



33 N. Stone Avenue, Suite 700  
Tucson, Arizona 85701-1429  
[www.pima.gov/deq](http://www.pima.gov/deq)

Ursula Kramer Nelson, P.E.  
Director

(520) 724-7400  
FAX (520) 838-7432

November 6, 2017

**CERTIFIED MAIL**  
**Return Receipt Requested**

Freeport-McMoRan Sierrita, Inc.  
Attn: David Rhoades, General Manager – Sierrita Operations  
6200 W. Duval Mine Rd.  
Green Valley, AZ 85629

## **NOTICE OF VIOLATION # PC1710-013**

The Pima County Department of Environmental Quality (PDEQ) has reason to believe Freeport-McMoRan Sierrita, Inc. has violated requirements of PDEQ Air Quality Permit #6067 and Pima County Code (PCC) Title 17. The alleged violation occurred on October 2, 2017, at the Freeport-McMoRan Sierrita, Inc. facility in Green Valley, Arizona, and was documented in an Excess Emissions Report submitted to PDEQ on October 4, 2017.

### **I. ALLEGED VIOLATION**

#### **FINDINGS OF FACT**

##### **Alleged Violation**

##### **Permit Condition Attachment B, XIX.B.1.a (PCC 17.16.050.B)**

##### **XIX. REQUIREMENTS FOR FUGITIVE DUST SOURCES**

##### **B. Open Areas, Roadways and Streets, Material Handling, Storage Piles**

##### **1. Emission Limitations/Standards**

- a. The Permittee shall not cause, allow or permit visible emissions from any fugitive dust source in excess of 20 % opacity measured in accordance with EPA Reference Method 9.

##### **Findings**

Freeport-McMoRan Sierrita, Inc. allowed visible fugitive dust emissions generated from the Sierrita Tailings Impoundment of 28% opacity as measured by EPA Reference Method 9 on October 2, 2017.

##### **Requested Corrective Actions**

Take adequate precautions to prevent visible emissions of fugitive dust generated from the Sierrita Tailing Impoundment from exceeding 20% opacity as measured by EPA Reference Method 9.

## **II. CITATION OF AUTHORITY**

Arizona Revised Statutes. § 49-513

17.28.050, P.C.C. Title 17, Preservation of Rights

## **III. REQUESTED COMPLIANCE DOCUMENTATION**

Freeport-McMoRan Sierrita, Inc. shall submit a written response to PDEQ within **thirty (30)** calendar days of receipt of this notice. The response shall include:

- A thorough explanation of those actions that led to the violations
- The corrective actions taken to meet compliance
- The corrective measures taken to prevent future violations of this type, including revision of the FMSI Sierrita Operations Tailings Dam Dust Control Management Plan to adequately reflect current operational practices

The above documentation shall be deemed "submitted" when received by PDEQ at the following address:

Pima County Department of Environmental Quality  
33 N. Stone Avenue, Suite 700  
Tucson, AZ 85701-1429

Attention: Mark Rogers

Or via email:

[Air.Permits@pima.gov](mailto:Air.Permits@pima.gov) with Subject: NOV # PC1710-013

## **IV. STATEMENT OF CONSEQUENCES**

Failure to achieve compliance or enter into a Consent Order will result in PDEQ initiating a unilateral enforcement action. Achieving compliance does not preclude PDEQ from seeking civil penalties. A unilateral enforcement action may result in a civil penalty. A civil penalty may be imposed for each violation for the entire non-compliance period.

PDEQ believes the alleged violations identified in the Notice of Violation (NOV) are significant and advises you they may be used to determine a pattern of non-compliance or used to determine civil penalties pursuant to A.R.S. § 49-513. As such, PDEQ believes that NOV violations are appealable agency actions as defined in A.R.S. § 49-471(4).

A person whose legal rights, duties or privileges were determined by an appealable agency action or who will be adversely affected by an appealable agency action and who exercised any right to comment on the action provided by law, rule or ordinance may appeal the action to the air pollution hearing board established pursuant to A.R.S. § 49-478.

V. **ADMINISTRATIVE INFORMATION**

**OFFER TO MEET**

PDEQ personnel are willing to schedule a meeting to discuss the NOV and corrective actions. If you would like to meet, please contact me at (520) 724-7400. Before meeting, please submit the following:

- An agenda that specifies the objectives you wish to discuss.
- The names and affiliations of the participants that will be accompanying you.

**COMPLIANCE ASSISTANCE**

PDEQ personnel are also willing to help you achieve and maintain compliance. If you need assistance complying with the regulations please contact our department at (520) 724-7400.

**NOTICE OF NON-DISCRIMINATION**

The Pima County Department of Environmental Quality does not discriminate on the basis of race, color, national origin, sex, disability religion, or age in its programs or activities in accordance with applicable laws and regulations. Further, any person who is in need of special services (e.g., written material in large type, signer for the hearing impaired, or for free assistance in Spanish), please contact PDEQ's Environmental Justice Program Manager, Beth Gorman, 33 N. Stone Avenue, Suite 700, Tucson, Arizona, 85701, Phone (520) 724-7446, email [beth.gorman@pima.gov](mailto:beth.gorman@pima.gov).

**AVISO DE NO DISCRIMINACIÓN**

El Departamento del Condado de Pima de Calidad Ambiental no discrimina en base de la raza, el color, el origen nacional, el sexo, la religión, discapacidad, o la edad en sus programas o actividades de acuerdo con leyes y regulaciones aplicables. Además, cualquier persona que esté necesitando los servicios especiales (e.g., material escrito en letra grande, intérpretes de lenguaje con señas, o para obtener asistencia gratuita en español), por favor contacte a la encargada del Programa de Justicia Ambiental del Departamento Calidad Ambiental del Condado de Pima, Beth Gorman, 33 N. Stone Avenue, Suite 700, Tucson, Arizona, 85701, teléfono (520) 724-7446, email [beth.gorman@pima.gov](mailto:beth.gorman@pima.gov).

Sincerely,



Mark Rogers  
Air Compliance Inspector

Attachment: Inspection Report dated October 2 & 3, 2017

cc: PDEQ File #: PC1710-013



## **Inspection Report**

**Tracking ID: PC1710-013**

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**Permit #:** 6067

**Source:** Freeport-McMoRan Sierrita, Inc.

**Location:** 6200 W. Duval Mine Road, Green Valley, AZ

**Dates:** October 2 & 3, 2017

**Arrival Times:** 2:45 pm; 10:30 am

**Departure Time:** 3:45 pm; 12:00 pm

**Inspector:** M. Rogers

**Spoke With:** Bryce Cooke, Senior Environmental Scientist; Travis Behrens, Environmental Scientist II; Fernando Durazo, Tailings Dam Management

**Phone #:** (520) 393-2010

**Reason for Inspection:** Complaint

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### October 2, 2017 Inspection

Pima County Department of Environmental Quality (PDEQ) received multiple complaints on October 2, 2017, regarding dust emitting from the Freeport-McMoRan Sierrita, Inc. (FMSI) tailing impoundment. I drove from the downtown PDEQ office towards Green Valley on Interstate 19. As I approached the Sahuarita Rd. exit I noticed a light-beige plume of dust above the interstate to the south. As I approached the Duval Mine Road exit, I observed light-beige dust emitting from the eastern portion of the FMSI tailing impoundment. I drove south on La Canada Drive in order to position myself for an EPA Method 9 visible emissions observation.

As I was heading south on Camino Del Sol, I observed more plumes of dust emitting from the east side of the FMSI tailings dam. I parked in the Evangelical Free Church of Green Valley parking lot at 1393 W. Mission Twin Buttes Road and photographed plumes of dust rolling over the berm on the central eastern portion of the tailing impoundment (Attachment 1, photos 1 & 2). The origin of the dust appeared to be from the interior surface area of the impoundment within the outer berm. I did not observe the dust crossing property lines. I observed several water trucks applying water to the sides of the eastern berm (Attachment 1, photo 3). I was unable to obtain a proper viewing position to perform an EPA Method 9 observation.

I proceeded to drive to the Green Valley Fire District Headquarters at 3005 S. Camino Del Sol and was granted access to the roof for viewing. The plume of dust emitting from the tailings impoundment appeared reduced in size compared to my observations in the church parking lot. I photographed the dust event from the rooftop (Attachment 1, photo 4). I performed an EPA Method 9 visible emissions observation for 15 minutes (Attachment 2). The highest 6-minute average opacity for my observation period was 9%. I did not observe dust crossing property lines during by observations from the fire station.

After completing the EPA Method 9 observation, I went to the FMSI facility and met Mr. Cooke and Mr. Behrens. Mr. Cooke completed the Inspection Rights form (Attachment 3). Mr. Cooke and Mr. Behrens escorted me to the safety training room next to the entry gate for the FMSI facility. I informed the gentlemen that PDEQ had received multiple complaints regarding dust emitting from the tailing impoundment. Mr. Cooke and Mr. Behrens said that they were aware of the dust emissions and they were in the process of preparing an excess emissions report for submittal to PDEQ (Attachment 4). Mr. Behrens had mentioned that he conducted off site observations of the dust event. Mr. Behrens and Mr. Cooke had also mentioned that they had inspected the tailings dam, and that the tailings crew had ceased construction operations that morning due to high winds. They stated that after ceasing construction, the tailings crew focused on watering the surface of the berm construction and applying additional magnesium chloride. They also advised that a structural fire had occurred that day at FMSI's secondary crushing operation in the fire ore crushing building, creating a disruption in operations at the facility.

### October 3, 2017 Inspection

The following day, I arrived at the FMSI facility to inspect the surface of the tailings impoundment. I met Mr. Cooke and Mr. Behrens at the main gate for the FMSI facility. I conducted inspection rights protocol with Mr. Behrens and we drove to the top of the tailing impoundment (Attachment 5). We walked to the top of the Phase 2 of the South dam where berm construction was active. Water trucks were applying water to the berm building area (Attachment 1, photo 5). The areas had crusted soils and did not generate dust (Attachment 1, photo 6). The winds at the location averaged 30-35 mph according to a handheld wind meter. I was introduced to one of the Tailings Dam Management (TDM) supervisors, Fernando Durazo.

I asked Mr. Durazo when construction work was stopped due to wind conditions on Monday, October 2. He responded that construction work was halted at 9:40 am on Monday, October 2. He said at that point, the TDM crew employed two tracked vehicles and 4 water trucks supplied with magnesium chloride to stabilize the berm construction area (Attachment 1, photo 7). Mr. Durazo informed me that approximately 18,000 gallons of a magnesium chloride solution was applied to the surface of the tailings impoundment.

During my interview with Mr. Durazo I noticed plumes of dust generating between the edge of the berm construction area and the center of the tailings impoundment in Phase 2 of the South dam (Attachment 1, photo 8). The plumes dissipated in the winds and did not leave the impoundment. I asked Mr. Durazo if what I was observing was similar to the dust event on the previous day and he said yes. I asked him how it occurs and he said that the surface in the central area of the impoundment can have "pockets" of disturbances. Sometimes the surface can have an effect known as "potato chipping". That is where the surface cracks into small chip-like fragments and those fragments can be lifted by the wind, exposing fine uncrusted material below to be windblown.

I inquired as to what areas of the South dam had final wet tailings fill prior to berm building, and when final fill had occurred? Mr. Durazo said that final fill had occurred for Phase 2 and 3 in May 2017. I asked about what control measures are utilized during times of interrupted berm building. Mr. Durazo said that water trucks are utilized to sustain stabilization of construction

areas. I also asked question about provisions of the Tailings Dam Dust Control Management Plan, including the procedure to utilize spigot line extensions that extend 200 feet inward from the berm to apply wet tails to dry interior areas of the impoundment undergoing berm building. Mr. Durazo said that method is no longer employed, and the preference is to utilize a “bowl” effect of allowing the deposition to flow from the outer berm area and dry without any disruption.

I asked if the method of adding algae and cyanobacteria to the tailings slurry as a dust control measure is utilized. Mr. Durazo stated that method does not work. I had also inquired if MSHA regulations had impeded dam construction with regard to final fill limitations and berm freeboard requirements and Mr. Durazo said no. I concluded my onsite inspection and departed the facility.

Following the inspection, I requested and received copies of the weekly Tailings Dam Environmental Activities Reports and Tailings Impoundment Surface Inspections records for the previous two weeks (Attachment 6).

### Compliance Determination

FMSI’s Tailings Dam Dust Control Management Plan states in section 2.1 Operating Strategy and Inspections, “Frequent inspections of the tailings dam shall be conducted to observe the dam surface characteristics and weather conditions. In accordance with the Tailings Dam Management System, the inspection shall identify signs of fatigue on the surface crusts and areas on the surface of the impoundment that are susceptible to high wind events (“hot spots”). The results of this inspection shall be used to determine the need for additional dust control measures. Corrective and/or preventive actions taken in response to the results of this inspection shall be recorded. A copy of this form is provided in Attachment C.” Attachment C is the Tailings Impoundment Surface Inspection Form, of which FMSI provided to PDEQ as requested for the dates of September 18-22 & 25-29, 2017, and October 2-3, 2017. The inspection form instructs to mark the area inspected on the diagram using numbers 1-9 to describe the conditions observed. Numbers 6-8 indicate “Action Required – Deposition or Suppressant Application” for Piles of Standing Sands (blown in), Delta, Area with Dust Suppressant Previously Applied. The inspection for September 18, 2017, indicated a number 6 for the Sections 4, 5, & 6 of the South dam in the area directly within the south central berm. No other inspections provided detailed action required for hot spots leading up to the dust event of October 2, 2017. Number 3 descriptor on the inspection form indicates, “Established Algae/Salt Crust”. FMSI staff indicated that algae is no longer mixed with the slurry. Cyanobacteria and algae dust controls were removed from FMSI’s Tailings Dam Dust Control Management Plan during the most recent revision on January 31, 2013.

FMSI’s Tailings Dam Dust Control Management Plan states in section 2.4 Berm Construction – 8-Foot Berm, “If operating conditions are favorable, selected spigots can remain in place for a period of time during berm construction activities. These spigot lines can be extended by approximately 200 feet into the interior of the dam. This extension will increase the slurry coverage and reduce the drying area of the interior while construction is in progress.” The area of dust generation observed during the October 3, 2017, inspection was generating from the

interior of the dam within the berm building area. FMSI staff indicated that the practice of extending spigot lines to the interior of the dam during berm construction activities is not followed.

FMSI's Tailings Dam Dust Control Management Plan states in section 2.4 Berm Construction – 8-Foot Berm, “During the evaporation and construction period, the remaining five phases shall be operated as described above, with the following exception. When the phase under construction is four to eight weeks from completion, the next phase to be constructed typically is given a final fill. The wet tailings are then allowed to reduce in moisture content through decanting and evaporation so it will be ready when the existing phase under construction is completed. This method provides for wetting the newly constructed phase as soon as possible, while construction proceeds on the next phase.” According to information relayed during the October 3, 2017, inspection, FMSI completed final fill of Phases 2 & 3 of the South dam in May 2017 while berm construction was occurring in Phase 1 of the South dam.

FMSI submitted to PDEQ an Excess Emissions report dated October 4, 2017, indicating the occurrence of visible emissions from the FMSI tailing impoundment averaging 28% opacity as measured by EPA Method 9 from 11:59 am to 12:05 pm on October 2, 2017. The report also indicated that process fugitive emissions from the secondary crusher building exceeded 10% opacity during a fire event that occurred between 10:40 am and 4:00 pm on October 2, 2017; however, an EPA Method 9 visible emissions observation was not conducted. PDEQ considers the secondary crusher emissions during the event to be due to a malfunction and no enforcement action will be taken. PDEQ previously issued a Notice of Violation to FMSI on September 29, 2017, for fugitive dust emissions from the tailing impoundment in excess of 20% on July 9, 2017. The occurrence of fugitive emissions in excess of 20% from the FMSI tailing impoundment on October 2, 2017, is evidence of a pattern of noncompliance. Upon review of the inspection findings and submitted documents, PDEQ determined that a Notice of Violation will be issued to FMSI for a deficiency of PDEQ Air Quality Permit #6067, Attachment B, XIX.B.1.a.

Attachments:

- 
1. Photo Log dated October 2 & 3, 2017
  2. EPA Method 9 Observation dated October 2, 2017
  3. Inspection Rights Form dated October 2, 2017
  4. Excess Emissions Report dated October 4, 2017
  5. Inspection Rights Form dated October 3, 2017
  6. Tailings Dam Environmental Activities Reports and Tailing Impoundment Surface Inspections dated September 18, 2017 – October 3, 2017

**Site Location:**  
6200 W. Duval Mine Rd.

**Photographer:**  
M. Rogers

**Tracking #:**  
PC1710-013

**Photo No. 1**

**Date:** 10/02/17



**Photo No. 2**

**Date:** 10/02/17



**Photo No. 3**

**Date:** 10/02/17



**Photo No. 4**

**Date:** 10/02/17



**Photo No. 5**

**Date:** 10/03/17



**Photo No. 6**

**Date:** 10/03/17

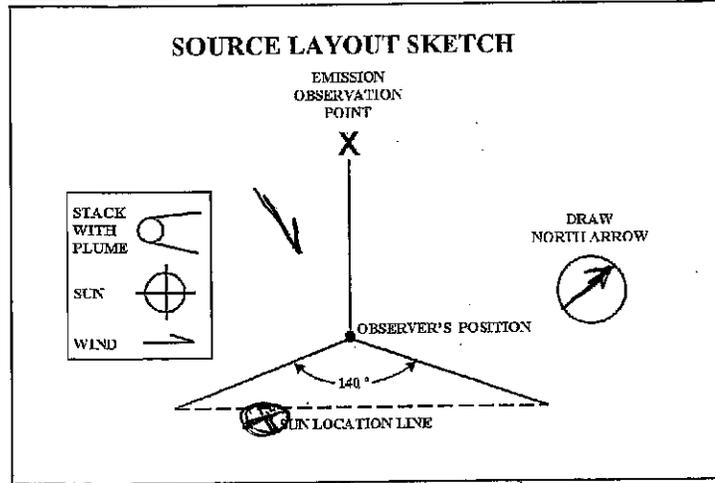




## VISIBLE EMISSION OBSERVATION FORM

Company Name <b>FRIDLEPORT Mc MORAN</b>		
Location <b>6200 W DOVAL MINE RD</b>		
City <b>GREEN VALLEY</b>	State <b>AZ</b>	Zip <b>85629</b>
Process Equipment <b>TAILINGS DAM</b>		Operating Mode
Control Equipment		Operating Mode
Describe Emission Point <b>EAST SIDE OF TAILINGS COMPOUND, FEW HUNDRED YARDS NORTH OF DIVIDER</b>		
Height of Emission Point <b>200'</b>	Height Relative to Observer Start <b>200'</b> End <b>200'</b>	
Distance to Emission Point Start <b>1 MILE</b> End <b>1 MILE</b>	Direction to Emission Point Start <b>NW</b> End <b>NW</b>	
Vertical Angle to Observation Pt. Start <b>5°</b> End <b>5°</b>	Direction to Observation Point Start End	
Describe Emissions Start <b>WHITE/YELLOW DUST</b>		
Emission Color Start <b>WHITE/YELLOW</b>	If Water Droplet Plume (Circle) Attached Detached <b>N/A</b>	
Point In The Plume At Which Opacity Was Determined Start <b>VEGETATION (DARK) ON BERM</b>		
Describe Plume Background Start <b>BELOW</b> End <b>BERM LEVEL</b>		
Background Color Start <b>GREEN</b> End	Sky Condition Start <b>CLEAR</b> End	
Wind Speed Start <b>8/12 MPH</b> End <b>9/12 MPH</b>	Wind Direction Start <b>S/SW</b> End <b>S/SW</b>	
Ambient Temp Start <b>90°</b> End <b>90°</b>	Wet Bulb Temp	RH Percent

Observation Date		Start Time				End Time
10/2/17		1:46				2:02
Min	Sec				Comments	
	0	15	30	45		
1	10	5	5	5		
2	5	5	0	0		
3	5	5	5	10		
4	5	5	5	5		
5	5	0	0	0		
6	0	0	0	0		
7	0	0	0	0		
8	5	10	15	20	215/24 =	
9	15	15	10	5		
10	5	10	20	30	9%	
11	15	10	10	5		
12	5	5	5	5		
13	5	0	0	0		
14	0	0	0	0		
15	0	0	0	0		
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Observer's Name (Print) <b>MARK ROGERS</b>	
Observer's Signature <i>Mark Rogers</i>	Date <b>10/2/17</b>
Organization <b>P D E C</b>	
Certified by <b>AZ SMOKE SCHOOL LLC</b>	Date <b>9/29/17</b>

Additional Information **OBSERVATION POINT**  
**GREEN VALLEY FIRE HQ**  
**ROOFTOP 1285 W. CMO. ENCAANTO**  
**GREEN VALLEY AZ.**  
**85622**

Continue on reverse side



**PIMA COUNTY**

ENVIRONMENTAL QUALITY

**PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY**

33 N. Stone Avenue, Suite 700, Tucson, AZ 85701-1429

Phone (520) 724-7400 FAX (520) 838-7432

[http://webcms.pima.gov/government/environmental\\_quality/](http://webcms.pima.gov/government/environmental_quality/)

**AIR PROGRAM**

**NOTIFICATION OF INSPECTION RIGHTS**

**SOURCE INFORMATION**

PC # 1710-013 Permit # \_\_\_\_\_

Regulated Person FMSI

On-site Representative Rayce Cooke Title \_\_\_\_\_

Site Location 6200 W DONALD MINE RD Phone \_\_\_\_\_

Site Contact \_\_\_\_\_ E-Mail \_\_\_\_\_

Mailing Address \_\_\_\_\_

**PDEQ INFORMATION**

Inspector Name M. ROGERS Phone 724-7320

Inspection Date 10/02/17 Time 2:45

Accompanied by \_\_\_\_\_

Questions or comments on these procedures, your inspection and due process rights or this form may be directed to the Pima County Department of Environmental Quality (PDEQ) inspector listed on this form at (520) 724-7400. While I have the right to decline to sign this form, the PDEQ representative(s) may still proceed with the inspection under Pima County Code (PCC) 17.20.050.

I acknowledge that I have read and understand the Inspection Rights on the back of this form.

Signature [Signature] Date 10-2-17

\_\_\_\_\_ Refused to sign the Notification.

Authorized on-site representative is not present at the facility.



Freeport-McMoRan Sierrita Inc.  
6200 W. Duval Mine Rd.  
PO Box 527  
Green Valley, Arizona 85622-0527

October 4, 2017

**Via Email: [Air.Notices@pima.gov](mailto:Air.Notices@pima.gov)**

Mr. Dustin Fitzpatrick  
Environmental Quality Manager  
Pima County Department of Environmental Quality  
33 N Stone Ave, Suite 700  
Tucson, Arizona 85701

**Re: Written Excess Emission Report; Deviation Report; and  
Certification of Truth, Accuracy and Completeness,  
Freeport-McMoRan Sierrita Inc., Permit # 6067**

Dear Mr. Fitzpatrick:

As required by the Freeport-McMoRan Sierrita Inc. (FMSI) Title V permit # 6067, issued January 30, 2016, Attachment "A" Conditions XI.A and XI.B, this letter serves as a detailed written notification of excess emissions and prompt reporting of a deviation from permit requirements.

Attachment "B" Condition XIX.B.1.a states that "Permittee shall not cause, allow or permit visible emissions from any fugitive dust source in excess of 20% opacity measured in accordance with EPA Reference Method 9." On October 2, 2017, high wind speeds in excess of 25 miles per hour caused intermittent visible emissions from Phase 2 and Phase 3 of the South Sierrita tailings impoundment. A Reference Method 9 observation conducted from 11:59 AM to 12:05 PM on the Southwest side of the tailings dam measured 28% opacity.

Additionally, Attachment "B" Condition III.B.2.b states "..., the Permittee shall not cause to be discharged into the atmosphere from an affected facility any process fugitive (including fugitive emissions from a process building) emissions that exhibit greater than 10% opacity." On October 2, 2017 at approximately 10:40 AM, a fire occurred in the secondary crusher building during routine maintenance on a scalping screen. First responders arrived on the scene to fight the fire and extinguished the fire at approximately 4:00 PM. FMSI did not conduct a Method 9 observation because of the emergency situation but based on the knowledge and experience of the Method 9 certified employees who witnessed the event, opacity exceeded the 10% permit limit during the fire.

## **Description of the Events**

At approximately 10:00 a.m. the environmental department received an internal phone call reporting that dust was seen coming from the tailings dam. The tailing crew was contacted and informed environmental that the tailings crew was following their BMP's and ceased berm construction activities at approximately 9:40 AM due to high winds, at which time all work at the tailings dam was shifted to dust control. Environmental representatives arrived at the tailings dam and observed dust emanating from the South area of the tailings dam. There were three all track vehicles applying Magnesium Chloride to the tailings dam and three water trucks applying water to the roads and berms at the tailings dam. Environmental employees climbed to the top of the tailings dam to be in proper position for an EPA Reference Method 9 observation and performed an observation starting at 1052 and ending at 1058 resulting in 16.9%. Upon leaving the tailings dam after the observation, a "may day" was issued at approximately 11:05 for the crusher fire so vehicle traffic was required to stop. At approximately 11:25, vehicle traffic on the tailings dam resumed and the environmental employees left the tailings dam to complete a property boundary surveillance around the tailings dam. During the property boundary surveillance, environmental employees observed dust crossing the property line along the Northeast side of the tailings dam on Duval Mine Rd. at approximately 11:35 AM, and along Continental Rd. on the Southeast side of the tailings dam at approximately 11:40. At this time the tailings crew were utilizing all practically available equipment and control measures to mitigate dust on the tailings impoundment; however, average wind speeds in excess of 25 mph were recorded on both the 10\_Meter\_MET and Tailings\_COW weather station data.

Both incidents, including the fire at the crusher building, as well as the dust event at the tailings impoundment, were reported to Mr. Dustin Fitzpatrick via phone on October 2, 2017.

Information Required by Attachment "A" Condition XII.A.1.b of the Title V permit:

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

Source ID # 087 - Sierrita Tailing Impoundment  
Source ID# 204 - #4 Secondary Crushing Line

(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:

A Reference Method 9 observation conducted from 11:59 AM to 12:05 PM on the Southwest side of the tailings dam measured 28% opacity. A copy of the Method 9 report is attached.

Based on the knowledge and experience of the Method 9 certified employees who witnessed the event, opacity exceeded the 10% permit limit during the fire.

(3) The time and duration or expected duration of the excess emissions:

Excess emissions began at 11:59 am and ended at approximately 2:45 PM.

At approximately 10:40 AM, a fire occurred in the secondary crusher building. First responders arrived on the scene to fight the fire and extinguished the fire at approximately 4:00 PM.

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

Visible emissions emanated from Phase 2 and Phase 3 of the South Sierrita tailings impoundment.

Visible emissions emanated from the secondary crusher building.

(5) Nature and cause of such emissions.

Visible emissions from the Sierrita tailings impoundment resulted from high winds, with average wind speeds above 25 miles per hour.

A fire occurred in the secondary crusher building during routine maintenance on a scalping screen.

(6) The steps taken, if the excess emissions were the result of a malfunction, to remedy the malfunction and the steps being taken or planned to prevent the recurrence of the malfunction:

At this time it does not appear that a malfunction occurred.

(7) The steps that were or are being taken to limit the excess emissions:

Preceding, during, and after the event, Sierrita employed reasonable precautions, as defined by Attachment B, Section XIX.B.1.b(viii) and (ix) of its Title V permit, to prevent excessive amounts of particulate matter from becoming airborne from the tailings impoundment. Based on changing weather conditions the tailings crew ceased berm push and operations of heavy equipment and began applying water to tailings dam roads and berms and Magnesium Chloride ( $MgCl_2$ ) to the top of the tailings dam. In addition to the reasonable precautions detailed in No. 7 below, Sierrita applied 175,000 gallons of water to wet berms and roads in the tailings area from October 2, 2017 – October 3, 2017. From October 2, 2017 – October 3, 2017, Sierrita has applied approximately 21,000 gallons of  $MgCl_2$  on the surface of the impoundment. Furthermore, the tailings supervisors adjusted the daily operating schedule by concentrating supplemental efforts on dust control.

Reasonable Precautions employed on an ongoing basis by Sierrita as defined by Attachment B, Section XIX.B.1.b(viii) and (ix):

- Applying wetting agents
- Maximizing the wet surface area
- Barring and controlling vehicle access
- Limiting vehicle speed
- Re-vegetating the side-slopes
- Compaction
- Encrustation
- Completed new Tailings Dam roads have been capped with native dirt
- Side slopes are treated with a polymer based dust suppressant
- Heavily traveled perimeter roads are treated with  $MgCl_2$  dust suppressant
- Active berms were sprayed with water
- The wet dam construction method is used, maintaining the majority of the surface of the impoundment wet or encrusted while the remaining area is under construction

First responders arrived on the scene to fight the fire and extinguished the fire at approximately 4:00 PM.

(8) If the permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted for startup or malfunction, a list of the steps taken to comply with the permit procedures:

The permit does not contain such procedures.

Please contact me at 520.393.2419 if additional information is necessary.

Sincerely,



Bryce Cooke  
Senior Environmental Scientist

Attachments: Weather station data from Tailings\_COW and 10\_Meter\_MET

Certification of Truth, Accuracy and Completeness

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

David Rhoades, General Manager – Sierrita Operations



(Signature)

10/4/17

(Date)

### Visible Emission Observation Form

<b>FREEPORT-McMoRAN COPPER &amp; GOLD</b> 6200 W. Duval Mine Road P. O. Box 527 Green Valley AZ 85622-0527 Tel: (520) 648-8500  <b>Sierrita Operations</b>		Observation Date 10/2/2017		Start Time 1052		Stop Time 1053			
		Min \ Sec 0    15    30    45	Comments						
PROCESS EQUIPMENT Tailings Dam		OPERATING MODE operating		1	25	25	20	35	155
CONTROL EQUIPMENT		OPERATING MODE		2	45	35	35	25	140
DESCRIBE EMISSION POINT Top of tailings dam (SE)		HEIGHT ABOVE GROUND LEVEL 3056'		HEIGHT RELATIVE TO OBSERVER 3100'		DISTANCE FROM OBSERVER 125 ft		DIRECTION FROM OBSERVER N	
DESCRIBE EMISSIONS START White    STOP White		EMISSION COLOR White/Brown		PLUME TYPE: CONTINUOUS <input type="checkbox"/> FUGITIVE <input checked="" type="checkbox"/> INTERMITTENT <input type="checkbox"/>		WATER DROPLETS PRESENT: NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>		IF WATER DROPLETS PLUME: ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/>	
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED Stationary point above top of dam		DESCRIBE BACKGROUND START Mountains    STOP Mountains		BACKGROUND COLOR START Green    STOP Green		SKY CONDITIONS START Blue    STOP Blue		WIND SPEED	
WIND DIRECTION N/NW		AMBIENT TEMPERATURE		WET BULB TEMP.		RH, (%)		OBSERVERS NAME (PRINT) Travis Behrus	
OBSERVERS SIGNATURE 		DATE 10/2/2017		ORGANIZATION Freeport-McMoRan Sierrita		DATE 10/2/2017		CERTIFIED BY Arizona State School	
DATE 9/24/2017		ADDITIONAL INFORMATION Observations taken on top of tailings dam		SOURCE LAYOUT SKETCH 		OBSERVERS SIGNATURE 		DATE 10/2/2017	

### Visible Emission Observation Form

<b>FREEPORT-McMORAN COPPER &amp; GOLD</b> 6200 W. Duval Mine Road P. O. Box 527 Green Valley AZ 85622-0527 Tel: (520) 648-8500  <b>Sierrita Operations</b>		Observation Date <b>10/2/2017</b>		Start Time <b>1159</b>		Stop Time <b>1205</b>					
		Sec Min	0	15	30	45	Comments				
PROCESS EQUIPMENT <b>Tailings dam</b>		OPERATING MODE <b>operating</b>		1	<b>65</b>	<b>55</b>			<b>45</b>	<b>35</b>	<b>675</b>
				2	<b>25</b>	<b>10</b>	<b>10</b>	<b>15</b>	<b>24</b>		
CONTROL EQUIPMENT		OPERATING MODE		3	<b>15</b>	<b>10</b>	<b>20</b>	<b>15</b>			
				4	<b>15</b>	<b>30</b>	<b>35</b>	<b>35</b>			
DESCRIBE EMISSION POINT <b>Top of tailings dam (E face)</b>		HEIGHT ABOVE GROUND LEVEL <b>3056'</b>		HEIGHT RELATIVE TO OBSERVER		5	<b>50</b>	<b>55</b>	<b>35</b>	<b>30</b>	
						6	<b>25</b>	<b>20</b>	<b>15</b>	<b>10</b>	
DISTANCE FROM OBSERVER <b>200'</b>		DIRECTION FROM OBSERVER <b>West, Northwest</b>		DESCRIBE EMISSIONS START <b>Fugitive Dust</b> STOP <b>Fugitive dust</b>		7				<b>20.125'</b>	
						8					
EMISSION COLOR <b>White/Brown</b>		PLUME TYPE: CONTINUOUS <input type="checkbox"/> FUGITIVE <input checked="" type="checkbox"/> INTERMITTENT <input checked="" type="checkbox"/>		WATER DROPLETS PRESENT: NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>		IF WATER DROPLETS PLUME: ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/>		9			
								10			
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED <b>Stationary point above berm (Blue sky)</b>		DESCRIBE BACKGROUND START <b>Blue sky</b> STOP <b>Blue sky</b>		BACKGROUND COLOR START <b>Blue</b> STOP <b>Blue</b>		SKY CONDITIONS START <b>Clear</b> STOP <b>Clear</b>		11			
								12			
WIND SPEED <b>25 mph</b>		WIND DIRECTION <b>N/NE</b>		AMBIENT TEMPERATURE		WET BULB TEMP.		RH, (%)		13	
										14	
Source Layout Sketch  <div style="text-align: center;"> <p style="text-align: center;">Draw North Arrow </p> </div>		OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>				15	
										16	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>FMSI</b>		DATE <b>10/2/17</b>		17	
										18	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		19	
										20	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		21	
										22	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		23	
										24	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		25	
										26	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		27	
										28	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		29	
										30	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		31	
										32	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		33	
										34	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		35	
										36	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		37	
										38	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		39	
										40	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		41	
										42	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		43	
										44	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		45	
										46	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		47	
										48	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		49	
										50	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		51	
										52	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		53	
										54	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		55	
										56	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		57	
										58	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		59	
										60	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		61	
										62	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		63	
										64	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		65	
										66	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		67	
										68	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		69	
										70	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		71	
										72	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		73	
										74	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		75	
										76	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		77	
										78	
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										80	
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										82	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		83	
										84	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		85	
										86	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		87	
										88	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		89	
										90	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		91	
										92	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		93	
										94	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		95	
										96	
OBSERVERS NAME (PRINT) <b>Travis Behrens</b>		OBSERVERS SIGNATURE 		DATE <b>10/2/17</b>		OBSERVERS NAME (PRINT) <b>Arizona Smoke School</b>		DATE <b>9/29/17</b>		97	
										98	
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										100	

10\_Meter\_MET

Table Name: One\_Min\_Table

Time Stamp	Record	Batt_Volt	Logger_Temp	RH_Avg	Air_Temp_F_Avg	Air_Temp_F_Max	WindDir_D1_Avg	Ws_MPH_s_Avg	Gust	Rain_IN_Tot	Pr
2017-10-02 10:00:00	659605	12.95	31.65	16.01	81.2	81.3	5.726	26.65	29.79	0	0
2017-10-02 10:01:00	659606	12.95	31.69	15.98	81	81	177.6	25.98	26.99	0	0
2017-10-02 10:02:00	659607	12.95	31.72	16.16	81	81.1	91.4	25.53	28.21	0	0
2017-10-02 10:03:00	659608	12.95	31.72	15.91	81.1	81.2	12.21	26.03	29.66	0	0
2017-10-02 10:04:00	659609	12.94	31.76	15.63	81.2	81.3	95.8	24.23	28.56	0	0
2017-10-02 10:05:00	659610	12.95	31.79	15.66	81.4	81.4	16.51	24.84	25.91	0	0
2017-10-02 10:06:00	659611	12.95	31.79	15.17	81.6	81.8	14.12	24.49	27.63	0	0
2017-10-02 10:07:00	659612	12.94	31.83	15.17	81.8	81.8	18.93	21.54	23.95	0	0
2017-10-02 10:08:00	659613	12.95	31.86	15.38	81.9	82.1	17.17	20.94	24.35	0	0
2017-10-02 10:09:00	659614	12.94	31.86	14.86	82.3	82.3	15.71	21.44	24.21	0	0
2017-10-02 10:10:00	659615	12.94	31.9	15.22	82	82.1	15.63	20.94	23.46	0	0
2017-10-02 10:11:00	659616	12.94	31.94	14.81	82.1	82.1	30	25.04	30.29	0	0
2017-10-02 10:12:00	659617	12.94	32.01	14.74	82	82	20.96	25.52	27.54	0	0
2017-10-02 10:13:00	659618	12.94	32.01	14.89	82	82	22.76	23.55	24.66	0	0
2017-10-02 10:14:00	659619	12.93	32.04	14.65	82.1	82.2	18.36	25.7	28.82	0	0
2017-10-02 10:15:00	659620	12.93	32.04	14.71	82	82.1	23.87	25.69	31.46	0	0
2017-10-02 10:16:00	659621	12.93	32.04	14.76	81.8	81.9	10.91	27.89	31.24	0	0
2017-10-02 10:17:00	659622	12.93	32.04	14.82	81.8	81.8	14.69	26.4	29.33	0	0
2017-10-02 10:18:00	659623	12.93	32.08	14.84	81.9	81.9	24.26	22.63	23.85	0	0
2017-10-02 10:19:00	659624	12.94	32.12	14.56	81.9	81.9	9.67	27.41	29.92	0	0
2017-10-02 10:20:00	659625	12.93	32.15	14.64	81.7	81.7	17.2	27.09	31.53	0	0
2017-10-02 10:21:00	659626	12.93	32.15	14.55	81.7	81.8	14.95	26.7	29.97	0	0
2017-10-02 10:22:00	659627	12.93	32.12	14.7	81.8	81.9	20.2	24.68	26.04	0	0
2017-10-02 10:23:00	659628	12.94	32.15	14.71	82	82.1	22.28	22.76	25.79	0	0
2017-10-02 10:24:00	659629	12.93	32.15	14.33	82.2	82.2	19.06	23	26.79	0	0
2017-10-02 10:25:00	659630	12.93	32.19	14.55	82.4	82.5	7.497	25.14	27.02	0	0
2017-10-02 10:26:00	659631	12.93	32.19	14.65	82.4	82.5	12.4	25.46	29.31	0	0
2017-10-02 10:27:00	659632	12.93	32.22	14.1	82.5	82.6	11.63	24.32	26	0	0
2017-10-02 10:28:00	659633	12.93	32.26	13.79	82.7	82.8	25.52	26.46	28.44	0	0
2017-10-02 10:29:00	659634	12.93	32.26	13.58	82.7	82.8	10.88	24.24	25.46	0	0
2017-10-02 10:30:00	659635	12.93	32.3	14.34	82.6	82.6	90.6	25.43	27.07	0	0
2017-10-02 10:31:00	659636	12.93	32.3	13.85	82.7	82.8	10.17	28.09	30.37	0	0
2017-10-02 10:32:00	659637	12.93	32.33	14.11	82.4	82.5	6.472	23.17	27.02	0	0
2017-10-02 10:33:00	659638	12.93	32.37	14.15	82.7	82.8	91	25.95	30.18	0	0
2017-10-02 10:34:00	659639	12.93	32.37	13.6	82.7	82.8	11.94	30.45	33.14	0	0
2017-10-02 10:35:00	659640	12.93	32.37	13.52	82.4	82.6	10.12	26.73	29.28	0	0
2017-10-02 10:36:00	659641	12.93	32.4	13.86	82.3	82.4	13.03	24.78	25.98	0	0
2017-10-02 10:37:00	659642	12.92	32.4	13.59	82.5	82.6	9.69	26.2	27.4	0	0
2017-10-02 10:38:00	659643	12.93	32.44	13.7	82.6	82.7	13.07	23.03	26.01	0	0
2017-10-02 10:39:00	659644	12.92	32.44	13.83	83	83.1	172	28.45	33.27	0	0
2017-10-02 10:40:00	659645	12.92	32.48	14.12	82.8	82.9	268.2	23.47	25.57	0	0
2017-10-02 10:41:00	659646	12.92	32.48	13.96	82.7	82.8	1.278	28.46	29.19	0	0
2017-10-02 10:42:00	659647	12.92	32.51	14.32	82.8	82.8	263.8	28.36	30.62	0	0
2017-10-02 10:43:00	659648	12.92	32.55	14.5	82.8	82.8	5.677	27.67	30.93	0	0
2017-10-02 10:44:00	659649	12.92	32.55	14.37	82.8	82.8	7.4	25.7	29.17	0	0
2017-10-02 10:45:00	659650	12.92	32.59	14.27	82.9	82.9	263.2	27.24	30.08	0	0
2017-10-02 10:46:00	659651	12.92	32.59	14.28	82.9	83	181.2	28.95	30.3	0	0
2017-10-02 10:47:00	659652	12.92	32.62	14.48	82.6	82.8	8.53	29.84	32.09	0	0
2017-10-02 10:48:00	659653	12.91	32.62	14.43	82.4	82.5	6.026	28.14	31.4	0	0
2017-10-02 10:49:00	659654	12.92	32.66	14.37	82.4	82.5	89.1	31.27	32.87	0	0
2017-10-02 10:50:00	659655	12.92	32.66	14.65	82.4	82.5	1.181	26.25	28.56	0	0
2017-10-02 10:51:00	659656	12.92	32.66	14.93	82.6	82.8	91.6	24.28	25.88	0	0
2017-10-02 10:52:00	659657	12.92	32.7	14.64	82.9	83	12.23	29.23	31.3	0	0
2017-10-02 10:53:00	659658	12.92	32.7	14.38	82.8	82.9	10.62	21.89	25.27	0	0
2017-10-02 10:54:00	659659	12.92	32.73	15.09	82.7	82.9	4.869	19.36	22.21	0	0
2017-10-02 10:55:00	659660	12.92	32.73	14.83	83.2	83.4	20.28	24.37	26.18	0	0
2017-10-02 10:56:00	659661	12.92	32.77	14.43	83.5	83.5	15.19	26.19	27.56	0	0
2017-10-02 10:57:00	659662	12.92	32.77	14.6	83.4	83.4	102.1	24.87	30.46	0	0
2017-10-02 10:58:00	659663	12.91	32.81	15.08	83.5	83.6	17.96	23.25	25.54	0	0
2017-10-02 10:59:00	659664	12.92	32.81	15.03	83.6	83.6	93.5	25	26.66	0	0

2017-10-02 11:00:00	659665	12.91	32.84	15.4	83.7	83.8	9.2	27.54	29.94	0	0
2017-10-02 11:01:00	659666	12.91	32.84	15.15	83.7	83.8	16.29	27.59	31.86	0	0
2017-10-02 11:02:00	659667	12.91	32.88	15.08	83.5	83.6	7.677	29.84	31.62	0	0
2017-10-02 11:03:00	659668	12.91	32.88	15.42	83.2	83.4	20.72	27.02	28.73	0	0
2017-10-02 11:04:00	659669	12.91	32.88	15.57	83.2	83.4	5.472	24.45	25.86	0	0
2017-10-02 11:05:00	659670	12.91	32.92	15.76	83.2	83.2	16.08	25.4	28.37	0	0
2017-10-02 11:06:00	659671	12.9	32.99	15.56	83.2	83.3	18.15	26.44	27.11	0	0
2017-10-02 11:07:00	659672	12.9	32.92	15.61	83.2	83.3	20.2	24.58	25.8	0	0
2017-10-02 11:08:00	659673	12.91	32.99	15.57	83.3	83.4	25.19	26.38	28.66	0	0
2017-10-02 11:09:00	659674	12.91	32.99	15.77	83.3	83.4	13.31	24.34	26.61	0	0
2017-10-02 11:10:00	659675	12.91	33.03	15.98	83.5	83.6	3.206	25.37	27.33	0	0
2017-10-02 11:11:00	659676	12.9	33.06	16.05	83.5	83.6	2.507	27.54	30.81	0	0
2017-10-02 11:12:00	659677	12.9	33.06	15.95	83.3	83.4	13.7	24.41	29.43	0	0
2017-10-02 11:13:00	659678	12.9	33.06	16.17	83.2	83.3	1.374	22.84	23.65	0	0
2017-10-02 11:14:00	659679	12.9	33.1	16.26	83.3	83.4	172.3	26.74	33.02	0	0
2017-10-02 11:15:00	659680	12.91	33.14	16.25	83.3	83.4	263.2	33.96	34.56	0	0
2017-10-02 11:16:00	659681	12.9	33.14	16.76	83	83.1	263.8	28.72	32.18	0	0
2017-10-02 11:17:00	659682	12.91	33.17	16.71	83.1	83.2	89.4	27.14	28.46	0	0
2017-10-02 11:18:00	659683	12.9	33.17	16.5	83.3	83.4	87.7	27.21	30.66	0	0
2017-10-02 11:19:00	659684	12.91	33.21	16.4	83.4	83.4	89.2	28.5	32.01	0	0
2017-10-02 11:20:00	659685	12.9	33.21	16.28	83.2	83.4	88.3	27.75	30.24	0	0
2017-10-02 11:21:00	659686	12.9	33.25	16.47	82.9	83	13.15	30.9	32.72	0	0
2017-10-02 11:22:00	659687	12.9	33.25	16.46	83	83.2	15.86	23.62	25.17	0	0
2017-10-02 11:23:00	659688	12.9	33.25	16.27	83.6	83.7	4.99	30.33	30.9	0	0
2017-10-02 11:24:00	659689	12.9	33.29	16.29	83.5	83.6	10	24.54	30.3	0	0
2017-10-02 11:25:00	659690	12.9	33.29	16.31	83.5	83.5	11.44	25.95	28.43	0	0
2017-10-02 11:26:00	659691	12.9	33.32	16.28	83.4	83.5	21.46	24.82	25.66	0	0
2017-10-02 11:27:00	659692	12.9	33.32	16.27	83.6	83.8	23.25	24.3	26.55	0	0
2017-10-02 11:28:00	659693	12.9	33.36	16.3	83.7	83.8	27.97	21.72	24.09	0	0
2017-10-02 11:29:00	659694	12.9	33.36	16.2	84.2	84.4	16.2	21.22	24.75	0	0
2017-10-02 11:30:00	659695	12.9	33.4	16.13	84.4	84.4	14.17	24.63	29.88	0	0
2017-10-02 11:31:00	659696	12.9	33.43	16.32	84.4	84.4	12.09	22.78	26.92	0	0
2017-10-02 11:32:00	659697	12.9	33.43	16.18	84.5	84.6	10.03	25.23	27.3	0	0
2017-10-02 11:33:00	659698	12.9	33.47	16.43	84.6	84.8	6.629	26.38	27.92	0	0
2017-10-02 11:34:00	659699	12.89	33.51	16.2	84.6	84.8	17.83	24.99	26.58	0	0
2017-10-02 11:35:00	659700	12.9	33.55	16.14	84.3	84.5	14.16	24.13	27.19	0	0
2017-10-02 11:36:00	659701	12.89	33.59	16.41	84	84.1	20.37	19.23	20.5	0	0
2017-10-02 11:37:00	659702	12.89	33.62	16.26	84.1	84.3	14.27	21.77	24.18	0	0
2017-10-02 11:38:00	659703	12.89	33.62	16.28	84.4	84.6	94.4	24.48	28.14	0	0
2017-10-02 11:39:00	659704	12.89	33.66	16.52	84.7	84.7	345.8	24.83	26.55	0	0
2017-10-02 11:40:00	659705	12.89	33.7	16.48	84.5	84.7	260.2	27.9	30.4	0	0
2017-10-02 11:41:00	659706	12.89	33.77	16.79	84.3	84.4	98.6	24.99	28.81	0	0
2017-10-02 11:42:00	659707	12.89	33.81	16.27	84.7	84.9	93.8	26.77	31.79	0	0
2017-10-02 11:43:00	659708	12.89	33.81	16.15	84.5	84.7	95.1	31.13	34.11	0	0
2017-10-02 11:44:00	659709	12.89	33.85	16.39	83.9	84	7.448	29.32	32.61	0	0
2017-10-02 11:45:00	659710	12.89	33.89	16.63	84	84.1	174.8	28.88	31.08	0	0
2017-10-02 11:46:00	659711	12.89	33.89	16.36	84.3	84.4	8.44	32.66	35.22	0	0
2017-10-02 11:47:00	659712	12.89	33.92	16.26	84.1	84.2	10.88	29.77	33.51	0	0
2017-10-02 11:48:00	659713	12.89	33.92	16.02	83.9	84	13.54	31.19	32.7	0	0
2017-10-02 11:49:00	659714	12.89	33.92	16.1	83.7	83.8	17.79	30.21	32.61	0	0
2017-10-02 11:50:00	659715	12.89	33.92	16.25	83.7	83.8	97.9	31.71	33.79	0	0
2017-10-02 11:51:00	659716	12.89	33.92	16.27	83.6	83.7	8.25	30.49	31.97	0	0
2017-10-02 11:52:00	659717	12.89	33.92	16.23	83.7	83.7	7.086	30.43	33.8	0	0
2017-10-02 11:53:00	659718	12.89	33.92	16.46	83.5	83.6	4.411	28.21	31.17	0	0
2017-10-02 11:54:00	659719	12.89	33.92	16.41	83.7	83.7	177.3	32.75	34.27	0	0
2017-10-02 11:55:00	659720	12.89	33.92	16.78	83.3	83.5	345	30.23	33.17	0	0
2017-10-02 11:56:00	659721	12.89	33.92	16.76	83.4	83.5	94.9	27.98	30.7	0	0
2017-10-02 11:57:00	659722	12.89	33.92	16.62	83.7	83.9	92.3	22.76	23.82	0	0
2017-10-02 11:58:00	659723	12.89	33.92	16.86	84.3	84.6	173	23.61	27.4	0	0
2017-10-02 11:59:00	659724	12.89	33.96	16	85	85.1	95.9	30.3	33.79	0	0
2017-10-02 12:00:00	659725	12.89	33.96	15.58	84.6	85	14.68	30.17	32.56	0	0
2017-10-02 12:01:00	659726	12.89	33.92	15.73	84.2	84.3	12.93	30	31.53	0	0
2017-10-02 12:02:00	659727	12.89	33.96	15.71	84.1	84.2	13.76	31.25	33.59	0	0
2017-10-02 12:03:00											

	659728	12.89	33.96	15.91	84.1	84.2	15.18	26.16	28.95	0	0
2017-10-02 12:04:00	659729	12.89	33.96	15.76	84.4	84.4	21.75	24.26	26.03	0	0
2017-10-02 12:05:00	659730	12.89	33.96	15.76	84.6	84.7	11.39	28.28	33.39	0	0
2017-10-02 12:06:00	659731	12.89	33.96	15.51	84.7	84.8	11.77	31.38	35.3	0	0
2017-10-02 12:07:00	659732	12.89	33.96	16.17	84.5	84.6	4.338	27.4	28.76	0	0
2017-10-02 12:08:00	659733	12.89	33.96	15.95	84.8	84.8	265.1	31.06	32.72	0	0
2017-10-02 12:09:00	659734	12.89	34	16.02	84.3	84.4	92.2	27.16	30.56	0	0
2017-10-02 12:10:00	659735	12.89	34	16.28	84.3	84.4	346.2	27.58	33.69	0	0
2017-10-02 12:11:00	659736	12.89	34.04	16	84.6	84.7	339.8	32	37.6	0	0
2017-10-02 12:12:00	659737	12.89	34.04	16.16	84.3	84.4	91.4	30.96	34.09	0	0
2017-10-02 12:13:00	659738	12.89	34.04	15.84	84.6	84.6	96.1	33.78	37.53	0	0
2017-10-02 12:14:00	659739	12.89	34.08	15.64	84.6	84.6	8.19	31.82	33.1	0	0
2017-10-02 12:15:00	659740	12.89	34.08	15.8	84.6	84.7	14.98	29.7	32.15	0	0
2017-10-02 12:16:00	659741	12.89	34.08	15.33	84.9	84.9	15.53	29.33	30.58	0	0
2017-10-02 12:17:00	659742	12.89	34.08	15.35	84.6	84.8	23.63	22.94	24.37	0	0
2017-10-02 12:18:00	659743	12.89	34.11	15.53	84.4	84.4	14.65	25.19	26.29	0	0
2017-10-02 12:19:00	659744	12.89	34.11	16.1	84.6	84.8	95.2	22.37	25.57	0	0
2017-10-02 12:20:00	659745	12.88	34.15	15.27	85.2	85.3	14.33	27.3	30.18	0	0
2017-10-02 12:21:00	659746	12.89	34.15	15.51	85.2	85.2	92.4	24.71	29.24	0	0
2017-10-02 12:22:00	659747	12.88	34.19	15.52	85.4	85.4	176.6	30.54	33.82	0	0
2017-10-02 12:23:00	659748	12.88	34.23	15.72	85.1	85.3	173.3	31.94	32.69	0	0
2017-10-02 12:24:00	659749	12.88	34.23	15.89	84.9	85	90	30.83	33.8	0	0
2017-10-02 12:25:00	659750	12.88	34.27	15.72	84.8	84.9	89.9	24.29	26.99	0	0
2017-10-02 12:26:00	659751	12.88	34.31	15.7	85	85	172.7	25.82	28.66	0	0
2017-10-02 12:27:00	659752	12.88	34.31	15.66	85.2	85.2	174	32.48	34.78	0	0
2017-10-02 12:28:00	659753	12.88	34.34	15.47	85.2	85.2	193.1	29.56	32.2	0	0
2017-10-02 12:29:00	659754	12.88	34.38	15.58	85	85.1	183.8	22.85	27.22	0	0
2017-10-02 12:30:00	659755	12.88	34.42	15.42	85.1	85.4	18.9	20.98	23.57	0	0
2017-10-02 12:31:00	659756	12.88	34.42	15.12	85.9	86.2	20.04	21.54	23.72	0	0
2017-10-02 12:32:00	659757	12.88	34.46	14.82	86.5	86.6	102.5	18.38	22.37	0	0
2017-10-02 12:33:00	659758	12.88	34.5	14.74	86.9	87	14.89	23.02	26.53	0	0
2017-10-02 12:34:00	659759	12.88	34.58	14.58	86.7	86.9	21.9	25.96	28.93	0	0
2017-10-02 12:35:00	659760	12.88	34.58	14.82	86.1	86.3	16.4	24.58	27.39	0	0
2017-10-02 12:36:00	659761	12.88	34.61	14.82	85.8	85.8	14.76	23.56	26.67	0	0
2017-10-02 12:37:00	659762	12.87	34.69	15.15	85.8	85.9	178.4	25.89	29.54	0	0
2017-10-02 12:38:00	659763	12.87	34.73	15.21	85.9	85.9	91.7	27.32	28.53	0	0
2017-10-02 12:39:00	659764	12.87	34.77	15.51	86	86	259.9	23.32	27.57	0	0
2017-10-02 12:40:00	659765	12.87	34.81	15.53	86.1	86.2	99	20.82	26.23	0	0
2017-10-02 12:41:00	659766	12.87	34.88	15.36	86.2	86.5	13.85	18.45	22.4	0	0
2017-10-02 12:42:00	659767	12.86	34.88	14.96	86.4	86.5	6.748	23.53	25.57	0	0
2017-10-02 12:43:00	659768	12.87	34.96	14.65	86.3	86.4	7.76	33.17	34.95	0	0
2017-10-02 12:44:00	659769	12.87	35	14.88	85.8	85.9	11.69	25.77	26.5	0	0
2017-10-02 12:45:00	659770	12.87	35.04	15.05	85.6	85.7	5.543	27.37	29.5	0	0
2017-10-02 12:46:00	659771	12.86	35.08	15.16	85.4	85.5	7.471	25.33	27.02	0	0
2017-10-02 12:47:00	659772	12.87	35.12	15.22	85.6	85.8	19.35	22.29	25.74	0	0
2017-10-02 12:48:00	659773	12.86	35.16	15.32	86.2	86.2	7.23	24.69	29.68	0	0
2017-10-02 12:49:00	659774	12.86	35.2	15.06	86.1	86.2	11.01	27.09	28.3	0	0
2017-10-02 12:50:00	659775	12.87	35.24	15.14	85.9	86	17.76	25.37	26.52	0	0
2017-10-02 12:51:00	659776	12.86	35.28	14.78	86	86	10.93	22.19	23.1	0	0
2017-10-02 12:52:00	659777	12.86	35.32	14.55	86	86.1	95.4	28.35	30.01	0	0
2017-10-02 12:53:00	659778	12.86	35.32	14.61	85.9	86	266.5	22.07	24.27	0	0
2017-10-02 12:54:00	659779	12.86	35.36	14.7	86.1	86.3	12.89	24.25	25.48	0	0
2017-10-02 12:55:00	659780	12.86	35.4	14.79	86.1	86.2	8.54	26.05	28.78	0	0
2017-10-02 12:56:00	659781	12.85	35.44	14.89	86	86	3.699	20.35	21.88	0	0
2017-10-02 12:57:00	659782	12.86	35.48	14.86	86.1	86.2	24.75	19.18	21.69	0	0
2017-10-02 12:58:00	659783	12.85	35.52	14.73	86.7	86.9	99.5	21.83	24.06	0	0
2017-10-02 12:59:00	659784	12.85	35.56	14.55	87.3	87.5	6.133	24.09	26.11	0	0

Tailings - COW

Table Name: ONE\_Min

Time Stamp	Record	BattV	BattV_Min	AirTempF_Avg	AirTempF_Max	AirTempF_Min	AirRH	Precip_Tot	Precip_24	WS_MPH	WindDir	Sigma	Gust
2017-10-02 10:00:00	1067038	13.81	13.81	83.6	84	83.1	12.4	0	0	34.1	43.07	8.71	41.65
2017-10-02 10:01:00	1067039	13.94	13.81	83.3	83.6	82.7	12.16	0	0	33.39	43.26	9.89	37.83
2017-10-02 10:02:00	1067040	13.81	13.81	83.6	84.1	83.1	12.02	0	0	30.06	50.53	9.98	39.81
2017-10-02 10:03:00	1067041	13.81	13.81	83.5	83.6	83.3	12.13	0	0	26.99	48.63	15.17	29.42
2017-10-02 10:04:00	1067042	13.97	13.81	84.3	84.8	83.8	11.82	0	0	27.31	47.55	13.91	34.9
2017-10-02 10:05:00	1067043	13.97	13.81	84.2	84.4	83.6	11.99	0	0	30.09	52.16	7.998	34.04
2017-10-02 10:06:00	1067044	13.94	13.81	84.4	84.9	84	11.75	0	0	33.37	43.27	6.668	37.04
2017-10-02 10:07:00	1067045	13.81	13.81	83.8	84	83.6	12.13	0	0	32.03	44.69	10.04	37.04
2017-10-02 10:08:00	1067046	13.81	13.81	84	84.4	83.5	11.92	0	0	32.98	44.85	9.34	36.65
2017-10-02 10:09:00	1067047	13.97	13.82	84.2	84.4	83.8	11.82	0	0	32.37	44	10.63	36.3
2017-10-02 10:10:00	1067048	13.81	13.81	84.3	84.9	83.8	11.92	0	0	25.3	42.36	8.47	30.51
2017-10-02 10:11:00	1067049	13.98	13.81	85.2	85.5	84.7	11.92	0	0	30.97	46.93	7.454	34.63
2017-10-02 10:12:00	1067050	13.82	13.81	85.1	85.4	84.7	11.92	0	0	29.74	45.27	8.06	35.22
2017-10-02 10:13:00	1067051	13.82	13.82	84.8	85.2	84.5	12.06	0	0	34.86	37.03	11.79	39.11
2017-10-02 10:14:00	1067052	13.98	13.82	84.7	85	84.6	11.99	0	0	31.16	29.34	18.09	38.58
2017-10-02 10:15:00	1067053	13.82	13.81	85.5	86.3	84.7	11.72	0	0	31.13	48.97	9.04	35.25
2017-10-02 10:16:00	1067054	13.81	13.81	85.7	85.9	85.4	12.06	0	0	27.01	51.86	14.14	33.71
2017-10-02 10:17:00	1067055	13.82	13.82	85.1	85.7	84.4	12.26	0	0	32.7	41.92	9.54	39.41
2017-10-02 10:18:00	1067056	13.82	13.82	85.3	85.6	85	11.99	0	0	35.85	44.48	10.96	40.95
2017-10-02 10:19:00	1067057	13.82	13.82	85.2	85.5	84.8	12.09	0	0	33.21	42.57	7.574	38.33
2017-10-02 10:20:00	1067058	13.82	13.82	85.9	86.8	85	12.13	0	0	30.83	41.79	10.26	36.08
2017-10-02 10:21:00	1067059	13.82	13.82	86.1	86.5	85	11.92	0	0	31.39	42.07	5.633	35.42
2017-10-02 10:22:00	1067060	13.82	13.82	85.8	86.3	85.4	12.13	0	0	27.86	40.58	10.31	30.6
2017-10-02 10:23:00	1067061	13.82	13.82	86	86.3	85.3	11.82	0	0	34.56	40.92	8.61	40.64
2017-10-02 10:24:00	1067062	13.82	13.82	85.6	86	84.7	11.72	0	0	32.13	40.22	8.69	35.6
2017-10-02 10:25:00	1067063	13.82	13.82	85.4	85.7	85.2	11.96	0	0	30.11	42.43	6.399	33.45
2017-10-02 10:26:00	1067064	13.82	13.82	85.2	85.6	84.6	11.82	0	0	29.7	42.22	7.731	31.7
2017-10-02 10:27:00	1067065	13.99	13.82	85.6	86.3	85.2	12.16	0	0	27.16	42.95	10.28	30.07
2017-10-02 10:28:00	1067066	13.82	13.82	86	86.4	85.2	12.2	0	0	29.54	43.92	10.15	32.18
2017-10-02 10:29:00	1067067	13.82	13.82	86	86.4	85.7	11.44	0	0	27.21	57.18	10.18	32.84
2017-10-02 10:30:00	1067068	13.82	13.82	86.9	87.3	86.5	11.79	0	0	32.8	41.44	9.18	41.82
2017-10-02 10:31:00	1067069	13.88	13.82	86.3	86.9	85.7	11.96	0	0	35.01	42.49	10.41	39.5
2017-10-02 10:32:00	1067070	13.99	13.82	85.8	86.2	85.4	12.06	0	0	32.43	38.53	5.458	37.92
2017-10-02 10:33:00	1067071	13.82	13.82	86.3	87.2	85.5	12.06	0	0	30.59	34.27	15.43	34.68
2017-10-02 10:34:00	1067072	13.82	13.82	86.4	87.1	85.7	11	0	0	35.83	34.28	6.948	41.74
2017-10-02 10:35:00	1067073	13.82	13.82	85.8	86.4	85.5	11.34	0	0	32.14	49.27	11.17	36.26
2017-10-02 10:36:00	1067074	13.99	13.82	85.7	86.2	84.7	11.48	0	0	33.63	41.24	10.19	42.35
2017-10-02 10:37:00	1067075	13.82	13.82	85.1	85.6	84.7	11.55	0	0	36.98	37.32	5.707	43.14
2017-10-02 10:38:00	1067076	13.82	13.82	84.8	85.4	84	11.55	0	0	34.96	38.89	7.651	37.97
2017-10-02 10:39:00	1067077	13.82	13.82	85	85.5	84.7	11.17	0	0	33.28	32.63	6.819	39.06
2017-10-02 10:40:00	1067078	13.82	13.82	85.4	85.9	85.1	11.34	0	0	32	33.51	8.25	36.12
2017-10-02 10:41:00	1067079	13.82	13.82	86.5	87.6	85.2	11.89	0	0	30.3	42.2	13.71	36.83
2017-10-02 10:42:00	1067080	13.82	13.82	87.3	87.6	87.1	11.92	0	0	28.69	46.94	12.57	33.63
2017-10-02 10:43:00	1067081	13.82	13.82	86.6	87.1	85.9	12.09	0	0	29.07	48.29	8.78	35.9
2017-10-02 10:44:00	1067082	13.82	13.82	87.1	87.7	86.4	11.55	0	0	33.19	35.38	8.19	38.97
2017-10-02 10:45:00	1067083	13.82	13.82	86.3	86.6	85.9	11.96	0	0	30.77	41.57	8.9	33.41
2017-10-02 10:46:00	1067084	13.82	13.82	86.1	86.4	85.8	11.99	0	0	28.51	41.97	12.59	31.21
2017-10-02 10:47:00	1067085	13.82	13.82	86.3	87	85.7	11.92	0	0	28.24	36.42	7.878	34.28
2017-10-02 10:48:00	1067086	13.97	13.82	87.3	87.9	86.5	12.5	0	0	26.71	46.84	9.78	32.22
2017-10-02 10:49:00	1067087	13.81	13.79	87.4	87.7	87.1	12.54	0	0	27.25	52.28	12.74	31.92
2017-10-02 10:50:00	1067088	13.98	13.79	87.5	87.9	87.1	12.4	0	0	24.51	52.5	8.07	29.2
2017-10-02 10:51:00	1067089	13.79	13.79	87.7	88.2	87.3	12.37	0	0	26.57	52.25	9.34	34.5
2017-10-02 10:52:00	1067090	13.79	13.79	87	87.6	86.5	12.54	0	0	28.51	54.12	9.8	31.17
2017-10-02 10:53:00	1067091	13.79	13.79	86.8	87.2	86.6	12.54	0	0	24.24	48.97	7.536	29.72
2017-10-02 10:54:00	1067092	13.79	13.79	87	87.4	86.7	12.64	0	0	25.03	52.87	8.56	28.76
2017-10-02 10:55:00	1067093	13.79	13.79	87	87.2	86.7	11.44	0	0	24.46	51.29	13.09	29.81
2017-10-02 10:56:00	1067094	13.79	13.79	86.1	86.9	85.5	12.09	0	0	31.42	48.07	10.79	36.65
2017-10-02 10:57:00	1067095	13.93	13.79	85.3	85.5	85.2	12.16	0	0	27.36	53.27	8.9	30.65
2017-10-02 10:58:00	1067096	13.79	13.79	85.6	85.8	85.3	12.16	0	0	27.26	48.1	9.87	31.61
2017-10-02 10:59:00	1067097	13.92	13.79	85.5	85.8	84.8	12.26	0	0	28.77	47.68	10.18	33.25

2017-10-02 11:00:00	1067098	13.79	13.79	85.5	86	84.9	12.16	0	0	23.27	46.49	9.28	28.76
2017-10-02 11:01:00	1067099	13.86	13.79	86.1	86.6	85.5	12.09	0	0	25.05	61.02	14.96	32.75
2017-10-02 11:02:00	1067100	13.79	13.79	85.8	86.2	85.2	12.23	0	0	32.9	43.02	6.731	39.94
2017-10-02 11:03:00	1067101	13.79	13.79	85.2	85.5	84.8	12.37	0	0	30.35	45.04	12.42	37.66
2017-10-02 11:04:00	1067102	13.79	13.79	85.7	86	85.4	12.26	0	0	31.07	46.4	8.31	37.97
2017-10-02 11:05:00	1067103	13.88	13.79	84.8	85.1	84.5	12.84	0	0	35.77	42.52	11.47	43.25
2017-10-02 11:06:00	1067104	13.79	13.79	85.2	85.5	84.8	12.91	0	0	29.56	46.56	6.047	35.82
2017-10-02 11:07:00	1067105	13.79	13.79	85.2	85.4	85	12.91	0	0	28.86	44.16	9.04	32.57
2017-10-02 11:08:00	1067106	13.79	13.79	85.4	85.9	85.1	13.01	0	0	27.17	44.74	11.69	32.31
2017-10-02 11:09:00	1067107	13.79	13.79	86	86.3	85.7	12.64	0	0	27	50.19	5.974	32.4
2017-10-02 11:10:00	1067108	13.79	13.79	86.3	86.9	85.8	12.6	0	0	23.96	50.26	8.93	27.84
2017-10-02 11:11:00	1067109	14	13.79	86.4	86.7	86	12.6	0	0	25.99	60.19	7.955	29.24
2017-10-02 11:12:00	1067110	13.79	13.79	86.1	86.3	85.8	12.71	0	0	30.68	52.31	7.522	42.84
2017-10-02 11:13:00	1067111	13.79	13.79	85.8	86	85	12.67	0	0	32.05	44.69	7.875	38.84
2017-10-02 11:14:00	1067112	13.79	13.79	85.5	86	85	12.98	0	0	35.16	39.2	5.918	38.85
2017-10-02 11:15:00	1067113	13.79	13.79	85.4	85.7	84.9	13.39	0	0	33.22	44.42	9.8	41.95
2017-10-02 11:16:00	1067114	13.79	13.79	84.7	85	84.3	13.7	0	0	33.19	37.97	10.78	37.35
2017-10-02 11:17:00	1067115	13.79	13.79	85.5	86	85	13.22	0	0	29.88	41.28	12.58	33.45
2017-10-02 11:18:00	1067116	14	13.79	85.7	86.4	84.8	13.25	0	0	34.28	46.61	10.67	38.35
2017-10-02 11:19:00	1067117	13.79	13.79	84.7	84.9	84.1	13.35	0	0	35.51	35.14	7.756	43.14
2017-10-02 11:20:00	1067118	13.79	13.79	85.2	85.4	84.9	13.08	0	0	33.09	42.94	10.9	36.08
2017-10-02 11:21:00	1067119	13.79	13.79	85	85.5	84.6	13.25	0	0	35.48	35.5	7.284	40.95
2017-10-02 11:22:00	1067120	13.79	13.79	85	85.5	84.6	13.39	0	0	32.29	44.71	6.191	43.75
2017-10-02 11:23:00	1067121	14.01	13.79	85.2	85.7	84.6	13.56	0	0	33.07	45.16	11.14	40.9
2017-10-02 11:24:00	1067122	14.01	13.79	85.3	85.7	84.5	13.35	0	0	31.96	42.08	16.6	40.16
2017-10-02 11:25:00	1067123	13.79	13.79	85.1	85.5	84.5	13.56	0	0	35.95	39.97	6.975	42.35
2017-10-02 11:26:00	1067124	13.63	13.63	85.9	86.5	85.2	13.15	0	0	30.61	47.93	10.62	36.56
2017-10-02 11:27:00	1067125	13.4	13.39	86	86.7	85.5	13.53	0	0	34.11	43.74	10.65	38.01
2017-10-02 11:28:00	1067126	13.39	13.39	85.7	86	85.5	13.53	0	0	32.68	48.63	10.51	37.61
2017-10-02 11:29:00	1067127	13.43	13.39	85.4	85.8	85	13.25	0	0	33.44	45.3	7.503	38.85
2017-10-02 11:30:00	1067128	13.39	13.39	86	86.3	85.5	13.29	0	0	29.45	43.23	11.2	38.97
2017-10-02 11:31:00	1067129	13.39	13.39	85.9	86.5	85.4	13.35	0	0	37.06	46.24	9.65	42.7
2017-10-02 11:32:00	1067130	13.4	13.39	84.8	85.1	84.5	13.93	0	0	37.71	47.37	7.194	42.57
2017-10-02 11:33:00	1067131	13.39	13.39	84.8	85.2	84.4	13.53	0	0	38.68	43.49	8.36	44.15
2017-10-02 11:34:00	1067132	13.39	13.39	85	85.2	84.6	13.93	0	0	36.55	48.3	7.369	46.82
2017-10-02 11:35:00	1067133	13.39	13.39	85.4	85.9	84.9	13.9	0	0	37.03	50.34	6.496	43.05
2017-10-02 11:36:00	1067134	13.39	13.39	84.8	85	84.4	14.07	0	0	38.02	39.37	11.87	44.8
2017-10-02 11:37:00	1067135	13.4	13.39	84.9	85.1	84.7	14	0	0	34.22	43.15	5.994	39.24
2017-10-02 11:38:00	1067136	13.39	13.39	85.4	86.1	84.7	13.63	0	0	30.12	46.48	11.81	34.02
2017-10-02 11:39:00	1067137	13.53	13.39	85	86	84.6	13.93	0	0	34.31	41.11	11.2	40.51
2017-10-02 11:40:00	1067138	13.43	13.39	85.2	86.5	84.6	13.56	0	0	27.76	44.32	11.59	37.44
2017-10-02 11:41:00	1067139	13.5	13.39	86.5	86.9	86	13.42	0	0	27.4	51.19	11.37	34.46
2017-10-02 11:42:00	1067140	13.41	13.39	86.2	86.6	85.7	13.49	0	0	32.84	45.24	10.34	37.7
2017-10-02 11:43:00	1067141	13.39	13.39	85.9	86.3	85.2	13.35	0	0	29.02	44.72	17.31	31.15
2017-10-02 11:44:00	1067142	13.39	13.39	86.9	87.8	86.3	13.59	0	0	27.69	46.93	6.939	31.61
2017-10-02 11:45:00	1067143	13.39	13.39	88.1	88.6	87.6	13.93	0	0	31.13	42.46	8.97	38.11
2017-10-02 11:46:00	1067144	13.5	13.39	87.5	87.9	86.6	13.53	0	0	32.92	47.33	8.09	36.61
2017-10-02 11:47:00	1067145	13.39	13.39	87.6	88.1	87.2	13.73	0	0	28.57	44.99	9	32.7
2017-10-02 11:48:00	1067146	13.4	13.39	87.7	88.1	87.1	13.32	0	0	31.23	53.21	9.84	41.34
2017-10-02 11:49:00	1067147	13.39	13.39	87.4	87.7	86.8	13.49	0	0	31.72	48.64	13.96	38.4
2017-10-02 11:50:00	1067148	13.39	13.39	86.4	86.8	85.8	13.46	0	0	34.63	39.47	8.75	37.35
2017-10-02 11:51:00	1067149	13.39	13.39	86.2	86.6	85.4	13.83	0	0	35.28	38.54	8.2	38.95
2017-10-02 11:52:00	1067150	13.53	13.39	86.5	86.9	86	13.49	0	0	36.87	49.18	7.892	40.46
2017-10-02 11:53:00	1067151	13.4	13.39	86.2	86.6	86	13.56	0	0	33.99	38.9	8.78	42.26
2017-10-02 11:54:00	1067152	13.57	13.39	86.8	87.3	86.4	13.29	0	0	30.77	35.52	9.4	35.12
2017-10-02 11:55:00	1067153	13.47	13.39	86.6	86.8	86.3	13.01	0	0	34.56	33.28	9.52	41.34
2017-10-02 11:56:00	1067154	13.39	13.39	86.1	86.5	85.7	13.29	0	0	36.31	40.85	9.02	40.86
2017-10-02 11:57:00	1067155	13.41	13.39	86.8	87.6	85.9	12.88	0	0	28.59	46.54	19.04	33.41
2017-10-02 11:58:00	1067156	13.39	13.39	87.5	88.1	86.9	13.05	0	0	26.42	51.56	10.41	32.84
2017-10-02 11:59:00	1067157	13.39	13.39	88	88.5	87.5	13.42	0	0	32.69	41.78	6.225	37.75
2017-10-02 12:00:00	1067158	13.39	13.39	87.9	88.2	87.4	13.35	0	0	27.65	25.23	11.56	33.15
2017-10-02 12:01:00	1067159	13.4	13.39	88.1	88.5	87.7	13.22	0	0	32.55	31.23	7.948	36.52
2017-10-02 12:02:00	1067160	13.39	13.39	87.8	88.4	87.2	13.42	0	0	29.71	36.9	6.12	34.65

	1067161	13.39	13.39	88.3	88.6	87.7	12.67	0	0	24.14	42.1	10.91	26.61
2017-10-02 12:04:00	1067162	13.45	13.39	88.1	88.3	87.6	12.91	0	0	27.45	47.25	10.81	33.1
2017-10-02 12:05:00	1067163	13.63	13.37	88.4	88.7	88.2	12.54	0	0	25.95	54.6	11.66	31.08
2017-10-02 12:06:00	1067164	13.37	13.37	87.5	88.3	86.3	12.88	0	0	35.18	44.56	10.07	46.43
2017-10-02 12:07:00	1067165	13.37	13.37	85.5	86.3	85.1	13.08	0	0	42.35	39.63	5.138	50.64
2017-10-02 12:08:00	1067166	13.37	13.37	86.2	86.5	85.8	12.67	0	0	34.67	42.11	11.08	41.31
2017-10-02 12:09:00	1067167	13.37	13.37	85.9	86.1	85.3	12.67	0	0	38.62	39.55	6.664	43.45
2017-10-02 12:10:00	1067168	13.37	13.37	85.5	86.2	85.2	13.22	0	0	38.36	41.22	10.26	44.41
2017-10-02 12:11:00	1067169	13.37	13.37	85.8	86.4	85.1	12.81	0	0	30.51	56.54	14.92	37.22
2017-10-02 12:12:00	1067170	13.37	13.37	86.2	86.9	85.5	12.6	0	0	34.86	48.85	11.79	41.92
2017-10-02 12:13:00	1067171	13.36	13.36	85.2	85.5	84.7	13.08	0	0	34.05	46.01	9.17	40.9
2017-10-02 12:14:00	1067172	13.59	13.37	85.5	85.8	85.2	12.81	0	0	34.35	45.6	8.35	37.83
2017-10-02 12:15:00	1067173	13.4	13.37	85.8	86	85.6	12.81	0	0	35.66	38.95	10.87	44.1
2017-10-02 12:16:00	1067174	13.37	13.37	86.1	86.8	85.7	12.26	0	0	32.85	45.58	10.72	39.02
2017-10-02 12:17:00	1067175	13.62	13.37	85.6	86.2	85	12.57	0	0	34.4	43.69	6.18	37.57
2017-10-02 12:18:00	1067176	13.36	13.36	85.3	85.7	84.9	12.91	0	0	34.13	47.65	7.832	38.4
2017-10-02 12:19:00	1067177	13.43	13.36	85.6	85.8	85.4	12.81	0	0	33.9	45.79	10.91	41.34
2017-10-02 12:20:00	1067178	13.37	13.37	85.9	86.2	85.6	12.5	0	0	34.16	49.12	14.78	40.86
2017-10-02 12:21:00	1067179	13.36	13.36	85.6	85.8	85.4	12.57	0	0	33.18	40.28	7.583	37.75
2017-10-02 12:22:00	1067180	13.37	13.37	85.8	86.1	85.2	12.37	0	0	35.35	43.54	10.5	40.03
2017-10-02 12:23:00	1067181	13.37	13.37	86.7	87.3	86.2	12.06	0	0	34.33	40.17	8.98	40.03
2017-10-02 12:24:00	1067182	13.66	13.36	86.6	87.1	86.2	12.2	0	0	33.96	35.26	9.28	42.74
2017-10-02 12:25:00	1067183	13.36	13.36	87.6	88.4	86.5	12.2	0	0	28.03	33.31	12.44	31.87
2017-10-02 12:26:00	1067184	13.37	13.37	88.7	89.2	88.1	12.16	0	0	29.72	52.1	10.42	40.64
2017-10-02 12:27:00	1067185	13.37	13.36	87.7	88.1	87.4	12.57	0	0	35.33	41.83	8.11	42.7
2017-10-02 12:28:00	1067186	13.36	13.36	87.1	88	86.5	12.09	0	0	34.55	42.27	7.231	41.08
2017-10-02 12:29:00	1067187	13.37	13.36	86.9	87.2	86.5	12.09	0	0	34.01	48.82	3.915	40.11
2017-10-02 12:30:00	1067188	13.44	13.36	86.9	87.1	86.6	11.79	0	0	32.47	47.98	10.54	40.77
2017-10-02 12:31:00	1067189	13.36	13.36	86.2	86.9	85.3	12.26	0	0	36.08	42.79	7.487	44.83
2017-10-02 12:32:00	1067190	13.41	13.36	86.3	86.8	85.4	11.79	0	0	31.9	43.97	9.59	40.38
2017-10-02 12:33:00	1067191	13.36	13.36	86.3	86.6	85.7	11.96	0	0	33.68	39.66	6.931	41.38
2017-10-02 12:34:00	1067192	13.36	13.36	86.3	86.7	85.9	11.89	0	0	34.94	45.13	11.97	40.25
2017-10-02 12:35:00	1067193	13.37	13.36	86.6	87.1	86.2	11.82	0	0	28.84	40.65	12.03	32.62
2017-10-02 12:36:00	1067194	13.36	13.36	87.4	88.2	86.8	11.62	0	0	26.44	44.03	7.172	33.32
2017-10-02 12:37:00	1067195	13.37	13.36	88.7	89	88.3	11.1	0	0	27.7	38.88	11.23	40.92
2017-10-02 12:38:00	1067196	13.36	13.36	87.4	88.2	86.8	11.41	0	0	36.82	46.56	8.65	43.45
2017-10-02 12:39:00	1067197	13.36	13.36	86.5	86.8	86.3	11.51	0	0	31.69	51.5	10.12	37.04
2017-10-02 12:40:00	1067198	13.36	13.36	86.9	87.3	86.6	11.55	0	0	26.5	52.01	6.002	31.71
2017-10-02 12:41:00	1067199	13.37	13.36	87.3	87.7	86.8	11.38	0	0	28.86	52.19	9.73	34.41
2017-10-02 12:42:00	1067200	13.36	13.36	86.6	87.1	86.2	11.58	0	0	34.91	35.69	11.06	37.22
2017-10-02 12:43:00	1067201	13.36	13.36	86.6	87.1	86.2	11.48	0	0	31.29	44.16	8.44	38.62
2017-10-02 12:44:00	1067202	13.36	13.36	87.5	87.7	87.1	10.86	0	0	29.1	46.61	8.51	34.37
2017-10-02 12:45:00	1067203	13.57	13.36	87.9	88.3	87.2	10.76	0	0	22.67	49.06	13.89	28.85
2017-10-02 12:46:00	1067204	13.36	13.36	88	88.3	87.6	10.66	0	0	28.46	41.16	9.58	40.46
2017-10-02 12:47:00	1067205	13.36	13.36	87	88.2	86.3	11.21	0	0	36.79	38.15	5.373	43.8
2017-10-02 12:48:00	1067206	13.36	13.36	86.9	87.3	86.5	11.1	0	0	28.66	40.59	10.05	33.71
2017-10-02 12:49:00	1067207	13.36	13.36	86.9	87.3	86.3	11.31	0	0	34.24	43.61	7.982	38.85
2017-10-02 12:50:00	1067208	13.36	13.36	86.3	86.6	85.9	11.38	0	0	32.47	45.84	10.83	36.34
2017-10-02 12:51:00	1067209	13.37	13.36	86.4	86.6	86.2	10.9	0	0	31.86	42.87	9.97	34.55
2017-10-02 12:52:00	1067210	13.37	13.36	87.2	87.9	86.6	10.42	0	0	24.72	44.23	12.12	28.5
2017-10-02 12:53:00	1067211	13.37	13.36	88.1	88.7	87.7	10.32	0	0	23.18	50.3	12.69	30.86
2017-10-02 12:54:00	1067212	13.66	13.36	88.2	88.7	87.7	10.9	0	0	25.04	57.06	10.11	31.43
2017-10-02 12:55:00	1067213	13.37	13.36	88.9	89.8	87.6	10.46	0	0	21.9	57.06	13	29.15
2017-10-02 12:56:00	1067214	13.36	13.36	89.2	89.6	88.6	10.76	0	0	31.3	40.55	7.703	37.04
2017-10-02 12:57:00	1067215	13.36	13.36	87.8	88.4	87.3	10.76	0	0	31.74	53.26	7.141	39.11
2017-10-02 12:58:00	1067216	13.36	13.35	87.4	87.8	87.1	11.07	0	0	31.33	51.81	11.75	34.33
2017-10-02 12:59:00	1067217	13.36	13.36	88.1	88.7	87.4	10.49	0	0	26.41	47.65	9.47	35.42



**PIMA COUNTY**

ENVIRONMENTAL QUALITY

**PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY**

33 N. Stone Avenue, Suite 700, Tucson, AZ 85701-1429

Phone (520) 724-7400 FAX (520) 838-7432

[http://webcms.pima.gov/government/environmental\\_quality/](http://webcms.pima.gov/government/environmental_quality/)

**AIR PROGRAM**

**NOTIFICATION OF INSPECTION RIGHTS**

**SOURCE INFORMATION**

PC # 1710-013 Permit # \_\_\_\_\_

Regulated Person FAST

On-site Representative TRAVIS BEHRENS Title \_\_\_\_\_

Site Location 6200 W. JUAN MORALES RD Phone \_\_\_\_\_

Site Contact \_\_\_\_\_ E-Mail \_\_\_\_\_

Mailing Address \_\_\_\_\_

**PDEQ INFORMATION**

Inspector Name M. ROGERS Phone \_\_\_\_\_

Inspection Date 10/3/17 Time 10:30

Accompanied by \_\_\_\_\_

Questions or comments on these procedures, your inspection and due process rights or this form may be directed to the Pima County Department of Environmental Quality (PDEQ) inspector listed on this form at (520) 724-7400. While I have the right to decline to sign this form, the PDEQ representative(s) may still proceed with the inspection under Pima County Code (PCC) 17.20.050.

I acknowledge that I have read and understand the Inspection Rights on the back of this form.

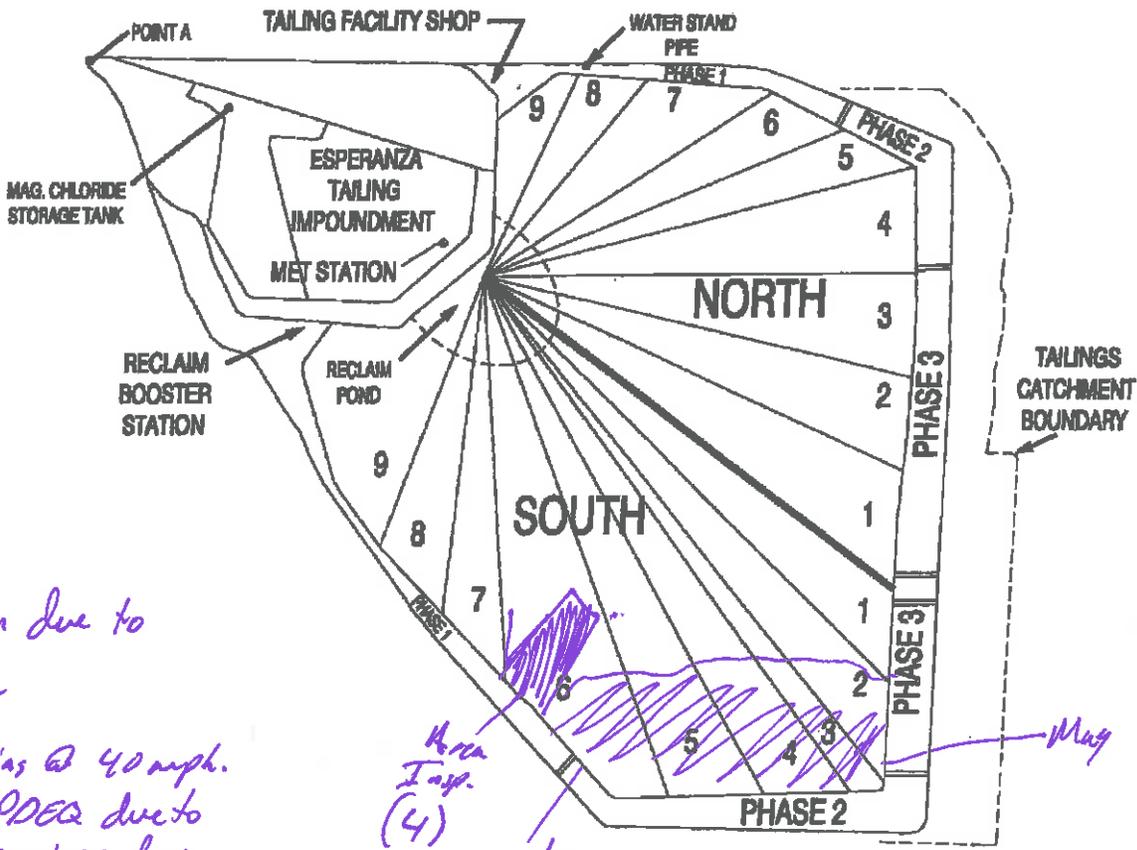
Signature [Signature] Date 10/3/17

\_\_\_\_\_ Refused to sign the Notification.

Authorized on-site representative is not present at the facility.

### Tailings Impoundment Surface Inspection

Date: 10/3/17  
 Time: 10:30  
 Conditions: Windy  
 Dam Inspected: 5 Phase(s) 1  
 Inspected by: E. Durazo



*N. 10 down due to crusher fire.*

*Winds peaking @ 40 mph. Visit from PDEQ due to dust from previous day*

*Area Insp. (4)*

*Mag*

*Mag*

Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 3 All tracks / 3 water trucks

Dust Suppressant Applied: 1 - Mag Water

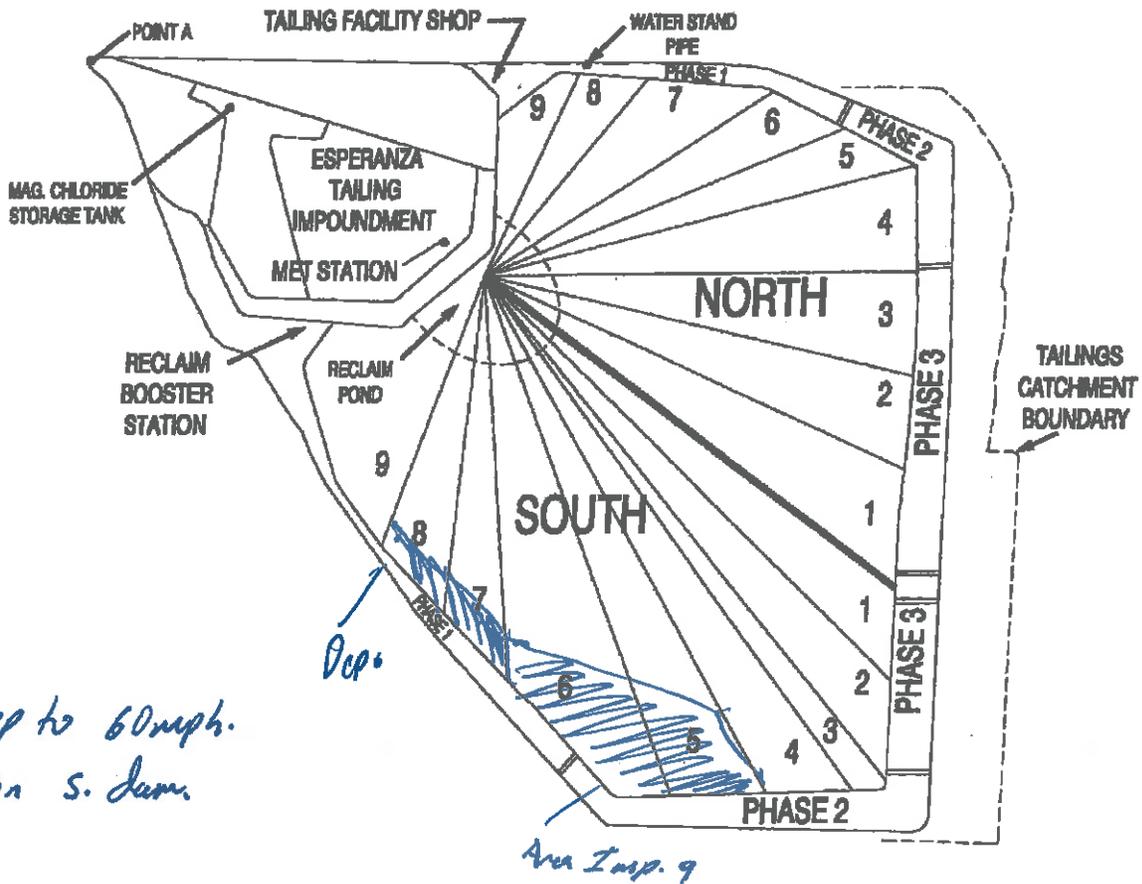
Equipment Used: —

Personnel: Craig / Andrew / Chris / Tony / Greg / Nick / Eddie

Weather Conditions: Wind Speed 20 Gusts To 50 Temperature 90 Precipitation Last 24 Hrs. Y/N

### Tailings Impoundment Surface Inspection

Date: 10/2/17  
 Time: 9:00  
 Conditions: Windy  
 Dam Inspected: 5 Phase(s) 2/3  
 Inspected by: F. Quince



*High winds up to 60 mph.  
 Broke crust on S. Dam.*

*Area Insp. 9*

Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 2 All tracks / 2 water trucks

Dust Suppressant Applied Y

Equipment Used /

Operator Chris / Grant Jesse / Craig

Weather Conditions: Wind Speed 25 Gusts To 55 Temperature 84 Precipitation Last 24 Hrs. Y (N)

# Attachment A Tailings Dam Environmental Activities Report

Operator: Ruazo

Date: 9/29/17

### Primary Controls

	N/S	Phase	Area
Area of Deposition	S	1	7/8
Special Wetting Areas			
Water Truck #	88	36	84
# of Loads	2	30	

	Gallons	Location	Approx. Area Covered
Alltrack/Marsh Buggy Application	15750	S	3/2
MgCl Applied to Roads	—		

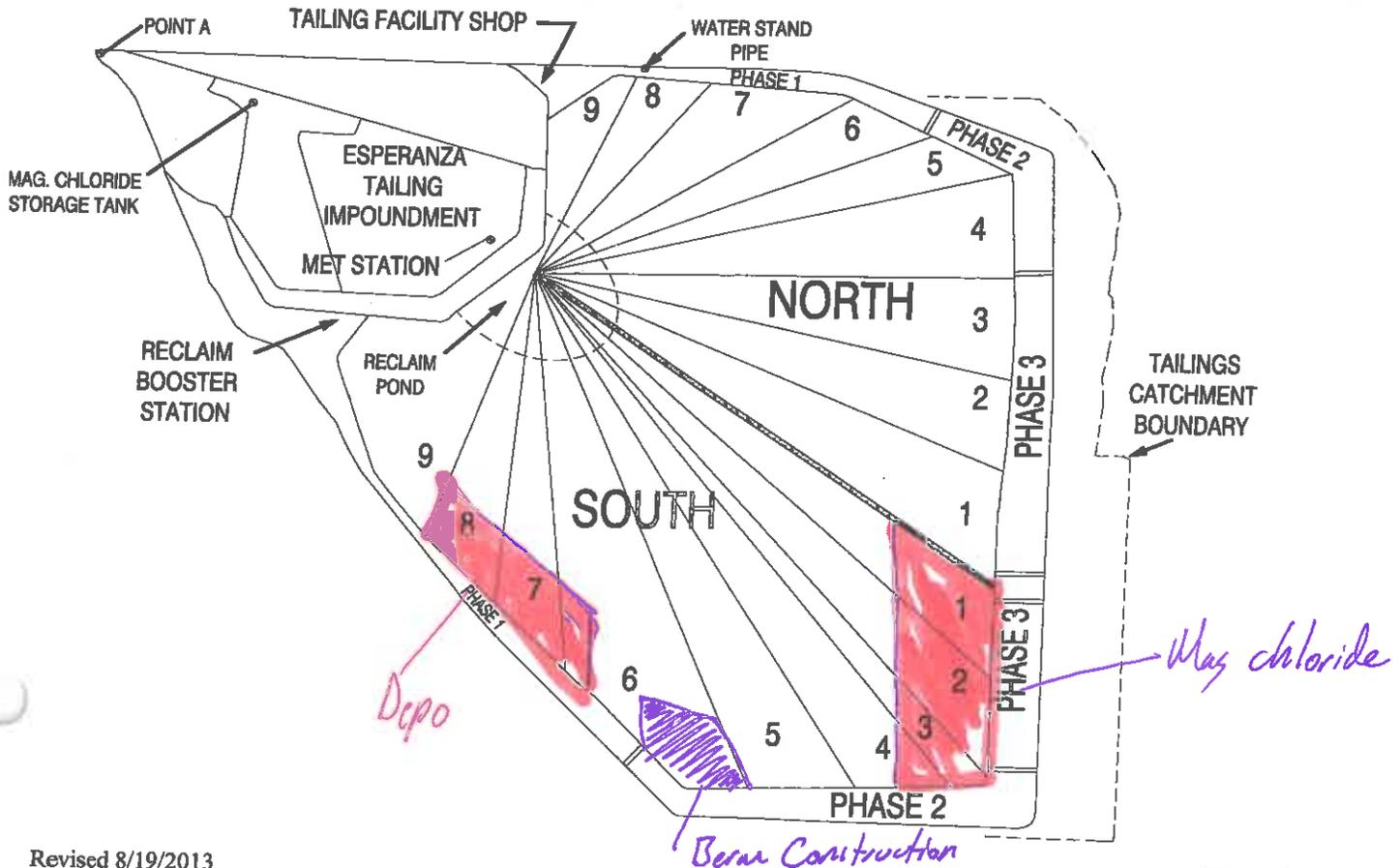
### Site Conditions

Areas Under Construction	S	2	6
Inches of Rain	—		

### Special Projects

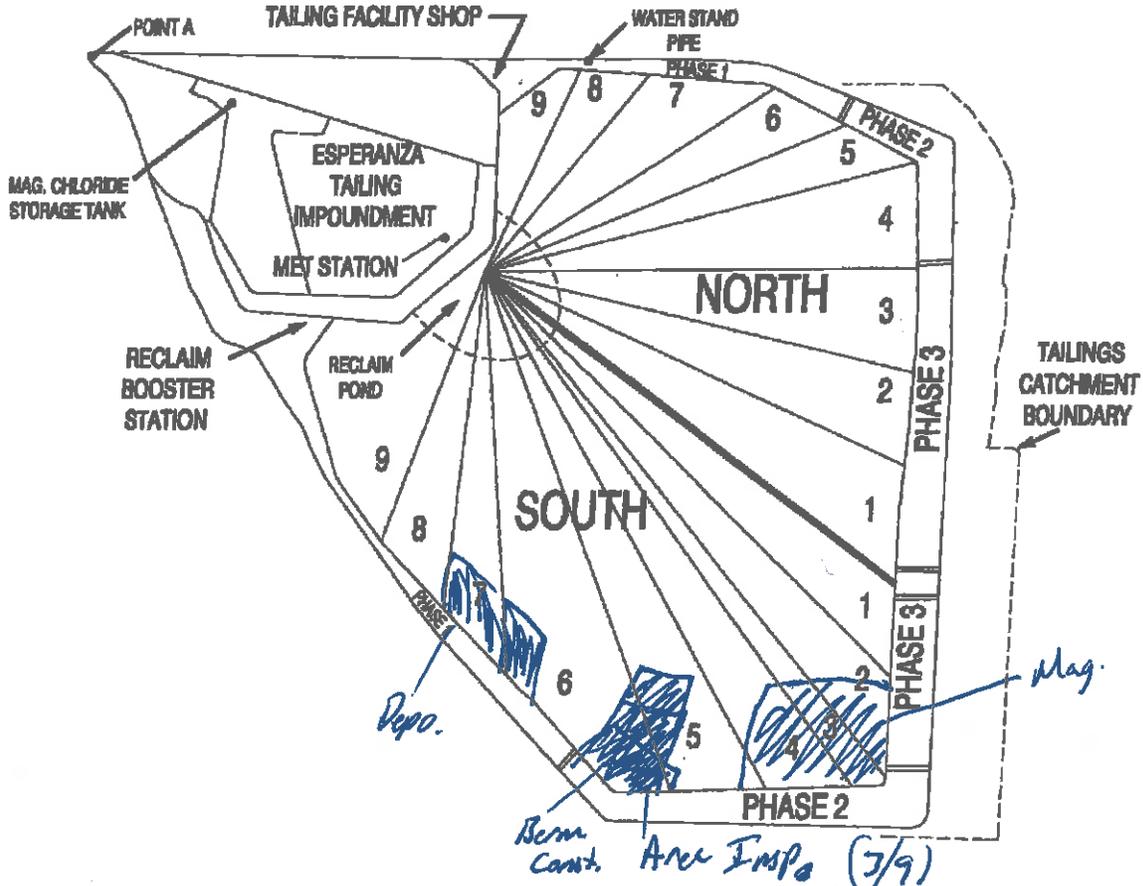
	Area of Application
Hydroseeding Area	N/A

**Comments** Deposition is currently on the S. Dam  
Had a spill on the road reported to E/W. Called  
E/W for dust on Wed.



### Tailings Impoundment Surface Inspection

Date: 9/29/17  
 Time: 11:00  
 Conditions: \_\_\_\_\_  
 Dam Inspected: \_\_\_\_\_ Phase(s): \_\_\_\_\_  
 Inspected by: \_\_\_\_\_



Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
<input checked="" type="checkbox"/>	3 Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
<input checked="" type="checkbox"/>	9 Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 2 All tractors / 1 water truck

Dust Suppressant Applied: Mag / Water

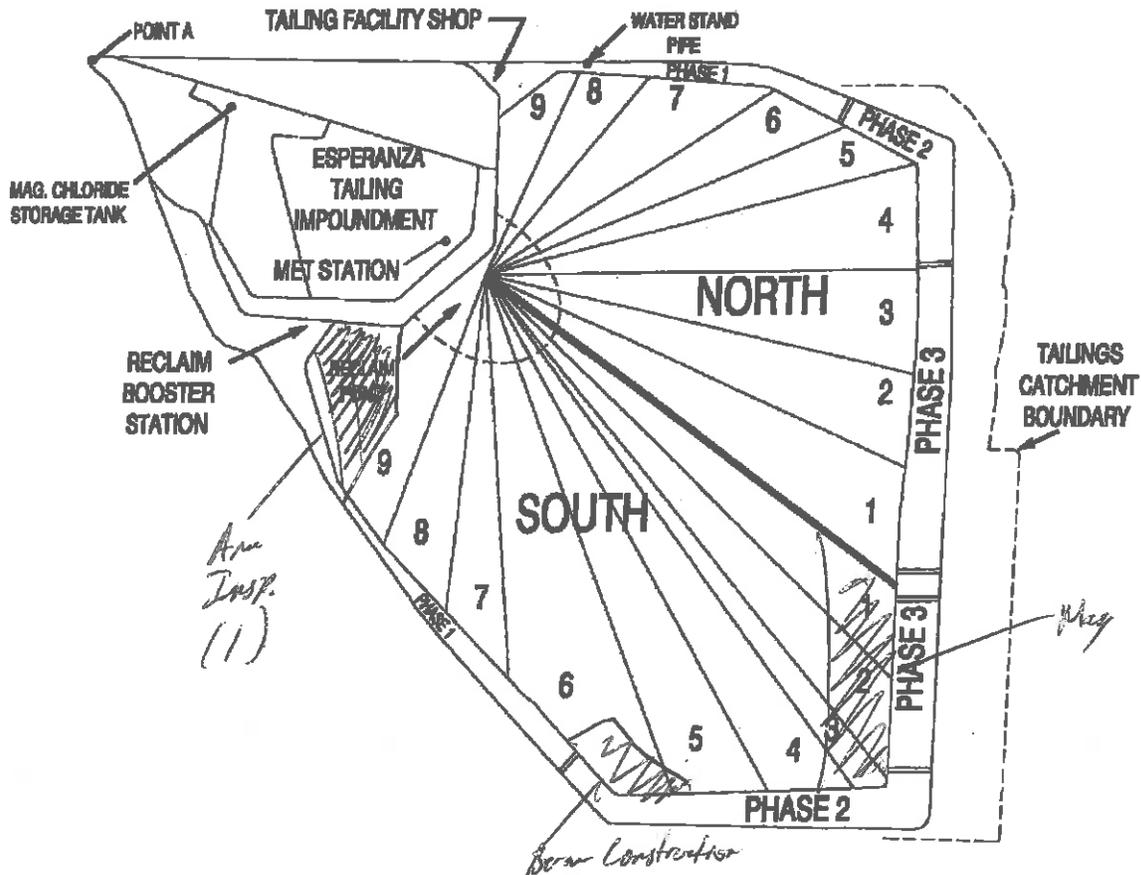
Equipment Used: \_\_\_\_\_

Inspector: Bob / Cur / Craig

Weather Conditions: Wind Speed 5 Gusts To 10 Temperature \_\_\_\_\_ Precipitation Last 24 Hrs. Y / N

### Tailings Impoundment Surface Inspection

Date: 9/28/17  
 Time: 10:00  
 Conditions: Slight Breeze  
 Dam Inspected: S Phase(s): 1  
 Inspected by: F. Durazo



Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 2 All tracks / 1 water truck

Dust Suppressant Applied Y

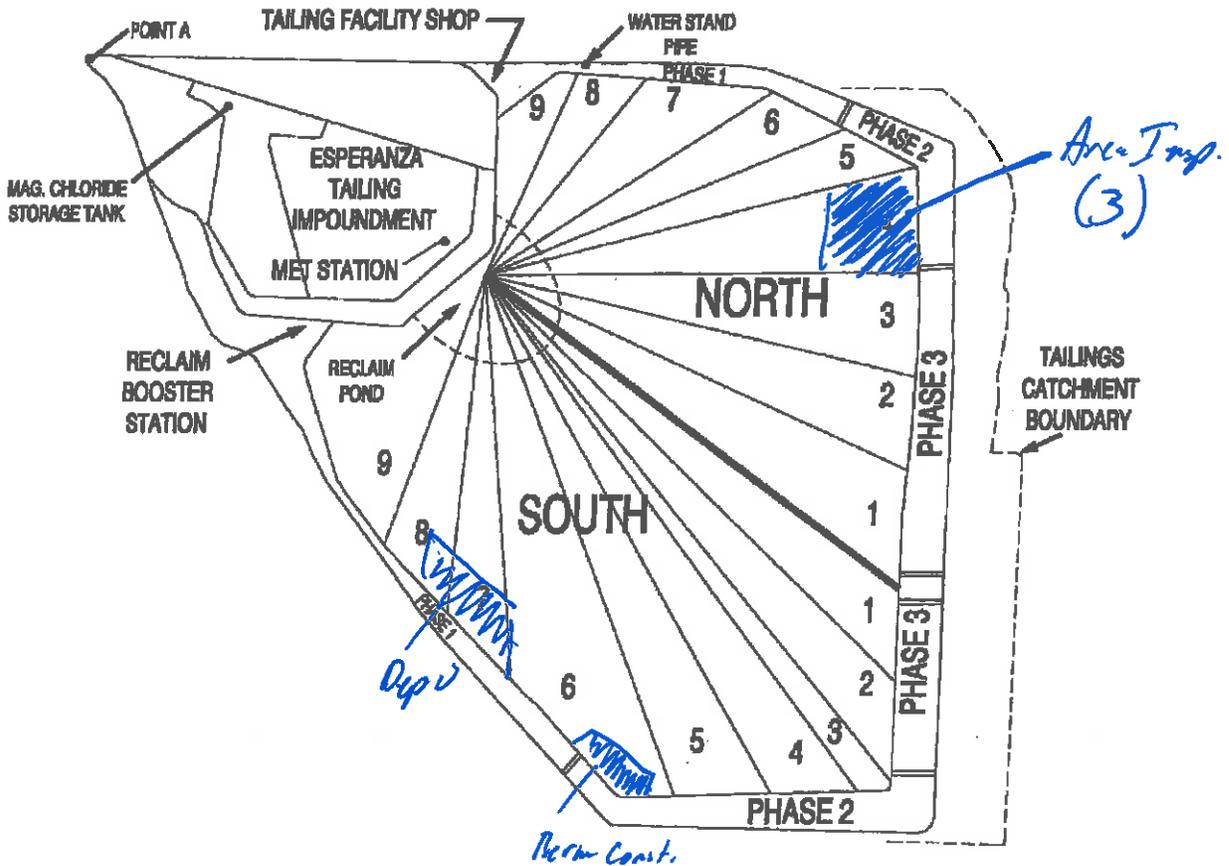
Ballons Used —

Inspector: John / Alek / Jesse

Weather Conditions: Wind Speed 8 Gusts To 10 Temperature 88 Precipitation Last 24 Hrs. Y/N

**Tailings Impoundment Surface Inspection**

Date: 9/27/17  
 Time: 12:00  
 Conditions: Slight Breeze  
 Dam Inspected: N Phase(s): 2  
 Inspected by: F. Jasso



Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 1 All track / 1 water track

Dust Suppressant Applied 4

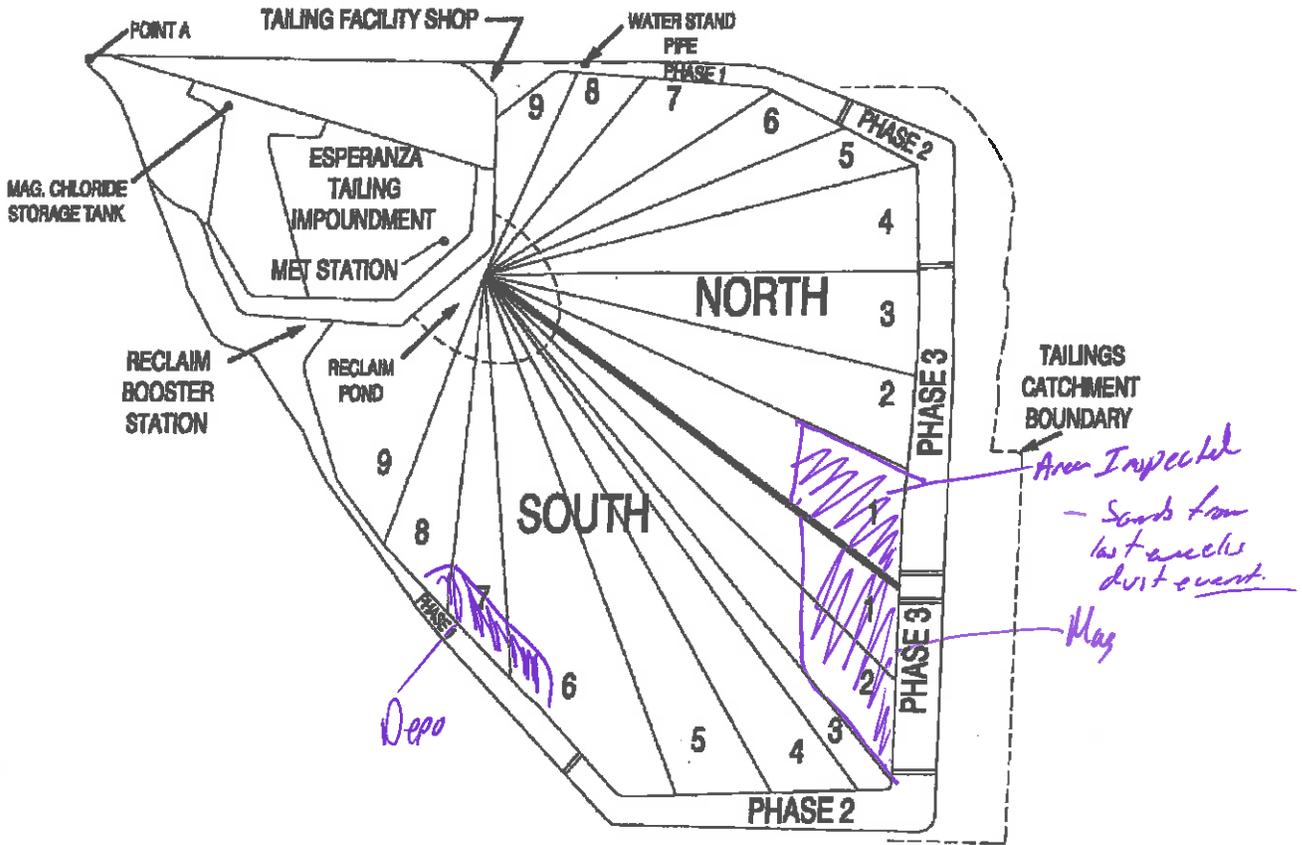
Gallons Used —

Inspector: John / Jasso

Weather Conditions: Wind Speed 8 Gusts To 14 Temperature 90 Precipitation Last 24 Hrs. Y/N

### Tailings Impoundment Surface Inspection

Date: 9/26/17  
 Time: 9:00  
 Conditions: Windy  
 Dam Inspected: W Phase(s): 3  
 Inspected by: E. Durbin



Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 1 water truck / 1 All track

Dust Suppressant Applied Y-

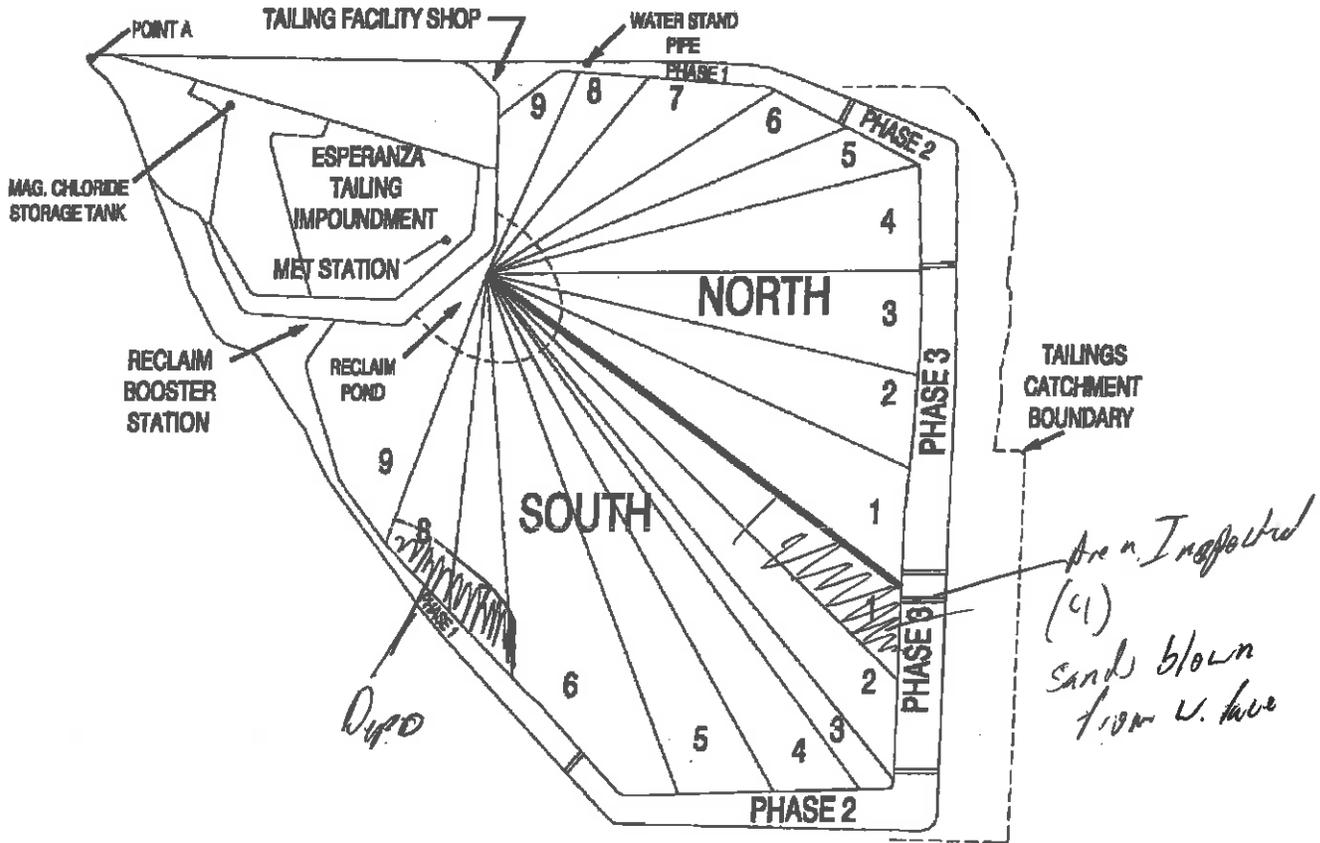
Gallons Used \_\_\_\_\_

Director John / Jesse

Weather Conditions: Wind Speed 10 Gusts To 20 Temperature 80 Precipitation Last 24 Hrs. Y/N

**Tailings Impoundment Surface Inspection**

Date: 9/25/17  
 Time: 8:00  
 Conditions: Slight Breeze  
 Dam Inspected: 5 Phase(s): 3  
 Inspected by: F. Duran



Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: - / water truck running

Dust Suppressant Applied ✓

Gallons Used ---

Inspector: Jesse

Weather Conditions: Wind Speed 8 Gusts To 14 Temperature 7.5 Precipitation Last 24 Hrs. YIN

# Attachment A

## Tailings Dam Environmental Activities Report

Operator: Duazo

Date: 9/22/17

### Primary Controls

	N/S	Phase	Area
Area of Deposition	N/S	1   1	9/6/17   9/8
Special Wetting Areas			
Water Truck #	88	36	37
# of Loads	DN	3D	Maz   DN
			Rental 95
			22

	Gallons	Location	Approx. Area Covered
Alltrack/Marsh Buggy Application	32,500	Phase 2	6 - 1
MgCl Applied to Roads	N/A		

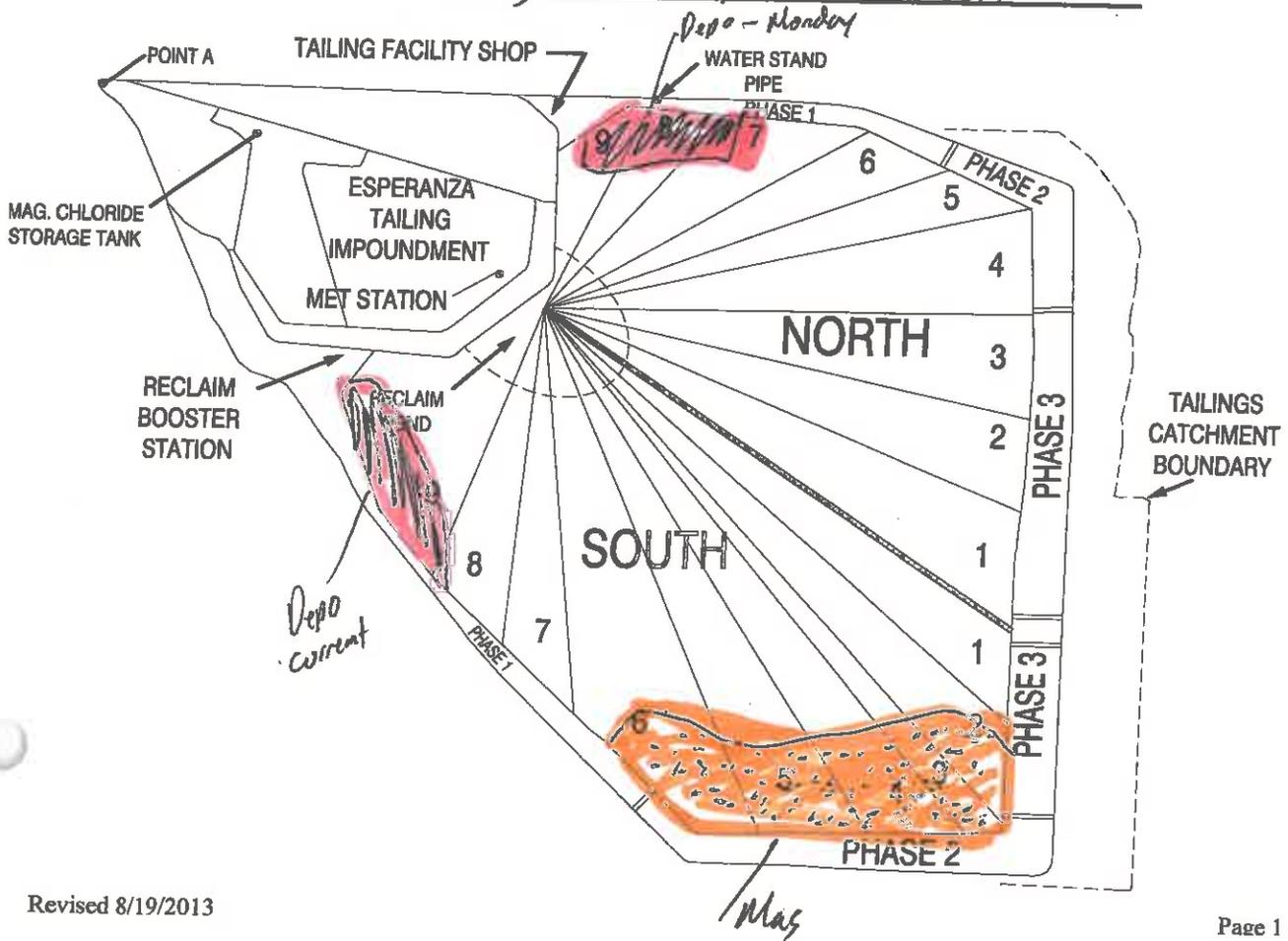
### Site Conditions

Areas Under Construction	5	1	6
Inches of Rain	0		

### Special Projects

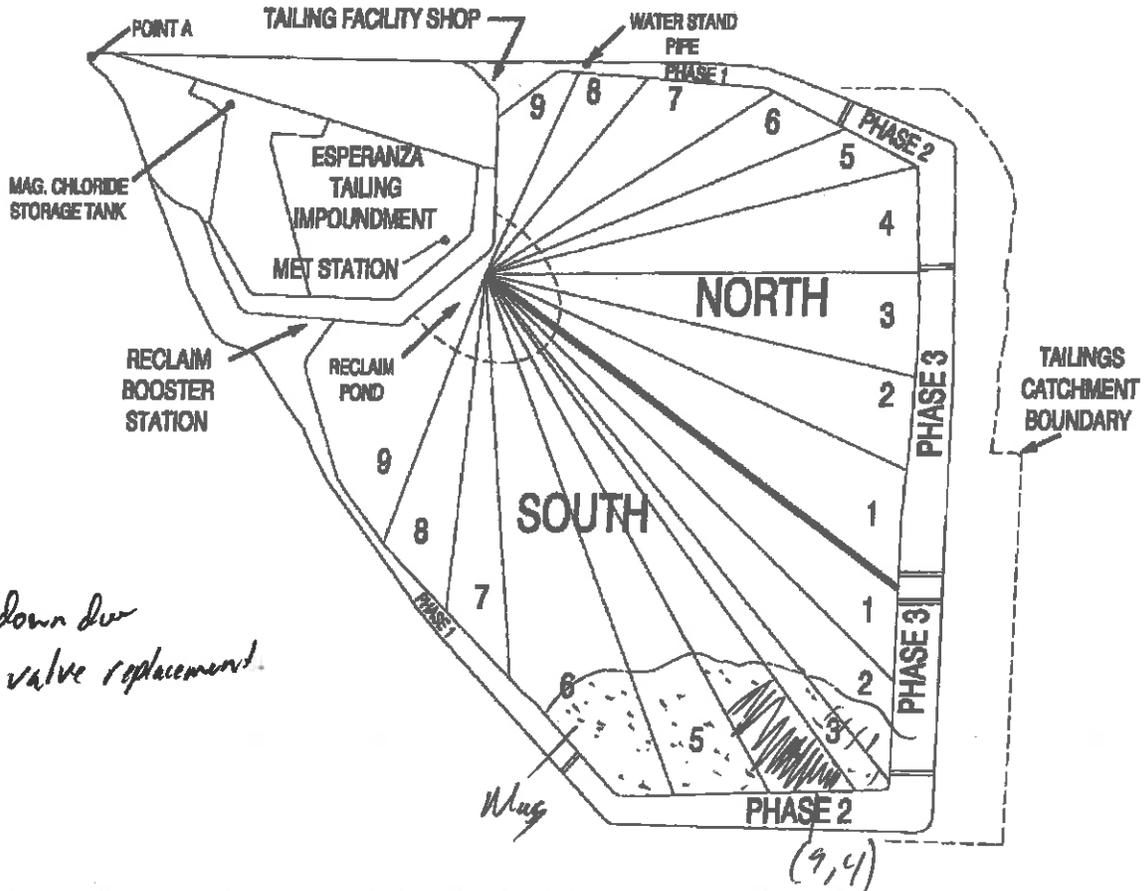
	Area of Application
Hydroseeding Area	N/A

**Comments** Heavy winds all week. All manpower put towards dust control. Pump station went down for scheduled maintenance expected to be running by Friday. ELW Notified throughout week for dust.



**Tailings Impoundment Surface Inspection**

Date: 9/22/17  
 Time: 9:00  
 Conditions: \_\_\_\_\_  
 Dam Inspected: \_\_\_\_\_ Phase(s): \_\_\_\_\_  
 Inspected by: \_\_\_\_\_



\* Pump station down due to the 102 valve replacement.

Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 3 all tracks / 2 water tracks

Dust Suppressant Applied Y

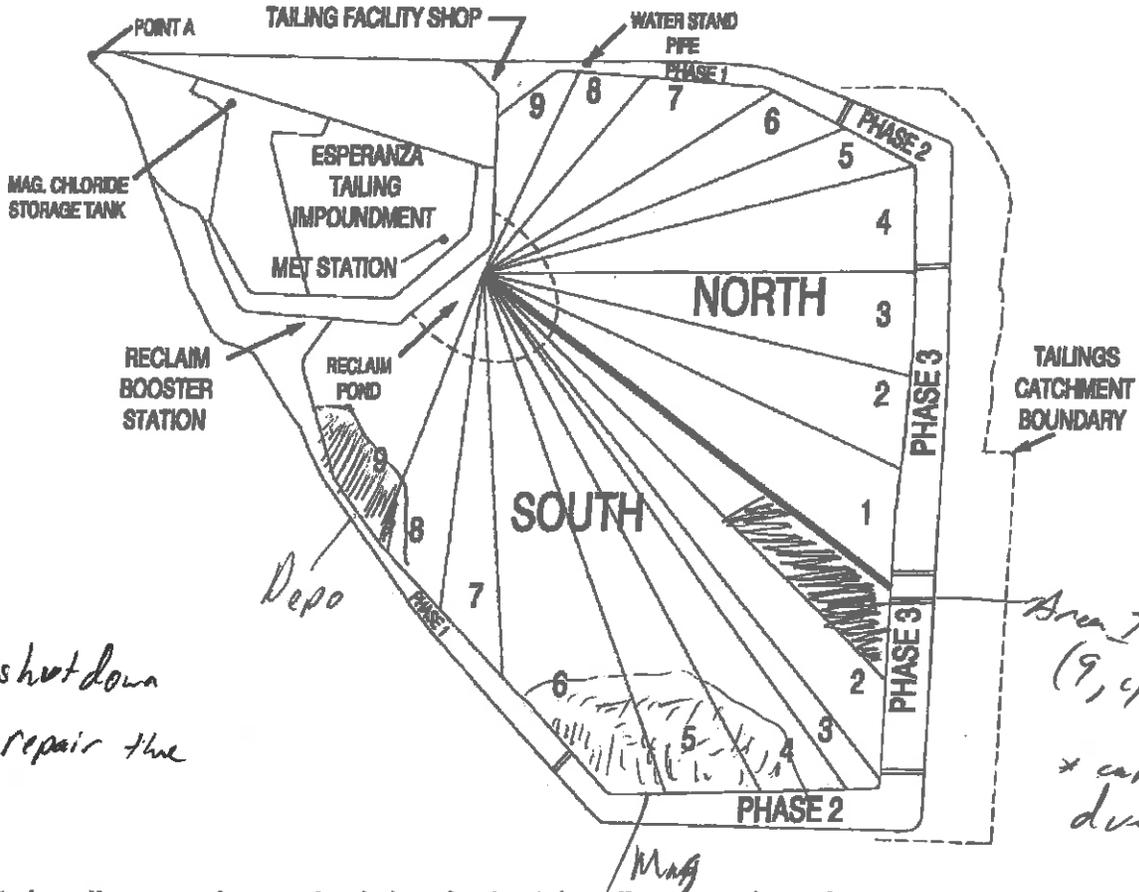
Gallons Used \_\_\_\_\_

Inspector: Tony / Eddie / John / Jesse / Craig

Weather Conditions: Wind Speed 17 Gusts To 30 Temperature 78 Precipitation Last 24 Hrs. Y/N

**Tailings Impoundment Surface Inspection**

Date: 9/29/17  
 Time: 10:00  
 Conditions: Windy  
 Dam Inspected: 5 Phase(s): 3  
 Inspected by: \_\_\_\_\_



indicated shutdown due to repair the 102 valve.

Area Insp. (9, 4)  
 \* called E1w due to dust.

Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 3 all tracks operation / 2 water trucks

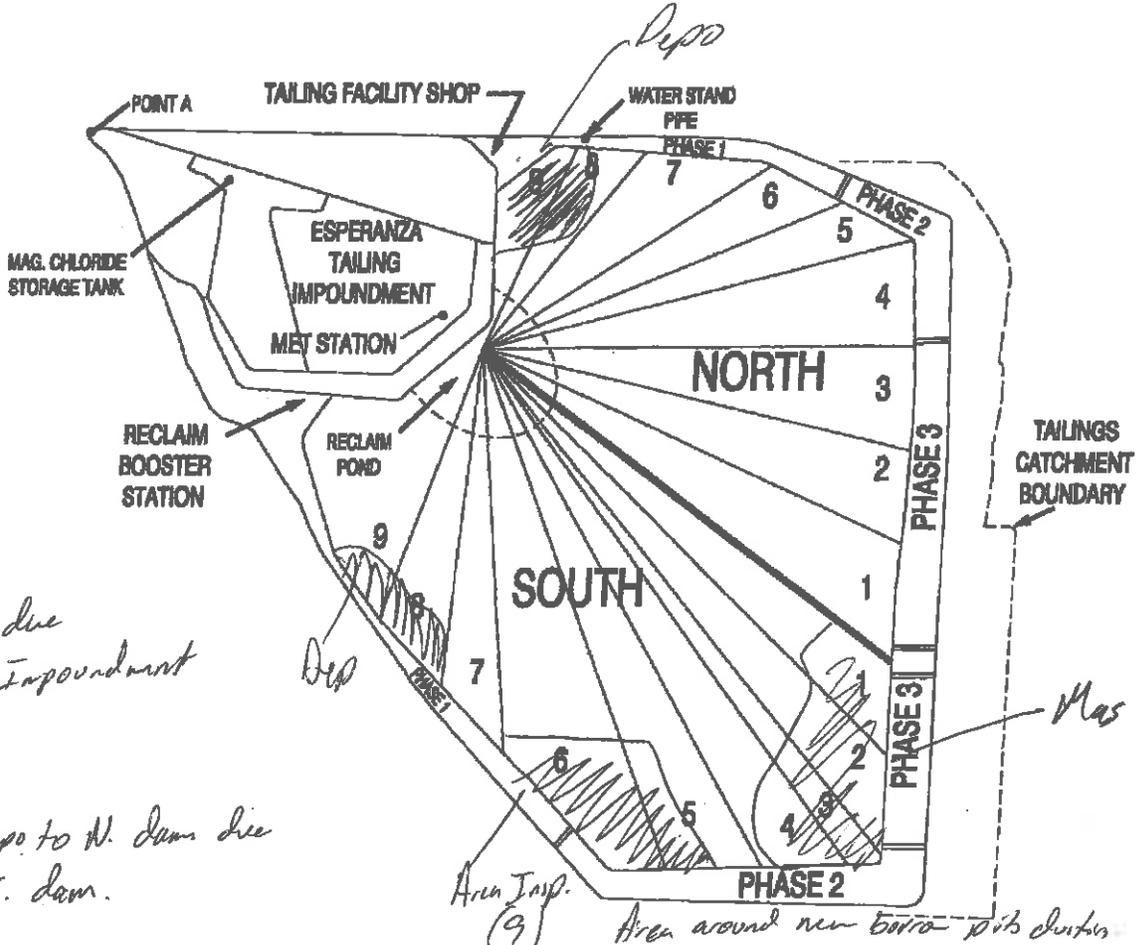
Dust Suppressant Applied: Y - Water / Mag.

Inspection Stations Used: \_\_\_\_\_  
 Inspected by: Tony / John / Jesse / Craig

Weather Conditions: Wind Speed 10 Gusts To 30 Temperature 90 Precipitation Last 24 Hrs. Y (N)

**Tailings Impoundment Surface Inspection**

Date: 9/20/17  
 Time: 1:00  
 Conditions: Strong winds  
 Dam Inspected: S Phase(s): 1/2  
 Inspected by: F. Duran



*Called Ehw due to dust on Impoundment*

*Had to move depo to N. Dam due to hole on S. Dam.*

*Area Insp. (9)*  
*Area around new borrow pits dustier*

Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 3 water trucks / 2 All trucks

Dust Suppressant Applied Y

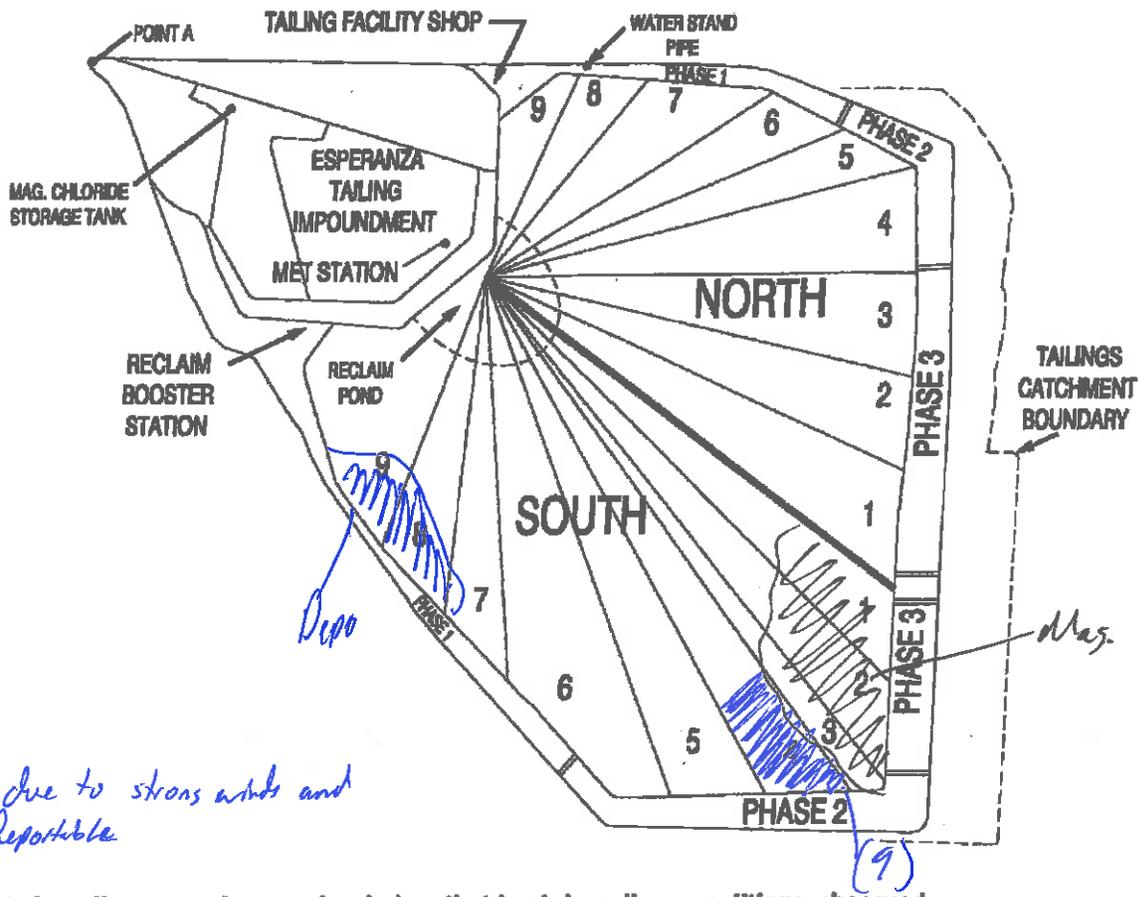
Equipment Used \_\_\_\_\_

Inspector \_\_\_\_\_

Weather Conditions: Wind Speed 15 Gusts To 30 Temperature 95 Precipitation Last 24 Hrs. Y (N)

**Tailings Impoundment Surface Inspection**

Date: 9/19/17  
 Time: 10:00  
 Conditions: Breezy / strong winds  
 Dam Inspected: 5 Phase(s): 2  
 Inspected by: Ellenzo



*Called ELL due to strong winds and dust. Non-Reportable*

Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Algae/Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
5	Crusts breaking down	Watch Area / Reinspect in one week
6	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: 2 - All tracks / 3 water trucks operating

Dust Suppressant Applied Y

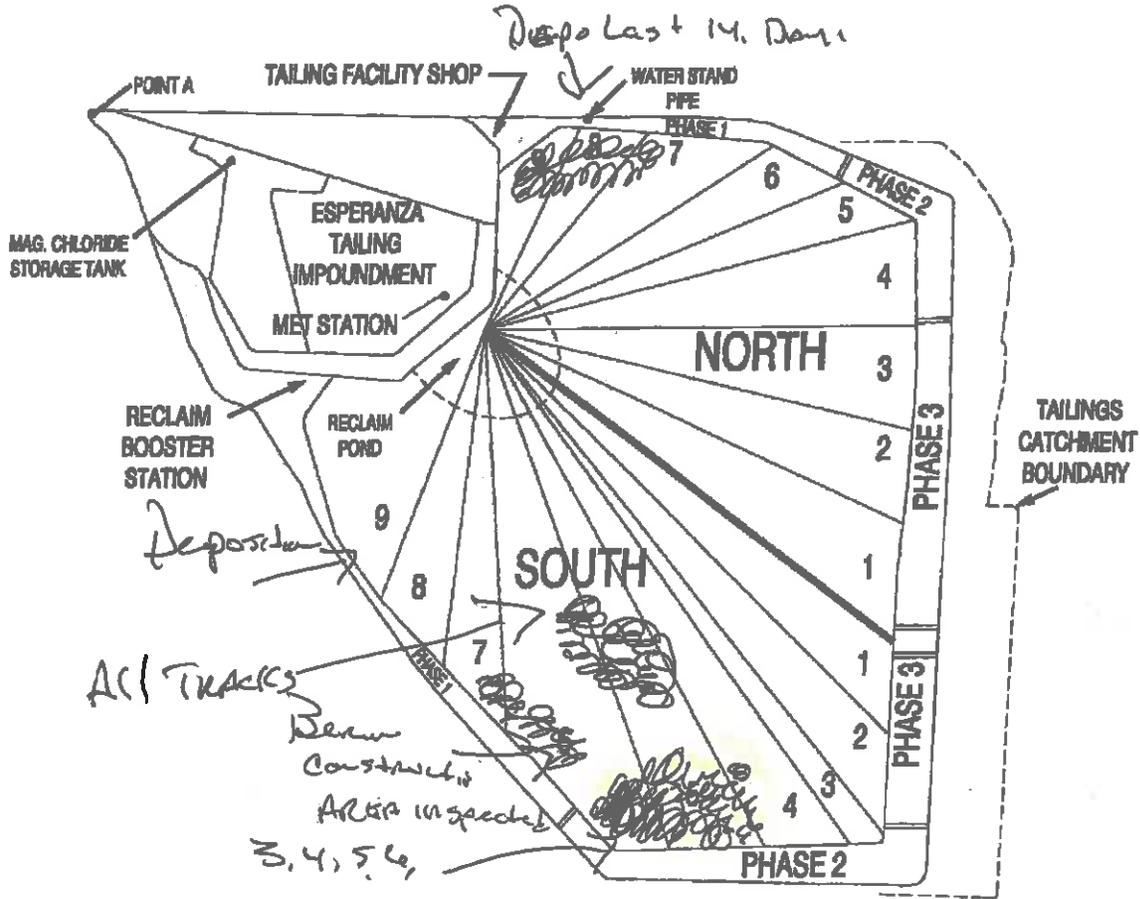
Equipment Used \_\_\_\_\_

Inspector: Nick / John / Craig / Kelse / Kemp

Weather Conditions: Wind Speed 15 Gusts To 25 Temperature 90 Precipitation Last 24 Hrs. Y/N

### Tailings Impoundment Surface Inspection

Date: 9-18-17  
 Time: 9:00  
 Conditions: Sunny Light Winds  
 Dam Inspected: 5 Phase(s): 2  
 Inspected by: Chambers



Mark area inspected on diagram using number below that best describes conditions observed.

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
<u>3</u>	Established Algae/Salt Crust	No Action Required
<u>4</u>	Crusted with light surface sands (blown in/washed in)	Watch Area / Reinspect in one week
<u>5</u>	Crusts breaking down	Watch Area / Reinspect in one week
<u>6</u>	Piles of Standing Sands (blown in)	Action Required - Deposition or Suppressant Application
7	Broken Down Crust	Action Required - Deposition or Suppressant Application
8	Delta	Action Required - Deposition or Suppressant Application
9	Area with Dust Suppressant Previously Applied	Watch Area / Reinspect as required

Action Plan: AC/ tracks in water trucks

Suppressant Applied \_\_\_\_\_

Millions Used \_\_\_\_\_

Inspector \_\_\_\_\_

Weather Conditions: Wind Speed 10 Gusts To 15 Temperature 80 Precipitation Last 24 Hrs. 0