)]

Since this source would be subject to an ADEQ permitting requirement, Permittee shall complete and submit to the District an annual emissions inventory questionnaire, disclosing actual emissions for the preceding calendar year. The submittal shall be made on a form

provided by the District. The questionnaire is due by the latter of March 31, or ninety (90) days after the form is furnished by the District.

C. Annual Compliance Certification [*Mandated by 40 CFR §§70.5(c)(8), 70.5(c)(9), 70.6(c)(5)*]

Permittee shall annually submit a certification of compliance with the provisions of this permit. The certification shall be separately submitted to both the District and to the Enforcement Office (AIR 5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105-3901. The certification shall:

1. Be signed by a responsible official, namely the president, secretary, treasurer, vice-president of the corporation, general manager of the Ray Mine or such other person as may be approved by the Control Officer as an administrative amendment to this permit;
2. Identify each term or condition of the permit that is the basis of the certification;
3. Verify the compliance status with respect to each term or condition;
4. Verify whether compliance with respect to each such term or condition has been continuous or intermittent;
5. Identify the permit provision, or other, compliance mechanism upon which the certification is based; and
6. Be postmarked within thirty (30) days of the start of each calendar year.

D. Supplemental Upset Report [*Mandated by 40 CFR §§70.6(a)(3)(iii)(B), 70.6(g)*]

Permittee shall report any deviation from the requirements of this permit along with the probable cause for such deviation, and any corrective actions or preventative measures taken to the District within ten days of the deviation unless earlier notification is required by the provisions of this permit.

**19. EXCESS EMISSIONS REPORTING [Mandated by 40 CFR §70.6(g), Code §3-1-081.E, §8-1-030]**

- A. To the extent Permittee may wish to offer a showing in mitigation of any potential penalty, underlying upset events resulting in excess emissions shall be reported as follows:
1. The Permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. Such report shall be in two parts:
    - a. Notifications by telephone or facsimile within 24 hours or the next business day, whichever is later, of the time when the owner or operator first learned of the occurrence of excess emissions, including all available information required under subparagraph 2 below;
    - b. Detailed written notification within 3 working days of the initial occurrence containing the information required under subparagraph 2. below.
  2. The excess emissions report shall contain the following information:
    - a. The identity of each stack or other emission point where the excess emissions occurred;
    - b. The magnitude of the excess emissions expressed in the units of the applicable limitation;
    - c. The time and duration or expected duration of the excess emissions;
    - d. The identity of the equipment from which the excess emissions occurred;
    - e. The nature and cause of such emissions;
    - f. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions;
    - g. The steps that were or are being taken to limit the excess emissions. To the extent this permit defines procedures governing operations during periods of start-up or malfunction, the report shall contain a list of steps taken to comply with this permit;
    - h. To the extent excess emissions are continuous or recurring, the initial notification shall include an estimate of the time the excess emissions will continue. Continued excess emissions beyond the estimated date will require an additional notification.
- B. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
- C. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of the following subparagraph are met.

- D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
1. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
  2. The permitted facility was at the time being properly operated;
  3. During the period of emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  4. The Permittee submitted notice of the emergency to the Control Officer by certified mail or hand delivery within 2 working days of the time when emissions limitations were exceeded due to emergency. The notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

**20. PROCESS AND EQUIPMENT ID**

<b>Equipment ID</b>	<b>Description</b>
<b>OPERATION ID 100</b>	
111	Drilling holes for assay and blasting
120	Blasting of ore for haulage
121	Bulk loading of prill silos (Ammonium Nitrate)
131	Loading haulage equipment with ore and waste
142	Hauling waste and ore from loading site with ore trucks
144	Hauling waste and ore from loading site with mine equipment.
145	Travel of miscellaneous vehicles
161	Dozing mine areas, dumps, and stockpiles
171	Blading the roads in the mine and other areas
181	Vehicle use for misc. cleanup, transportation, & maintenance
182	Vehicle use for misc. cleanup, transportation, & maintenance
183/184	Vehicle use for misc. cleanup, transportation, & maintenance
192	Dumping rock on the waste dumps
<b>OPERATION ID 200</b>	
231	Gasoline fueling of mobile equipment using above-ground storage tank
232	Heavy equipment spray painting
234	Diesel fueling of mobile equipment using two aboveground bulk storage tanks
235	Engines
<b>OPERATION ID 300</b>	
330	Stockpiling crushed ore for further processing (CR4 Coarse Ore Stockpile)
331	Crushed ore feed on SAG mill belt feeder using apron feeders
341	Crushed ore to SAG mill
344	Wet oversize ore from SAG returned to the Pebble Crusher
345	Crushing of wet oversize ore, returned from the SAG mill, by the Pebble Crusher
367	Dry lime loaded into the lime storage silo
368	Dry lime transferred from the bottom of the storage silo and into the process
375	Loading of concentrate into rail cars using a front end loader

<b>Equipment ID</b>	<b>Description</b>
375a	Stockpiling concentrate
396, Point 1	Unloading of blasted ore into the CR4 dump pocket
396, Point 2a	Crushing of ore in the CR4 primary crusher and transfer of the crushed ore onto the CR4 picking conveyer
396—2c	CR4 Cone Crusher
<b>OPERATION ID 400</b>	
412	Transfer of blasted ore to the CR1 primary crusher, crushing of ore in the CR1 crusher, and transfer of the crushed ore to the CR1 picking conveyer
414	Transfer of crushed ore from conveyer CR1 picking conveyer to the stacker conveyer
421	Transfer of ore onto the Hayden Stockpile
430	Hayden coarse ore stockpile
441	Transfer of crushed ore into rail car
<b>OPERATION ID 500</b>	
580	Adding oxide ore to heaps leaching
<b>OPERATION ID 600</b>	
611	Pregnant Leach Solution (PLS) storage vats
612	Wash Tanks
617	Raffinate storage vats
618	Reclaim tanks
619	Raffinate sump
621	Diluent tank
622	Kerosene tank
644	Electrowinning cells
655	Hot Water Heaters
<b>OPERATION ID 700</b>	
730	Dumps & Tailings (Windblown Dust)

**21. INSIGNIFICANT ACTIVITIES****A. Storage Tanks (Diesel and Fuel Oil)**

Tank Farm ID	Location	Product	Number of Tanks	Tank Size
				(gallon)
TF-1	Bluebird Fueling Station	Diesel	1	25,000
TF-2	07 Fueling Station	Diesel	2	7,000
TF-5	Haul-Pak and Light Vehicle Maintenance Shop	Diesel	1	893
		Diesel	1	5,000
TF-10	SWE Yard	Diesel	2	15,000
		Diesel	1	5,000
		Diesel	1	10,000
		Diesel	5	55 (drums)
		Diesel	2	11,500
TF-11	ALPM Truck Service Facility	Diesel	1	125 (trailer mounted)
		Diesel	1	8,000
TF-13	CBRR Area	Diesel	1	8,000
TF-18	South of 9D Dump	Diesel	1	10,000
TF-19	Pond near Employee Parking Lot	Diesel	1	500
TF-21	Waste Collection Facility	Diesel	1	25,000
TF-22	Shovel and Drill Shop	Diesel	5	55 (drums)

**B. Storage Tanks (Petroleum Products)**

Tank Farm ID	Location	Product	Number of Tanks	Tank Size
				(gallon)
TF-1	Bluebird Fueling Station	Lube oil	1	3,600
		Lube oil	1	3,400
		Hydraulic oil	2	55 (drums)

Tank Farm ID	Location	Product	Number of Tanks	Tank Size
				(gallon)
		Transmission Fluid	1	55 (drum)
			3	500
TF-2 <sup>1</sup>	07 Fueling Station	Used oil, Lube oil, Transmission fluid	1	7,000
			1	1,000
TF-2	07 Fueling Station	Used oil	4	55 (drum)
		Used oil	1	6,000
TF-5	Haul-Pak and Light Vehicle Maintenance Shop	Used Oil/ Lube Oil/Transmission Fluid	1	5,000
		Used oil, lube oils, kerosene	5	55 (drums)
		Lube oil, gear oil, transmission fluid	3	385 (totes)
TF-7	Solvent Extraction Operations	Kerosene	1	20,000
		Lubricants	4	55 (drums)
		Grease	1	855
TF-8	CR4 Area	Grease	1	550 (tote)
		Oil	3	550
		Oil	1	379 (tote)
TF-10	SWE Yard	Used oil	1	500
		Oil	3	500 (mobile)
		Hydraulic oil	1	11,500
		Used oil	1	11,500
TF-11	ALPM Truck Service Facility	Gear oil	2	11,500
		Lube oil	4	11,500
		Kerosene	1	11,500
		Grease	1	7,500

Tank Farm ID	Location	Product	Number of Tanks	Tank Size
				(gallon)
		Gear oil	4	55 (drum)
		Gear oil	2	385 (tote)
		Gear oil	1	550 (tote)
		Used oil filters	3	330
TF-12	Electro winning Operations	Used oil	3	55 (drum)
TF-13	CBRR Area	Lube oil, used oil, transmission fluid	1	1,000
TF-17	5X Dump Area	Oil	2	10,000
TF-19	Pond near Employee Parking Lot	Used oil	2	55 (drum)
TF-20	Laydown Yard N. 1 Dump above Sonora	Oil	5	55 (drum)
TF-21	Waste Collection Facility	Oil, lubricants	100	55 (drum)
TF-23	North of the Concentrator	Lubricants	5	55 (drum)
TF-24	Concentrator	Oil	2	55 (drum)

<sup>1</sup> Tank is a multi-compartment aboveground storage tank.

C. Portable Storage Tanks (Petroleum Products)

Portable Tank ID	Location	Product	Number of Tanks	Tank Size
				(gallon)
	Ray Concentrator	Oil	1	82
	SW Inside Corner of Bldg.	Lube Oils	3	55 (drum)
P1	East Side of Bldg.	Gear Oils	14	55 (drum)
	East Side of Bldg.	Gear Oils	1	400 (tote)
	East Side of Bldg.	Used Oil	1	55 (drum)
P2	Courtyard North of Brake Shop	Diesel fuel, lube Oil	1	70
P3	Mill Maintenance Shop	Used oil	4	55 (drum)
P4	Misc. Storage Yard	Used Oil	1	100 (vat)

Portable Tank ID	Location	Product	Number of Tanks	Tank Size
				(gallon)
		Used Oil	1	385 (tote)
		Used Oil	1	100
		Grease	1	375 (tote)
P5	Warehouse Storage Yard	Grease, gear oils, petroleum based products	10	385 (tote)
			20	55 (drum)
		Gear Compound	3	55 (drum)
P6	CR-1 Transfer Tower Area	Grease	1	320 (tote)
		Oil	1	1,650
		Oil	1	316

D. Portable Storage Tanks (Chemical Storage)

Tank ID	Chemical	Capacity (gallon)
A-1	Sulfuric acid	660,000
A-2-A	Sulfuric acid	167,000
A-2-B	Sulfuric acid	167,000
A-3-A	Sulfuric acid	600,000
A-3-B	Sulfuric acid	5,000
Leach Cure Tank	Sulfuric acid	10,000
Tank 11	Frother	15,000
Tank 12	Pine Oil	15,000
Tank 13	Raconite	10,000
Tank 14	Test Frother	15,000
Tank 15	Test Collector	10,000
Tank 22	Frother	500

<b>Tank ID</b>	<b>Chemical</b>	<b>Capacity (gallon)</b>
Tank 23	Pine Oil	500
Tank 24	Raconite	500
Tank 25	Test Frother	500
Tank 27	Raconite Dilution	3,000
Tank 35	Frother Emulsifying	1,400
Tank 36	Pine Oil Emulsifying	1,400
Flocculent Mix Tank	Percol-156	1,500
Flocculent Mix Tank	Percol-156	850
Filter Aid Tank	Filter Aid K1-704	1,750
TK-33884 (Tank House) <sup>2</sup>	Propane (gas)	850
TK-37164 (Warehouse Yard) <sup>2</sup>	Propane (gas)	1,000
Backup Fuel for Hotwater Boilers. Equipment ID 655 <sup>2</sup>	Propane (gas)	18,000
BH-4424 (PM Bay Wash Rack)	Propane (gas)	1,000
B-19029 (PM Bay Wash Rack)	Propane (gas)	1,000
B-4726 (Truck Shop Wash Rack)	Propane (gas)	1,000
Concentrator <sup>2</sup>	Butane (gas)	250
Antiscalant Tank	Nalco 9729 <sup>3</sup>	1,050
Antiscalant Tank	Nalco 9729 <sup>3</sup>	1,050
Tank 26	Test Collector	500
Light Vehicle Wash Tank	Detergent	1,500
Haul Truck Wash Tanks	Soap	500
CSO Storage	CSO <sup>4</sup>	100,000

<sup>1</sup> PLS: Pregnant Leach Solution<sup>2</sup> Pressurized Tanks<sup>3</sup> An aqueous solution of a polycarboxylic acid<sup>4</sup> CSO - Cone settler overflow (an aqueous solution of mixed metal salts)

## E. Combustion Equipment

Emission Unit	Fuel Type (s)	Quantity	Rated Heat Input (MM Btu/hr.)
Portable hot water washers	Diesel, gasoline, natural gas	16	0.281 – 0.434
Water heaters	Natural gas	20	0.015 – 0.197
Space heaters	Natural gas	48	0.045 – 0.40
Change room water heater	Natural gas	1	1.28

## F. Laboratory Equipment

The facility currently operates a metallurgical laboratory located onsite. The laboratory is primarily intended to perform analysis of the copper ore and copper concentrate for quality assurance and research and development purposes. The lab operates fume hoods to prevent employee exposure to any laboratory chemicals. The fume hoods exhaust to the atmosphere through two scrubbers which control particulate matter and any sulfuric acid mist. In accordance with PCAQCD Chapter 1, Section 1-3-140.75a.b.ix, the laboratory equipment, including the fume hoods and exhaust scrubbers, are considered to be insignificant emission units.

## G. Other Insignificant Activities

1. Normal landscaping, building maintenance, and janitorial activities (exempt per PCAQCD Chapter 1, Section 1-3-140.75a.b.i);
2. Batch mixers with rated capacity of five cubic feet or less (exempt per PCAQCD Chapter 1, Section 1-3-140.75a.b.iv);
3. Hand-held or manually operated equipment used for aerosol can spray painting, buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, and surface grinding, but not including sand blasting (exempt per PCAQCD Chapter 1, Section 1-3-140.75a.b.vi).
4. Spray evaporation system

## 22. EQUIPMENT LIST

ID	Equipment	Amount	Make	Model	Serial #	Date	Capacity
<b>OPERATION ID 100</b>							
111	Drills	12	NA	Electric/Diesel	NA	NA	NA
121	Prill Tank	3	NA	NA	NA	NA	1,620-1,694 ft <sup>3</sup>

<b>ID</b>	<b>Equipment</b>	<b>Amount</b>	<b>Make</b>	<b>Model</b>	<b>Serial #</b>	<b>Date</b>	<b>Capacity</b>
131	Shovels	5	NA	NA	NA	NA	30 yd <sup>3</sup> /bucket (average)
131	Loaders	3	NA	NA	NA	NA	NA
142	Haul Trucks	20	NA	NA	NA	NA	240 ton
142	Haul Trucks	21	Liebherr	T282B	NA	NA	400 ton
144	Dozers	8	NA	NA	NA	NA	NA
145	Miscellaneous Vehicles	200	NA	NA	NA	NA	NA
161	Dozer	13	NA	NA	NA	NA	NA
171	Blades	6	NA	NA	NA	NA	NA
181	Grizzly Feeder	1	Pioneer	NA	NA	NA	42" x 20"
182	Portable Screening Plant	1	Reuter/JCI	NA	NA	NA	7' x 20' screen
183	Stackable Conveyor	1	NA	NA	NA	NA	42" x 60'
184	Stackable Conveyor	1	NA	NA	NA	NA	36" x 60'
<b>OPERATION ID 200</b>							
231	Gasoline Aboveground Storage Tank	1	Nogales	UL 142	NA	1993	15,000 gallons for gasoline and 5,000 gallons for diesel
232	Spray Painting	1	NA	NA	NA	NA	NA
234	Diesel Above Ground Storage Tank(s)	2	Garland	NA	56304	1972	250,000 gallons and 207,000 gallon
235	Engines	17	Various	Various	Various	NA	20 – 601 kW
<b>OPERATION ID 300</b>							
330	CR4 Coarse Ore Stockpile	1	NA	NA	NA	NA	NA
331	SAG Mill Apron Feeders	3	NICO	54" wide	NA	1991	40 hp
341	SAG Mill Feed Conveyor	1	Scandura	54" wide	NA	1991	280 hp
342	SAG Mill	1	NA	NA	NA	1991	14,000 hp
343	Vibratory Screen	1	NA	NA	NA	1991	30,000 tons/day

<b>ID</b>	<b>Equipment</b>	<b>Amount</b>	<b>Make</b>	<b>Model</b>	<b>Serial #</b>	<b>Date</b>	<b>Capacity</b>
344	Crusher Feed Conveyors	4	NA	NA	NA	1991	NA
345	Pebble Crusher	1	Norberg	Shorthead	NA	1991	1,000 hp
346	Cyclones	16	NA	NA	NA	1991	NA
347	Ball Mill	2	NA	NA	NA	1991	6,500 hp
351	Flotation Feed Box & Cell (No longer in use)	25	NA	NA	NA	1991	2,280 cu. ft.
352	Regrind mills (No longer in use)	2	NA	NA	NA	1991	900 hp
367	Lime Receiving Silo	1	NA	NA	710-BN03	1991	66.5 tons/day
368	Lime Screw Conveyor	1	Thomas	9"x25'	710-FE06	1991	5 hp
371	Concentrate Thickener	1	NA	NA	NA	1991	NA
372	Filters	2	NA	NA	NA	1991	NA
373	Conveyor	1	NA	NA	NA	1991	NA
375	Concentrate Front-end Loader	1	Caterpillar	992	NA	1992	NA
391	Laboratory Fume Hoods	2	NA	NA	NA	1991	NA
392	Laboratory Fume Hood Scrubbers	2	WW Sly	JWO-7488	NA	1991	NA
393	Laboratory Dust Hoods	7	NA	NA	NA	1991	NA
394	Dust Hood Exhaust scrubber	1	Ducon	UW4	D596-1438	NA	7,146 scfm
395	Lab Dust Hood Scrubber	2	Turbulaire	NA	NA	1991	NA
396a	Apron hopper	1	NA	NA	NA	2007	NA
396b	Dribble Scraper Conveyor	1	NA	NA	NA	2007	NA
396	Gyratory Crusher	1	NA	NA	NA	2007	60" x 89"
396c	Crusher Discharge chute	1	NA	NA	NA	2007	NA
396d	Crusher Discharge Conveyor	1	NA	NA	NA	2007	94" wide
397	Picking Conveyor	1	NA	NA	NA	2007	40'

<b>ID</b>	<b>Equipment</b>	<b>Amount</b>	<b>Make</b>	<b>Model</b>	<b>Serial #</b>	<b>Date</b>	<b>Capacity</b>
398	Overland conveyor	1	NA	NA	NA	2007	60" x 690'
<b>OPERATION ID 400</b>							
411	CR1 Near-pit Dump Pocket	1	NA	NA	NA	1965	59,520 ton/day
412	Near-pit Primary Crusher	1	Allis Chlmers	54x74"	A71015	1965	59,520 ton/day
413	Picking Belt	1	Yokohama	72"x171'	NA	1966	2480 ton/hr
421	Stacker Conveyor	1	Price Rubber	54"x790'	NA	1967	350 hp
423	Rail Road Loadout Conveyor	1	Goodyear	NA	NA	1966	200 hp
441	Loadout Chutes	8	NA	NA	NA	1966	800 tph
<b>OPERATION ID 500</b>							
580	Leach Pad(s)	NA	NA	NA	NA	NA	NA
<b>OPERATION ID 600</b>							
611	PLS Storage Vats	4	NA	NA	NA	1980	5,800,000
617	Raffinate Storage	8	NA	NA	NA	1980	1,000,000 gal/vat
618	Reclaim Tank	1	NA	NA	NA	1980	100,000 gal
619	Raffinate Sumps	1	NA	NA	NA	1980	10,950 sf
621	Diluent Tank	1	C,B&I	NA	NA	1980	50,000
622	Kerosene Tank	1	Garland	API Std 650	NA	1972	207,774
644	Electrowinning Cells	300	CTI	NA	NA	1980	1,500 gal/cell
655	Hot Water Heaters	4	Parker Boiler	T5700	50607, 50608, 50609, 50610	1999	5.7 MMBtu/hr
655	Hot Water Heaters	1	Parker Boiler	T2970	NB#4447 2	2009	2.9 MMBtu/hr
<b>OPERATION ID 700</b>							
730	Dumps and Tailings	NA	NA	NA	NA	NA	NA

**Appendix A**

**Semi-annual Report**

**Permit V20675.R02**

**Abstract**

This constitutes a semi-annual report of all required monitoring, documenting emissions during the subject reporting period.

**Facility -** Asarco LLC  
Ray Complex  
State Highway 177, 8 Miles North of Kearny

**Reporting Period -** January-June \_\_\_\_\_ Or July-December \_\_\_\_\_ Year \_\_\_\_\_

**Material Report**

Ore processed through CR1 Primary Crushing Circuit - \_\_\_\_\_ tons

Ore processed through CR4 Primary Crushing Circuit - \_\_\_\_\_ tons

Ore processed through SAG Mill Grinding Circuit - \_\_\_\_\_ tons

Ore processed through CR4 Lime Receiving and Storage - \_\_\_\_\_ tons

Ore processed through Pebble Crusher Bypass Circuit - \_\_\_\_\_ tons

Amount of abrasive media used - \_\_\_\_\_ pounds

**Opacity Limitation**

Was the opacity limitation for abrasive blasting met as required under 4.Y.2.a of this permit?  
Yes \_\_\_\_\_ No \_\_\_\_\_

Was the opacity limitation under CR1 Primary Crushing Circuit as required under Section §6.B.1 of this permit?  
Yes \_\_\_\_\_ No \_\_\_\_\_ NA \_\_\_\_\_

Was the opacity limitation under CR4 Primary Crushing Circuit as required under Section §7.B.1 of this permit met?  
Yes \_\_\_\_\_ No \_\_\_\_\_ NA \_\_\_\_\_

Was the Opacity limitation under SAG Mill Grinding Circuit as required under Section §8.B.1 of this permit met?  
Yes \_\_\_\_\_ No \_\_\_\_\_ NA \_\_\_\_\_

Was the opacity limitation met for the CR4 Lime Receiving and Storage as required under Section §9.B.1 of this permit?  
Yes \_\_\_\_\_ No \_\_\_\_\_

Was the opacity limitation met for the Pebble Crusher Bypass Circuit as required under Section §10.B.1 of this permit?  
Yes \_\_\_\_\_ No \_\_\_\_\_

**Compliance Requirements**

Were the compliance requirements for the CR1 Primary Crushing Circuit met as required under Section §6.D of this permit? Yes \_\_\_\_\_ No \_\_\_\_\_ NA \_\_\_\_\_

Were the compliance requirements for the CR4 Primary Crushing Circuit met as required under Section §7.D of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

Were the compliance requirements for the SAG Mill Grinding Circuit met as required under Section §8.D of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

Were the compliance requirements for the CR4 Lime Receiving and Storage met as required under Section §9.D of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_

Were the compliance requirements for the Pebble Crusher Bypass Circuit met as required under Section §10.D of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_

**Testing Requirements**

Was the performance test conducted on the CR1 Primary Crushing Circuit as required in Section §6.F? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

If yes, then please list the date of the most recent date of the testing - \_\_\_\_\_

Was the performance test conducted on the CR4 Cone Crusher baghouse as required in Section §7.F.1 of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

If yes, then please list the date of the most recent date of the testing - \_\_\_\_\_

Was the performance test conducted on the CR4 Primary Crushing Circuit as required in Section §7.F.2 of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

If yes, then please list the date of the most recent date of the testing - \_\_\_\_\_

Was the performance test conducted on the SAG Mill Grinding Circuit as required under Section §8.F of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

If yes, then please list the date of the most recent date of the testing - \_\_\_\_\_

**Inspection Requirements**

Was the inspection for the CR1 Primary Crushing Circuit equipment performed as required under Section §6.E of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

Was the inspection for the CR4 Primary Crushing Circuit equipment performed as required under Section §7.E of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

Was the inspection for the SAG Mill Grinding Circuit equipment performed as required under Section §8.E of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

Was the inspection for the CR4 Lime Receiving and Storage equipment performed as required under Section §9.E of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_

**Recordkeeping Requirements**

Was the recordkeeping for the fugitive particulate emissions maintained as required in Section §5.B of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_

Was the recordkeeping for the CR1 Primary Crushing Circuit maintained as required in Section §6.G of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

Was the recordkeeping for the CR4 Primary Crushing Circuit maintained as required in Section §7.G of this permit? Yes\_\_\_\_\_ No\_\_\_\_\_ NA\_\_\_\_\_

Was the recordkeeping for the SAG Mill Grinding Circuit maintained as required in Section §8.G of this permit?  
Yes\_\_\_\_\_ No\_\_\_\_ NA\_\_\_\_\_

Was the recordkeeping for the CR4 Lime Receiving and Storage maintained as required in Section §9.F of this permit? Yes\_\_\_\_\_ No\_\_\_\_

Was the recordkeeping for the Pebble Bypass Circuit maintained as required in Section §10.E of this permit?  
Yes\_\_\_\_\_ No\_\_\_\_

**Internal Combustion Units**

Did the units meet the NSPS requirements as listed in Section §12 of this permit? Yes\_\_\_\_\_ No\_\_\_\_

Did the units meet the NESHAP requirements as listed in Section §13 of this permit? Yes\_\_\_\_\_ No\_\_\_\_

**Certification by Responsible Official**

I certify that, based on information and belief formed after reasonable inquiry, that the statements and information in this report are true, accurate and complete.

Signed\_\_\_\_\_

Printed Name\_\_\_\_\_

Title\_\_\_\_\_

Contact Phone Number\_\_\_\_\_

Date\_\_\_\_\_

**Mail to:** Pinal County Air Quality Control District  
P.O. Box 987  
Florence, AZ 85132, or

**Email to:** [compliancereports@pinal.gov](mailto:compliancereports@pinal.gov)