



33 N. Stone Avenue, Suite 700
Tucson, Arizona 85701-1429
www.pima.gov/deq

Ursula Kramer Nelson, P.E.
Director

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

December 27, 2018

CERTIFIED MAIL
Return Receipt Requested

Freeport-McMoRan Sierrita Inc.
Attn: David Rhoades, General Manager – Sierrita Operations
6200 W. Duval Mine Rd.
PO Box 527
Green Valley, AZ 85622-0527

NOTICE OF VIOLATION # PC1811-151

The Pima County Department of Environmental Quality (PDEQ) has reason to believe Freeport-McMoRan Sierrita Inc. (FMSI) has violated requirements of PDEQ Air Quality Operating Permit #6067 and the Pima County Code (PCC). PDEQ discovered the violations alleged below during a surveillance inspection of the Sierrita Tailings Impoundment in Green Valley, Arizona, conducted on November 29, 2018, and upon review of reports submitted by FMSI dated November 19, 2018, and December 4, 2018.

I. ALLEGED VIOLATIONS – APPEALABLE AGENCY ACTIONS

FINDINGS OF FACT

Alleged Violation #1

Permit Condition Attachment B, II.E.1 (PCC 17.16.050.D)

II. FACILITY-WIDE REQUIREMENTS

E. Visibility Limiting Standard

1. The Permittee shall not cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne. Sources may be required to cease temporarily the activity or operation which is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken.

Findings

Freeport-McMoRan Sierrita, Inc. allowed visible fugitive dust emissions generated from the Sierrita Tailings Impoundment to cross northward across Duval Mine Road on November 29, 2018.

Requested Corrective Actions

Take adequate precautions to prevent visible emissions of fugitive dust generated from the Sierrita Tailing Impoundment from crossing property boundaries.

Alleged Violation #2

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 63% between approximately 8:20AM and 8:26AM, and 54% between approximately 8:36AM and 8:42AM on November 13, 2018, as measured by EPA Reference Method 9.

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 (ARS) § 49-513

Pima County Code § 17.28.070

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

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: Dustin Fitzpatrick

Or via email: Air.Permits@pima.gov with Subject: NOV PC1811-151

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 ARS § 49-513. As such, PDEQ believes that NOV violations are appealable agency actions as defined in ARS § 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 ARS § 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.

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.

Sincerely,



Dustin Fitzpatrick
Air Compliance Manager

Attachment: Compliance Determination Report dated December 27, 2018

cc: PDEQ File #: PC1811-151



Compliance Determination Report

Tracking ID: PC1811-151

Permit #: 6067

Source: Freeport-McMoRan Sierrita Inc.

Location: 6200 W. Duval Mine Rd., Green Valley, AZ

Date: December 27, 2018

Compliance Status: Non-compliant

Excess Emissions and Permit Deviation Reports

Freeport-McMoRan Sierrita Inc. (FMSI) submitted an excess emission report, dated November 19, 2018, to the Pima County Department of Environmental Quality (PDEQ), reporting a deficiency of FMSI's Air Quality Operating Permit #6067, Attachment B, XIX.B.1.a that occurred on November 13, 2018 (Attachment 1). The report detailed FMSI employees observing dust intermittently emanating in a southwardly direction from the tailings impoundment on Phase 1, South Dam beginning at approximately 8:15 am and ceasing at approximately 1:00 pm. FMSI employees conducted EPA Method 9 visible emission observations of the tailings dust at 8:20 am to 8:26 am and 8:36 am to 8:42 am, resulting in 63% and 54% opacity, respectively. PDEQ requested and received the EPA Method 9 Visible Emissions training certifications dated September 28, 2018, as well as the Tailings Dam Environmental Weekly Activities Reports and Tailings Impoundment Surface Inspection records for October 6 – November 19, 2018, required by the FMSI Tailings Dam Dust Control Management Plan (TDDCMP) (Attachments 2 & 3).

FMSI submitted a permit deviation report, dated December 4, 2018, to the Pima County Department of Environmental Quality (PDEQ), reporting a deficiency of FMSI's Air Quality Operating Permit #6067, Attachment B, II.E.1 that occurred on November 29, 2018 (Attachment 2). The report detailed intermittent tailings dust emanating from Phase 1, North Dam of the tailing impoundment heading in a north direction between approximately 11:30 am and 2:15 pm, and intermittently crossing Duval Mine Rd. The report stated that observations made by the FMSI environmental employee were between a 6 and 7 on the Beaufort Scale of Wind-Speed Equivalents and that wind speed data from the Sierrita Tailings_Cow weather station showed wind speeds greater than 25 mph and gusts in excess of 37 mph during the event. Additionally, the report stated, "The probable cause of the event was due to winds that picked up tailings material in areas of degraded surface crust in Phase 1, North Dam, which were close to the pond. The areas of the degraded surface crust are not accessible by all-track vehicle and are also at freeboard capacity and cannot accept additional deposition. Efforts were made to manually spray magnesium chloride to as much surface area as possible that could not be reached by an all-track."

Inspections

PDEQ conducted an onsite inspection on November 16, 2018, in response to the excess emissions reported regarding dust from the Sierrita Tailings Impoundment that occurred on November 13,

2018 (Attachment 4). PDEQ staff observed the South Dam, Phase 1, where tailings dust emissions were reported to have been measured above 20% opacity on November 13, 2018. There was evidence of recent windblown tailings material deposited along the inner and outer parts of the berm, as well as abrasion on the surface of the berm from northeasterly winds. PDEQ staff also observed the tailings interior surface of the North Dam, Phases 2 and 3 to be light in color.

PDEQ conducted an offsite inspection on November 29, 2018 (Attachment 5). PDEQ staff observed visible emissions from the Sierrita Tailings Impoundment blowing northward intermittently between approximately 12:18 pm to 2:18 PM and across Duval Mine Rd. at around approximately 2:00 pm.

Compliance Determination

Permit #6067 Attachment “B” II.E.1 states, “The Permittee shall not cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne. Sources may be required to cease temporarily the activity or operation which is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken.” Attachment “B”, XIX.B.1.a states, “The Permittee shall not cause, allow or permit visible emissions from any fugitive dust source in excess of 20% opacity in accordance with EPA Reference Method 9.”

PDEQ previously issued a Notice of Violation (NOV) to FMSI on November 13, 2018, for visible dust emissions from the Sierrita Tailings Impoundment crossing property boundaries on September 18, October 6, 7, 11, and 30, and November 6, 2018, and for fugitive dust emissions from the Sierrita Tailings Impoundment in excess of 20% that occurred on October 11, 2018.

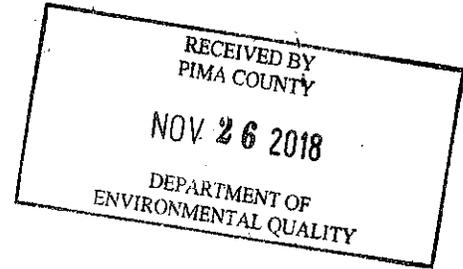
FMSI reported dust emissions from the Sierrita Tailings Impoundment in excess of 20% opacity that occurred on November 13, 2018. PDEQ staff documented fugitive dust emissions generated from the Sierrita Tailings Impoundment crossing Duval Mine Rd. on November 29, 2018. Additionally, FMSI reported visible emissions of fugitive dust generated from the Sierrita Tailings Impoundment crossing property boundaries on November 29, 2018. The repeated permit deficiencies of allowing visible fugitive dust emissions generated from the Sierrita Tailings Impoundment to exceed 20% opacity and cross property boundaries are evidence of a continued pattern of noncompliance and a risk to public health. Upon review of the inspection findings and submitted documents, PDEQ determined that a Notice of Violation will be issued to FMSI for deficiencies of PDEQ Air Quality Operating Permit #6067, Attachment B, II.E.1 and XIX.B.1.a.

Attachments:

1. Excess Emissions Report dated November 19, 2018
2. Method 9 Visible Emissions Training Certificates dated September 28, 2018
3. Tailings Dam Environmental Weekly Activities Reports and Tailings Impoundment Surface Inspection Reports dated October 6 – November 16, 2018
4. Permit Deviation Report dated December 4, 2018
5. Inspection Report dated November 16, 2018
6. Inspection Report dated November 29, 2018



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



November 19, 2018

Via Email: Air.Notices@pima.gov and
Certified Mail: 7017 0530 0000 7752 5784

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

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

Dear Mr. Fitzpatrick:

In accordance with Attachment "A" Conditions XI.A and XI.B of Class I Permit # 6067, this letter serves as detailed written follow-up notification of excess emissions from permit requirements. Freeport-McMoRan Sierrita Inc. (FMSI) provided initial notification to the Pima County Department of Environmental Quality (PDEQ) via telephone notification to Mr. Dustin Fitzpatrick on November 14, 2018.

Attachment "B" Condition XIX.B.1.a states "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."

Description of the Event

On November 13th, 2018 at approximately 8:15AM FMSI employees observed dust intermittently emanating in a southwardly direction from the tailings impoundment on Phase 1, South Dam. The visible dust ceased at approximately 1:00PM. In response, the Tailings Supervisor redirected deposition and dispatched three water trucks and one all track vehicle that were already in operation on the tailings impoundment and surrounding areas to the area of concern to help mitigate the tailings dust. The area of concern was located between two wet areas of recent deposition that had dried at a faster rate than the surrounding material deposited at the same time. In conjunction with the addition of deposition in Phase 1, South Dam, only one all-track vehicle was needed to mitigate the dust in the area of concern. Two additional all-track vehicles were in operation in Phase 1, North Dam during this time. An EPA Reference Official Method 9 Observation was conducted at 8:20AM to 8:26AM and 8:36AM to 8:42AM. The opacity results of the Method 9 Observations were 63% and 54% opacity, respectively (see attached).

Before and during the opacity event, sustained winds were in excess of 25 mph (See attached Sierrita_Cow, Tailings_1 and 10 Meter weather station reports demonstrating

the timeframe between 8:00AM to 1:00PM winds exceeded 25 mph) and a “7” on the Beaufort Scale evidenced by inconvenience felt in walking against the wind.

As you know, FMSI employs a comprehensive fugitive source management plan. In addition to these control measures that FMSI employs at the tailings dam, additional Magnesium Chloride (MgCl₂) was being sprayed on top of tailings dam and additional amounts of water were being sprayed on the berms and roads prior to this event.

Information Required by Attachment “A” Condition XI.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.

- (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:

An EPA Reference Official Method 9 Observation was conducted at 8:20AM to 8:26AM and 8:36AM to 8:42AM. The opacity results of the Method 9 Observations were 63% and 54% opacity, respectively.

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

Excess emissions may have been intermittent between approximately 8:15AM and 1:00PM. Based on FMSI’s information, the excess emissions may have occurred at 8:20AM and 8:36AM. Each event may have lasted for 6 minutes or more.

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

Visible emissions emanated from the Sierrita Tailings Impoundment Phase 1, South Dam.

- (5) Nature and cause of such emissions:

Visible emissions from the Sierrita Tailings Impoundment were caused by high sustained winds in excess of 25 mph.

- (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:

- Deposition was redirected to Phase 1, South Dam to mitigate the dust during and after the event.*

- *Applied water to tailings dam roads and berms, Gorilla Snot to the active berm, as well as, MgCl₂ to the top of the tailings dam that was reachable by the all tracks.*
- *A total of 80,625 gallons of MgCl₂ and 2,037,000 gallons of water were applied to areas in and around the tailings impoundment in the 2 weeks prior to this event.*
- *A total of 20,250 gallons of MgCl₂ and 401,000 gallons of water were applied to areas in and around the tailings impoundment on the day of the event. Hand sprayed application of MgCl₂ in Phase 1, South Dam occurred on the days following the event.*
- *A total of 3,025 gallons of Gorilla Snot was applied to the exterior of the active berm on Phase 1, South Dam.*
- *Tailings supervisor adjusted the daily operating schedule to 24/7 coverage to provide 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):

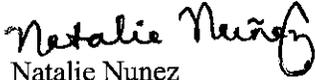
- *Applying wetting agents*
- *Maximizing the wet surface area*
- *Barring and controlling vehicle access*
- *Limiting vehicle speed*
- *Re-vegetating the side-slopes*
- *Compaction*
- *Encrustation*
- *Completed new tailings dam roads have been capped with native dirt*
- *Side slopes are treated with a polymer based dust suppressant*
- *Heavily traveled perimeter roads are treated with MgCl₂ 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*

- (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 520.393.2010 if additional information is necessary.

Sincerely,

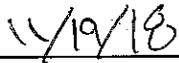

Natalie Nunez
Senior Environmental Scientist

20181119_001
5 attachments

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.

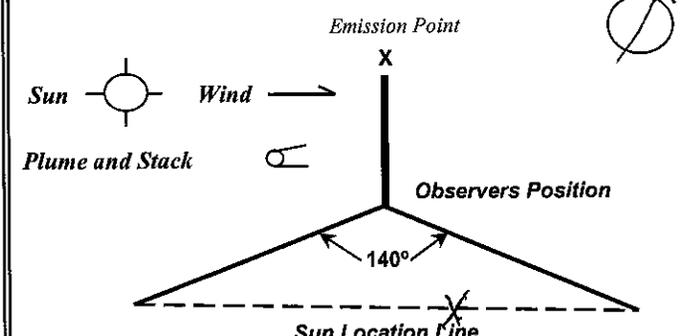
David Rhoades, General Manager – Sierrita Operations

 _____ 
(Signature) (Date)

Visible Emission Observation Form

FREEMPORT-McMORAN COPPER & GOLD 6200 W. Duval Mine Road P. O. Box 527 Green Valley AZ 85622-0527 Tel: (520) 648-8500 Sierrita Operations		Observation Date 8:20 AM 11/13/2018 8:20 AM	Start Time 8:20 AM	Stop Time 8:26 AM																																																																																																																																																																																																																					
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DISTANCE FROM OBSERVER ≈ 1 mile	DIRECTION FROM OBSERVER NW																																																																																																																																																																																																																								
DESCRIBE EMISSIONS START Gray STOP Gray																																																																																																																																																																																																																									
EMISSION COLOR	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 center																																																																																																																																																																																																																									
DESCRIBE BACKGROUND START SKY blue STOP SKY blue																																																																																																																																																																																																																									
BACKGROUND COLOR START STOP	SKY CONDITIONS START clear STOP clear																																																																																																																																																																																																																								
WIND SPEED 5-10 MPH	WIND DIRECTION SW																																																																																																																																																																																																																								
AMBIENT TEMPERATURE 65°F	WET BULB TEMP.	RH, (%)																																																																																																																																																																																																																							
Source Layout Sketch Draw North Arrow																																																																																																																																																																																																																									
		OBSERVERS NAME (PRINT) Daniel Strickler		DATE 11/13/2018																																																																																																																																																																																																																					
		OBSERVERS SIGNATURE <i>Daniel Strickler</i>		DATE 11/13/2018																																																																																																																																																																																																																					
		ORGANIZATION FMI Sierrita		DATE																																																																																																																																																																																																																					
		CERTIFIED BY Arizona Smoke School		DATE																																																																																																																																																																																																																					
ADDITIONAL INFORMATION																																																																																																																																																																																																																									

Visible Emission Observation Form

FREEMPORT-McMORAN COPPER & GOLD 6200 W. Duval Mine Road P. O. Box 527 Green Valley AZ 85622-0527 Tel: (520) 648-8500 Sierrita Operations		Observation Date 11-13-18		Start Time 8:36		Stop Time 8:42		
		Sec Min	0	15	30	45	Comments	
PROCESS EQUIPMENT <i>Tailings Dam</i>		OPERATING MODE <i>operating</i>		1	<i>60</i>	<i>60</i>		
CONTROL EQUIPMENT <i>H₂O, mgcl</i>		OPERATING MODE		2	<i>60</i>	<i>60</i>	<i>60</i>	<i>60</i>
DESCRIBE EMISSION POINT <i>Dust Plume</i>				3	<i>60</i>	<i>60</i>	<i>55</i>	<i>55</i>
HEIGHT ABOVE GROUND LEVEL <i>100 ft</i>		HEIGHT RELATIVE TO OBSERVER <i>Same Level</i>		4	<i>55</i>	<i>55</i>	<i>55</i>	<i>55</i>
DISTANCE FROM OBSERVER <i>~1 mile</i>		DIRECTION FROM OBSERVER <i>North North West</i>		5	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>
DESCRIBE EMISSIONS START <i>Gray</i> STOP <i>Gray</i>				6	<i>45</i>	<i>40</i>	<i>40</i>	<i>40</i>
EMISSION COLOR		PLUME TYPE: CONTINUOUS <input type="checkbox"/>		7				
		FUGITIVE <input checked="" type="checkbox"/> INTERMITTENT <input type="checkbox"/>		8				
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				
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED <i>Center</i>				10				
DESCRIBE BACKGROUND START <i>Sky Blue</i> STOP <i>Sky Blue</i>				11				
BACKGROUND COLOR		SKY CONDITIONS		12				
START STOP		START <i>Clear</i> STOP <i>Clear</i>		13				
WIND SPEED <i>5-10 mph</i>		WIND DIRECTION <i>S W</i>		14				
AMBIENT TEMPERATURE <i>65°F</i>		WET BULB TEMP.		15				
		RH, (%)		16				
Source Layout Sketch Draw North Arrow  				17				
				18				
				19				
				20				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
				28				
				29				
				30				
		OBSERVERS NAME (PRINT) <i>Patrick J Stergion</i>		OBSERVERS SIGNATURE <i>[Signature]</i>		DATE <i>11-13-18</i>		
		ORGANIZATION <i>FME Sierrita</i>		CERTIFIED BY <i>Arizona Smoke School</i>		DATE		
		ADDITIONAL INFORMATION						

Sierrita_Cow Weather Station

One Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 8:00	33.04	231.1	6.466	41.12
11/13/2018 8:01	28.22	232.6	13.45	38.23
11/13/2018 8:02	29.05	235.4	17.33	35.12
11/13/2018 8:03	33.63	231.1	7.896	43.23
11/13/2018 8:04	32.97	231.5	14.93	39.06
11/13/2018 8:05	35.12	232.1	7.376	38.05
11/13/2018 8:06	33.51	232	8.11	41.82
11/13/2018 8:07	33.41	227.7	10.74	41.21
11/13/2018 8:08	32.77	225.3	7.853	41.69
11/13/2018 8:09	32.64	232.9	7.922	39.41
11/13/2018 8:10	30.86	226.2	5.693	34.59
11/13/2018 8:11	23.18	242.8	16.94	29.2
11/13/2018 8:12	28.93	233.1	7.211	37.66
11/13/2018 8:13	33.06	230.4	5.723	41.3
11/13/2018 8:14	36.67	236	8.56	43.01
11/13/2018 8:15	32.27	238.9	6.313	41.47
11/13/2018 8:16	33.94	230.2	7.202	40.99
11/13/2018 8:17	33.49	232.9	7.666	44.28
11/13/2018 8:18	35.62	228.3	11.03	43.71
11/13/2018 8:19	35.13	233.4	5.194	42.57
11/13/2018 8:20	40.92	226.2	8.18	46.73
11/13/2018 8:21	34.17	231.5	19.8	42.48
11/13/2018 8:22	33.74	233.8	10.77	41.87
11/13/2018 8:23	35.71	232.6	5.807	40.73
11/13/2018 8:24	28.93	235.6	11.08	38.32
11/13/2018 8:25	30.44	240.7	7.261	37.09
11/13/2018 8:26	32.32	230.9	6.26	39.85
11/13/2018 8:27	33.46	230.4	11.9	43.58
11/13/2018 8:28	36.33	235	9	49.71
11/13/2018 8:29	36.27	228.8	5.577	46.38
11/13/2018 8:30	34.04	233.3	8.33	40.03
11/13/2018 8:31	35.2	229.5	7.657	40.42
11/13/2018 8:32	32.83	229.5	9.81	36.74
11/13/2018 8:33	34.09	234.6	5.155	43.66
11/13/2018 8:34	31.08	244.1	12.71	39.02
11/13/2018 8:35	27.87	235.5	11.46	33.71
11/13/2018 8:36	28.15	229.4	10.34	36.34
11/13/2018 8:37	29.41	231.6	8.82	34.28
11/13/2018 8:38	28.46	234.3	5.054	33.19
11/13/2018 8:39	30.33	234.7	8.2	35.73
11/13/2018 8:40	35.95	227.5	10.76	40.25
11/13/2018 8:41	37.05	235.1	9.2	49.19
11/13/2018 8:42	36.31	227.9	6.407	41.95
11/13/2018 8:43	33.99	228	7.146	41.25
11/13/2018 8:44	32.74	229	8.04	36.3

Sierrita_Cow Weather Station

One Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 8:45	35.55	228	10.6	42.22
11/13/2018 8:46	36.85	232.5	8.74	47.43
11/13/2018 8:47	33.44	234.2	9.19	39.02
11/13/2018 8:48	31.08	233.9	9.08	36.08
11/13/2018 8:49	30.71	237.5	10.1	38.49
11/13/2018 8:50	29.98	237.1	8.85	38.01
11/13/2018 8:51	23.83	238.8	10.14	37.61
11/13/2018 8:52	25.92	232.3	8.39	29.33
11/13/2018 8:53	30.5	230.6	10.09	37.7
11/13/2018 8:54	29.98	233.9	11.67	34.55
11/13/2018 8:55	24.11	233.8	13.34	29.99
11/13/2018 8:56	24.02	231.6	8.44	27.18
11/13/2018 8:57	27.7	232.4	8.05	30.47
11/13/2018 8:58	28.01	233.1	8.11	36.12
11/13/2018 8:59	21.23	228.6	14.78	28.98
11/13/2018 9:00	25.91	230.4	12.39	34.46
11/13/2018 9:01	24.99	238.2	7.802	39.81
11/13/2018 9:02	25.12	229.9	9.33	30.6
11/13/2018 9:03	26.4	228.5	9.27	30.29
11/13/2018 9:04	18.47	242.4	16.31	25.38
11/13/2018 9:05	18.59	247.4	14.58	24.42
11/13/2018 9:06	20.83	238.9	11.5	35.47
11/13/2018 9:07	28.46	229.5	6.835	35.51
11/13/2018 9:08	26.5	230.8	6.377	30.99
11/13/2018 9:09	31.19	228.9	8.58	38.93
11/13/2018 9:10	30.66	227.5	10.51	36.26
11/13/2018 9:11	30.44	228.3	7.058	40.42
11/13/2018 9:12	30.88	231.7	9.9	37.44
11/13/2018 9:13	33.1	228	7.328	38.93
11/13/2018 9:14	33.06	232.4	7.302	36.26
11/13/2018 9:15	27.08	228	7.709	30.95
11/13/2018 9:16	23.41	235.9	13.92	29.81
11/13/2018 9:17	24.32	230	8.89	27.4
11/13/2018 9:18	21.05	226.4	7.854	27.44
11/13/2018 9:19	22.68	225.5	6.933	26.74
11/13/2018 9:20	21.95	228.6	7.931	27.84
11/13/2018 9:21	21.26	227.3	7.29	23.85
11/13/2018 9:22	17.57	234.4	12.9	21.83
11/13/2018 9:23	23.07	227.6	8.1	27.31
11/13/2018 9:24	30.57	229.8	10.94	36.39
11/13/2018 9:25	25.98	234.5	14.46	32.44
11/13/2018 9:26	22.22	246.7	14.14	32.66
11/13/2018 9:27	25.59	239.8	11.55	34.81
11/13/2018 9:28	27.33	241.7	26.45	31.7
11/13/2018 9:29	28.1	238.5	16.68	41.17

Sierrita_Cow Weather Station

One Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 9:30	30.89	228.4	6.026	39.81
11/13/2018 9:31	34.44	228.1	6.389	37.53
11/13/2018 9:32	33.55	242.9	12.46	42.74
11/13/2018 9:33	25.8	233	14.02	31.35
11/13/2018 9:34	30.87	228	11.18	35.38
11/13/2018 9:35	32.92	229.6	4.667	38.45
11/13/2018 9:36	38.93	229.9	7.147	44.59
11/13/2018 9:37	34.16	239	17.25	42.66
11/13/2018 9:38	32.64	232.6	10.41	40.11
11/13/2018 9:39	33.67	226.2	10.1	41.25
11/13/2018 9:40	35.79	239.1	13.98	44.45
11/13/2018 9:41	41.11	227.6	9.93	48.22
11/13/2018 9:42	38.57	234	7.574	45.37
11/13/2018 9:43	37.41	235.3	8.41	42.17
11/13/2018 9:44	32.99	235.4	6.917	43.01
11/13/2018 9:45	31.56	233.6	8.73	37.97
11/13/2018 9:46	34.91	234.9	14.02	39.63
11/13/2018 9:47	30.27	230.4	13.2	40.38
11/13/2018 9:48	33.19	236.5	13.39	38.49
11/13/2018 9:49	35.63	238.3	14.28	42.26
11/13/2018 9:50	35.29	230.5	11.06	47.57
11/13/2018 9:51	35.02	228.2	6.988	43.31
11/13/2018 9:52	32.66	234.3	11.6	37.35
11/13/2018 9:53	29.63	228.1	6.129	32.57
11/13/2018 9:54	29.52	235.8	10.18	35.38
11/13/2018 9:55	34.28	230.6	7.807	43.62
11/13/2018 9:56	33.17	231.1	7.567	39.98
11/13/2018 9:57	33.29	229.8	7.348	39.89
11/13/2018 9:58	35.68	229.8	8.19	42.35
11/13/2018 9:59	34.26	233.6	12.73	42.83
11/13/2018 10:00	30.2	229.2	5.569	34.94
11/13/2018 10:01	29.64	236.7	11.93	34.37
11/13/2018 10:02	35.38	233.8	10.15	41.74
11/13/2018 10:03	31.24	231.2	6.239	37.57
11/13/2018 10:04	32.18	230.2	8.78	37.26
11/13/2018 10:05	37.24	233.8	7.877	45.2
11/13/2018 10:06	32.44	231.7	9.28	42.48
11/13/2018 10:07	32.44	236.3	16.68	42.31
11/13/2018 10:08	32.4	231.9	10.6	40.9
11/13/2018 10:09	31.25	232.1	11.55	36.12
11/13/2018 10:10	31.51	230.3	4.593	36.21
11/13/2018 10:11	36.3	230.8	7.833	43.01
11/13/2018 10:12	36.91	234.9	5.931	40.29
11/13/2018 10:13	35.12	230.2	9.1	41.38
11/13/2018 10:14	35.34	231.2	5.594	40.38

Sierrita_Cow Weather Station

One Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 10:15	36.11	228.9	8.43	42.26
11/13/2018 10:16	34.68	231.6	7.632	37.35
11/13/2018 10:17	33.71	233.5	7.814	39.28
11/13/2018 10:18	31.99	230	8.91	38.62
11/13/2018 10:19	32.93	233	10.39	42.26
11/13/2018 10:20	29.92	240.2	16.37	37.18
11/13/2018 10:21	31.41	238.4	8.17	39.41
11/13/2018 10:22	28.11	243.7	13.16	35.47
11/13/2018 10:23	27.17	238.8	12.18	31.21
11/13/2018 10:24	35.18	228.1	5.545	44.98
11/13/2018 10:25	37.29	229.6	6.535	43.93
11/13/2018 10:26	35.07	238.2	15.87	40.03
11/13/2018 10:27	28.02	232	13.65	34.2
11/13/2018 10:28	33.89	238.8	13.71	39.15
11/13/2018 10:29	29.35	241.4	10.37	32.79
11/13/2018 10:30	30.45	230.7	10.47	42.66
11/13/2018 10:31	33.86	236.9	9.76	40.77
11/13/2018 10:32	34.45	238.9	13.05	39.46
11/13/2018 10:33	37.27	234.7	11.88	44.02
11/13/2018 10:34	29.61	237.7	11.36	34.02
11/13/2018 10:35	27.26	244.2	21.26	31.74
11/13/2018 10:36	31.16	232.5	9.09	39.5
11/13/2018 10:37	31.51	235.6	10.83	39.89
11/13/2018 10:38	40.68	228	4.529	47.74
11/13/2018 10:39	36.01	237.5	11.09	42.96
11/13/2018 10:40	32.97	240.5	16.88	39.54
11/13/2018 10:41	32.56	235.9	8.28	41.17
11/13/2018 10:42	35.01	236.3	10.41	41.21
11/13/2018 10:43	37.7	229.5	6.292	42.83
11/13/2018 10:44	33.56	235.8	8.67	42.39
11/13/2018 10:45	30.55	232	5.161	36.47
11/13/2018 10:46	29.96	230.9	6.191	33.8
11/13/2018 10:47	26.54	232.4	10.22	38.23
11/13/2018 10:48	31.85	231.2	6.761	36.65
11/13/2018 10:49	34.56	227.6	5.836	41.3
11/13/2018 10:50	31.82	232.5	8.67	40.73
11/13/2018 10:51	29.27	236	13.57	34.94
11/13/2018 10:52	22.63	238.1	15.01	33.49
11/13/2018 10:53	25.49	236.7	9.3	31.78
11/13/2018 10:54	24.99	235.1	11.46	32.62
11/13/2018 10:55	28.12	232.9	11.87	35.29
11/13/2018 10:56	24.46	237.2	10.9	30.42
11/13/2018 10:57	22.42	244.6	12.8	29.2
11/13/2018 10:58	21.35	248.3	15.71	26.65
11/13/2018 10:59	22.83	234.8	11.86	27.79

Sierrita_Cow Weather Station

One Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 11:00	22.93	238.5	15.23	39.11
11/13/2018 11:01	29.2	227.6	12.08	41.3
11/13/2018 11:02	27.62	233.1	14.88	33.01
11/13/2018 11:03	32.19	230.7	5.24	36.61
11/13/2018 11:04	28.04	240.6	13.22	31.48
11/13/2018 11:05	27.73	240.4	14.04	32.79
11/13/2018 11:06	29.03	243.1	15.08	39.89
11/13/2018 11:07	32.59	234.6	9.91	38.36
11/13/2018 11:08	28.44	232.8	11.09	34.15
11/13/2018 11:09	28.94	230	6.205	33.06
11/13/2018 11:10	28.93	228.7	12.74	34.11
11/13/2018 11:11	29.01	232.4	9.73	36.69
11/13/2018 11:12	31.09	232.4	5.872	35.42
11/13/2018 11:13	27.59	230.5	8.6	35.51
11/13/2018 11:14	30.21	230.7	8.16	37.09
11/13/2018 11:15	28.79	234.1	10.1	31.3
11/13/2018 11:16	29.35	232.8	13.96	38.8
11/13/2018 11:17	31.94	232.3	9.31	36.91
11/13/2018 11:18	25.59	236.6	14.21	32.27
11/13/2018 11:19	28.61	238.3	6.519	35.77
11/13/2018 11:20	32.23	230.2	6.387	39.32
11/13/2018 11:21	28.04	238	13.1	35.38
11/13/2018 11:22	25.96	239.9	18.11	32.49
11/13/2018 11:23	29.26	233.5	6.757	34.2
11/13/2018 11:24	31.41	227.1	6.77	36.74
11/13/2018 11:25	28.22	228	4.706	30.86
11/13/2018 11:26	33.03	229.2	5.279	38.93
11/13/2018 11:27	30.92	226.3	8.6	34.63
11/13/2018 11:28	27.05	229.1	10.69	31.21
11/13/2018 11:29	27.36	227.7	11.02	35.29
11/13/2018 11:30	31.39	232.8	4.997	36.65
11/13/2018 11:31	32.06	230.2	7.277	35.12
11/13/2018 11:32	26.99	231.9	13.35	34.41
11/13/2018 11:33	28.77	230.1	9.25	35.55
11/13/2018 11:34	23.15	243.4	11.12	27.53
11/13/2018 11:35	24.3	238.1	17.02	30.16
11/13/2018 11:36	27.33	234.3	7.825	36.34
11/13/2018 11:37	35.97	230.8	9.14	39.72
11/13/2018 11:38	30.51	237.3	8.78	36.26
11/13/2018 11:39	26.55	231.6	12.73	35.9
11/13/2018 11:40	26.9	229.2	9.95	32.09
11/13/2018 11:41	26.01	239.8	10.89	32.18
11/13/2018 11:42	28.15	237	14.23	36.12
11/13/2018 11:43	32	235.3	7.205	35.51
11/13/2018 11:44	27.53	239.1	8.94	36.26

Sierrita_Cow Weather Station

One Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 11:45	36.15	227.4	7.113	39.68
11/13/2018 11:46	34.63	231.2	8.61	40.55
11/13/2018 11:47	33.29	230.2	9.05	37.66
11/13/2018 11:48	28.65	233.8	14.47	32.13
11/13/2018 11:49	22.73	234.2	10.82	29.99
11/13/2018 11:50	30.86	225.9	8.65	41.6
11/13/2018 11:51	26.68	240.7	6.931	30.91
11/13/2018 11:52	32.57	229.4	9.58	39.15
11/13/2018 11:53	34.32	230.7	8.97	40.55
11/13/2018 11:54	32.07	232.8	6.831	36.78
11/13/2018 11:55	31.37	231.8	10.23	34.77
11/13/2018 11:56	30.8	239.1	9.14	35.77
11/13/2018 11:57	29.8	233.2	15.13	33.58
11/13/2018 11:58	32.21	227.7	4.546	41.03
11/13/2018 11:59	27.54	236.3	11.77	35.86
11/13/2018 12:00	28.83	245.2	13.49	36.34
11/13/2018 12:01	29.18	235	13.22	37.04
11/13/2018 12:02	26.25	235.7	15.9	30.42
11/13/2018 12:03	27.34	240.6	15.76	32.31
11/13/2018 12:04	27.52	239.8	12.12	34.85
11/13/2018 12:05	30.09	233.7	13.36	36.12
11/13/2018 12:06	30.01	236.8	8.84	32.31
11/13/2018 12:07	27.52	233.9	10.71	34.11
11/13/2018 12:08	22.81	238.2	10.22	28.76
11/13/2018 12:09	23.48	235.2	8.92	28.06
11/13/2018 12:10	19.97	232.1	11.99	24.33
11/13/2018 12:11	25.74	232.3	7.104	37.66
11/13/2018 12:12	32.17	228.4	7.753	37.18
11/13/2018 12:13	30.57	239.2	13.56	37.4
11/13/2018 12:14	30.62	239.1	12.11	36.39
11/13/2018 12:15	26.17	234.1	8.62	35.99
11/13/2018 12:16	29.58	239.3	16.72	37.09
11/13/2018 12:17	29.62	235.9	9.54	35.47
11/13/2018 12:18	32.2	232.5	7.841	38.49
11/13/2018 12:19	34.44	231	10.67	39.24
11/13/2018 12:20	30.21	227.7	8.31	35.2
11/13/2018 12:21	30.35	234.5	9.45	37.61
11/13/2018 12:22	31.35	233.8	10.12	35.69
11/13/2018 12:23	26.14	244.1	17.92	30.91
11/13/2018 12:24	24.68	236.6	12.98	31.13
11/13/2018 12:25	29.52	233	6.881	35.25
11/13/2018 12:26	24.26	241.6	8.19	33.1
11/13/2018 12:27	28.23	254.5	16.91	37.48
11/13/2018 12:28	23.14	249.2	27.23	28.89
11/13/2018 12:29	23.99	240.8	14.4	29.64

Sierrita_Cow Weather Station

One Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 12:30	22.49	248.6	14.1	28.23
11/13/2018 12:31	21	242.7	14.34	26.17
11/13/2018 12:32	23.94	243.9	11.59	31.83
11/13/2018 12:33	19.32	237	9.76	24.07
11/13/2018 12:34	25.12	239.9	12.4	31.39
11/13/2018 12:35	25.48	239	10.75	31.21
11/13/2018 12:36	27.08	234.4	9.23	31.08
11/13/2018 12:37	26.83	240.5	14.11	33.54
11/13/2018 12:38	27.63	243.9	15.01	31.35
11/13/2018 12:39	26.3	243.4	16.08	29.77
11/13/2018 12:40	20.56	244.8	10.47	24.59
11/13/2018 12:41	26.27	232	8.79	35.95
11/13/2018 12:42	26.64	239.4	17.25	31.56
11/13/2018 12:43	24.82	243.5	17.88	28.85
11/13/2018 12:44	30.02	232.2	9.13	32.57
11/13/2018 12:45	29.03	235.2	9.05	32.97
11/13/2018 12:46	27.32	228.9	12.33	29.68
11/13/2018 12:47	23.54	231.3	17.91	29.42
11/13/2018 12:48	27.56	228.2	9.8	31.7
11/13/2018 12:49	26.17	235.5	13.69	32.75
11/13/2018 12:50	31.99	234.4	10.98	36.34
11/13/2018 12:51	32.36	235.4	13.93	39.19
11/13/2018 12:52	31.75	234.9	9.18	39.06
11/13/2018 12:53	28.18	230.5	10.9	35.07
11/13/2018 12:54	33.8	229.9	6.088	37.44
11/13/2018 12:55	31.6	230.6	8.06	38.27
11/13/2018 12:56	24.86	236	8.8	30.47
11/13/2018 12:57	28.94	229.4	7.459	31.7
11/13/2018 12:58	27.92	228.9	7.346	32.31
11/13/2018 12:59	21.09	250.7	16.11	24.46

Tailings_1 Weather Station

One-Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 8:00	27.31	225.2	19.7	31.61
11/13/2018 8:01	24.23	229.6	14.88	32.09
11/13/2018 8:02	23.93	233.3	18.49	36.12
11/13/2018 8:03	19.91	232.9	15.31	22.84
11/13/2018 8:04	27.18	239.6	12.38	32.05
11/13/2018 8:05	25.72	233.1	13.62	35.29
11/13/2018 8:06	20.45	231.5	17.75	27.53
11/13/2018 8:07	22.78	241.3	11.02	30.69
11/13/2018 8:08	25.94	232.6	15.06	36.26
11/13/2018 8:09	22.95	229	12.44	31.04
11/13/2018 8:10	26.32	228.3	15.15	37.44
11/13/2018 8:11	33.63	240	9.96	42.39
11/13/2018 8:12	29.42	240.9	12.36	37.57
11/13/2018 8:13	30.82	236.2	8.59	40.55
11/13/2018 8:14	32.18	238.8	9.07	43.84
11/13/2018 8:15	27.86	239.2	12.32	35.38
11/13/2018 8:16	31.27	244.5	10.26	41.08
11/13/2018 8:17	33.5	239.8	12.67	41.95
11/13/2018 8:18	35.51	238.2	13.28	44.76
11/13/2018 8:19	29.75	242.2	10.12	38.1
11/13/2018 8:20	33.11	234.2	15.55	41.74
11/13/2018 8:21	34.89	242	6.838	43.49
11/13/2018 8:22	30.26	241.4	15.1	37.13
11/13/2018 8:23	28.66	242.3	12.38	42.26
11/13/2018 8:24	32.16	242.3	7.866	40.6
11/13/2018 8:25	34.32	237.9	13.1	39.76
11/13/2018 8:26	34.49	244.6	10.74	45.94
11/13/2018 8:27	35.05	248.7	11.92	41.43
11/13/2018 8:28	30.99	250.5	11.53	38.75
11/13/2018 8:29	28.51	243.2	15.35	34.46
11/13/2018 8:30	34.56	246.4	9.88	40.95
11/13/2018 8:31	28.56	233.8	9.47	40.77
11/13/2018 8:32	32.91	237.3	10.87	41.3
11/13/2018 8:33	33.82	248	9.01	40.51
11/13/2018 8:34	32.16	238.2	15.95	42.22
11/13/2018 8:35	27.79	242.4	14.15	36.83
11/13/2018 8:36	35.98	251.3	9.18	50.68
11/13/2018 8:37	33.14	244.2	10.23	39.59
11/13/2018 8:38	35.59	248.3	6.295	45.24
11/13/2018 8:39	36.24	248.5	8.39	47
11/13/2018 8:40	28.11	243.4	10.17	33.67
11/13/2018 8:41	28.46	238.9	18.86	36.43
11/13/2018 8:42	30.74	237.4	8.63	38.71
11/13/2018 8:43	33.37	234.4	12.3	39.89
11/13/2018 8:44	29.38	240.3	6.799	35.9

Tailings_1 Weather Station

One-Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 8:45	29.36	239.7	8.71	38.67
11/13/2018 8:46	27.83	234	12.08	41.21
11/13/2018 8:47	30.87	244.7	9.5	36.26
11/13/2018 8:48	34.05	243.1	9.12	45.33
11/13/2018 8:49	34.83	250.2	9.15	41.34
11/13/2018 8:50	28.68	252.3	7.147	39.06
11/13/2018 8:51	32.07	245.6	13.92	48.18
11/13/2018 8:52	31.76	252.6	9.28	39.59
11/13/2018 8:53	27.8	247.3	9	31.26
11/13/2018 8:54	31.26	243.8	13.27	35.55
11/13/2018 8:55	33.26	246.2	13.06	42.88
11/13/2018 8:56	29.71	245.7	9.32	39.41
11/13/2018 8:57	31.49	242.5	15.34	38.18
11/13/2018 8:58	32.2	242.8	8.39	37.4
11/13/2018 8:59	35.67	244.6	7.232	48
11/13/2018 9:00	28.11	246.8	12.03	39.59
11/13/2018 9:01	26.08	236.7	16.11	40.03
11/13/2018 9:02	29.16	245.2	11.07	31.83
11/13/2018 9:03	32.26	240.4	10.09	45.86
11/13/2018 9:04	31.64	241	13.98	42.66
11/13/2018 9:05	31.27	240	15.37	34.59
11/13/2018 9:06	27.83	244.2	6.92	35.51
11/13/2018 9:07	29.15	240.7	13.03	37.04
11/13/2018 9:08	25.13	225.1	14.33	31.78
11/13/2018 9:09	25.81	235.4	10.57	31.21
11/13/2018 9:10	26.12	237.6	15.12	34.59
11/13/2018 9:11	30.4	236.9	15.33	39.98
11/13/2018 9:12	26.82	233	13.48	38.05
11/13/2018 9:13	26.19	234.7	10.56	32.66
11/13/2018 9:14	25.63	232.5	9.63	31.21
11/13/2018 9:15	31.63	238.7	7.119	39.32
11/13/2018 9:16	30.21	242.1	12.56	41.78
11/13/2018 9:17	23.95	246.8	10.77	36.21
11/13/2018 9:18	23.03	236.6	13.42	33.58
11/13/2018 9:19	26.1	247.4	7.057	35.16
11/13/2018 9:20	24.57	243.3	8.36	33.67
11/13/2018 9:21	28.72	239.6	12.08	36.96
11/13/2018 9:22	24.65	237	16.49	30.25
11/13/2018 9:23	32.52	243.9	11.77	39.11
11/13/2018 9:24	28.48	256.1	10.24	33.67
11/13/2018 9:25	29.89	259.7	13.64	42.74
11/13/2018 9:26	28.22	253.4	11.62	35.99
11/13/2018 9:27	26.98	249.1	10.23	30.82
11/13/2018 9:28	31.84	246.3	8.84	37.79
11/13/2018 9:29	30.76	244.4	13.28	36.26

Tailings_1 Weather Station

One-Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 9:30	32.6	247.1	12.06	39.59
11/13/2018 9:31	28.7	244.1	9.49	41.38
11/13/2018 9:32	31.76	234	11.57	39.76
11/13/2018 9:33	28.93	240.8	11.67	38.1
11/13/2018 9:34	29.72	250.4	13.17	36.21
11/13/2018 9:35	30.41	246.1	12.11	35.9
11/13/2018 9:36	31.05	245.2	11.37	40.99
11/13/2018 9:37	29.22	235.4	11.63	39.06
11/13/2018 9:38	42.31	248.3	8.85	50.59
11/13/2018 9:39	36.18	243.8	9.2	44.41
11/13/2018 9:40	35.58	244.6	8.49	40.99
11/13/2018 9:41	29.81	241.2	8.29	36.87
11/13/2018 9:42	27.99	242	5.871	37.09
11/13/2018 9:43	32.96	242.3	12.05	39.68
11/13/2018 9:44	30.93	245.2	9.09	40.82
11/13/2018 9:45	32.74	246.9	8.42	42.09
11/13/2018 9:46	32.91	248.2	6.845	48.75
11/13/2018 9:47	36.76	240.8	8.91	43.75
11/13/2018 9:48	40.98	244.5	9.37	51.56
11/13/2018 9:49	37.26	241.2	9.04	42.35
11/13/2018 9:50	32.02	248.4	8.56	45.64
11/13/2018 9:51	33.42	237.5	10.68	43.01
11/13/2018 9:52	29.27	239.7	18.86	40.68
11/13/2018 9:53	24.85	243.5	16.4	42.09
11/13/2018 9:54	22.67	234.7	11.05	30.03
11/13/2018 9:55	33.12	240.9	9.86	43.09
11/13/2018 9:56	27.74	237.6	12.15	32.49
11/13/2018 9:57	27.9	241.9	10.4	32.31
11/13/2018 9:58	27.06	236	11.54	37.22
11/13/2018 9:59	28.97	243.9	8.32	36.56
11/13/2018 10:00	30.17	238.4	13.25	38.45
11/13/2018 10:01	32.87	244.2	9.91	40.55
11/13/2018 10:02	34.4	244.4	9.07	45.46
11/13/2018 10:03	35.9	238	11.77	43.18
11/13/2018 10:04	36.29	238	14.7	44.85
11/13/2018 10:05	37.61	240.6	9.67	47.04
11/13/2018 10:06	34.56	246.4	12.43	44.23
11/13/2018 10:07	31.35	235.2	14.1	36.39
11/13/2018 10:08	29.54	238.3	16.73	40.64
11/13/2018 10:09	28.69	239.5	14.18	44.15
11/13/2018 10:10	38.69	243.6	10.9	45.55
11/13/2018 10:11	34.01	244.7	6.932	48.44
11/13/2018 10:12	25.51	237.2	13.04	36.96
11/13/2018 10:13	35.92	234	12.23	46.91
11/13/2018 10:14	27.37	245	11.82	35.86

Tailings_1 Weather Station

One-Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 10:15	29.77	236.8	14.68	39.06
11/13/2018 10:16	33.81	236.4	9.24	37.97
11/13/2018 10:17	34.42	243.1	16.73	39.19
11/13/2018 10:18	34.01	235.2	11.5	43.62
11/13/2018 10:19	38.84	237.8	9.03	49.71
11/13/2018 10:20	35.82	243.1	6.474	42.52
11/13/2018 10:21	32.6	245.9	4.6	42.17
11/13/2018 10:22	37.57	249	12.32	43.23
11/13/2018 10:23	33.97	247.3	13.61	41.21
11/13/2018 10:24	31.13	245.6	8.19	39.06
11/13/2018 10:25	32.12	243.5	17.71	44.15
11/13/2018 10:26	34.82	242.9	6.921	42
11/13/2018 10:27	29.49	241.4	17.01	37.44
11/13/2018 10:28	26.91	237.9	6.403	33.93
11/13/2018 10:29	33.55	241	8.07	41.47
11/13/2018 10:30	31.29	246.8	9	35.51
11/13/2018 10:31	27.79	249	10.19	32.22
11/13/2018 10:32	30.55	254.2	10.14	35.77
11/13/2018 10:33	33.93	246.4	8.51	43.75
11/13/2018 10:34	33.86	244.7	13.97	42.92
11/13/2018 10:35	32.53	234.6	11.47	40.64
11/13/2018 10:36	32.03	249.3	7.641	46.12
11/13/2018 10:37	38.68	241.2	16.12	43.49
11/13/2018 10:38	33.93	243	8.14	42.48
11/13/2018 10:39	29.67	245.5	13.51	37.18
11/13/2018 10:40	34.82	252.3	9.55	45.11
11/13/2018 10:41	29.03	248.4	7.368	41.43
11/13/2018 10:42	24.74	245.3	8.33	28.45
11/13/2018 10:43	30.4	235.1	17.59	42.26
11/13/2018 10:44	26.55	248.2	9.86	30.21
11/13/2018 10:45	26.26	240.9	11.56	32.05
11/13/2018 10:46	24.9	244.6	9.82	33.71
11/13/2018 10:47	33.71	245.2	8.79	44.37
11/13/2018 10:48	28.29	244.3	16.88	35.64
11/13/2018 10:49	28.76	239.9	12.51	36.04
11/13/2018 10:50	34.75	244.4	11.26	42.09
11/13/2018 10:51	25.71	231.5	12.16	35.77
11/13/2018 10:52	27.03	228.9	15.97	36.04
11/13/2018 10:53	31.32	247.6	12.78	40.46
11/13/2018 10:54	29.88	245.3	9.64	42.7
11/13/2018 10:55	32.76	245	8.91	38.84
11/13/2018 10:56	27.33	247	11.68	32.27
11/13/2018 10:57	30.4	248.7	9.09	38.05
11/13/2018 10:58	32.97	248.3	7.703	38.14
11/13/2018 10:59	29.84	244.7	8.34	36.74

Tailings_1 Weather Station

One-Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 11:00	34.37	246	9.87	40.86
11/13/2018 11:01	28.88	244.2	6.613	38.49
11/13/2018 11:02	28.71	248.6	10.41	34.46
11/13/2018 11:03	27.29	254	5.963	34.94
11/13/2018 11:04	30.67	251.7	8.64	33.71
11/13/2018 11:05	30.84	246.1	8.67	36.04
11/13/2018 11:06	26.64	244.5	11.96	33.89
11/13/2018 11:07	28.77	244.3	6.892	34.15
11/13/2018 11:08	25.57	234.8	11.11	32.09
11/13/2018 11:09	25.18	233.3	6.599	30.91
11/13/2018 11:10	27.97	231.9	14.13	33.1
11/13/2018 11:11	21.39	236.9	15.35	24.68
11/13/2018 11:12	29.16	242.3	10.13	37.09
11/13/2018 11:13	31.37	248.2	9.94	40.86
11/13/2018 11:14	33.22	243.6	10.97	40.9
11/13/2018 11:15	28.63	248.3	8.53	32.27
11/13/2018 11:16	34.65	243.7	11.33	45.86
11/13/2018 11:17	34.14	246.4	7.363	40.42
11/13/2018 11:18	39.12	249	13.29	49.1
11/13/2018 11:19	32.9	250.4	10.76	41.82
11/13/2018 11:20	30.75	249.1	9.79	36.65
11/13/2018 11:21	29.11	249.9	11.92	37.44
11/13/2018 11:22	26.35	246	10.48	33.89
11/13/2018 11:23	26.71	244	10.64	31.74
11/13/2018 11:24	29.91	240.4	12.42	37.79
11/13/2018 11:25	23.54	232.9	11.21	31.43
11/13/2018 11:26	27.64	249.7	10.69	34.2
11/13/2018 11:27	26.98	252.7	7.047	32.66
11/13/2018 11:28	26.42	243.8	14.62	33.06
11/13/2018 11:29	26.67	239.5	11.59	34.81
11/13/2018 11:30	30.47	237	8.77	41.95
11/13/2018 11:31	33.38	238.6	15.29	43.49
11/13/2018 11:32	22.94	235	11.36	29.5
11/13/2018 11:33	26.68	227	19.36	33.93
11/13/2018 11:34	29.46	242.9	10.88	45.16
11/13/2018 11:35	30.21	238.4	6.437	38.75
11/13/2018 11:36	38.44	243.2	11.76	42
11/13/2018 11:37	33.71	247.8	9.57	43.14
11/13/2018 11:38	29.92	247.9	8.29	36.26
11/13/2018 11:39	25.34	246.8	12.85	31.56
11/13/2018 11:40	28.27	240.7	12.58	37.79
11/13/2018 11:41	27.71	247.2	9.1	37.83
11/13/2018 11:42	27.66	245.8	15.52	33.63
11/13/2018 11:43	27.75	239	11.9	38.01
11/13/2018 11:44	26.81	244.8	15.67	35.07

Tailings_1 Weather Station

One-Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 11:45	26.87	247.2	11.96	31.17
11/13/2018 11:46	32.18	241	9.04	38.27
11/13/2018 11:47	26.53	245.7	6.261	31.21
11/13/2018 11:48	26.59	237.2	10.66	32.18
11/13/2018 11:49	27.97	246.3	17.75	33.93
11/13/2018 11:50	25.07	246.7	11.21	29.59
11/13/2018 11:51	27.68	243	13.54	32.44
11/13/2018 11:52	29.91	243.3	6.159	36.3
11/13/2018 11:53	27.95	234.4	16.73	35.42
11/13/2018 11:54	24.8	237.6	11.58	30.82
11/13/2018 11:55	29.04	243.8	11.01	35.9
11/13/2018 11:56	37.1	241.5	9.37	45.37
11/13/2018 11:57	36.12	241.9	18.67	42.83
11/13/2018 11:58	34.96	247.4	11.35	40.86
11/13/2018 11:59	32.08	251.7	11.6	39.32
11/13/2018 12:00	31.92	246.1	8.7	38.18
11/13/2018 12:01	33.9	237.3	6.893	38.54
11/13/2018 12:02	32.2	244.5	12.07	40.25
11/13/2018 12:03	34.6	241.1	12.89	41.34
11/13/2018 12:04	28.45	245.3	11.47	32.97
11/13/2018 12:05	27.75	249.1	5.788	32.31
11/13/2018 12:06	29.24	258.1	9.91	33.93
11/13/2018 12:07	23.49	249.5	12.8	32.97
11/13/2018 12:08	24.03	247.6	12.97	30.82
11/13/2018 12:09	22.8	236.8	11.63	29.33
11/13/2018 12:10	23.76	245.6	12.55	29.15
11/13/2018 12:11	23.25	247.3	10.8	26.7
11/13/2018 12:12	25.12	251.5	11.76	31.04
11/13/2018 12:13	21.44	241.7	14.04	25.91
11/13/2018 12:14	33.6	242.2	11.07	43.14
11/13/2018 12:15	36.56	250.4	8.32	42.26
11/13/2018 12:16	32	237.7	13.5	39.85
11/13/2018 12:17	31.51	249.4	11.08	36.43
11/13/2018 12:18	27.67	256.9	11.71	35.07
11/13/2018 12:19	26.75	255.3	12.24	33.01
11/13/2018 12:20	23.15	248.5	7.742	28.45
11/13/2018 12:21	29.59	242	9.68	36.56
11/13/2018 12:22	29.38	241.6	8.62	35.2
11/13/2018 12:23	24.66	255.3	10.35	32.18
11/13/2018 12:24	19.14	253.4	17.71	23.45
11/13/2018 12:25	24.2	255.8	12.75	30.82
11/13/2018 12:26	29.92	258.7	13.16	39.94
11/13/2018 12:27	29.23	260.2	8.65	35.77
11/13/2018 12:28	26.4	252.2	9.18	30.47
11/13/2018 12:29	25.68	251.9	11.28	30.69

Tailings_1 Weather Station

One-Minute Data

Time Stamp	WS_MPH	WindDir	Sigma	Gust
11/13/2018 12:30	24.27	248.1	13.91	31.61
11/13/2018 12:31	21.62	255.9	7.128	25.43
11/13/2018 12:32	22.08	254	12.54	29.59
11/13/2018 12:33	23.78	258.8	7.313	35.03
11/13/2018 12:34	27.67	251.7	7.842	34.94
11/13/2018 12:35	19.67	247.5	10.97	24.81
11/13/2018 12:36	18.43	249.3	12.52	24.64
11/13/2018 12:37	28.56	249.6	10.01	35.03
11/13/2018 12:38	26.91	246.1	7.921	31.92
11/13/2018 12:39	27.64	247.7	17.18	31.96
11/13/2018 12:40	24.38	252.4	14.06	32.53
11/13/2018 12:41	22.58	246.3	6.699	28.63
11/13/2018 12:42	26.48	243.8	8.72	33.23
11/13/2018 12:43	27.49	258.1	10.19	36.52
11/13/2018 12:44	22.75	249.3	10.17	26.57
11/13/2018 12:45	24.86	249.2	9.2	33.36
11/13/2018 12:46	25.36	246.6	10.02	28.85
11/13/2018 12:47	23.24	259.5	13.72	31.21
11/13/2018 12:48	22.52	250.6	10.94	25.56
11/13/2018 12:49	23.95	242.2	12.87	28.36
11/13/2018 12:50	22.36	250.5	9.65	27.58
11/13/2018 12:51	28.02	252.5	14.2	32
11/13/2018 12:52	27.24	256.4	13.13	30.47
11/13/2018 12:53	24.85	258.6	12.26	28.76
11/13/2018 12:54	25.07	242.9	10.84	30.95
11/13/2018 12:55	23.74	243.2	7.877	27.93
11/13/2018 12:56	18.03	253.9	18.32	24.68
11/13/2018 12:57	20.81	247.1	13.32	28.15
11/13/2018 12:58	23.4	239.6	8.7	30.51
11/13/2018 12:59	22.1	247.4	6.495	26.04

10M Weather Station

One Minute Data

Time Stamp	WindDir_D1_Avg	Ws_MPH_s_Avg	Gust
11/13/2018 8:00	198.9	19.89	22.18
11/13/2018 8:01	198.1	20.11	22.24
11/13/2018 8:02	199.8	19.91	22.81
11/13/2018 8:03	213.4	19.14	21.97
11/13/2018 8:04	212.8	18.7	20.46
11/13/2018 8:05	211.8	20.17	22.21
11/13/2018 8:06	206.2	22.94	26.12
11/13/2018 8:07	208.9	21.13	22.49
11/13/2018 8:08	205.9	19.51	20.56
11/13/2018 8:54	203.9	14.64	20.12
11/13/2018 8:55	228	22.38	25.08
11/13/2018 8:56	238.7	17.25	19.68
11/13/2018 8:57	233.6	25.56	26.41
11/13/2018 8:58	225.1	18.91	21.71
11/13/2018 8:59	239	14.97	16.26
11/13/2018 9:00	217.1	18.06	22.41
11/13/2018 9:01	218.6	21.08	22.93
11/13/2018 9:02	220.3	19.43	21.42
11/13/2018 9:03	218.7	19.42	21.57
11/13/2018 9:04	227.9	20.98	22.85
11/13/2018 9:05	231	23.59	28.55
11/13/2018 9:06	236.2	24.53	29.17
11/13/2018 9:07	235.9	23.5	27.07
11/13/2018 9:08	219.7	24.63	26.9
11/13/2018 9:09	232.9	25.52	27.48
11/13/2018 9:10	231.8	23.97	28
11/13/2018 9:11	239.6	21.1	23.63
11/13/2018 9:12	226.7	21.37	21.59
11/13/2018 9:13	219.5	21.54	22.95
11/13/2018 9:14	221	20.63	25.22
11/13/2018 9:15	219.7	20.27	21.19
11/13/2018 9:16	235.7	22.54	25.98
11/13/2018 9:17	229.6	24.01	28.18
11/13/2018 9:18	227.5	19.16	21.14
11/13/2018 9:19	224.8	19.84	25.24
11/13/2018 9:20	232.1	27.72	33.31
11/13/2018 9:21	230.6	26.67	27.72
11/13/2018 9:22	226.2	25.69	26.23
11/13/2018 9:23	234.2	29.3	32.75
11/13/2018 9:24	230.9	29.11	33.02
11/13/2018 9:25	230.3	27.8	30.73
11/13/2018 9:26	227.8	25	27.21
11/13/2018 9:27	231.3	24.71	26.46
11/13/2018 9:28	228.8	22.43	27.45
11/13/2018 9:29	233	19.56	21.04

10M Weather Station

One Minute Data

Time Stamp	WindDir_D1_Avg	Ws_MPH_s_Avg	Gust
11/13/2018 9:30	229.3	24.56	29.63
11/13/2018 9:31	238.6	23.8	25.75
11/13/2018 9:32	234.4	21.5	23.62
11/13/2018 9:33	230.6	24.77	28.38
11/13/2018 9:34	223.8	19.86	21.79
11/13/2018 9:35	222.6	19.24	23.8
11/13/2018 9:36	219.3	20.11	24.73
11/13/2018 9:37	222.1	24.16	26.95
11/13/2018 9:38	233.3	24.75	31.8
11/13/2018 9:39	238.1	21.87	27.36
11/13/2018 9:40	226.6	19.26	21.11
11/13/2018 9:41	236.7	19.01	19.71
11/13/2018 9:42	239.2	22.82	27.21
11/13/2018 9:43	245.2	25.73	28.33
11/13/2018 9:44	234.1	23.65	26.49
11/13/2018 9:45	228.9	22.43	24.73
11/13/2018 9:46	236.7	20.77	23.08
11/13/2018 9:47	234.1	16.76	19.36
11/13/2018 9:48	238.5	18.77	21.34
11/13/2018 9:49	244.5	19.79	23.6
11/13/2018 9:50	236.7	23.76	27.3
11/13/2018 9:51	234.5	23.87	24.49
11/13/2018 9:52	241.4	19.72	22.09
11/13/2018 9:53	235.2	20.14	23.88
11/13/2018 9:54	232	20.74	23.24
11/13/2018 9:55	229.3	18.17	20.38
11/13/2018 9:56	236.3	20.27	22.78
11/13/2018 9:57	232.5	19.72	22.4
11/13/2018 9:58	227.7	21.85	23.79
11/13/2018 9:59	240.3	21.67	24.76
11/13/2018 10:00	218.4	20.29	24.03
11/13/2018 10:01	218.9	22.21	25.42
11/13/2018 10:02	210.7	21.89	24.59
11/13/2018 10:03	223.7	23.69	24.55
11/13/2018 10:04	229	21.21	23.25
11/13/2018 10:05	232.1	20.78	21.85
11/13/2018 10:06	230	25.56	26.47
11/13/2018 10:07	236.3	26.76	27.88
11/13/2018 10:08	228.9	24.3	25.21
11/13/2018 10:09	231.7	26.09	29.05
11/13/2018 10:10	239.8	25.74	27.75
11/13/2018 10:11	248.3	26.86	30.11
11/13/2018 10:12	247.5	23.96	30.35
11/13/2018 10:13	250.5	22.59	24.46
11/13/2018 10:14	236.9	21.74	24.59

10M Weather Station

One Minute Data

Time Stamp	WindDir_D1_Avg	Ws_MPH_s_Avg	Gust
11/13/2018 10:15	241.2	24.23	27.27
11/13/2018 10:16	237.9	23.65	25.24
11/13/2018 10:17	237.6	22.11	25.3
11/13/2018 10:18	253.7	16.02	18.46
11/13/2018 10:19	247.6	22.53	23.28
11/13/2018 10:20	255.9	20.27	23.05
11/13/2018 10:21	248.7	17.63	21.42
11/13/2018 10:22	237.4	20.59	23.39
11/13/2018 10:23	245.2	18.6	22.15
11/13/2018 10:24	244.7	18.59	19.72
11/13/2018 10:25	251.2	19.48	20.35
11/13/2018 10:26	234	20.38	21.97
11/13/2018 10:27	224.7	23.65	27.14
11/13/2018 10:28	242.5	26.18	27.71
11/13/2018 10:29	236.7	20.34	21.6
11/13/2018 10:30	241.2	19.28	22.12
11/13/2018 10:31	245.5	21.12	23.4
11/13/2018 10:32	248.3	21.55	24.58
11/13/2018 10:33	236.9	24.58	26.46
11/13/2018 10:34	234.6	21.12	22.98
11/13/2018 10:35	226.6	21.64	22.81
11/13/2018 10:36	232.1	16.48	18.59
11/13/2018 10:37	240.2	19.24	23.43
11/13/2018 10:38	242	22.93	23.98
11/13/2018 10:39	248.4	22.1	25.63
11/13/2018 10:40	244.7	21.16	24.24
11/13/2018 10:41	246.2	20.4	22.11
11/13/2018 10:42	252.1	23.57	23.92
11/13/2018 10:43	249.9	19.96	21.45
11/13/2018 10:44	252	18.61	18.88
11/13/2018 10:45	251.6	24.35	25.74
11/13/2018 10:46	252.5	18.09	19.17
11/13/2018 10:47	249.4	21.52	23.37
11/13/2018 10:48	242.6	22.43	23.98
11/13/2018 10:49	235.6	19.6	22.63
11/13/2018 10:50	245.8	18.67	21.74
11/13/2018 10:51	249.3	19.61	22.95
11/13/2018 10:52	240.8	21.07	22.06
11/13/2018 10:53	241.1	20.87	23.88
11/13/2018 10:54	242.9	21.4	22.41
11/13/2018 10:55	232.6	21.55	23.08
11/13/2018 10:56	234.6	19.12	20.44
11/13/2018 10:57	229.1	20.51	23.27
11/13/2018 10:58	240.7	22.61	25.5
11/13/2018 10:59	239.5	22.91	24.2

10M Weather Station

One Minute Data

Time Stamp	WindDir_D1_Avg	Ws_MPH_s_Avg	Gust
11/13/2018 11:00	248.6	23.06	26.14
11/13/2018 11:01	237	25.16	27.51
11/13/2018 11:02	248.5	24.83	26.53
11/13/2018 11:03	244.5	22.59	26.93
11/13/2018 11:04	241.9	17.77	22.61
11/13/2018 11:05	234.8	18.28	21.05
11/13/2018 11:06	245.6	21.75	23.66
11/13/2018 11:07	246.7	20.69	21.92
11/13/2018 11:08	229.9	21.57	22.96
11/13/2018 11:09	233.8	19.26	21.77
11/13/2018 11:10	242.6	23.71	26.09
11/13/2018 11:11	253	19.98	22.01
11/13/2018 11:12	246.7	16.99	19.79
11/13/2018 11:13	243.6	17.9	19.31
11/13/2018 11:14	242.7	22.7	26.93
11/13/2018 11:15	240.7	23.07	24.35
11/13/2018 11:16	249.3	18.74	20.66
11/13/2018 11:17	235.3	17.91	19.36
11/13/2018 11:18	238.3	17.34	19.01
11/13/2018 11:19	231.8	18.32	22.23
11/13/2018 11:20	232.1	18.09	20.46
11/13/2018 11:21	235.7	19.38	21.72
11/13/2018 11:22	238.1	20.74	24.55
11/13/2018 11:23	245	20.55	22.99
11/13/2018 11:24	240.3	23.4	27.56
11/13/2018 11:25	246.1	21.4	22.96
11/13/2018 11:26	237.1	19.46	21.16
11/13/2018 11:27	238.2	17.77	21.98
11/13/2018 11:28	242.3	19.35	22.81
11/13/2018 11:29	247.7	20.82	24.88
11/13/2018 11:30	236.7	20.37	22.55
11/13/2018 11:31	246.6	17.95	20.26
11/13/2018 11:32	236.1	18.65	20.18
11/13/2018 11:33	228.6	15.07	18.11
11/13/2018 11:34	226.6	15.95	17.21
11/13/2018 11:35	228.6	17.38	21.14
11/13/2018 11:36	225.8	18.8	25.27
11/13/2018 11:37	232.3	23.61	24.35
11/13/2018 11:38	225.4	23.93	28.58
11/13/2018 11:39	237	19.23	21.74
11/13/2018 11:40	244.5	21.4	24.14
11/13/2018 11:41	239.4	20.84	21.79
11/13/2018 11:42	238.4	17.53	19.5
11/13/2018 11:43	236.9	21.05	23.56
11/13/2018 11:44	245.5	24.23	26.99

10M Weather Station

One Minute Data

Time Stamp	WindDir_D1_Avg	Ws_MPH_s_Avg	Gust
11/13/2018 11:45	240.2	22.24	23.65
11/13/2018 11:46	236.4	22.43	24.29
11/13/2018 11:47	238.7	16.19	16.72
11/13/2018 11:48	239.7	20.3	22.21
11/13/2018 11:49	251.9	17.25	17.88
11/13/2018 11:50	244.2	18.85	20.24
11/13/2018 11:51	245.8	17.83	23.27
11/13/2018 11:52	238.6	20.33	22.5
11/13/2018 11:53	241	19.99	22.87
11/13/2018 11:54	228	18.42	21.76
11/13/2018 11:55	238.4	21.38	22.69
11/13/2018 11:56	224.6	20.95	22.14
11/13/2018 11:57	237.4	17.89	23.19
11/13/2018 11:58	239.3	20.74	21.51
11/13/2018 11:59	240.6	22.65	25.8
11/13/2018 12:00	225.3	23.25	25.8
11/13/2018 12:01	230.4	17.85	18.96
11/13/2018 12:02	243.2	14.51	19.6
11/13/2018 12:03	234.7	19.34	24.29
11/13/2018 12:04	224.4	18.16	21.3
11/13/2018 12:05	230.5	19.42	21.34
11/13/2018 12:06	241	20.21	20.61
11/13/2018 12:07	227.8	18.18	24.24
11/13/2018 12:08	230.1	24.18	25.36
11/13/2018 12:09	239.3	21.99	26.66
11/13/2018 12:10	241.9	22.5	23.07
11/13/2018 12:11	239.6	21.99	24.05
11/13/2018 12:12	240.7	17.45	18.82
11/13/2018 12:13	233.9	21.07	23.97
11/13/2018 12:14	228.5	22.71	23.77
11/13/2018 12:15	225.8	22.26	25.39
11/13/2018 12:16	241.6	25.06	27.79
11/13/2018 12:17	241	25.87	27.04
11/13/2018 12:18	246.9	23.74	24.52
11/13/2018 12:19	245.5	21.25	24.49
11/13/2018 12:20	246.9	22.48	25.68
11/13/2018 12:21	239.7	19.95	22.7
11/13/2018 12:22	246.2	19.9	24.17
11/13/2018 12:23	247.2	21.08	24.56
11/13/2018 12:24	240.6	21.11	22.73
11/13/2018 12:25	238.9	22.35	23.95
11/13/2018 12:26	241.5	20.06	23.16
11/13/2018 12:27	236.2	20.71	22.99
11/13/2018 12:28	238.3	20.05	21.62
11/13/2018 12:29	229.3	20.7	21.95

10M Weather Station

One Minute Data

Time Stamp	WindDir_D1_Avg	Ws_MPH_s_Avg	Gust
11/13/2018 12:30	228.4	16.86	17.42
11/13/2018 12:31	235.6	18.97	21.1
11/13/2018 12:32	246.2	19.16	19.88
11/13/2018 12:33	255.6	19.74	21.14
11/13/2018 12:34	244.7	20.21	23.1
11/13/2018 12:35	228.9	15.82	18.12
11/13/2018 12:36	226.1	13.79	14.99
11/13/2018 12:37	236.2	16.38	17.04
11/13/2018 12:38	240.8	18.74	21.11
11/13/2018 12:39	237.9	20	21.16
11/13/2018 12:40	237.1	20.44	21.3
11/13/2018 12:41	238.6	19.95	21.22
11/13/2018 12:42	245.1	20.31	21.98
11/13/2018 12:43	255.4	17.53	19.71
11/13/2018 12:44	251.6	14.78	16.08
11/13/2018 12:45	253.6	16.87	19.62
11/13/2018 12:46	243.1	18.19	19.95
11/13/2018 12:47	231.5	18.48	22.75
11/13/2018 12:48	239.2	14.89	15.53
11/13/2018 12:49	239.8	17.36	18.23
11/13/2018 12:50	234.3	16.93	20.69
11/13/2018 12:51	240.7	17.65	19.25
11/13/2018 12:52	231.1	15.84	17.16
11/13/2018 12:53	242.9	18.34	19.07
11/13/2018 12:54	240.8	14.05	15.94
11/13/2018 12:55	236.3	16.42	17.13
11/13/2018 12:56	234.6	15.93	20.08
11/13/2018 12:57	238.1	15.51	18.93
11/13/2018 12:58	240.3	15.9	16.69
11/13/2018 12:59	246.9	14.53	15.83

Visible Emissions Qualification Record - Method 9 Field Certification Sheet

NAME Patrick J Stegion COMPANY FMI

ADDRESS 6200 W. Duval Mine Rd

DATE & LOCATION 9-28-18

White Smoke Run # 1 Time: 8:13 Black Smoke Run # 1 Time: 8:53 Certifying With Sunglasses? Y (N)

Practice 5 | 20 | 40 | 65 | 85 | 95 | 5 | Practice 5 | 20 | 50 | 70 | 40 | 55 | Sky Conditions Clear Wind Speed 5-11

Reading #	Observed Reading	Smoke Gen. Reading	Deviation	Reading #	Observed Reading	Smoke Gen. Reading	Deviation	Reading #	Observed Reading	Smoke Gen. Reading	Deviation	Reading #	Observed Reading	Smoke Gen. Reading	Deviation	
1	10	15	1	14	75	75	0	14	75	75	0	14	75	75	0	
2	15	15	0	15	85	80	5	15	85	5	5	15	15	0	0	
3	5	5	0	16	0	0	0	16	10	10	0	16	15	20	5	
4	10	10	0	17	10	5	5	17	15	10	5	17	5	10	5	
5	15	10	5	18	15	15	0	18	20	20	0	18	15	15	0	
6	20	20	0	19	20	15	5	19	25	20	5	19	25	25	0	
7	25	25	0	20	25	25	0	20	35	25	10	20	35	40	5	
8	30	30	0	21	35	40	5	21	40	35	5	21	40	45	5	
9	40	40	0	22	50	50	0	22	50	40	10	22	50	50	0	
10	50	50	0	23	15	15	0	23	60	45	15	23	60	60	0	
11	60	60	0	24	5	5	0	24	70	50	20	24	70	70	0	
12	65	65	0	25	10	10	0	25	75	60	15	25	75	75	0	
13	70	70	0	Total Score			6	Total Score			65	6	Total Score			6

Directions:
 You must be at least 50 feet from the smoke generator for the proper slant angle. The sun must be in a 140° Sector to your back. Read the plume perpendicular (90°) to the direction of the wind (Path Length). When the instructor says "Ready...Read", determine the opacity for that plume number to the nearest 5%.

If you certify with sunglasses, you must wear those sunglasses every time you use Method 9

Arizona Smoke School LLC
 Certificate of Completion

This certifies that **Patrick Stegion**
 Successfully participated in EPA Method 9 Visible Emissions Training on Sept. 28, 2018 and is qualified to evaluate Visible Emissions for a period of six (6) months from the date of certification.

Patrick Stegion Instructor

Visible Emissions Qualification Record Method 9 Field Certification Sheet

NAME Daniel Strickler COMPANY Freight Memorandum Services

ADDRESS 1000 W. ... DATE & LOCATION 11/20/12

White Smoke Run # 4 Time 2:15 Black Smoke Run # 12 Time 8:50
 Certifying With Sunglasses? Y/N

Practice 5 | 20 | 35 | 50 | 60 | 80
 Sky Conditions _____ Wind Speed _____

Distance & Direction to Stack _____

Directions:

You must be at least 50 feet from the smoke generator for the proper slant angle. The sun must be in a 140° Sector to your back. Read the plume perpendicular (90°) to the direction of the wind (Path Length). When the instructor says "Ready...Read", determine the opacity for that plume number to the nearest 5%.

If you certify with sunglasses, you must wear those sunglasses everytime you take a Method 9 VEO.

Arizona Smoke School LLC
 Certificate of Completion

This certifies that **Daniel Strickler** Successfully participated in EPA Method 9 Visible Emissions Training on Sept. 20, 2012 and is qualified to evaluate Visible Emissions for a period of six (6) months from the date of certification.

[Signature] Instructor

Reading #	Observed Reading	Smoke Gen. Reading	Deviation	Reading #	Observed Reading	Smoke Gen. Reading	Deviation
1	5	5	0	14	0	0	0
2	5	15	10	15	15	10	1
3	15	5	10	16	10	10	0
4	20	20	0	17	20	20	0
5	25	25	0	18	10	10	0
6	30	30	0	19	15	15	0
7	40	45	1	20	25	25	0
8	50	50	0	21	30	35	1
9	60	60	0	22	35	45	2
10	65	65	0	23	50	50	0
11	70	70	0	24	65	65	0
12	75	75	0	25	75	75	0
13	85	80	1	Total Score		10	10
				Total Score		40	0
				Total Score		5	10

Every Reading (1) deviation each of Score If you and you greater If you greater you will white a certify

Tailings Dam Environmental Weekly Activities Report

Operator: Jesus Hernandez

Date: 10.12.2018

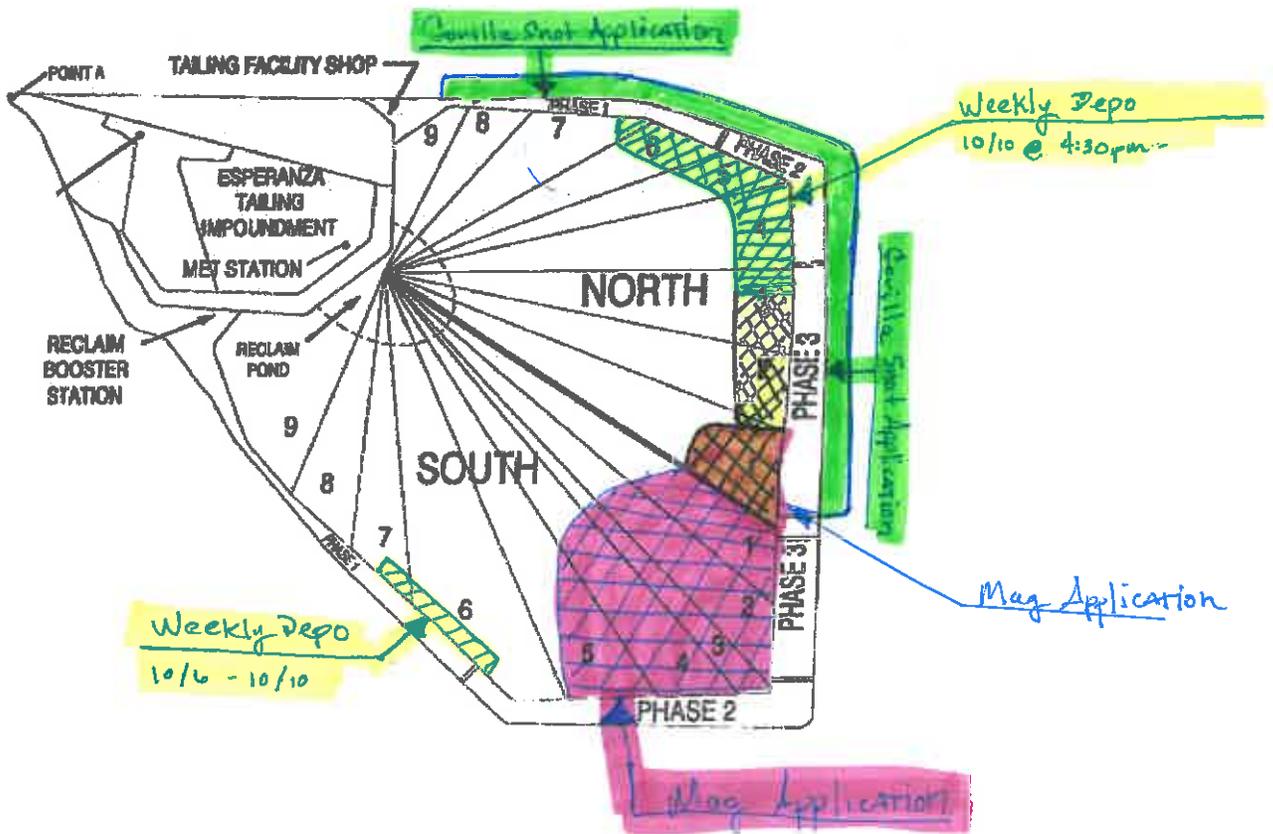
Primary Controls	N/S	Phase	Area			
Area of Deposition	North	2#3	4,3,2			
Special Wetting Area	—	—	—			
Water Truck #	88	94	36	37	Rental	Rental
No. of Loads	6	22	27	42		

	Gallons	N/S	Approximate Area Covered
All-track application	67,500	South	PH- 2,3 - Area = 1,2,3,4
Gorilla snot	4,400	North	PH- 1,2,3 - (Berm)

Site Conditions

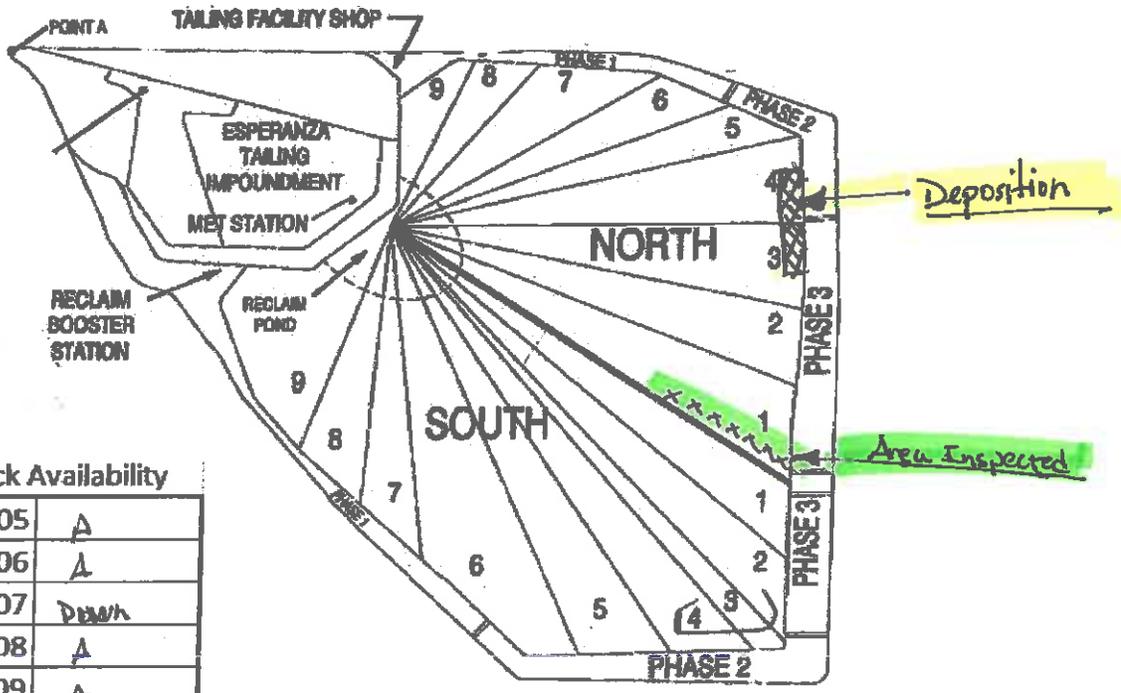
Area Under Construction	ETI/STI
Inches of Rain Throughout Week	.5

Comments: ETI/STI Construction ongoing
Deposition on North Dam continuing to move towards divider
Dust events reported to Environmental on: 10/6, 10/7, 10/10, 10/11
Spill a #2 drop^{Box} reported to Environmental on 10/11



Tailings Impoundment Surface Inspection

Date: 10.12.2018
 Time: 7:30 am
 Conditions: Rain
 Dam Inspected: North Phase(s) 3
 Inspected By: Jesus Hernandez



All-track Availability

70105	A
70106	A
70107	Down
70108	A
70109	A

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface - <u>due to Rain</u>	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Water Trucks / All Tracks on STANBY

Dust Suppressant Applied: _____

Operators: _____

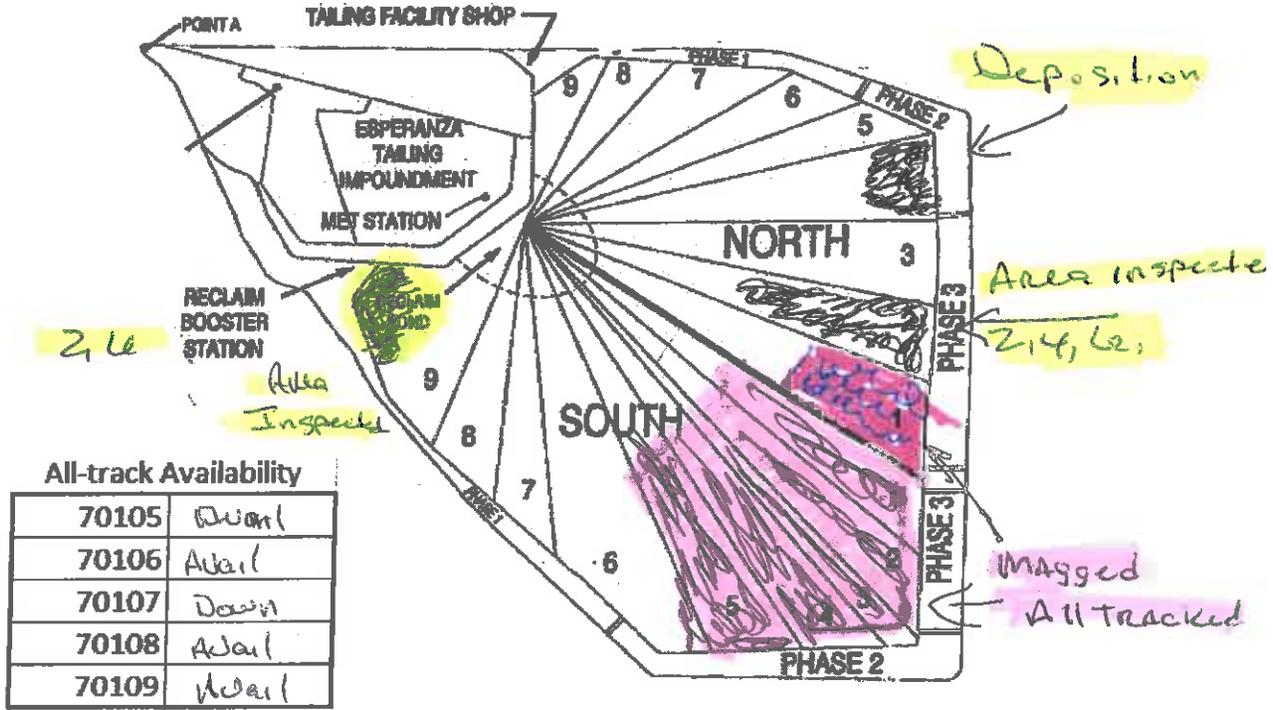
Weather Conditions:

Wind Speed: 3 Gusts up to: 5 Temp: 68°

Precipitation in the last 24 hrs. yes Inches of rain: .5

Tailings Impoundment Surface Inspection

Date: 10-11-18
 Time: 2:30-4:30 pm
 Conditions: Windy Partly Clouded
 Dam Inspected: S/N Phase(s) 1, 3
 Inspected By: Granico J



All-track Availability

70105	Down
70106	Down
70107	Down
70108	Down
70109	Down

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: All Tracking Phase 2, South and phase 3 North Dam

Dust Suppressant Applied: Magg

Operators: Mine Support with JOSE and JESSE

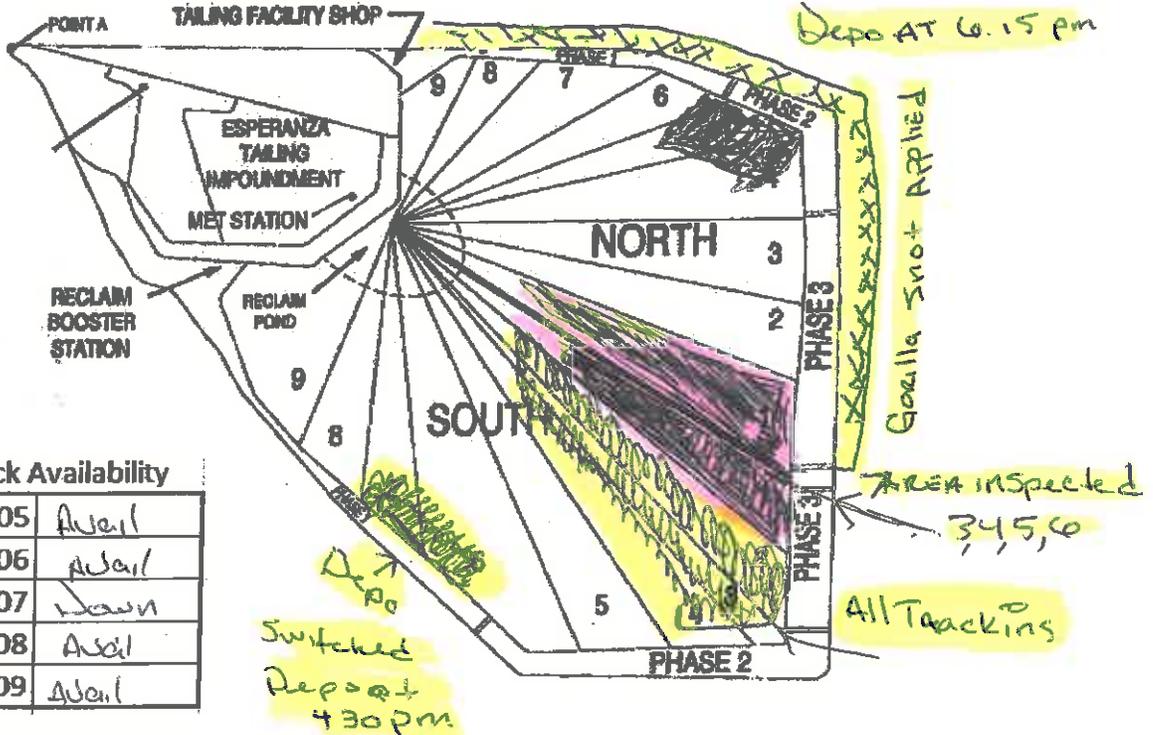
Weather Conditions:

Wind Speed: 20 Gusts up to: 30 Temp: 73

Precipitation in the last 24 hrs. 0 Inches of rain: 0

Tailings Impoundment Surface Inspection

Date: 10-10-18
 Time: 5:00 pm
 Conditions: Light winds Cloudy Partly
 Dam Inspected: N/S Phase(s) 3
 Inspected By: Granillo Joe



All-track Availability

70105	Up/ail
70106	Up/ail
70107	Down
70108	Up/ail
70109	Up/ail

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: All Trackings, Goatilla Snot Applied on North Berm

Dust Suppressant Applied: Mag, Goatilla Snot,

Operators: Mine Support

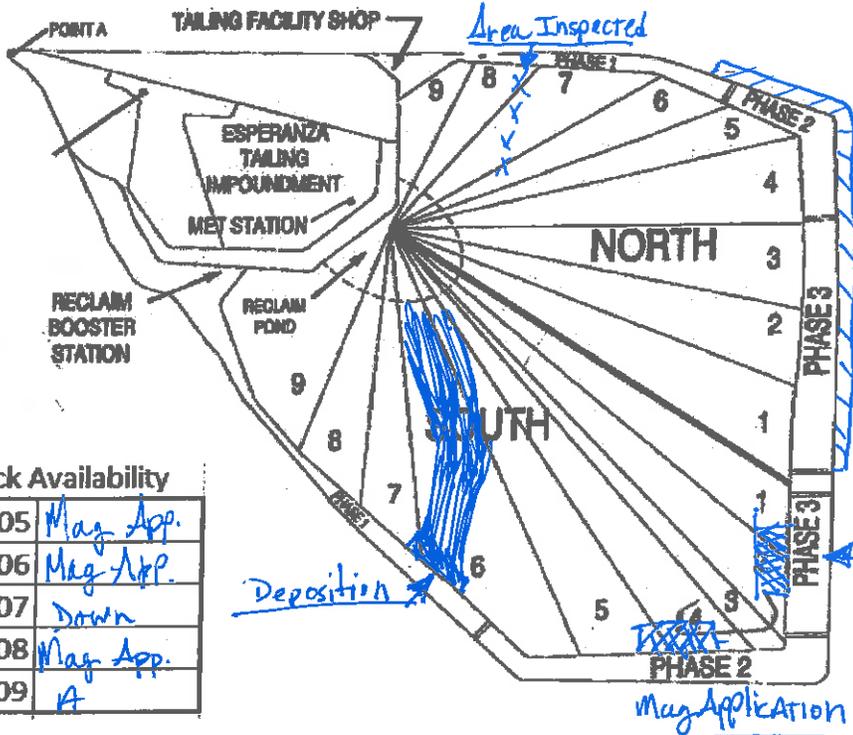
Weather Conditions:

Wind Speed: 9 Gusts up to: Temp: 74

Precipitation in the last 24 hrs. 0 Inches of rain: 0

Tailings Impoundment Surface Inspection

Date: 10.9.2017
 Time: 5:30pm-
 Conditions: clear
 Dam Inspected: North Phase(s) 8
 Inspected By: Jesus Hernandez



Gorilla Snot 1650 gallons Application on berm

Mag Application

Mag Application

All-track Availability

70105	Mag App.
70106	Mag App.
70107	Down
70108	Mag App.
70109	A

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands - Against Berms	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Water truck / All track

Dust Suppressant Applied: H2O / Maglyz

Operators: Jay R Cody W,

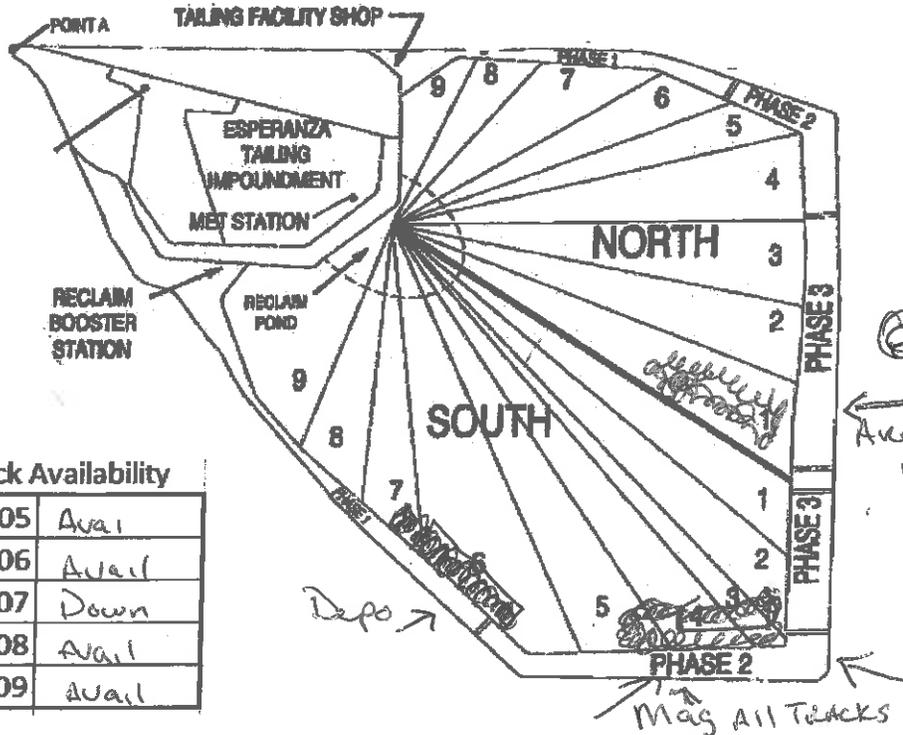
Weather Conditions:

Wind Speed: 4 Gusts up to: 7 Temp: 72°

Precipitation in the last 24 hrs. N/A Inches of rain: N/A

Tailings Impoundment Surface Inspection

Date: 10-9-18
 Time: 11:00
 Conditions: Sunny/Cloudy
 Dam Inspected: A1 Phase(s) 3
 Inspected By: Cranillo Joe



All-track Availability

70105	Avail
70106	Avail
70107	Down
70108	Avail
70109	Avail

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: All Tracks water Tracks

Dust Suppressant Applied: Scheduled 10-10-18

Operators: Mine Support

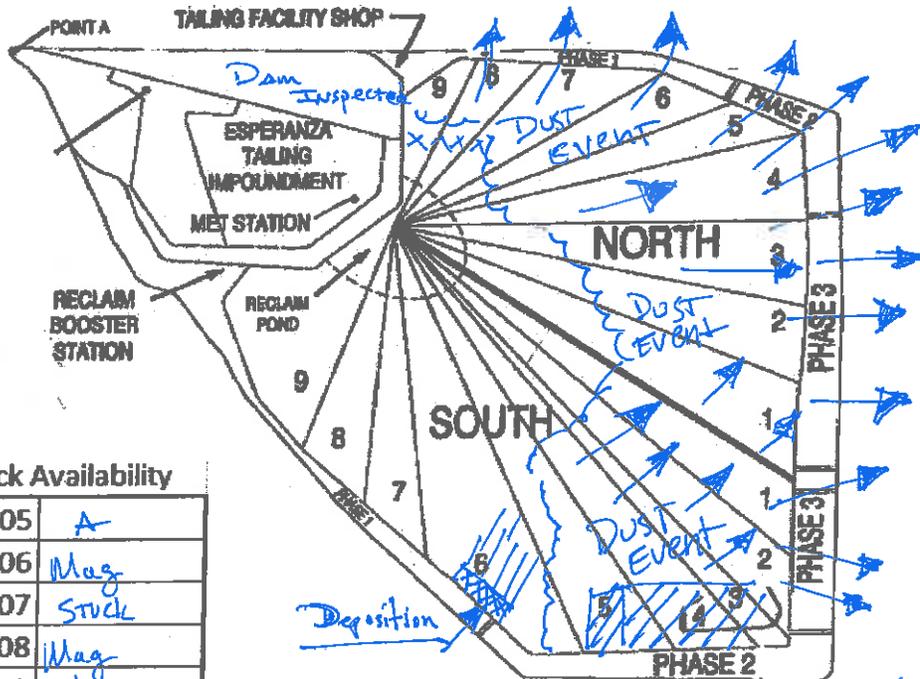
Weather Conditions:

Wind Speed: 7 Gusts up to: 10 Temp: 70

Precipitation in the last 24 hrs. 0 Inches of rain: 0

Tailings Impoundment Surface Inspection

Date: 10-7-2018
 Time: 8:00am-
 Conditions: High Winds
 Dam Inspected: North Phase(s) 1
 Inspected By: Jesus Hernandez



All-track Availability

70105	A
70106	Mag
70107	Stuck
70108	Mag
70109	A

Mag Application

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Water Trucks / All track

Dust Suppressant Applied: H₂O / Mag

Operators: Art @, JJ Murphy, Jay R, Bob S, Jesse P.

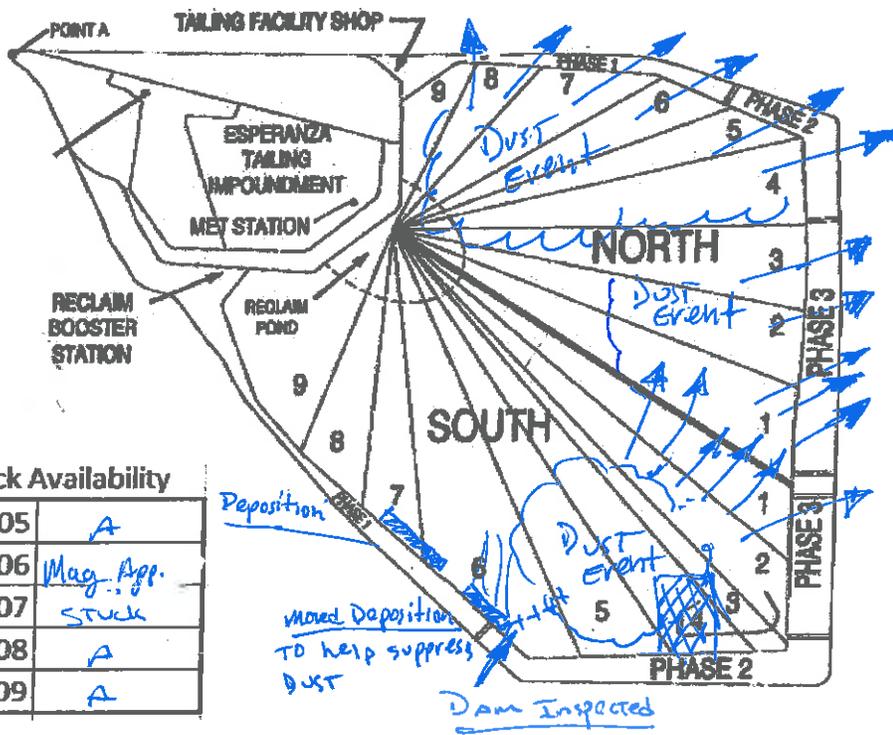
Weather Conditions:

Wind Speed: 25 Gusts up to: 33 Temp: 70's

Precipitation in the last 24 hrs. n/a Inches of rain: n/a

Tailings Impoundment Surface Inspection

Date: 10.6.2018
 Time: 1:00 pm-
 Conditions: High Winds
 Dam Inspected: South Phase(s) 1 (6-5)
 Inspected By: Jesus Hernandez



All-track Availability

70105	A
70106	Mag. App.
70107	STUCK
70108	A
70109	A

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Running All track WATER TRUCKS

Dust Suppressant Applied: H₂O / MgCl₂

Operators: Chris L, Paul, Jesus

Weather Conditions:

Wind Speed: 30 Gusts up to: 40+ Temp: 80's

Precipitation in the last 24 hrs. n/a Inches of rain: n/a

Tailings Dam Environmental Weekly Activities Report

Operator: F. Durazo

Date: 10/19/18

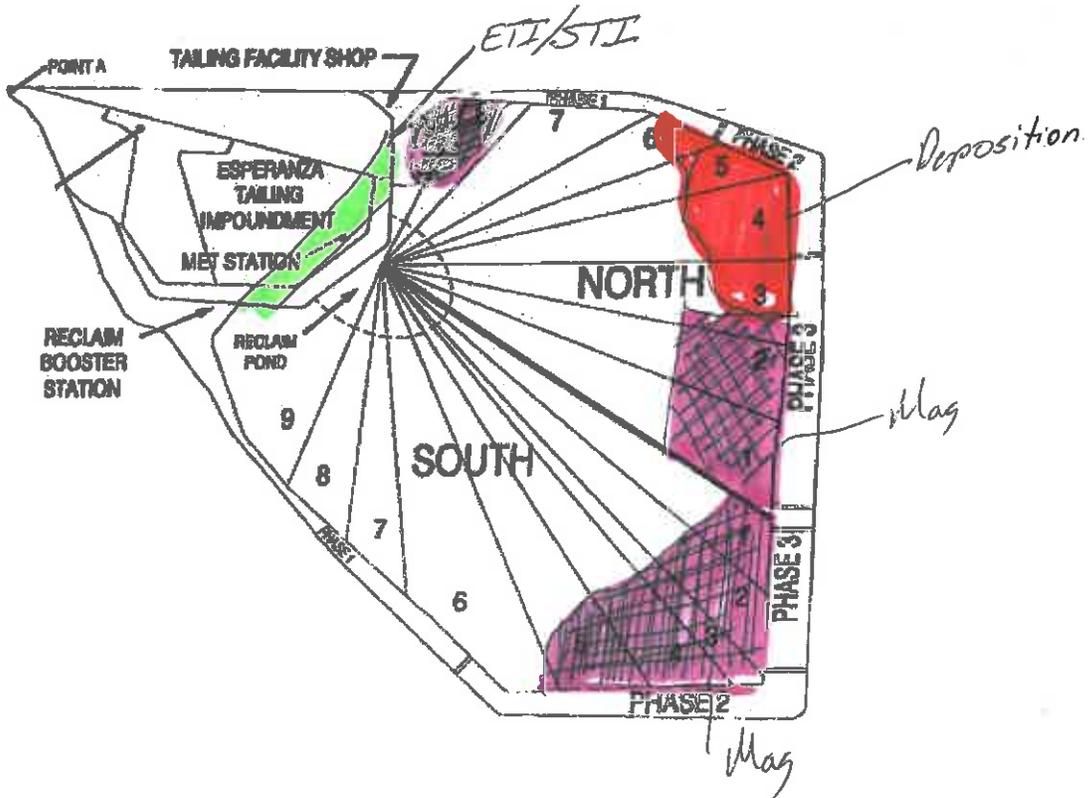
Primary Controls	N/S	Phase	Area			
Area of Deposition	W	2/3	5/4/3/2/1			
Special Wetting Area						
Water Truck #	88	94	36	37	Rental	Rental
No. of Loads	0	6	4	1	—	—

	Gallons	N/S	Approximate Area Covered	
All-track application	111,000	N/S	Phase 1 - 9/8/7	Phase 2/3 - 5/4/6
Mag. Chloride Applied to Rds	N			

Site Conditions

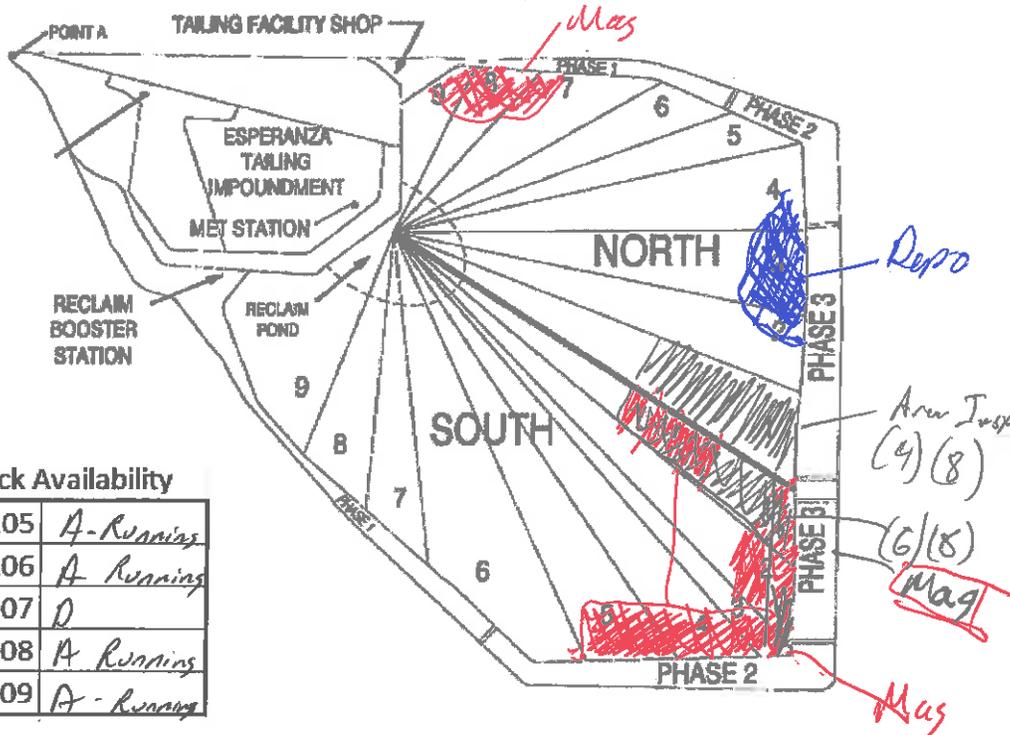
Area Under Construction	ETI/STI
Inches of Rain Throughout Week	1.45"

Comments: Deposition continued on the N. dam Phase 2 & 3. Applied Mag heavily to S. Dam phase 2/3, also W. Phase 3. ETI/STI beam construction continued. No ELW events to report. Some Rain 1.45" first part of week.



Tailings Impoundment Surface Inspection

Date: 10/19/18
 Time: 10:00
 Conditions: Calm
 Dam Inspected: N/S Phase(s) 3
 Inspected By: E. Durazo



All-track Availability

70105	A-Running
70106	A-Running
70107	D
70108	A-Running
70109	A-Running

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

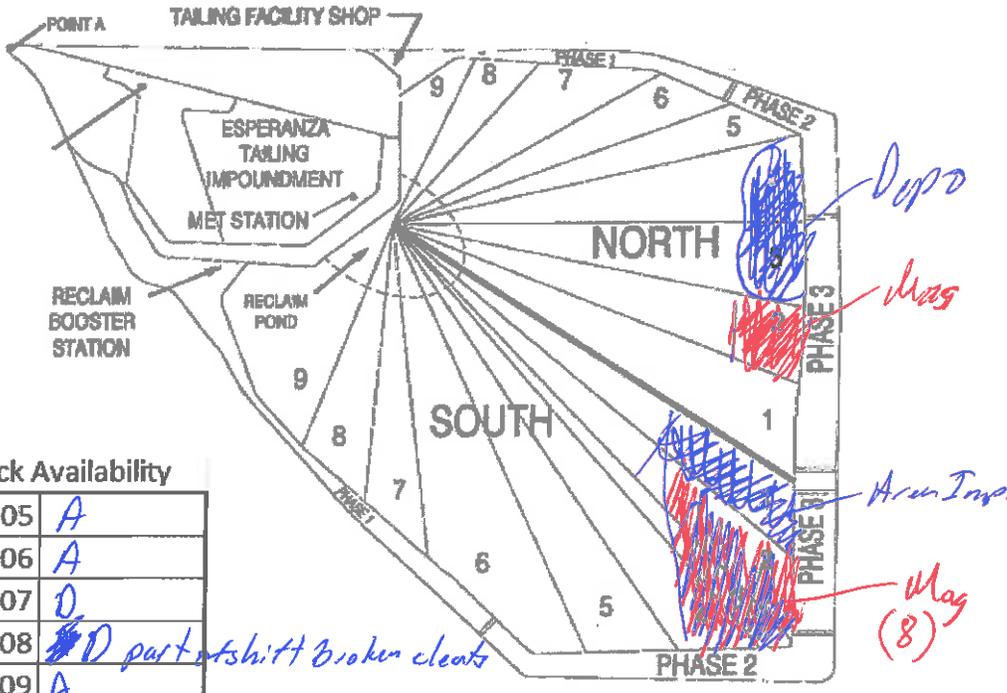
Action Plan: 4 All tracks / 1 water truck
 Dust Suppressant Applied: Mag
 Operators: Rudy / Eddie / Jesse / John / Kevin
 Weather Conditions:

Wind Speed: 1 Gusts up to: 4 Temp: 67°

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 10/18/18
 Time: 2:00
 Conditions: Small Breeze
 Dam Inspected: 5 Phase(s) 3
 Inspected By: E. DeGroot



All-track Availability

70105	A
70106	A
70107	D
70108	D part of shift broken cleats
70109	A

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 3 All-tracks / water trucks on steady

Dust Suppressant Applied: 4 Mag

Operators: Mike / Eddie / John

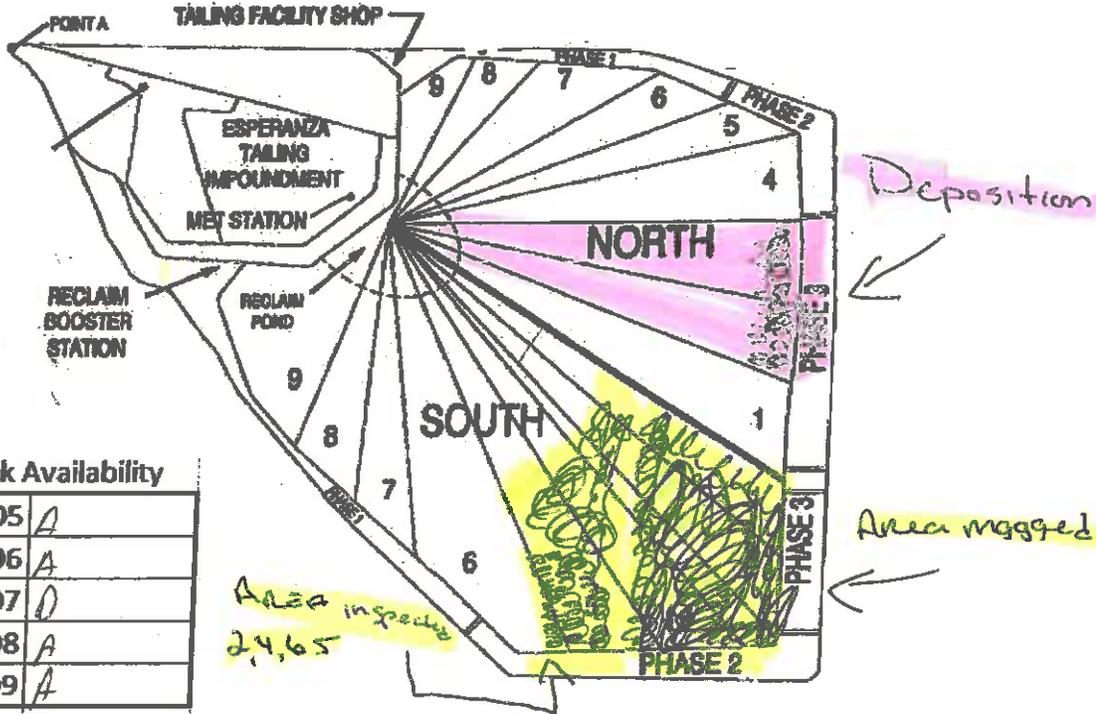
Weather Conditions:

Wind Speed: 6 Gusts up to: 11 Temp: 86

Precipitation in the last 24 hrs. W Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 10-17-18
 Time: 2:00
 Conditions: Foggy
 Dam Inspected: 5 Phase(s) 2
 Inspected By: Carroll



All-track Availability

70105	A
70106	A
70107	D
70108	A
70109	A

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: All Tracks Running 24 Day & Nights

Dust Suppressant Applied: Mag

Operators: Day's Mike, Jesse, John, Eddie, Nights Chris, Jr, Jose, Jesus

Weather Conditions:

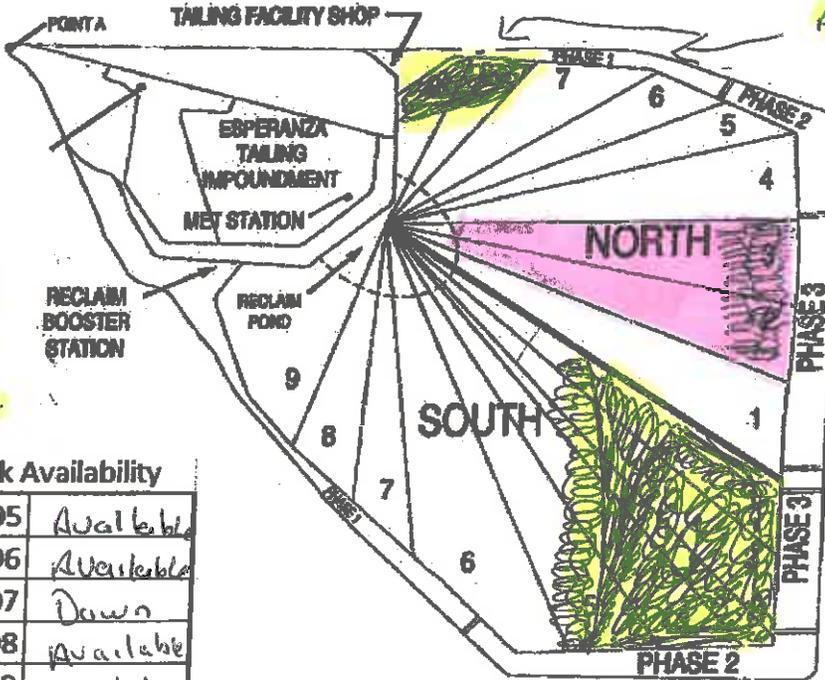
Wind Speed: 7 Gusts up to: Temp: 76

Precipitation in the last 24 hrs. 0 Inches of rain: NA

Tailings Impoundment Surface Inspection

Date: 10-16-18
 Time: 12:30
 Conditions: Sunny Cloudy
 Dam Inspected: N Phase(s) 1
 Inspected By: Guillermo

AREA 8, 9
 Soft Area
 Will Run
 Marsh Maske
 and Transport
 All Track
 To Area
 Inspected



AREA inspected
 2, 3, 4, 6

Deposition

Area mugged

All-track Availability

70105	Available
70106	Available
70107	Down
70108	available
70109	available

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: All Track H₂O

Dust Suppressant Applied: Mag

Operators: MIKE EDDIE JESSE JOHN

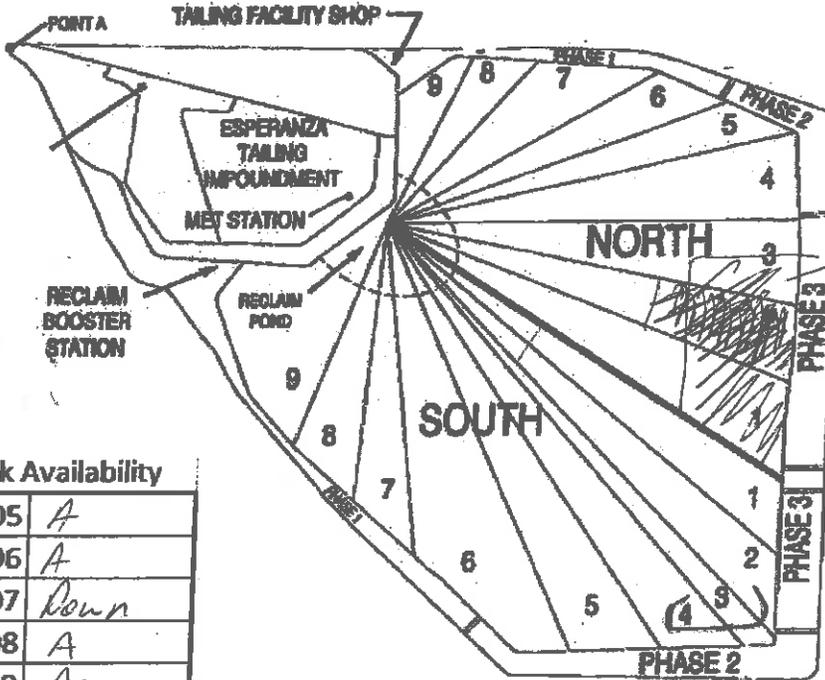
Weather Conditions:

Wind Speed: 8 Gusts up to: _____ Temp: 75

Precipitation in the last 24 hrs. No Inches of rain: n/a

Tailings Impoundment Surface Inspection

Date: 10/15/18
 Time: 10:00
 Conditions: Calm
 Dam Inspected: N Phase(s) 3
 Inspected By: F. Duran



All-track Availability

70105	A
70106	A
70107	Down
70108	A
70109	A

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Watch Area/Reinspect in one week
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 3 All tracks /

Dust Suppressant Applied: Y

Operators: Isaiah / Rudy / Mike

Weather Conditions:

Wind Speed: 6 Gusts up to: 8 Temp: 78

Precipitation in the last 24 hrs. Y Inches of rain: .25"

10/19 - 10/25

Tailings Dam Environmental Weekly Activities Report

Operator: F. Durazo

Date: 10/26/18

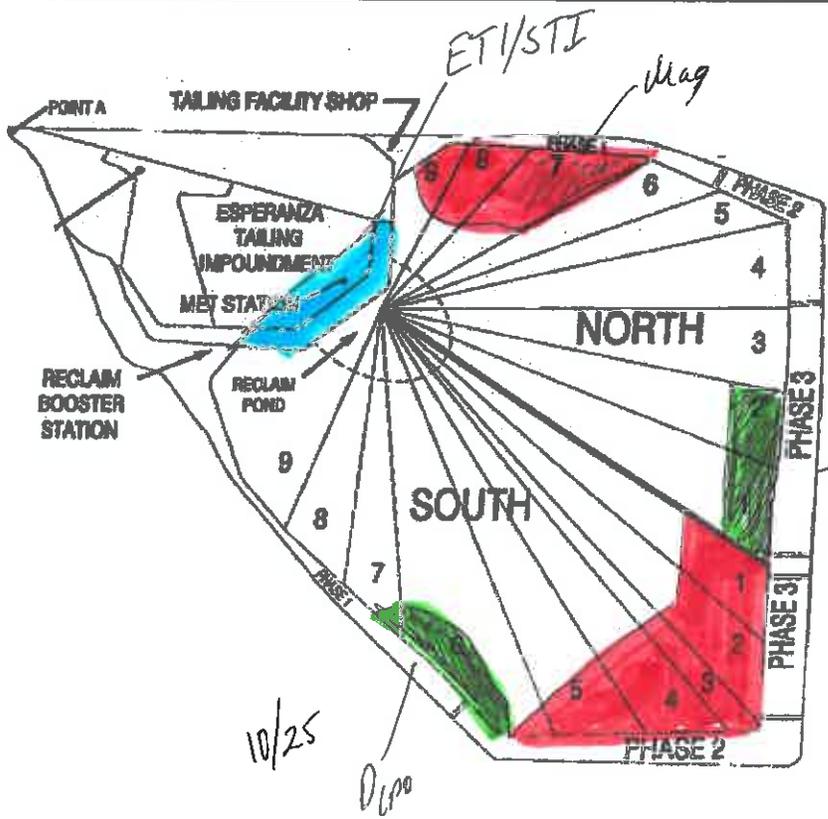
Primary Controls	N/S	Phase	Area			
Area of Deposition	N S	3 1/2	2/1	7/6/		
Special Wetting Area	N/A					
Water Truck #	88	94	36	37	Rental	Rental
No. of Loads	—	—	2	24		

	Gallons	N/S	Approximate Area Covered
All-track application			
Mag. Chloride Applied to Rds	54,000	N	Phase 1 area 9/8/7/6 Phase 2/area 1-5

Site Conditions

Area Under Construction	ETI/STI
Inches of Rain Throughout Week	1"

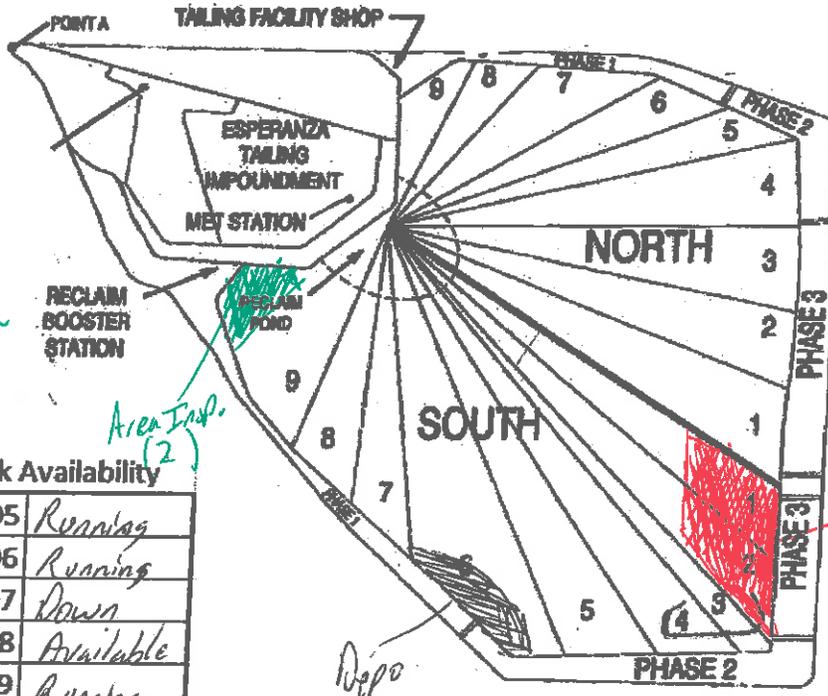
Comments: Deposition completed on N. dam. Final fill complete.
Deposition moved to South dam on ~~Mon~~ Oct 25th. Applied Mag on
N. and S. dam. Had a dust event on Sunday the 21st. due
to storm system coming in. Not reportable.



Depo ended 10/25 Final fill all of south dam

Tailings Impoundment Surface Inspection

Date: 10/26/18
 Time: 11:00
 Conditions: Calm
 Dam Inspected: W Phase(s) 1
 Inspected By: F. Rivera



* Area Wet. Still muddy from Rain.

Area Insp. (2)

All-track Availability

70105	Running
70106	Running
70107	Down
70108	Available
70109	Running

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 2 All tracks / Water trucks on standby

Dust Suppressant Applied: Y

Operators: Tony / Eddie - Switched to 09 after 06 developed an issue.

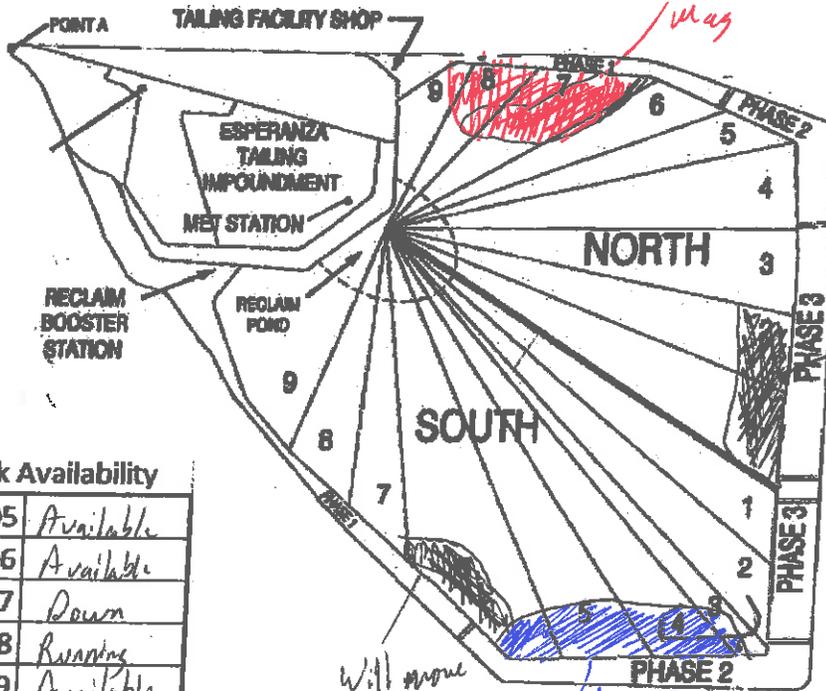
Weather Conditions:

Wind Speed: 0 Gusts up to: 2 Temp: 77

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 10/25/18
 Time: 9:30
 Conditions: Calm
 Dam Inspected: 5 Phase(s) 2
 Inspected By: F. Pucaro



Depo shut down @ 2:00 am due to Pump issues

70105	Available
70106	Available
70107	Down
70108	Running
70109	Available

Will move dep. here

Area Insp. 2/8 Wet from rain on 10/23/18

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 1 all track on W. dam/ water trucks on a regular

Dust Suppressant Applied: Y mag

Operators: Jesse

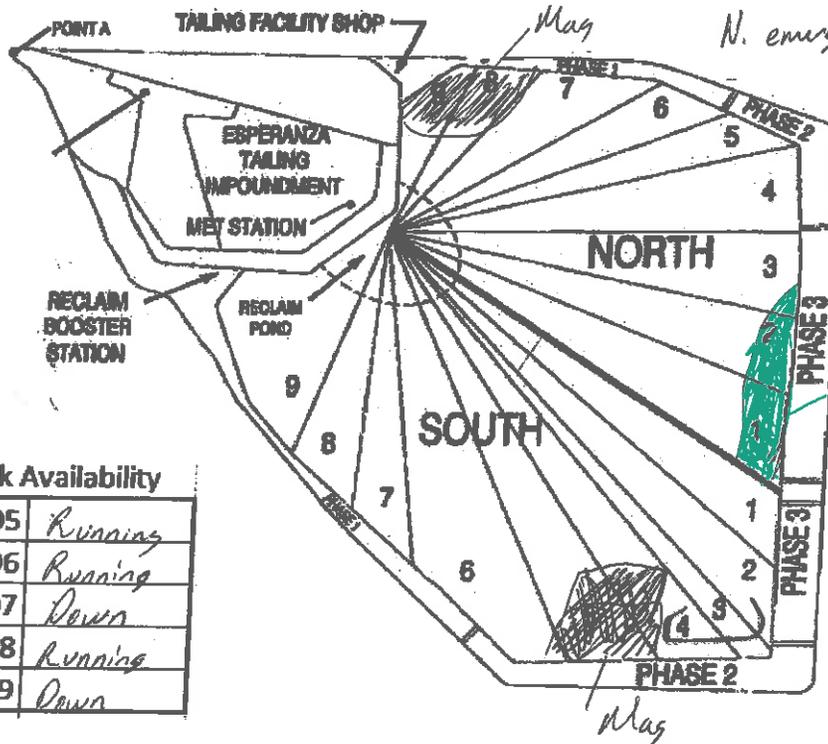
Weather Conditions:

Wind Speed: 2 Gusts up to: 6 Temp: 70

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 10/24/18
 Time: 17:00
 Conditions: Calm
 Dam Inspected: All Phase(s) All
 Inspected By: F. DiVito



N. emergency running

Most Recent Depo
 * Pump station down due to pump issues.
 Airboats running for maintenance on barges

* Dam inspection - all wet due to rain. ~~Nothing~~ Nothing dry to be identified.

All-track Availability	
70105	Running
70106	Running
70107	Down
70108	Running
70109	Down

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Watch Area/Reinspect in one week
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Ran 1 all-track on W. dam / 2 on south for in the morning

Dust Suppressant Applied: Y Mag

Operators: Jesse / Mike / Chris

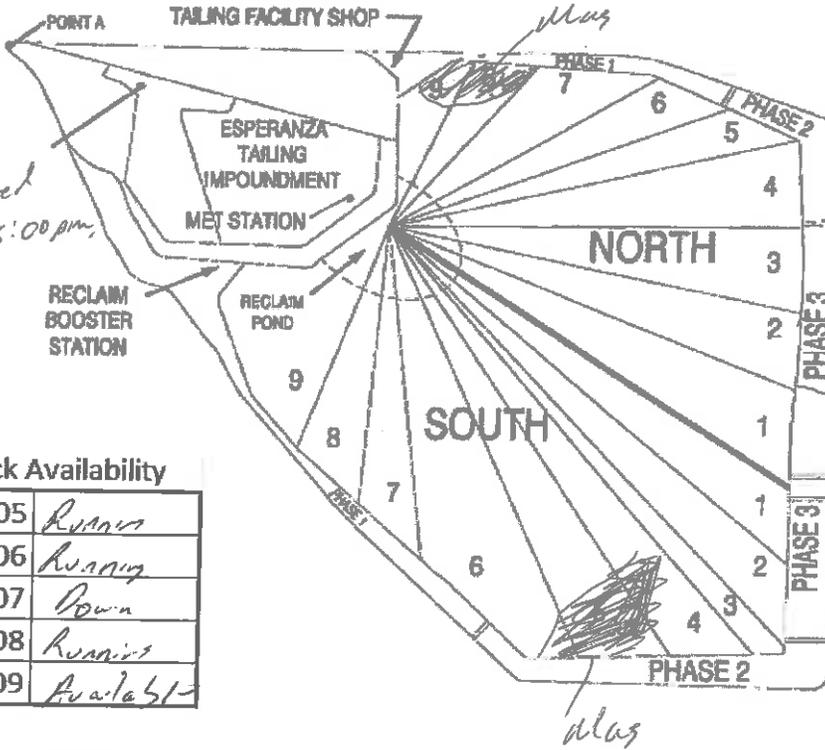
Weather Conditions:

Wind Speed: 4 Gusts up to: 8 Temp: 78

Precipitation in the last 24 hrs. Y Inches of rain: 1"

Tailings Impoundment Surface Inspection

Date: 10/23/18
 Time: 1:00
 Conditions: Rainy
 Dam Inspected: Phase(s)
 Inspected By: F. Durazo



** Rain started around 11:00. Rained and sprinkled until 6:00 pm, 1" total*

Depo down due to feed issues + power issues

All-track Availability

70105	<i>Rainy</i>
70106	<i>Rainy</i>
70107	<i>Down</i>
70108	<i>Rainy</i>
70109	<i>Available</i>

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 3 All tracks / Water truck on standby

Dust Suppressant Applied: Y

Operators: 2 mine personnel / Jesse

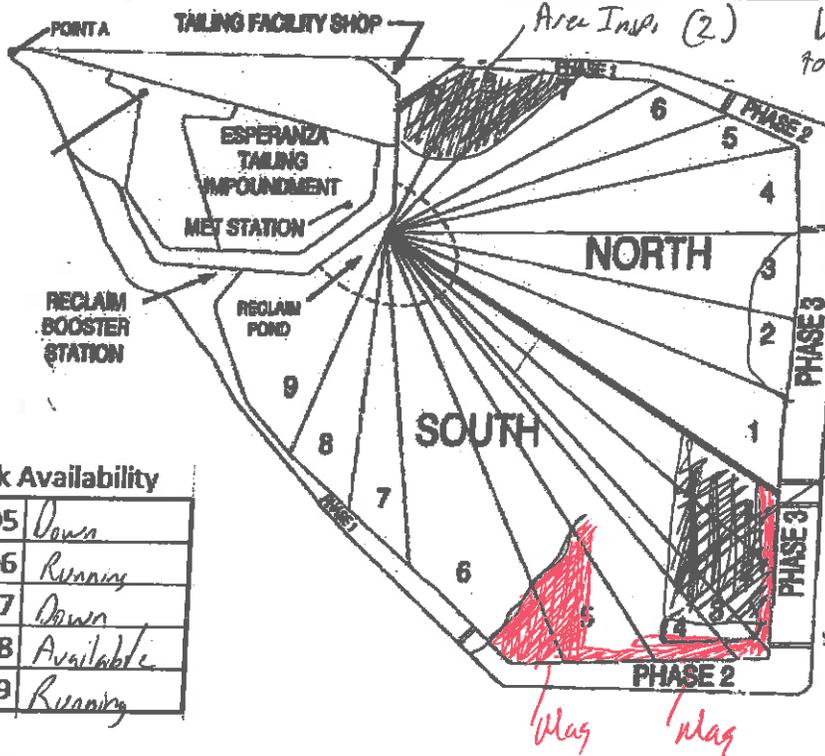
Weather Conditions:

Wind Speed: 6 Gusts up to: 10 Temp: 72

Precipitation in the last 24 hrs. Y Inches of rain: 1.0" throughout day

Tailings Impoundment Surface Inspection

Date: 10/22/18
 Time: 8:00 / 2:47
 Conditions: _____
 Dam Inspected: N/S Phase(s) 1/2
 Inspected By: R. Duran



Walked first thing
to wet for all-track.

Depo down since
10/21 @ 2:00 am due to
hole in Mine/Power issues.

Area Insp
(2)

* Dam still wet rain
last nights rain. All of dam

All-track Availability

70105	Down
70106	Running
70107	Down
70108	Available
70109	Running

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 2 All tracks. 5. Dam / Water trucks on standby

Dust Suppressant Applied: Y

Operators: Mike / Chris

Weather Conditions:

Wind Speed: 2 Gusts up to: 4.6 Temp: 83

Precipitation in the last 24 hrs. Y Inches of rain: 1"

Tailings Dam Environmental Weekly Activities Report

Operator: Jesus Hernandez

Date: 11-2-2018

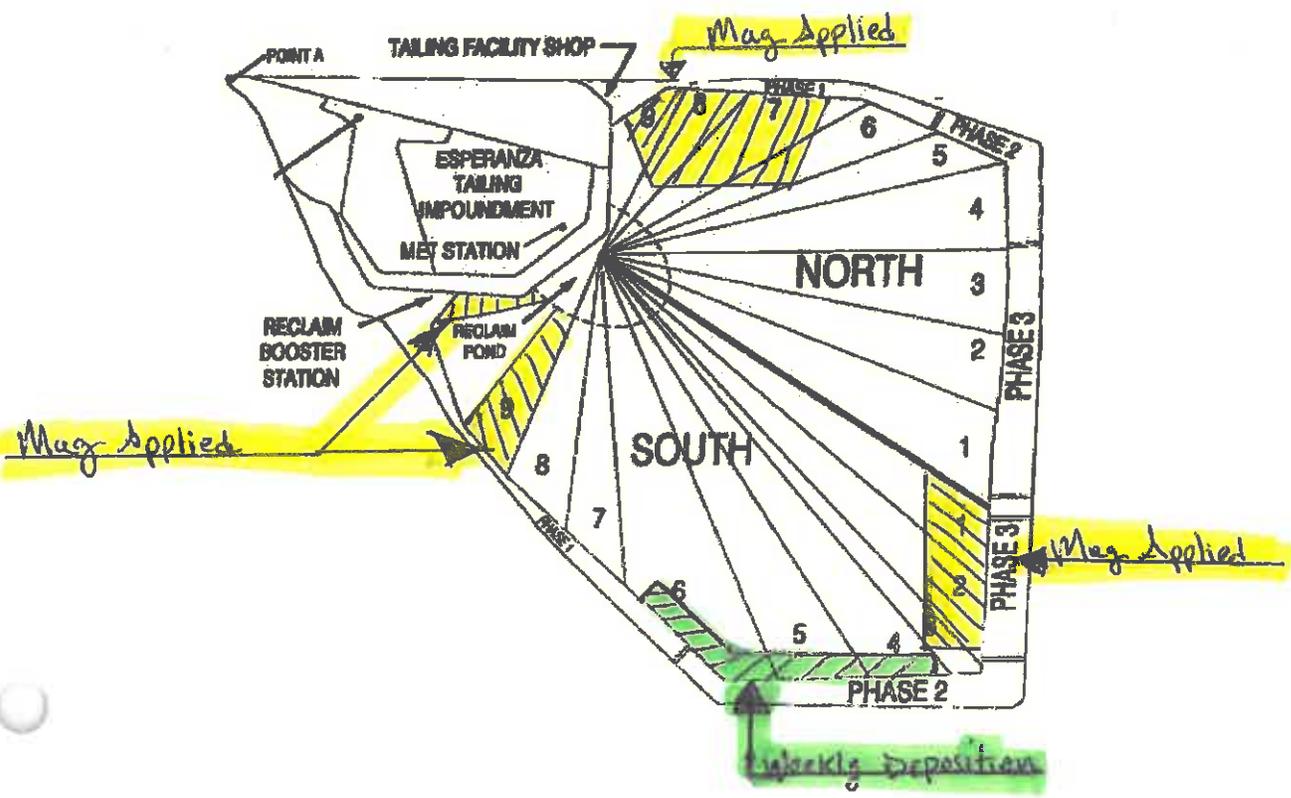
Primary Controls	N/S	Phase	Area			
Area of Deposition	South	1-2	4			
Special Wetting Area	N/A	-	-			
Water Truck #	88	94	36	37	Rental	Rental
No. of Loads	0	12	26	45	-	-

	Gallons	N/S	Approximate Area Covered
All-track application	38,225	N/S	North PH-1 / South Dam-Phase-1-3
Mag. Chloride Applied to Rds			

Site Conditions

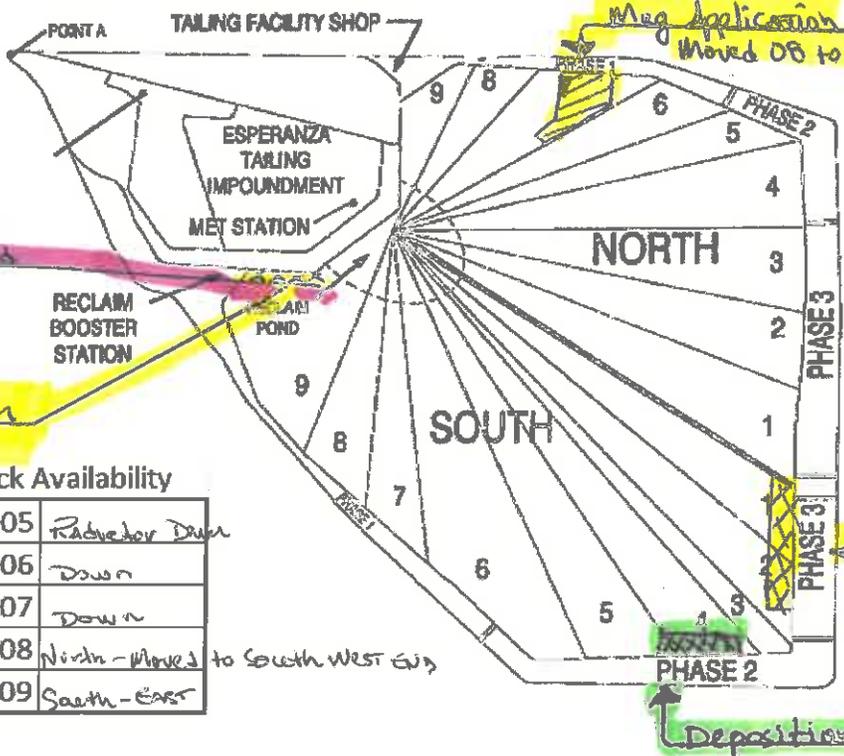
Area Under Construction	ETT-STI
Inches of Rain Throughout Week	-

Comments: ETT/STI construction ongoing
Buttress construction lower roads on South face of South Dam on going
Dust on 10/30 - winds gust 36 mph -
Deposition currently on South Dam-Phase-2 Section 4 moving towards divider.



Tailings Impoundment Surface Inspection

Date: 11-2-2018
 Time: 7:30am
 Conditions: Clear / CALM
 Dam Inspected: South Phase(s) 1
 Inspected By: Jesus Hernandez



All-track Availability

70105	Radvector Dam
70106	Down
70107	Down
70108	North - Moved to South West side
70109	South - East

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands - Along Berm TOE	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 1 WATER TRUCK / 2 ALL TRACKS

Dust Suppressant Applied: H₂O / MgCl₂

Operators: John / Chris / Jose

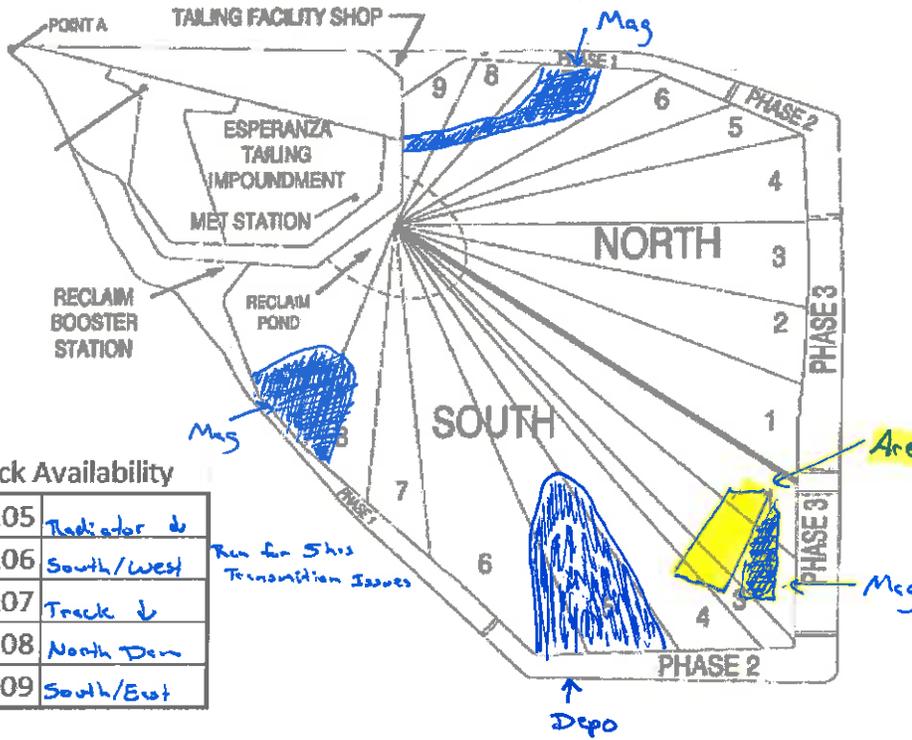
Weather Conditions:

Wind Speed: 2 Gusts up to: 5 Temp: 55°

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 11-1-18
 Time: 13100
 Conditions: Sunny / calm
 Dam Inspected: South Phase(s) 3
 Inspected By: Dereck Berry



All-track Availability

70105	Radiator ↓
70106	South/West
70107	Track ↓
70108	North Dem
70109	South/East

Run for 5 hrs Transition Issues

Area Inspected 5
6
7
8

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 3 All Trucks / 2 water trucks

Dust Suppressant Applied: Mag / H2O

Operators: JR, John, Chris, Jesus, Mike

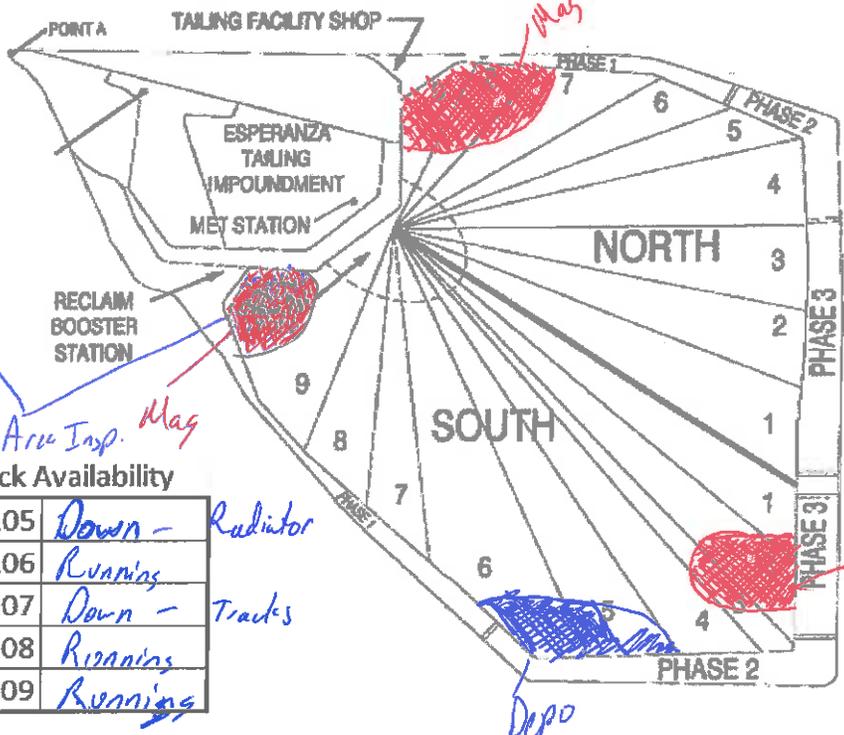
Weather Conditions:

Wind Speed: 2 Gusts up to: 6 Temp: 78

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 10/31/18
 Time: 12:00
 Conditions: Breezy
 Dam Inspected: 5 Phase(s) 1
 Inspected By: F. Durazo



All-track Availability

70105	Down - Radiator
70106	Running
70107	Down - Tracks
70108	Running
70109	Running

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 3 All-tracks / 2 water trucks

Dust Suppressant Applied: Y

Operators: Chris / Jesse / Mike / Sam / JR / John

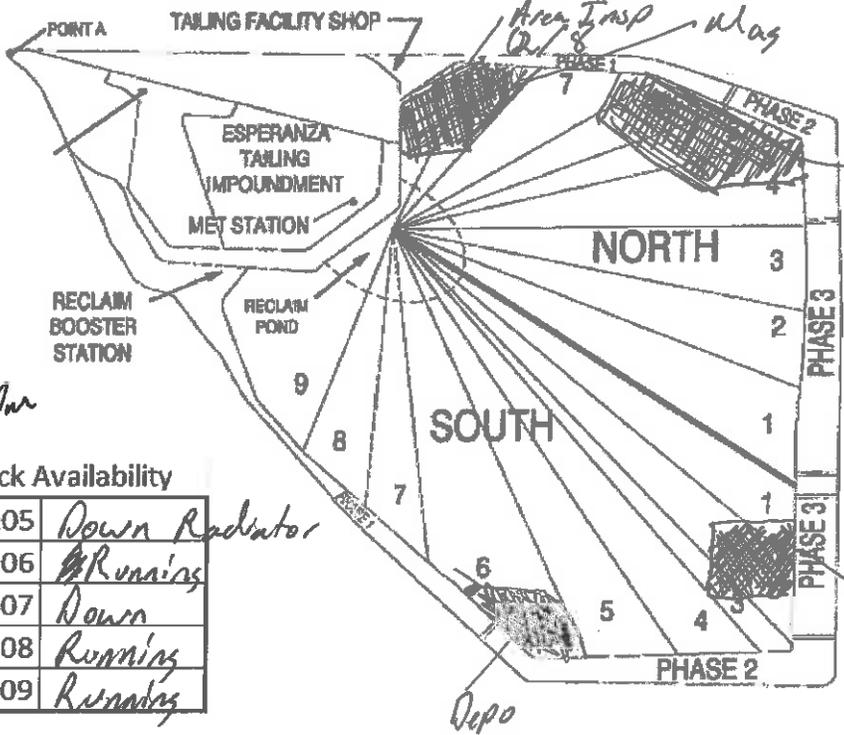
Weather Conditions:

Wind Speed: 5 Gusts up to: 11 Temp: 78

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 10/30/18
 Time: 7:30
 Conditions: Breezy
 Dam Inspected: Phase(s) 1
 Inspected By: F. Durazo / C. Larren



Area Insp. @ 12:00
 (2/34)
 Area that has soft spots for All-tracks from starting depo here on 10/11.
 Wind 24 / Gusts @ 36

Ran for 2 hrs in Am Radiator Leak

All-track Availability

70105	Down Radiator
70106	Running
70107	Down
70108	Running
70109	Running

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 3 All tracks / 3 water trucks

Dust Suppressant Applied: ✓

Operators: Chris / John / Javel

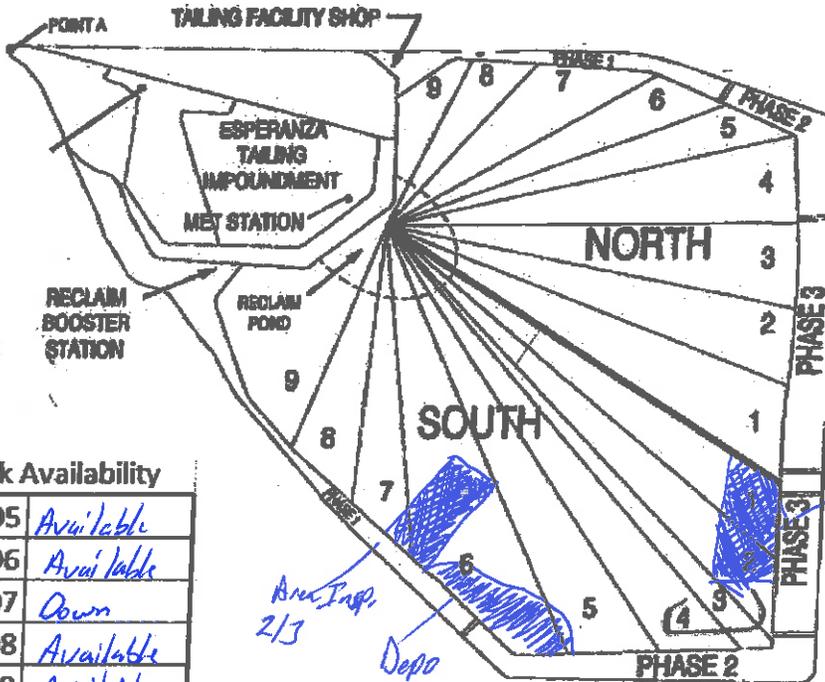
Weather Conditions:

Wind Speed: 12 Gusts up to: 16 Temp: 60

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 10/29/18
 Time: 10:00 am
 Conditions: Breezy
 Dam Inspected: S Phase(s) 1/3
 Inspected By: F. Durazo



All-track Availability

70105	Available
70106	Available
70107	Down
70108	Available
70109	Available

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: All-tracks / ~~water~~ on standby / 1 water truck running

Dust Suppressant Applied: N

Operators: Jesse

Weather Conditions:

Wind Speed: 8 Gusts up to: 15 Temp: 74

Precipitation in the last 24 hrs. N Inches of rain: —

Tailings Dam Environmental Weekly Activities Report

Operator: Dezek Berry

Date: 11-9-18

Primary Controls	N/S	Phase	Area			
Area of Deposition	South	2-3	1,2,3			
Special Wetting Area	South	2-3	1,2,3			
Water Truck #	88	94	36	37	Rental	Rental
No. of Loads	10	0	32	16	2	8

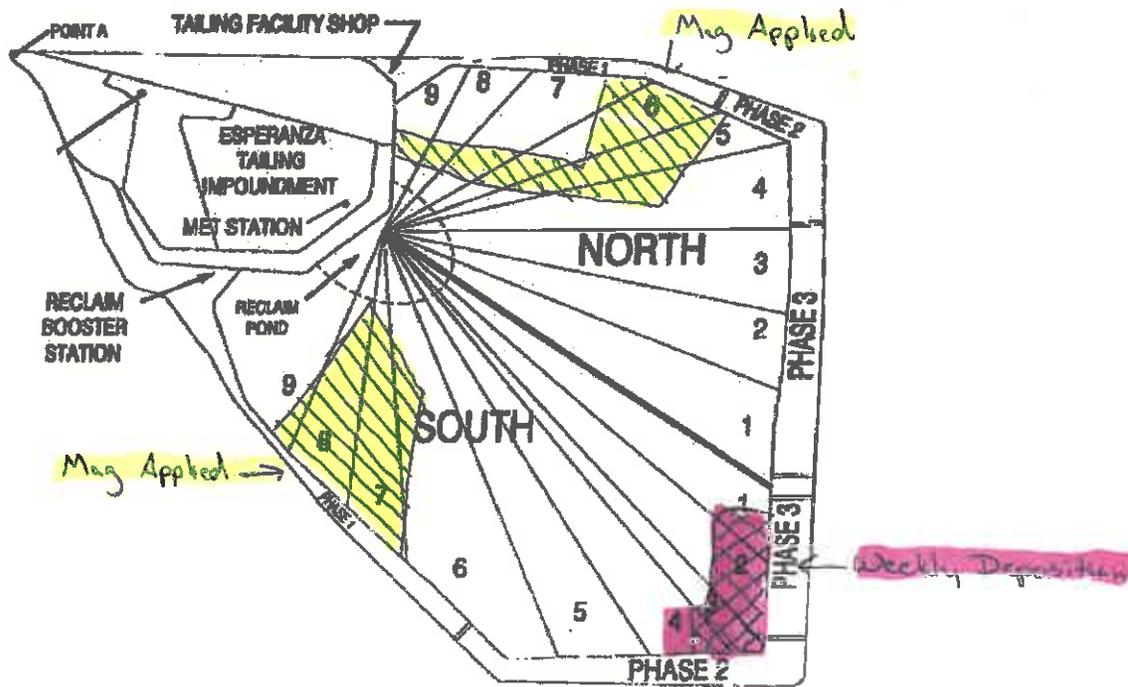
← moving spread after reaching water and wetting surface

	Gallons	N/S	Approximate Area Covered
All-track application	27,000	N/S	Norral Dam Phase 1-6 and Phase 2-5 Solith Dam Phase 1-7 and 8
Mag. Chloride Applied to Rds	—	—	None

Site Conditions

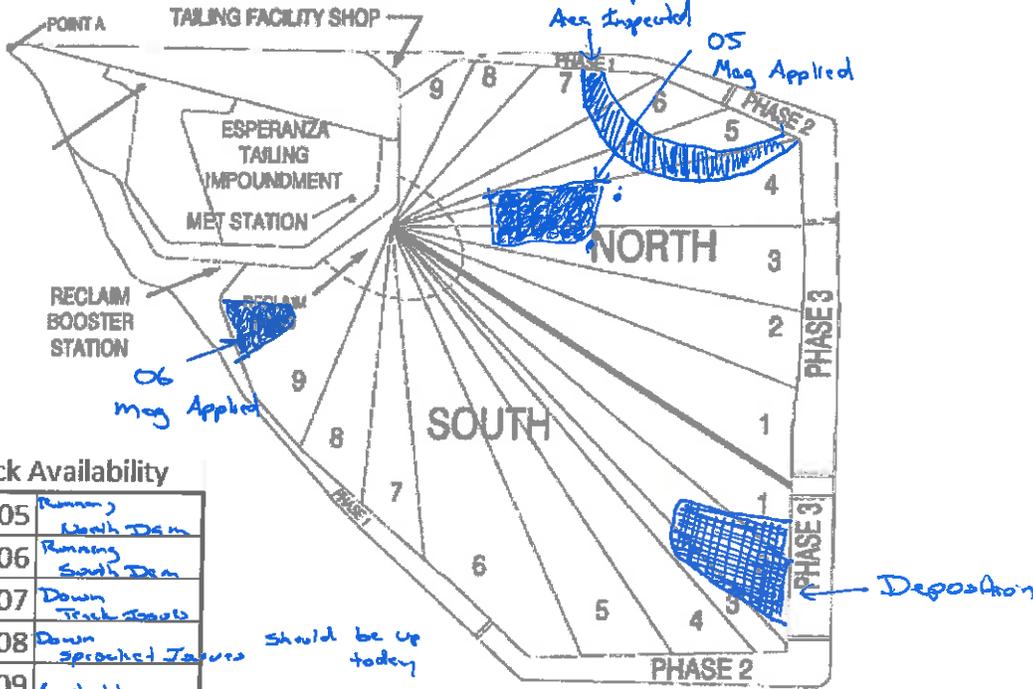
Area Under Construction	ETI/STI	Butress
Inches of Rain Throughout Week	0	

Comments: Dust event reported on 11-6 10 meter showing gusts of 16.09
05.06 & 09 All Tracks available
07 All Track down waiting on parts
08 All Track down, fixed with parts from 07, should be finished 11-12



Tailings Impoundment Surface Inspection

Date: 11-8-18
 Time: 16:00
 Conditions: Slightly Breezy
 Dam Inspected: North Phase(s) 1+2
 Inspected By: Desek Besny



All-track Availability

70105	Running North Dam
70106	Running South Dam
70107	Down Track Scale
70108	Down Sprinkler Towers
70109	Available

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 2 All Tracks / 2 Water Trucks

Dust Suppressant Applied: Mag / H₂O

Operators: JR, Mike / Jesus, Chris

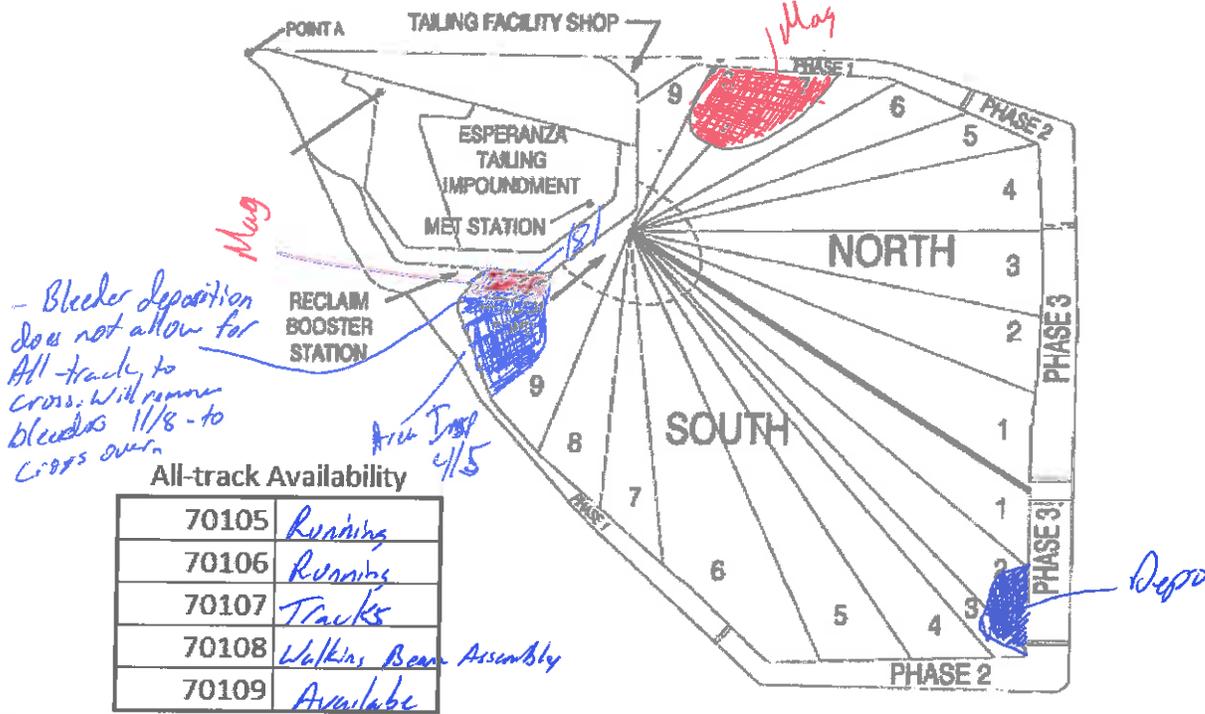
Weather Conditions:

Wind Speed: 8 Gusts up to: 12 Temp: 79 10 Meter

Precipitation in the last 24 hrs. 0 Inches of rain: 0

Tailings Impoundment Surface Inspection

Date: 11/7/18
 Time: 1:30
 Conditions: Breezy/Windy
 Dam Inspected: S Phase(s) 1
 Inspected By: F. Puroad



All-track Availability

70105	Running
70106	Running
70107	Tracks
70108	Walkins Beam Assembly
70109	Available

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 2 All-tracks / 2 water trucks

Dust Suppressant Applied: Y

Operators: Jesus / Chris / JR / Mike

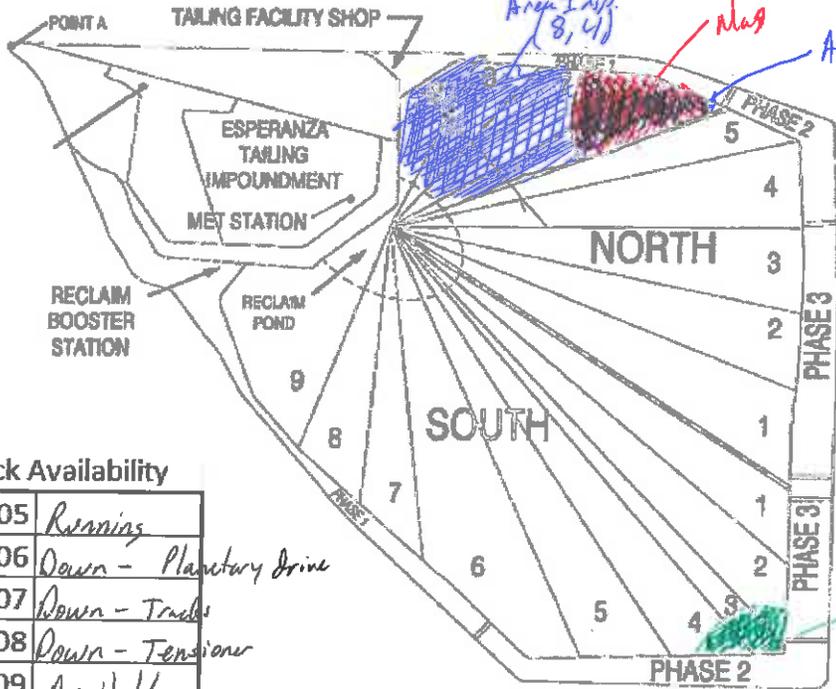
Weather Conditions:

Wind Speed: 12 Gusts up to: 18 Temp: 78

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 11/6/18
 Time: 12:30
 Conditions: Windy
 Dam Inspected: N Phase(s) 1
 Inspected By: F. Alvarez



All-track Availability

70105	<u>Running</u>
70106	<u>Down - Planetary Drive</u>
70107	<u>Down - Trucks</u>
70108	<u>Down - Tensioner</u>
70109	<u>Available</u>

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 1 All-track / 2 water trucks

Dust Suppressant Applied: _____

Operators: Josw / Chris / Eddie

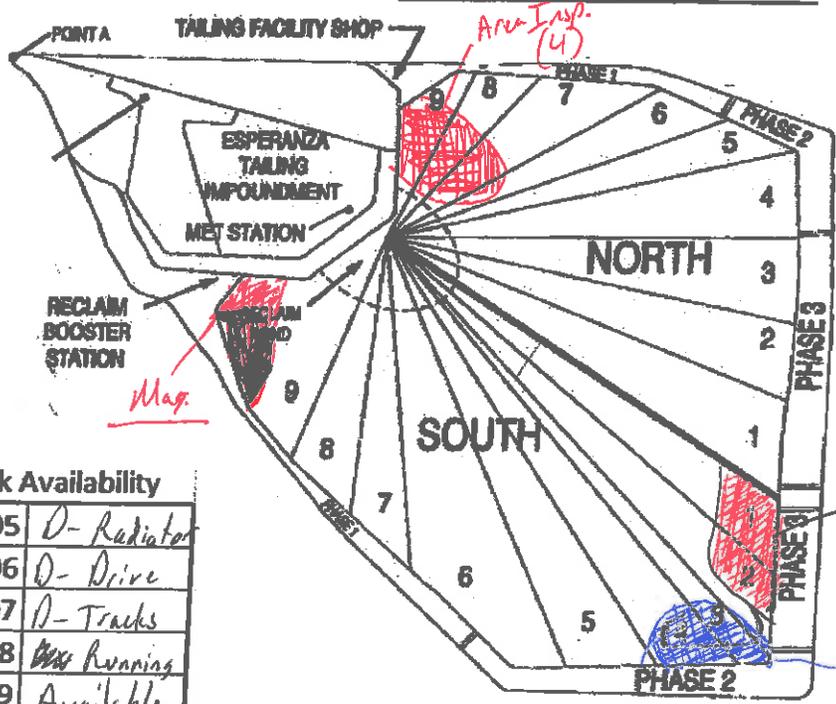
Weather Conditions:

Wind Speed: 16 Gusts up to: 30 Temp: 78

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 11/5/18
 Time: 9:00
 Conditions: Breezy
 Dam Inspected: S | N Phase(s) 3 | 1
 Inspected By: F. Durazo



GOT 05
 late monday

All-track Availability

70105	D- Radiator
70106	D- Drive
70107	D- Tracks
70108	Was Running
70109	Available

Area Insp.
 (8) @ 9:00

Depo

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 1 - All tracks running / 1 water truck

Dust Suppressant Applied: ~~None~~ /

Operators: Rudy / Jose

Weather Conditions:

Wind Speed: 10 Gusts up to: 15 Temp: 63

Precipitation in the last 24 hrs. N Inches of rain: —

Tailings Dam Environmental Weekly Activities Report

Operator: Devek Bessing

Date: 11-16-18

Primary Controls	N/S	Phase	Area
Area of Deposition	S	1, 2, 3	1/2 + 6-9
Special Wetting Area	S	1, 2	6-9
Water Truck #	88	94	36
			37
			Rental 95
			Rental 64
No. of Loads	14	56	33
			5
			59
			23

	Gallons	N/S	Approximate Area Covered
All-track application	102,750	N/S	
Mag. Chloride Applied to Rds	20,000	N/S	Pipe line road around dam

Site Conditions

Area Under Construction	North Dam Reclaim	Bulress Project
Inches of Rain Throughout Week	0"	

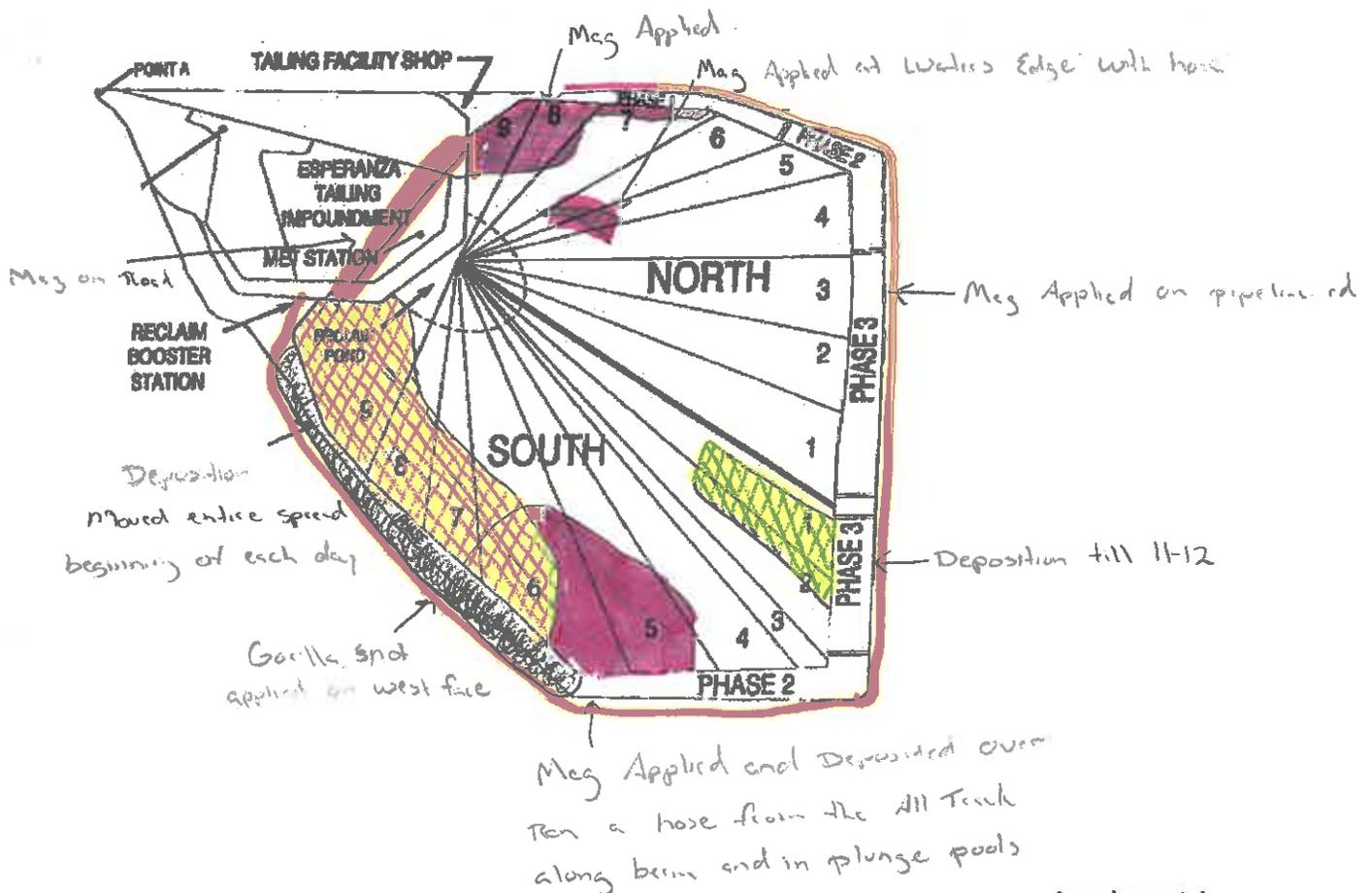
Comments: 11 tons of Gacilla shot applied

05, 06 + 09 Alltracks Available 07 down 1-2 weeks out 08 down ETA 11:20

Last event reported to environmental on 11-13

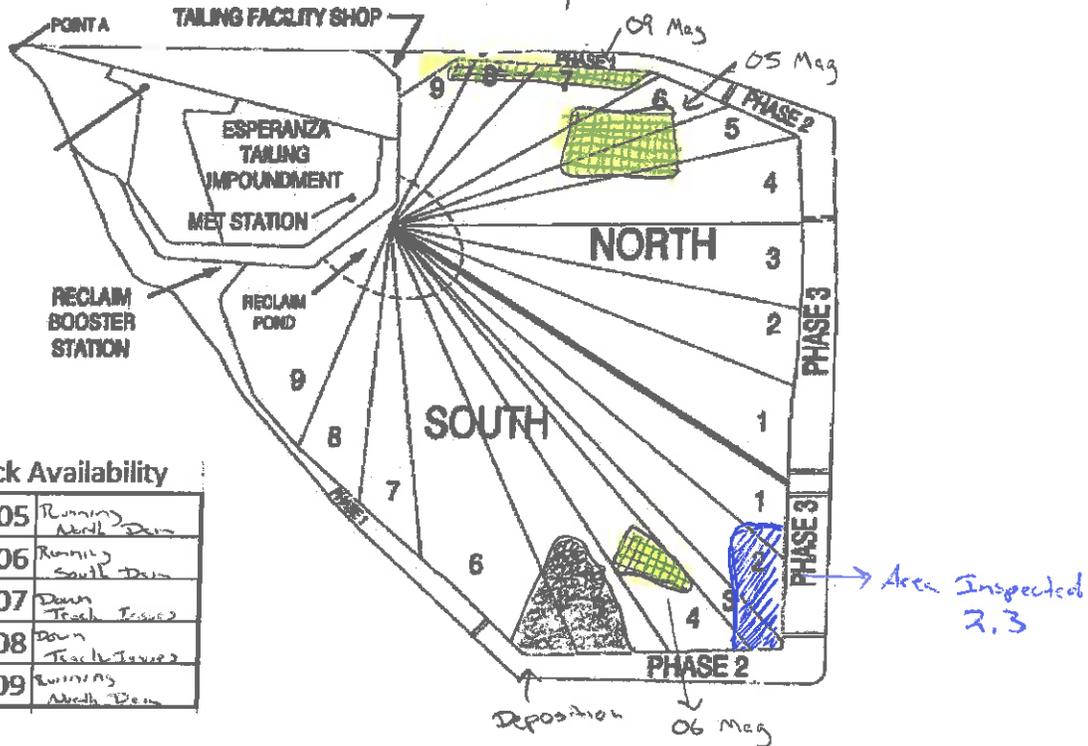
Deposition moved 11-12 to west end of the South and moved after wetting surface to the west

Gacilla shot was applied to the west face (11 tons)



Tailings Impoundment Surface Inspection

Date: 11-16-18
 Time: 8:30 am
 Conditions: Calm
 Dam Inspected: South Phase(s) 2/3
 Inspected By: Derek Brown



All-track Availability

70105	Running North Dam
70106	Running South Dam
70107	Down Track Issues
70108	Down Track Issues
70109	Running North Dam

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Continue moving depo east through weekend, Mag on North dam

Dust Suppressant Applied: Mag

Operators: Chris, Jose, John, Jesse

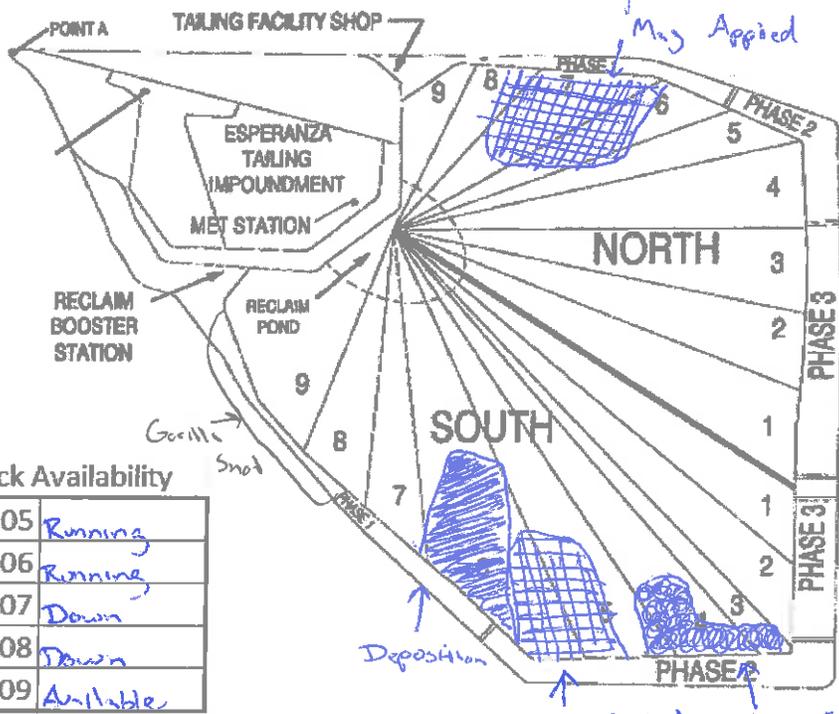
Weather Conditions:

Wind Speed: 7 Gusts up to: 12 Temp: 70

Precipitation in the last 24 hrs. 0 Inches of rain: 0

Tailings Impoundment Surface Inspection

Date: 11-15-18
 Time: 1100
 Conditions: Calm
 Dam Inspected: S/E Phase(s) 2
 Inspected By: Derek Brown



All-track Availability

70105	Running
70106	Running
70107	Down
70108	Down
70109	Available

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 2 All-Tracks / 2 Water Tracks

Dust Suppressant Applied: Mag, Geeville Shot, H2O

Operators: Chris, Jose, Israhel / Rudy, Mike / Eddie V.

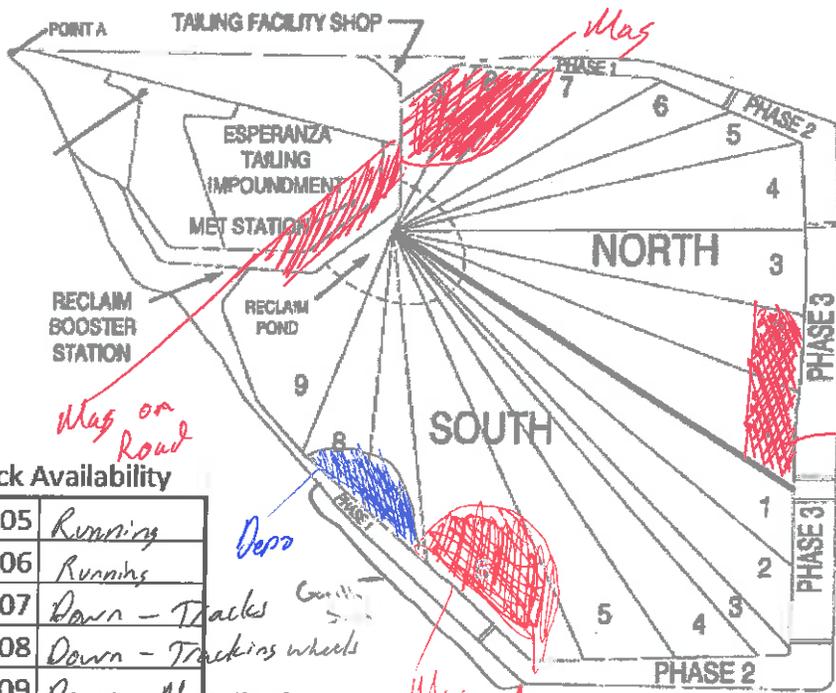
Weather Conditions:

Wind Speed: 4 Gusts up to: 9 Temp: 65

Precipitation in the last 24 hrs. 0 Inches of rain: 0

Tailings Impoundment Surface Inspection

Date: 11/14/18
 Time: 3:00
 Conditions: Calm
 Dam Inspected: S/W Phase(s) 1/3
 Inspected By: F. Durazo



All-track Availability

70105	Running
70106	Running
70107	Down - Tracks
70108	Down - Tracking wheels
70109	Down - Mag pump

Ran terra-Mac for one load pump B/S

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 2 All-trackers / 3 water trucks

Dust Suppressant Applied: Y - Mag

Operators: Chris / Eddie / JR / Mike / Eddie

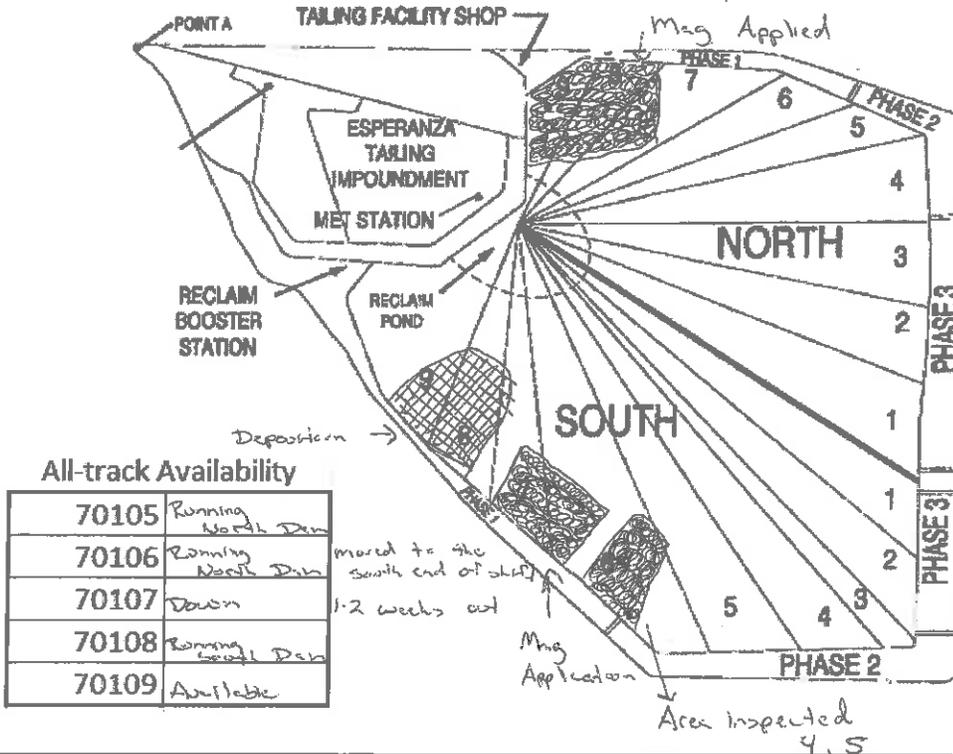
Weather Conditions:

Wind Speed: 2 Gusts up to: 6 Temp: 65

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 11-13-18
 Time: 15:30
 Conditions: Windy
 Dam Inspected: South Phase(s) 1/2
 Inspected By: Derek Berry / Joe Granillo



1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Move spread once surface is wet to water 3 All-Trucks, 5 Water Trucks

Dust Suppressant Applied: Mag / H₂O

Operators: Jesse, JR, Eddie M., Tseith / Chris L.

Weather Conditions:

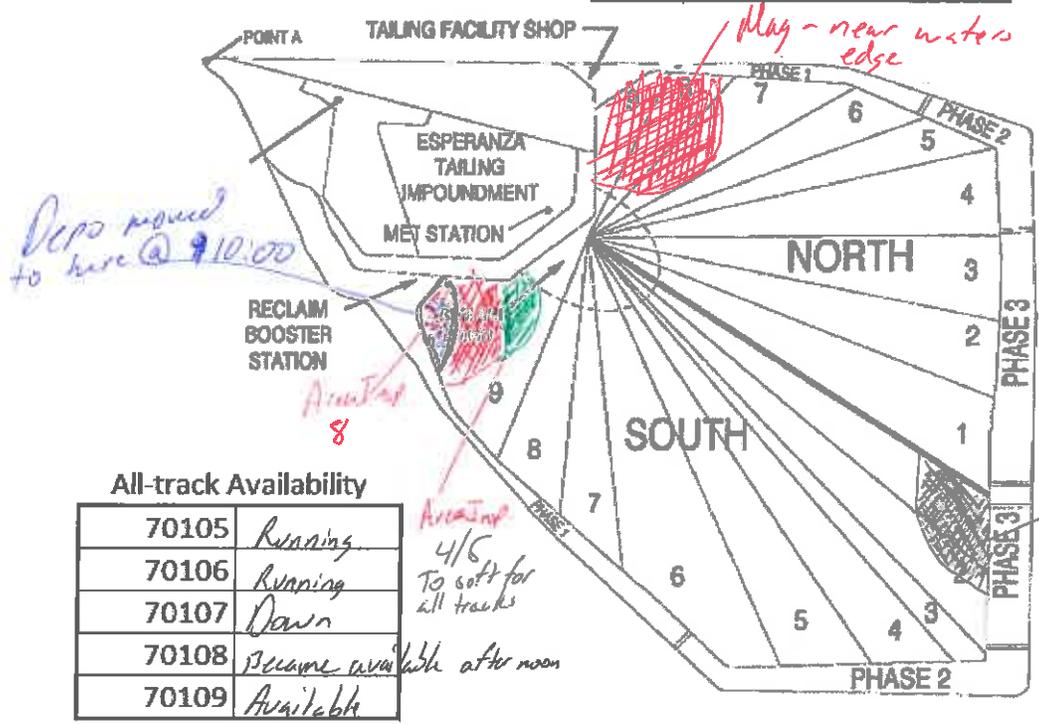
Wind Speed: 20 Gusts up to: 55 Temp: 60

Precipitation in the last 24 hrs. 0 Inches of rain: 0

Notes: Power bump around 09:00 took down the pump station and backed the line up out of the #2 drop box

Tailings Impoundment Surface Inspection

Date: 11/12/19
 Time: 8:00
 Conditions: Breezy
 Dam Inspected: W Phase(s) 1
 Inspected By: Flvarez



All-track Availability

70105	Running
70106	Running
70107	Down
70108	Became available after noon
70109	Available

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	Action Required - Deposition or application of suppressant
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: 2 All tracks / 24 water trucks

Dust Suppressant Applied: Y

Operators: Jesse / Isarah / Mike / Rudy / Eddie / Craig

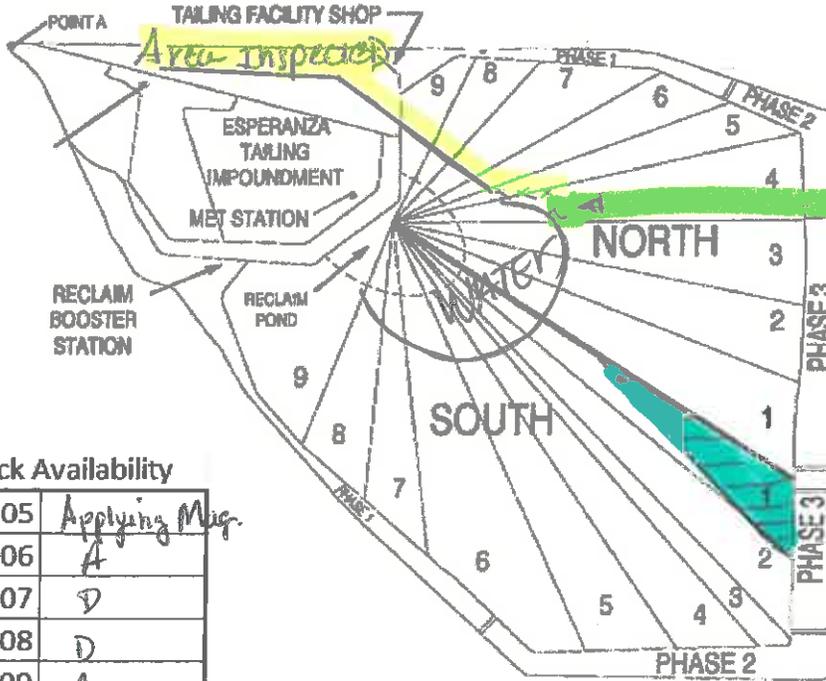
Weather Conditions: * Shut down all construction work around 11:00 am due to high winds.

Wind Speed: 15 Gusts up to: 25 Temp: 60

Precipitation in the last 24 hrs. — Inches of rain: —

Tailings Impoundment Surface Inspection

Date: 11-10-2018
 Time: 2:30 AM
 Conditions: Clear
 Dam Inspected: North Phase(s) 7-6
 Inspected By: Jesus Hernandez



All-track Availability

70105	Applying Mag.
70106	A
70107	D
70108	D
70109	A

1	Recent Deposition (14 days or less)	No Action Required
2	Moist Surface	No Action Required
3	Established Salt Crust	No Action Required
4	Crusted with light surface sands (blown in/washed in)	Watch Area/Reinspect in one week
5	Crust is breaking down	Watch Area/Reinspect in one week
6	Piles of standing sands	Action Required - Deposition or application of suppressant
7	Broken down crust	
8	Area has had dust suppressant recently applied	Watch Area/Reinspect in one week

Action Plan: Water Truck / All Track

Dust Suppressant Applied: H₂O, MgCl₂

Operators: Jay R, Chris L, Jesus H.

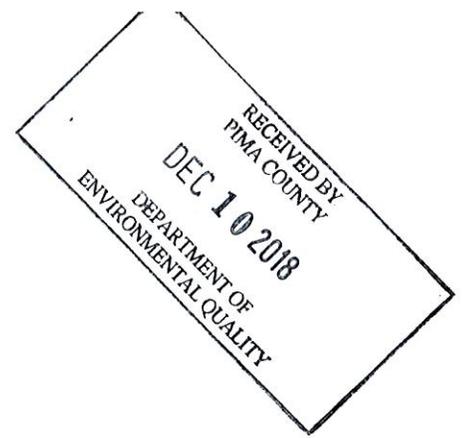
Weather Conditions:

Wind Speed: 3 Gusts up to: 6 Temp: 50°

Precipitation in the last 24 hrs. — Inches of rain: —



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



December 4, 2018

Via Email: Air.Notices@pima.gov and
Certified Mail: 7017 3380 0000 0803 5854

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

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

Dear Mr. Fitzpatrick:

This letter serves as a report of a deviation from permit requirements as required by the Freeport-McMoRan Sierrita Inc. (FMSI) Title V permit # 6067, issued January 30, 2016, Attachment "A" Condition XI.B.

Attachment "B" Condition II.E.1. states *"The Permittee shall not cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne."*

Description of the Event

On November 29, 2018 between approx. 11:30AM and 2:15PM, a FMSI Environmental Department employee observed intermittent tailings dust emanating from Phase 1, North Dam of the tailings impoundment heading in a north direction. The FMSI Tailings Supervisor was immediately contacted, berm construction was ceased and water trucks and one all-track vehicle that was already in use on the tailings impoundment was redirected to the areas of concern to help mitigate the tailings dust. The all track that was dispatched to the area was used to help manually apply magnesium chloride (Mg Cl₂), via hose, to areas close to the pond that were not reachable via the all-track. An official EPA Reference Method 9 Observation was not conducted due to the position of the sun. However, based upon observations and experience from those at the impoundment, opacity did not appear to exceed the standard. The tailings dust intermittently emanating from the impoundment, moved across Duval Mine Rd, a public thoroughfare, and crossed back onto FMSI property just north of the public thoroughfare. The FMSI environmental employee observed large shrubs and their branches swaying to the side and at times felt uncomfortable standing in the wind. It was difficult to keep a hard hat on top of their head, which is similar to having difficulty using an umbrella. The observations made by the FMSI environmental employee are between a 6 and 7 on the Beaufort Scale of Wind-Speed Equivalents. In addition, the wind speed data from the Sierrita Tailings_COW

weather station showed sustained wind speeds greater than 25 mph and gusts in excess of 37mph during the event.

The probable cause of the event was due to winds that picked up tailings material in areas of degraded surface crust in Phase 1, North Dam, which were close to the pond. The areas of the degraded surface crust are not accessible by all-track vehicle and are also at freeboard capacity and cannot accept additional deposition. Efforts were made to manually spray magnesium chloride to as much surface area as possible that could not be reached by an all-track.

Preceding, during, and after the event, FMSI 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:

- Applied water to tailings dam roads and berms, as well as, $MgCl_2$ to the top of the tailings dam and roads as needed.
- A total of 96,750 gallons of $MgCl_2$ and 851,000 gallons of water were applied to areas in and around the tailings impoundment 2 weeks prior to this event.
- On the day of the event a total of 26,250 gallons of $MgCl_2$ and 190,000 gallons of water were applied to areas in and around the tailings impoundment.
- Tailings Supervisor adjusted the daily operating schedule to include 12 hour shifts, both day and night shift, to concentrate supplemental efforts on dust control.

Reasonable Precautions or preventative measures 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

The event at the tailings impoundment was reported to Mr. Dustin Fitzpatrick via phone on November 30, 2018.

Please contact me at 520.393.2376 if additional information is necessary.

Sincerely,



Natalie Nunez
Senior Environmental Scientist
20181204_001

Certification of Truth, Accuracy and Completeness

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

David Rhoades, General Manager – Sierrita Operations



(Signature)



(Date)

Sierrita Tailings_COW Weather Station

Time Stamp	AirTempF_Avg	WS_MPH	WindDir	Gust
11/29/2018 11:30	69.69	7.281	353.6	10.35
11/29/2018 11:31	69.85	6.806	7.229	9.12
11/29/2018 11:32	69.42	8.21	13.39	10.7
11/29/2018 11:33	69.52	5.637	3.797	9.07
11/29/2018 11:34	70.03	6.792	8.76	10.78
11/29/2018 11:35	70.48	10.95	32.21	14.07
11/29/2018 11:36	70.68	17.19	37.81	21.31
11/29/2018 11:37	70.14	19.58	44.12	22.05
11/29/2018 11:38	69.93	17.41	41.09	19.38
11/29/2018 11:39	69.83	18.88	43.48	21.48
11/29/2018 11:40	69.81	19.34	49.17	26.26
11/29/2018 11:41	69.53	17.09	31.04	22.84
11/29/2018 11:42	69.86	11.71	24.3	16.31
11/29/2018 11:43	70.22	8.52	7.082	12.76
11/29/2018 11:44	70.52	18.1	44.24	24.9
11/29/2018 11:45	70.03	15.73	34.02	20.17
11/29/2018 11:46	69.8	16.17	38.48	18.94
11/29/2018 11:47	70.32	13.82	34.4	19.29
11/29/2018 11:48	70.33	17.06	50.19	21.26
11/29/2018 11:49	69.58	21.45	40.37	24.55
11/29/2018 11:50	69.43	23.55	41.6	27.49
11/29/2018 11:51	69.53	23.54	38.25	28.28
11/29/2018 11:52	69.43	23.07	39.75	26.74
11/29/2018 11:53	69.43	17.15	20.37	26.26
11/29/2018 11:54	69.77	12.4	34.08	16.22
11/29/2018 11:55	70.36	17.65	45.68	21.04
11/29/2018 11:56	70.17	20.16	48.97	25.12
11/29/2018 11:57	69.81	17.82	48.79	20.39
11/29/2018 11:58	69.58	14.79	35.28	21.26
11/29/2018 11:59	70.33	13.06	28.07	16.7
11/29/2018 12:00	70.21	11.55	35.23	16
11/29/2018 12:01	70.6	15.87	38.85	19.77
11/29/2018 12:02	70.72	12.73	34.42	14.12
11/29/2018 12:03	72.04	11.35	33.31	16.79
11/29/2018 12:04	72.17	17.31	33.16	20.6
11/29/2018 12:05	72.02	13.56	30.12	20.6
11/29/2018 12:06	72.09	18.6	32.64	25.12
11/29/2018 12:07	72.32	15.94	37.97	18.9
11/29/2018 12:08	72.31	18.78	41.27	24.42
11/29/2018 12:09	71.42	20.66	44.02	23.28
11/29/2018 12:10	71.29	16.46	37.94	19.99
11/29/2018 12:11	72.07	17.87	31	21.92
11/29/2018 12:12	72.26	18.13	31.61	21.74
11/29/2018 12:13	72.66	11.15	31.53	19.11
11/29/2018 12:14	74.02	12.36	20.71	15.74

11/29/2018 12:15	76.24	13.95	18.43	20.78
11/29/2018 12:16	76.52	12.24	46.72	23.24
11/29/2018 12:17	76.69	24.66	49.92	27.36
11/29/2018 12:18	76.52	24.62	45.77	29.72
11/29/2018 12:19	76.24	23.26	50.91	29.5
11/29/2018 12:20	76.83	22.73	43.37	25.78
11/29/2018 12:21	75.33	22.93	50.18	26.87
11/29/2018 12:22	73.82	28.61	44.84	33.41
11/29/2018 12:23	73.79	25.45	49.63	28.36
11/29/2018 12:24	73.89	28.89	43.91	34.63
11/29/2018 12:25	73.06	31.75	50.89	35.42
11/29/2018 12:26	73.23	27.02	44.67	31.13
11/29/2018 12:27	73.26	24.56	40.26	30.86
11/29/2018 12:28	72.79	20.94	34.22	24.24
11/29/2018 12:29	73.41	16.88	33.19	21.13
11/29/2018 12:30	73.46	23.92	42.92	27.27
11/29/2018 12:31	73.21	20.77	47.84	24.07
11/29/2018 12:32	73.28	19.17	38.2	22.88
11/29/2018 12:33	73.13	21.35	47.49	23.54
11/29/2018 12:34	72.92	22.44	42.09	28.67
11/29/2018 12:35	72.93	18.7	35.85	22.23
11/29/2018 12:36	73.4	18.48	42.34	22.8
11/29/2018 12:37	73.53	17.49	51.07	21.96
11/29/2018 12:38	73.46	23.02	50.11	29.02
11/29/2018 12:39	73.39	24.54	44.48	28.32
11/29/2018 12:40	72.65	26.12	45.75	29.86
11/29/2018 12:41	72.06	23.18	44.59	27.53
11/29/2018 12:42	72.45	21.68	48.2	24.59
11/29/2018 12:43	72.96	24.28	44.93	30.82
11/29/2018 12:44	72.4	23.67	46.38	28.5
11/29/2018 12:45	72.77	22.88	54.38	27.79
11/29/2018 12:46	72.88	23.16	47.4	29.94
11/29/2018 12:47	72.39	24.93	49.17	29.68
11/29/2018 12:48	72.52	21.95	56.13	26.17
11/29/2018 12:49	72.58	24.8	56.78	29.07
11/29/2018 12:50	72.15	24.36	51.31	27.58
11/29/2018 12:51	72.04	21.62	47.69	25.08
11/29/2018 12:52	72.77	19.11	45.57	25.16
11/29/2018 12:53	74	20.43	52.08	25.03
11/29/2018 12:54	73.29	21.91	41.66	27.05
11/29/2018 12:55	73.58	19.87	39.23	23.54
11/29/2018 12:56	73.66	18.57	51.06	21.79
11/29/2018 12:57	75.06	20.23	52.8	26.39
11/29/2018 12:58	73.5	22.15	48.07	25.87
11/29/2018 12:59	72.91	19.86	35.15	22.75
11/29/2018 13:00	72.89	22.37	43.57	26.92
11/29/2018 13:01	72.5	22.26	35.32	26.26

11/29/2018 13:02	72.86	18.45	47.72	22.05
11/29/2018 13:03	73.13	22.5	43.9	26.96
11/29/2018 13:04	73	24.47	46.34	28.01
11/29/2018 13:05	73.14	18.06	32.17	23.45
11/29/2018 13:06	73.22	20.68	47.97	23.67
11/29/2018 13:07	73.61	19.78	55.33	21.74
11/29/2018 13:08	73.13	25.43	49.32	32.66
11/29/2018 13:09	72.49	27.34	45.06	30.38
11/29/2018 13:10	72.43	31.51	51.56	35.99
11/29/2018 13:11	72.57	29.58	42.62	36.65
11/29/2018 13:12	72.42	28.74	43.85	31.87
11/29/2018 13:13	72.5	25.83	47.09	30.73
11/29/2018 13:14	72.69	23.15	37.86	27.14
11/29/2018 13:15	72.9	23.16	37.65	30.25
11/29/2018 13:16	72.98	27.9	41.63	30.12
11/29/2018 13:17	72.94	27.24	48.06	30.99
11/29/2018 13:18	73.03	22.83	51.66	26.65
11/29/2018 13:19	73.31	20.48	56.55	28.06
11/29/2018 13:20	73.25	22.86	45.66	26.39
11/29/2018 13:21	73.34	21.81	48.28	25.82
11/29/2018 13:22	73.18	24.09	48.3	26.17
11/29/2018 13:23	72.7	27.55	39.51	32.4
11/29/2018 13:24	72.43	27.65	50.23	31.13
11/29/2018 13:25	72.78	23.63	50.38	27.79
11/29/2018 13:26	72.68	25.75	47.4	28.54
11/29/2018 13:27	72.62	21.62	43.77	27.62
11/29/2018 13:28	72.66	22.83	43.87	25.91
11/29/2018 13:29	73.02	24.94	48.84	31.78
11/29/2018 13:30	72.83	30.9	48.96	36.08
11/29/2018 13:31	72.56	29.47	50.25	35.12
11/29/2018 13:32	72.67	30.07	53.59	34.11
11/29/2018 13:33	72.18	28.95	47.75	32.66
11/29/2018 13:34	72.26	28.27	40.76	34.46
11/29/2018 13:35	72.42	22.86	51.27	27.93
11/29/2018 13:36	72.58	26.48	51.54	29.37
11/29/2018 13:37	72.24	24.82	49.61	31.08
11/29/2018 13:38	72.65	23.43	52.23	29.46
11/29/2018 13:39	72.83	24.11	48.6	27.49
11/29/2018 13:40	72.93	20.53	37.31	27.01
11/29/2018 13:41	73.39	24.98	40.32	30.73
11/29/2018 13:42	72.82	26.45	37.23	31.17
11/29/2018 13:43	73.07	24.42	42.2	30.03
11/29/2018 13:44	73.26	29	40.8	33.98
11/29/2018 13:45	72.66	24.73	43.7	33.54
11/29/2018 13:46	72.73	25.56	53.54	30.21
11/29/2018 13:47	72.7	24.69	45.37	27.88
11/29/2018 13:48	73.29	21.18	48.08	25.51

11/29/2018 13:49	73.28	26.95	51.98	32.13
11/29/2018 13:50	73.09	27.74	51.85	31.92
11/29/2018 13:51	72.74	29.64	50.16	33.45
11/29/2018 13:52	72.59	28.11	43.47	35.16
11/29/2018 13:53	73.18	25.71	45.23	33.93
11/29/2018 13:54	73.24	28.81	44.88	33.84
11/29/2018 13:55	73.08	30.6	44.01	36.56
11/29/2018 13:56	72.56	32.08	43.81	35.99
11/29/2018 13:57	72.54	29.6	40.74	33.27
11/29/2018 13:58	72.62	29.71	41.68	32.31
11/29/2018 13:59	72.68	30.78	50.3	37.88
11/29/2018 14:00	72.47	31.56	45.53	35.34
11/29/2018 14:01	72.82	29.37	48.22	34.63
11/29/2018 14:02	72.97	28.49	42.89	36.83
11/29/2018 14:03	72.68	29.42	39.4	34.2
11/29/2018 14:04	72.92	29.19	43.74	37.48
11/29/2018 14:05	72.5	31.11	46.31	35.95
11/29/2018 14:06	72.54	26.97	37.73	30.6
11/29/2018 14:07	72.83	26.64	43.73	32.31
11/29/2018 14:08	72.59	30.39	42.33	37.97
11/29/2018 14:09	72.61	25.7	42.59	34.02
11/29/2018 14:10	72.53	27.21	46.08	32.62
11/29/2018 14:11	72.57	24.84	49.51	29.02
11/29/2018 14:12	72.46	25.46	43.95	29.72
11/29/2018 14:13	72.72	23.78	42.37	27.36
11/29/2018 14:14	73.29	23.45	47.27	30.29



Inspection Report

Tracking ID: 6067-0032R

Permit #: 6067

Source: Freeport-McMoRan Sierrita Inc.

Location: 6200 W. Duval Mine Rd., Green Valley, AZ

Date: November 16, 2018

Arrival Time: 9:45 am

Departure Time: 12:35 pm

Inspectors: D. Fitzpatrick & T. Gentry

Spoke With: Natalie Nunez, Sr. Environmental Scientist; Travis Behrens, Environmental Scientist; Procopio Gonzales, Tailings Dam Manager

Phone #: (520) 393-2376

Reason for Inspection: Excess Emission Report Follow Up

The Pima County Department of Environmental Quality (PDEQ) received a telephone notification on November 14, 2018, from Freeport-McMoRan Sierrita Inc. (FMSI) staff reporting excess emissions of dust from the Sierrita Tailings Impoundment of 54% and 63% that occurred on November 13, 2018, with dust emanating on South Dam, Phase 1. PDEQ Air Compliance Inspector, Timothy Gentry, and I entered the FMSI facility and met Ms. Natalie Nunez, Sr. Environmental Scientist, and Mr. Travis Behrens, Environmental Scientist. I conducted inspection rights protocol with Ms. Nunez and informed her that the purpose of the inspection was to follow up on the report of excess emissions from the tailings impoundment that occurred on November 13, 2018 (Attachment 1). Ms. Nunez and Mr. Behrens escorted us to the Sierrita Tailings Impoundment where we met Mr. Procopio Gonzales.

Bulldozers were ripping the surface of the North Dam, Phase 1, Section 9, for berm construction, which had started the week prior. (Attachment 2, Photos 1-3). The ripped material appeared dark and moist. Just south of the ripped area was the north emergency fill area where a large pit was present beneath the fill pipe and a wide canyon extended out toward the pond (Attachment 2, Photos 4-5). An all-track vehicle was applying magnesium chloride ($MgCl_2$) to the tailings surface in the North Dam, Phase 1, beyond the ripped area (Attachment 2, Photo 6). We proceeded to the North Dam, Phase 1, Section 6, and observed spigot lines where deposition left wide pooled depression areas in the vicinity of the pipes and canyons extending toward the pond (Attachment 2, Photos 7-10). The surfaces in the area appeared moist and stable. The remaining freeboard appeared minimal; approximately a foot or less. We went to the east side of the North Dam, around the transition from Phase 2 to Phase 3, and observed spigot line extensions in place (Attachment 2, Photos 11-14). There were pooled depressions near the pipes but minimal canyons extending toward the pond. The underlying material appeared moist but the surface showed evidence of drying to a lighter color. The remaining freeboard appeared minimal; approximately a foot. Walking farther south along the North Dam, Phase 3, Section 3, the pools below the spigot lines appeared moister from relatively more recent deposition (Attachment 2, Photos 15-16).

We then inspected the east divider between the North and South Dams. Spigot lines were present along the North Dam, Phase 3, Section 1, and freeboard appeared minimal; approximately a foot (Attachment 2, Photo 17). The overall surface of the northeast section of the tailings impoundment surface appeared light in color, especially when contrasted with the dark surface of the southeast section (Attachment 2, Photos 18-21). I asked Mr. Gonzales how long it would take to complete the berm building for the North Dam. He estimated that Phase 1 would take approximately 2 ½ months to complete and did not speculate on the time estimate for the entire North Dam. The freeboard in the South Dam, Phase 3, Section 1 appeared more substantial; approximately 3+ feet. The all-track vehicle that was previously stuck in the impoundment interior in September and October was parked along the tailings road south of the divider, inoperable with a track missing from the right side (Attachment 2, Photo 22).

Lastly, we inspected the South Dam, Phase 1, at approximately the transition between Sections 7 and 8. Recent windblown tailings material appeared deposited on the outer southwest facing berm, piled up against the tailings pipeline and accumulated in the water eroded ruts (Attachment 2, Photo 23). The hard, compacted surface of the berm showed evidence of erosion from windblown tailings material that was traveling in a southwest direction (Attachment 2, Photo 24). There was also evidence of windblown tailings material accumulated against the inner berm of the impoundment (Attachment 2, Photos 25-26). An all-track vehicle was applying MgCl₂ in the area and Mr. Gonzales said that MgCl₂ had been applied manually with a hose to the berm interior areas that were inaccessible by all-track vehicle due to the pool depressions below the spigots. The remaining freeboard in the area appeared to be approximately 2 feet. He also said that in order to get the all-track vehicle to the tailings impoundment surface area in Phase 1 locked between wet tailings areas, it had to be driven on the berm surface over the spigot lines, resulting in a broken spindle that required repair. Wet tailings were being actively deposited in the South Dam, Phase 1, Section 9, in an effort to cover an island area of dry surface tailings (Attachment 2, Photos 27-28).

We concluded our inspection and informed FMSI staff that PDEQ would provide an inspection report within 30 working days following the inspection.

Attachments:

1. Inspection Rights Form dated November 16, 2018
2. Photo Log dated November 16, 2018



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/

AIR PROGRAM
NOTIFICATION OF INSPECTION RIGHTS

SOURCE INFORMATION

PC # _____ Permit # 6067
Regulated Person FREEPORT-MCMORAN SIERRITA INC
On-site Representative NATALIE NUNEZ Title SR ENV. SPCL
Site Location 6200 W DUVAL MINE RD. Phone (520)393-2376
Site Contact _____ E-Mail _____
Mailing Address _____

PDEQ INFORMATION

Inspector Name D. FITZPATRICK Phone (520)724-7322
Inspection Date 11/16/18 Time 9:45 AM
Accompanied by T. GENTRY

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 Natalie Nunez Date 11/16/18

_____ Refused to sign the Notification.

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

Site Location: 6200 W. Duval Mine Rd.
Date: November 16, 2018

Tracking #: 6067-0032R
Photographer: D. Fitzpatrick

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5.



6.



7.



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14.



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17.



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19.



20.



21.



22.



23.



24.



25.



26.



27.



28.





Inspection Report

Tracking ID: PC1811-151

Permit #: 6067

Source: Freeport-McMoRan Sierrita Inc.

Location: 6200 W. Duval Mine Rd., Green Valley, AZ

Date: November 29, 2018

Arrival Time: 11:15 am

Departure Time: 3:30 pm

Inspector: M. Rogers

Reason for Inspection: Complaint

Pima County Department of Environmental Quality (PDEQ) had received several complaints regarding dust emissions from the Freeport-McMoRan Sierrita Inc. (FMSI) Sierrita Tailings Impoundment blowing towards Duval Mine Rd. and Continental Road the afternoon of November 28, 2018. I set up a surveillance position at the Evangelical Free Church, 1393 W. Mission Twin Buttes Rd., Green Valley, AZ. The winds were from the south and southwest averaging 12 miles per hour. My surveillance position focused towards the northeast corner of the tailings impoundment. That location is Phase 2 of the North Dam. At 11:50 am I took a photo showing no dust emissions from the northeast corner of the impoundment (attachment 1, photo 1). At 12:18 pm I observed dust plumes flowing from the northeast corner of the tailings impoundment in a northeastern direction (attachment 1, photo 2). I initiated and ALT-082 visible emissions observation.

The emissions ceased and I later relocated to the intersection of W. Continental Rd. and W. Duval Mine Rd. As I approached W. Duval Mine Rd., I observed haze like dust emissions fumigating over the berms on the northern face of the tailings impoundment (attachment 1, photo 3). Approximately at 2:00 pm, the visible emissions crossed W. Duval Mine Rd. (attachment 1, photos 4 – 8). The photographs were taken near the intersection of W. Duval Mine Rd. and S. Mission Rd. The duration of the emissions precluded an ALT-082 observation.

After I photographed the plume of dust crossing Duval Mine Rd., I relocated approximately a mile and a half north of W. Duval Mine Rd. on Mission Rd. From that position I observed the plumes of dust generated in the central portion of the North Dam traveling towards the northeast (attachment 1, photos 9 – 10). I resumed my observations from the intersection of W. Duval Mine Rd. and S. Mission Rd. The winds were from the south averaging 6 miles per hour at that location. I did not observe any further dust emissions cross the property boundary of FMSI, and departed the area at 3:00 pm.

The photos taken for an ALT-082 observation were submitted for analysis by Digital Opacity Camera System (DOCS II) and determined to have inadequate zoom for accurate analysis.

Attachment: Photo Log dated November 29, 2018

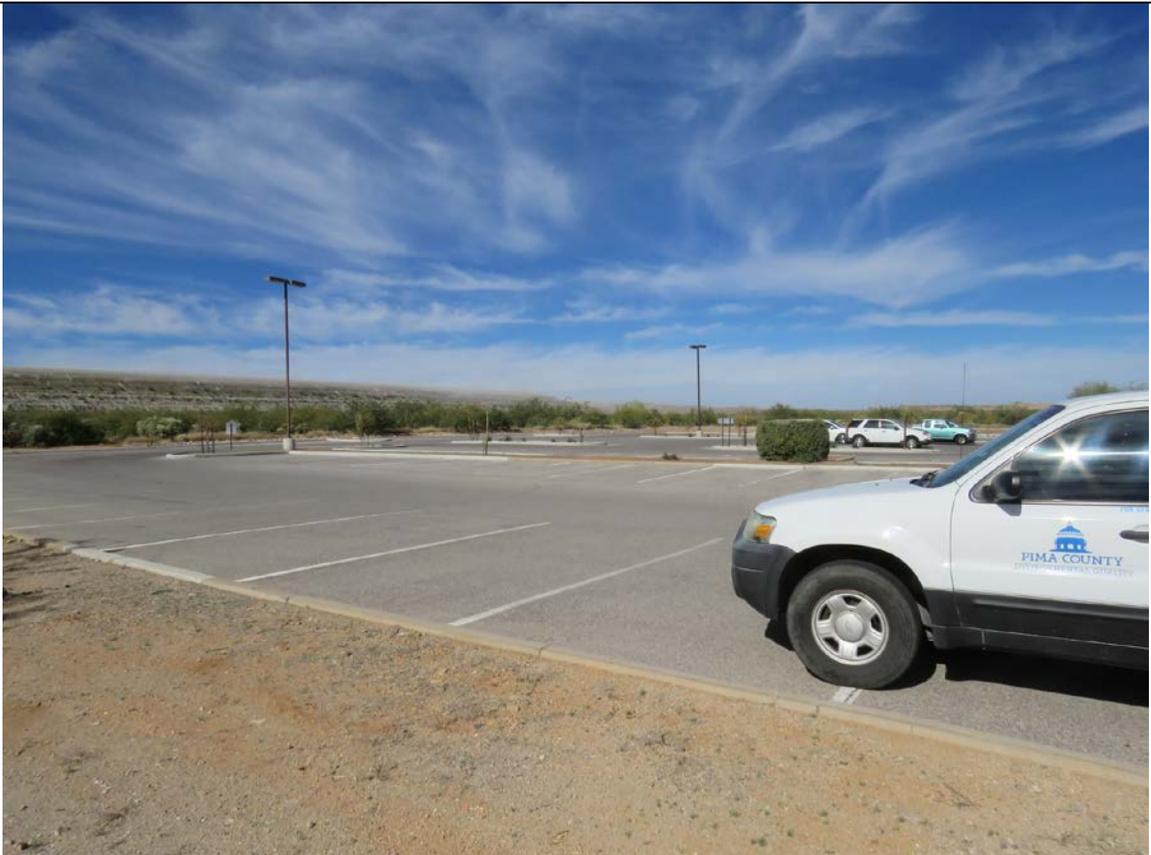
Site Location: 6200 W. Duval Mine Rd.
Date: November 29, 2018

Tracking #: PC1811-151
Photographer: M. Rogers

1.



2.



3.



4.



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7.



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10.

