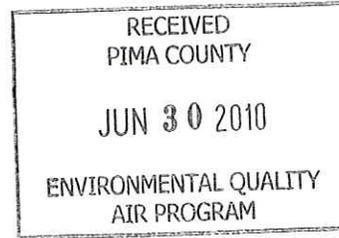




Sierrita Operations
6200 W. Duval Mine Rd.
PO Box 527
Green Valley, AZ 85622-0527



June 29, 2010

Certified Mail: 7006 2150 0004 3661 3899
Return Receipt Requested

Mr. Mukonde Chama
Air Permits Supervisor
Pima County Department of Environmental Quality
33 North Stone Avenue, Suite 730
Tucson, Arizona 85701

RE: **Minor Permit Revision for Re-Routing of 8D/8B Transfer Point and Modifications to the Compliance Assurance Monitoring Plan**
Freeport-McMoRan Sierrita Inc., Permit #42862 (Pima County #6067)

Dear Mr. Chama:

Freeport-McMoRan Sierrita Inc. (Sierrita) is submitting the enclosed minor permit revision application in accordance with Pima County Code (P.C.C.) Section 17.12.255. Sierrita proposes to re-route the dust pickup for the 8D/8B Transfer Point from the #12 Wet Scrubber (Source ID 121) to the main header for the #1-5, & 7 Wet Scrubbers (Source ID 002-007) ("Six Pack") for industrial hygiene reasons. Sierrita also proposes to change the Compliance Assurance Monitoring (CAM) Plan indicator ranges for the Copper Sulfate Plant Cartridge Dust Collector (Source ID 122) to reflect the manufacturer's recommended operating ranges. For administrative convenience and to streamline the permitting process, Sierrita is submitting one application for both of these projects.

I. Rerouting 8D/8B Pickup Point

Description of Proposed Changes

The 8D/8B Transfer Point is located inside the Sierrita Fine Crushing Plant, and emissions from this point are currently routed to the #12 Wet Scrubber. Sierrita proposes to re-route the emissions from the 8D/8B Transfer Point from the #12 Wet Scrubber to the "Six Pack" Wet Scrubbers. The re-routing of this pickup point will allow for better dust control in the area in order to improve indoor air quality.

A recent inspection performed by an outside pollution control engineering firm, Beu-Math Engineering Inc, resulted in a recommendation that this change be made in order to help improve the overall indoor air quality of the Fine Crushing Plant. Re-routing this pickup point to the Six-Pack Wet Scrubbers was suggested both as a result of proximity to the header and due to the extra capacity currently available on these scrubbers. The capacity is available because Sierrita rerouted several pickup points from the Six-Pack to the recently installed FARR cartridge-style dust collectors as authorized by the above-referenced permit. Please see the attached letter from

Mr. Mukonde Chama
June 29, 2010
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Beu-Math engineer Petrus Pretorius which explains the ability of the Six-Pack to handle this additional pickup point (Attachment A).

The installation of the No. 1 and No. 2 Secondary FARR Dust Collectors and the No. 1 Tertiary FARR Dust Collector removed the following pickup points from the Six-Pack Wet Scrubbers:

- No. 1 and No. 2 Coarse Ore Reclaim Belts
- No. 1 and No. 2 Coarse Ore Reclaim Feeders
- No. 1 and No. 2 Scalping Screen Undersize drop points to 8A Conveyor Belt
- No. 1 and No. 2 Secondary Crushers
- No. 1 and No. 2 Secondary Discharge Screens
- No. 1 Tertiary Crusher
- No. 1 Tertiary Discharge Screen

As part of this project, Sierrita intends to perform an air balance on the entire "Six-Pack" system following the completion of the change. This balancing is necessary to ensure that the system is functioning optimally following the addition of a pickup to the main header. This will occur during the last weeks of July, 2010. Following the balancing of the "Six-Pack" scrubbers a performance test will be performed on all six of the scrubbers, August 5 – 13, 2010.

Change in Emissions of Regulated Air Pollutants

As this proposed change only involves moving the emissions related to this transfer point from one scrubber to another, no regulated air pollutant emission increases are expected. The change will not affect the production rate of any units.

II. Compliance Assurance Monitoring (CAM) Plan Modifications

Description of Proposed Changes

The Copper Sulfate Product Recovery Collector (Source ID 122) is identified in the Title V Permit as an emission unit subject to the requirements for Compliance Assurance Monitoring (CAM) in Section II.H of Attachment "B". This Section includes CAM requirements for both the FARR cartridge-type dust collectors, in use in the Fine Crushing Plant (Source ID 201 - 204 & 301 – 312), as well as the Donaldson Torit Downflo™ model cartridge-type dust collector in use at the Copper Sulfate Plant (Source ID 122). All of the collectors associated with the Fine Crushing plant are manufactured by FARR, and have the same recommended pressure differential operating range, which is accurately represented by Section II.H.7.b of the permit (1.5 – 5.0 inches of water). Meanwhile, although the collector associated with the Copper Sulfate Plant is the only cartridge-style dust collector manufactured by Donaldson, the CAM condition imposes the same pressure differential operating range. Sierrita proposes to change the pressure differential operating range for the copper sulfate product recovery collector to 1.0 – 6.0 inches of water.

The Copper Sulfate Plant cartridge-type dust collector's pressure differential operating range originally was proposed without access to the original manufacturer's Operation and Maintenance Manual and were based solely on recommendations provided by Beu-Math Engineering. This manual has since been discovered, and it indicates that the normal operating pressure differential range is between 1.0 and 6.0 inches of water for this cartridge-type dust collector. Adjusting the

Mr. Mukonde Chama
June 29, 2010
Page 3 of 5

indicator range to match that recommended by the O & M Manual will allow for operation of the device as specified by the manufacturer. Please see the attached selections from the Operations and Maintenance manual, indicating the recommended operating range (Attachment B). Sierrita only proposes to make this change to the ranges for the copper sulfate plant dust collector, not for any of the other equipment identified in Section II.H.2.b of the Permit.

Change in Emissions of Regulated Air Pollutants

As this proposed change only involves adjusting the indicator ranges for differential pressure for the copper sulfate plant cartridge collector, no regulated air pollutant emission increases are expected. The change will not affect the production rate of any units.

Regulatory Requirements

These changes will not change which sections of the Title V Permit these units are subject to, nor do they include any new applicable requirements.

Pursuant to P.C.C.17.12.255.A, minor permit revision procedures may be used only for those changes at a source that satisfy eight requirements. Each of those requirements is addressed below.

1. The proposed changes must not violate any applicable requirements.

The re-routing of the 8D/8B pickup point and indicator range changes as described above will not violate any applicable requirements.

2. The changes must not involve substantive changes to existing monitoring, reporting, or recordkeeping requirements in the permit.

No changes to existing monitoring, reporting, or recordkeeping requirements in the permit are proposed in this application.

3. The changes must not require or change a case-by-case determination of an emission limitation or other standard, or a source specific determination of ambient impacts, or a visibility or increment analysis.

Because the potential emissions increase from the proposed project will not be "significant" as defined in P.C.C. 17.04.340.A.212, New Source Review (NSR) and Prevention of Significant Deterioration (PSD) permitting are not required for this project. Consequently, the proposed project will not require or change a case-by-case determination of emission limitations, ambient air impacts determinations, or visibility or increment analyses.

4. The changes must not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject.

The proposed project does not seek to establish or change any permit term or condition for which there is no corresponding underlying applicable requirement. No emission limitations or other

Mr. Mukonde Chama
June 29, 2010
Page 4 of 5

permit conditions have been proposed in order to avoid requirements which would otherwise apply.

5. The changes must not be modifications under any provision of Title I of the Clean Air Act.

The proposed changes are not "modifications" under Title I of the Clean Air Act (i.e., a "major modification" subject to major NSR/PSD or a "modification" subject to the NSPS.)

6. The proposed revisions must not involve changes in fuels not represented in the permit application or provided for in the permit.

No fuel changes are included in the proposed project.

7. The increase in the source's potential to emit any regulated air pollutant must not be significant as defined in P.C.C. 17.04.340A.212.

As shown above, the increase in potential emissions of regulated pollutants will not be "significant" as defined under P.C.C. 17.04.340.A.212

8. The changes must not require processing as a significant revision under P.C.C.17.12.260.

As demonstrated in #1 through #7 above, the proposed project meets the requirements for processing as a minor permit revision. The proposed project does not require a significant change in existing monitoring permit terms or conditions or a relaxation of reporting or recordkeeping permit terms or conditions. Furthermore, the proposed project does not constitute a modification to a major source of federally listed hazardous air pollutants, or reconstruction of a source, process, or production unit under Section 112(g) of the Clean Air Act. Accordingly, the project does not require processing as a significant permit revision under P.C.C.17.12.260.

If you have any questions or require more information, please contact me at (520) 648-8605.

Sincerely,



Kali Hoyack
Environmental Engineer II

Enclosure

20100629-001

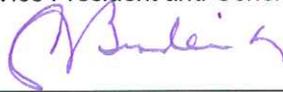
cc: US EPA Region IX, Air Division
Certified Mail: 7006 2150 0004 3661 3905

Mr. Mukonde Chama
June 29, 2010
Page 5 of 5

CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

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

John Broderick, Vice President and General Manager



Date: 06/29/10

(signature)

Attachment A

BEU-MATH ENGINEERING, Inc.

Telephone (602) 323-0436
E-MAIL: sales@beu-math.com
WEBSITE: www.beu-math.com



FAX (602) 265-5431
AZ Contractors Lic# 117747
UT Contractors Lic# 372526-5501

Pneumatic Conveying Engineers
Fan Manufacturers Reps

Air Pollution Control
(Chemical Fumes, Dust, VOC's)

3201 W. Harrison Street, Phoenix, AZ 85009

April 1st, 2010

FMI – Sierrita
Attn: Sherry Burt-Kested
6200 West Duval Mine Rd.
Green Valley, AZ 85622
Phone # (520) 648-8866
CC: Kali Hoyack

Subject: 6-Pack Capacity to Accommodate the 8B Chute Duct Tie-In

The DUCON 6-pack system has a designed capacity, and over the course of the last couple of years there have been some changes to the collection points in the duct system. Several pick-up points have been removed from the 6-pack system and are now controlled with other systems. The removed pick-up points on the 6-pack system are now being controlled using balancing cones. The function of the balancing cones is to maintain the required duct velocities and hood capture velocities in the remaining system without affecting the system design capacity. Since the remaining system is now comprised of dust collection points and make-up air points, a portion of the make-up air can be allocated to controlling the dust generated by the 8B to 8C chute. Since the total make-up capacity outweighs the required dust collection capacity of the new 8B collection point, the 6-pack system is more than capable to control the new tie-in point without any ill affects to any of the existing dust collection points.

We trust that the above is in line with your requirements and hope that Beu-Math Engineering, Inc. can be of service to FMI - Sierrita. If you have any questions, please give us a call.

Regards,

Petrus Pretorius

Petrus Pretorius
Beu-Math Engineering, Inc.

Attachment B

Donaldson



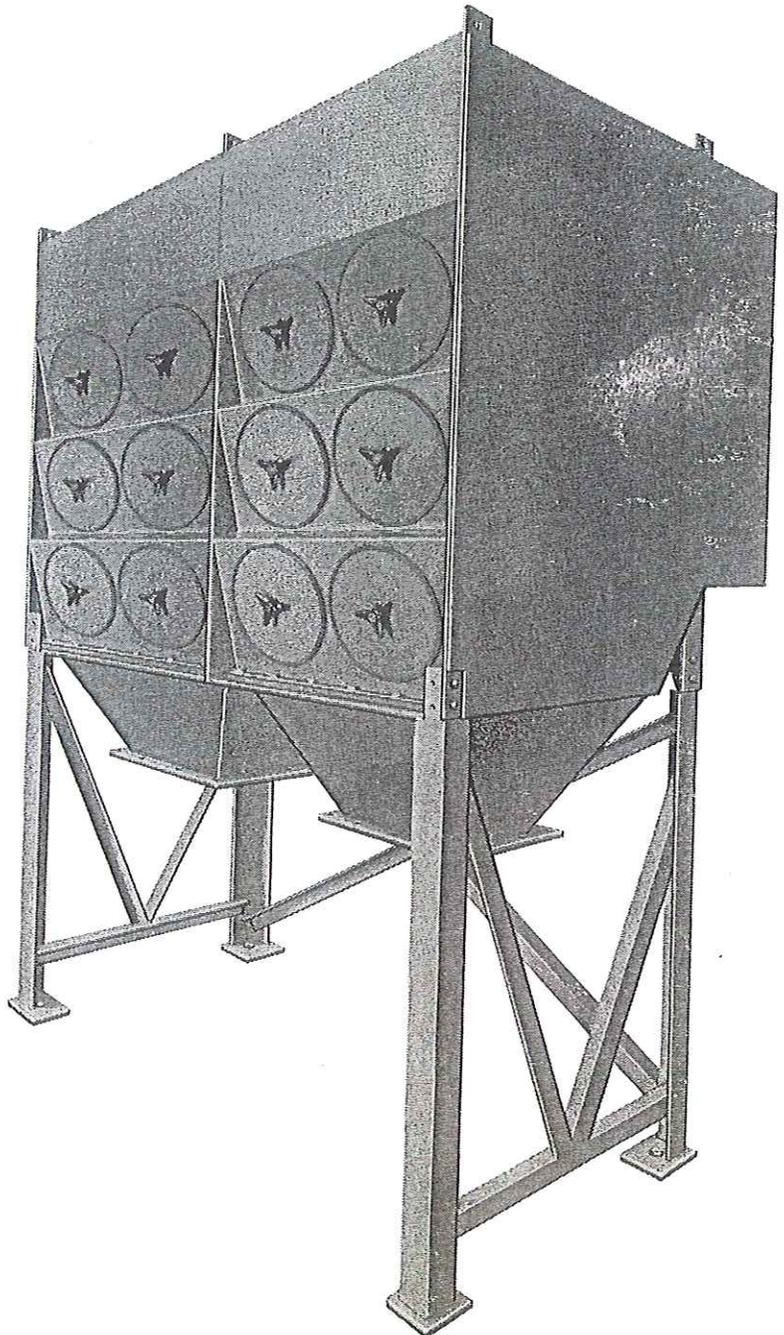
TORIT INSTALLATION AND OPERATION MANUAL

FOR TORIT™ CARTRIDGE SYSTEM DUST COLLECTORS

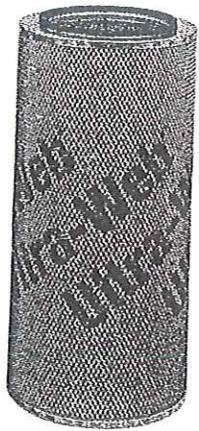
8,000 → 15,000 CFM
40 HP ⇒ ~ 15,000 CFM
Lincoln
IG 418463

TORIT DOWNFLO™ MODELS 2DF8, 2DF12, 2DF16,
3DF24, 3DF36, 3DF60, 3DF72,
4DF32, 4DF48, 4DF64, 4DF80

Includes Installation, Operation, Service Instructions, and Parts List



WITH QUICK-CHANGE
FILTER ELEMENTS



The Torit Downflo™ Dust Collector is used for collection of airborne dust and particulate. Whether in answer to the problem of air pollution, or as part of a manufacturing process, the Downflo™ provides continuous on-line operation.

Filter elements are cleaned automatically and sequentially. The result is that only a small portion of filter cartridges may be off-line for cleaning at any given time. Elements are installed end to end in pairs, nearly horizontal. Element dimensions are 12-3/4" O.D., 8-3/8" I.D. by 26" long.

OPERATIONAL EXPLANATION

(See Figure 1 — Operational Schematic)

During normal operation, air enters the Downflo™ dust collector through the top inlet and passes through the filter elements. Dust is collected on the outside surfaces of the elements and clean air flows through the center of the elements into the clean air plenum where it exits through the clean air outlet.

During filter element purge, the solid state control timer automatically selects the pair of elements to be cleaned and activates a solenoid valve which opens an air diaphragm valve. High pressure air pulses directly into the center of the selected elements for 100 milliseconds, blowing the collected dust off the filter elements. The dust is swept downward into the hopper by the prevailing air flow and by gravity.

NOTE

An inlet in each module is strongly recommended to optimize the Downflo's™ performance.

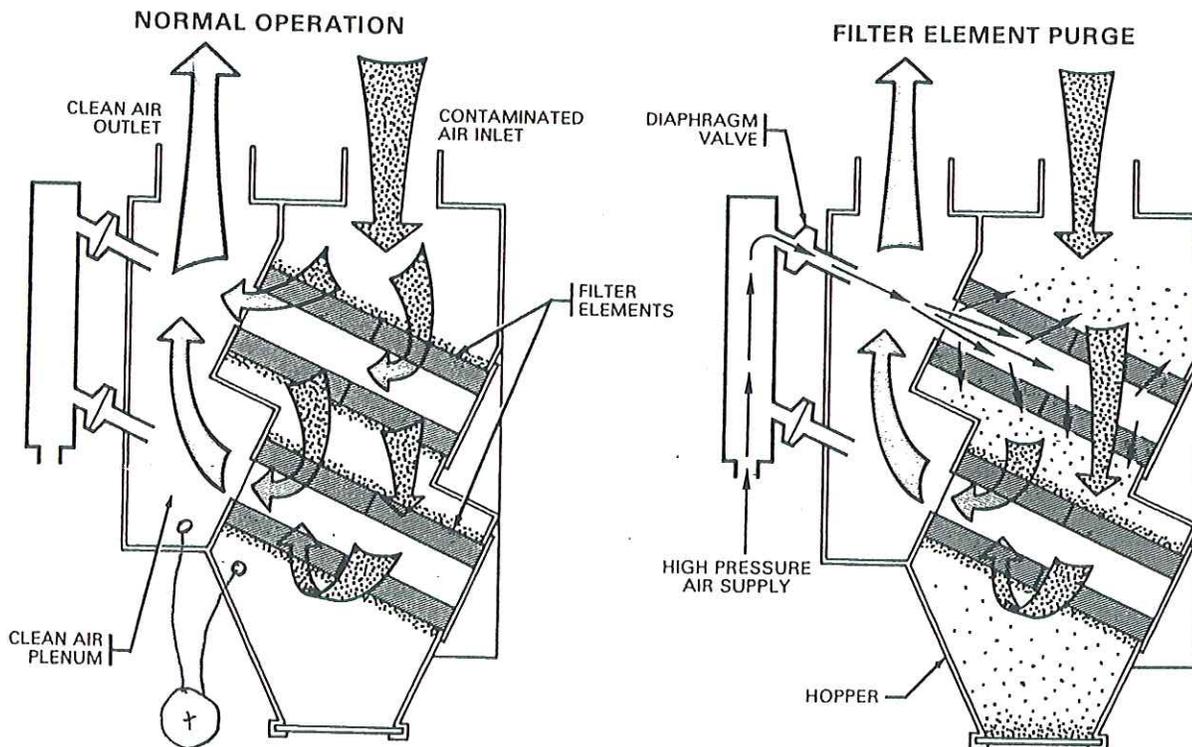


Figure 1 — Operational Schematic

INSPECTION

The Downflo™ dust collector is normally shipped by flat bed truck and should be checked for any damage that may have occurred en route. Any damage should be noted and the carrier notified within 24 hours.

PRE-INSTALLATION

The Downflo™ model dust collector is usually mounted on a reinforced concrete foundation. However, roof mounting is also possible. When calculating for foundation or roof mounting, the weight of the dust collector, material collected, and all auxiliary equipment must be considered together with wind and seismic loads. See individual Specification Control Drawing for dust collector weight.

WARNING

LOCATION MUST BE CLEAR OF ALL OBSTRUCTIONS SUCH AS UTILITY LINES OR ROOF OVERHANG. (SEE SPECIFICATION CONTROL DRAWING) AS A CRANE MUST BE USED TO MOVE THE COLLECTOR INTO POSITION.

To avoid delay, install foundation in the proper location, with particular attention given to anchor bolt location. See Specification Control Drawing for anchor bolt location. Anchor bolts must extend at least 1-3/4" above foundation. The collector should be located with consideration for emptying hopper, shortest run for location of duct work, electrical and air connections and maintenance. In the case of hazardous dust, consult with local authorities for the location of the unit.

Using wiring diagram, (inside control timer cover) make proper connections to blower motor, blower motor starter, solid state control timer and solenoid valves. See Figure 4 for general wiring diagram.

NOTE

In grounded systems, neutral to control box must be connected to L2 of control box terminal board.

Start fan motor and check for proper rotation. Proper fan rotation is extremely important. Even if the fan is running the wrong direction it will deliver approximately 40% of its rated air volume, but it will require more than its rated horsepower. Reverse any two leads (3 phase only) on the load side of the fan motor starter to reverse fan rotation.

Check operation of the solenoid valves. These valves should open and close continuously with a factory set dwell between each pulse.

NOTE

If a Photohelic or similar remote control device is used as an internal control, valves will pulse only when pressure reaches set point.

Solid State Control Timer Specifications

IMPORTANT

Solid state Downflo™ control requires a low voltage (120V) control circuit in fan starter to be supplied by others.

OPERATING LOGIC: Input power is applied to L1 and L2 of the timer control circuit board which is in parallel with the low voltage (120/60/1) coil of the fan magnetic starter. Upon fan start up, power is supplied to the control board and the preset "OFF" time is initiated. At the end of the "OFF" time, the control will energize a solenoid to provide the cleaning pulse for one segment of filter elements and then step to the next segment. This cycle is continuous unless an auxiliary control such as a pressure switch is used to control the timer. When all of the available outputs are not required, programming the control for fewer outputs is accomplished by resetting the program selection jumper. See Figure 5 — Operating Logic Diagram.

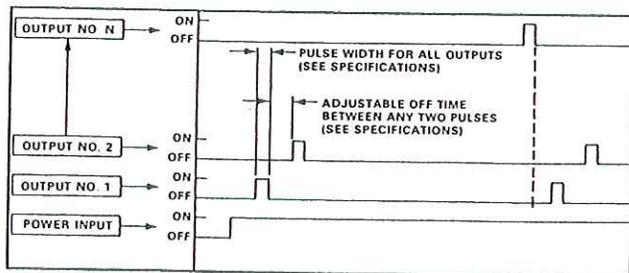


Figure 5 — Operating Logic Diagram

INPUT: 105-135 VAC 50-60 Hz.

OUTPUT: Type — solid state switch. Rating — 60 watts maximum load per output.

PULSE WIDTH: Factory set at 100 milliseconds.

OFF TIME: Adjustable — 1 to 1.5 seconds minimum, 30 to 36 seconds maximum (factory set).

OPERATING TEMPERATURE RANGE: -10 to +130°F.

TRANSIENT VOLTAGE PROTECTION: 1000 volts for 8ms, 1% duty cycle.

AIR SUPPLY

NOTE

It is important that air supply be oil and moisture free. Contamination in the air used to clean filter elements will result in poor cleaning and loss in performance.

CAUTION

Purge air lines to remove debris before connecting to air manifold.

Remove plastic pipe cap from end of dust collector manifolds and connect air supply line. Use Teflon® tape on all air connections. Air valve, bleed type regulator and gauge, filter and automatic condensate valve should be installed in the air supply line.

These components should preferably be located in the building for convenient service and startup/shutdown of the unit. See Figure 2 — Typical Installation. Be sure that all components are adequately sized to meet system requirements.

OPERATION

STARTUP

1. Turn air supply to air manifold on and adjust pressure to 90 psig. Experience indicates 90 psig to be most typical setting for satisfactory cleaning performance. See Operating Adjustments below.
2. Turn on Hopper Discharge System (where so equipped and if on separate control). Hopper discharge system must always be operating while dust collector is operating.
3. Turn on blower. At initial start up, visually check blower rotation to be sure it is correct.
4. Adjust for proper air flow with volume control damper.

® — Dupont Trademark

OPERATING CHECKS

Monitor exhaust. Exhaust should remain visually clean. If a leak develops, it will be first noticed as a puff of dust immediately after a cleaning pulse.

Monitor pressure drop. Equilibrium ΔP^* is generally 3-4 inches on magnehelic gage for seasoned filters, but 1-6 inches is considered normal.

OPERATING ADJUSTMENTS

Compressed air is specified at a pressure of 90 psig. The control timer is factory set to clean a segment of elements every 10 seconds.

Higher than design ΔP can often be lowered by increasing the frequency of cleaning. Minimum dwell time between pulses is 3 seconds. Additional cleaning energy may be obtained by adjusting pressure up to a maximum of 100 psig. DO NOT increase or decrease the length of pulse.

Longer pulses do not aid cleaning, they simply waste compressed air.

DO NOT increase air pressure beyond 100 psig. Damage may result.

A low ΔP can be raised to design levels by increasing dwell time between pulses. Pressure switch control (Photohelic) may be added to clean only when ΔP reaches design level.

NOTE

At initial start-up with new filter elements, the fan motor may overload because of airflow higher than design level. If this happens, partially close a volume control damper.

* ΔP = Pressure drop across filter elements.

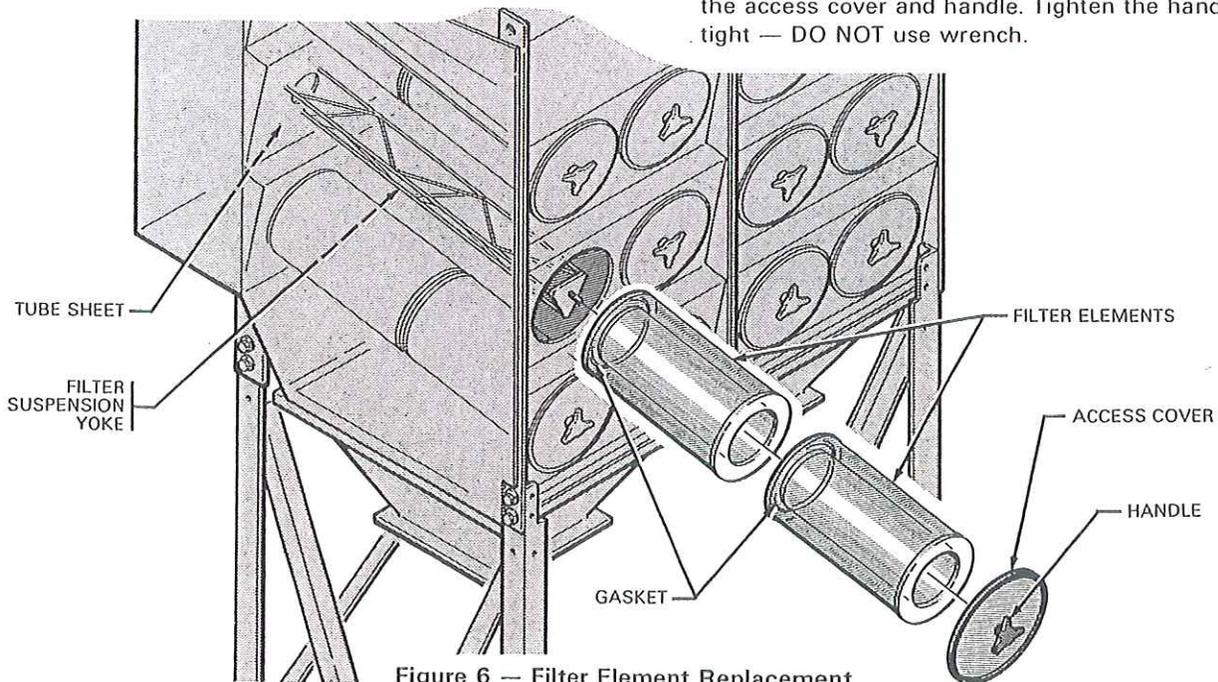


Figure 6 — Filter Element Replacement

SERVICE

WARNING

DISCONNECT ELECTRICAL POWER BEFORE SERVICING ANY ELECTRICAL COMPONENTS.

SHUT OFF AND BLEED COMPRESSED AIR SUPPLY BEFORE SERVICING ANY COMPRESSED AIR CIRCUITS.

NO WELDING SHOULD BE PERFORMED INSIDE UNIT WITHOUT FIRE PROTECTION MEASURES IN USE.

FILTER ELEMENT REMOVAL/INSTALLATION

(See Figure 6 — Filter Element Replacement.)

1. When changing element sets, start at the top of the unit. This ensures that the new, clean elements will not be contaminated by subsequent filter removals.
2. Access covers — Remove access covers by unscrewing the handles. Covers and handles can then be placed out of the way.
3. Move filters to break gasket seal between filters and tube plate. Rotate filters 1/4 turn to dump any loose dust off top of filter. Slide filters out of the collector on their suspension yokes.

The filters may be captured in plastic bags (not supplied) as they are removed.

4. Inspection — Inspect the tube sheet to make sure the gasket seating area is free of dust. IT IS NECESSARY TO BRUSH DUST OFF THIS AREA TO ENSURE A POSITIVE SEAL.
5. Installation — Slide two filter elements on the yoke gasket end first, wipe off the cover gaskets and install the access cover and handle. Tighten the handle hand tight — DO NOT use wrench.



PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY
Air Program
33 N. Stone Avenue □ Suite 700 □ Tucson, AZ 85701 □ Phone: (520) 243-7400

STANDARD PERMIT APPLICATION FORM FOR CLASS I SOURCES
(As required by A.R.S. § 49-426, and Title 17 of the Pima County Code)

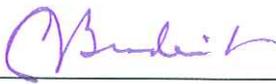
- 1. Permit to be issued to: (Arizona Corporate Commission Registered Name): Freeport-McMoRan Sierrita Inc.
2. Mailing Address: P. O. Box 527, City: Green Valley, State: Arizona, ZIP: 85622-0527
3. Plant Name (if different than item #1):
4. Name (or names) of Owner or Operator: John Broderick, FAX #: 520.648.8573, Phone: 520.648.8500, Email: John_Broderick@fmi.com
5. Name of Owner's Agent:
6. Plant/Site manager/Contact Person: Kali Hoyack, Environmental Engineer II, FAX #: 520.648.8605, Phone: 520.648.8605, Email: Kali_Hoyack@fmi.com
7. Proposed Equipment/Plant Location Address: Sierrita Property, 6200 West Duval Mine Road, City: Green Valley, State: Arizona, ZIP: 85614, Indian Reservation (if applicable): NA T/R/S, Lat/Long, Elev: 31°52'30" / 111' 06', 3700 ft.
8. General Nature of Business: Standard Industrial Classification Code: 1021, State Permit Class: I
9. Type of Organization: [X] Corporation [] Individual Owner [] Partnership [] Government Entity [] Other
10. Permit Application Basis (Check all that apply): [] New Source [] General Permit [] Renewal Revision: [] Administrative [X] Minor [] Significant Existing Permit # 6067, Date of Commencement of Construction or Modification: July 2, 2010, Is any of the equipment to be leased to another individual or entity? [] Yes [X] No
11. Signature of Responsible Official of Organization: [Signature], Official Title of Signer: Vice President and General Manager
12. Typed or Printed Name and E-mail of Signer: John Broderick, John_Broderick@fmi.com, Date: 06/29/10, Telephone Number: 520.648.8500

Certification of Compliance with all Applicable Requirements

Permit Number (If existing source) 6067

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Pima County Department of Environmental Quality (PDEQ) as public record. I also attest that I am in compliance with the applicable requirements and will continue to comply with such requirements and any future requirements that become effective during the life of my permit. I will present a certification of compliance to PDEQ no less than annually and more frequently if specified by PDEQ. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with the requirements of Title 17 of the Pima County Code and any permit issued thereof.

Name (Print/Type): John Broderick Title: Vice President and General Manager

Signature:  Date: 06/29/10

Certification of Truth, Accuracy, and Completeness

By my signature I, (Name) John Broderick, hereby certify that based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Signature of Responsible Official of Organization: 

Title: Vice President and General Manager Date: 06/29/10

MINOR PERMIT REVISION DESCRIPTION

This minor permit revision for Freeport-McMoRan Sierrita Inc. permits the re-routing of the dust pickup for the 8D/8B Transfer Point from the #12 Wet Scrubber (Source ID 121) to the main header for the #1-5, & 7 Wet Scrubbers (Source ID 002-007) ("Six Pack"). Attachment "C" of Operating Permit No. 42862 (Pima County #6067) has been revised to reflect this change.

This minor permit revision also permits the adjustment of indicator ranges for differential pressure set out in the Compliance Assurance Monitoring Plan for Cartridge Dust Collectors. Section II.H of Attachment "B" of Operating Permit No. 42862 (Pima County #6067) has been revised to reflect this change.

Pursuant to Pima County Code, 17.04.340A.212, the potential emission increase from these changes is less than significant. This equipment will continue to be operated in accordance with the provisions of Section II, VI & X of Operating Permit No. 42862 (Pima County # 6067).

The above changes meet all the requirements of a minor permit revision.

ATTACHMENT "C" - EQUIPMENT LIST Addenda (Minor Revision) to Operating Permit No. 42862 for Freeport-McMoRan Sierrita Inc.

The following shall be removed from Attachment "C", Table C-1 of Operating Permit No. 42862

ID	EQUIPMENT NAME	CAPACITY	YEAR OF INSTALLATION	NSPS (Y/N)	CAM	MATERIAL HANDLING FACILITY	MAKE, MODEL, SIERRITA ID #
Section IV: Fine Ore Crushing – Secondary and Tertiary Crushing							
121	8D/8B Transfer Point	NA	1968	Y	Y	N	N/A

The following shall be added to Attachment "C", Table C-1 of Operating Permit No. 42862

ID	EQUIPMENT NAME	CAPACITY	YEAR OF INSTALLATION	NSPS (Y/N)	CAM	MATERIAL HANDLING FACILITY	MAKE, MODEL, SIERRITA ID #
Section IV: Fine Ore Crushing – Secondary and Tertiary Crushing							
002-007	8D/8B Transfer Point	NA	1968	Y	Y	N	N/A

The following highlighted changes shall be made to section II.H of Operating Permit No. 42862 (6067).

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

1. For emission units identified in Attachment "C" as subject to CAM, the Permittee shall conduct the monitoring required by this permit condition upon issuance of the renewal permit, except that if a monitoring device must be installed on existing equipment, the Permittee is allowed 180 days following permit issuance to install such device. The Permittee shall conduct the

monitoring required by this permit condition upon commencement of operation of new equipment identified in Attachment "C" as being subject to the CAM program under 40 CFR 64. At all times, the owner or operator shall maintain the required monitoring activities, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

2. 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 units 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.
3. Response to excursions
 - a. Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emission unit (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 shall 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)]
4. 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)]

5. 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)]
- c. Based on the results of the determination required by Condition II.H.3.b, the Permittee may be required to develop a Quality Improvement Plan (QIP). If a QIP is required, the Permittee shall include a description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 CFR 64.9(a)(2)(iii)]

6. General Recordkeeping Requirements

- a. The Permittee shall comply with the recordkeeping requirements specified in this permit. The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained by this permit (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [40 CFR 64.9(b)(1)]
- b. The Permittee may maintain records required by this permit condition on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b)(2)]

7. CAM Plans

- a. Wet Scrubbers (Equipment ID 113, 075, 002-007, 008, 112, 121, 116, 053, and 054)

i. Indicators: Scrubber liquid flow rate and pressure differential; [40 CFR 64.3(a)(1)]

ii. Monitoring Approach:

Scrubber flow rate and pressure differential shall be measured at least once per hour. Three-hour block averages shall be determined using the one-hour readings. [40 CFR 64.3(b)(4)(iii)]

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

iv. Indicator Range/Threshold: [40 CFR 64.3(b)(2) & (3)]

(1) For scrubber flow rate, the range shall be $\pm 30\%$ of the average obtained during the most recent performance test.

(2) For pressure differential, the range shall be ± 30 percent from the average obtained during the most recent performance test.

v. Excursions Determinations: An excursion event is any of the following conditions: [40 CFR 64.6(c)(2)]

(1) A 3-hour block during which the average scrubber pressure differential differs from the average obtained during the most recent performance test by more than ± 30 percent.

(2) A 3-hour block during which the average liquid flow rate is more than ± 30 percent of the average obtained during the most recent performance test.

b. Cartridge Dust Collectors ~~and~~ Baghouses, and the Copper Sulfate Product Recovery Collector (Equipment ID 009-017, 122, 201-204, 301-312, 401-403)

i. Indicators: Pressure differential and opacity; [40 CFR 64.3(a)(1)]

ii. Monitoring Approach: [40 CFR 64.3(b)(4)(iii)]

(1) Pressure differential across the baghouse/cartridge dust collector/copper sulfate collector shall be measured by a pressure gauge. Pressure differential readings shall be taken and recorded daily.

(2) Visible emissions from the control equipment shall be monitored according to the procedure outlined in Condition II.I, except that at least one reading shall be

taken on each day of operation.

- iii. Quality Assurance/Quality Control (QA/QC): Operate and maintain pressure indicators in a manner consistent with good air pollution control practices. [40 CFR 64.3(b)(3)]
- iv. Indicator Range/Threshold: [40 CFR 64.3(a)(2) & (3)]
 - (1) Pressure differential range for baghouses shall be 1.5 to 4.4 inches of water.
 - (2) Pressure differential for the cartridge dust collectors shall be 1.5 to 5 inches of water.
 - (3) Pressure differential for the copper sulfate product recovery collector shall be 1.0 to 6 inches of water.**
 - (4) For opacity from cartridge dust collectors and the copper sulfate product recovery collector, the threshold shall be any visible emission.**
 - (5) For opacity from baghouses, the threshold shall be any visible emission that exceeds the applicable opacity baseline level.**
- v. Excursion/Exceedance Determinations: An excursion event is any of the following conditions: [40 CFR 64.6(c)(2)]
 - (1) Any pressure differential reading outside the indicator range is an excursion.
 - (2) For cartridge dust collectors **and the copper sulfate product recovery collector**, any visible emission is an excursion.
 - (3) For baghouses, any visible emission that exceeds the applicable opacity baseline level is an excursion.
- c. Electrostatic Precipitator (Equipment ID 058)
 - i. Indicators: Primary current and primary voltage [40 CFR 64.3(a)(1)]
 - ii. Monitoring Approach: [40 CFR 64.3(b)(4)(iii)]

Primary current shall be continuously measured by an ammeter. Primary voltage shall be continuously measured by a voltmeter. The data acquisition and handling system shall compute one-hour averages of the continuous readings.

- iii. Quality Assurance/Quality Control (QA/QC): Operate and maintain voltage/current indicators in a manner consistent with good air pollution control practices. [40 CFR 64.3(b)(3)]
- iv. Indicator Range/Threshold: [40 CFR 64.3(a)(2) & (3)]
 - (1) For primary current, at least two fields are operated at greater than 25 amps in one electrostatic precipitator when feed is entering one roaster and at least two fields are operated at greater than 25 amps in two electrostatic precipitators when feed is entering two roasters.
 - (2) For primary voltage, at least two fields are operated at greater than 200 volts in one electrostatic precipitator when feed is entering one roaster and at least two fields are operated at greater than 200 volts in two electrostatic precipitators when feed is entering two roasters.
- v. Excursions Determinations: An excursion event is any of the following conditions: [40 CFR 64.6(c)(2)]
 - (1) Any one-hour average primary current reading that is outside the indicator range.
 - (2) Any one-hour average primary voltage reading that is outside the indicator range.
- vi. Secondary voltage and secondary current (or power) may be used as indicators in place of primary current and primary voltage, if the Permittee submits a written request to the Director which includes proposed indicator ranges/thresholds and supporting information and if the Director provides written approval. If the Permittee receives such approval, the Permittee shall use the same monitoring approach, quality assurance/quality control, and excursion determination procedures as would apply to primary current and voltage.