



Mission Complex

December 23, 2009

Mr. James M. Jones  
Civil Engineering Assistant  
Pima County Department of Environmental Quality  
150 West Congress Street  
Tucson, Arizona 85701



RE: Response to Notice of Opportunity to Correct #0910-122  
ASARCO LLC – Mission Complex, Permit No. 2026

Dear Mr. Jones:

This letter constitutes ASARCO LLC – Mission Complex's (Asarco's) response to Pima County Department of Environmental Quality (PDEQ's) Opportunity to Correct, number PC0910-122 issued to Asarco on December 4, 2009 as a result of the inspections performed on October 21 and 27, 2009. Asarco appreciates the opportunity to set forth the following corrective actions it is taking to respond to the two deficiencies noted in the Opportunity to Correct. Our responses are organized so that the deficiency noted by PDEQ is stated (in italics) followed by Asarco's response outlining the corrective measures taken to address the deficiencies and to prevent their recurrence.

**Deficiency #1:**

*PDEQ has reason to believe that ASARCO, LLC – Mission Complex did not monitor for dust emissions from tailings dam #8 once per week from observation points T-2 and T-5 following the protocol for the bi-weekly visual surveys conducted in accordance with the Visual Observation Plan and required by Permit Condition Part "B" Section II.C.5.*

As stated in prior email correspondence with PDEQ, Asarco did take observations from the T-5 observation point, but these observations were recorded in the Environmental Engineer's logbook instead of on the bi-weekly visual survey form. In the future, Asarco will transcribe observations from the logbook onto the bi-weekly visual survey form in the event that the form is not available when the Environmental Engineer initiates observations under the VOP.

Observations were not made from the T-2 observation point (east slope of tailings dam #8) because, based on our experience in implementing the VOP over many years, observation point T-2 does not give the best view of the entire surface of tailings dam #8. Because of its location, (the SE corner of tailings dam #7) the view from observation point T-2 is generally only of the north face and north east corner of tailings dam #8, both of which are observable from T-5. From T-2 you are not able to view the east slope of tailings dam #8 due to the fact that tailings dam #7 sits further to the west than tailings dam #8. The excess emissions that were observed on October 27, 2009 were first observed from T-5.

Additionally, the VOP states that “increased monitoring frequency will only affect tailings dams in the berm building mode and will occur at the following observation points **as necessary** (observation points being T-1 through T-5. Asarco interprets this provision to mean that there is discretion to select those points that provided the best view of Tailings Dam #8.

Understanding PDEQ’s concerns however, Asarco will take observations at all points in the proximity of the tailings dam undergoing berm building regardless of whether berm building can be observed at said points.

**Deficiency # 2**

***PDEQ has reason to believe that ASARCO, LLC – Mission Complex caused fugitive dust emissions 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, PCC 17.16.40.A and PCC 17.16.050.B.***

This deficiency relates to PDEQ inspection in response to several complaints of fugitive dust originating from the surface of tailings dam #8 on October 27, 2009. Tailings dam #8 has been in berm building mode since September 14<sup>th</sup>. An initial inspection of the tailings dam from Point T-5 of the Visual Observation Plan yielded no significant fugitive dust plumes even though the maximum wind speeds were close to 25 mph. The inspector was then escorted to the top of the tailings dam for additional observations. Again, no significant dust plumes were noted. However as wind speeds picked up reaching extremely high winds (35 mph average), the inspector conducted an EPA Method 9 Observation in which the average 6 minute opacity was measured to be 29.8%.

During the berm building mode, Asarco uses two dedicated tanker trucks to apply both water and an acrylic co-polymer dust suppressant to minimize dust from both the newly built berm as well as to the surface of the dam. From the start of berm building until the date of the inspection, Asarco had applied 731,500 gallons of water and 72,500 gallons of dust suppressant water mixture in an effort to control dust emissions. Asarco believes that the requirements for controlling fugitive dust emissions from tailings dam in the berm building mode are as stated in the VOP, which we followed in this instance. Prior to the start of berm building, Asarco also conducted an extensive survey of the surface and subsurface of the tailings dam, as required by the VOP, to assure not only that the tailings were of suitable consistency for berm building but also to assess the overall moisture content from the surface to subsurface to further assure the tailings would not be too dry which could cause dust emissions. In addition to the measures required by the revised VOP, Asarco ceased all berm building operations during the time in question to focus solely on implementation of dust control measures.

Although Asarco believes all necessary precautions were taken to minimize dust emissions in this instance, we recognize that sustained, unusually high winds, can nevertheless result in fugitive dust emissions from tailings dams. Asarco proposes the following revisions to our VOP in an effort to prevent recurrence of this deficiency, as follows:

- If Asarco's monitoring detects that tailing dams in the berm building mode are becoming dry and the morning weather forecast at <http://weather.yahoo.com/united-states/arizona/-12794670/> predicts sustained wind speeds for the day in excess of 20 mph, Asarco will increase monitoring for dust emissions to once per day (or more as conditions require) following the protocol for the bi-weekly visual surveys conducted according to the Visual Observation Plan from the following observation points as necessary:
  - a. T-1
  - b. T-2
  - c. T-3
  - d. T-4
  - e. T-5

Asarco will also take, at its discretion, observations from the top and sides of tailing dams as necessary to help pinpoint areas requiring application of water or chemical dust suppressants. Such observations shall be recorded in the Environmental Engineer's logbook, together with the date and time of observation.

- If during these observations, dust emissions are observed (1) that are in excess of 15% opacity, and (2) relate to berm building equipment operation (and not wind-blown dust), the berm building equipment will be shut down until such time as the area can be controlled with water and/or chemical dust suppressant. The corrective action taken, if any is needed, shall be recorded in the Environmental Engineer's logbook, together with the date and time such corrective action was initiated.
- If during these observations, wind-blown dust emissions are observed (1) that are in excess of 15% opacity, and (2) wind conditions are expected to stay the same or get worse, then all berm building activities that could give rise to dust will cease and efforts will be focused on controlling the wind-blown dust emissions. The corrective action taken, if any is needed, shall be recorded in the Environmental Engineer's logbook, together with the date and time such corrective action was initiated.

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Asarco is submitting these changes as revisions to the VOP and requests their approval. A copy of the revised VOP dated December 23, 2009 is attached for your review.

Asarco appreciates the opportunity to submit these corrective actions to PDEQ. Asarco notes that in both instances, it was in the process of instituting measures to address the issues noted in the inspection and the Notice of Opportunity to Correct. If you need any additional information, please contact Jamie Ekholm at (520) 393-4671.

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, accurate and complete.

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

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



**ASARCO INCORPORATED**

**MISSION COMPLEX**

**VISUAL OBSERVATION PLAN**

Required per  
Air Quality Permit No. 2026

December 11, 2003  
[revised July 21, 2004, April 26, 2007, July 20, 2007, December 23, 2009]

This visual observation plan is written to comply with requirement II *Monitoring of Operations* (C) (5) of Attachment “B”: Specific Conditions of the ASARCO Mission Complex Air Quality Permit No. 2026. In addition, this plan also covers the NSPS equipment per I.A.2, I.C.2 (open areas, roadways, streets, materials handling, storage piles and tailings) as well as II.C.1 (bi-weekly monitoring of process fugitives).

Non-point sources will be monitored bi-weekly using a visual survey by a certified Method 9 observer from strategic lookouts located throughout the Mission Complex Property. The lookout locations are identified (M-1, S-1, S-2, T-1, T-2, T-3, T-4 and T-5) on the accompanying Map (Figure 1-A). The visual survey will occur once in each two week time period, as close to a full two weeks between observations as possible. Each bi-weekly visual survey of emissions from non-point sources will be conducted, when the source is in operation, in accordance with this observation plan. The *Non-Point Source Visual Observation Checklist* (see attachment 1) will be used to record the name of the observer, the date of the observation, the result of the observation for each source and actions taken.

During the visual survey, if the Method 9 observer notices an emission from the source that on an instantaneous basis appears to exceed 20% opacity, the observer will, if feasible, take a six-minute Method 9 observation of the emissions using the *Visible Emission Observation Form* (see attachment 2). If the six-minute opacity reading exceeds 20%, then the observer will report the exceedance to the proper personnel. Responsible staff members will ensure that emission controls or equipment are adjusted or repaired accordingly to reduce the opacity to below 20%. Accordingly, responsible personnel will report the excess emission under Section XIII.B of PART A: “GENERAL PROVISIONS” of the permit. If the six-minute opacity reading of the emission is less than 20%, the observer will record the date, time of the reading, location, and result of the observation on the *Non-Point Source Visual Observation Checklist*.

The following conditions have been added to the Visual Observation Plan as agreed in ASARCO’s response to the PDEQ Compliance Status Letter (CSL# PC 0310-185) dated January 9, 2004 and as a result of subsequent consultation with PDEQ. The following conditions only apply to any tailings dam in the berm building mode:

- Prior to the initiation of berm building, Asarco personnel will conduct an initial inspection of the tailings dam on which berm building will occur. The initial inspection will determine and document whether any portions of the tailings dam are drier than necessary for berm building and may reasonably result in dust emissions. If such areas are identified, Asarco personnel will identify and document an appropriate control strategy and will apply dust suppressant or water, as appropriate, to minimize the possibility of dust emissions. Asarco will notify PDEQ of the initial berm building inspection results, including any corrective measures that are to be taken.

- Asarco personnel will increase monitoring for dust emissions to once per week (or more as conditions require) following the protocol for the bi-weekly visual surveys conducted according to the Visual Observation Plan that was submitted to PDEQ on December 11, 2003. The increased monitoring frequency will only affect tailings dams in the berm building mode and will occur at the following observation points as necessary:
  - a. T-1
  - b. T-2
  - c. T-3
  - d. T-4
  - e. T-5
- Asarco will increase the watering schedule beyond the required “two times per day” whenever increasing dusty conditions are noted during the “berm-building mode” of tailing impoundment construction.
- Each day that construction occurs after the construction has ceased for the day Asarco personnel will conduct an inspection of the disturbed areas of each tailings dam in the berm building mode to determine whether any disturbed portions of the tailings dam are dry and may reasonably result in dust emissions. If such areas are identified, Asarco personnel will apply dust suppressant or water, as appropriate, to minimize the possibility of dust emissions.

The following additional measures are added as part of Asarco’s response to the Notice of Opportunity to Correct # 0901-122 issued December 4, 2009:

- If Asarco’s monitoring detects that tailing dams in the berm building mode are becoming dry and the morning weather forecast at <http://weather.yahoo.com/united-states/arizona/-12794670/> predicts sustained wind speeds for the day in excess of 20 mph, Asarco will increase monitoring for dust emissions to once per day (or more as conditions require) following the protocol for the bi-weekly visual surveys conducted according to the Visual Observation Plan from the following observation points as necessary:
  - f. T-1
  - g. T-2
  - h. T-3
  - i. T-4
  - j. T-5

Asarco will also take, at its discretion, observations from the top and sides of tailing dams as necessary to help pinpoint areas requiring application of water or chemical dust suppressants. Such observations

shall be recorded in the Environmental Engineer's logbook, together with the date and time of observation.

- If during these observations, dust emissions are observed (1) that are in excess of 15% opacity, and (2) relate to berm building equipment operation (and not wind-blown dust), the berm building equipment will be shut down until such time as the area can be controlled with water and/or chemical dust suppressant. The corrective action taken, if any is needed, shall be recorded in the Environmental Engineer's logbook, together with the date and time such corrective action was initiated.
- If during these observations, wind-blown dust emissions are observed (1) that are in excess of 15% opacity, and (2) wind conditions are expected to stay the same or get worse, then all berm building activities that could give rise to dust will cease and efforts will be focused on controlling the wind-blown dust emissions. The corrective action taken, if any is needed, shall be recorded in the Environmental Engineer's logbook, together with the date and time such corrective action was initiated.

The following is a list of the observation points and the non-point source or sources that will be observed from each point.

**Observation Point**

Water Tank Hill M-1  
(Mission Concentrator)

**Sources Monitored**

- 1) Concentrate Storage area
- 2) Filter Plant and unpaved roadways
- 3) Moly Plant area, unpaved roadways & Process fugitives
- 4) North Crusher area, unpaved roadways & Process fugitives
- 5) Secondary Crusher area- unpaved roadways
- 6) Secondary Crusher area - Process/Conveyor fugitives
- 7) Unpaved roads & process fugitives near Mission Mill
- 8) Warehouse yard. Maintenance shops & unpaved roadways
- 9) North slope of East and Pima rock dumps.
- 10) East slopes of Pima, Mineral Hill and Ike waste rock dumps
- 11) S. Mill & Process fugitive areas

	<ul style="list-style-type: none"> <li>12) Unpaved roadways- Mission perimeter.</li> <li>13) Mission Mill coarse ore stockpile</li> <li>14) Mission Primary Crusher.</li> </ul>
Water Tank Hill <b>S-1</b>	<ul style="list-style-type: none"> <li>1) S. Mill &amp; Process fugitives areas.</li> <li>2) Unpaved roadways- Mission pit perimeter.</li> <li>3) Mission Mill Coarse ore stockpile.</li> <li>4) Mission Primary Crusher.</li> <li>5) Top of Tailing Dam #4</li> <li>6) Top of Tailing Dam #5</li> </ul>
Southwest corner of <b>S-2</b>	<ul style="list-style-type: none"> <li>1) South Slope of East, Pima &amp; Mineral Hill Dumps.</li> <li>2) Top of Tailing Dam #8.</li> <li>3) Top of Tailing Dam #7.</li> </ul>
Northeast corner of #7 Dam <b>T-1</b>	<ul style="list-style-type: none"> <li>1) Top of Tailing Dam #4</li> <li>2) East slope of Tailing Dam #4.</li> <li>3) East slope of Tailing Dam #7.</li> </ul>
Southeast corner of #7 Dam <b>T-2</b>	<ul style="list-style-type: none"> <li>1) East slope of Tailing Dam #7</li> <li>2) East slope of Tailing Dam #8.</li> </ul>
Northwest corner of #4 Dam <b>T-3</b>	<ul style="list-style-type: none"> <li>1) North slope of Tailing Dam #4.</li> <li>2) Top of Tailing Dam #4.</li> </ul>
Northeast corner of #6 Dam <b>T-4</b>	<ul style="list-style-type: none"> <li>1) Top of Tailing Dam #6.</li> <li>2) N. slope of Tailing Dam #7.</li> <li>3) N. slope of Tailing Dam #6.</li> <li>4) South slope East Dump</li> </ul>
Southeast corner of #6 Dam <b>T-5</b>	<ul style="list-style-type: none"> <li>1) Top of Tailing Dam #8.</li> <li>2) Top of Tailing Dam #7.</li> <li>3) N. Slope of Tailing Dam #8.</li> </ul>

The Visual Observation plan will be implemented by ASARCO immediately upon approval by the Department. Visual surveys will be conducted bi-weekly, during normal operation of the plant. Visual surveys will be conducted as close as possible to a full two weeks apart but may not be conducted on the same day in each monitoring period. Records of the visual surveys will be kept in the Environmental Department.