ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CLASS I PERMIT

COMPANY: **Freeport-McMoRan Morenci, Inc.**
FACILITY: **Morenci Mine**
PERMIT #: **42474**
DATE ISSUED: **October 2, 2008**
EXPIRY DATE: **October 2, 2013**

SUMMARY

This operating permit renewal is issued to Freeport-McMoRan Morenci, Inc. the Permittee, for operation of the Morenci mine. The facility is located at 4521 U.S. Highway 191 in Morenci, Greenlee County, Arizona. Freeport-McMoRan Morenci, Inc. operates an open pit copper mine along with associated ore processing and copper extraction facilities. Copper is the primary product produced by Freeport-McMoRan Morenci, Inc. Copper is produced through conventional milling & froth floatation which produces a copper concentrate and concentrate leach process which produces a copper solution. Solution extraction and electrowinning of the copper solution produces copper. Several associated activities such as power generation and slaked lime production occur at the Morenci Mine. Freeport-McMoRan Morenci, Inc. is a major source for purposes of Title V because the potential emission rates of particulate matter and nitrogen oxides are greater than 100 tons per year. The facility has accepted voluntary restrictions to stay below the New Source Review Prevention of Significant Deterioration (PSD) program threshold of 250 tons per year for particulate matter (PM), particulate matter below 10-micron size (PM_{10}), and nitrogen oxides (NO_x).

All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the A.A.C. All material permit conditions have been identified within the permit by an underline and italics. All terms and conditions in this permit are enforceable by the Administrator of the U.S. Environmental Protection Agency.

This permit is issued in accordance with Title V of the Clean Air Act, and Title 49, Chapter 3 of the Arizona Revised Statutes.

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ATTACHMENT "A": GENERAL PROVISIONS
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I. PERMIT EXPIRATION AND RENEWAL

[ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

A. This permit is valid for a period of five years from the date of issuance.

B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.

B. 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.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

A. The 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, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. The permit shall be reopened and revised under any of the following circumstances:

1. Additional applicable requirements under the Clean Air Act become applicable to the Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless an application for renewal has been submitted pursuant to A.A.C. R18-2-322.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in A.A.C. R18-2-322 for permit renewal and shall reset the five-year permit term.

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.

3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under Condition III.B.1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in Condition III.B.1 above shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT [A.A.C. R18-2-315]

A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

1. Current permit number; or

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT [A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE [A.A.C. R18-2-327.A and B]

A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION [A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

A. The Permittee shall submit a compliance certification to the Director semiannually, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

B. The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period,

3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;

4. For emission units subject to 40 CFR Part 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is required and in which an excursion or exceedance defined under 40 CFR Part 64 occurred;

5. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and

6. Other facts the Director may require to determine the compliance status of the source.

C. A copy of all compliance certifications shall also be submitted to the EPA Administrator.

D. If any outstanding compliance schedule exists, a progress report shall be submitted with the semi-annual compliance certifications required in Condition VII.A above.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS [A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY [A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard. [A.A.C. R18-2-304.C]

XI. ACCIDENTAL RELEASE PROGRAM

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68. [40 CFR Part 68]

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting [A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:

   a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

      (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

      (2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.(1) above.

   b. The report shall contain the following information:

      (1) Identity of each stack or other emission point where the excess emissions occurred;

      (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

      (3) Date, time and duration, or expected duration, of the excess emissions;

      (4) Identity of the equipment from which the excess emissions emanated;

      (5) Nature and cause of such emissions;

      (6) 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; and

      (7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above. [A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting [A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision [A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require 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.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

   (a) An emergency occurred and that the Permittee can identify the cause(s) of the emergency;

   (b) The permitted facility was being properly operated at the time;

   (c) During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

   (d) The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule [ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected with 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown [A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

(a) Promulgated pursuant to Sections 111 or 112 of the Act;

(b) Promulgated pursuant to Titles IV or VI of the Clean Air Act;

(c) Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;

(d) Contained in A.A.C. R18-2-715.F; or

(e) Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

(a) The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;

(b) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

(c) If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;

(d) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

(e) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

(f) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(g) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

(h) The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

(i) All emissions monitoring systems were kept in operation if at all practicable; and

(j) The Permittee's actions in response to the excess emissions were documented by contemporaneous records

3. Affirmative Defense for Startup and Shutdown

(a) Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

(2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

(5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

(7) All emissions monitoring systems were kept in operation if at all practicable; and

(8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.

(b) If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions during Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS [A.A.C. R18-2-306.A.4]

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;

2. The date(s) analyses were performed;

3. The name of the company or entity that performed the analyses;

4. A description of the analytical techniques or methods used;

5. The results of such analyses; and

6. The operating conditions as existing at the time of sampling or measurement.

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS [A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII of Attachment "A".

B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment "A".

C. Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION [A.A.C. R18-2-304.G and -306.A.8.e]

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION [A.A.C. R18-2-318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

A. Administrative Permit Amendment (A.A.C. R18-2-318);

B. Minor Permit Revision (A.A.C. R18-2-319); and

C. Significant Permit Revision (A.A.C. R18-2-320)

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION [A.A.C. R18-2-306.A.4 and -317]

A. The Permittee may make changes at the permitted source without a permit revision if all of the following apply:

1. The changes are not modifications under any provision of Title I of the Act or under ARS § 49-401.01(19);

2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;

3. The changes do not violate any applicable requirements or trigger any additional applicable requirements;

4. The changes satisfy all requirements for a minor permit revision under A.A.C. R18-2-319.A; and

5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements.

B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of Conditions XVII.A and XVII.C of this Attachment.

C. For each change under Conditions XVII.A and XVII.B above, a written notice by certified mail or hand delivery shall be received by the Director and the Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change, but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible.

D. Each notification shall include:

1. When the proposed change will occur;

2. A description of the change;

3. Any change in emissions of regulated air pollutants; and

4. Any permit term or condition that is no longer applicable as a result of the change.

E. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate to Conditions XVII.A and XVII.B above.

F. Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as provided under A.A.C. R18-2-306.A.11 shall not require any prior notice under this Section.

G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, do not satisfy Condition XVII.A above.

XVIII. TESTING REQUIREMENTS [A.A.C. R18-2-312]

A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions during Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;

2. Test location(s);

3. Test method(s); and

4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;

2. Safe sampling platform(s);

3. Safe access to sampling platform(s); and

4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS [A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE [A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD [A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXI. PROTECTION OF STRATOSPHERIC OZONE

[40 CFR Part 82]

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit No. 42474 for
Freeport-McMoRan Morenci, Inc.

I. FACILITY-WIDE REQUIREMENTS

A. Operating Limitations

1. The Permittee shall have on site or on call a person certified in EPA Reference Method 9. [A.A.C. R18-2-306.A.3.c]

2. The Permittee shall operate all equipment identified in Attachment "C" in accordance with vendor-supplied operations and maintenance instructions. If vendor-supplied operations and maintenance instructions are not available, the Permittee shall prepare an Operation and Maintenance Plan, which provides adequate information to properly operate and maintain the equipment in good working order. In the absence of vendor-supplied operations and maintenance instructions, the Permittee shall operate the equipment in accordance with the Operation and Maintenance Plan. [A.A.C. R18-2-306.A.2]

B. Monitoring, Recordkeeping and Reporting Requirements

1. The Permittee shall maintain, on-site, records of the manufacturer's specifications or Operation and Maintenance Plan for minimizing emissions for all process and control equipment listed in Attachment "C". [A.A.C. R18-2-306.A.4]

2. The Permittee shall submit reports of all monitoring activities required in Attachment "B" along with the compliance certifications required by Section VII of Attachment "A." All instances of deviations from the requirements of the Permit shall be clearly identified in the reports. [A.A.C. R18-2-306.A.5]

C. General Requirements for Compliance Assurance Monitoring (CAM) [40 CFR 64.7.(c)]

1. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the emission points are operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

2. Response to excursions

   a. Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emission point (including the control device and associated capture 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 any startup, shutdown, or

malfunction, and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action, or any necessary follow-up actions to return operations to within the indicator range, designated condition, or below applicable emission limitation or standard, as applicable. [40 CFR 64.7.(d)(1)]

b. Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation, and maintenance procedures and records, and inspection of the control device, associated capture system, and process. [40 CFR 64.7.(d)(2)]

3. After approval of monitoring under this part, if the Permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the Department, and if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conduction monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64.7(e)]

4. Excursions shall be reported as required by Condition VII.B.4 of Attachment "A" of this permit. The report shall include, at a minimum, the following: [A.A.C. R18-2-309(2)(c)(iii)]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursion or exceedances, as applicable, and the corrective actions taken; and [40 CFR 64.9(a) (2)(i)]

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). [40 CFR 64.9(a) (2)(ii)]

5. CAM Plans

a. Wet Scrubbers

(1) Indicators: Scrubber liquid flow rate and pressure drop across scrubber. [40 CFR 64.3(a)(1)]

(2) Monitoring Approach: Scrubber flow rate and pressure drop shall be recorded daily. [40 CFR 64.3(b)(4)(iii)]

(3) QA/QC: Operate and maintain flow/pressure indicators in a manner consistent with good air pollution control practices. [40 CFR 64.3(b)(3)]

(4) Indicator Range: ±30 percent from the average obtained during the most recent performance test. [40 CFR 64.3(a)(2) & (3)]

(5) Excursions Determinations: Events when the scrubber pressure drop (or gain) and liquid flow rate differ by more than ±30 percent from the average obtained during the most recent performance test on wet scrubber constitutes an excursion event. [40 CFR 64.6(c)(2)]

b. Fabric Filter Dust Collectors and Baghouses/Bag Collectors

(1) Indicators: Visible emissions. [40 CFR 64.3(a)(1)]

(2) Monitoring Approach: Visible emissions from the control equipment shall be monitored once daily using EPA Reference Method 22. [40 CFR 64.3(b)(4)(iii)]

(3) Indicator Range/Threshold: No visible emissions. [40 CFR 64.3(a)(2) & (3)]

(4) Excursions Determinations: Any opacity observed during the visible emission survey constitutes an excursion event. [40 CFR 64.6(c)(2)]

D. Periodic Opacity Monitoring for emission units not subject to CAM [A.A.C. R18-2-306.A.3.c]

1. The certified Method 9 observer shall conduct, in accordance with the previously approved observation plan, bi-weekly surveys of visible emissions from the emission units.

2. For Stack Emissions

a. If the observer, during the visual survey, does not see visible emissions that on an instantaneous basis appears to exceed the baseline level previously established, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

b. If the observer sees visible emissions that on an instantaneous basis appears to exceed the baseline level, then the observer shall if practicable take a six-minute Method 9 observation of the plume.

c. If the six-minute opacity of the plume exceeds the baseline level but is less than the opacity standard, the Permittee shall initiate corrective action, as necessary, to reduce opacity to or below the baseline level. The Permittee shall make a record of the following:

(1) Location, date, and time of the test; and
(2) The results of the Method 9 observation.

d. If the six-minute opacity of the plume exceeds both the baseline level and the opacity standard, then the Permittee shall do the following:

(1) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
(2) Report the event as an excess emission for opacity.

e. If the six-minute opacity of the plume is less than the baseline, the observer shall make a record of the following:

(1) Location, date, and time of the test; and
(2) The results of the Method 9 observation.

f. If corrective actions fail to reduce opacity to or below the baseline level, the Permittee shall adopt the following course of action:

(1) Document all corrective action taken; and
(2) Initiate procedures to re-establish the baseline within 48 hours in accordance with subsection (g).

g. If necessitated by the results of the bi-weekly monitoring, the Permittee may reestablish the baseline opacity level. Reestablishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re establishing the baseline(s).

3. For Fugitive Sources Associated with Point Sources

a. If the observer, during the visual survey, does not observe any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

b. If the observer sees visible emissions from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall if practicable take a six-minute Method 9 observation of the plume.

c. If the six-minute opacity of the plume exceeds the opacity standard, Permittee shall do the following:

(1) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
(2) Report the event as excess emissions.

d. If the six-minute opacity of the plume is less than the opacity standard, the observer shall make a record of the following:

(1) Location, date, and time of the test; and
(2) The results of the Method 9 observation.

4. Changes to the observation plan shall not be made without the prior approval of the Director. [A.A.C. R18-2-306.A.2]

II. REQUIREMENTS FOR THE MINE

A. Applicability

This section is applicable to the equipment listed in Tables C-1, Operation #001-Mine (Crushing Operations) in the Equipment List, Attachment "C" of this Permit.

B. Throughput Limitation

1. Voluntary Limitation

The amount of ore crushed at the pit shall not exceed 62.58×10^6 tons per year based on a twelve-month rolling total basis. [Condition No. 8 Installation Permit 1204 (Amended)]

2. Monitoring and Recordkeeping Requirements

a. The Permittee shall monitor and record the daily process rates and hours of operation of all the crushers in the mine area. [Condition No. 8 Installation Permit 1204 (Amended)]

b. On a monthly basis, the Permittee shall calculate and record the total amount of ore (in tons per month) crushed from the data collected in Condition II.B.2.a above. The Permittee shall calculate twelve-month rolling totals of the ore crushed by the in-pit crushers. [A.A.C. R 18-2-306.A.3.c]

3. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the Condition #8, Installation Permit 1204 (Amended).

C. Alternative Operating Scenario [A.A.C R18-2-306.A.2]

1. The Permittee may operate portable crushing system(s) to handle situations when the regular crushers have to be taken off-line for repairs or maintenance. The portable crusher shall not have crushing capacity greater than the capacity of the crusher that they are replacing. The portable crushing system(s) and ancillary equipment shall be equipped with equivalent pollution control equipment as appropriate to temporarily replace the equipment that have been taken off line and shall comply with all permit requirements listed in II.B above and II.D below.

2. The Permittee shall keep a record of the dates and duration of operation of the portable crusher(s).

D. Equipment subject to the standards of performance for existing nonferrous metals industry sources [Emission units identified as "No" in Column 8, Table C-1, Operation #001-Mine (Crushing Operations), Attachment "C" of this Permit] shall comply with the following:

Particulate Matter and Opacity

1. Emission Limitations/Standards [A.A.C. R18-2-721.B.2 & D]

a. The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

Where:

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

P = the process weight rate in tons-mass per hour.

The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

b. Voluntary Limitations

The Permittee shall not allow the emissions of particulate matter (PM) or particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}) from the baghouse associated with the transfer point from Surge Pile to P2 conveyor (process #001-012) to exceed 0.01 grains per dry standard cubic feet (gr/dscf). [A.A.C. R 18-2-306.01.A & -331.A.3.a]

[Material permit conditions are indicated by underline and italics]

c. Opacity Standard [A.A.C. R18-2-702.B]

The Permittee shall not cause, allow, or permit the opacity of emissions from any point source into the atmosphere to exceed 20 percent as measured by EPA Reference Method 9.

2. Air Pollution Control Requirements

a. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain and *operate the baghouse associated with the Surge Pile to P2 conveyor (process #001-012) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

[Material permit conditions are indicated by underline and italics]

b. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the water spray system on the feed hoppers associated with the In-Pit Crusher #s 1 & 2 in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3. e]

[Material permit conditions are indicated by underline and italics]

c. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, install,* maintain, and *operate the water spray system on the Feed Hopper associated with the In-Pit Crusher # 3 (process #001-249) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3. d & e]

[Material permit conditions are indicated by underline and italics]

d. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, install,* maintain, and *operate the water spray system on P8 conveyor to Surge Pile (Process #001-010) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3. d]

[Material permit conditions are indicated by underline and italics]

3. Monitoring, Recordkeeping, and Reporting Requirements

a. Daily Monitoring Requirements

The Permittee shall record the daily process rate and hours of operation of all material handling facilities. [A.A.C. R 18-2-721.F]

b. Compliance Assurance Monitoring Requirements (Process #001-012)

The Permittee shall meet the CAM plan requirements identified in Condition I.C.5.b for the baghouse listed in Condition II.D.2.a. [A.A.C. R 18-2-306.A.3.b]

c. Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units, other than process #001-012, as per Condition I.D.

4. Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance test for PM and PM_{10} on the stack of the Surge Pile to P2 baghouse (process #001-012) in the second year of the permit term. EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All PM measured by the above referenced method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the limits in Condition II.D.1.b. Subsequent test shall be conducted in the 4^{th} year of the permit term.

5. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: A.A.C. R-18-2-702.B, A.A.C. R-18-2-721.B.2, A.A.C. R-18-2-721.D, and A.A.C. R-18-2-721.F.

E. Affected facilities subject to the new source performance standards [Emission units identified as "Yes" in Column 8, Table C-1, Operation #001-Mine (Crushing Operations) Attachment "C" of this Permit] shall comply with the following:

Particulate Matter and Opacity

1. Emission Limitations/Standards

a. The Permittee shall not cause to be discharged into the atmosphere from an affected facility any stack emissions that contain PM in excess of 0.05 grams per dry standard cubic meter (0.02 gr/dscf). [40 CFR 60.382(a)(1)]

b. Voluntary Limitations [Material permit conditions are indicated by underline and italics]

(1) *The Permittee shall not allow the emissions of PM or PM_{10} from the wet scrubber associated with In-Pit Crusher #1 (process #001-005) to exceed 0.01 gr/dscf.* [A.A.C. R 18-2-306.01.A & -331.A.3.a]

(2) *The Permittee shall not allow the emissions of PM or PM_{10} from the fabric filter dust collector associated with In-Pit Crusher #2 (process #001-006) to exceed 0.002 gr/dscf and 0.001 gr/dscf respectively.*
[A.A.C. R 18-2-306.01.A & -331.A.3.a]

(3) *The Permittee shall not allow the emissions of PM or PM_{10} from the fabric filter dust collector associated with In Pit Crusher #3 (process #001-250) to exceed 0.004 gr/dscf.* [A.A.C. R 18-2-306.01.A & -331.A.3.a]

c. Opacity Standard [Material permit conditions are indicated by underline and italics]

(1) *The Permittee shall not cause to be discharged into the atmosphere any stack emissions that exhibit greater than 7 percent opacity, as measured by EPA Reference Method 9, unless the stack emissions are discharged from a wet scrubbing emission control device.*
[40 CFR 60.382(a)(2) and A.A.C. R18-2-331.A.3.f]

(2) *The Permittee shall not cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.* [40 CFR 60.382(b) and A.A.C. R18-2-331.A.3.f]

2. Air Pollution Control Requirements
[Material permit conditions are indicated by underline and italics]

a. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the wet scrubber associated with the In-Pit Crusher #1 (process #001-005) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions*.
[40 CFR 60.11(d), A.A.C. R18-2-306.01.A & -331.A.3.e]

b. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector associated with the In-Pit Crusher #2 (process#001-006) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions*.
[40 CFR 60.11(d), A.A.C. R 18-2-306.01.A & -331.A.3.e]

c. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, install,* maintain, and *operate the fabric filter dust collector associated with the In-Pit Crusher #3 (process #001-250) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [40 CFR 60.11(d), A.A.C. R 18-2-306.01.A & -331.A.3.d & e]

d. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall to the extent practicable,* maintain and *operate the wet spray system associated with the 500 ton per hour Crushing & Screening plant (process #001-019) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*
[40CFR 60.11(d) and A.A.C. R 18-2-306.01.A & -331.A.3.e]

3. Monitoring, Recordkeeping, and Reporting Requirements

a. Flow Rate and Pressure Drop Monitoring for Process #001-005

[Material permit conditions are indicated by underline and italics]

(1) *The Permittee shall calibrate, maintain*, and operate *a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber associated with the emission point. The monitoring device must be certified by the manufacturer to be accurate within ±250 Pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions*. [40 CFR 60.384(a) and A.A.C. R18-2-331.A.3.c]

(2) *The Permittee shall, calibrate, maintain*, and operate *a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber associated with the emission point. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's instructions*. [40 CFR 60.384(b) and A.A.C. R18-2-331.A.3.c]

b. Semi-annual Reporting Requirement for Process #001-005

The Permittee shall submit to the Director semi-annual reports of occurrences when the measurements of the scrubber pressure loss (or gain) or liquid flow rate differ by more than ±30 percent from the average obtained during the most recent performance test. These reports shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

[40 CFR §60.385(c) and (d) and A.A.C. R18-2-306.A.3.c]

c. Compliance Assurance Monitoring Requirements [A.A.C. R 18-2-306.A.3.b]

(1) The Permittee shall meet the CAM plan requirements for wet scrubbers identified in Condition I.C.5.a for the wet scrubber listed in Condition II.E.2.a above.

(2) The Permittee shall meet the CAM plan requirements identified in Condition I.C.5.b for the fabric filter dust collectors listed in Conditions II.E.2.b and II.E.2.c above.

d. Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units, other than the emission units identified in Conditions II.E.2.a, II.E.2.b, and II.E.2.c above, as per Condition I.D.

4. Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

a. The Permittee shall conduct performance tests for PM and PM_{10} on the stack of the wet scrubber associated with In-pit crusher #1 (process #001-005) in the first year of the permit term. EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter

less than 10 microns. The performance test shall be used to demonstrate compliance with the limit in Conditions II.E.1.a and II.E.1.b.(1) above. Subsequent tests shall be conducted in the 3rd and 5th year of the permit term.

b. The Permittee shall conduct performance tests for PM and PM_{10} on the stack of fabric filter dust collector associated with In-Pit Crusher #2 (process #001-006) in the first year of the permit term. EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. EPA Reference Method 201 or 201 A and Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM_{10}. The performance test shall be used to demonstrate compliance with the limits in Conditions II.E.1.a and II.E.1.b.(2). Subsequent tests shall be conducted in the 3rd and 5th year of the permit term.

c. The Permittee shall conduct performance tests for PM and PM_{10} on the stack of fabric filter dust collector associated with In-pit crusher #3 (process #001-250) in the first year of the permit term. EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the limits in Conditions II.E.1.a, and II.E.1.b.(3). Subsequent tests shall be conducted in the 3rd and 5th year of the permit term.

5. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: 40 CFR §60.382(a)(1), 40 CFR §60.382(a)(2), 40 CFR §60.382(b), 40 CFR §60.384(a), 40 CFR §60.384(b), 40 CFR §60.385(c), 40 CFR §60.385(d) and A.A.C. R18-2-901(43).

III. MATERIAL TRANSFER OPERATIONS

A. Applicability

This section is applicable to the equipment and activities related to material transfer from the Mine to the Metcalf and Morenci concentrators, from Metcalf concentrator to the Southwest SX circuit, and from Morenci concentrator to the bedding plant. These are listed in Tables C-2, Operation #001- Mine (Material Transfer Operations), C-4, Operation #003-MFL Reclaim Conveyors (Material Transfer Operations), and C-6, Operation #003-MFL Conveyor Stacking System (Material Transfer Operations) in the Equipment List, Attachment "C" of this Permit.

B. Particulate Matter and Opacity

1. Emission Limitations/Standards [A.A.C. R18-2-721.B.2 & D]

a. The Permittee shall not cause, allow, or permit the discharge of PM into the atmosphere from any of the equipment in any one-hour in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

Where:
E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour.

The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

b. Voluntary Limitations [A.A.C. R 18-2-306.01.A & -331.A.3.a]
[Material perm conditions are indicated by underline and italics]

(1) *The Permittee shall not allow the emissions of PM or PM_{10} from the wet scrubber associated with the transfer points from intermediate ore stockpile, IOS #1 to R1A & R1B (process #001-018) to exceed 0.01 gr/dscf.*

(2) *The Permittee shall not allow the emissions of PM or PM_{10} from the bag collectors listed in Condition III.B.2.c below to exceed 0.007 gr/dscf.*

(3) *The Permittee shall not allow the emissions of PM and PM_{10} from the fabric filter dust collectors listed in Condition III.B.2.d below to exceed 0.002 grains per dry standard cubic feet and 0.001 gr/dscf respectively.*

(4) *The Permittee shall not allow the emissions of PM or PM_{10} from the fabric filter dust collectors listed in ConditionsIII.B.2.e and III.B.2.f below to exceed 0.004 gr/dscf.*

c. Opacity Standard

The Permittee shall not cause, allow or permit visible emissions, from any point source, in excess of 20 percent. [A.A.C-R18-2-702.B]

2. Air Pollution Control Requirements
[Material permit conditions are indicated by underline and italics]

a. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain and *operate water spray system associated with the Intermediate Stockpile (IOS) #1 and conveyor drop points to the Fine Ore Stockpile in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*
[Significant Revision #1001285 to Operating Permit #0325-85, Condition II.B and A.A.C. R18-2-331.A.3.e]

b. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain and *operate the wet scrubber associated with the transfer points from IOS #1 to R1A & R1B (process #001-018) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

c. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate bag collectors to control*

PM emissions from the following material transfer operations: R1A & R1B to R2 (process #003-077), R2 to R3 (process #003-078), R3 to R4 (process #003-079), R4 to R5 and R5 to R6 (process #003-080), S10 to S11 (process #003-198), Fine Ore Stockpile to A1A (process #003-201), A1A to A2A (process #003-202), and A1A to A2C (process #003-203).

[Significant Revision #1001285 to Operating Permit #0325-85, Condition II.B and A.A.C. R18-2-331.A.3.a]

d. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate fabric filter dust collectors for following: Discharge Conveyor 2 (DC2) to P9 conveyor and for transfer from P9 conveyor to P10 conveyor (process #001-225), DC2 to P5 conveyor (process #001-225), IOS #2 to R8 (process #001-228), R8 conveyor to R9 conveyor (process #001-229), and R9 conveyor to R7 conveyor (process #001-230) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

e. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, install,* maintain, and *operate fabric filter dust collectors for following: DC1 to P8 (process #001-007), P2 to P4 (process #001-013), P4 to P5 (process #001-014), and P5 to P6 (process #001-015) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.d & e]

f. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, install,* maintain, and *operate the fabric filter dust collector for following: belt feeder 3 (BF3) to a new discharge conveyor 3 (DC 3) and DC 3 to existing conveyor P5 (process #001-251) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.d & e]

g. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the water spray system on following material transfer operations:P10 belt to IOS #2 (process #001-226), and P6 conveyor outfall (process #001-016) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*

[A.A.C. R 18-2-306.01.A & -331.A.3.e]

3. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

a. Flow Rate and Pressure Drop Monitoring for Process #001-018

[Material permit conditions are indicated by underline and italics]

(1) *The Permittee shall calibrate, maintain,* and operate *a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber associated with the emission point. . The monitoring device must be certified by the manufacturer to be accurate within ±250 Pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions.* [A.A.C. R18-2-331.A.3.c]

(2) *The Permittee shall, calibrate, maintain,* and operate *a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber associated with the emission point. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's instructions.*

[A.A.C. R18-2-331.A.3.c]

b. Compliance Assurance Monitoring Requirements [A.A.C. R 18-2-306.A.3.b]

(1) The Permittee shall meet the CAM plan requirements for wet scrubbers identified in Condition I.C.5.a for wet scrubber listed in Condition III.B.2.b above.

(2). The Permittee shall meet the CAM plan requirements identified in Condition I.C.5.b for fabric filter dust collectors on R4 to R5 and R5 to R6 conveyors (process #003-080), conveyor DC2 to P9 & P9 to P10 conveyor, and DC2 to P5 conveyor (process #001-225), and as listed in Conditions III.B.2.e and III.B.2.f.above.

c. Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units, other than the emission units R4 to R5 and R5 to R6 conveyors (process #003-080), conveyor DC2 to P9 & from P9 to P10 conveyor, and DC2 to P5 conveyor (process #001-225) and the emission units listed in Conditions III.B.2.e and III.B.2.f above, as per Condition I.D.

4. Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

a. The Permittee shall conduct performance tests for PM and PM_{10} on the stack of the wet scrubber (process #001-018) in the first year of the permit term. EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the voluntarily accepted limits in Condition III.B.1.b.(1). Subsequent tests shall be conducted in the 3rd and 5th year of the permit term.

b. The Permittee shall conduct performance tests for PM and PM_{10} on the stacks of the bag collectors listed in Condition III.B.2.c as per following:

(1) R2 to R3 (Process #003-078), R3 to R4 (Process #003-079), S10 to S11 (Process #003-198), Fine Ore Stockpile to A1A (Process #003-201), A1A to A2A (Process #003-202), and A1A to A2C (Process #003-203) shall be tested in the first year of the permit term. Subsequent testing shall be conducted in 3rd and 5th year of the permit term.

(2) R1A & R1B to R2 (Process #003-077) and R4 to R5 & R5 to R6 (Process #003-080) shall be tested in the second year of the permit term. Subsequent testing shall be conducted in 4th year of the permit term.

EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the limit in Condition III.B.1.b.(2).

c. The Permittee shall conduct performance tests for PM and PM_{10} on the stacks of fabric filter dust collectors listed in Condition III.B.2.d as per following:

(1) DC2 to P9 & P9 to P10 (Process #001-225) shall be tested in the first year of the permit term. Subsequent testing shall be conducted in 3rd and 5th year of the permit term.

(2) DC2 to P5 (Process #001-225), IOS #2 to R8 (Process #001-228), R8 to R9 (Process #001-229), and R9 to R7 (Process #001-230) shall be tested in the second year of the permit term. Subsequent testing shall be conducted in 4th year of the permit term.

EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. EPA Reference Method 201 or 201 A and Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of $PM_{10.}$ The performance test shall be used to demonstrate compliance with the limits in Condition III.B.1.b.(3).

d. The Permittee shall conduct performance tests for PM and PM_{10} on the stacks of fabric filter dust collectors listed in Condition III.B.2.e & III.B.2.f above in the first year of the permit term. EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the limits in Condition III.B.1.b.(4). Subsequent tests shall be conducted in the 3rd and 5th year of the permit term.

5. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: A.A.C. R-18-2-702.B, A.A.C. R-18-2-721.B.2, and A.A.C. R-18-2-721.D.

IV. REQUIREMENTS FOR CONCENTRATORS

A. Applicability

This section is applicable to the equipment related to Concentrators and listed in Tables C-3, Operation #002-Morenci Concentrator and C-5, Operation #003- MFL Fine Crushing Building Equipment List, Attachment "C" of this Permit.

B. Equipment subject to the Standards of Performance for Existing Nonferrous Metals Industry Sources (Emission units identified as “No” in Column 8, Table C-3, Operation #002- Morenci

Concentrator and Table C-5, Operation #003-MFL Fine Crushing Building) shall comply with the following:

Particulate Matter and Opacity

1. Emission Limitation/ Standards [A.A.C. R18-2-721.B.2 and D]

a. The Permittee shall not cause, allow, or permit the discharge of PM into the atmosphere from any of the equipment in any one-hour in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

Where:
E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = The process weight rate in tons mass per hour

The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

b. Voluntarily Accepted Limits
[Material permit conditions are indicated by underline and italics]

(1) *The Permittee shall not allow the emissions of PM or PM_{10} from the wet scrubbers listed in Condition IV.B.2.a to exceed 0.01 gr/dscf.* [A.A.C. R 18-2-306.01.A & -331.A.3.a]

(2) *The Permittee shall not allow the emissions of PM or PM_{10} from the fabric filter dust collectors listed in Conditions IV.B.2.b, IV.B.2.c, IV.B.2.d, IV.B.2.e, and IV.B.2.f to exceed 0.002 gr/dscf and 0.001 gr/dscf respectively.* [A.A.C. R 18-2-306.01.A & -331.A.3.a]

c. Opacity standards

The Permittee shall not cause, allow or permit visible emissions, from any point source, in excess of 20 percent. [A.A.C-R18-2-702.B]

2. Air Pollution Control Requirements
[Material permit conditions are indicated by underline and italics]

a. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain and *operate the wet scrubbers associated with process #s 003-082, 088, 089, and 090 in the Metcalf Concentrator in a manner consistent with good air pollution practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

b. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on Morenci Crushing Line B (process #002-030) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

c. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on Morenci Crushing Line C (process #002-031) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

d. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on Morenci Crushing Line D (process #002-032) in a manner consistent with good air pollution control practice for particulate matter emissions.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

e. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on Fine Crushing Line C to Conveyor 3B to Conveyor 3 (process #002-035) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions*. [A.A.C. R 18-2-306.01.A & -331.A.3.e]

f. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on the Fine Crushing Line C to 3B and to 3A Conveyors (process #002-036) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions*. [A.A.C. R 18-2-306.01.A & -331.A.3.e]

g. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on Conveyor R7 to Coarse Ore Splitter box and Coarse Ore Splitter box to 1A and 1B (process #002-022) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent inside the Morenci Concentrator building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

h. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on 1A Conveyor (process #002-023) to Coarse Ore Bin in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent indoors into the existing coarse ore storage bins.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

i. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on 1B Conveyor to Coarse Ore Bin (process #002-024) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent indoors into the existing coarse ore storage bins.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

j. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on the Pan Feeders and 2A Conveyor (process #002-025) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent inside the Morenci Concentrator Building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

k. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on the Pan Feeders and 2B Conveyor (process #002-026) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent inside the Morenci Concentrator Building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

l. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on the Pan Feeders and 2C Conveyor (process #002-027) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent inside the Morenci Concentrator Building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

m. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on the Pan Feeders and 2D Conveyor (process #002-028) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent inside the Morenci Concentrator Building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

n. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collectors on Morenci Crushing Line A and Morenci Fine Crushing Line A to Conveyor #3 (process #002-029 & 33) respectively in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. These fabric filter dust collectors shall vent inside the Morenci Concentrator Building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

o. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on Fine Crushing Line C to 3A Conveyor (process #002-037) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent inside the Morenci Concentrator Building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

p. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable*, maintain and *operate the fabric filter dust collector on Conveyors 3 to 4 to 5 (process #002-038) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent indoors.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

q. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on conveyors 3A to 4A to 5A (process #002-039) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent indoors.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

r. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on the conveyor #5A to Fine Ore Bin (process #002-040) in a manner*

consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent indoors into existing fine ore storage bins. [A.A.C. R 18-2-306.01.A & -331.A.3.e]

s. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on the Conveyor #5 to Fine Ore Bin (process #002-041) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent indoors into existing fine ore storage bins.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

t. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter on the Conveyors 3 to 3B (Process #002-042) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent indoors.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

u. *At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable,* maintain and *operate the fabric filter dust collector on Morenci Fine Crushing Line B to Conveyor #3 (process #002-034) in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. This fabric filter dust collector shall vent inside the Morenci Concentrator Building.* [A.A.C. R 18-2-306.01.A & -331.A.3.e]

3. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

[Material permit conditions are indicated by underline and italics]

a. Flow Rate and Pressure Drop Monitoring for wet scrubbers listed in Condition IV.B.2.a

(1) *The Permittee shall calibrate, maintain,* and operate *a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber associated with the emission point. The monitoring device must be certified by the manufacturer to be accurate within ±250 Pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions.* [A.A.C. R18-2-331.A.3.c]

(2) *The Permittee shall, calibrate, maintain,* and operate *a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber associated the emission point. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's instructions.* [A.A.C. R18-2-331.A.3.c]

b. Compliance Assurance Monitoring Requirements [A.A.C. R 18-2-306.A.3.b]

(1) The Permittee shall meet the CAM plan requirements for wet scrubbers identified in Condition I.C.5.a for wet scrubbers listed in Condition IV.B.2.a except for Scrubber #3C Track Hopper (process #003-082).

(2) The Permittee shall meet the CAM plan requirements identified in Condition I.C.5.b for fabric filter dust collectors listed in Conditions IV.B.2.b, IV.B.2.c, and IV.B.2.d.

c. Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units, other than the emission units identified in Conditions IV.B.2.a (excluding process #003-082), IV.B.2.b, IV.B.2.c, and IV.B.2.d above as per Condition I.D.

4. Testing Requirements [A.A.C. R18-2-306.A.3.c]

a. The Permittee shall conduct performance tests for PM and PM_{10} on the stacks of the wet scrubbers listed in Condition IV.B.2.a as per following:

(1) Metcalf Fine Crushing Line B-Scrubber #8 (Process #003-090) shall be tested in the first year of the permit term. Subsequent testing shall be conducted in 3rd and 5th year of the permit term.

(2) Metcalf Track Hopper- Scrubber #3C (Process #003-082) and Metcalf Fine Line C- Scrubber #4 (Process #003-088) and Metcalf Fine Crushing Line D-scrubber #5 (Process #003-089) shall be tested in the second year of the permit term. Subsequent testing shall be conducted in 4th year of the permit term.

EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the voluntarily accepted limit in Condition IV.B.1.b.(1).

b. The Permittee shall conduct performance tests for PM and PM_{10} on the stacks of fabric filter dust collectors listed in Conditions IV.B.2.b, IV.B.2.c, IV.B.2.d, IV.B.2.e, and IV.B.2.f as per following:

(1) Morenci Crushing Line B (Process #002-030), Fine Crushing Line C to Conveyor 3B to Conveyor 3 (process #002-035), and Fine Crushing Line C to 3B and to 3A (process #002-036) shall be tested in the first year of the permit term. Subsequent testing shall be conducted in 3rd and 5th year of the permit term.

(2) Morenci crushing line C (process #002-031) and Morenci crushing Line D (process #002-032) shall be tested in the second year of the permit term. Subsequent testing shall be conducted in 4th year of the permit term.

EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. EPA Reference Method 201 or 201 A and Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of $PM_{10.}$ The performance test shall be used to demonstrate compliance with the

voluntarily accepted limits in Condition IV.B.1.b.(2).

5. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: A.A.C. R-18-2-702.B, A.A.C. R-18-2-721.B.2, and A.A.C. R-18-2-721.D.

C. Affected facilities subject to the new source performance standards (Emission units identified as "New" in Column 8, Table C-5, Operation-003-MFL Fine Crushing Building, Attachment "C" of this Permit) shall comply with the following:

Particulate Matter and Opacity

1. Emission Limitation and Standards

a. The Permittee shall not cause to be discharged into the atmosphere from an affected facility any stack emissions that contain PM in excess of 0.05 grams per dry standard cubic meter (0.02 grain/dscf). [40 CFR 60.382(a)(1)]

b. Voluntary Limitation [Material permit conditions are indicated by underline and italics]

The Permittee shall not allow the emissions of PM or PM_{10} from any wet scrubber #s3A, 6, and 1 associated with the Metcalf Track Hopper (process #003-084), Metcalf Fine Crushing (process #003-085), and Metcalf Fine Crushing (process #003-092) to exceed 0.01 gr/dscf.

[A.A.C. R 18-2-306.01.A & -331.A.3.a]

c. Opacity Standard [Material permit conditions are indicated by underline and italics]

(1) *The Permittee shall not cause to be discharged into the atmosphere any stack emissions that exhibit greater than 7 percent opacity, as measured by EPA Reference Method 9, unless the stack emissions are discharged from a wet scrubbing emission control device.*

[40 CFR 60.382(a)(2) and A.A.C. R18-2-331.A.3.f]

(2) The Permittee shall not cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity. [40 CFR 60.382(b) and A.A.C. R18-2-331.A.3.f]

2. Air Pollution Control Requirements

At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and *operate the wet scrubbers associated with process #s 003-084, 003-085, and 003-092 in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*

[40 CFR 60.11(d) and A.A.C. R18-2-331.A.3.e]
[Material permit conditions are indicated by underline and italics]

3. Monitoring, Recordkeeping, and Reporting Requirements

[Material permit conditions are indicated by underline and italics]

a. Flow Rate and Pressure Drop Monitoring for Process #s 003-084, 003-085, & 003-092

(1) *The Permittee shall calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber associated with the emission point. The monitoring device must be certified by the manufacturer to be accurate within ±250 Pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions*. [40 CFR 60.384(a) and A.A.C. R18-2-331.A.3.c]

(2) *The Permittee shall, calibrate, maintain,* and operate *a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber associated with the emission point. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's instructions.*

[40 CFR 60.384(b) and A.A.C. R18-2-331.A.3.c]

b. Semi-annual Reporting Requirement for Process #s 003-084, 003-85, & 003-092

The Permittee shall submit to the Director semi-annual reports of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ±30 percent from the average obtained during the most recent performance test. These reports shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

[40 CFR §60.385(c) and (d) and A.A.C. R18-2-306.A.3.b]

c. Compliance Assurance Monitoring Requirements

The Permittee shall meet the CAM plan requirements listed in Condition I.C.5.a for wet scrubber #1 associated with process #003-092.

d. Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units, other than the emission unit associated with process #003-092 as per Condition I.D.

4. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance tests for PM and PM_{10} on the stacks associated with the wet scrubbers (Process #s 003-084, 003-085, and 003-092) as per following:

(1) Metcalf Fine Crushing- Scrubber #1 (process #003-092) shall be tested in the first year of the permit term. Subsequent testing shall be conducted in 3rd and 5th year of the permit term.

(2) Metcalf Track Hopper- Scrubber #3A (process #003-084) and Metcalf Fine Crushing- Scrubber #6 (process #003-085) shall be tested in the second year of

the permit term. Subsequent testing shall be conducted in 4th year of the permit term.

EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the limits in Conditions IV.C.1.a and IV.C.1.b.

5. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: 40 CFR §60.382(a)(1), 40 CFR §60.382(a)(2), 40 CFR §60.382(b), 40 CFR §60.384(a), 40 CFR §60.384(b), 40 CFR §60.385(b), 40 CFR §60.385(c), and A.A.C. R18-2-901(43).

V. METCALF COMBINED CYCLE POWER PLANT

A. Applicability

This section is applicable to the equipment related to Metcalf Combined Cycle Power Plant and listed in Table C-8, Operation #005- Metcalf Combined Cycle Powerhouse Equipment List, Attachment "C" of this Permit.

B. Voluntarily Accepted Limitation

1. Type of Fuel [A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The Permittee shall burn only natural gas in the turbines and boilers.

2. Quantity of fuel [A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

a. Gas Turbine #1 and #2

The Permittee shall not combust more than a total of 871,620 MMBtu per year of natural gas in the turbines (process #s 005-108 and 005-110).

b. Boiler #1 and #2

The Permittee shall not combust more than a total of 454,318 MMBtu per year of natural gas in the boilers (process #s 005-109 and 005-111).

3. Monitoring, Reporting and Recordkeeping requirements [A.A.C. R18-2-306.A.3.c]

a. The Permittee shall keep a daily record of total fuel consumed in the turbines and the high heating value of the fuel. At the end of the day, a 365-day rolling total of fuel and MMBtu consumed in the turbines shall be computed.

b. The Permittee shall keep a daily record of total fuel consumed in the boilers and the high heating value of the fuel. At the end of the day, a 365-day rolling total of fuel and MMBtu consumed in the boilers shall be computed.

C. Combined Cycle Operation of Gas Turbine #1 & Boiler #1 and Gas Turbine #2 & Boiler #2/ Boiler #1 and Boiler #2

1. Particulate Matter & Opacity

a. Emission Limitations and Standards

(1) The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any fuel burning operation in excess of the amounts calculated by the following equation:

$E = 1.02*Q^{0.769}$

Where

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

Q = the heat input in million Btu per hour

[A.A.C. R18-2- 703.C.1]

(2) For purposes of Condition V.C.1.a.(1), the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all operating fuel-burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted. [A.A.C. R18-2-703.B]

(3) Opacity Standard

(a) The Permittee shall not cause, allow or permit the opacity of any plume or effluent from the boiler to exceed 20%. [A.A.C. R18-2-702.B]

(b) If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement, the exceedance shall not constitute a violation of the opacity limit specified in Condition V.C.1.a.(3).(a). [A.A.C. R18-2-702.C]

b. Monitoring, Reporting, and Recordkeeping

The Permittee shall keep records of fuel supplier specifications. The specifications shall contain information regarding the name of fuel supplier and higher heating value of the fuel. These records shall be made available to ADEQ upon request. [A.A.C. R18-2-306.A.3.c]

c. Permit Shield [A.A.C. R18-2-325]

Compliance with the terms of this section shall be deemed compliance with A.A.C. R18-2-702.B, A.A.C. R18-2-702.C, A.A.C. R18-2-703.B, and A.A.C. R18-2-703.C.1.

2. Oxides of Nitrogen (NO_x)

a. Emission Limitations and Standards [A.A.C. R18-2-306.01.A & -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The emissions of NO_x from each gas turbine and each boiler shall not exceed 0.32 lbs/MMBtu and 0.27 lbs/MMBtu respectively.

b. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance tests for NO_x on the stack associated with each boiler within 90 days of startup of the boilers. The performance tests shall be conducted in accordance with Reference Method 7E in 40 CFR 60, Appendix A. The performance test shall be used to demonstrate compliance with the limits in Condition V.C.2.a.

3. Carbon monoxide (CO)

a. Emission Limitations and Standards [A.A.C. R18-2-306.01.A & -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The emissions of CO from each gas turbine and each boiler shall not exceed 0.082 lbs/MMBtu and 0.08 lbs/MMBtu respectively.

b. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance tests for CO on the stack associated with each boiler within 90 days of startup of the boilers. The performance tests shall be conducted in accordance with Reference Method 10 in 40 CFR 60, Appendix A. The performance test shall be used to demonstrate compliance with the limits in Condition V.C.3.a.

D. Gas Turbine #1 and #2

1. Particulate Matter

a. Emission Limitations and Standards

(1) The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any fuel burning operation in excess of the amounts calculated by the following equation:

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

Where
E = the maximum allowable particulate emission rate in pounds-mass per hour
Q = the heat input in million Btu per hour

[A.A.C. R18-2- 719.C.1]

(2) For purposes of Condition V.D.1.a.(1), the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all operating fuel-

burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted. [A.A.C. R18-2-719.B]

(3) Opacity [A.A.C. R18-2-719.E]

The Permittee shall not cause, allow or permit the opacity of any plume or effluent from the turbine to exceed 20%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

b. Monitoring, Reporting, and Recordkeeping [A.A.C. R18-2-306.A.3.c]

The Permittee shall keep records of fuel supplier specifications. The specifications shall contain information regarding the name of fuel supplier and higher heating value of the fuel. These records shall be made available to ADEQ upon request.

c. Permit Shield [A.A.C. R18-2-325]

Compliance with the terms of this section shall be deemed compliance with A.A.C. R18-2-719.B, A.A.C. R18-2-719.C.1, and A.A.C. R18-2-719.E.

2. Oxides of Nitrogen (NO_x)

a. Emission Limitations and Standards [A.A.C. R18-2-306.01.A & -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The emissions of NO_x from each gas turbine shall not exceed 0.32 lbs/MMBtu.

b. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance tests for NO_x on the stacks associated with the gas turbines within 90 days of startup of the turbines. The performance tests shall be conducted in accordance with Reference Method 7E in 40 CFR 60, Appendix A. The performance tests shall be used to demonstrate compliance with the limits in Condition V.D.2.a.

3. Carbon monoxide (CO)

a. Emission Limitations and Standards [A.A.C. R18-2-306.01.A & -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The emissions of CO from each gas turbine shall not exceed 0.082 lbs/MMBtu.

b. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance tests for CO on the stacks associated with the gas turbines within 90 days of startup of the turbines. The performance tests shall be conducted in accordance with Reference Method 10 in 40 CFR 60, Appendix A. The performance tests shall be used to demonstrate compliance with the limits in Condition V.D.3.a.

E. Cooling Towers #1 & #2

1. Particulate Matter and Opacity

a. Emission Limitations/Standards

(1) The Permittee shall not emit or cause to be emitted into the atmosphere particulate matter in excess of the allowable hourly emission rate determined as follows:

(a) Determination of the allowable emission rates (E) for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation: [A.A.C. R18-2-730.A.1.a]

$E = 4.10P^{0.67}$

Where:
E = the maximum allowable particulate emissions rate in pounds-mass per hour; and
P = the process weight rate in tons-mass per hour.

(b) Determination of the allowable emission rates (E) for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation: [A.A.C. R18-2-730.A.1.b]

$E = 55.0P^{0.11} - 40$

Where:
E = the maximum allowable particulate emissions rate in pounds-mass per hour; and
P = the process weight rate in tons-mass per hour.

(2) The Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent the opacity of which exceeds 20 percent, measured in accordance with Reference Method 9 in 40 CFR 60, Appendix A. [A.A.C.R18-2-702.B.3]

(3) If the presence of uncombined water is the only reason for an exceedance of the applicable opacity requirement, the exceedance shall not constitute a violation of the applicable opacity limit. [A.A.C.R18-2-702.C]

(4) Where a stack, vent, or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee thereof to a degree that will adequately dilute, reduce, or eliminate the discharge of air pollution to adjoining property. [A.A.C.R18-2-730.G]

b. Monitoring, Recordkeeping, and Reporting [A.A.C.R18-2-306.A.3.c]

(1) A certified EPA Reference Method 9 observer shall conduct initial visual survey of visible emissions from the cooling towers with in thirty days of start up of the cooling towers. Subsequent visual surveys shall be conducted no less frequently than once per calendar quarter when in operation.

(2) If visible emissions are detected during the visual survey of a cooling tower, the observer shall conduct an EPA Reference Method 9 observation of emissions from that cooling tower.

(3) If the Method 9 observation results in an exceedance of the opacity limit contained in Condition IV.B.1.b, the Permittee shall take corrective action as necessary to reduce the opacity below the applicable limit. All exceedances shall be reported as excess emissions in accordance with Condition XII.A.1 of Attachment "A".

(4) For each visual survey and Method 9 observation, the Permittee shall maintain a record of the following, as applicable:

(a) The name of the observer;
(b) The date, time, and location of each visual survey and Method 9 observation;
(c) The results of each visual survey and Method 9 observation; and
(d) All corrective actions taken.

c. Permit Shield [A.A.C.R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-702.B, A.A.C. R18-2-702.C, A.A.C. R18-2-730.A.1, and A.A.C. R18-2-730.G.

VI. LIME SLAKING PLANT

A. Applicability

This section is applicable to the equipment related to the Lime Slaking Plant and listed in "Table C-7, Operation #004- Lime Slaking Plant" Equipment List, Attachment "C" of this Permit.

B. Particulate Matter and Opacity

1. Emission Limitations and Standards

a. The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in any one-hour from any process source in total quantities in excess of the amount calculated by the following equation:

$E = 4.10P^{0.67}$

Where:

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

P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-730.A.1.a]

b. Opacity Standards

The opacity of emissions from any point source into the atmosphere shall not be greater than 20 percent as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

2. Air Pollution Control Requirements

[Material permit conditions are indicated by underline and italics]

a. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable* maintain and *operate the bin vent filters on Lime Silo #s1 and 2 in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.*

[A.A.C. R18-2-306.01.A & 331.A.3.d & e]

b. *At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable,* maintain and *operate a water spray mist control system on Lime Slakers #s 1 and #2 in a manner consistent with good air pollution control practice for minimizing particulate matter emissions*.

[A.A.C. R18-2-306.01.A & 331.A.3.e]

3. Monitoring, Recordkeeping, and Reporting Requirements

Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units as per Condition I.D.

4. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R-18-2-702.B and A.A.C. R-18-2-730.A.1.a.

C. Odor Requirements

1. Emission Limitations

The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

2. Permit Shield [A.A.C. R18-2-325]

Compliance with the condition of this Part shall be deemed compliance with A.A.C. R-18-2-730.D.

VII. SOLUTION EXTRACTION/ELECTROWINNING (SX/EW) PROCESS SYSTEM

A. Applicability

This section is applicable to the equipment related to Solution Extraction/Electrowinning Plant and listed in "Table C-10, Operation #009- Solution Extraction/Electrowinning" Equipment List, Attachment "C" of this Permit.

B. Solution Extraction/Electrowinning Equipment

1. Volatile Organic Compounds (VOCs) and Other Miscellaneous Emissions

a. Emission Limitation/Standards

(1) The Permittee shall not cause the emission of gaseous or odorous materials from equipment and operations associated with the SX/EW process in such quantities or concentrations as to cause air pollution. [A.A.C. R18-2-730.D]

(2) Materials including solvents or other volatile compounds, acids, and alkalis utilized in the SX/EW process shall be processed, stored, used, and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise be discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage, or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory. [A.A.C. R18-2-730.F]

(3) Where a stack, vent or other outlet is at such a level that fumes, gas, mist, odor, smoke, vapor, or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the Permittee thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to the adjoining property. [A.A.C. R18-2-730.G]

b. Air Pollution Control Requirements [A.A.C. R18-2-306.A.2 and 331]
[Material permit conditions are indicated by underline and italics]

(1) *The Permittee shall maintain and use the covers on the mixer settler tanks to control emissions from the Solution Extraction Plant.*

(2) *The Permittee shall use one or more of the following methods to control emissions from the Electrowinning Tankhouse:*

(a) *Foam;*
(b) *Blankets;*
(c) *Surfactants;*
(d) *Brushes;*
(e) *Thermal retention balls; or*
(f) *Other effective means of controlling sulfuric acid emissions approved by the Director.* [A.A.C. R18-2- 331]

(3) *The Permittee shall operate* and maintain a *baghouse to minimize particulate matter emissions from the dryer (process #009-303) used to dry the produced copper powder*. [A.A.C. R18-2- 331.A.3.e]

(4) *The Permittee shall operate* and maintain *a material handling baghouse to minimize particulate matter emissions from the Trash Screen, Product Storage Bin, Product Packaging, and Product Feed Conveyor (process #009-304)*. [A.A.C. R18-2- 331.A.3.e]

c. Monitoring, Recordkeeping, and Reporting Requirements

(1) Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units as per Condition I.D.

(2) The Permittee shall maintain a record of the control measures used at the SX/EW plant. [A.A.C. R18-2-306.A.3.c]

d. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: A.A.C. R-18-2-730.D, A.A.C. R-18-2-730.F, and A.A.C. R-18-2-730.G.

C. SX/EW BOILERS

1. Voluntarily Accepted Limitation

a. Type of Fuel [A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The Permittee shall burn only natural gas in the small industrial boiler #s 1, 2, 3, 4, and 5 (process #s 009-123, 009-184, 009-185, 009-222, and 009-223).

b. Quantity of fuel [A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The Permittee shall not combust more than a total of 458,148 MMBtu/year of natural gas in all the small industrial boilers #s1, 2, 3, 4, and 5.

c. Monitoring, reporting and Recordkeeping requirements

The Permittee shall keep a daily record of total fuel and the higher heating value of fuel combusted in the SX/EW boilers. At the end of the day, a 365-day rolling total of fuel and MMBtu consumed in the SX/EW boilers shall be computed.
[A.A.C. R18-2-901.5, 40 CFR 60.48c(g), 40 CFR 60.48c(i)]

d. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the requirements of 40 CFR 60.48c (g), 40 CFR 60.48c (i) and A.A.C. R18-2-901.5.

D. Small Industrial Boiler & Dryer Combustion Box

1. Type of Fuel [A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The Permittee shall combust only natural gas in the small industrial boiler (process #009-301) and dryer combustion box (process #009-303).

2. Particulate Matter and Opacity

a. Emissions Limitations and Standards

(1) The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any fuel-burning operation into the atmosphere in excess of the amounts calculated by the following equation:

$E = 1.02\ Q^{0.769}$

Where
E = the maximum allowable particulate emission rate in pounds-mass per hour
Q = the heat input in million Btu per hour
[A.A.C. R18-2-724.C.1]

(2) For purposes of Condition VII.D.2.a.(1), the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all fuel-burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.
[A.A.C. R18-2-724.B]

(3) The Permittee shall not cause, allow or permit the opacity of any plume or effluent from any boiler or heater to exceed 15%. [A.A.C. R18-2-724.J]

b. Monitoring, Recordkeeping, and Reporting Requirements

(1) The Permittee shall keep records of fuel supplier specifications. The specifications shall contain information regarding the name of fuel supplier and higher heating value of the fuel. These records shall be made available to ADEQ upon request. [A.A.C. R18-2-306.A.3.c]

(2) The Permittee shall report all 6-minute periods during which the visible emissions exceed 15 percent opacity, as required under Condition XII.A of Attachment "A". [A.A.C. R18-2-724.J]

c. Permit Shield [A.A.C. R18-2-325]

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-724.B, A.A.C R18-2-724.C.1, and A.A.C R18-2-724.J.

VIII. TANK FARM GASOLINE TANKS

A. Applicability

This section is applicable to the gasoline storage tanks listed in "Table C-12, Operation #011-Storage Tanks" Equipment List, Attachment "C" of this Permit.

B. Operating Limitations

1. Operational Requirements

   a. Gasoline storage tank shall be equipped with a submerged filling device, or acceptable equivalent, for control of hydrocarbon emissions. [A.A.C. R18-2-710.B]

   b. All pumps and compressors that handle gasoline shall be equipped with mechanical seals or other equipment of equal efficiency to prevent release of organic contaminants into the atmosphere. [A.A.C. R18-2-710.D]

2. Monitoring and Recordkeeping Requirements

   a. The Permittee shall, for the gasoline storage tanks, maintain a file of the typical Reid vapor pressure of gasoline stored and of dates of storage. Dates on which the storage vessel is empty shall be shown. [A.A.C. R18-2-710.E.1]

   b. The Permittee shall record the average monthly temperature, and true vapor pressure of gasoline at such temperature, if the true vapor pressure is greater than 470 mm Hg (9.1 psia) and the gasoline is stored in a storage vessel other than one equipped with a vapor recovery system or its equivalent. [A.A.C. R18-2-710.E.2.b]

   c. The average monthly storage temperature shall be an arithmetic average calculated for each calendar month, or portion thereof if storage is for less than a month, from bulk liquid storage temperatures determined at least once every seven days. [A.A.C. R18-2-710.E.3]

   d. The true vapor pressure shall be determined by the procedures in American Petroleum Institute Bulletin 2517, amended as of February 1980 (and no future editions), which is incorporated herein by reference and on file with the Office of the Secretary of State. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the Director requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, the Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available upon request to the Director when typical Reid vapor pressure is used. [A.A.C. R18-2-710.E.4]

3. Permit Shield

   Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-710.B, D, E.1, E.2.b, E.3 and E.4. [A.A.C. R18-2-325]

IX. CONCENTRATE LEACH PLANT (CLP), BOILER, AND COOLING TOWERS

A. Applicability

This section is applicable to the equipment related to Concentrate Leach Plant and listed in "Table C-14, Operation #014- Concentrate Leach Plant" Equipment List, Attachment "C" of this Permit.

B. Concentrate Leach Plant

1. Particulate Matter and Opacity

a. Emission Limitation/Standards

(1) The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in any one hour from any process source having a process weight rate greater than 60,000 pounds per hour (30 tons per hour) in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11}-40$

Where:
E = the maximum allowable particulates emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour.

[A.A.C. R-18-2-730.A.1.b]

(2) The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in any one hour from any process source having a process weight rate equal to or less than 60,000 pounds per hour (30 tons per hour) in total quantities in excess of the amount calculated by the following equation:

$E = 4.10P^{0.67}$

Where:
E= the maximum allowable particulates emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour.

[A.A.C. R-18-2-730.A.1.a]

(3) Voluntarily Accepted Limits

The Permittee shall not emit more than 0.75 lb/hour each of PM or PM_{10} from the pressure leach vessels (PLVs) wet scrubber listed in condition IX.B.1.b (Process #014-239). [A.A.C. R18-2-306.01.A *and* –331.A.3.a]

[Material perm conditions are indicated by underline and italics]

(4) Opacity

The Permittee shall not cause, allow or permit visible emissions, from any point source, in excess of 20 percent. [A.A.C-R18-2-702.B]

b. Air Pollution Control Requirements

At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, maintain and *operate the scrubber on the Pressure Leach Vessels in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.(Process #014-239).*

[A.A.C. R18-2-306.01.A & 331.A.3.e]
[Material perm conditions are indicated by underline and italics]

c. Monitoring, Recordkeeping, and Reporting Requirements

Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units as per Condition I.D.

d. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance tests for PM and PM_{10} on the stack associated with the wet scrubber (process #014-239) in the first year of the permit term. EPA Reference Method 5 in 40 CFR 60, Appendix A and EPA Reference Method 202 specified in 40 CFR 51, Appendix M shall be used to determine emissions of PM. All particulate matter measured by the above reference method shall be considered to have an aerodynamic diameter less than 10 microns. The performance test shall be used to demonstrate compliance with the limit in Condition IX.B.1.a.(3). Subsequent testing shall be conducted in 3rd and 5th year of the permit term.

e. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: A.A.C. R-18-2-730.A.1 and A.A.C. R-18-2-702.B.

2. Volatile Organic Compounds

a. Emission Limitation/Standards

(1) The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution. [A.A.C. R18-2-730.D]

(2) The Permittee shall process, store, use, and transport materials including solvents or other volatile compounds, paints, acids, alkalis, pesticides, fertilizers and manure in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from

evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory. [A.A.C. R18-2-730.F]

(3) Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stacks, vent, or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property. [A.A.C. R18-2-730.G]

(4) Voluntarily Accepted Limits

The Permittee shall not emit more than 5.82 lbs/hour volatile organic compounds (VOC) from the combined pressure leach vessels (PLVs) scrubber listed in condition IX.B.2.b (Process #014-239).

[A.A.C. R18-2-306.01.A and –331.A.3.a]
[Material perm conditions are indicated by underline and italics]

b. Air Pollution Control Requirements

At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, maintain and *operate the scrubber on the pressure leach vessels in a manner consistent with good air pollution control practice for minimizing volatile organic compound emissions (Process #014-239).* [A.A.C. R18-2-306.01.A & 331.A.3.e]
[Material perm conditions are indicated by underline and italics]

c. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c & -312]

The Permittee shall conduct performance tests for volatile organic compounds on the stack associated with the wet scrubber (process #014-239) in the first year of the permit term. The performance tests shall be conducted in accordance with Reference Method 25A for VOCs in 40 CFR 60, Appendix A. The performance test shall be used to demonstrate compliance with the limit in Condition IX.B.2.a.(4). Subsequent testing shall be conducted in 3rd and 5th year of the permit term.

d. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the following requirements as of the date of issuance of this permit: A.A.C. R-18-2-730.D, A.A.C. R-18-2-730.F, and A.A.C. R-18-2-730.G.

C. Boiler

1. Voluntarily Accepted Limitation

a. Type of Fuel [A.A.C. R18-2-306.01.A and -331.A.3.a]
[Material permit conditions are indicated by underline and italics]

The Permittee shall burn only natural gas in the natural gas start-up boiler.

b. Quantity of fuel [A.A.C. R18-2-306.01.A and -331.A.3.a]

[Material permit conditions are indicated by underline and italics]

The Permittee shall not combust more than 61,320 MMBtu per year of natural gas in the start-up boiler.

c. Monitoring, Reporting and Recordkeeping requirements

The Permittee shall keep a daily record of fuel fired and the high heating value of fuel in the start-up boiler. At the end of the day, 365-day rolling total of fuel and MMBtu consumed in the start-up boiler shall be computed.

[A.A.C. R18-2-306.A.3.c & -901.5, 40 CFR 60.48c (g), 40 CFR 60.48c (i)]

d. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the requirements of 40 CFR 60.48c (g), 40 CFR 60.48c (i) and A.A.C. R18-2-901.5.

X. MINE PORTABLE GRIZZLY

A. Applicability

This section is applicable to the equipment related to Mine Portable Grizzly and listed in "Table C-13, Operation #013- Grizzly Operations" Equipment List, Attachment "C" of this Permit.

B. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. The Permittee shall not cause, allow, or permit the emission of particulate matter into the atmosphere in any one hour from the portable grizzly in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

Where:
E = the maximum allowable particulate matter emissions rate in pounds-mass per hour.
P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-721.B.2]

b. Opacity

The Permittee shall not cause, allow or permit visible emissions, from any point source, in excess of 20 percent. [A.A.C-R18-2-702.B]

c. The Permittee shall not use the portable grizzly for more than 1440 hours per year when it is used on a stand alone basis. This does not include the time when the grizzly is being used to replace or supplement the in-pit crushers.

[Condition No. XIII.B.1.b; Permit # M110734P1-99]

2. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.b]

a. The Permittee shall keep record of the following:

(1) The dates on which the grizzly is operated on a stand alone basis;
(2) The number of hours the portable grizzly is operated per day on a stand-alone basis;
(3) At the end of the day, 365-day rolling total of hours of operation of the mine portable grizzly shall be computed, and

[A.A.C. R18-2-721.F]

b. Opacity Monitoring Requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall conduct the opacity monitoring requirements for all emission units as per Condition I.D.

3. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with the requirements of A.A.C. R18-2-702.B, A.A.C. R18-2-721.B.2, and A.A.C. R18-2-721.F.

XI. CONCRETE BATCH PLANT

A. Applicability

This section is applicable to the equipment related to Concrete Batch Plant and listed in "Table C-11, Operation #010- Concrete Batch Plant" Equipment List, Attachment "C" of this Permit.

B. Fugitive dust emitted from concrete batch plant shall be controlled in accordance with Condition XII of this Attachment "B".

C. Opacity Standards

The opacity of emissions from any point source into the atmosphere shall not be greater than 20 percent as measured by EPA Reference Method 9. [A.A.C. R18-2-702.B]

D. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-604.A, A.A.C. R18-2-604.B, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, A.A.C. R18-2-612 and A.A.C. R18-2-702.B.

XII. FUGITIVE DUST REQUIREMENTS

A. Applicability

This Section applies to any source of fugitive dust in the facility.

B. Particulate Matter and Opacity

1. Open Areas, Roadways & Streets, Storage Piles, and Material Handling

a. Emission Limitations/Standards

(1) Opacity of emissions from any fugitive dust non-point source shall not be greater than 40% measured in accordance with the Arizona Testing Manual, Reference Method 9. [A.A.C. R18-2-614]

(2) The Permittee shall not cause, allow or permit visible emissions from any fugitive dust point source, in excess of 20 percent opacity. [A.A.C-R18-2-702.B]

(3) The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(a) Use dust suppressants or soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, or barring access when constructing, using, altering, repairing, demolishing, clearing, or leveling a building or its appurtenances, a driveway, a parking area, or a vacant lot, or when moving or excavating earth.

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, stemming, optimizing blast pattern, controlling oxygen balance of explosives during blast operations, minimize material drop height, temporary paving, road cover, controlling vehicle access, limiting vehicle speed, revegetation, hydro-seeding, hydro-mulching, mulching, wet sweeping, vacuuming, wind fence, wind break, shrouding, skirting, enclosing, contouring, animals, soil adhesives, compaction, agglomeration, and encrustation. [A.A.C. R18-2-604.A]

(b) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means; [A.A.C. R18-2-604.B]

(c) Apply temporary paving, dust suppressants, wetting down, or detouring when using, repairing, constructing or reconstructing a roadway. [A.A.C. R18-2-605.A]

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, controlling vehicle access, limiting vehicle speed, revegetation, hydro-seeding, hydro-mulching, mulching, landscaping, wet sweeping, vacuum, wind fence, wind break, covering, contouring, usage of soil adhesives, usage of soil stabilizers, compaction, usage of decomposed granite, agglomeration, and encrustation.

(d) Apply dust suppressants, wetting, or cover the load when transporting materials likely to give rise to airborne dust. [A.A.C. R18-2-605.B]

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, minimizing material drop height, limiting vehicle speed, wind break, covering, agglomeration, and encrustation.

(e) Use spray bars, wetting, wetting agents, dust suppressants, covers, or hoods when crushing, screening, handling, transporting, or conveying material that is likely to result in significant amounts of airborne dust; [A.A.C.R18-2-606]

In addition to the above, the following have been identified as reasonable precautions:

Minimizing material drop height, wind fence, wind break, shrouding, skirting, enclosing, contouring, and agglomeration.

(f) Use chemical stabilization, wetting, or covering when stacking, piling or otherwise storing organic or inorganic dust-producing material. [A.A.C. R18-2-607.A]

In addition to the above, the following have been identified as reasonable precautions:

Wind fence, wind break, shrouding, skirting, enclosing, covering, contouring, agglomeration, and encrustation.

(g) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents; [A.A.C. R18-2-607.B]

In addition to the above, the following have been identified as reasonable precautions:

Wetting, wind fence, wind break, shrouding, skirting, enclosing, covering, contouring, and agglomeration.

(h) Use wetting, chemical stabilization, or revegetation when constructing mineral tailing piles; [A.A.C. R18-2-608]

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, maximizing the wet surface area, barring or controlling vehicle access, limiting vehicle speed, hydro-seeding, hydro-mulching, mulching, landscaping, wind fence, wind break, covering, contouring, animals, soil adhesives, soil stabilizers, compaction, usage of decomposed granite, agglomeration, and encrustation.

(i) Use wetting agents or dust suppressants before the cleaning of any site, roadway, or alley. 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; [A.A.C.R18-2-804.B]

In addition to the above, the following have been identified as reasonable precautions:

Wetting, chip seal, gravel, temporary paving, controlling vehicle access, limiting vehicle speed, revegetation, and hydro-seeding.

(j) Any other method as proposed by the Permittee and approved by the Director. [A.A.C. R18-2-306.A.3.c]

b. Air Pollution Control Requirements

Haul Roads and Storage Piles

Water, or an equivalent control, shall be used to control visible emissions from haul roads and storage piles. [A.A.C. R-18-2-306.A.2 and -331.A.3.d]
[Material Permit Condition is indicated by underline and italics]

c. Monitoring, Reporting and Recordkeeping Requirements

(1) The Permittee shall maintain records of the dates on which any of the activities listed in Conditions XII.B.1.a.(3)(a) through XII.B.1.a.(3)(j) above were performed and the control measures that were adopted.
[A.A.C. R18-2-306.A.3.c]

(2) In lieu of Condition XII.B.1.(c).(1) above, the Permittee may maintain the Non-Point Source Monitoring Plan as a means of monitoring and recordkeeping for any of the activities listed in Condition XII.B.1.a.(3)(a) through (j) of this Attachment.

(3) Bi-weekly Monitoring Requirement

(a) The certified Method 9 observer shall conduct a bi-weekly (once in two weeks) visual survey of visible emissions from the fugitive dust sources when they are in operation in accordance

with the observation plan. Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

(b) If the observer sees visible emissions from a fugitive dust source that on an instantaneous basis appears to exceed the opacity standard, then the observer, shall if practicable, take a six-minute Method 9 observation of the plume.

(c) If the six-minute opacity of the visible emissions is less than the opacity standard, the observer shall make a record of the following:

i) Location, date, and time of the observation; and

ii) The results of the Method 9 observation.

(d) If the six-minute opacity of the visible emissions exceeds the opacity standard, then the Permittee shall do the following:

i) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and

ii) Report it as an excess emission under Section XII.A of Attachment "A".

(e) Any changes to the observation plan, originally approved by the Department, shall be made only with the prior approval of the Director. [A.A.C. R18-2-306.A.3.b]

d. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-604.A, A.A.C. R18-2-604.B, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, and A.A.C. R18-2-612.

2. Open Burning

a. Emission Limitation/Standard

Except as provided in A.A.C. R18-2-602.C.1, C.2, C.3, and C.4, and except when permitted to do so by either ADEQ or the local officer delegated the authority for issuance of open burning permits, the Permittee shall not conduct open burning. [A.A.C. R18-2-602]

b. Monitoring and Recordkeeping Requirement [A.A.C. R18-2-306.A.3.c]

Compliance with the requirements of Condition XII.B.2.a above may be demonstrated by maintaining copies of all open burning permits on file.

c. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-602.

XIII. OTHER PERIODIC ACTIVITY REQUIREMENTS

A. Abrasive Blasting

Particulate Matter and Opacity

1. Emission Limitations/Standards

a. The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

(1) wet blasting;

(2) effective enclosures with necessary dust collecting equipment; or

(3) any other method approved by the Director.

[A.A.C. R18-2-726]

b. Opacity

The Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20% opacity, as measured by EPA Reference Method 9. [A.A.C. R18-2-702.B]

2. Monitoring and Recordkeeping Requirement [A.A.C. R18-2-306.A.3.c]

a. Each time an abrasive blasting project is conducted, the Permittee shall maintain a record of the following:

(1) The date the project was conducted;

(2) The duration of the project; and

(3) Type of control measures employed.

b. The Permittee, in lieu of Condition XIII.A.2.a above, may maintain a section called "Abrasive Blasting Plan" within the Non-Point Source Monitoring Plan referenced in Condition XI.B.1.c.(2).

3. Permit Shield [A.A.C.R18-2-325]

Compliance with this Part shall be deemed compliance with A.A.C. R18-2-726 and A.A.C. R18-2-702.B.

B. Use of Paints

1. Opacity of Visible Emissions

a. Emission Limitations/Standards

A visible plume or effluent from spray painting operations shall not have opacity greater than 20 percent, measured in accordance with EPA Reference Method 9. [A.A.C.R18-2-702.B]

b. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-702.B.

2. Volatile Organic Compounds

a. Emission Limitations/Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

(1) The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray. [A.A.C.R18-2-727.A]

(2) The Permittee shall not either:

(a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or

(b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C.R18-2-727.B]

(3) For the purposes of Conditions XIII.B.2.a.(2) and XIII.B.2.a.(5), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Conditions XIII.B.2.a.(3)(a), XIII.B.2.a(3)(b). through XIII.B.2.a.(3)(c) below, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

(a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.

(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent. [A.A.C.R18-2-727.C]

(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 groups of organic compounds described in Conditions XIII.B.1.a.(3)(a), XIII.B.1.a.(3)(b), and XIII.B.1.a.(3)(c) above, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents. [A.A.C.R18-2-727.D]

b. Monitoring and Recordkeeping Requirements [A.A.C. R18-2-306.A.3.c]

(1) Each time a spray painting project is conducted, the Permittee shall maintain a record of the following:

(a) The date the project was conducted;

(b) The duration of the project;

(c) Type of control measures employed;

(d) Material Safety Data Sheets for all paints and solvents used in the project; and

(e) The amount of paint consumed during the project.

(2) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition XIII.B.1.b.(1) above.

(3) The Permittee, in lieu of Condition XIII.B.2.b.(1) above, may maintain a section called "Spray Painting Plan" within the Non-Point Source Monitoring Plan referenced in Condition XII.B.1.c.(2).

c. Permit Shield [A.A.C.R18-2-325]

Compliance with this Part shall be deemed compliance with A.A.C.R18-2-727.

C. Demolition/Renovation - Hazardous Air Pollutants

1. Emission Limitation/Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos). [A.A.C. R18-2-1101.A.8]

2. Monitoring and Recordkeeping Requirement

The Permittee shall keep all required records in a file. The required records shall include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents. [A.A.C. R18-2-306.A.3.c]

3. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-1101.A.8.

D. Nonvehicle Air Conditioner Maintenance and/or Services

1. Emission Limitations/Standards [40 CFR 82, Subpart F]

The Permittee shall comply with the applicable requirements of 40 CFR 82 - Subpart F (Protection of Stratospheric Ozone - Recycling and Emissions Reduction).

2. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

Permittee shall keep all records required by the applicable requirements of 40 CFR 82 - Subpart F in a file.

3. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 82 Subpart.

XIV. MOBILE SOURCE REQUIREMENTS

A. Applicability

The requirements of this Section are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.90. [A.A.C.R18-2-801.A]

B. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. Off-Road Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers, and other construction and mining machinery not normally driven on a completed public roadway. [A.A.C.R18-2-802.A and -802.B]

b. Roadway and Site Cleaning Machinery

(1) The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of

which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [A.A.C.R18-2-804.A]

(2) The Permittee shall take reasonable precautions, such as the use of dust suppressants, before the cleaning of a site, roadway, or alley. 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. [A.A.C. R18-2-804.B]

c. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%. [A.A.C.R18-2-801.B]

2. Recordkeeping Requirement

The Permittee shall keep a record of all emissions related maintenance activities performed on the Permittee's mobile sources stationed at the facility as per manufacturer's specifications. [A.A.C.R18-2-306.A.5.a]

3. Permit Shield

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-801, A.A.C. R18-2-802.A, A.A.C. R18-2-804.A and A.A.C. R18-2-804.B. [A.A.C.R18-2-325]

ATTACHMENT "C": EQUIPMENT LIST

Air Quality Control Permit No. 42474 for Freeport-McMoRan Morenci, Inc.

TABLE C-1 OPERATION 001 – MINE (Crushing Operations)							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
005	Crusher No. 1 Wet Scrubber	W. W. Sly	Impinjet No. 185	7118	2002	27,700 DSCFM	Yes
	Crusher No. 1	Traylor by Fuller	60" Type 'C'	87-2037-720-1	1988	7500 TPH	Yes
	Rock Hammer	N/A	N/A	N/A	N/A	N/A	No
	Conveyor No. DC1	FMCGM	240'L x 96"W	Custom Fabricated	1988	7500 TPH	No
006	Crusher No. 2 FFDC	FARR	Gold Series (GS32)	213052	2006	12,800 DSCFM	Yes
	Crusher No. 2	Traylor by Fuller	60" Type 'C'	87-2037-720-2	1988	7500 TPH	No
	Rock Hammer	N/A	N/A	N/A	N/A	N/A	No
	Conveyor No. DC2	FMCGM	637'L x 96"W	Custom Fabricated	1988	7500 TPH	No
012	Surge Pile/P2 Baghouse	Flex-Kleen	84WSBC256IIIG	273-DCD-8-01/M35075	1988	22,700 DSCFM	No
	Feeder No. 1	N/A	100'L x 96"W	N/A	1988	4500 TPH	No
	Feeder No. 2	N/A	100'L x 96"W	N/A	1988	4500 TPH	No
019	Scalping Grizzly (6.5" feeding Primary Jaw Crusher and Conveyor #1)	Cedar Rapids	TSH 6203-32	TBD	2005	500 TPH	Yes
	Primary Jaw Crusher	TBD	TBD	TBD	TBD	500 TPH	Yes
	Conveyor Belt #1 (feeding triple deck screen)	Re-Rock	36"	TBD	2005	600 TPH	Yes
	Triple Deck Screen (3/4"-2" cut sizes)	TBD	TBD	TBD	TBD	600 TPH	Yes
	Conveyor Belt #2 (Screen to ¾" minus Stockpile #2)	TBD	TBD	TBD	TBD	500 TPH	No
	Conveyor Belt #3 (Screen to ¾"-2" size Stockpile #3)	TBD	TBD	TBD	TBD	500 TPH	No
	Conveyor Belt #4 (Screen oversize to Belt #5)	TBD	TBD	TBD	TBD	350 TPH	Yes
	Conveyor Belt #5 (Conveyor Belt #4 to Cone Crusher)	TBD	TBD	TBD	TBD	350 TPH	Yes
	Secondary Cone Crusher	TBD	TBD	TBD	TBD	350 TPH	Yes
	Conveyor Belt #6 (Cone Crusher to Belt #1)	TBD	TBD	TBD	TBD	350 TPH	Yes

TABLE C-1 OPERATION 001 – MINE (Crushing Operations)							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
250	Crusher No. 3 FFDC	TBD	TBD	TBD	TBD	30,000 DSCFM	Yes
	Crusher No. 3	TBD	TBD	TBD	TBD	160,290 tpd	Yes
256	AOS FFDCs	TBD	TBD	TBD	TBD	TBD	Yes
	AOS Equipment	TBD	TBD	TBD	TBD	TBD	-

TABLE C-2 OPERATION 001 – MINE (Material Transfer Operations)							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
007	DC1/P8 FFDC	TBD	TBD	TBD	TBD	12,800 DSCFM	No
	Conveyor No. P8	FMCGM	2230'L x 60"W	Custom Fabricated	1988	7500 TPH	No
013	P2/P4 FFDC	TBD	TBD	TBD	TBD	12,800 DSCFM	No
	Conveyor No. P2	FMCGM	3920'L x 72"W	Custom Fabricated	1988	9000 TPH	No
014	P4/P5 FFDC	TBD	TBD	TBD	TBD	12,800 DSCFM	No
	Conveyor No. P4	FMCGM	4496'L x 72"W	Custom Fabricated	1988	9000 TPH	No
015	P5/P6 FFDC	TBD	TBD	TBD	TBD	12,800 DSCFM	No
	Conveyor No. P5	FMCGM	7296'L x 72"W	Custom Fabricated	1988	9000 TPH	No
016	Conveyor No. P6	FMCGM	8898'L x 60"W	Custom Fabricated	1988	9000 TPH	No
018	IOS #1/R1A&R1B Wet Scrubber	W.W. Sly	Impinjet No. 185	7119	1988	27,700 DSCFM	No
	Feeder No. 1	FMCGM	N/A	Custom Fabricated	1988	2000 TPH	No
	Feeder No. 2	FMCGM	N/A	Custom Fabricated	1988	2000 TPH	No
	Feeder No. 3	FMCGM	N/A	Custom Fabricated	1988	2000 TPH	No
	Feeder No. 4	FMCGM	N/A	Custom Fabricated	1988	2000 TPH	No
	Feeder No. 5	FMCGM	N/A	Custom Fabricated	1988	2400 TPH	No
	Feeder No. 6	FMCGM	N/A	Custom Fabricated	1988	2400 TPH	No
	Feeder No. 7	FMCGM	N/A	Custom Fabricated	1988	2400 TPH	No
225	DC2/P9, P9/P10 FFDC	FARR	Gold Series (GS32)	213053	2006	14,600 DSCFM	No
	DC2/P5 FFDC	FARR	Gold Series (GS16)	213054	2006	7,300 DSCFM	No
	P9-P10 DC	TBD	TBD	TBD	TBD	TBD	No
	P9 Conveyor	TBD	TBD	TBD	TBD	7500 TPH	No
226	P10 Conveyor	TBD	TBD	TBD	TBD	7500 TPH	No

TABLE C-2 OPERATION 001 – MINE (Material Transfer Operations)							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
228	IOS #2/R8 FFDC	FARR	Gold Series (GS24)	213056	2006	12,800 DSCFM	No
	R8 Conveyor	TBD	TBD	TBD	TBD	7500 TPH	No
	IOS #2 to R9 DC	TBD	TBD	TBD	TBD	TBD	No
229	R8/R9 FFDC	FARR	Gold Series (GS16)	213057	2006	7,300 DSCFM	No
	R9 Conveyor	TBD	TBD	TBD	TBD	7500 TPH	No
	R8-R9 DC	TBD	TBD	TBD	TBD	TBD	No
230	R9/R7 FFDC	FARR	Gold Series (GS16)	213055	2006	7,300 DSCFM	No
	R9-R7 DC	TBD	TBD	TBD	TBD	TBD	No
251	FB3/DC3 & DC3/P5 FFDC	TBD	TBD	TBD	TBD	12,800 DSCFM	No
	FB3	TBD	TBD	TBD	TBD	160,290 tpd	No
	DC3	TBD	TBD	TBD	TBD	160,290 tpd	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
022	R7/1A & 1B (FFDC)	TBD	TBD	DC059-R7	TBD	10,000 CFM	No
	R7 Conveyor	FMCGM	1162”L x 60”W	Custom Fabricated	1988	5500 TPH	No
	Coarse Ore Splitter	FMCGM	Custom Fabricated	Custom Fabricated	1941	5500 TPH	No
	1A Conveyor	FMCGM	820’L x 54”W	Custom Fabricated	1988	2750 TPH	No
	1B Conveyor	FMCGM	820’L x 54”W	Custom Fabricated	1988	2750 TPH	No
023	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-1	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-2	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-3	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-4	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-5	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-6	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-7	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-8	TBD	3500 CFM	No
	1A/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-9	TBD	3500 CFM	No
	1A Conveyor	FMCGM	Custom Fabricated	Custom Fabricated	1941	2750 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
024	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-10	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-11	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-12	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-13	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-14	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-15	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-16	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-17	TBD	3500 CFM	No
	1B/Coarse Ore Bin (FFDC)	TBD	TBD	DC059-CO-18	TBD	3500 CFM	No
	1B Conveyor	FMCGM	Custom Fabricated	Custom Fabricated	1941	2750 TPH	No
025	Coarse Ore Bin/2A (FFDC)	TBD	TBD	DC059-2A	TBD	19,500 CFM	No
	1 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	3 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	4 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2A Conveyor	FMCGM	328’L x 60”W	Custom Fabricated	1941	1300 TPH	No
026	Coarse Ore Bin/2B (FFDC)	TBD	TBD	DC059-2B	TBD	19,500 CFM	No
	1 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	3 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	4 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2B Conveyor	FMCGM	328’L x 60”W	Custom Fabricated	1941	1300 TPH	No
027	Coarse Ore Bin/2C (FFDC)	TBD	TBD	DC059-2C	TBD	19,500 CFM	No
	1 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	3 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	4 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2C Conveyor	FMCGM	328’L x 60”W	Custom Fabricated	1941	1300 TPH	No
028	Coarse Ore Bin/2D (FFDC)	TBD	TBD	DC059-2D	TBD	19,500 CFM	No
	1 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	3 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	4 on 1	Stevens Adams	25’L x 60”W	N/A	1941	400 TPH	No
	2D Conveyor	FMCGM	328’L x 60”W	Custom Fabricated	1941	1300 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
029	Morenci Fine Crushing Line A (FFDC)	FARR	Gold Series (GS36)	NA	2006	26,000 CFM	No
	Static Grizzly No. 1	FMCGM	6’ x 16’	Custom Fabricated	1941	1300TPH	No
	Shaker Screen 1AS	WS Tyler	F-600 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen 1AN	WS Tyler	F-600 5’x10’	N/A	1941	286 TPH	No
	Shaker Screen 1BS	WS Tyler	F-600 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen 1BN	WS Tyler	F-600 5’x10’	N/A	1941	286 TPH	No
	Secondary Crusher No. 1A	Symons	7’	7262	1941	728 TPH	No
	Tertiary Crusher No. 1A SH	Symons	7’	7144	1941	750 TPH	No
	Tertiary Crusher No. 1B SH	Symons	7’	N/A	1941	750 TPH	No
	Conveyor Belt 3	FMCGM	652’L x 54”W’	Custom Fabricated	1941	1300TPH	No
030	Morenci Fine Crushing Line B (FFDC)	FARR	Gold Series (GS36)	212507	2006	23,700 DSCFM	No
	Static Grizzly No. 2	FMCGM	6’ x 16’	Custom Fabricated	1941	1300 TPH	No
	Shaker Screen 2AS	WS Tyler	F-600 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen 2AN	WS Tyler	F-600 5’x10’	N/A	1941	286 TPH	No
	Shaker Screen 2BS	WS Tyler	F-600 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen 2BN	WS Tyler	F-600 5’x10’	N/A	1941	286 TPH	No
	Secondary Crusher No. 2A	Symons	7’	7287	1941	728 TPH	No
	Tertiary Crusher No. 2A SH	Symons	7’	N/A	1941	750 TPH	No
	Tertiary Crusher No. 2B SH	Symons	7’	761E	1941	750 TPH	No
031	Morenci Fine Crushing Line C (FFDC)	FARR	Gold Series (GS36)	212572	2006	23,700 DSCFM	No
	Static Grizzly No. 3	FMCGM	6’ x 16’	Custom Fabricated	1941	1300 TPH	No
	Shaker Screen 3AS	WS Tyler	F-600 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen 3AN	WS Tyler	F-600 5’x10’	N/A	1941	286 TPH	No
	Shaker Screen 3BS	WS Tyler	F-600 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen 3BN	WS Tyler	F-600 5’x10’	N/A	1941	286 TPH	No
	Secondary Crusher No. 3A	Symons	7’	N/A	1941	728 TPH	No
	Tertiary Crusher No. 3A SH	Symons	7’	N/A	1941	750 TPH	No
	Tertiary Crusher No. 3B SH	Symons	7’	7263	1941	750 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
032	Morenci Fine Crushing Line D (FFDC)	FARR	Gold Series (GS48)	705626	2006	23,700 DSCFM	No
	Morenci Fine Crushing Line D (FFDC)	FARR	Gold Series (GS24)	212574	2006	13,000 CFM	No
	Static Grizzly No. 4	FMCGM	6’ x 16’	Custom Fabricated	1941	1300 TPH	No
	Shaker Screen #4AS	WS Tyler	F-600; 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen #4AN	WS Tyler	F-600; 5’x10’	N/A	1941	286 TPH	No
	Shaker Screen #4BS	WS Tyler	F-600; 5’x10’	N/A	1941	364 TPH	No
	Shaker Screen #4BN	WS Tyler	F-600; 5’x10’	N/A	1941	286 TPH	No
	Secondary Crusher #4A	Symons	N/A	7264	1941	728 TPH	No
	Tertiary Crusher #4A SH	Symons	N/A	N/A	1941	750 TPH	No
	Tertiary Crusher #4B SH	Symons	N/A	N/A	1941	750 TPH	No
033	Morenci Fine Crushing Line A (FFDC)	FARR	Gold Series (GS48)	NA	2006	13,000 CFM	No
	Conveyor No. 3 (Same as 034, 035, 038)	FMCGM	652’L x 54”W’	Custom Fabricated	1941	2600 TPH	No
034	Morenci Fine Crushing Line B (FFDC)	FARR	NA	NA	2006	12,000 CFM	No
	Conveyor No. 3 (Same as 033, 035, 038)	FMCGM	652’L x 54”W’	Custom Fabricated	1941	2600 TPH	No
035	Fine Crushing Line C to 3B to 3 (FFDC)	FARR	Gold Series (GS24)	212577	2006	13,300 DSCFM	No
	Conveyor Belt 3	FMCGM	652’L x 54”W’	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 3B	FMCGM	96’L x 54”W’	Custom Fabricated	1941	1300 TPH	No
036	Fine Crushing Line C to 3B to 3A (FFDC)	FARR	Gold Series (GS24)	212578	2006	13,300 DSCFM	No
	Conveyor Belt 3A	FMCGM	440’L x 54”W’	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 3B	FMCGM	96’L x 54”W’	Custom Fabricated	1941	1300 TPH	No
037	Fine Crushing Line C 3A (FFDC)	FARR	Gold Series (GS24)	212578	2006	15,000 CFM	No
038	Conveyors 3, 4, 5 (FFDC)	TBD	TBD	TBD	2006	5741 CFM	No
	Conveyors 3, 4, 5 (FFDC)	TBD	TBD	TBD	2006	5741 CFM	No
	Conveyors 3, 4, 5 (FFDC)	TBD	TBD	TBD	2006	5741 CFM	No
	Conveyor Belt 3	FMCGM	652’L x 54”	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 4	FMCGM	147’L x 54”	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 5	FMCGM	1086’ x 54”	Custom Fabricated	1941	2600 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
039	Conveyors 3A, 4A, 5A (FFDC)	TBD	TBD	TBD	2006	5741 CFM	No
	Conveyors 3A, 4A, 5A (FFDC)	TBD	TBD	TBD	2006	5741 CFM	No
	Conveyors 3A, 4A, 5A (FFDC)	TBD	TBD	TBD	2006	5741 CFM	No
	Conveyor Belt 3A	FMCGM	440'L x 54"W	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 4A	FMCGM	150'L x 54"W	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 5A	FMCGM	1200'L x 54"W	Custom Fabricated	1941	2600 TPH	No
040	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-10	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-11	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-12	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-13	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-14	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-15	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-16	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-17	2006	3500 CFM	No
	Conveyor 5A/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-18	2006	3500 CFM	No
	Conveyor Belt 5A	FMCGM	1200'L x 54"W	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 4A	FMCGM	150'L x 54"W	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 5A	FMCGM	1200'L x 54"W	Custom Fabricated	1941	2600 TPH	No
041	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-1	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-2	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-3	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-4	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-5	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-6	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-7	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-8	2006	3500 CFM	No
	Conveyor 5/Fine Ore Bin (FFDC)	TBD	TBD	DC059-FO-9	2006	3500 CFM	No
	Conveyor Belt 5	FMCGM	1086' x 54"	Custom Fabricated	1941	2600 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
042	Conveyor 3/3B (FFDC)	TBD	TBD	DC059-5B	2006	17000 CFM	No
	Conveyor Belt 3	FMCGM	652'L x 54"W'	Custom Fabricated	1941	2600 TPH	No
	Conveyor Belt 3B	FMCGM	96'L x 54"W'	Custom Fabricated	1941	1300 TPH	No
044	Conveyor No. 9	FMCGM	350'L x 24"W	Custom Fabricated	1941	500 TPH	No
	Conveyor No. 10A South	FMCGM	1003'L x 24"W	Custom Fabricated	1941	500 TPH	No
	Conveyor No. 10A North	FMCGM	1050'L x 24"	Custom Fabricated	1941	500 TPH	No
	Conveyor No. 11	FMCGM	660'L x 24"W	Custom Fabricated	1941	500 TPH	No
	Conveyor No. 11A	FMCGM	660'L x 24"W	Custom Fabricated	1941	500 TPH	No
	Conveyor No.11B	FMCGM	660'L x 24"	Custom Fabricated	1941	500 TPH	No
	Conveyor No. 12	FMCGM	62'L x 24"W	Custom Fabricated	1941	500 TPH	No
	Conveyor No. 13	FMCGM	134'L x 24"W	Custom Fabricated	1941	500 TPH	No
	Conveyor No. BA	FMCGM	660'L x 24"	Custom Fabricated	1941	500 TPH	No
	Conveyor No. BB	FMCGM	660'L x 24"W	Custom Fabricated	1941	500 TPH	No
	Conveyor No. BC	FMCGM	660'L x 24"	Custom Fabricated	1941	500 TPH	No
045	Feeder Belt 1E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 1W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-1	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-1	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
046	Feeder Belt 2E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 2W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-2	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-2	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
047	Feeder Belt 3E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 3W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-3	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-3	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
048	Feeder Belt 4E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 4W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-4	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-4	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
049	Feeder Belt 5E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 5W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-5	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-5	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
050	Feeder Belt 6E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 6W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-6	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-6	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
051	Feeder Belt 7E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 7W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-7	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-7	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
052	Feeder Belt 8E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 8W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-8	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-8	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
053	Feeder Belt 9E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 9W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-9	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-9	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
054	Feeder Belt 10E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 10W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-10	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-10	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
055	Feeder Belt 11E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 11W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-11	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-11	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
056	Feeder Belt 12E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 12W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-12	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-12	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
057	Feeder Belt 13E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 13W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-13	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-13	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
058	Feeder Belt 14E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 14W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-14	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-14	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
059	Feeder Belt 15E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 15W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-15	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-15	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
060	Feeder Belt 16E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 16W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-16	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-16	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
061	Feeder Belt 17E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 17W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-17	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-17	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
062	Feeder Belt 18E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 18W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-18	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-18	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
063	Feeder Belt 19E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 19W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-19	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-19	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
064	Feeder Belt 20E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 20W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-20	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-20	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
065	Feeder Belt 21E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 21W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-21	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-21	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
066	Feeder Belt 22E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 22W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-22	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-22	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
067	Feeder Belt 23E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 23W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-23	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-23	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
068	Feeder Belt 24E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 24W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-24	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-24	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
069	Feeder Belt 25E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 25W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-25	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-25	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
070	Feeder Belt 26E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 26W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-26	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-26	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
071	Feeder Belt 27E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 27W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-27	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-27	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No

TABLE C-3 OPERATION 002 – MORENCI CONCENTRATOR							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity***	**NSPS Applicable**
072	Feeder Belt 28E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 28W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-28	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-28	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
073	Feeder Belt 29E	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Feeder Belt 29W	FMCGM	25'L x 60"W	Custom Fabricated	1941	60 TPH	No
	Belt 6-29	FMCGM	55.5'L x 24"W	Custom Fabricated	1941	120 TPH	No
	Belt 7-29	FMCGM	92'L x 20"W	Custom Fabricated	1941	120 TPH	No
074	Feeder Belt 30	FMCGM	25'L x 60"W	Custom Fabricated	1988	120 TPH	Yes
	Belt 6-30	FMCGM	55.5'L x 24"W	Custom Fabricated	1988	120 TPH	Yes
	Belt 7-30	FMCGM	92'L x 20"W	Custom Fabricated	1988	120 TPH	Yes
075	Feeder Belt 31	FMCGM	25'L x 60"W	Custom Fabricated	1990	120 TPH	Yes
	Belt 6-31	FMCGM	55.5'L x 24"W	Custom Fabricated	1990	120 TPH	Yes
	Belt 7-31	FMCGM	92'L x 20"W	Custom Fabricated	1990	120 TPH	Yes
076	Feeder Belt 32	FMCGM	25'L x 60"W	Custom Fabricated	1995	120 TPH	Yes
	Belt 6-32	FMCGM	55.5'L x 24"W	Custom Fabricated	1995	120 TPH	Yes
	Belt 7-32	FMCGM	92'L x 20"W	Custom Fabricated	1995	120 TPH	Yes
247	SO_2 Tank #1	TBD	~8' diam. x ~30' L	TBD	TBD	TBD	No

TABLE C-4 OPERATION 003 – MFL RECLAIM CONVEYORS (Material Transfer Operations)							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
077	R1A	FMCGM	1400'L x 60'W	Custom Fabricated	1988	5600 TPH	No
	R1B Conveyor	FMCGM	1400'L x 60'W	Custom Fabricated	1988	5600 TPH	No
	R2 Conveyor	FMCGM	1755'L x 60'W	Custom Fabricated	1988	5600 TPH	No
	R1A&R1B/R2 Bag Collector No. 1	MikroPul	49S-8-20-TR-B	200077H8GA	2001	3500 DSCFM	No
078	R3 Conveyor	FMCGM	1817'L x 60'W	Custom Fabricated	1988/2000	5600 TPH	No
	R2/R3 Bag Collector No. 2	MikroPul	49S-8-20-TR-B	200077H2GA	2000	3200 DSCFM	No
079	R4 Conveyor	FMCGM	6200'L x 60'W	Custom Fabricated	1988/2000	5600 TPH	No
	R3/R4 Bag Collector No. 3	MikroPul	49S-8-20-TR-B	200077H3GA	2000	3200 DSCFM	No
080	R5 Conveyor	FMCGM	403'L x 60'W	Custom Fabricated	1988/2000	5600 TPH	No
	R6 Conveyor	FMCGM	351'L x 60'W	Custom Fabricated	1988/2000	5600 TPH	No
	R4/R5/R6 Bag Collector No. 4	MikroPul	121S-8-20-TR-C	200077H9GA	2000	8300 DSCFM	No

TABLE C-5 OPERATION 003 – MFL FINE CRUSHING BUILDING							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
082	Metcalf track Hopper (Scrubber No.3C)		850	13D25003C	1974	35,400 DSCFM	No
084	Metcalf Track Hopper (Scrubber No. 3A)	National Hydro-Filter	900	13D25003A	1974	42,000 DSCFM	Yes
	Apron Feeder No. 2A1	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2A2	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2A3	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2A4	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2A5	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2A6	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2B1	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2B2	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2B3	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2B4	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2B5	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	Apron Feeder No. 2B6	Link-Belt	67'L x 48"W	N/A	1974	467 TPH	No
	4A Conveyor	FMCGM	645'L x 54"	Custom Fabricated	1974	1867 TPH	No
	4B Conveyor	FMCGM	645'L x 54"	Custom Fabricated	1974	1867 TPH	No
	4C Conveyor	FMCGM	645'L x 54"	Custom Fabricated	1995	1867 TPH	Yes
	Conveyor No. 3C	FMCGM	210'L x 54"	Custom Fabricated	1995	1867 TPH	Yes
	Conveyor No. 3B2	FMCGM	102'L x 54"	Custom Fabricated	1974	934 TPH	No
	Conveyor No. 3A2	FMCGM	102'L x 54"	Custom Fabricated	1974	934 TPH	No
	Conveyor No. 3B3	FMCGM	102'L x 54"	Custom Fabricated	1974	934 TPH	No
	Conveyor No. 3A3	FMCGM	102'L x 54"	Custom Fabricated	1974	934 TPH	No
085	Metcalf Fine Crushing Plant (Scrubber No. 6)	Ducon	A-33C, No. 114	C-89-0948-3	1989	50,000 DSCFM	No
	4A Conveyor	FMCGM	645'L x 54"	Custom Fabricated	1974	1867 TPH	No
	4B Conveyor	FMCGM	645'L x 54"	Custom Fabricated	1974	1867 TPH	No
	4C Conveyor	FMCGM	645'L x 54"	Custom Fabricated	1995	1867 TPH	No
	A Scalping Screen	W.S. Tyler	F-1608S-0	N/A	1995	1867 TPH	Yes
	A Secondary Crusher	Nordberg	7' Extra Heavy Duty	35245962	1974	1867 TPH	No
	A1 Secondary Screen	C.E. Tyler	F-900	N/A	1974	934 TPH	No
	A2 Secondary Screen	C.E. Tyler	F-1406-X	20350	1974	934 TPH	No
	B Scalping Screen	W.S. Tyler	F-1608S-0	N/A	1974	1867 TPH	Yes
	B Secondary Crusher	Nordberg	7' Extra Heavy Duty	35245961	1974	1867 TPH	No
	B1 Secondary Screen	C.E. Tyler	F-900	20737	1974	934 TPH	No
	B2 Secondary Screen	C.E. Tyler	F-1406-X	20353	1974	934 TPH	No

TABLE C-5 OPERATION 003 – MFL FINE CRUSHING BUILDING							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
085	Conveyor Belt No.7	FMCGM	602'L x 60"	Custom Fabricated	1974	1867 TPH	No
	Conveyor Belt No.8	FMCGM	606'L x 60"	Custom Fabricated	1974	1867 TPH	No
	Conveyor Belt No.9	FMCGM	485' L x 60"	Custom Fabricated	1974	5600 TPH	No
088	Metcalf Fine Crushing Plant (Scrubber No. 4)	Ducon	A-33C, No. 114	C-89-0948-3	1989	45,900 DSCFM	No
	Conveyor No. 6	FMCGM	1292'L x 60"	Custom Fabricated	1974	5600 TPH	No
089	Metcalf Fine Crushing Plant (Scrubber No. 5)	Ducon	A-33C, No. 102	C-89-0948-4	1989	41,400 DSCFM	No
	Conveyor No. 7	FMCGM	602'L x 60"	Custom Fabricated	1974	1867 TPH	No
	Conveyor No. 5	FMCGM	660'L x 60"	Custom Fabricated	1974	5600 TPH	No
	Conveyor No. 8	FMCGM	606'L x 60"	Custom Fabricated	1974	1867 TPH	No
	Conveyor No. 11	FMCGM	89'L x 54"W	Custom Fabricated	1974	1867 TPH	No
090	Metcalf Fine Crushing Plant (Scrubber No. 8)	Ducon	A-33C, No. 78	C054887	2005	17,800 DSCFM	No
	Conveyor No. 5	FMCGM	660'L x 60"	Custom Fabricated	1974	5600 TPH	No
	Conveyor No. 6	FMCGM	1292' x 60"	Custom Fabricated	1974	5600 TPH	No
092	Metcalf Fine Crushing Plant (Scrubber No. 1)	Hydronics Enviro Corp.	Model A	D-3117-1	12/1/95	23,700 DSCFM	Yes
	Conveyor Belt 4C	FMCGM	645'L x 54"	Custom Fabricated	1995	1867 TPH	Yes
	C Scalping Screen	W.S. Tyler	F-1600	N/A	1995	1867 TPH	Yes
	C Secondary Crusher	Nordberg	7' Extra Heavy Duty	7632	1995	1867 TPH	Yes
	C1 Secondary Screen	W.S. Tyler	F-900	N/A	1995	934 TPH	Yes
	C2 Secondary Screen	W.S. Tyler	F-900	N/A	1995	934 TPH	Yes
	Conveyor No. 7	FMCGM	602'L x 60"	Custom Fabricated	1974	1867 TPH	No
	Conveyor No. 8	FMCGM	606'L x 60"	Custom Fabricated	1974	1867 TPH	No
	Conveyor No. 9	FMCGM	485'L x 60"	Custom Fabricated	1974	5600 TPH	Yes

TABLE C-6 OPERATION 003 – MFL CONVEYORS STACKING SYSTEM (Material Transfer Operations)							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
197	14 Conveyor	FMCGM	1952'L x 60"	Custom Fabricated	1974	2925 TPH avg.*	No
	S10 Conveyor	FMCGM	NA	Custom Fabricated	2000	4500 TPH*	No
	14/S10 Bag collector No. 5	MikroPul	49S-8-20-TR-B	200077H1GA	2000	NA*	No
198	S11 Conveyor	FMCGM	N/A	Custom Fabricated	2000	5600 TPH	No
	S10/S11 Bag collector No. 6	MikroPul	49S-8-20-RB	200077H6GA	2000	3200 DSCFM	No
201	A1A Conveyor	FMCGM	N/A	Custom Fabricated	2000	5600 TPH	No
	Pile/A1A Bag collector No. 7	MikroPul	49S-8-20-TR-C	200077H10GA	2000	11,200 DSCFM	No
202	A2A Conveyor	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
	A1A/A2A Bag collector No. 8	MikroPul	49S-8-20-TR-B	200077H5GA	2000	3200 DSCFM	No
203	A2C Conveyor	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
	A1A/A2C Bag collector No. 9	MikroPul	49S-8-20-TR-B	200077H17GA	2000	3200 DSCFM	No
204	Agglomerating Unit 1	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
205	Agglomerating Unit 2	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
206, 207	S12 Conveyor	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
208	13A Conveyor	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
209	Ramp Conveyor 14A	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
210	Luffing Boom 15A	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
211	Mobile Stacking Conveyor A	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
212	Radial Stacker A	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
214	Conveyor SF3	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
215	Conveyor 13B	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
216	Ramp Conveyor 14B	FMCGM	N/A	Custom Fabricated	2007	2800 TPH	No
217	Luffing Boom 15B	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
218	Mobile Stacking Conveyor B	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
219	Radial Stacker B	FMCGM	N/A	Custom Fabricated	2000	2800 TPH	No
252	Conveyor 16B	FMCGM	N/A	Custom Fabricated	2007	2800 TPH	No
259	Super Portable Conveyor	FMCGM	N/A	N/A	N/A	2800 TPH	No

TABLE C-7 OPERATION 004 – LIME SLAKING PLANT							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
231	Lime Silo #1 Dust Filter	Mac	DF-48	TBD	TBD	1175 CFM	NA
	Lime Silo #1	ZMI/Portec	850 QL	TBD	TBD	7400 CF	NA
232	Lime Silo #2 Dust Filter	Mac	DF-48	TBD	TBD	1175 CFM	NA
	Lime Silo #2	ZMI/Portec	850 QL	TBD	TBD	7400 CF	NA
233	Lime Slaker #1	ZMI/Portec	M-55	TBD	TBD	6.25 TPH	NA
234	Lime Slaker #2	ZMI/Portec	M-55	TBD	TBD	6.25 TPH	NA

TABLE C-8 OPERATION 005 – METCALF COMBINED CYCLE POWERHOUSE							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
108	Gas Turbine (Unit 1)	General Electric	Frame 5 Model M	214249	1970	240 MMBtu/hr	No
109	Gas Boiler (Unit 1)	Foster Wheeler	N/A	19401	1970	250 MMBtu/hr	No
110	Gas Turbine (Unit 2)	General Electric	Frame 5 Model M	214250	1970	240 MMBtu/hr	No
111	Gas Boiler (Unit 2)	Foster Wheeler	N/A	19402	1970	250 MMBtu/hr	No
260	Cooling Tower #1	TBD	TBD	TBD	TBD	17,100 gal/hr	No
261	Cooling Tower #2	TBD	TBD	TBD	TBD	17,100 gal/hr	No

TABLE C-9 OPERATION 006 – CONCENTRATE BEDDING PLANT							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
112	Conveyor Belt to Bedding Plant	TBD	TBD	TBD	TBD	TBD	NA
113	Railcar Loading	-	-	-	-	-	NA
235	Conveyor Belt to CLP Feed Hopper	TBD	TBD	TBD	TBD	TBD	NA

TABLE C-10 OPERATION 009 – SOLUTION EXTRACTION/ELECTROWINNING							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
117	Central SX	PDMI	Custom Fabricated	Custom Fabricated	1987	Four ~41,986 gal. tanks	No
118	Metcalf SX	PDMI	Custom Fabricated	Custom Fabricated	1987	Ten ~41,986 gal. tanks	No
119	Modoc SX	PDMI	Custom Fabricated	Custom Fabricated	1992	Ten ~49,153 gal. tanks	No
120	Southwest SX	PDMI	Custom Fabricated	Custom Fabricated	1998	Five ~49,153 gal. tanks	No
121	Central Electrowinning Tankhouse	PDMI	Custom Fabricated	Custom Fabricated	1987	NA	No
122	Southside Electrowinning Tankhouse	PDMI	Custom Fabricated	Custom Fabricated	1995	NA	No
123	Small Industrial Boiler No.1	Cleaver-Brooks	CB-700-500-125	94148	1995	20.9 MMBtu/hr	Yes
129	Diluent Tank No. 1	PDMI	Custom Fabricated	Custom Fabricated	1987	25,000 gal.**	No
130	Diluent Tank No. 2	PDMI	Custom Fabricated	Custom Fabricated	1987	50,000 gal.**	No
131	Diluent Tank No. 3	PDMI	Custom Fabricated	Custom Fabricated	1992	50,000 gal.**	No
184	Small Industrial Boiler No.2	Cleaver-Brooks	CB-700-500-125	0L097318	1998	20.9 MMBtu/hr	Yes
185	Small Industrial Boiler No.3	Cleaver-Brooks	CB-700-500-125	0L097317	1998	20.9 MMBtu/hr	Yes
221	Stargo Electrowinning Tankhouse	PDMI	Custom Fabricated	Custom Fabricated	2000	NA	No
222	Small Industrial Boiler No.4	N/A	N/A	N/A	2000	20.9 MMBtu/hr	Yes
223	Small Industrial Boiler No.5	N/A	N/A	N/A	2000	20.9 MMBtu/hr	Yes
246	Bio-cell Leaching	TBD	TBD	TBD	TBD	TBD	No
248	SO_2 Tank #2	TBD	TBD	TBD	TBD	TBD	No
300	Mixer Settler Tank	Custom Made	N/A	N/A	2005	3,956 gal.	No
301	Small Industrial Boiler	Parker	T2600	964144	2005	2.6 MMBtu/hr	No
302	Acid Mist Eliminator	Viron	VCM2424	WD-37091	2005	2000 cfm	No
	Electrowinning Cells	Custom Made	N/A	N/A	2005	317 lb/hr copper	No
303	Dryer Baghouse	MAC	96ST16	71497-001-1	2005	317 lb/hr	No
	Dryer Feeder	K-Tron	KSFT	470514	2005	352 lb/hr	No
	Dryer and Cyclone	Barr-Rosin	6” Custom	2315	2005	317 lb/hr	No
	Dryer Combustion Box	COMENCO	DH-5.7.0.3	91355	2005	0.3 MMBtu/hr	No
304	Material Handling Baghouse	MAC	96ST16	74027-001-1	2005	1000 cfm	No
	Trash Screen	Western Industrial	MR24S4-4	71497-001-1	2005	317 lb/hr	No
	Product Storage Bin	Custom Made	N/A	N/A	2005	131 ft^3	No
	Product Packaging	Flexicon	BFL-CFSW-X	48645	2005	978 lb/hr	No
	Product Feed Conveyor	New London	521-T3	05-76893	N/A	978 lb/hr	No

- electrolyte; ** V.P.= 0.0027; *** tank capacity is volume that is emptied and refilled as part of the working loss calculation.

TABLE C-11 OPERATION 010 – CONCRETE BATCH PLANT							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
144-149	Concrete Batch Plant	Ross	Boss V.P. 12	N/A	N/A	12 yd^3	No

TABLE C-12 OPERATION 011 – STORAGE TANKS							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
150	Diesel Tank No. D 1	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	200,000 gal.	No
151	Diesel Tank No. D 2	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	200,000 gal.	No
152	Diesel Tank No. D 3	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,000,000 gal.	No
153	Diesel Tank No. D 4	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,000,000 gal.	No
154	Diesel Tank No. D 5	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	50,000 gal.	No
155	Gasoline Tank No. G1	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	12,000 gal.	No
156	Gasoline Tank No. G2	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	12,000 gal.	No
157	Gasoline Tank No. G3	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	12,000 gal.	No
158	Diesel Tank No. Pit 60	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	105,000 gal.	No
159	Diesel Tank No. Pit 61	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	105,000 gal.	No
160	Diesel Tank No. Pit 62	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	541,500 gal.	No
161	Diesel Tank No. Pit 95	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	103,000 gal.	No
162	Diesel Tank No. SC 1	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	2,000,000 gal.	No
163	Diesel Tank No. SC 2	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,000,000 gal	No
164	Diesel Tank No. SC 3	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,000,000 gal	No
165	Diesel Tank No. SC 4	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,000,000 gal	No
166	Diesel Tank No. SC 5	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	500,000 gal.	No
167	Diesel Tank No. SC 6	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	500,000 gal.	No
168	Diesel Tank No. SC 7	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	500,000 gal.	No
169	Diesel Tank No. SC 8	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	500,000 gal.	No
170	Diesel Tank No. MTF 1	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,500,000 gal.	No
171	Diesel Tank No. MTF 2	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,500,000 gal.	No
172	Diesel Tank No. MTF 3	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,500,000 gal.	No
173	Diesel Tank No. MTF 4	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,500,000 gal.	No
174	Diesel Tank No. MTF 5	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,500,000 gal.	No
175	Diesel Tank No. MTF 6	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,500,000 gal.	No
176	Diesel Tank No. MTF 7	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1984	1,500,000 gal.	No

Diesel Vapor Pressure = 0.01 psia. Gasoline Vapor Pressure = 6.62 psia.

TABLE C-13 OPERATION 013 – GRIZZLY OPERATIONS							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
189	Mine Portable Grizzly	FMCGM	Custom Fabricated	Custom Fabricated	1998	1250 TPH	No
191	Portable Grizzly No. 1	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1970	1000 TPH	No
193	Portable SW Grizzly	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1970	50 TPH	No
194	Slag Grizzly	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1970	100 TPH	No
195	Concentrate Grizzly	FMCGM	Custom Fabricated	Custom Fabricated	Prior to 1970	60 TPH	No

TABLE C-14 OPERATION 014 – CONCENTRATE LEACH PLANT							
Process Number	**Equipment**	**Make**	**Model**	**Serial No.**	**Year of Manufacture**	**Design Capacity**	**NSPS Applicable**
239	Pressure Leach Vessel Scrubber	MikroPul	Multi-Venturi	TBD	2005	8760 hr/year	NA
	Pressure Leach Vessel	TBD	TBD	TBD	TBD	29.1 tph	NA
240	Pressure Leach Vessel Cooling Tower	TBD	TBD	TBD	TBD	600,000 gph	NA
241	Oxygen Plant Cooling Tower	TBD	TBD	TBD	TBD	309,000 gph	NA
242	Natural Gas Start-Up Boiler	TBD	TBD	TBD	TBD	35 MMBtu/hr	NA
253	Super Sack Unloader Bin Vent	Modu-Kleen	Series 250	1098219	TBD	TBD	NA
	Super Sack Unloader	TBD	TBD	TBD	TBD	TBD	NA
254	Lime Silo Bin Vent	Modu-Kleen	Series 343-A	8000107	TBD	TBD	NA
	Lime Silo	Steel Structures Inc.	TBD	072493	2007	75 tons	NA