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Parcel No.: 303-33-013A  
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**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
150 W. Congress Street  
Tucson, Arizona 85701-1317  
www.deq.pima.gov

Ursula Kramer  
Director

(520) 740-3340  
FAX (520) 882-7709

December 31, 2009

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

ASARCO, LLC  
Attn: Mr. Richard Rhoades  
4201 W. Pima Mine Road  
Sahuarita, AZ 85629

Permit #: 2026

**NOTICE OF VIOLATION # PC 0912-067**

The Pima County Department of Environmental Quality (PDEQ) has reason to believe that ASARCO, LLC - Mission Complex located at 4201 W. Pima Mine Road, Sahuarita, Arizona, has violated requirements of the Arizona Revised Statutes (ARS), rules within the Pima County Code (PCC), and an applicable permit. The PDEQ authorized representative discovered the violations alleged below during a complaint inspection conducted on December 22, 2009, at the facility and through review of an excess emissions report dated December 23, 2009. The findings were reported to Jamie Ekholm, Environmental Engineer.

**I. FINDINGS OF FACT**

**ALLEGED VIOLATION #1**

**PCC 17.16.040 and 17.16.050.B**

**Permit Condition, Part "B", Section I.C.2**

No person shall cause or permit the effluent from a single emission point, multiple emission points, or fugitive emissions source to have an average optical density greater than 20 percent subject to the following provisions: [SIP Rule 321, PCC 17.16.040, and PCC 17.16.050.B]

- a. Opacities (optical densities) of an effluent shall be measured by a certified visible emissions evaluator with his natural eyes, approximately following the procedures which were used during his certification, or by an approved and precisely calibrated in-stack monitoring instrument.

b. A violation of an opacity standard shall be determined by measuring and recording a set of consecutive, instantaneous opacities, and calculating the arithmetic average of the measurements within the set unless otherwise noted herein. The measurements shall be made at approximately fifteen-second intervals for a period of at least six minutes, and the number of required measurements shall be 25. Sets need not be consecutive in time, and in no case shall two sets overlap. If the average opacity of the set of instantaneous measurements exceeds the maximum allowed by any rule, this shall constitute a violation.

### **Findings**

On December 22, 2009, ASARCO, LLC - Mission Complex caused and allowed fugitive emissions from tailings dam #8 to have an average optical density greater than 20 percent, as documented during three separate observation periods.

### **Requested Corrective Action(s)**

- Immediately employ all necessary control measures required to prevent effluent from fugitive emissions sources to remain below the applicable opacity standard.
- Immediately develop and implement all necessary control methods to be employed to prevent recurrent excess emissions from tailings dams.

### **ALLEGED VIOLATION #2**

#### **PCC 17.16.050.D**

#### **Permit Condition, Part “B”, Section I.C.3**

No person shall cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne, without taking reasonably necessary and feasible precautions to control generation of airborne particulate matter. 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.

[SIP Rule 343 and PCC 17.16.050.D1]

- a. Sources required to obtain an air quality permit under ARS § 49-426, § 49-480 or Rule 17.12.470 may request to have the actions constituting reasonably necessary and feasible precautions approved and included as permit conditions. Compliance with such permit conditions shall be considered compliance with this provision.
- b. This subsection shall not apply when wind speeds exceed twenty-five (25) miles per hour (using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source.

**Findings:**

On December 22, 2009, ASARCO, LLC - Mission Complex caused and permitted the diffusion of visible emissions from tailings dam #8 beyond the property boundaries of Helmet Peak Road and La Canada Drive without taking reasonably necessary and feasible precautions to control the fugitive emissions. The control measures taken by ASARCO, LLC – Mission Complex were not commensurate with the size and scope of tailings dam #8 in berm building mode.

**Requested Corrective Action(s)**

- Immediately employ all necessary control measures commensurate with the size and scope of current berm building to prevent diffusion of visible emissions beyond the property boundary line.
- Immediately develop and implement all necessary control methods to prevent diffusion of visible emissions from tailings dams during future berm building.

**ALLEGED VIOLATION #3**

**Permit Condition, Part “B”, Section I.C.3**

The Permittee shall monitor to ensure that tailings piles, during the berm building mode, have been smeared (i.e., with light coat of fresh, moist tailings on the surface of the dam) once every 60 days unless otherwise warranted by meteorological conditions.

**Findings:**

ASARCO, LLC – Mission Complex initiated berm building on tailings dam #8 on September 14, 2009, and did not monitor to ensure that the tailings pile surface was smeared within 60 days. Tailings dam #8 remained in berm building mode on December 22, 2009. ASARCO, LLC – Mission Complex commenced application of fresh tailings to the northwest section of tailings dam #8 at noon on December 22, 2009. The initial application of fresh tailings remained confined to the berm building trench at the outer perimeter of tailings dam #8 and did not cover the surface of the tailings dam where the generation of excessive fugitive dust was originating.

**Requested Corrective Action(s)**

- Immediately smear the tailings piles with a light coat of fresh, moist tailings on the surface of the tailings dam #8. Ensure that the fresh tailings do not flow into the berm building trench at the outer perimeter of tailings dam #8 and do flow out onto the surface of the tailings where the generation of fugitive dust is occurring.
- Develop and implement a plan to smear the tailings piles with a light coat of fresh, moist tailings on the surface of the dam during future berm building mode at least once every 60 days. Develop criteria when meteorological conditions warrant more frequent application, to control fugitive emissions.

## **II. CITATION OF AUTHORITY**

ARS § 49-471 et seq

17.28.010, PCC Title 17, Violations and Order of Abatement

## **III. REQUESTED COMPLIANCE DOCUMENTATION**

ASARCO, LLC – Mission Complex 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 each violation
- 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  
Air Program  
Attn: Dustin Fitzpatrick  
150 W. Congress St.  
Tucson, AZ 85701

## **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 that alleged violations identified in a 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 an NOV is an appealable agency action 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 action.

If you would like to meet, please contact me at (520) 740-3340. 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) 740-3340.

### **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, 150 W. Congress Street, Suite 109, Tucson, Arizona, 85701, Phone (520) 740-3343, email [beth.gorman@deq.pima.gov](mailto:beth.gorman@deq.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, 150 W. Congress Street, Suite 109, Tucson, Arizona, 85701, teléfono (520) 740-3343, email [beth.gorman@deq.pima.gov](mailto:beth.gorman@deq.pima.gov).

Sincerely,



Dustin Fitzpatrick  
Air Compliance Supervisor

Attachment: Complaint Investigation Report dated December 22, 2009

cc: Permit File #: 2026



**PIMA DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR PROGRAM**

150 W CONGRESS STREET  
TUCSON, ARIZONA 85701-1317  
PHONE (520) 740-3340 FAX (520) 882-7709  
www.deq.pima.gov

**Complaint Investigation Report**

**Tracking ID: PC0912-067**

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**Permit #:** 2026

**Source:** ASARCO, LLC - Mission Complex

**Location:** 4201 W Pima Mine Rd, Sahuarita, AZ

**Date Start/Stop:** 12/22/2009

**Arrival Time:** 12:50 PM

**Departure Time:** 3:30 PM

**Lead Inspector:** James Jones

**Inspectors:** Anna Martin, Sarah Walters

**Spoke With:** Mr. Jamie Ekholm

**Phone #:** (520) 648-2500

**Reason for Inspection:** Complaint of dust being generated from the mine at the southwest corner of Sahuarita and I-19

**Compliance Status:** Non-Compliant

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**I. INSPECTION NARRATIVE**

The Pima County Department of Environmental Quality (PDEQ) received multiple complaints on October 22, 2009, between 10:15 am and 3:00 pm describing fugitive particulate emissions from the mine location southwest of the intersection of Sahuarita Road and I-19. Tailings dam #8 on the ASARCO, LLC – Mission Complex property is near this area and is located southwest of LaCanada Drive and Sahuarita Road. The tailings dam has been in berm building mode since September 14, 2009. The inspector has investigated recent dust complaints related to this source on October 20, 2009, October 27, 2009, and November 12, 2009. The lead inspector, James Jones, was accompanied by PDEQ inspectors Anna Martin and Sarah Walters during the inspection.

At 12:50 pm the inspector measured the windspeed and recorded a 13.1 mph average with a 21 mph maximum at 12:50 pm at the Pima Mine Road exit off of I-19. The inspector drove southward on I-19 toward the Sahuarita Road exit and observed a large particulate emission plume diffusing generating from tailings dam #8 blown in a northeast direction across I-19 (Attachment 1, Photo No. 1). The emission point of the plume was observed to be the northeast corner of tailings dam #8. The inspector proceeded to the Sahuarita Road exit off of I-19 and drove to the east side of tailings dam #8 on La Canada Drive to begin observations and an off-site inspection of the emissions from the tailings dam. The inspector pulled off of Sahuarita Road west of I-19 and observed light colored particulate emissions generating from tailings dam #8 blowing across Helmet Peak Road near the intersection of La Canada Drive and obscuring visibility across the roadway (Attachment 1, Photo No. 2)

The inspector sought out a vantage point on the east side of the tailings dam #8 along La Canada

Drive to conduct a Method 9 Visible Emission (VE) evaluation at a proper position relative to the position of the sun. At 1:15 pm the inspector began taking a VE observation of the emission plume from tailings Dam #8. The opacity of the emission plume was measured as it diffused across the east property boundary near La Canada Drive (Attachment 1, Photo No.'s 3-5). Between 1:15 pm and 1:21 pm, the average opacity was measured to be 23.4% at a point approximately 500 feet east of the emission point on the top surface of the tailings dam as it crossed the eastern property line (Attachment 2).

The inspector continued to observe emissions from the tailings dam and was notified by phone from the PDEQ office that ASARCO, LLC – Mission Complex had just reported an excess emission from tailings dam #8 by telephone and would be filing an excess emission report. The inspector contacted by phone Mr. Jamie Ekholm, an Environmental Engineer with ASARCO, LLC. The inspector informed Mr. Ekholm that the inspector had been conducting off-site observations on the east side of tailings dam #8 in response to complaints and would like to go on-site to inspect the tailings dam conditions. Mr. Ekholm arranged to meet the inspector at the south entrance off of Helmet Peak Road. The inspector took photos along the way of visible emissions generating from tailings dam #8 crossing Helmet Peak Road (Attachment 1, Photo No.'s 6-7).

Mr. Ekholm met the inspector at the south entrance off of Helmet Peak Road at 2:20 pm and signed the Notification of Inspection Rights Form (Attachment 3). Mr. Ekholm informed the inspector that he had notified PDEQ of the excess emission and that he had performed a VE observation documenting an opacity and fugitive emission exceedance. Mr. Ekholm informed the inspector that he had measured an opacity of 75.4% (Attachment 4).

The inspector requested to be taken to the southeast side of the top surface of the tailings dam to inspect the tailings dam if possible. Mr. Ekholm suggested accessing the top of the tailings dam at the northwest corner, because of the issues of safety and limited visibility and to prevent blockage and access of the dam roadway by the water trucks that were currently applying water and polymer.

The inspector observed pipes placed from the tailings header at the base of the berm over the upper berm at regular intervals around the perimeter along the north slope. Mr. Ekholm indicated they recently began pumping tailings to the fill pipes used to apply the wet tailings slurry to the dam surface. Valves are used to divert the tailings slurry from the header through the pipes. The inspector followed Mr. Ekholm to the top of the dam to view the top surface of the tailings dam. The inspector observed that wet tailings slurry was being pumped and flowing from 6 pipes at the northwest corner and had begun to fill the trench left over from excavating berm material in this section. The inspector inquired why the tailings were not flowing from the other fill pipes around the perimeter. Mr. Ekholm indicated the system only allowed application through a limited number of the pipes at any one time (Attachment 1, Photo No. 9).

The inspector observed the wet tailings slurry flowing into the outer trench that remained from the excavated material used to construct the upper lift of the new berm. The inspector estimated the trench is approximately 8' deep and 15' wide and parallels the inside perimeter of the upper

berm about 20'-30' from the outer berm. The inspector observed that the inner tailings dam surface was dry and asked Mr. Ekholm about how long it would take for the tailings slurry to fill the trench and coat the inner dam surface at the current rate of flow. Mr. Ekholm estimated about two or three weeks.

The inspector asked how close they were to completing the upper berm around the entire perimeter. Mr. Ekholm pointed out and indicated the section on the southwest side that remained to be constructed (Attachment 1, Photo No. 11). The inspector asked if there had been any berm construction today. Mr. Ekholm informed the inspector that due to the weather forecast, no berm construction was done and that from the beginning to the end of the day shift the water/polymer trucks were dedicated to the application of the water and polymer to mitigate the fugitive dust emissions.

The inspector walked to the southeast quadrant of the tailings dam surface and observed that trucks were applying water and polymer to the area on the southeast side of the tailings dam surface. The inspector also observed that only a relatively small portion of upper berm construction was required to complete the berm building.

The inspector took a VE opacity of the emission plume from the surface of tailings impoundment #8. Between 2:40 pm and 2:47 pm, the average opacity was measured to be 80.4 % at a point approximately 800 feet east of the emission plume on the southeast quadrant of the tailings dam surface (Attachment 5). The windspeed was measured with a Kestrel windspeed meter during the VE and measured 18.6 mph avg., 36 mph max., and 23 mph avg., 45 mph max.

## **II. REVIEW OF PERMIT CONDITIONS AND APPLICABLE REGULATIONS**

To determine compliance with Air Quality Control Permit #2026, which has been issued to your facility, the following review of your permit conditions was performed. The design of this report is in a specific format to facilitate the reader's understanding of the inspection and compliance determinations. The results of the investigation are documented below under a "Findings" heading that is preceded by the applicable permit condition from your permit. Permit conditions transcribed directly from your permit are provided in a smaller size font for clarity.

### **Permit Condition(s):** **Part "B", Section, I.C.2**

No person shall cause or permit the effluent from a single emission point, multiple emission points, or fugitive emissions source to have an average optical density greater than 20 percent subject to the following provisions: [SIP Rule 321, PCC 17.16.040, and PCC 17.16.050.B]

a. Opacities(optical densities) of an effluent shall be measured by a certified visible emissions evaluator with his natural eyes, approximately following the procedures which were used during his certification, or by an approved and precisely calibrated in-stack monitoring instrument.

b. A violation of an opacity standard shall be determined by measuring and recording a set of consecutive, instantaneous opacities, and calculating the arithmetic average of the measurements within the set unless otherwise noted herein. The measurements shall be made at approximately fifteen-second intervals for a period of at least six minutes, and the number of required measurements shall be 25. Sets need not be consecutive in time, and in no case shall two sets overlap. If the average opacity of the set of instantaneous measurements exceeds the maximum allowed by any rule, this shall constitute a violation.

### **Findings:**

1. ASARCO, LLC – Mission Complex General Manager, Richard Rhoades, filed an excess emissions report describing excess emissions observed between 10:00 am to 11:15 am on December 22, 2009, from Tailings Impoundment #8 with a maximum 6 minute average opacity of 75.4%.
2. During off-site observations, on December 22, 2009, the opacity of the emission plume from the surface of tailings impoundment #8 was measured by the inspector as it diffused across the east property boundary near La Canada Drive. Between 1:15 pm and 1:21 pm, the average opacity was measured to be 23.4% at a point approximately 500 feet east of the emission point on the top surface of the impoundment as it crossed the eastern property line.
3. During on-site observations on December 22, 2009, the opacity of the emission plume from the surface of tailings impoundment #8 was measured by the inspector. Between 2:40 pm and 2:47 pm, during on-sit observations on December 22, 2009, the average opacity was measured to be 80.4 % at a point approximately 800 feet east of the emission plume on the southeast quadrant of the tailings dam surface.

### **Deficiency:**

ASARCO, LLC – Mission Complex caused and permitted the effluent from tailings dam #8 to have an average optical density greater than 20 percent, as prohibited by Permit Condition, Part B, Section I.C.2 and Pima County Code Title 17, Chapter 17.16.040 and 17.16.050.B.

### **Permit Condition(s):**

#### **Part “B”, Section, I.C.3**

No person shall cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne, without taking reasonably necessary and feasible precautions to control generation of airborne particulate matter. 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. [SIP Rule 343 and PCC17.16.050.DI]

a. Sources required to obtain an air quality permit under ARS § 49-426, § 49-480 or Rule 17.12.470 may request to have the actions constituting reasonably necessary and feasible precautions approved and included as permit conditions. Compliance with such permit conditions shall be considered compliance with this provision.

b. This subsection shall not apply when wind speeds exceed twenty-five (25) miles per hour (using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source.

### **Findings:**

1. ASARCO, LLC – Mission Complex General Manager, Richard Rhoades, filed an excess emissions report describing excess emissions observed between 10:00 am to 11:15 am on December 22, 2009, from Tailings Impoundment #8 crossing Helmet Peak Road.
2. During off-site observations, on December 22, 2009, the inspector observed an emission plume coming from the northeast corner of tailings dam #8 and diffusing across I-19 at 12:50

pm. The inspector observed the continuance of the emission plume crossing the property boundary after 3:30 pm at the time the inspection was concluded.

3. During off-site observations, on December 22, 2009, the opacity of the emission plume from the surface of tailings impoundment #8 was measured by the inspector as it diffused across the east property boundary near La Canada Drive. Between 1:15 pm and 1:21 pm, the average opacity was measured to be 23.4% at a point approximately 500 feet east of the emission point on the top surface of the impoundment as it crossed the eastern property line.

**Deficiency:**

ASARCO, LLC – Mission Complex caused and permitted diffusion of visible emissions from tailings dam #8 beyond the property boundary line of Helmet Peak Road, La Canada Drive, and I-19 as prohibited by Permit Condition, Part B, Section I.C.3 and Pima County Code Title 17, Chapter 17.16.050.D.

**Permit Condition(s):**

**Part “B”, Section, II.F.1**

The Permittee shall monitor to ensure that tailings piles, during the berm building mode, have been smeared (i.e., with light coat of fresh, moist tailings on the surface of the dam) once every 60 days unless otherwise warranted by meteorological conditions.

**Findings:**

ASARCO, LLC – Mission Complex began berm building on tailings dam #8 on September 14, 2009, and as of December 22, 2009, did not monitor to ensure that a light coat of fresh, moist tailings was applied to the surface of the dam.

**Deficiency:**

ASARCO, LLC – Mission Complex failed to monitor to ensure that tailings dam #8 was smeared with a light coat of fresh, moist tailings once every 60 days while in berm building mode, as prohibited by Permit Condition, Part B, Section II.F.1.

**III. EXIT INTERVIEW**

The inspector reviewed the findings of the site inspection with Mr. Ekholm and stated that a compliance determination would be made after the findings were reviewed with PDEQ management.

**IV. COMPLIANCE SUMMARY**

Upon review of the inspection results and compliance history for this source, PDEQ management determined that the facility will be issued a Notice of Violation for the above listed deficiencies.

Attachments:

1. Inspection Photo Log
2. EPA Method 9 VE Form (1:15 pm – 1:22 pm)
3. Notification of Inspection Rights Form
4. Excess Emissions Report dated December 23, 2009
5. EPA Method 9 VE Form (2:40 pm – 2:47 pm)

ATTACHMENT 1  
Inspection Photo Log

<b>Site Location:</b> <b>ASARCO, LLC – Mission Complex</b> <b>4201 W. Pima Mine Road, Sahuarita, AZ</b>	<b>Photographers:</b> J. M. Jones Sarah Walters	<b>Cameras:</b> Canon A620, Canon Powershot G5
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**Photo No. 1**

**Date:** 12/22/2009

**Photo Description:**

View of the light colored visible particulate emissions generating from tailings dam #8 on ASARCO, LLC – Mission Complex property observed crossing I-19 as the inspectors drove southward on I-19 toward Sahuarita Road at 1:00 pm.



**Photo No. 2**

**Date:** 12/22/2009

**Photo Description:**

View of the light colored visible particulate emissions generating from tailings dam #8 at 1:05 pm as viewed from the side of Sahuarita Road west of I-19. The visible emissions can be observed blowing across Helmet Peak Road and obscuring visibility.



<p><b>Photo No. 3 a,b,c,d</b></p>		
<p><b>Date:</b> 11/22/2009</p>		
<p><b>Photo Description:</b></p> <p>View of visible particulate emissions generating from tailings dam #8 blowing northeast as viewed from La Canada Drive at 1:10 pm.</p>	<p>a</p> 	<p>b</p>  <p>c</p> <p>d</p>

<p><b>Photo No. 4</b></p>	
<p><b>Date:</b> 11/22/2009</p>	
<p><b>Photo Description:</b></p> <p>View visible particulate emissions plume generating from tailings dam #8 crossing the east property line at La Canada Drive. The inspector took a VE between 1:15 pm and 1:22 pm using the telephone pole along La Canada Drive as a background and a guide to the east property line of ASARCO, LLC – Mission Complex.</p>	

<p><b>Photo No. 5 a,b,c,d</b></p>	
<p><b>Date:</b> 11/22/2009</p>	
<p><b>Photo Description:</b></p> <p>View of visible particulate emissions generating from tailings dam #8 blowing northeast across La Canada Drive as viewed from La Canada Drive at 1:23 pm.</p>	

<p><b>Photo No. 6</b></p>	
<p><b>Date:</b> 11/22/2009</p>	
<p><b>Photo Description:</b></p> <p>View visible particulate emissions plume generating from tailings dam #8 crossing the property line at Helmet Peak Road and obscuring traffic visibility at 1:57 pm while the inspector viewed looking west.</p>	

<p><b>Photo No. 7 a,b</b></p>	
<p><b>Date:</b> 11/22/2009</p>	
<p><b>Photo Description:</b></p> <p>View of the particulate emission plume generating from top of the tailings dam #8 surface as viewed from west of the tailings dam on Helmet Peak Road looking east at 2:17 pm.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>a</p> </div> <div style="text-align: center;">  <p>b</p> </div> </div>

<p><b>Photo No. 8 a,b</b></p>	
<p><b>Date:</b> 11/22/2009</p>	
<p><b>Photo Description:</b></p> <p>View of the top of the tailings dam from the top northwest corner showing the particulate emission plume generated from the surface of the tailings dam at 2:32 pm.</p> <p>The trench in the foreground remains from the excavated material used to build the upper lift of top berm around the perimeter of the tailings dam.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>a</p> </div> <div style="text-align: center;">  <p>b</p> </div> </div>

<b>Photo No. 9</b>	
<b>Date:</b> 11/22/2009	
<b>Photo Description:</b>  View of the fill pipes on the right discharging tailings slurry.  The trench in the foreground must fill before the tailings can wet and smear the inner dam surface.	

<b>Photo No. 10</b>	
<b>Date:</b> 11/22/2009	
<b>Photo Description:</b>  View of a truck applying water and polymer on south east quadrant of the tailings dam surface.	

<b>Photo No. 11</b>	
<b>Date:</b> 11/22/2009	
<b>Photo Description:</b> View of the end of the berm construction showing the extent of the berm building.	

<b>Photo No. 12</b>	
<b>Date:</b> 11/22/2009	
<b>Photo Description:</b> View of the particulate emission plume and view at the end of the VE taken in the southwest quadrant of the tailings surface at 2:47 pm.	

**Photo No. 13**

**Date:** 11/22/2009

**Photo Description:**

View of the particulate emission plume and generating from tailings dam #8 blowing across Helmet Peak Road as the inspector views looking east at 3:21 pm.



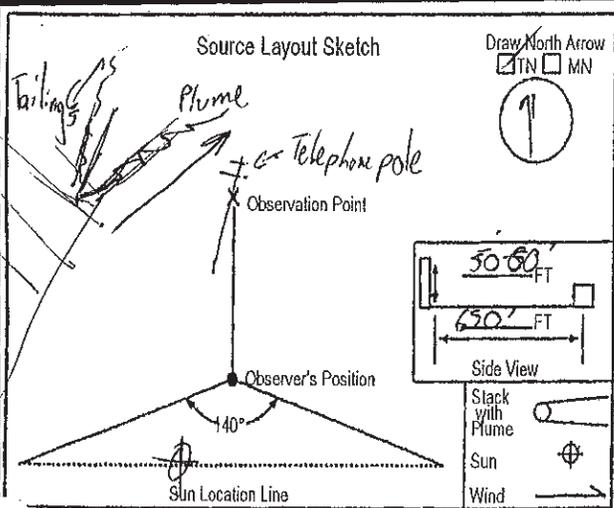
ATTACHMENT 2  
EPA Method 9 VE Form (1:15 pm – 1:22 pm)

**EPA METHOD 9 (40 CFR 60 - Appendix A)  
VISIBLE EMISSION OBSERVATION FORM**

COMPANY NAME <b>ASARCO, LLC</b>	
LOCATION <b>La Canada Drive, East Side of</b>	
LOCATION <b>Tailings Dam #8, Off-site</b>	
CITY <b>Sabanita</b>	STATE <b>AZ</b>
ZIP <b>85629</b>	
PROCESS EQUIPMENT <b>Berm Building Mode</b>	OPERATING MODE <b>High Winds</b>
CONTROL EQUIPMENT <b>Water &amp; Polymer</b>	OPERATING MODE <b>Berm Building</b>
DESCRIBE EMISSION POINT <b>Fugitive Dust Plume</b>	
<b>Sweeping from top surface over Northeast Corner</b>	
HEIGHT OF EMISSION POINT <b>~120'</b>	HEIGHT OF EMISSION POINT RELATIVE TO OBSERVER START <b>~120'</b> END <b>~120'</b>
DISTANCE TO EMISSION POINT START <b>~500'</b> END <b>~500'</b>	DIRECTION TO EMISSION PT. (DEGREES 0-360)) START <b>270°</b> END <b>270°</b>
VERTICAL ANGLE TO OBSERVATION POINT START <b>5°</b> END <b>5°</b>	DIRECTION TO OBSERVATION POINT (DEGREES (0-360)) START <b>0°</b> END <b>0°</b>
DISTANCE & DIRECTION TO OBSERVATION POINT FROM EMISSION POINT START <b>~500' @ 90°</b> END <b>~500' @ 90°</b>	
DESCRIBE EMISSIONS START <b>Fugitive Dust</b> END <b>same</b>	
EMISSION COLOR <b>white/tan</b>	WATER DROPLET PLUME
START	END
ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/> NONE <input checked="" type="checkbox"/>	
DESCRIBE PLUME BACKGROUND START <b>Telephone Pole</b> END <b>same</b>	
BACKGROUND COLOR <b>Dark Brown</b>	SKY CONDITIONS START <b>Clear</b> END <b>"</b>
WIND SPEED START <b>13 Aug 21 max</b> END <b>20 Aug 31 max</b>	WIND DIRECTION START <b>SSW</b> END <b>SSW</b>
AMBIENT TEMP START <b>~75°</b> END <b>"</b>	WET BULB TEMP RH percent

OBSERVATION DATE <b>12/22/2009</b>	START TIME <b>13:15 pm</b>	END TIME <b>13:22 pm</b>
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MIN	SEC	0	15	30	45	COMMENTS
1	0	5	10	5		
2	10	20	20	5		Observation point
3	5	5	40	40		only catching outer
4	20	15	30	40		fringe of plume
5	20	10	5	10		
6	40	80	40	50		Opacity Avg. 23.4%
7	40	15	10			
8						See attached Photos
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OBSERVER'S NAME (PRINT) <b>James M. Jones</b>	DATE <b>12/22/2009</b>
OBSERVER'S SIGNATURE <i>James M. Jones</i>	DATE <b>12/22/2009</b>
ORGANIZATION <b>PNED</b>	
CERTIFIED BY <b>Arizona Sample School/LLC</b>	DATE <b>9/18/2009</b>

ADDITIONAL INFORMATION  
 (1) Activity Suspended due to forecast of high winds. Fugitive Dust Control w/ Polymer water trucks

ATTACHMENT 3  
Notification of Inspection Rights Form



PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY

150 West Congress • Tucson • Arizona • 85701

PHONE (520) 740-3340 • FAX (520) 882-7709

NOTIFICATION OF INSPECTION RIGHTS

REGULATED PARTY INFORMATION

Regulated Party ASARCO Permit # 2026
Site Location Helmet Peak Rd- Tailings Dam #8
Site Contact Jamie Ekholm Phone
Mailing Address

PDEQ INFORMATION

Inspector Name James M Jones Phone 740-3341
Inspection Date 12/22/2009 Time 2:
Accompanied by Jamie Ekholm

INSPECTION RIGHTS

Upon entry to the premises, the Pima County Department of Environmental Quality (PDEQ) inspector(s) met with the regulated party, presented photo identification indicating that they are PDEQ employees and explained:

- The purpose of the inspection is to determine compliance with Air Quality Regulations or Pima County Code (PCC) Title 17. The inspection is being conducted pursuant to Arizona Revised Statutes §49-471 et seq. and PCC 17.20.050.
Inspection fee: \$ 0 or A portion of Activity Permit Fee or A portion of your annual emission fee
Regulated parties may accompany the PDEQ inspector(s) on the premises, except during confidential interviews.
Each person interviewed during the inspection will be informed that statements made by the person may be included in the inspection report.
The regulated party has the right to copies of any original documents taken by PDEQ during the inspection. A split of any samples taken during the inspection if the split of any samples would not prohibit an analysis from being conducted or render an analysis inconclusive. Copies of any documents will be provided at PDEQ expense.
Each person whose conversation is tape-recorded will be informed that the conversation is being tape-recorded.
Administrative hearing rights to appeal an administrative order or permit decision that was made as a result of the inspection are set forth in Arizona Revised Statutes A.R.S. §49.511, 49.490, 49.496 and 49.497 et seq. Rights relating to an appeal of a final agency decision are found in A.R.S. §49.480.02 and 49.482 et seq.

I have read this notification and discussed any questions or concerns with the PDEQ inspector(s).

X [Signature] Date: 12/22/09

refused to sign the Notification.

No authorized on-site representative is present at the facility.

\*\*\*\*\* NOTE: PDEQ inspectors may still proceed with the inspection even if Permittee declines to sign this form.\*\*\*\*\*

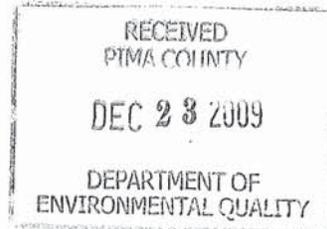
ATTACHMENT 4  
Excess Emissions Report dated December 23, 2009



Mission Complex

December 23, 2009

Mr. Richard Grimaldi  
Deputy Director, Environmental Quality Division  
Pima County Department of Environmental Quality  
150 West Congress Street,  
Tucson, Arizona 85701



RE: ASARCO LLC – Mission Complex  
Notification of Excess Emissions

Dear Mr. Grimaldi:

This letter constitutes ASARCO LLC – Mission Complex's (Asarco's) notification of excess emissions required by Permit 2026, Part "A", section XIII.B. The permit's excess emissions reporting requirements require the source to provide a notification by facsimile or telephone within 24 hours of the time the owner or operator first learned of the occurrence of excess emissions. Permit 2026, Part "A", section XIII.B.1.a. The owner or operator is then required to supply a detailed written notification by submission of an "excess emissions report" within 72 hours of the 24-hour notification. Permit 2026, Part "A", section XIII.B.1.b. Both reports are to contain the information outlined in Permit 2026, Part "A", section XIII.B.2.

An initial report was made via phone to Mr. Chase Waddell, with Pima County Department of Environmental Quality's Air Quality Program at approximately 12:00 PM on December 22, 2009.

### **Background.**

Fugitive dust emissions from Asarco's tailings dams are controlled by a protective crust formed by deposition of wet tailings or by application of an acrylic co-polymer. High winds can cause damage to the protective crust on these tailings dams by scouring away this crust. Due to ongoing berm building on Tailings Impoundment #8, the use of wet tailings to control dust emissions has needed to be deferred until enough berm has been constructed to allow smearing. Asarco has been operating 2 tanker trucks dedicated solely to applying dust suppressant polymer on both the surface of Tailings Impoundment #8, as well as to the surface of the newly constructed berm in an effort to prevent dust emissions.

On December 22, 2009, Asarco personnel noted excessive winds with sustained force between 15 mph and 20 mph and gusts exceeding 35 mph, as indicated by the weather station located at the Administration Building. The wind speeds at the top of the tailings dam were likely to be considerably higher. As a result, Asarco's Environmental

Engineer, Jamie Ekholm, conducted a visual survey of emissions for all tailings impoundments. He noted visible emissions from Tailings Impoundment #8 and conducted EPA Method 9 observations. The maximum 6-minute average opacity was 75.4%. During the observation period, sustained wind gusts would generate a dust plume that would travel in a northwesterly direction across the dam and across Helmet Peak road. Wind speeds at the tailings dam were recorded approaching and in excess of 30 miles per hour. Only minimal emissions were observed from other tailings dams, none of which necessitated conducting a Method 9 observation.

Asarco Mission Complex hereby submits the information required by Permit 2026, Part "A", sections XIII.B.2 as follows:

**a. The identity of each stack or other emission point where the excess emissions occurred:**

Excess emissions were detected from Tailings Impoundment #8. Furthermore, during the Method 9 observation at Tailings Impoundment #8, visible emissions were observed crossing the property boundary at Helmet Peak road. When this occurred, wind speeds approaching 30 miles per hour and in excess of 25 miles per hour were recorded.

**b. The 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;**

From approximately 10:00 AM to 11:15 AM on December 22, 2009, Jamie Ekholm conducted a visual survey of emissions for all tailings dams and noted visible emissions from Tailings Impoundment #8 with a maximum 6-minute average opacity of 75.4%. During the observation period, sustained wind gusts would generate a dust plume that would travel in a northwesterly direction across the dam and cross Helmet Peak road. Wind speeds were recorded approaching and in excess of 30 miles per hour. Readings taken later in the afternoon were over 45 miles per hour.

**c. The time and duration or expected duration of the excess emissions.**

When high winds were noticed, Mr. Ekholm completed visual survey of all tailings impoundments with Tailings Impoundment #8 being the only with significant emissions. The previous visual observation survey on Tailings Impoundment #8 performed pursuant to Asarco's Visual Observation Plan did not observe any visible emissions. For these reasons, Asarco believes that the excess emissions in this case were caused by the extreme wind gusts on December 22<sup>nd</sup>. The wind speeds increased at approximately 10:00 AM on December 22<sup>nd</sup> and lasted into the early evening.

**d. The identity of the equipment from which the excess emissions emanated.**

The excess emissions occurred from Tailings Impoundment #8.

**e. The nature and cause of the emissions.**

Due to ongoing berm building, Asarco has not been able to apply wet tailings to the surface of the impoundment. Although Asarco had been applying dust suppressant due to windy and dry conditions over the past several weeks and began immediately applying dust suppressant polymer to Tailings Impoundment #8's surface, the large size of the dam precluded Asarco from being able to repair the entire crust layer at once. The broken crust and excessive wind gusts on December 22<sup>nd</sup> were the cause of the excess emissions as described above. Additionally, as high winds were predicted, no berm building was scheduled for the day in an effort to prevent dust from construction activities. All efforts were spent on applying dust suppressant to the surface of the impoundment to minimize dust emissions. Furthermore, Asarco has begun placing wet tailings into Tailings Impoundment #8 as of 12:00 PM, December 22<sup>nd</sup>.

**f. The steps taken, if the excess emissions were the result of a malfunction, to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunction.**

It does not appear that the excess emissions were the result of a malfunction.

**g. The steps that were or are being taken to limit the excess emissions.**

As discussed previously, high winds damaged the protective coatings on Asarco's Tailings Impoundment #8. Asarco has been taking in the days prior, and again took immediate steps to cover the impoundment with dust suppressant polymer. All berm building activities were suspended for the day and all efforts were spent on applying dust suppressant to the surface of the impoundment.

**h. If the source's permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted from startup or malfunction, a list of the steps taken to comply with the permit procedures.**

It does not appear at this time that the dust was the result of a malfunction.

Asarco believes it has acted in a proactive manner to control fugitive dust emissions from Tailings Impoundment #8. If you have additional questions or concerns, please let me know.

In accordance with Part "A", Section VIII of Air Quality Operating Permit No. 2026, I certify that based on information and belief formed after reasonable inquiry of Asarco staff, the statements and information in this compliance certification and attached documents are true, and complete

Signature  \_\_\_\_\_  
Responsible Official/Authorized Representative

Printed Name and Title: Richard S. Rhoades, General Manager

Date: 12/23/09

VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME <i>Asarco LLC, Mission Complex</i>		
STREET ADDRESS <i>4201 W. Pima Mine Rd.</i>		
CITY <i>Schubert</i>	STATE <i>AZ</i>	ZIP <i>85629</i>
PHONE (KEY CONTACT) <i>393-4671</i>	SOURCE ID NUMBER <i>Trailings Dum #8</i>	
PROCESS EQUIPMENT <i>Trailings Impoundment</i>	OPERATING MODE <i>Inter</i>	
CONTROL EQUIPMENT <i>Wet Scrubbers/Enclosure #</i>	OPERATING MODE <i>Inter</i>	
DESCRIBE EMISSION POINT <i>Fugitive emissions from top of TD#8</i>		
HEIGHT ABOVE GROUND LEVEL <i>200'</i>	HEIGHT RELATIVE FROM OBSERVER <i>0'</i>	
DISTANCE FROM OBSERVER <i>140'</i>	DIRECTION FROM OBSERVER <i>NE</i>	
DESCRIBE EMISSION <i>Particulate Matter</i>		
EMISSION COLOR <i>Gray/white</i>	IF WATER DROPLET PLUME <i>N/A</i>	
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED <i>NE beam of TD #8</i>		
DESCRIBE PLUME BACKGROUND <i>Sky / mountains</i>		
BACKGROUND COLOR <i>Gray (dark)</i>	SKY CONDITIONS <i>P. cloudy - 75%</i>	
WIND SPEED <i>25-35 mph</i>	WIND DIRECTION <i>SW</i>	
AMBIENT TEMP <i>61°F</i>	WET BULB TEMP	Rel. percent <i>28%</i>
<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"> <p>Stack with Plume <input type="checkbox"/></p> <p>Sun <input checked="" type="checkbox"/></p> <p>Wind <input checked="" type="checkbox"/></p> </div> <div style="width: 60%; text-align: center;"> <p>SOURCE LAYOUT SKETCH</p> <p>Draw North Arrow</p> </div> <div style="width: 15%; text-align: right;"> <p>↑</p> </div> </div>		
ADDITIONAL INFORMATION		

OBSERVATION DATE <i>12/22/09</i>		START TIME <i>11:08</i>		END TIME <i>11:14</i>	COMMENT
SEC	MIN	0	15	30	
1	75	75	80	80	<i>28 mph</i>
2	95	95	90	95	
3	70	80	70	65	
4	70	75	55	60	<i>30 mph</i>
5	70	65	80	85	<i>25 mph</i>
6	75	70	75	70	<i>30 mph</i>
7	65				
8					
9					<i>75.4% opacity</i>
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OBSERVER'S NAME (PRINT) <i>James Ekholm</i>	
OBSERVER'S SIGNATURE <i>[Signature]</i>	DATE <i>12/22/09</i>
ORGANIZATION <i>Asarco</i>	
CERTIFIED <i>ASU/ADEQ</i>	DATE <i>1/1/09</i>

CONTINUE ON VEO FORM NUMBER

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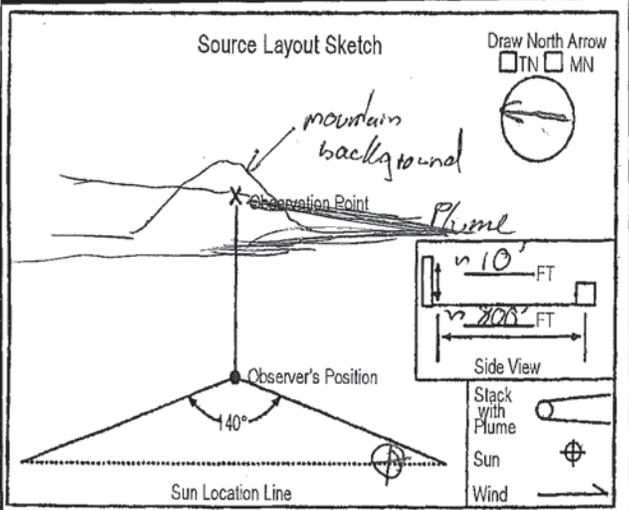
ATTACHMENT 5  
EPA Method 9 VE Form (2:40 pm – 2:47 pm)

**EPA METHOD 9 (40 CFR 60 - Appendix A)  
VISIBLE EMISSION OBSERVATION FORM**

COMPANY NAME <b>ASARCO, LLC</b>		
LOCATION <b>Southwest quadrant, Surface</b>		
LOCATION <b>of Tailings Dam #8, On-site</b>		
CITY <b>Sahuarita</b>	STATE <b>AZ</b>	ZIP <b>85629</b>
PROCESS EQUIPMENT <b>Tailings Impoundment</b>	OPERATING MODE <b>High Winds</b>	
CONTROL EQUIPMENT <b>Trucks Applying Water &amp; Polymer</b>	OPERATING MODE <b>Berm Building</b>	
DESCRIBE EMISSION POINT <b>fugitive dust plume generated from winds blowing across surface</b>		
HEIGHT OF EMISSION POINT <b>0 m at surface</b>	HEIGHT OF EMISSION POINT RELATIVE TO OBSERVER START <b>0</b> END <b>0</b>	
DISTANCE TO EMISSION POINT <b>~800'</b>	DIRECTION TO EMISSION PT. (DEGREES 0-360)) START <b>~80°</b> END <b>"</b>	
VERTICAL ANGLE TO OBSERVATION POINT START <b>1°</b> END <b>"</b>	DIRECTION TO OBSERVATION POINT (DEGREES (0-360)) START <b>1°</b> END <b>"</b>	
DISTANCE & DIRECTION TO OBSERVATION POINT FROM EMISSION POINT START <b>variable @ 30°</b> END <b>variable @ 30°</b>		
DESCRIBE EMISSIONS START <b>fugitive dust</b> END <b>"</b>		
EMISSION COLOR <b>White/Tan</b>	WATER DROPLET PLUME	
START END	ATTACHED <input type="checkbox"/> DETACHED <input type="checkbox"/> NONE <input checked="" type="checkbox"/>	
DESCRIBE PLUME BACKGROUND START <b>Mountain</b> END <b>Mountain</b>		
BACKGROUND COLOR <b>Brown</b>	SKY CONDITIONS <b>clear with some clouds</b>	
WIND SPEED START <b>18.6 M36</b> END <b>23 M45</b>	WIND DIRECTION START <b>SSW</b> END <b>SSW</b>	
AMBIENT TEMP START <b>75</b> END <b>"</b>	WET BULB TEMP RH percent	

OBSERVATION DATE <b>12/22/2009</b>	START TIME <b>2:40 pm</b>	END TIME <b>2:47 pm</b>
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MIN	SEC				COMMENTS
	0	15	30	45	
1	100	100	100	40	
2	75	100	60	50	
3	100	100	100	100	
4	100	100	100	100	
5	100	100	40	40	
6	30	70	60	85	
7	60				Opacity Avg. 80.4%
8					
9					(see attached photo)
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ADDITIONAL INFORMATION  
 ① Activity on Tailings Building Suspended due to forecast of high winds. Fugitive Dust Control application of Polymer & Water with Trucks

OBSERVER'S NAME (PRINT) <b>James M. Jones</b>	DATE <b>12/22/2009</b>
OBSERVER'S SIGNATURE <i>James M. Jones</i>	DATE <b>12/22/2009</b>
ORGANIZATION <b>PDEQ</b>	
CERTIFIED BY <b>Arizona Snake School</b>	DATE <b>9/18/2009</b>