

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ARIZONA

UNITED STATES OF AMERICA,)
)
 Plaintiff,)
)
 v.)
)
 ASARCO LLC)
)
 Defendant.)
 _____)

No. CV-15-2206-PHX-JZB

CONSENT DECREE

TABLE OF CONTENTS

I.	JURISDICTION AND VENUE.....	2
II.	APPLICABILITY.....	3
III.	DEFINITIONS.....	3
IV.	COMPLIANCE REQUIREMENTS.....	8
V.	CIVIL PENALTY.....	42
VI.	REVIEW AND APPROVAL OF SUBMITTALS.....	43
VII.	ENVIRONMENTAL MITIGATION PROJECTS.....	45
VIII.	SUPPLEMENTAL ENVIRONMENTAL PROJECT.....	47
IX.	EMISSIONS REDUCTIONS.....	50
X.	REPORTING REQUIREMENTS.....	52
XI.	STIPULATED PENALTIES.....	57
XII.	FORCE MAJEURE.....	68
XIII.	DISPUTE RESOLUTION.....	70
XIV.	PERMITS.....	73
XV.	INFORMATION COLLECTION AND RETENTION.....	76
XVI.	EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS.....	78
XVII.	COSTS.....	80
XVIII.	NOTICES.....	80
XIX.	SALES OR TRANSFERS OF OPERATIONAL OR OWNERSHIP INTERESTS.....	82
XX.	EFFECTIVE DATE.....	83
XXI.	RETENTION OF JURISDICTION.....	84
XXII.	MODIFICATION.....	84
XXIII.	TERMINATION.....	84
XXIV.	PUBLIC PARTICIPATION.....	85
XXV.	SIGNATORIES/SERVICE.....	86
XXVI.	INTEGRATION.....	86
XXVII.	FINAL JUDGMENT.....	86
XXVIII.	APPENDICES.....	87

WHEREAS, Plaintiff, the United States of America, on behalf of the United States Environmental Protection Agency (“EPA”), has filed a complaint in this action concurrently with this Consent Decree alleging Defendant, ASARCO LLC (“ASARCO” or “Defendant”), violated Sections 112 and 502 of the Clean Air Act (the “Act”), 42 U.S.C. §§ 7412, 7661a, and corresponding regulations (Plaintiff and ASARCO are collectively referred to herein as the “Parties” and individually as a “Party”);

WHEREAS, the Complaint alleges that ASARCO has violated, and continues to violate, the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Primary Copper Smelting, 40 C.F.R. Part 63, Subpart QQQ, (“Subpart QQQ”) at ASARCO’s copper smelter in Hayden, Arizona (“Hayden Facility” or “Facility”). Specifically, the Complaint alleges that ASARCO has failed to comply with Subpart QQQ despite operating a primary copper smelter that has been located at a “major source” of “hazardous air pollutants” (“HAPs”) subject to that NESHAP;

WHEREAS, the Complaint alleges that ASARCO has violated, and continues to violate, the Title V Operating Permit Program by having failed, and continuing to fail, to supplement or correct its Title V application to include all “applicable requirements” of Subpart QQQ and the related provisions of NESHAP Subpart A or otherwise to obtain a Title V permit that includes these requirements;

WHEREAS, on November 10, 2011, EPA issued a Finding of Violation (“FOV”) related to Subpart QQQ requirements for ASARCO’s Hayden Facility;

WHEREAS, ASARCO has denied and continues to deny the allegations of the Complaint and FOV; maintains that the Facility is not a “major source” and has been and remains an “area

source” of HAPs under 42 U.S.C. § 7412, and corresponding rules; maintains that the Facility is not subject to Subpart QQQ and, therefore, is not required pursuant to Section 112 of the CAA to obtain a Title V operating permit for the Facility that includes the requirements of Subpart QQQ; and maintains that it has been and remains in compliance with the Act, and corresponding rules;

WHEREAS, nothing herein shall constitute an admission of liability by ASARCO in any respect, including with respect to the allegations in the FOV and Complaint; and

WHEREAS, the Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 113 of the Act, 42 U.S.C. § 7413, and over the Parties. Venue lies in this District pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b), and under 28 U.S.C. §§ 1391(b) and (c) and 1395(a), because the violations alleged in the Complaint are alleged to have occurred in, and ASARCO conducts business in, this judicial district. For purposes of this Decree, or any action to enforce this Decree, ASARCO consents to the Court’s jurisdiction over this Decree and any such action and personal jurisdiction over ASARCO and consents to venue in this judicial district.

2. For purposes of this Consent Decree, ASARCO agrees that the Complaint states claims upon which relief may be granted pursuant to Sections 112 and 113 of the Clean Air Act, 42 U.S.C. §§ 7412-7413 and corresponding regulations.

II. APPLICABILITY

3. The obligations of this Consent Decree apply to and are binding upon the United States and upon ASARCO and any of ASARCO's successors, assigns, employees, or agents.

4. ASARCO shall provide a copy of this Consent Decree to its officers and shall ensure that its employees, agents, and contractors whose duties might reasonably include compliance with any provision of this Decree are made aware of both the existence of the Consent Decree and specific requirements of the Consent Decree that fall within such person's duties. ASARCO shall condition any contract for work required under this Consent Decree upon performance of the work in conformity with the terms of this Consent Decree.

5. In any action to enforce this Consent Decree, ASARCO shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. DEFINITIONS

6. Terms used in this Consent Decree that are defined in the Act or in regulations promulgated pursuant thereto shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. “ADEQ” shall mean the Arizona Department of Environmental Quality;

b. “Air Quality Permit” or “Permit” shall mean any and all combinations of a permit, a renewal permit, permit revisions, changes allowable without permit revisions and administrative permit amendments issued under the ADEQ’s unitary permitting program that constitute a Title V operating permit and federally enforceable construction permit under the Clean Air Act;

c. “ASARCO” shall mean ASARCO LLC;

d. “Blowing” shall mean the introduction of air or oxygen-enriched air into the converter furnace molten bath through tuyeres that are submerged below the level of the molten bath. The flow of air through the tuyeres above the level of the molten bath or into an empty converter shall not constitute “Blowing”;

e. “Calibration” shall mean the set of operations that establish, under specified conditions, the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by material measure or a reference material, and the corresponding values realized by standards. In the event a standard does not exist for a measuring instrument or measuring system, the manufacturer's recommendations for Calibrating and Calibration verification shall be followed to ensure proper operation of the measuring instrument or measuring system;

f. “Clean Air Act” or “Act” shall mean the federal Clean Air Act, 42 U.S.C. §§ 7401-7671q, and its implementing regulations;

g. “Complaint” shall mean the complaint filed by the United States in this action;

h. “Consent Decree” or “Decree” shall mean this Decree and all appendices attached hereto;

i. “Continuous Emission Monitoring System” or “CEMS” shall mean the entire system of equipment used to sample, analyze, and provide a permanent record of emissions from a process unit or control device on a continuous basis. Such systems of equipment shall be installed, operated, and maintained in accordance with 40 C.F.R. Part 60;

j. “Converter Aisle Retrofit Project” shall mean:

1. The installation of improved primary and secondary hooding systems, the installation of new tertiary hooding systems, and the replacement of the five (5) existing Peirce-Smith converters with three (3) new Peirce-Smith converters of increased size (approximately 15 feet by 35 feet), all of which are designed to achieve, at a minimum, 97% primary hood capture of Blowing emissions, 97% secondary hood capture of Blowing emissions escaping the primary hood, 90% secondary hood capture of charging and skimming emissions, and 95% tertiary hood capture of all copper converter emissions escaping the primary and secondary hoods; and

2. The increase in the size of ladles used for matte transfer to a minimum of two hundred eighty (280) cubic feet;

k. “Copper-Bearing Feed” shall mean dried feed material, which includes copper concentrate, siliceous flux, and process byproducts, prepared for introduction into the INCO flash furnace through the concentrate burners;

l. “Court” shall mean the United States District Court for the District of Arizona;

m. “Date of Lodging” shall mean the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the District of Arizona;

n. “Day” shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day;

o. “Defendant” shall mean ASARCO;

p. “EPA” or “U.S. EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies;

q. “Effective Date” shall have the definition provided in Section XX;

r. “Hazardous Air Pollutants” or “HAPs” shall mean any air pollutants listed under Section 112(b) of the Act, 42 U.S.C. § 7412(b);

s. “Hayden Facility” or “Facility” shall mean ASARCO’s Ray Complex Hayden Operations located at 6904 North Asarco Road Hayden, Gila County, Arizona 85135;

t. “High-Surface-Area Hydrated Lime” shall mean $\text{Ca}(\text{OH})_2$ material with surface area specification greater than 40 square meters per gram;

u. “High Wind” shall mean any period of time beginning when the average wind speed, as measured at the Camera Hill Meteorological Station maintained by

ASARCO pursuant to Paragraph B.32 of Appendix B, is greater than or equal to fifteen (15) miles per hour over a fifteen (15) minute period, and ending when the average wind speed, as measured at the Camera Hill Meteorological Station, falls below fifteen (15) miles per hour over a fifteen (15) minute period;

v. “Installation, Certification, and QA/QC Protocol” shall mean a detailed plan and test protocol for the installation and certification of each PM CEMS, as well as a protocol that shall be followed in Calibrating, operating, and maintaining such PM CEMS. In developing each Installation, Certification, and QA/QC Protocol, ASARCO shall use the criteria set forth in 40 C.F.R. Part 60, Appendix B, Performance Specification 11, and Appendix F Procedure 2;

w. “Material Handling Processes” shall mean all activities associated with the handling of materials that take place at the Hayden Facility, including, but not limited to, stockpiling, transport on conveyor belts, transport or storage in rail cars, crushing and milling, fine ore storage, arrival and handling of offsite concentrate, bedding, and handling of reverts;

x. “Ownership Interest” shall mean part or all of ASARCO’s legal or equitable ownership interest in the Hayden Facility;

y. “Paragraph” shall mean a portion of this Decree identified by an arabic numeral;

z. “Parties” shall mean the United States, on behalf of EPA, and ASARCO;

aa. “Project Dollars” shall mean expenditures and payments of ASARCO, incurred or made in carrying out the Projects identified in Section VII (Environmental Mitigation Projects) of this Consent Decree to the extent that such expenditures or payments both: (a) comply with the requirements set forth in Section VII and Appendix A of this Consent Decree, and (b) constitute ASARCO’s direct payments for such projects, or ASARCO’s external costs for contractors, vendors, equipment, and the like;

bb. “Road” shall mean any surface on which vehicles pass for the purpose of carrying people or materials from one place to another in the normal course of business in the Facility;

cc. “SCFM” shall mean standard cubic feet per minute;

dd. “Section” shall mean a portion of this Decree identified by a roman numeral;

ee. “Subpart QQQ” shall mean 40 C.F.R. Part 63, Subpart QQQ, 40 C.F.R. §§ 63.1440-63.1459;

ff. “Total Enclosure” shall mean a permanent containment building/structure, completely enclosed with a floor, walls, and a roof designed to prevent exposure to the elements, (e.g., precipitation, wind, run-off) and minimize emission of fugitive dust, with limited openings to allow ingress and egress for people and vehicles and may include windows so long as any such windows may be closed; and

gg. “United States” shall mean the United States of America, acting on behalf of U.S. EPA.

IV. COMPLIANCE REQUIREMENTS

7. General Capture System Requirements. At all times that a vessel is used for the production of copper matte, blister copper, or refined anode copper at the Hayden Facility, ASARCO shall operate one or more capture systems to collect gases and fumes released from such production and convey each collected gas stream from the primary and secondary ventilation systems to a baghouse or other particulate matter (hereinafter, "PM") control device. ASARCO shall at all times, including periods of startup, shutdown, and/or malfunction, implement good air pollution control practices to minimize emissions from control devices, including capture systems and PM control devices.

8. Improvements to and Operation of Process Gas Capture System for Copper Converters. At all times material is being processed in the copper converter department, ASARCO shall operate a capture system that: 1) collects the process off gas vented from each copper converter; 2) includes the use of a primary hood that covers the entire mouth of the converter vessel when the copper converter is Blowing; and 3) includes the use of a secondary hood at all times when each copper converter is Blowing or is engaged in secondary operations. Blowing on any converter shall not exceed a maximum rate of 32,000 SCFM, averaged over 5 minutes of converter Blowing and rolled each minute. All gases captured by a primary hood shall be routed to the acid plant.

a. To increase capture of process off gas vented from each copper converter, ASARCO shall complete the Converter Aisle Retrofit Project no later than December 1, 2018. No later than May 1, 2018, ASARCO shall permanently cease operation of the five (5) existing converters, shall complete installation of two (2) of the three (3) new converters, and shall not have more than one (1) converter Blowing at any given time.

b. Upon installation and operation of two (2) or more of the three (3) new converters, total combined Blowing time at all converters shall not exceed twenty-one (21) hours in any 24-hour period, rolled hourly, unless and until ASARCO elects to accept a limit of 100 ppmv SO₂ from the gas exiting the acid plant on a 365-day rolling average basis, including periods of startup, shutdown, and malfunction, and as measured and recorded by SO₂ CEMS located on the main stack center. ASARCO shall provide EPA with written notice of the effective date of its election to accept the 100 ppmv SO₂ limit in the next quarterly report following such election.

c. All gases captured by the secondary hoods shall be routed to either the acid plant or the associated baghouse ("Secondary Baghouse"). Upon installation of each improved hooding capture system, all gases captured by an improved secondary hood while that converter is Blowing shall be routed to the acid plant.

d. Upon installation, the tertiary hooding system shall be operated at all times that material is being processed in the copper converter department.

9. Parametric Operational Requirements for Improved Gas Capture System.

Upon installation of the third new copper converter, ASARCO shall work with the vendor and/or other contractors with expertise in ventilation systems to optimize performance of each of the hoods in the improved gas capture system. This period of performance optimization will allow ASARCO and its contractors an opportunity to identify monitoring parameters and limits that will ensure, to the maximum extent practicable, that each hooding system is consistently operated in a manner so as to maximize gas capture and minimize fugitive emissions.

a. Default Hooding Operational Parameters and Limits. Unless and until an alternative parameter and/or limit is approved by EPA pursuant to subparagraph 9.b or 9.c below, no later than December 1, 2019, at all times that any hooding in the improved gas capture system is operational, ASARCO shall continuously comply with the following requirements for that hooding:

i. Primary Hooding. A minimum air infiltration ratio for a primary hood of 1:1 during all times of converter Blowing at the converter served by that hood, averaged over 24 converter Blowing hours and rolled hourly. The minimum air infiltration ratio shall be calculated by comparing: 1) the measured volumetric flow rate in the ductwork leaving the primary hood less the volumetric flow rate of tuyere Blowing; and 2) the measured volumetric flow rate of tuyere Blowing.

ii. Secondary Hooding.

(1) A minimum exhaust rate of 35,000 SCFM for a secondary hood during all times of converter Blowing at the converter served by that hood, averaged over 24 converter Blowing hours and rolled hourly.

(2) A minimum exhaust rate of 133,000 SCFM for a secondary hood during all non-Blowing operations (including receiving matte and other charged materials, skimming slag, and casting copper) at the converter served by that hood, averaged over 24 converter non-Blowing operations hours and rolled hourly.

(3) A minimum negative pressure drop across the secondary hood when secondary hood doors are in the closed position equivalent to 0.03 millimeters of mercury (0.007 inches of water).

iii. Tertiary Hooding. A minimum exhaust rate of 400,000 actual cubic feet per minute (ACFM) for the tertiary hooding during all times material is being processed in the copper converter department, averaged over 24 hours of converter department material processing and rolled hourly.

b. Monitoring Devices for Hooding and Opportunity to Request an Alternative Parameter. No later than December 1, 2019, ASARCO shall install, calibrate, maintain, and operate a monitoring device that continuously records the volumetric flow rate, or other parameter that has a direct relationship to volumetric flow rate such as pressure drop (delta P) if approved by EPA for one or more hoods, at a representative point in the hooding system and in accordance with good engineering practices for each of the primary hoods, each of the secondary hoods, and the tertiary hood. Upon installation of each primary hood, ASARCO shall also install, calibrate, maintain, and operate a monitoring device that continuously records the volumetric flow rate of tuyere Blowing at that primary hood. All monitoring devices used to satisfy the requirements of this Paragraph must have an accuracy of plus or minus 10 percent over the normal process operating range and must be calibrated according to manufacturer's instructions. If ASARCO wishes to monitor and record a parameter other than volumetric flow rate at one or more of the monitoring locations required by this Paragraph, ASARCO must, no later than June 1, 2019, submit to EPA for approval a detailed proposal that includes the following: 1) identification of what parameter(s) will be monitored in lieu of volumetric flow

rate; 2) identification of where in the hooding system such monitor(s) would be placed and how such location will give appropriate and representative measurements in accordance with good engineering practices; 3) a detailed explanation, including sample calculations, of how such parameter(s) has a direct relationship to volumetric flow rate in the hooding system and how such parameter(s) will allow ASARCO to have sufficient information to ensure proper operation in accordance with design at all times, including detecting any degraded hooding performance over time (i.e. decreased fan performance, buildup in the ducting, holes in the ducting, etc.); and 4) proposed limit(s), including sample calculations, for the selected parameter(s) that would replace a relevant limit set forth in subparagraph 9.a (Default Hooding Operational Parameters and Limits) above and a demonstration of how such limit(s) correlates to equivalent performance and operation of the relevant hooding. If EPA approves ASARCO's proposal, the proposed limit(s) shall replace the relevant volumetric flow rate limit specified in subparagraph 9.a above and shall be enforceable thereunder.

c. Opportunity to Request Alternative Limit(s) Following Performance Optimization. No later than December 1, 2019, ASARCO may propose alternative limit(s) to replace a limit set forth in subparagraph 9.a above (or substituted pursuant to subparagraph 9.b above). In any such proposal, ASARCO shall have the burden of demonstrating that each proposed alternative limit(s) will not lead to additional emissions and will not reduce the capture efficiency of the improved gas capture system, as compared to the emissions and efficiencies achieved or achievable by operation of the hooding systems in compliance with the limit to be replaced in subparagraph 9.a (Default Hooding Operational Parameters and Limits). Such demonstration shall include a detailed description of the

rationale(s) for the proposed alternative limit(s), process and fugitive emissions data, engineering calculations, and such other information as may be relevant. The demonstration must also include calculations of the minimum exhaust rates for all capture systems whose operation would be affected by the proposed alternative limit(s) (to be calculated in accordance with engineering standards, as specified in Chapters 3 and 5 of the American Conference of Governmental Industrial Hygienists' *Industrial Ventilation: A Manual of Recommended Practice, 23rd edition*) and an explanation of how the proposed alternative limit(s) remain above such minimum exhaust rates (or, where the proposed alternative limit(s) is to replace a limit on one or more parameters other than volumetric flow rate that has been approved by EPA pursuant to subparagraph 9.b above, remain above an equivalent level of operation to such minimum exhaust rates). If EPA approves ASARCO's proposal, the proposed alternative limit(s) shall be considered to replace the relevant limit in subparagraph 9.a above and shall be enforceable thereunder.

10. Copper Converter Department Sulfur Dioxide Emissions. Upon installation of each new copper converter, ASARCO shall comply with all applicable requirements of the New Source Performance Standard 40 C.F.R. Part 60 Subpart P, including the requirement that no gas stream collected from the copper converters be discharged with an SO₂ content in excess of 650 ppmv.

a. For gases routed to the acid plant, compliance with this limit shall be demonstrated by each six (6) hour discrete block average of data recorded by SO₂ CEMS located on the main stack center. This limit does not apply during periods of startup, shutdown, or malfunction.

b. For gases routed to the Secondary Baghouse, compliance with this limit shall be demonstrated by a three (3) hour rolling average of data recorded by SO₂ CEMS located at the secondary hood baghouse outlet duct before it mixes with other gas streams in the main stack annulus. This limit shall apply at all times, including periods of startup, shutdown, and malfunction.

c. Upon installation of the tertiary hooding system, ASARCO shall install, certify, Calibrate, maintain, and operate an SO₂ CEMS on the tertiary hood exhaust stream (prior to mixing with other gas streams in the stack) in accordance with the manufacturer's specifications and the applicable performance specification(s) in 40 C.F.R. Part 60. Beginning no later than ninety (90) days after installation of the tertiary hooding system, ASARCO shall use data recorded by the tertiary hood exhaust gas stream SO₂ CEMS to ensure that the three (3) hour rolling average of SO₂ emissions from the tertiary hood exhaust stream does not exceed 650 ppmv. This limit shall apply at all times, including periods of startup, shutdown, and malfunction.

11. Dry Lime Scrubbing to Reduce SO₂ Emissions.

a. Gases Routed to the Secondary Baghouse. No later than May 1, 2018 at all times that SO₂ emissions are routed to the Secondary Baghouse, ASARCO shall inject High-Surface-Area Hydrated Lime to reduce SO₂ emissions. No later than May 1, 2019, ASARCO shall demonstrate compliance, and thereafter continuously comply, with a control efficiency requirement of at least 50 percent, based on a 365-day rolling average, for all SO₂ emissions routed to the Secondary Baghouse. No later than May 1, 2018, ASARCO shall install, certify, calibrate, maintain, and operate an SO₂ CEMS both upstream of the lime

injection point and at the outlet of the Secondary Baghouse in accordance with the manufacturer's specifications and the applicable performance specification(s) in 40 C.F.R. Part 60. Compliance with the 50 percent control efficiency requirement for emissions routed to the Secondary Baghouse shall be demonstrated by summing the hourly pounds of SO₂ exiting the Secondary Baghouse for the current calendar day and the preceding three-hundred-sixty-four (364) calendar days, as measured by the SO₂ CEMS on the outlet of the Secondary Baghouse, and then dividing that value by the sum of the hourly pounds of SO₂ routed to the Secondary Baghouse for the current calendar day and the preceding three-hundred-sixty-four (364) calendar days, as measured by the SO₂ CEMS upstream of the lime injection point. The value obtained shall then be subtracted from one and the difference multiplied by one hundred to calculate the 365-day rolling SO₂ emission control efficiency achieved as a percentage.

b. Smelting Flash Furnace and Copper Concentrate Dryer Vent Gases. Upon installation and operation of the baghouse to replace the R&R Cottrell ESP ("R&R Cottrell ESP Replacement Baghouse"), at all times that SO₂ emissions are routed to that baghouse, ASARCO shall inject High-Surface-Area Hydrated Lime to reduce SO₂ emissions. No later than three-hundred-sixty-five (365) days after installation and operation of the R&R Cottrell ESP Replacement Baghouse, ASARCO shall demonstrate compliance, and thereafter continuously comply, with a control efficiency requirement of at least 50 percent, based on a 365-day rolling average, for all SO₂ emissions routed to the R&R Cottrell ESP Replacement Baghouse. Prior to operation of the R&R Cottrell ESP Replacement Baghouse, ASARCO shall install, certify, calibrate, maintain, and operate an SO₂ CEMS both upstream of the lime injection point and at the outlet of the R&R Cottrell ESP Replacement Baghouse in accordance

with the manufacturer's specifications and the applicable performance specification(s) in 40 C.F.R. Part 60. Compliance with the 50 percent control efficiency requirement for emissions routed to the R&R Cottrell ESP Replacement Baghouse shall be demonstrated by summing the hourly pounds of SO₂ exiting the R&R Cottrell ESP Replacement Baghouse for the current calendar day and the preceding three-hundred-sixty-four (364) calendar days, as measured by the SO₂ CEMS on the outlet of the R&R Cottrell ESP Replacement Baghouse, and then dividing that value by the sum of the hourly pounds of SO₂ routed to the R&R Cottrell ESP Replacement Baghouse for the current calendar day and the preceding three-hundred-sixty-four (364) calendar days, as measured by the SO₂ CEMS upstream of the lime injection point. The value obtained shall then be subtracted from one and the difference multiplied by one hundred to calculate the 365-day rolling SO₂ emission control efficiency achieved as a percentage.

c. Modification of Control Efficiency Requirement. If during the first three (3) years of monitoring a control efficiency achieved through injection of High-Surface-Area Hydrated Lime, ASARCO believes that, despite design, installation, operation, and maintenance of controls to minimize emissions to the greatest extent practicable, it is technically infeasible to achieve a fifty (50) percent control efficiency through injection of High-Surface-Area Hydrated Lime for either gases routed to the Secondary Baghouse or the R&R Cottrell ESP Replacement Baghouse, or both, ASARCO may submit to EPA a demonstration supporting this conclusion and may request a lower control efficiency limit, not to be less than forty (40) percent control efficiency. ASARCO shall, prior to submission of any such demonstration, employ a third-party consultant with experience in similar dry lime scrubbing applications to recommend equipment and/or operational enhancements to achieve

the 50% control efficiency target. EPA may grant or deny ASARCO's request in whole or in part, subject to Dispute Resolution. At any time after the first three (3) years of monitoring, ASARCO may submit a demonstration described in the first sentence of this subparagraph, but any decision by EPA to deny ASARCO's request in whole or in part shall not be subject to Dispute Resolution. If EPA approves ASARCO's demonstration and request for one or more lower control efficiency limit(s), such lower control efficiency limit(s) shall be deemed to have replaced the 50% control efficiency limit(s) in question during (a) the time during which achievement of the 50% control efficiency limit(s) was infeasible (including any period of time that occurred prior to submittal of the demonstration), (b) the pendency of EPA's review of ASARCO's demonstration, and (c) the pendency of any proceeding undertaken pursuant to Section XIII (Dispute Resolution).

d. Opportunity to Request an Alternative Monitoring Plan. After three (3) years of monitoring in accordance with the requirements of subparagraphs 11.a and 11.b, ASARCO may submit to EPA a request for an alternative monitoring plan for one or more control efficiency requirements. Such request must contain a detailed proposal that describes an alternative monitoring plan and demonstrates how such plan: 1) will ensure continuous compliance with the control efficiency requirement(s); 2) identifies the indicator(s) of performance, measurement techniques, monitoring frequency, and the averaging time for the alternative monitoring procedure as referenced in 40 C.F.R. § 63.8(f)(4); and 3) complies with all relevant EPA regulations and guidance. EPA may grant or deny ASARCO's request in whole or in part.

12. Opacity Limit. No later than one hundred eighty (180) days after completion of the Converter Aisle Retrofit Project, ASARCO shall operate the gas capture systems such that any visible emissions exiting the roof of the building housing the copper converter department meet an opacity limit of four (4) percent based on EPA Method 9, including periods of startup, shutdown, and malfunction.

a. Initial Performance Test. Within sixty (60) days after completion of the Converter Aisle Retrofit Project, ASARCO shall prepare, and submit to EPA for review and approval pursuant to Section VI (Review and Approval of Submittals), a written performance test plan for determining compliance with this opacity standard. The test plan shall contain all information required under 40 C.F.R. § 63.1450(c). Within ninety (90) days after approval from EPA, ASARCO shall conduct a performance test in accordance with 40 C.F.R. § 63.1450(c) to determine compliance with this opacity standard. In addition to viewing the building roof monitor sections, each visible emission observer shall also make note of the opacity of any visible plumes exiting the roofline from the sides or any other outlet. In accordance with 40 C.F.R. § 63.1450(c)(4)(ii), in the event of multiple plumes in any given interval, the opacity for the plume having the highest opacity shall be recorded as the opacity value for each 15-second interval.

b. Ongoing Compliance. ASARCO shall conduct additional performance tests at least once each three hundred sixty-five (365) day period following the initial performance test. Any credible evidence, including opacity testing performed in accordance with EPA Method 9 (notwithstanding its consistency with Subpart QQQ test procedures), evidence collected by means specified in 40 § C.F.R. 63.1450(c), and evidence

collected by means other than those specified in 40 § C.F.R. 63.1450(c), can be used to demonstrate noncompliance with the 4% roofline opacity limit set forth in this Paragraph.

13. R&R Cottrell ESP Replacement. No later than May 1, 2018, ASARCO shall replace the existing R&R Cottrell ESP with a new baghouse designed to handle the maximum potential volumetric flow of gas from the copper concentrate dryers and smelting flash furnace matte tapping and slag skimming operations and rated to perform with an outlet loading value between 0.002 grains per standard cubic foot (~4 mg/Nm³) and 0.005 grains per standard cubic foot (~11 mg/Nm³).

14. PM CEMS Demonstration. ASARCO shall install, certify, Calibrate, maintain, and operate PM continuous emission monitoring systems (CEMS) according to EPA Performance Specification 11 in 40 C.F.R. Part 60, Appendix B (PS-11) and the quality assurance requirements of Procedure 2 in 40 C.F.R. Part 60, Appendix F and in accordance with the requirements of the following subparagraphs. No later than six (6) months from the Date of Lodging (or, for any CEMS required under Paragraph 20, no later than six (6) months prior to the CEMS installation deadline provided by Paragraph 20), ASARCO shall submit to EPA for review and approval a proposed Installation, Certification, and Quality Assurance/Quality Control (Installation, Certification, and QA/QC) Protocol, developed in consultation with the PM CEMS vendor(s), for each PM CEMS required by the following subparagraphs. Each Installation, Certification, and QA/QC Protocol, which ASARCO may combine into one submittal, shall include a schedule and specifically describe a proposed testing plan that is designed to maximize the likelihood of successful certification for each PM CEMS. If certification is unsuccessful for any PM CEMS, ASARCO shall consult with the PM CEMS

vendor and EPA and then within sixty (60) days of completion of the PS-11 testing (including receipt of the results) that was conducted pursuant to the original Installation, Certification, and QA/QC Protocol for that PM CEMS submit a revised Installation, Certification, and QA/QC Protocol for that PM CEMS to EPA for review and approval. Each PM CEMS shall comprise a continuous particle mass monitor to measure and record PM concentration, directly or indirectly, and gas stream flow rates on an hourly average basis. ASARCO shall maintain, in an electronic database, the hourly average emission values of all PM CEMS in milligrams per dry standard cubic meter (mg/dscm) and pounds per hour (lbs/hr). In the event that no PM CEMS is successfully certified on any of the below-specified gas streams, ASARCO shall within ninety (90) days of completion of the second round of PS-11 testing (including receipt of the results) submit an alternative PM monitoring plan for such gas stream(s) for review and approval by EPA that will propose a methodology for using data from the PM CEMS as continuous parametric monitoring systems (CPMS) and stack performance test data to ensure continuous compliance with the relevant PM emission limits in Paragraphs 16-20 and 24 below. Upon approval by EPA, ASARCO shall continuously operate the PM CEMS as a CPMS consistent with the final PM monitoring plan.

a. Anode Furnaces Baghouse Gas Stream. No later than eight (8) months from Date of Lodging or sixty (60) days after EPA approval of the Installation, Certification, and QA/QC Protocol for the Anode Furnaces Baghouse PM CEMS, whichever is later, ASARCO shall install one beta attenuation PM CEMS and one light scatter PM CEMS (in situ or extractive) on the stack exiting the Anode Furnaces Baghouse. ASARCO shall have ninety (90) days from the date of installation to conduct simultaneous PS-11 testing for both PM

CEMS in accordance with the Installation, Certification, and QA/QC Protocol for the Anode Furnaces Baghouse PM CEMS in order to certify both of the PM CEMS. ASARCO shall submit the results of the PS-11 testing for both of the PM CEMS to EPA. If one or both of the PM CEMS fails to certify, ASARCO shall conduct a second round of PS-11 testing for such PM CEMS in accordance with the revised Installation, Certification, and QA/QC Protocol within ninety (90) days from the date that EPA approves such revised Protocol. ASARCO shall submit the results of any second round PS-11 testing for both of the PM CEMS to EPA. Following successful certification of both PM CEMS or completion of the second round of PS-11 testing pursuant to the EPA-approved revised Protocol, ASARCO may discontinue operation of and remove one of the PM CEMS. If both PM CEMS are certified, ASARCO may choose which PM CEMS shall be removed. If only one PM CEMS is certified, ASARCO may remove the PM CEMS that did not certify. If neither PM CEMS is certified, ASARCO shall submit a proposal for EPA review and approval as to which PM CEMS should be removed and which shall remain in place as a CPMS, to be based on an analysis of data collected to-date from each PM CEMS and evaluation as to which PM CEMS will provide more useful data. Upon receiving EPA approval of ASARCO's proposal for PM CEMS removal, ASARCO may remove that PM CEMS.

b. Acid Plant Gas Stream. No later than eight (8) months from Date of Lodging or sixty (60) days after EPA approval of the Installation, Certification, and QA/QC Protocol for the Acid Plant PM CEMS, whichever is later, ASARCO shall install one beta attenuation PM CEMS on the gas stream exiting the acid plant at a location prior to mixing with other gas streams that are routed to the main stack. ASARCO shall have ninety (90) days from

the date of installation to conduct PS-11 testing in accordance with the Installation, Certification, and QA/QC Protocol for the Acid Plant PM CEMS in order to certify the Acid Plant PM CEMS. ASARCO shall submit the results of the PS-11 testing to EPA. If the PM CEMS fails to certify, ASARCO shall conduct a second round of PS-11 testing in accordance with the revised Installation, Certification, and QA/QC Protocol within ninety (90) days from the date that EPA approves such revised Protocol.

c. Secondary Baghouse Gas Stream. No later than eight (8) months from Date of Lodging or sixty (60) days from EPA approval of the Installation, Certification, and QA/QC Protocol for the Secondary Baghouse PM CEMS, whichever is later, ASARCO shall install one light scatter PM CEMS (in situ or extractive) on the gas stream exiting the Secondary Baghouse at a location prior to mixing with other gas streams in the stack. ASARCO shall have ninety (90) days from the date of installation to conduct PS-11 testing in accordance with the Installation, Certification, and QA/QC Protocol for the Secondary Baghouse PM CEMS in order to certify the Secondary Baghouse PM CEMS. ASARCO shall submit the results of the PS-11 testing to EPA. If the PM CEMS fails to certify, ASARCO shall conduct a second round of PS-11 testing in accordance with the revised Installation, Certification, and QA/QC Protocol within ninety (90) days from the date that EPA approves such revised Protocol.

d. Tertiary Hooding Gas Stream. No later than May 1, 2018, ASARCO shall install light scatter PM CEMS (in situ or extractive) on the gas stream collected by the tertiary hooding at a location prior to mixing with other gas streams routed to the main stack. ASARCO shall have ninety (90) days from the date of installation to conduct PS-11

testing in accordance with the Installation, Certification, and QA/QC Protocol for the Tertiary Hooding PM CEMS in order to certify the Tertiary Hooding PM CEMS. ASARCO shall submit the results of the PS-11 testing to EPA. If the PM CEMS fails to certify, ASARCO shall conduct a second round of PS-11 testing in accordance with the revised Installation, Certification, and QA/QC Protocol within ninety (90) days from the date that EPA approves such revised Protocol.

e. R&R Cottrell ESP Replacement Baghouse Gas Stream. No later than May 1, 2018, ASARCO shall install one beta attenuation PM CEMS and one light scatter PM CEMS (in situ or extractive) on the gas stream exiting the R&R Cottrell ESP Replacement Baghouse at a location prior to mixing with other gas streams that are routed to the main stack. It is anticipated that one of those two PM CEMS will be the PM CEMS that was removed from the Anode Furnace Baghouse gas stream. ASARCO shall have ninety (90) days from the date of installation or EPA's approval of the Installation, Certification, and QA/QC Protocol for the R&R Cottrell ESP Replacement Baghouse PM CEMS, whichever is later, to conduct simultaneous PS-11 testing for both of the PM CEMS in accordance with the Installation, Certification, and QA/QC Protocol for the R&R Cottrell ESP Replacement Baghouse PM CEMS in order to certify both of the PM CEMS. ASARCO shall submit the results of the PS-11 testing for both of the PM CEMS to EPA. If one or both of the PM CEMS fails to certify, ASARCO shall conduct a second round of PS-11 testing for such PM CEMS in accordance with the revised Installation, Certification, and QA/QC Protocol within ninety (90) days from the date that EPA approves such revised Protocol. ASARCO shall submit the results of any second round PS-11 testing for both of the PM CEMS to EPA. Following successful certification of

both PM CEMS or completion of the second round of PS-11 testing pursuant to the EPA-approved revised Protocol, ASARCO may discontinue operation of and remove one of the PM CEMS. If both PM CEMS are certified, ASARCO may choose which PM CEMS shall be removed. If only one PM CEMS is certified, ASARCO may remove the PM CEMS that did not certify. If neither PM CEMS is certified, ASARCO shall submit a proposal for EPA review and approval as to which PM CEMS should be removed and which shall remain in place as a CPMS, to be based on an analysis of data collected to-date from each PM CEMS and evaluation as to which PM CEMS will provide more useful data. Upon receiving EPA approval of ASARCO's proposal for PM CEMS removal, ASARCO may remove that PM CEMS.

15. PM CEMS Operation. ASARCO shall use reasonable efforts to keep each PM CEMS running and producing data whenever any gas at that location is being exhausted to the atmosphere. ASARCO shall operate at least one PM CEMS for at least twelve (12) months on each of the exhaust streams specified in Paragraph 14 for monitoring of compliance with applicable emission limits. After at least twelve (12) months of operation, ASARCO may attempt to demonstrate that it is infeasible to continue operating one or more of the PM CEMS. As part of such demonstration, ASARCO shall submit an alternative PM monitoring plan for review and approval by the EPA. The plan shall explain the basis for stopping operation of each PM CEMS and propose an alternative monitoring plan for each affected exhaust stream. If EPA disapproves the alternative PM monitoring plan, or if EPA rejects ASARCO's demonstration that it is infeasible to continue operating one or more of the PM CEMS, such conclusions are subject to Section XIII (Dispute Resolution). Operation of a PM CEMS shall be considered infeasible if (a) the PM CEMS cannot be kept in working condition for sufficient periods of time

to produce reliable, adequate, or useful data consistent with the QA/QC protocol (including, without limitation, PS-11 and Procedure 2); or (b) recurring, chronic, or unusual equipment adjustment, servicing, or replacement needs in relation to other types of continuous emission monitors cannot be resolved through reasonable expenditures of resources. If EPA approves ASARCO's demonstration that it is infeasible to continue operating a PM CEMS, ASARCO shall not be subject to stipulated penalties for exceedances of PM emission limits based on data recorded by that PM CEMS during (a) the time in which the PM CEMS' operation was infeasible (including any period of time that occurred prior to submittal of the demonstration), (b) the pendency of EPA's review of ASARCO's demonstration or alternative PM monitoring plan, and (c) the pendency of any proceeding undertaken pursuant to Section XIII (Dispute Resolution). If EPA determines that operation is infeasible, ASARCO shall be entitled to discontinue operation of and remove the PM CEMS. At that point, ASARCO shall comply with the approved alternative PM monitoring plan.

16. Acid Plant PM Emission Limit. Process off-gas discharged from the smelting flash furnace shall be routed to the acid plant. ASARCO shall operate a continuous opacity monitoring system (COMS) on the exhaust stream from the acid plant and, within 90 days of the Date of Lodging, shall submit to EPA for review and approval proposed corrective action triggers based on COMS readings. Gas discharged from the acid plant shall not contain non-sulfuric acid PM in excess of 6.2 mg/dscm. Prior to installation and certification of a PM CEMS for this gas stream, compliance with the 6.2 mg/dscm limit shall be determined using the test methods specified in 40 C.F.R. § 63.1450(b), to be performed at least once each three hundred sixty-five (365) days following the Effective Date, until one of the following:

a. Upon installation and certification of a PM CEMS for this gas stream, compliance shall be determined on the basis of an eight (8) hour rolling average limit, including periods of startup, shutdown, and malfunction; or

b. If PM CEMS certification fails for this gas stream, upon EPA approval, ASARCO shall begin complying with an alternative PM monitoring plan.

17. Secondary Baghouse PM Emission Limit. Gas discharged from the Secondary Baghouse shall not contain total PM in excess of 23 mg/dscm. Prior to installation of a PM CEMS for this gas stream, compliance shall be determined using the test methods specified in 40 C.F.R. § 63.1450(a), to be performed at least once each three hundred sixty-five (365) days following the Effective Date, until one of the following:

a. Upon installation and certification of a PM CEMS for this gas stream, compliance shall be determined on the basis of an eight (8) hour rolling average limit, including periods of startup, shutdown, and malfunction; or

b. If PM CEMS certification fails for this gas stream, upon EPA approval, ASARCO shall begin complying with an alternative PM monitoring plan.

18. Anode Furnaces Baghouse PM Emission Limit. At all times that any Anode Furnace is Operating, its hood shall be engaged and continuously operating so as to collect and convey process off-gases to the Anode Furnaces Baghouse. For purposes of this Paragraph 18, "Operating" shall mean: holding or processing metal in the furnace, but does not include, curing, preheating or sweating of refractory, or transferring of metal from one furnace to another. Gas discharged from the Anode Furnaces Baghouse shall not contain total PM in excess of 23 mg/dscm. Prior to installation of a PM CEMS for this gas stream, compliance shall be

determined using the test methods specified in 40 C.F.R. § 63.1450(a), to be performed at least once each three hundred sixty-five (365) days following the Effective Date, until one of the following:

a. Upon installation and certification of a PM CEMS for this gas stream, compliance shall be determined on the basis of an eight (8) hour rolling average limit, including periods of startup, shutdown, and malfunction; or

b. If PM CEMS certification fails for this gas stream, upon EPA approval, ASARCO shall begin complying with an alternative PM monitoring plan.

19. R&R Cottrell ESP and R&R Cottrell ESP Replacement Baghouse PM Emission Limit. For each existing copper concentrate dryer, ASARCO shall not cause to be discharged to the atmosphere from the dryer vent any gases that contain total PM in excess of 50 mg/dscm. For each new copper concentrate dryer that ASARCO may choose to install, ASARCO must not cause to be discharged to the atmosphere from the dryer vent any gases that contain total particulate matter in excess of 23 mg/dscm. At all times when copper matte or slag is tapped or skimmed from the smelting flash furnace, ASARCO shall operate a capture system that collects the gases and fumes released from the tapping or skimming port in use. The design and placement of this capture system must be such that the tapping or skimming port opening, launder, and receiving vessel (e.g., ladle, slag pot) are positioned within the confines or influence of the capture system's ventilation draft during those times when the copper matte or slag is flowing from the tapping or skimming port opening. Gases discharged from this tapping emissions capture system shall not contain total PM in excess of 23 mg/dscm. All of the aforementioned gas streams in this Paragraph are currently routed to the R&R Cottrell ESP.

Therefore, gas discharged from the R&R Cottrell ESP and R&R Cottrell ESP Replacement Baghouse shall not contain total particulate matter in excess of 23 mg/dscm. Prior to installation of a PM CEMS for this gas stream, compliance shall be determined using the test methods specified in 40 C.F.R. § 63.1450(a), to be performed at least once each three hundred sixty-five (365) days following the Effective Date, until one of the following:

- a. Upon installation and certification of a PM CEMS for the R&R Cottrell Replacement Baghouse gas stream, compliance shall be determined on the basis of an eight (8) hour rolling average limit, including periods of startup, shutdown, and malfunction; or
- b. If PM CEMS certification fails for the R&R Cottrell Replacement Baghouse gas stream, upon EPA approval, ASARCO shall begin complying with an alternative PM monitoring plan.

20. Copper Concentrate Dryer and Tapping Emissions Capture System PM Emission Limits. Should ASARCO choose to stop routing emissions from one or more copper concentrate dryers or the tapping emissions capture system to the R&R Cottrell ESP (or the R&R Cottrell ESP Replacement Baghouse), no later than the date of rerouting, ASARCO shall install a PM CEMS (in accordance with Paragraphs 14 and 15) on such gas stream post applicable PM controls, such as the current dryer baghouse, but pre-mixing with any other gas streams. Prior to installation of a PM CEMS for this gas stream, compliance with the PM emission limit applicable to the rerouted gas stream shall be determined using the test methods specified in 40 C.F.R. § 63.1450(a), to be performed at least once each three hundred sixty-five (365) days following the Effective Date, until one of the following:

a. Upon installation and certification of a PM CEMS for the rerouted gas stream, compliance shall be determined on the basis of an eight (8) hour rolling average limit, including periods of startup, shutdown, and malfunction; or

b. If PM CEMS certification fails for the rerouted gas stream, upon EPA approval, ASARCO shall begin complying with an alternative PM monitoring plan.

21. PM Emission Limits Monitored with PM CEMS. If during the first three (3) years of operation of any certified PM CEMS, ASARCO believes that, despite proper design and installation of control equipment and best efforts at operation and maintenance, inherent process variability precludes compliance with a PM emission limit set forth in Paragraphs 16-20 above on an 8-hour rolling average basis at one or more of the exhaust streams, ASARCO may submit to EPA a demonstration supporting this conclusion and may request a longer averaging period, not to exceed 24 hours. EPA may grant or deny ASARCO's request in whole or in part, subject to Dispute Resolution. At any time after the first three (3) years of operation, ASARCO may submit a demonstration described in the first sentence of this Paragraph, but any decision by EPA to deny ASARCO's request in whole or in part shall not be subject to Dispute Resolution.

22. Fugitive Emissions Studies. ASARCO shall retain a third-party contractor with experience in conducting fugitive emissions studies to conduct an initial fugitive emissions study and a follow-up study after five (5) years ("Fugitive Emissions Study" or "Study"). Each Fugitive Emissions Study shall, at a minimum, measure fugitive emissions for a period of twelve (12) months and assess the content and quantity of fugitive emissions, including PM, PM₁₀, PM_{2.5}, and HAPs, during all recurring operating scenarios from 1) all processing steps from the copper concentrate dryers through the anode casting department, inclusive of those end

points, and 2) the entire building(s) housing the smelting flash furnace, copper converter department, and anode furnaces. In drafting the protocols and conducting the Studies, ASARCO shall use a similar or equivalent methodology to the one used during ASARCO's previously conducted 1994-1995 fugitive emissions study. The initial Study shall also determine optimum locations for optical density/opacity monitors to be installed, at likely flash furnace, converter, and anode furnaces building emission points, for the continuous determination of visible emissions. The Studies shall evaluate the extent to which correlations may exist between fugitive SO₂ emissions and PM/PM₁₀/PM_{2.5} emissions and shall develop such correlations as feasible. Any contractor selected to do the Fugitive Emissions Studies must have at least a bachelor's degree of science in engineering and 10 years of experience measuring fugitive emissions and must be approved by EPA. ASARCO shall ensure that the Fugitive Emissions Studies are conducted in accordance with the following schedule: an initial Study test protocol shall be submitted to EPA for review and approval no later than six (6) months after the Effective Date of the Consent Decree; and the first Fugitive Emissions Study shall commence no later than six (6) months after completion of the Converter Aisle Retrofit Project. The subsequent Fugitive Emissions Study commencement date shall occur within the same calendar quarter, but five (5) years later from the date of commencement of the first Fugitive Emissions Study. For this subsequent Study, ASARCO shall submit to EPA for review and approval a Study test protocol six (6) months prior to performance of the Study using the same methodology as the initial Study, but modified based upon data/information or lessons learned during the initial Study. ASARCO shall submit the final reports for each Fugitive Emissions Study to EPA for review and approval within six (6) months of the completion of each Study.

23. Visible Emissions from the Building Housing the Flash Furnace, Converters, and Anode Furnaces. Within six (6) months of completion of the initial Fugitive Emissions Study, ASARCO shall install and continuously operate three (3) long-path optical density/opacity monitors on the outside of the building housing the flash furnace, converters, and anode furnaces. The optical density/opacity monitors shall be designed and installed to maximally cover areas where fugitive emissions may exit the building, as identified during the initial Fugitive Emissions Study, and each optical density/opacity monitor shall be Calibrated to measure opacity from approximately 0 to 10% over the full range of the instrument.

a. For any instance of measurable opacity greater than 4% over a six (6) minute period exiting the building housing the flash furnace, converters, and anode furnaces, ASARCO shall take one or more corrective actions within thirty (30) minutes of the commencement of the event to abate the opacity, including but not limited to the following: (i) increasing secondary and tertiary hood exhaust rates, (ii) closing primary and secondary hood doors, and/or (iii) making adjustments to materials handling operations within the building. ASARCO shall document all measures taken to address the opacity event as well as the final resolution of the problem.

b. If the corrective actions pursued by ASARCO fail to control the opacity event within one (1) hour of the start of the event, ASARCO shall perform a root cause analysis within seventy-two (72) hours after any instance of measurable opacity greater than 4% over a six (6) minute period, which would identify the cause of the visible emissions and 1) propose permanent operational adjustments or other corrective actions to prevent recurrence as a result of the identified cause; and/or 2) provide the EPA with an analysis of why a specific

operational process or step leads to fugitive emissions of limited duration and opacity that cannot reasonably be eliminated or sufficiently controlled to prevent visible emissions.

ASARCO shall submit to EPA for review and approval the root cause analysis, along with the recommended corrective actions and/or request for approval of a limited duration for allowed visible emissions associated with a particular operational activity, and ASARCO's documentation of all measures taken to address the emissions at the time of the event, as described in subparagraph 23.a (above). In no case shall such submittal seek allowance of fugitive emissions with opacity of greater than 5% over a fifteen (15) minute period, as measured by an optical density/opacity monitor. Once approved by EPA, any new operational adjustments or other corrective actions shall become permanent and ongoing enforceable requirements of this Consent Decree.

c. After at least two (2) years of operation of the long-path optical density/opacity monitors, ASARCO may attempt to demonstrate that it is infeasible or overly burdensome in relation to the benefits to continue operating one or more of the long-path optical density/opacity monitors. As part of such demonstration, ASARCO shall submit to EPA an analysis of operation and maintenance of such monitor to-date, to include a summary of measurements triggering corrective actions, corrective actions taken, and all root cause analyses performed in response to monitor readings. If EPA rejects ASARCO's demonstration that it is infeasible or overly burdensome in relation to the benefits to continue operating one or more of the long-path optical density/optical monitors, such conclusions are subject to Section XIII (Dispute Resolution). Operation of a long-path optical density/optical monitor shall be considered infeasible if (a) the monitor cannot be kept in working condition for sufficient

periods of time to produce reliable, adequate, or useful measurements; or (b) recurring, chronic, or unusual equipment adjustment, servicing, or replacement needs cannot be resolved through reasonable expenditures of resources. If EPA determines that operation is infeasible or overly burdensome in relation to the benefits, ASARCO shall be entitled to discontinue operation of and remove the long-path optical density/optical monitor.

24. Total PM Emission Limit. No later than December 1, 2019, ASARCO must not discharge to the atmosphere exhaust gases that contain total PM in excess of 0.6 pounds per ton of Copper-Bearing Feed charged to the smelting vessel on a rolling 2-day average basis (each 48-hour block encompassing 2 complete calendar days) rolled daily (each 24 hours) from any combination of stacks, vents, or other openings on furnaces, reactors, or other types of process vessels used for the production of anode copper from copper sulfide ore concentrates. Such process equipment shall include all processing steps from the copper concentrate dryers through the anode casting department, inclusive of those end points. This limit shall apply at all times that the average rate of copper-bearing feed into the smelting flash furnace over a 2-day period (48-hour block encompassing 2 complete calendar days) is greater than or equal to twenty-five (25) tons per hour, including periods of startup, shutdown, and malfunction. At all other times, ASARCO shall not discharge to the atmosphere exhaust gases that contain total PM in excess of fifteen (15) lbs/hr, as determined on a daily average basis (each 24-hour block encompassing a complete calendar day), including periods of startup, shutdown, and malfunction.

a. No later than June 1, 2019, ASARCO must install, Calibrate, maintain, and operate a measurement system that will measure and record the weight, or other

parameter from which weight can be derived, of the Copper-Bearing Feed charged to the smelting vessel on a daily basis (each 24-hour block encompassing a complete calendar day). The measurement system must be capable of ascertaining the weight of the Copper-Bearing Feed with an accuracy of +/- two (2) percent. The measurement system shall be Calibrated at a minimum once per month, or more frequently if recommended by the manufacturer.

b. PM emissions from the acid plant, Secondary Baghouse, R&R Cottrell ESP Replacement Baghouse, and Anode Furnace Baghouse shall be calculated based on data collected from the PM monitoring used for compliance with the limits set forth in Paragraphs 16 – 20. PM emissions from the Tertiary Hood Exhaust and any other emission point receiving off-gas from process equipment subject to the emissions limits established under this Paragraph shall be calculated based on data collected from a certified PM CEMS installed to measure such gas stream or, if no certified PM CEMS exists for a gas stream, engineering estimates based on one or more of the following, as available: stack test data, CPMS data, COMS data, and other process data. ASARCO shall determine and record the 2-day (each 48-hour block encompassing 2 complete calendar days) or, if necessary, daily (24-hour block encompassing a complete calendar day) value of PM emissions for each of these gas streams. The sum of those values shall be added to an estimate of 48-hour or, if necessary, daily fugitive PM emissions from all process equipment subject to the limits established under this Paragraph, to include all fugitive emissions from the building(s) housing the flash furnace, copper converter department, and anode furnace and production operations. In the event that one or more certified PM CEMS on a relevant gas stream is malfunctioning for a portion or the entirety of any day, ASARCO shall use the eighth highest daily value of PM emissions that has been

recorded at that CEMS in the previous six (6) months. Daily and 48-hour fugitive PM emissions shall be calculated based upon emission factors established during the most recent Fugitive Emissions Study. Prior to completion of the initial Fugitive Emissions Study required under Paragraph 22, estimates from the 1994/1995 Fugitive Emissions Study shall be used for purposes of this calculation.

c. At the end of each calendar day, ASARCO shall calculate and record the 2-day average tons of Copper-Bearing Feed charged to the smelting vessel. If the 2-day average tons of Copper-Bearing Feed charged to the smelting vessel is greater than or equal to twenty-five (25) tons per hour, then ASARCO shall calculate and record the 2-day average pounds of total PM per ton of Copper-Bearing Feed charged to the smelting vessel for the preceding 48-hour period. If the 2-day average tons of Copper-Bearing Feed charged to the smelting vessel is less than twenty-five (25) tons per hour, then ASARCO shall calculate and record the daily average pounds of total PM per hour for the preceding 24-hour period.

d. ASARCO must maintain records of the calculations of lbs/ton and lbs/hr rates and all supporting information and data.

e. Opportunity to Request Alternative Emissions Profile Breakpoint.
No later than December 1, 2020, ASARCO may submit to EPA a request for an alternative emissions breakpoint to more closely match the actual emission profile. The proposed breakpoint in any such request shall not be greater than fifty (50) tons per hour, corresponding to an emission rate of thirty (30) pounds per hour as determined on a daily average basis. EPA may grant or deny ASARCO's request in whole or in part, subject to Dispute Resolution.

25. Fugitive Dust Plan. Within one hundred eighty (180) days of the Effective Date of this Consent Decree, ASARCO shall submit to EPA for approval pursuant to Section VI (Review and Approval of Submittals) a fugitive dust control plan (“Dust Plan”). Once approved, ASARCO shall comply with the requirements of the Dust Plan at all times.

a. The Dust Plan submitted by ASARCO shall, at a minimum, contain the elements and requirements set forth in Appendix B of this Consent Decree.

b. For any element of the Dust Plan that requires new construction at the Facility, ASARCO shall complete such construction, in accordance with the specifications and schedule set forth in the approved Dust Plan and this Consent Decree.

c. All modifications and/or revisions to the approved Dust Plan shall be submitted to EPA for review and approval pursuant to Section VI (Review and Approval of Submittals).

26. PM Control Device Operational Requirements. At all times, ASARCO shall comply with the following:

a. Baghouses. ASARCO shall install, Calibrate, maintain, and continuously operate a baghouse leak detection system for each baghouse located at the Facility to monitor baghouse performance.

i. Each baghouse leak detection system must include a visual alarm that is displayed in a control room that is permanently staffed, on a twenty-four (24) hour basis.

ii. The baghouse leak detection systems must meet the following specifications and requirements:

(1) each system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations that can effectively discern any dysfunctional leaks of the baghouse;

(2) each system sensor must provide output of relative or absolute PM loadings;

(3) each system must be equipped with an alarm system that will sound automatically when an increase in sensor output over a preset level that is protective of the applicable PM emissions limit is detected, and the alarm must be located where it is easily heard by plant operating personnel;

(4) each system must be installed downstream of the baghouse; and

(5) each system must be installed, operated, Calibrated, and maintained in accordance with the manufacturer's written specifications and recommendations, and the Calibration system must, at a minimum, consist of establishing the relative baseline output level by adjusting the sensitivity of the device and establishing the alarm set points and the alarm delay time.

iii. If a bag leak detection system alarm sounds, ASARCO must initiate investigation of the baghouse within one (1) hour of the first discovery of the alarm and, if necessary, take corrective action as soon as practicable to adjust or repair the baghouse to minimize any increased PM emissions.

iv. ASARCO must log in ink or electronic format and maintain a record of installation, Calibration, maintenance, and operation of the bag leak detection

systems. If a bag leak detection system alarm sounds, the records must include an identification of the dates, times, and durations of all bag leak detection alarms, their cause, and an explanation of the corrective actions taken, if any. ASARCO shall also record any dates, times, and durations when the bag leak detection system was not in service or believed to be malfunctioning.

v. Baghouses must be operated such that no bag leak detection system alarms for more than five (5) percent of the total operating time in any six (6) month period. For purposes of determining compliance with this limit, a bag leak detection system shall be deemed to alarm from the time the alarm sounds until such time as all investigation and corrective actions have been completed such that the baghouse has been restored to performance below the alarm setpoint. A bag leak detection system shall also be deemed to alarm during all periods that the system was not in service or believed to be malfunctioning.

vi. ASARCO shall maintain in spare parts inventory no less than 5% of the total bags used in equipment as backup for timely replacement in case of failure.

b. Ducon-Type Wet Scrubbers.

i. Each Ducon-type wet scrubber at the Facility shall not exceed a limit of 0.05 grams PM/dry standard cubic meter. ASARCO shall perform an annual Method 5 performance test on each Ducon-type wet scrubber.

ii. For each Ducon-type wet scrubber at the Facility, ASARCO shall install and operate a continuous monitoring device to measure the change in gas

pressure (accurate to +/- 1 water pressure) across the scrubber and a continuous monitoring device to measure the liquid flow rate (accurate to +/- 5% of design) to the scrubber.

iii. Each Ducon-type wet scrubber at the Facility shall be operated with an hourly (block) average pressure drop of the gas stream across the scrubber and hourly (block) average scrubber liquid flow rate within the range established for each parameter during the most recent performance test. These values shall be recorded and stored in an electronic data storage system that has an associated alarm system that will be triggered when values are outside of the range established for each parameter. The alarm system will include visual indicators displayed in a control room that is staffed on a twenty-four (24) hour basis.

iv. Each wet scrubber shall be visually inspected at least once per shift to detect any visual signs of operational problems.

v. When either the pressure drop or scrubber liquid flow rates are outside the established range for that parameter, it shall be noted in ink in the maintenance log or other record, and ASARCO must initiate investigation within one (1) hour of the first discovery that a scrubber's flow rate and/or pressure drop reading is outside the established range for that parameter. If necessary, ASARCO shall take corrective action as soon as practicable to adjust or repair the wet scrubber to minimize any increased PM emissions. ASARCO's records must include the dates, times of occurrence and repair, scrubber liquid flow rates or pressure drop at the time of issue, their cause, and an explanation of the corrective actions taken, if any. ASARCO shall also record any dates, times, and durations when a wet scrubber was not in service or was believed to be malfunctioning.

c. Water Sprays. Each water spray must be operated at the minimum water pressure and flow levels established in the Dust Plan pursuant to Appendix B.

27. Operating and Maintenance Requirements. No later than twelve (12) months after the Effective Date of this Consent Decree, ASARCO shall prepare and submit to EPA a written Operation and Maintenance Plan that has been prepared according to the requirements in 40 C.F.R. § 63.1447(b). In addition to the requirements specified in 40 C.F.R. § 63.1447(b), this Plan shall include: 1) all operational requirements specified in Paragraphs 7, 8, 9, 10, 11, 12, 23, and 26 of this Consent Decree; 2) the corrective action triggers based on COMS readings as approved by EPA pursuant to Paragraph 16; and 3) all requirements of the approved Dust Plan. ASARCO shall also submit an updated Operation and Maintenance Plan within sixty (60) days of each major change to an operational or substantive requirement of this Consent Decree that is not already captured within the terms of the existing Plan, including but not limited to additional provisions that apply because of the Converter Aisle Retrofit Project, changes made to the parametric monitoring of the hooding, and changes made to the Dust Plan. Upon approval by EPA pursuant to Section VI (Review and Approval of Submittals), ASARCO shall operate the capture systems according to the written Operation and Maintenance Plan, as updated, at all times that material is being processed in the process vessels controlled or partially controlled by such systems. ASARCO shall also operate all fugitive dust controls according to the written Operation and Maintenance Plan, as updated, at all times that fugitive dust producing materials are being processed and/or stored at and around the Facility.

28. Employee Training. ASARCO shall provide annual training to all employees at the Facility with responsibilities or duties pertaining to the implementation of

requirements of this Consent Decree. The training shall cover, at a minimum, the requirements of the Consent Decree, including the approved Dust Plan, how to comply with those requirements, how to perform appropriate monitoring, recordkeeping, and reporting under the Consent Decree, and how to identify and address violations or deviations from the requirements of the Consent Decree.

29. Environmental Compliance Employee. At all times, ASARCO shall employ at least one full time environmental compliance employee whose job duty shall include implementing the terms and conditions of this Consent Decree (“Environmental Compliance Employee”). This employee shall have, at a minimum, a post-secondary degree in environmental science, engineering, or an equivalent discipline and at least five (5) years of environmental compliance experience pertaining to smelters or such other alternative relevant experience. Not later than thirty (30) Days following entry of this Consent Decree, Defendant shall notify EPA of the name of the Environmental Compliance Employee, including a description of how the employee meets the minimum educational and experience requirements required for the job. Defendant shall provide a new notification, consistent with this Paragraph, each time a new employee is hired as the Environmental Compliance Employee. ASARCO shall also hire and retain such other employees and/or contractors in addition to the Environmental Compliance Employee necessary to ensure that Defendant can meet all of its obligations under this Consent Decree.

V. CIVIL PENALTY

30. Within thirty (30) Days after the Effective Date of this Consent Decree, ASARCO shall pay the United States the sum of \$4,500,000 as a civil penalty, together with

interest accruing from the date on which the Consent Decree is lodged with the Court, at the rate specified in 28 U.S.C. § 1961 as of the Date of Lodging. For purposes of this Paragraph, ASARCO shall pay the civil penalty due by FedWire Electronic Funds Transfer (“EFT”) to the U.S. Department of Justice in accordance with written instructions to be provided to ASARCO, following entry of the Consent Decree, by the Financial Litigation Unit of the U.S. Attorney’s Office for the District of Arizona:

Financial Litigation Unit
District of Arizona
405 W. Congress Street, Suite 4900
Tucson, AZ 85701-5041
Phone: (520) 620-7300.

At the time of payment, ASARCO shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States v. ASARCO, LLC*, and shall reference the civil action number and DOJ case number 90-5-2-1-10459, to the United States in accordance with Section XVIII (Notices); by email to acctsreceivable.CINWD@epa.gov; and by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, Ohio 45268

ASARCO shall not deduct any penalties paid under this Decree pursuant to this Section or Section XI (Stipulated Penalties) in calculating its federal or State or local income tax.

VI. REVIEW AND APPROVAL OF SUBMITTALS

31. Approval of Deliverables. After review of any plan, report, or other item that is required to be submitted pursuant to this Consent Decree, unless otherwise specified elsewhere in the Consent Decree, EPA shall in writing: a) approve the submission; b) approve the submission upon specified conditions; c) approve part of the submission and disapprove the remainder; or d) disapprove the submission.

32. If the submission is approved pursuant to Paragraph 31.a, ASARCO shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 31.b or 31.c, ASARCO shall, upon written direction from EPA, take all actions required by the approved plan, report, or other item that EPA determines are technically severable from any disapproved portions, subject to ASARCO's right to dispute only the specified conditions or the disapproved portions, under Section XIII (Dispute Resolution).

33. If the submission is disapproved in whole or in part pursuant to Paragraph 31.c or 31.d by EPA, ASARCO shall, within 45 Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, to EPA for approval in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part by EPA, ASARCO shall proceed in accordance with the preceding Paragraph.

34. Any stipulated penalties applicable to the original submission, as provided in Section XI (Stipulated Penalties), shall accrue during the 45 Day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or

in part by EPA; provided that, if the original submission was so deficient as to constitute a material breach of ASARCO's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

35. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part by EPA, EPA may again require ASARCO to correct any deficiencies, in accordance with the preceding Paragraphs, or may themselves correct any deficiencies, subject to ASARCO's right to invoke Dispute Resolution and the right of EPA to seek stipulated penalties as provided in the preceding Paragraphs.

VII. ENVIRONMENTAL MITIGATION PROJECTS

36. ASARCO shall implement the Environmental Mitigation Projects described in Appendix A to this Consent Decree ("Projects") in compliance with the terms of this Consent Decree and Appendix A. As specified in Appendix A, the Environmental Mitigation Projects include the Pinal County Road Paving Project and the Lead-Based Paint Abatement Project. As specified in Appendix A, ASARCO shall perform all the tasks for these Projects, and spend not less than \$6,000,000 on the Pinal County Road Paving Project and not less than \$2,000,000 on the Lead-Based Paint Abatement Project. ASARCO shall not include its internal personnel costs in overseeing the implementation of the Projects as Project Dollars counting toward the total spent requirement for each Project.

37. ASARCO shall maintain, and present to EPA upon request, all documents to identify and substantiate the Project Dollars expended to implement the Projects described in Appendix A, and shall provide these documents to EPA within thirty (30) days of a request for

the documents. ASARCO shall comply with the reporting requirements described in Appendix A and this Consent Decree for the Environmental Mitigation Projects. All reports prepared by ASARCO pursuant to the requirements of this Section of the Consent Decree and required to be submitted to EPA shall be publicly available for inspection from ASARCO without charge.

38. ASARCO shall certify, as of the date ASARCO executes this Consent Decree, that ASARCO is not otherwise required by law to perform the Projects described in Appendix A, that ASARCO is unaware of any other person who is required by law to perform the Projects, and that ASARCO will not use the Projects, or a portion thereof, to satisfy any obligations that it may have under other applicable requirements of law.

39. As the Projects described in Appendix A will require the contribution of funds to other entities that will carry out the Projects, each instrumentality must, in writing to EPA: (a) identify its legal authority for accepting such funding; and (b) identify its legal authority to conduct the Projects for which ASARCO contributes the funds. Notwithstanding that another entity will be carrying out the Projects, ASARCO acknowledges that it will receive credit for the expenditure of Project Dollars in those Projects only if ASARCO demonstrates that the funds have been actually spent by the instrumentality receiving them, and that such expenditures have otherwise met all of the requirements of this Consent Decree and Appendix A.

40. In connection with any communication to the public or to shareholders regarding ASARCO's actions or expenditures (for which ASARCO has received credit) relating in any way to the Projects required pursuant to this Consent Decree, ASARCO shall include prominently in the communication that the actions and expenditures were required as part of a Consent Decree.

41. Within one hundred eighty (180) calendar days following the completion of any of the Projects and the expenditure of all Project Dollars required under this Consent Decree for any such Projects, including any applicable periods of verification and benefit quantification from those expenditures, ASARCO shall submit to the United States, in accordance with Paragraph I.6 of Appendix A, a report that documents the date that the Project was completed, ASARCO's results of implementing the Project, including the emission reductions or other environmental benefits achieved, and all Project Dollars expended by ASARCO in implementing the Project.

VIII. SUPPLEMENTAL ENVIRONMENTAL PROJECT

42. ASARCO shall implement a Supplemental Environmental Project ("SEP") in accordance with the requirements of this Consent Decree and Appendix C. The SEP shall be completed in accordance with the schedule set forth in Appendix C. The SEP involves replacing one unregulated, Tier 0, or Tier 1 diesel switch locomotive currently being operated to transport ore and/or copper concentrate at the Facility with one new Tier 3 or cleaner diesel-electric switch locomotive designed to reduce emissions of nitrogen oxides (NOx) and greenhouse gases.

43. ASARCO is responsible for the satisfactory completion of the SEP in accordance with the requirements of this Consent Decree and Appendix C. ASARCO may use contractors or consultants in planning and implementing the SEP.

44. With regard to the SEP, Defendant certifies the truth and accuracy of each of the following:

a. that all cost information provided to EPA in connection with EPA's approval of the SEP is complete and accurate and that Defendant in good faith estimates

that the cost to implement the SEP is approximately \$1,000,000;

b. that, as of the date of executing this Decree, ASARCO is not required to perform or develop the SEP by any federal, state, or local law or regulation and is not required to perform or develop the SEP by agreement, grant, or as injunctive relief awarded in any other action in any forum;

c. that the SEP is not a project that ASARCO was planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Decree;

d. that ASARCO has not received and will not receive credit for the SEP in any other enforcement action;

e. that ASARCO will not receive any reimbursement for any portion of the SEP from any other person; and

f. that ASARCO would have agreed to perform a comparably valued, alternative project other than a diesel emissions reduction SEP, if the EPA were precluded by law from accepting a diesel emissions reduction SEP.

45. SEP Completion Report. Within 30 days after the date set for completion of the SEP, ASARCO shall submit a SEP Completion Report to the United States, in accordance with Section XVIII (Notices). The SEP Completion Report shall contain the following information:

a. a detailed description of the SEP as implemented;

b. a description of any problems encountered in completing the SEP and the solutions thereto;

- c. an itemized list of all eligible SEP costs expended;
- d. certification that the SEP has been fully implemented pursuant to the provisions of this Decree; and
- e. a description of the environmental and public health benefits resulting from implementation of the SEP (with a quantification of the benefits and pollutant reductions, if feasible).

46. EPA may, in its sole discretion, require information in addition to that described in the preceding Paragraph, in order to evaluate ASARCO's completion report. After receiving the SEP Completion Report, the United States shall notify ASARCO whether or not ASARCO has satisfactorily completed the SEP. If ASARCO has not completed the SEP in accordance with this Consent Decree, stipulated penalties may be assessed under Section XI (Stipulated Penalties).

47. Disputes concerning the satisfactory completion of the SEP and the amount of eligible SEP costs may be resolved under Section XIII (Dispute Resolution). No other disputes arising under this Section shall be subject to Dispute Resolution.

48. Each submission required under this Section shall be signed by an official with knowledge of the SEP and shall bear the certification language set forth in Paragraph 58.

49. Any public statement, oral or written, in print, film, or other media, made by ASARCO making reference to the SEP under this Decree shall include the following language: "This project was undertaken in connection with the settlement of an enforcement action, *United States v. ASARCO LLC*, taken on behalf of the U.S. Environmental Protection Agency under the Clean Air Act."

50. For federal income tax purposes, ASARCO agrees that it will neither capitalize into inventory or basis nor deduct any costs or expenditures incurred in performing the SEP.

IX. EMISSIONS REDUCTIONS

51. Definition. “CD Emissions Reductions” shall mean any emissions reductions that result from any projects, controls, or any other actions utilized to comply with this Consent Decree.

52. Prohibition. ASARCO shall neither generate nor use any CD Emissions Reductions: as netting reductions; as emissions offsets; or to apply for, obtain, trade, or sell any emission reduction credits. Baseline actual emissions for each unit during any 24-month period selected by ASARCO shall be adjusted downward to exclude any portion of the baseline emissions that would have been eliminated as CD Emissions Reductions had ASARCO been complying with this Consent Decree during that 24-month period. The Parties understand that the Converter Aisle Retrofit Project requires that the five (5) existing Peirce-Smith converters be replaced with three (3) new Peirce-Smith converters and that adjustment of baseline actual emissions to reflect CD Emissions Reductions resulting from that project would therefore reflect converter aisle emissions post-project based on the replacement of the converters rather than only the retirement of the existing converters.

53. Outside the Scope of the Prohibition. Nothing in this Section IX is intended to prohibit ASARCO from seeking to:

a. Use or generate emission reductions from emissions units that are covered by this Consent Decree to the extent that the proposed emission reductions represent the difference between CD Emissions Reductions and more stringent control requirements that ASARCO may elect to accept for those emissions units in a permitting process;

b. Use or generate emission reductions from emissions units that are not subject to an emission limitation or control requirement pursuant to this Consent Decree; or

c. Use CD Emissions Reductions for compliance with any rules or regulations designed to address regional haze or the non-attainment status of any area (excluding PSD and non-attainment NSR rules, but including, for example, RACT rules) that apply to the facility; provided, however, that ASARCO shall not be allowed to trade or sell any CD Emissions Reductions.

54. Exception to the Prohibition. Notwithstanding the general prohibition set forth in Paragraph 52 above, ASARCO may use all pollutant emissions reductions generated by the installation and operation of emissions control devices on the anode furnaces, to which the Parties acknowledge that no emissions limit or control requirements apply under 40 C.F.R. Part 63, Subpart QQQ, and which was permitted prior to EPA's November 10, 2011 FOV pursuant to Air Quality Control Permit No. 54251 (minor permit revision to Permit No. 1000042) for the Facility, issued by the ADEQ on August 23, 2011, for purposes of obtaining netting credits or offsets in any PSD, major NSR, and/or minor NSR or other permit or permit proceeding.

Utilization of this exception is subject to each of the following conditions:

a. Under no circumstances shall ASARCO use CD Emissions Reductions prior to the time that actual CD Emissions Reductions have occurred;

b. CD Emissions Reductions may be used only at the facility that generated them;

c. ASARCO shall still be subject to all federal and state regulations applicable to the PSD, Non-attainment NSR, and/or Minor NSR permitting process; and

d. Not later than 30 Days before ASARCO seeks to use any CD Emissions Reductions allowed under this Paragraph, ASARCO shall provide notice of such projects to EPA (including copies of all permit applications and other relevant documentation submitted to the permitting authority).

X. REPORTING REQUIREMENTS

55. ASARCO shall submit the following reports to the persons designated in Section XVIII (Notices):

a. Within thirty (30) Days after the end of each calendar-year quarter (i.e., by April 30, July 30, October 30, and January 30) after lodging of this Consent Decree, until termination of this Decree pursuant to Section XXIII (Termination), ASARCO shall submit by certified mail a quarterly report to the United States and EPA for the preceding quarter that shall include the following:

i. Emissions and monitoring data and corrective action records, including the following:

(1) The results of any performance tests that were required by the Consent Decree;

(2) Copies of any Visible Emissions evaluations or records for which opacity was 4 percent or greater for the building housing the flash furnace, converters, and anode furnaces (to include date, time, and duration of the opacity);

(3) A description of any corrective actions taken to address opacity from the building housing the flash furnace, converters, and anode furnaces (to include the date and time such actions were commenced and completed), along with a description of the cause of the opacity;

(4) Dates, times, and duration of each bag leak detection system alarm sounding, the cause of the alarm and the date and time that ASARCO commenced investigation of the baghouse, and a description of the corrective actions taken, if any, along with the date and time such corrective actions were completed;

(5) The total alarm time for each bag leak detection system, as determined in accordance with subparagraph 26.a.v;

(6) Dates, times, and duration of any instances where pressure drop or scrubber liquid flow rates were outside the established ranges for those parameters, the date and time that ASARCO initiated investigation, the readings at the time of the issue, a description of the underlying cause for the readings, and a description and explanation of any corrective actions, including the date and time that such actions were commenced and completed;

(7) Dates, times, and descriptions of deviations from the gas capture parametric monitoring requirements and/or limits of Paragraph 9;

(8) Dates, times, and descriptions of deviations when ASARCO operated the furnaces, capture systems, baghouses, R&R Cottrell, or any other equipment in a manner inconsistent with the approved Operation and Maintenance Plan;

(9) Dates, times, and descriptions of deviations when ASARCO's material handling was carried out in a manner inconsistent with the approved Operation and Maintenance Plan and/or Fugitive Dust Plan;

(10) Dates, times, and description (including emissions data) of any periods where ASARCO failed to meet an emission limit or an emission control efficiency established under this Consent Decree;

(11) Dates, times and descriptions where ASARCO exceeded the Blowing rate limit set forth in Paragraph 8 and/or, for such time as the Blowing hour limit in Paragraph 8.b remains applicable, the Blowing hour limit;

ii. status and/or completion of construction or compliance milestones;

iii. status of PM CEMS installation and PS-11 testing pursuant to Paragraph 14;

iv. problems encountered or anticipated with Consent Decree compliance, together with implemented or proposed solutions;

v. status of any permit applications pertaining to any of the requirements of this Consent Decree;

vi. The status of the SEP under Section VIII and Appendix C including, at a minimum, a narrative description of activities undertaken; and

vii. the status of the Environmental Mitigation Projects under Section VII and Appendix A including, at a minimum, a narrative description of activities undertaken; status of Environmental Mitigation Project milestones set forth in Appendix A; and a summary of costs incurred since the previous report.

b. The quarterly report shall also include a description of any non-compliance with the requirements of this Consent Decree, including those identified in Paragraph 55.a.i, and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If ASARCO violates, or has reason to believe that it may violate, any requirement of this Consent Decree, ASARCO shall additionally notify the United States of such violation and its likely duration, in writing, within ten (10) working Days of the Day ASARCO first becomes aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, ASARCO shall so state in the report. ASARCO shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within thirty (30) Days of the Day ASARCO becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves ASARCO of its obligation to provide the notice required by Section XII (Force Majeure).

56. Immediate Threat to Public Health, Welfare or the Environment.

Whenever ASARCO reasonably believes or reasonably should have believed that any violation of this Consent Decree or any other event affecting ASARCO's performance under this Decree

may pose an immediate threat to the public health or welfare or the environment, ASARCO shall notify EPA orally or by electronic or facsimile transmission as soon as possible, but no later than twenty-four (24) hours after ASARCO first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

57. Emission Limit Exceedances. Whenever ASARCO becomes aware of any emission limit exceedance at the Hayden Facility for any pollutant for which an emission standard is required under this Decree, ASARCO shall notify EPA orally or by electronic or facsimile transmission as soon as practicable, but no later than one (1) day after ASARCO first knew of the violation or event.

58. Report Certification. Each report submitted by ASARCO under this Section shall be signed by an official of the submitting party and include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

59. Other Reporting Obligations. The reporting requirements of this Consent Decree do not relieve ASARCO of any reporting obligations required by the Clean Air Act, its

Title V operating permit, or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

60. Use of Reported Information. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law. Nothing in this Paragraph shall be construed as limiting any use of such information in any proceeding by ASARCO so long as such information is relevant and otherwise admissible pursuant to applicable rules of admissibility.

XI. STIPULATED PENALTIES

61. ASARCO shall be liable for stipulated penalties to the United States for violations of this Consent Decree as specified below, unless excused under Section XII (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

62. Late Payment of Civil Penalty. If ASARCO fails to pay the civil penalty required to be paid under Section V (Civil Penalty) when due, ASARCO shall pay a stipulated penalty of \$10,000 per Day for each Day that the payment is late.

63. General Capture System Requirements.

a. For each failure to operate one or more capture systems to collect gases in accordance with Paragraph 7, \$5,000 per process vessel per Day on which such failure occurs.

b. For each failure to convey captured gas streams to a PM control device in accordance with Paragraph 7, \$5,000 per gas stream per Day on which such a failure occurs.

c. For each failure to implement good air pollution control practices to minimize emissions from control devices (encompassing the capture system and/or PM control device) in accordance with Paragraph 7, \$2,500 per control device per Day on which such a failure occurs.

64. Improvements to and Operation of Process Gas Capture System for Copper Converters.

a. For each failure to operate a capture system at all times material is being processed in the copper converter department, including the failure to route all gases captured by a primary hood to the acid plant, the failure to route all gases captured by a secondary hood to either the acid plant or the Secondary Baghouse, or the failure to route all gases captured by an improved secondary hood while that converter is Blowing to the acid plant, in accordance with Paragraph 8, \$5,000 per converter per Day on which such failure occurs.

b. For each failure to comply with the maximum Blowing rate in accordance with Paragraph 8, \$5,000 per converter per Day on which such failure occurs.

c. For failure to complete the Converter Aisle Retrofit Project by December 1, 2018 or to permanently cease operation of all non-new, existing copper converters by May 1, 2018, the following penalties shall apply for each noncompliant copper converter:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$15,000	1st through 30th Day
\$22,500	31st through 60th Day
\$30,000	61st Day and beyond

d. For failure to comply with the requirement that only one converter be Blowing at any given time by May 1, 2018, as required by Paragraph 8.a, \$5,000 per Day on which such failure occurs.

e. For failure to comply with the combined converter Blowing hours limit, as set forth in Paragraph 8.b,

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$5,000	Less than 30 minutes
\$10,000	Greater than 30 minutes and less than 60 minutes
\$20,000	Greater than 60 minutes

For the acid plant SO₂ concentration limit, a penalty of \$600 per Day will be assessed for every day in the 365-day period that contributed to calculation of the exceedance, unless one or more of those days have already been assessed a penalty as part of a previous 365-day period that exceeded the limit, in which case a second penalty will not be assessed for those specific days (i.e. if May 1 through May 21, 2018 the calculated 365-day rolling average exceeds 100 ppmv, then ASARCO would be assessed a penalty for 365 days for the May 1 exceedance, but then

only the additional days of May 2 through May 21 that are now contributing to calculations of exceedance, and so the total number of days assessed a stipulated penalty would be 385 days).

65. Parametric Operational Requirements for Improved Gas Capture Systems.

a. For failure to comply with the hooding operational limits set forth in Paragraph 9.a, reflecting any modifications approved by EPA pursuant to Paragraph 9.b or 9.c, by December 1, 2019, \$1,000 per limit per hood per Day on which such failure occurs.

b. For failure to comply with the hooding operational monitoring requirements set forth in Paragraph 9.b, reflecting any modifications approved by EPA pursuant to Paragraph 9.b, by December 1, 2019, \$1,000 per monitoring requirement per hood per Day on which such failure occurs.

66. Emissions Limits and Monitoring.

a. For failure to comply with one or more of the emission limits set forth in Paragraphs 10, 12, 16, 17, 18, 19, 20, and 24 per emission limit per Day on which such failure occurs as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$5,000	1st through 30th Day
\$10,000	31st through 60th Day
\$15,000	61st Day and beyond

Stipulated penalties shall not apply for exceedances of PM emissions limits based on PM CEMS data recorded during the first two (2) years of operation of such PM CEMS.

b. For failure to install, certify, Calibrate, maintain, and operate one or more SO₂ or PM CEMS as required by Paragraphs 10, 11, and 14, for failure to operate a COMS on the acid plant exhaust stream as required by Paragraph 16, or for failure to install,

Calibrate, maintain, and operate a measurement system as required by Paragraph 24.a, per SO₂ or PM CEMS, COMS, or measurement system per Day on which such failure occurs as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	1st through 14th Day
\$2,000	15th through 30th Day
\$3,000	31st Day and beyond

67. Dry Lime Scrubbing to Reduce SO₂ Emissions. For failure to comply with the control efficiency requirements set forth in Paragraphs 11.a and 11.b, reflecting any modifications approved by EPA pursuant to Paragraph 11.c, by the dates established thereunder,

\$100 per Day per violation where the violation is less than 5% in excess of the limits set forth in this Consent Decree
\$200 per Day per violation where the violation is equal to or greater than 5% but less than 10% in excess of the limits set forth in this Consent Decree
\$300 per Day per violation where the violation is equal to or greater than 10% in excess of the limits set forth in this Consent Decree

This penalty will be assessed for every day in the 365-day period that contributed to calculation of the noncompliant control efficiency, unless one or more of those days have already been assessed a penalty as part of a previous 365-day period that did not meet the control efficiency, in which case a second penalty will not be assessed for those specific days (i.e. if May 1 through May 21, 2018 the calculated 365-day rolling average was -48%, then ASARCO would be assessed a penalty for 365 days for the May 1 deficiency, but then only the additional days of May 2 through May 21 that are now contributing to deficient calculations, and so the total number of days assessed a stipulated penalty would be 385 days). Stipulated penalties shall

accrue during the first three (3) years of monitoring a control efficiency achieved through injection of High-Surface-Area Hydrated Lime in accordance with Paragraph 11, but shall not be payable until the passage of those first three (3) years or the establishment of a modified control efficiency requirement pursuant to Paragraph 11.c., whichever is earlier.

68. R&R Cottrell ESP Replacement. For failure to replace the existing R&R Cottrell ESP with a new baghouse in accordance with the requirements of Paragraph 13 by May 1, 2018, \$10,000 per violation per Day

69. Fugitive Emissions Studies. For failure to conduct any Fugitive Emissions Study in accordance with the requirements of Paragraph 22, \$2,500 per violation per Day.

70. Visible Emissions from the Building Housing the Flash Furnace, Converters, and Anode Furnaces.

a. For failure to install and operate one or more long-path optical density/opacity monitors, in accordance with the requirements of Paragraph 23, per long-path optical density/opacity monitor per Day on which such failure occurs as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$3,000	1st through 14th Day
\$5,000	15th through 30th Day
\$10,000	31st Day and beyond

b. For failure to undertake corrective actions and/or conduct a root cause analysis, as required by Paragraphs 23.a and 23.b, per event per Day on which such failure occurs as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$3,000	1st through 14th Day

\$5,000	15th through 30th Day
\$10,000	31st Day and beyond

71. Fugitive Dust Plan.

a. For failure to complete any new construction or equipment upgrades (including but not limited to installation of concrete pads, wind fences, and the acid plant scrubber blowdown system) in accordance with the specifications and schedule set forth in the approved Dust Plan and/or this Consent Decree, per failure per Day on which such failure occurs as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$3,000	1st through 14th Day
\$5,000	15th through 30th Day
\$10,000	31st Day and beyond

b. For any other violation of the approved Dust Plan and/or Appendix B, per violation per Day on which such failure occurs as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	1st through 14th Day
\$2,500	15th through 30th Day
\$5,000	31st Day and beyond

72. PM Control Device Operational Requirements.

a. For failure to install, Calibrate, maintain, and operate one or more baghouse leak detection system in accordance with the requirements of Paragraph 26.a and/or one or more gas pressure or liquid flow rate measuring devices in accordance with the requirements of Paragraph 26.b, per baghouse leak detection system or gas pressure or liquid flow rate measuring device per Day on which such failure occurs:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$2,000	1st through 14th Day
\$4,000	15th through 30th Day
\$10,000	31st Day and beyond

b. For failure to initiate an investigation and/or undertake corrective actions, as required by Paragraphs 26.a.iii and 26.b.v, per event per Day on which such failure occurs as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$2,000	1st through 14th Day
\$4,500	15th through 30th Day
\$10,000	31st Day and beyond

c. For failure to comply with the bag leak detection system alarm limit of 5% of total operating time in any six (6) month period, as required by Paragraph 26.a.v, \$15,000 per system per six (6) month period for which such failure occurs.

d. For failure to comply with the emissions limit for one or more Ducon-type wet scrubbers, as required by Paragraph 26.b.i, \$1,000 per scrubber per Day on which such failure occurs.

73. Failure to Conduct a Performance Test. The following stipulated penalties shall accrue per violation per Day for each performance test required under this Consent Decree that ASARCO fails to timely conduct in accordance with the requirements of this Consent Decree:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$2,500	1st through 14th Day
\$5,000	15th through 30th Day

\$10,000 31st Day and beyond

74. Failure to Report Emission Limit Exceedances. The following stipulated penalties shall accrue per violation per Day for each violation of the requirements identified in Paragraph 57, on reporting emissions exceedances:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000	1st through 14th Day
\$2,000	15th through 30th Day
\$3,000	31st Day and beyond

75. Other Reporting Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the reporting requirements of Section X (Reporting Requirements):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$750	1st through 14th Day
\$1,500	15th through 30th Day
\$3,000	31st Day and beyond

76. Failure to undertake and complete the Supplemental Environmental Project or the Environmental Mitigation Projects. If ASARCO fails to undertake and complete the Supplemental Environmental Project or the Environmental Mitigation Projects in compliance with Section VIII (Supplemental Environmental Project) and Section VII (Environmental Mitigation Projects) of this Consent Decree and Appendices A and C, ASARCO shall pay stipulated penalties for each Day of violation, as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$5,000	1st through 14th Day

\$10,000	15th through 30th Day
\$15,000	31st Day and beyond

77. Other Consent Decree Violations. For each failure by ASARCO to comply with the requirements of this Consent Decree not specifically referenced in Paragraph 62 through Paragraph 76, the following stipulated penalties shall accrue per violation per Day:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$750	1st through 14th Day
\$1500	15th through 30th Day
\$3000	31st Day and beyond

78. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

79. ASARCO shall pay stipulated penalties within 30 Days of receiving the United States' written demand. A demand for the payment of stipulated penalties shall identify the particular violation(s) to which the stipulated penalty relates, the stipulated penalty amount that Plaintiff is demanding for each violation (as can be best estimated), the calculation method underlying the demand, and the grounds upon which the demand is based.

80. Except as provided in subparagraph a. of this Paragraph, stipulated penalties shall continue to accrue as provided in Paragraph 78 during any Dispute Resolution, but need not be paid until the following:

a. In the event of a dispute over stipulated penalties, stipulated penalties will not accrue commencing on the date ASARCO notifies the United States of a

dispute in accordance with Paragraph 91 if ASARCO has placed the disputed amount demanded in a commercial escrow account with interest.

b. If the dispute is resolved by agreement or by a decision of the United States that is not appealed to the Court, ASARCO shall pay accrued penalties determined to be owing, together with interest, to the United States within thirty (30) Days of the effective date of the agreement or the receipt of the United States' decision or order.

c. If the dispute is appealed to the Court and the United States prevails in whole or in part, ASARCO shall pay all accrued penalties determined by the Court to be owing, together with interest, within sixty (60) Days of receiving the Court's decision or order, except as provided in subparagraph d, below.

d. If any Party appeals the District Court's decision, ASARCO shall pay all accrued penalties determined to be owing, together with interest, within fifteen (15) Days of receiving the final appellate court decision.

81. Notwithstanding any other provision of this Decree, the United States shall have the right in its full, complete and unreviewable discretion to waive in whole or in part any stipulated penalty owed to it.

82. ASARCO shall pay stipulated penalties owing to the United States in the manner set forth and with the confirmation notices required by Paragraph 30, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

83. If ASARCO fails to pay stipulated penalties according to the terms of this Consent Decree, ASARCO shall be liable for interest on such penalties, as provided for in

28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States from seeking any remedy otherwise provided by law for ASARCO's failure to pay any stipulated penalties.

84. Subject to the provisions of Section XVI (Effect of Settlement/Reservation of Rights), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States for ASARCO's violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of relevant statutory or regulatory requirements, ASARCO shall be allowed a dollar-for-dollar credit, for any stipulated penalties paid, against any statutory penalties imposed for such violation.

XII. FORCE MAJEURE

85. "Force majeure" for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of ASARCO, of any entity controlled by ASARCO, or of ASARCO's contractors that delays or prevents the performance of any obligation under this Consent Decree despite ASARCO's best efforts to fulfill the obligation. The requirement that ASARCO exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any such event (a) as it is occurring and (b) after it has occurred to prevent or minimize any resulting delay to the greatest extent possible. "Force Majeure" does not include ASARCO's financial inability to perform any obligation under this Consent Decree.

86. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, ASARCO shall provide notice orally or by electronic or facsimile transmission to EPA, within 72 hours of when ASARCO first knew that the event might cause a delay. Within seven days thereafter, ASARCO shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; ASARCO's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of ASARCO, such event may cause or contribute to an endangerment to public health, welfare or the environment. ASARCO shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude ASARCO from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. ASARCO shall be deemed to know of any circumstance of which ASARCO, any entity controlled by ASARCO, or ASARCO's contractors knew or should have known.

87. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other

obligation. EPA will notify ASARCO in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

88. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify ASARCO in writing of its decision.

89. If ASARCO elects to invoke the dispute resolution procedures set forth in Section XIII (Dispute Resolution), it shall do so no later than fifteen (15) days after receipt of EPA's notice. In any such proceeding, ASARCO shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that ASARCO complied with the requirements of Paragraphs 86 and 89, above. If ASARCO carries this burden, the delay at issue shall be deemed not to be a violation by ASARCO of the affected obligation of this Consent Decree identified to EPA and the Court.

XIII. DISPUTE RESOLUTION

90. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. ASARCO's failure to seek resolution of a dispute under this Section shall preclude ASARCO from raising any such issue as a defense to an action by the United States to enforce any obligation of ASARCO arising under this Decree.

91. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall

be considered to have arisen when ASARCO sends the United States a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed twenty (20) Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within twenty (20) Days after the conclusion of the informal negotiation period, ASARCO invokes formal dispute resolution procedures as set forth below.

92. Formal Dispute Resolution. ASARCO shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting ASARCO's position and any supporting documentation relied upon by ASARCO.

93. The United States shall serve its Statement of Position within forty-five (45) Days of receipt of ASARCO's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on ASARCO, unless ASARCO files a motion for judicial review of the dispute in accordance with the following Paragraph.

94. ASARCO may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XVIII (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within ten (10) Days of

receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of ASARCO's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

95. The United States shall respond to ASARCO's motion within the time period allowed by the Local Rules of this Court. ASARCO may file a reply memorandum, to the extent permitted by the Local Rules.

96. Standard of Review

a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Decree, in any dispute brought under this Section pertaining to the adequacy or appropriateness of plans, procedures to implement plans, schedules or any other items requiring approval by EPA under this Consent Decree; the adequacy of the performance of work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, ASARCO shall have the burden of demonstrating, based on the administrative record, that the position of the United States is arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with law.

b. Other Disputes. Except as otherwise provided in this Consent Decree, in any other dispute brought under this Section, ASARCO shall bear the burden of demonstrating that its position complies with this Consent Decree.

97. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of ASARCO under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, except as otherwise provided by Paragraph 80.a, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 80. If ASARCO does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XI (Stipulated Penalties).

XIV. PERMITS

98. Unless expressly stated otherwise in this Consent Decree, in any instance where otherwise applicable law or this Consent Decree requires ASARCO to secure a permit to authorize construction or operation of any device contemplated herein, including all preconstruction, construction, and operating permits required under State law, ASARCO shall make such application in a timely manner. ASARCO shall provide notice to the United States under Section XVIII (Notices) for each permit application submitted.

99. When permits are required, ASARCO shall complete and submit applications for such permits to allow sufficient time for all legally required processing and review of the permit request, including requests for additional information by the permitting agency. Any failure by ASARCO to submit a timely permit application for the Hayden Facility shall bar any use by ASARCO of Section XII (Force Majeure) of this Consent Decree, where a Force Majeure claim is based on permitting delays.

100. Notwithstanding the reference to ASARCO's Air Quality Permit, which constitutes both a federally enforceable construction permit and the Title V operating permit for the Facility, in this Consent Decree, the enforcement of that permit shall be in accordance with its own terms and the Act. ASARCO's Air Quality Permit for the Facility shall not be enforceable under this Consent Decree, although any term or limit established by or under this Consent Decree shall be enforceable under this Consent Decree regardless of whether such term has or will become part of an Air Quality Permit, as specified by the terms of Section XXIII (Termination).

101. ASARCO shall apply to ADEQ for and obtain amendments of its Air Quality Permit to include the following requirements so that each such requirement will survive termination of this Consent Decree:

- a. All of the requirements and limits set forth in Paragraphs 7 and 8, except that ASARCO need not include the Blowing hours limit established under Paragraph 8.b if it has accepted the SO₂ limit set forth in Paragraph 8.b and included such limit in a permit application;
- b. All of the final hooding operational parameters and associated limits established pursuant to Paragraph 9;
- c. All of the requirements and limits set forth in Paragraph 10;
- d. All of the requirements and limits set forth in Paragraphs 11.a and 11.b, reflecting any modifications to those requirements and limits pursuant to Paragraphs 11.c and/or 11.d;
- e. The opacity limit and monitoring set forth in Paragraph 12;

- f. All of the PM emission limits and monitoring requirements established pursuant to Paragraphs 16-20, reflecting any modification to those limits pursuant to Paragraph 21;
- g. All of the requirements set forth in Paragraph 23.a and 23.b and Paragraph B.30, reflecting any modification to those requirements pursuant to Paragraph 23.c;
- h. All of the requirements and limits set forth in Paragraph 24.a-d, reflecting any modification to those requirements pursuant to Paragraph 24.e;
- i. The Fugitive Dust Plan including all elements and requirements set forth in Appendix B (except the requirements of Paragraphs B.31.B-D and B.33, and the requirements of Paragraph B.30, as these are addressed in subparagraph 101.g above) and including all modifications and revisions, as approved or directed by EPA;
- j. All of the requirements and limits set forth in Paragraph 26;
- k. The O&M Plan prepared pursuant to Paragraph 27, as approved by EPA, along with a requirement to review such plan at least once per year and update, as necessary;
- l. All of Section IX (Emissions Reductions); and
- m. A statement that the above-listed limits, requirements, and restrictions were established pursuant to a Consent Decree with EPA and shall not be deleted or modified without the approval of EPA.

102. ASARCO shall provide the United States with a copy of each application for a federally enforceable air quality permit, as well as a copy of any permit proposed as a result of such application, to allow for timely participation in any public comment opportunity.

103. If ASARCO sells or transfers to an entity unrelated to ASARCO (“Third Party Purchaser”) part or all of its Ownership Interest covered under this Consent Decree, ASARCO shall comply with the requirements of Section XIX (Sales or Transfers of Operational or Ownership Interests) with regard to that Ownership Interest prior to any such sale or transfer unless, following any such sale or transfer, ASARCO remains the holder of the permit for such facility.

XV. INFORMATION COLLECTION AND RETENTION

104. The United States and its authorized representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, for the purposes of:

- a. monitoring the progress of activities required under this Consent Decree;
- b. verifying any data or information submitted to the United States in accordance with the terms of this Consent Decree;
- c. obtaining samples and, upon request, splits of any samples taken by ASARCO or its representatives, contractors, or consultants;
- d. obtaining documentary evidence, including photographs and similar data; and
- e. assessing ASARCO’s compliance with this Consent Decree.

105. Upon request, ASARCO shall provide EPA and its authorized representatives splits of any samples taken by ASARCO. Upon request, EPA shall provide ASARCO splits of any samples or photographs taken by EPA.

106. Until five years after the termination of this Consent Decree, ASARCO shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to ASARCO's performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States, ASARCO shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

107. At the conclusion of the information-retention period provided in the preceding Paragraph, ASARCO shall notify the United States at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States, ASARCO shall deliver any such documents, records, or other information to EPA. ASARCO may assert at any time that certain documents, records, or other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If ASARCO asserts such a privilege, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or

information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by ASARCO. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

108. This Consent Decree in no way limits, enlarges or otherwise affects any right ASARCO may have to assert that information required to be provided under this Section is protected as Confidential Business Information (“CBI”) under 40 C.F.R. Part 2. As to any information that ASARCO seeks to protect as CBI, ASARCO shall follow the procedures set forth in 40 C.F.R. Part 2.

109. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of ASARCO to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XVI. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

110. This Consent Decree resolves the civil claims of the United States, as alleged in the Complaints filed in this action through the Date of Lodging, including without limitation any rights to civil penalties, injunctive relief, and mitigation for violations of the Act or implementing regulations.

111. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the Act or

implementing regulations, or under other federal or state laws, regulations, or permit conditions, except as expressly specified in Paragraph 110. The United States further reserves all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, ASARCO's Facility, whether related to the violations addressed in this Consent Decree or otherwise.

112. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, civil penalties, other appropriate relief relating to the Facility, ASARCO shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 110 of this Section.

113. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations. ASARCO is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and ASARCO's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States does not, by its consent to the entry of this Consent Decree, warrant or aver in any manner that ASARCO's compliance with any aspect of this Consent Decree will result in compliance with provisions of the Act or with any other provisions of federal, State, or local laws, regulations, or permits. Nothing in the foregoing shall be deemed a waiver by ASARCO of the assertion of a defense in any subsequent proceeding that ASARCO's compliance with any

aspect of this Consent Decree renders ASARCO in compliance with the Act, or any other provisions of federal, State or local laws, regulations, or permits.

114. This Consent Decree does not limit or affect the rights of ASARCO or of the United States against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against ASARCO, except as otherwise provided by law.

115. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XVII. COSTS

116. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by ASARCO.

XVIII. NOTICES

117. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-2-1-10459

To EPA:

Director, Air Enforcement Division
Office of Civil Enforcement
U.S. EPA Headquarters, MC 2242A

1200 Pennsylvania Ave., NW
Washington, D.C. 20460

Chief, Air and TRI Section
Enforcement Division
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, CA 94105

To ASARCO:

ASARCO LLC
Corporate Legal Department
5285 E. Williams Circle, Suite 2000
Tucson, AZ 85711

ASARCO LLC
VP Environmental Affairs
5285 E. Williams Circle, Suite 2000
Tucson, AZ 85711

ASARCO LLC – Hayden Operations
Hayden General Manager
PO Box 8
Hayden, AZ 85135

ASARCO LLC – Hayden Operations
Hayden Technical Services Manager
PO Box 8
Hayden, AZ 85135

118. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

119. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XIX. SALES OR TRANSFERS OF OPERATIONAL OR OWNERSHIP INTERESTS

120. If ASARCO proposes to sell or transfer an operational or ownership interest to another entity (a “Third Party Purchaser”), ASARCO shall advise the Third Party Purchaser in writing of the existence of this Consent Decree prior to such sale or transfer, and shall send a copy of such written notification to the United States pursuant to Section XVIII (Notices) at least sixty (60) days before the closing of such proposed sale or transfer.

121. No closing of such sale or transfer of an operational or ownership interest shall take place before the Third Party Purchaser and the United States have executed, and the Court has approved, a modification pursuant to Section XXII (Modification) making the Third Party Purchaser a party to this Consent Decree and making the terms and conditions of this Consent Decree that apply to the Facility applicable to the Third Party. Upon approval by the Court of such modification, pursuant to Section XXII (Modification) making the Third Party a party to this Consent Decree and liable for all the requirements of this Consent Decree that may be applicable to the transferred or purchased interests, ASARCO shall be released from the obligations and liabilities of this Consent Decree as to the transferred or purchased interests, provided that all Civil Penalties pursuant to Section V (Civil Penalty) have been fully paid and all Environmental Mitigation and Supplemental Environmental Projects pursuant to Sections VII (Environmental Mitigation Projects) and VIII (Supplemental Environmental Projects) have been fully funded or implemented.

122. This Consent Decree shall not be construed to impede the transfer of any interests between ASARCO and any Third Party Purchaser so long as the requirements of this Consent Decree are met. This Section XIX applies to transfers of assets or interest only, and shall not be construed to affect or apply to mergers or other corporate transactions in which the shares of ASARCO or its affiliate corporation are acquired by any Third Party and the surviving corporation, by operation of law, assumes all of the assets and liabilities of ASARCO pursuant to this Consent Decree. This Consent Decree shall not be construed to prohibit a contractual allocation – as between ASARCO and any Third Party Purchaser – of the burdens of compliance with this Consent Decree.

123. Notwithstanding the foregoing, however, ASARCO may not assign, and may not be released from, any obligation under this Consent Decree that is not specific to the purchased or transferred interests, including the obligations set forth in Section VII (Environmental Mitigation Projects), Section VIII (Supplemental Environmental Project), and Section V (Civil Penalty).

XX. EFFECTIVE DATE

124. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket; provided, however, that ASARCO hereby agrees that it shall be bound to perform duties scheduled to occur prior to the Effective Date. In the event the United States withdraws or withholds consent to this Consent Decree before entry, or the Court declines to enter the Consent Decree, then the preceding requirement to perform duties scheduled to occur before the Effective Date shall terminate.

XXI. RETENTION OF JURISDICTION

125. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Section XXII (Modification), or effectuating or enforcing compliance with the terms of this Decree.

XXII. MODIFICATION

126. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to this Decree, it shall be effective only upon approval by the Court.

127. Any disputes concerning modification of this Decree shall be resolved pursuant to Section XIII (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 96, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XXIII. TERMINATION

128. After ASARCO has completed the requirements of Section IV (Compliance Requirements), Section VII (Environmental Mitigation Projects), Section VIII (Supplemental Environmental Project), Section IX (Emissions Reductions), and Section XIV (Permits), and otherwise complied with all other requirements of this Consent Decree for a period of five years after entry of the Decree, including payment of the civil penalty and any

accrued stipulated penalties as required by the Decree, if ASARCO has notified EPA of ASARCO's acceptance of Part 63, Subpart QQQ applicability to the Hayden facility in accordance with the provisions of 40 C.F.R. § 63.9 and has incorporated all requirements therein into the Air Quality Permit for the Facility, ASARCO may serve upon the United States a Request for Termination, stating that ASARCO has satisfied those requirements, together with all necessary supporting documentation.

129. Following receipt by the United States of ASARCO's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether ASARCO has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

130. If the United States does not agree that the Decree may be terminated, ASARCO may invoke Dispute Resolution under Section XIII (Dispute Resolution). However, ASARCO shall not seek Dispute Resolution of any dispute regarding termination until ninety (90) days after service of its Request for Termination.

XXIV. PUBLIC PARTICIPATION

131. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. ASARCO consents to entry of this Consent Decree

without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified ASARCO in writing that it no longer supports entry of the Decree.

XXV. SIGNATORIES/SERVICE

132. Each undersigned representative of ASARCO and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

133. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. ASARCO agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXVI. INTEGRATION

134. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Consent Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the terms and conditions of this Consent Decree. No other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Consent Decree or the settlement it represents, nor shall it be used in construing the terms of this Consent Decree.

XXVII. FINAL JUDGMENT

135. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States and ASARCO. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXVIII. APPENDICES

136. The following Appendices are attached to and part of this Consent Decree:

Appendix A: Environmental Mitigation Projects

Appendix B: Fugitive Dust Plan

Appendix C: Switch Locomotive Supplemental Environmental Project

Appendix D: Facility Road Map

Appendix E: Inactive Tailings Facilities and Calcium Sulfate Pond Map

Appendix F: Closed Slag Dump Area Map

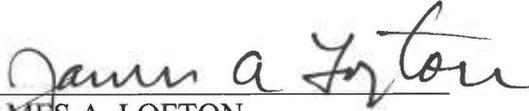
Dated and entered this ____ day of _____, 2015.

UNITED STATES DISTRICT JUDGE
District of Arizona

FOR PLAINTIFF UNITED STATES OF AMERICA:



JOHN C. CRUDEN
Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice



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FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Date: 7/29/15


CYNTHIA GILES
Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

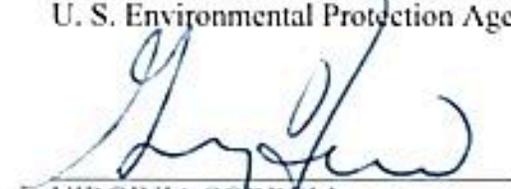
Date: 7/28/15


SUSAN SHINKMAN
Director, Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

Date: 7/27/2015


PHILLIP A. BROOKS
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U. S. Environmental Protection Agency

Date: 7/27/2015

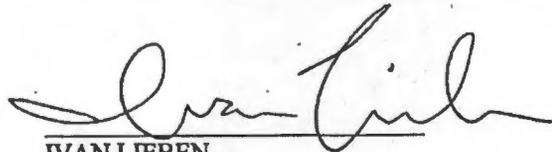

VIRGINIA SORRELL
Attorney, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U. S. Environmental Protection Agency

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION 9:

Date: 10/16/15


JARED BLUMENFELD
Regional Administrator
U.S. Environmental Protection Agency, Region 9

Date: 6/10/15

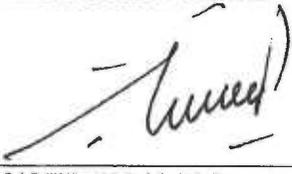

IVAN LIEBEN
Attorney
Office of Regional Counsel

FOR ASARCO LLC:

Date: 27/07/2015


OSCAR GONZALEZ ROCHA
Chief Executive Officer

Date: JULY/27/2015


MANUEL RAMOS
Chief Operating Officer

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**APPENDIX A
ENVIRONMENTAL MITIGATION PROJECTS**

In compliance with and in addition to the requirements in Section VII (Environmental Mitigation Projects), ASARCO shall comply with the requirements of this Appendix to ensure that the benefits of the Environmental Mitigation Projects (Projects) are achieved.

I. Overall Environmental Projects Schedule

1. Within 180 Days from the Date of Entry, ASARCO shall submit proposed Project plans to EPA for review and approval pursuant to Section VI (Review and Approval of Submittals) for expenditure of the Project Dollars specified in this Appendix in accordance with the requirements of this Appendix. EPA shall determine, prior to approval, that all Projects are consistent with federal law.
2. ASARCO shall spend not less than \$2,000,000 on the Lead-Based Paint Abatement Project and not less than \$6,000,000 on the Pinal County Road Paving Project, and must otherwise complete the projects as described below.
3. Beginning December 31, 2016, and continuing annually thereafter until completion of each Project, ASARCO shall provide EPA with written reports detailing the progress of each Project, including an accounting of Project Dollars spent to date.
4. All proposed Project plans shall include the following:
 - A. A plan for implementing the Project;
 - B. A summary-level budget for the Project;
 - C. A time-line for implementation of the Project; and
 - D. A description of the anticipated environmental benefits of the Project, including an estimate of emission reductions from the Pinal County Road Paving Project (e.g., PM, PM10, PM2.5) expected to be realized.
5. Upon approval of the plan(s) required by this Appendix by EPA pursuant to Section VI (Review and Approval of Submittals), ASARCO shall complete the approved Project(s) according to the approved plan(s). Nothing in this Consent Decree shall be interpreted to prohibit ASARCO from completing the Project(s) ahead of schedule.

6. Within 60 days following the completion of each Project, ASARCO shall submit to EPA for approval pursuant to Section VI (Review and Approval of Submittals) a report that documents:

- A. The date the Project was completed;
- B. The results of implementation of the Project, including where possible the estimated emission reductions or other environmental benefits achieved; and
- C. The Project Dollars incurred by ASARCO in implementing the Project.

II. Environmental Mitigation Projects

1. Pinal County Road Paving Project

- A. In accordance with the following schedule, Asarco shall provide a total of \$6,000,000 to the Pinal County Public Works Department (“Public Works Department”) or to a third party contractor as designated by the County for the sole purpose of paving portions of the currently unpaved N Cam Rio Pinal County Road, and ancillary or associated unpaved roads, that are closest to the communities of Hayden and Winkelman: (a) \$1,000,000 within 30 days of Project plan approval, (b) \$1,000,000 within 90 days of Project plan approval, (c) \$2,000,000 within 270 days of Project plan approval, and (d) \$2,000,000 within 450 days of Project plan approval. Notwithstanding the schedule above, ASARCO shall make earlier payments of the total Project Dollars to the Public Works Department or its contractor within 30 days, or quicker if necessary to prevent work slowdown or stoppage, upon written request from the Public Works Department for the release of such funds. All work performed as part of this Project must be completed by December 31, 2017.
- B. In addition to the requirements of Paragraph I.4. of this Appendix, the plan submitted for the Project shall also satisfy the following criteria:
 - i. Describe how the \$6,000,000 Project Dollars will be spent for the sole purpose of paving roads, including a prediction of how many miles of road will be paved and expected location of those roads.
 - ii. For any third party with whom ASARCO and/or the Pinal County Public Works Department might contract to carry out this Project, establish minimum standards that include prior experience in paving roads in accordance with County standards and requirements.
 - iii. Describe how compliance with all local, state, and federal requirements applicable to the paving of County roads will be met.

- C. In addition to the information required to be included in the final report pursuant to Paragraph I.6 of this Appendix, ASARCO (or the Pinal County Public Works Department on behalf of ASARCO) shall provide a detailed breakdown of how the \$6,000,000 was spent, including an identification of the cost of each component of the paving project, the specific portions of the unpaved County roads, and ancillary or associated unpaved roads, that were paved, and the predicted or modeled PM emissions reductions that will result from the final project along with the methodology relied upon for this calculation.

2. Lead-Based Paint Abatement Project

- A. Within 90 days of Project plan approval by EPA, under an escrow agreement with the Director of the Gila County Public Health and a third party financial institution identified by the Gila County Environmental Health Services, ASARCO shall transfer \$2,000,000 to a special escrow account established by the Gila County Environmental Health Services for implementation of the Lead-Based Paint Abatement Project. The agreement between ASARCO, the Directory of the Gila County Environmental Health Services, and the third party financial institution shall specify that the Gila County Environmental Health Services shall spend the full amount of the special fund for one or more of the following projects within Hayden and/or Winkelman:
- i. Purchase of environmental lead testing equipment and training for Gila County staff to become certified lead-based paint testers, and costs associated with lead-based paint testing in Hayden and Winkelman;
 - ii. Lead-based paint testing and abatement for homes, schools, and other public buildings; and
 - iii. Administrative costs to the Gila County Environmental Health Services of up to 10% of Project Dollars, including but not limited to salary, travel, and equipment expenses.
- B. In addition to the information required to be included in the final report pursuant to Paragraph I.6 of this Appendix, ASARCO (or the Gila County Environmental Health Services on behalf of ASARCO) shall provide a detailed breakdown of the projects on which the \$2,000,000 was spent, including the accounting for each project completed, a description of the final project, and an explanation of improvements to the community.
- C. In the event that, upon completion of the Lead-Based Paint Abatement Project, funds remain from the original \$2,000,000, those funds shall be used to fund additional road paving pursuant to Paragraph II.1 of this Appendix A.

APPENDIX B – FUGITIVE DUST PLAN

The fugitive dust control plan (“Dust Plan”) submitted by ASARCO pursuant to Paragraph 25 of the Consent Decree must meet the requirement set forth in that Paragraph and shall contain the following elements:

Source Specific Requirements

1. Track hopper

- A. ASARCO shall maintain an intact structure with a roof and walls on the sides parallel to the track running through the track hopper to reduce dust emissions.
- B. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.1.E, ASARCO shall install and maintain partial enclosures/baffles within the track hopper on the sides perpendicular to the track that are designed to contain and settle dust to the greatest extent practicable.
- C. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.26.A, ASARCO shall maintain and operate at all times that the track hopper is being used at least four Sprayers each on the southern, northern, and central sides of the track hopper building. At a minimum, Sprayers shall engage automatically at an approved minimum flow rate whenever material is being unloaded at the track hopper. Until such time as the new Sprayers and enclosures/baffles are in place and operational, ASARCO shall maintain its current structure and use its current Sprayers to minimize dust emissions to the greatest extent practicable.
- D. ASARCO may not unload material at the track hopper building without operating the Sprayers.
- E. As part of the Dust Plan, ASARCO shall submit design plans for approval by EPA for the new enclosures/baffles optimized to minimize emissions to the greatest extent practicable.

2. Secondary and Tertiary Crushers

- A. ASARCO shall only conduct secondary and tertiary ore crushing within a Total Enclosure and dust shall be controlled by ventilation to Ducon-type wet scrubbers.
- B. ASARCO shall manage the ventilation rates and scrubber operation so as to optimize dust capture and control dust emissions to the greatest extent practicable at both the crushers and the crusher building.

- C. The scrubbers shall operate at all times when ore is being processed in the building.
- D. ASARCO shall perform weekly water wash downs of the lower floors of the crusher building into C3 and C9 sumps, utilize a vacuum truck on the ground-level and basement floors of the building to collect dust, and clean out the sumps so that washdown never exceeds 80% capacity of the sumps.

3. **Uncrushed Reverts Handling and Storage Piles**

- A. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.25.A, ASARCO shall manage uncrushed revert material only in areas protected by a Wind Fence.
- B. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.26.A, ASARCO shall install and continuously operate a sufficient number of Sprayers to ensure that the surface of the crushed revert material is wetted with the objective to minimize emissions to the greatest extent practicable.

4. **Reverts Crushing Operations and Crushed Revert**

- A. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.4.E, ASARCO shall crush revert and store crushed revert only on one or more concrete pads.
- B. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.25.A, ASARCO shall crush revert and store crushed revert only within an area protected by a Wind Fence.
- C. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.26.A, ASARCO shall install and continuously operate a sufficient number of Sprayers to ensure that the surface of all revert material being crushed, including revert managed after it is crushed, is wetted with the objective of maintaining a nominal 10% surface moisture content.
- D. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.4.E, ASARCO shall relocate all revert crushing operations from 32° 59' 58.36" N, 110° 46' 40.09" W and 32° 59' 50.7"N, 110° 46' 34.9" to 33° 00' 25.84" N, 110° 46' 26.55" W, and shall crush revert only at this new location.
- E. As part of the Dust Plan, ASARCO shall submit design plans for approval by EPA for the concrete pad(s) for revert crushing and management of crushed revert. These pad(s) shall be designed to capture, store and allow pumping of

stormwater or sprayed water to minimize emissions to the greatest extent practicable, including curbing around the outer edges of the cement pad(s) where feasible.

5. Refractory Brick and Other Crushing

- A. ASARCO shall conduct refractory brick crushing operations only within the current Refractory Crushing Area, the revert crusher described in Paragraph B.4, or in a fully enclosed building whose emissions are vented through a particulate matter control device, such as a baghouse or a scrubber.
- B. At all times crushing is occurring at the Refractory Crushing Area, ASARCO shall use a ventilation system with a filter bag house designed to minimize dust emissions to the greatest extent practicable.
- C. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.26.A, ASARCO shall install and continuously operate a sufficient number of Sprayers in the Refractory Crushing Area to ensure that the surface of all refractory material being crushed, including after it is crushed, is wetted with the objective of maintaining a nominal 10% surface moisture content.
- D. Asarco may also crush silica, slag, or other miscellaneous intermediate materials and reagents in one of the crushing areas identified in this Paragraph or in an area enclosed by a wind fence so long as the material is wetted in such a manner to minimize dust emissions to the greatest extent practicable, consistent with Paragraph B.27.
- E. Unless otherwise approved by EPA, ASARCO may not perform any material crushing at the Facility beyond what is allowed pursuant to Paragraphs B.2, B.4 and B.5.

6. Concentrate Storage, Handling, and Unloading Operations

- A. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.6.E, ASARCO shall consolidate and manage all concentrate storage piles in one or more concrete concentrate storage pads.
- B. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.25.A, ASARCO shall store concentrate only within an area protected by a Wind Fence.
- C. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.26.A, ASARCO shall install and operate a sufficient number of Sprayers to

ensure that the surface of concentrate pile is wetted with the objective of maintaining a nominal 10% surface moisture content.

- D. Once the new pads are constructed and operational, ASARCO shall minimize the footprint of concentrate storage piles by pushing into the stockpile with a front end loader and sweeping open areas of the pads with a self-powered vacuum sweeper at least daily during use.
- E. As part of the Dust Plan, ASARCO shall submit design plans for approval by EPA for the concrete pad(s) and water capture and pumping system. Concrete concentrate storage pads shall be designed to capture, store and pump stormwater or sprayed water to minimize emissions to the greatest extent practicable, including curbing around the outer edges of the cement pad(s) where feasible.

7. **Bedding Operations, Including Handling, Storage and Unloading**

- A. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.25.A, ASARCO shall perform bedding activities, including loading and unloading of materials to be blended, only within an area protected by a Wind Fence. These activities include vacuum truck discharge storage, and any other storage areas for potentially dust producing material that is added to the concentrate as part of the bedding process.
- B. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.26.A, ASARCO shall install and continuously operate a sufficient number of Sprayers to ensure that the surface of material in the bedding area is wetted with the objective of maintaining a nominal 10% surface moisture content.
- C. ASARCO shall maintain rumble grates at all of the bedding plant's entrances and exits to shake off material on the loader tires as they enter and exit the area.
- D. ASARCO shall operate its bedding activities in a manner designed to avoid any trackout outside an area protected by a Wind Fence. Areas of material spillage/trackout, whether inside or outside of an area protected by a Wind Fence, must be rinsed daily, with the existing sump cleaned out so that wash down never exceeds the capacity of the sump.

8. **Furnace Silica Flux (-10 mesh size) Handling and Storage**

- A. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.25.A, ASARCO shall perform all storage activities and loading and unloading of furnace silica flux (-10 mesh size) within an area protected by a Wind Fence.
- B. ASARCO shall wet the surface of all furnace silica flux (-10 mesh size) storage

piles with the objective of maintaining a nominal 10% moisture content.

9. **Converter Silica Flux (3/4" size) Handling and Storage**

- A. ASARCO shall wet the surface of all converter silica flux (3/4" size) storage piles with sufficient moisture to minimize emissions to the greatest extent practicable.

10. **Acid Plant Scrubber Blowdown Drying (and Other Fined Grained Material)**

- A. Within one hundred eighty (180) days of approval by EPA pursuant to Paragraph B.10.B, ASARCO shall dry acid plant scrubber blowdown solids only in an enclosed system that uses a venturi scrubber, thickener, filter press, and electric dryer, and is maintained under negative pressure at all times that materials are being dried.
- B. As part of the Dust Plan, ASARCO shall submit design plans for approval by EPA of the new acid plant scrubber blowdown system. The design plans shall be optimized to reduce emissions to the maximum extent practicable and the system shall include the following elements:
- i. venturi scrubber slurry that reports to a new thickener;
 - ii. underflow from the thickener that goes to a filter press for further liquid removal, with the resulting filter cake sent to two electric dryers (operating in parallel) to provide final drying of the dust cake;
 - iii. exhaust from the dryers sent to the converter ID fan inlet duct; and
 - iv. dried cake discharged directly into bags.
- C. Within two hundred ten (210) days of completion of construction of the new acid plant scrubber blowdown system, ASARCO shall clean all areas currently used for scrubber blowdown drying and shall not use such areas in the future for scrubber blowdown drying.
- D. Within thirty (30) days of beginning to operate the new scrubber blowdown system, ASARCO shall not engage in any open air drying, except for incidental drying of wetted material assuming that ASARCO is otherwise compliant with all requirements of the Dust Plan for that material, (including meeting watering schedules and intensity).

11. **Converter Dust**

- A. Until completion of the Converter Aisle Retrofit Project, ASARCO shall store

converter dust only within closed bins.

- B. Following completion of the Converter Aisle Retrofit Project, ASARCO shall collect dust from the new converter spray chambers and the new converter electrostatic precipitator for the primary hooding gas stream. Depending on the composition and size of such collected dust, ASARCO shall either recycle the dust at the Facility or combine the dust with acid plant blowdown sludge for sale to third parties.
- C. ASARCO shall otherwise comply with all requirements of this Dust Plan in regard to the converter dust, including operating systems for conveying the collection in a manner designed to minimize emissions to the greatest extent practicable.

12. **Flux Crushing Area**

- A. ASARCO shall wet the surface of all flux material with the objective of maintaining a nominal 10% moisture content.

13. **Fine Ore Storage Facility**

- A. Except for conveying the fine ore to the building from the crushers and from the building for use as feedstock (such conveying is subject to the requirements of Paragraph B.20), ASARCO shall store and handle fine ore only in the fine ore storage building ventilated to Ducon-type particulate scrubbers. ASARCO shall maintain intact the siding and the roof of the fine ore storage building.
- B. ASARCO shall utilize hanging curtains at all times at the ingress/egress openings at the fine ore storage building and maintain adequate negative pressure within the structure to minimize the emissions from the building to the maximum extent practicable, and shall operate the scrubbers at all times when ore is being stored in the building.

14. **Paved Roads**

- A. These provisions apply to all Roads at the Facility currently paved and Roads to be paved in the future, as identified on Appendix D (Facility Road Map).
- B. ASARCO shall routinely clean the Roads with a sweeper, vacuum or wet broom (in accordance with applicable recommendations by the manufacturer of the street sweeper, vacuum, or wet broom), and such cleaning shall occur no less frequently than on a daily basis. ASARCO shall otherwise maintain the integrity of the Road surface.

- C. ASARCO shall ensure that material does not accumulate through spillage or trackout on paved Roads.
- D. Within one hundred eighty (180) days of Date of Lodging of the Consent Decree, ASARCO shall pave Kennecott Avenue passing through Hayden to the Facility.

15. Unpaved Roads (including all areas of vehicular handling of material)

- A. As part of the Dust Plan, and based upon the findings of the third party audit required by Paragraph B.32, ASARCO shall include an evaluation of the traffic patterns on all unpaved Roads to identify and propose for approval by EPA of a chemical dust suppressant application intensity and schedules targeted to meet a 90% control efficiency for PM₁₀ emissions. At a minimum, the proposal shall require that chemical dust suppressants be applied not less frequently than once per month at the slag haul road and not less frequently than every six (6) weeks on all other unpaved roads.
- B. Within thirty (30) days of approval by EPA pursuant to B.15.A, ASARCO shall comply with the chemical dust suppressant application intensity and schedule included as part of the Dust Plan.
- C. ASARCO shall maintain sufficient watering trucks and personnel to operate such trucks to be employed as an interim measure whenever visible emissions or a breakdown in dust suppressant covering are observed at any point along the treated unpaved Road system.
 - i. In the case of any visible emissions, ASARCO shall immediately (but no later than thirty (30) minutes after initial observation) apply water and/or chemical dust suppressant to the portion of the Road where the visible emissions were observed.
 - ii. ASARCO shall reapply chemical dust suppressant within twenty-four (24) hours of discovery of any area where the surface chemical dust suppressant coverage has broken down.
 - iii. Runoff or material from rinsing/sweeping must immediately be collected and prevented from becoming airborne.

16. Operation of Trucks and Trains Transporting Material

- A. For the operation of trucks within Facility that carry dust producing material, ASARCO shall:

- i. Maintain the cargo compartment of all such vehicles to ensure that the floor, sides, and/or tailgate(s) are free of holes or other openings;
 - ii. Ensure that all loads of trucks containing copper concentrate arriving at the Facility are covered with a tarp to prevent spills and fugitive emissions;
 - iii. Ensure that trucks are loaded only to such a level as to prevent spillage over the side;
 - iv. Ensure a speed limit of 15 mph; and
 - v. Ensure that all dust producing material internally transferred or moved by truck at the Facility is covered with a tarp to prevent spills and fugitive emissions.
- B. When a cargo compartment of one of the trucks that carry fugitive dust producing material is emptied and will remain empty for more than a half hour, ASARCO shall (1) clean the interior of the cargo compartment; or (2) cover the cargo compartment with a tarp or other suitable closure.
- C. ASARCO shall wet the surface of all material within the Facility being moved by train, excluding incoming shipments of ore and shipments covered by a tarp, with the objective of maintaining a nominal 10% moisture content.
- D. ASARCO shall maintain sufficient moisture content of material being loaded/unloaded to minimize dusting to the greatest extent practicable.

17. Tailings Facilities

A. Active Tailings Facilities

- i. Ramps and roadways at each active tailings facility:
 1. ASARCO shall maintain an approximate depth of two (2) inches of decomposed granite (DG) on the surface of all ramps and roadways used in connection with the tailings facility, but shall apply more if necessary to stabilize the ramp or roadway.
 2. In the case of any visible emissions, ASARCO shall as quickly as practicable, but no later than 2 hours after the observation, apply water to the portion of the ramp or roadway where the visible emissions were observed.

3. ASARCO shall reapply DG as needed to maintain a minimum surface level of DG or otherwise maintain stabilization of the ramp or roadway.
 4. ASARCO shall ensure a speed limit of 15 mph for any vehicle traffic on the tailings facilities ramps and roadways.
- ii. Area of each active tailings facility where tailings slurry is actively being deposited:
1. No treatment is necessary as long as the surface of the material remains wet or is sufficiently encrusted to avoid fugitive dust from becoming airborne.
- iii. Each active tailings facility where tailings slurry is not being actively deposited, including slopes:
1. ASARCO shall maintain daily operating sheets identifying active deposition areas.
 2. For areas that have not received fresh deposition in six (6) months, unless ASARCO identifies the area as having a surface moisture content of 10% or being sufficiently encrusted to avoid fugitive dust becoming airborne, ASARCO shall treat those areas with chemical dust suppressant.
 3. For areas covered by Paragraph B.17.A.iii.2, above, ASARCO shall treat with chemical suppressants only those areas treatable to the extent of equipment limitations.
 4. ASARCO shall maintain and operate appropriate equipment and/or vehicles allowing to the maximum extent practicable application of dust suppressants to all areas of the active tailings facilities. ASARCO shall include a description of the equipment to be used as part of the Dust Plan.
 5. ASARCO shall maintain a quick-response watering system to be employed as an interim measure whenever visible emissions or a breakdown in dust suppressant covering is observed at any point along the active areas of the tailings facility, but shall be required to use such system only to the extent feasible depending on the physical conditions of the tailings pile and the location of the source of dusting. ASARCO shall include a description of the system in the Dust Plan.

6. ASARCO shall reapply dust suppressant within twenty-four (24) hours of discovering any area where the surface dust suppressant coverage has broken down or is not working according to specifications.
7. At least twelve (12) months before ASARCO intends to close any inactive tailings areas or within one (1) month that ASARCO has knowledge or plans that any portion of a tailings facility will not be used for three (3) years or more, ASARCO shall notify EPA and submit proposed activities and schedules for these areas to be included as a modification to the Closure and Vegetation Plan required by Paragraph B.17.B and conforming to closure obligations imposed by applicable law. For these areas, as part of the modification request, ASARCO shall also perform an analysis of the use of livestock to assist the vegetation process and propose for EPA approval whether or not livestock use will be a part of the vegetation process based upon the latest scientific evidence and other relevant examples regarding the effectiveness of livestock use. In making this proposal, ASARCO may also take into consideration site-specific factors, such as proximity of the area to be vegetated to residential areas.

B. Inactive Tailings Facilities: ASARCO shall close the two inactive tailings facilities and the calcium sulfate pond identified in Appendix E (Inactive Tailings Facilities and Calcium Sulfate Pond Map) in the following manner:

- i. As part of the Dust Plan, ASARCO shall submit for approval by EPA a Closure and Vegetation Plan that shall include the following elements:
 1. Description of the soil cap designed and implemented to maximize the long-term durability and effectiveness of the vegetation, which, at a minimum, must contain one (1) foot of soil suitable for a growth medium and substantial enough to resist erosion.
 2. Identification of a seed mix to be used for vegetation that consists of arid region varieties and a range of wildflowers, grasses, shrubs, forbs and trees to provide a long-term plant succession plan.
 3. Site preparation, grading and construction of stormwater controls as necessary to ensure the success of the vegetation process.
 4. A schedule for all closure and vegetation activities required by this Paragraph.

5. Identification of steps necessary to maintain the vegetated cap.
 6. An analysis of whether additional cover materials and/or thickness or design for the calcium sulfate pond are necessary, and a proposal for such additional cover and/or design elements.
- ii. Vegetation efforts shall commence within thirty (30) days of approval by EPA pursuant to Paragraph B.17.B.i. ASARCO shall oversee and manage the closed tailings facilities and the vegetation process to the extent necessary and feasible to achieve the objectives of the Closure and Vegetation Plan.
 - iii. ASARCO shall submit a revised Closure and Vegetation Plan within thirty (30) days of discovery that the measures or strategies of the approved Plan are insufficient to achieve vegetation in a timely manner or are otherwise not working as contemplated by the Plan. The revised Plan shall include an analysis of why the current measures or strategies are not working and, to the extent warranted and feasible, propose changes to better achieve timely vegetation of the areas. ASARCO's analysis shall consider available data, scientific studies or research, and/or other information received from third party consultants or academics pertaining to the vegetation of inactive tailings facilities.

18. **Screening Operations**

- A. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.25.A, any screening operations at the Facility may only occur within an area protected by a Wind Fence.

19. **Loose Material Piles**

- A. Within sixty (60) days of approval by EPA of the Dust Plan, ASARCO shall employ one or more of the following controls strategies, as appropriate, for each dust-producing loose material pile at the Facility to minimize dust emissions to the maximum extent practicable:
 - i. maintain the material inside an area protected by a Wind Fence, container such as an enclosed bin, or in a Total Enclosure;

- ii. wet the surface of such material with the objective of maintaining a nominal 10% moisture content at all times;
 - iii. apply chemical dust suppressants to the pile to create a protective covering;
 - iv. permanently remove or cap the pile; or
 - v. cover the pile with a tarp.
- B. As part of the Dust Plan, ASARCO shall evaluate its management practices with respect to all loose piles or agglomerations of dust producing material maintained at the Facility with the objective of minimizing the handling of such materials and, to the extent feasible, minimizing the number of such piles. Based on such evaluation, and as part of the Dust Plan, ASARCO shall submit a plan for approval by EPA that establishes standards for loose pile or agglomeration management of materials and sets forth other general housekeeping requirements in regard to movement and storage of such material.
- C. Upon approval by EPA pursuant to Paragraph B.19.B, ASARCO shall comply with the housekeeping requirements of the housekeeping plan at all times.
- D. The requirements of this Paragraph do not apply to materials covered by any of the provisions of Paragraphs B.1-18 and B.20-21 of this Appendix.

20. Material Conveyor Systems

- A. Within one hundred twenty (120) days of approval by EPA pursuant to Paragraph B.20.B, ASARCO shall complete any improvements or modifications to and operate each system conveying dust producing material, including associated Sprayers, in such a manner as to minimize emissions to the maximum extent practicable.
- B. As part of the Dust Plan, and based upon the findings of the third party audit performed pursuant to Paragraph B.33, ASARCO shall identify improvements and modifications to its conveyor systems, to the extent necessary, along with a schedule for implementing the improvements or modifications, for approval by EPA targeted to minimize emissions to the greatest extent practicable. The improvements may include the following: hooding of transfer points; utilizing existing or new Sprayers as appropriate to wet the surface of such material with the objective of maintaining a nominal 10% moisture content; and employing

scrapers, brushes or cleaning systems at all points where belts loop around themselves to catch and contain material before it falls to the ground.

- C. Any discrete spills from conveyors must be cleaned up within thirty (30) minutes of discovery of any discrete spill. The material collected must be handled in such a way so as to minimize emissions to the maximum extent practicable.

21. Slag Dump Area

- A. ASARCO shall not dump slag in the shaded areas specified in Appendix F (Closed Slag Dump Area Map).

General Requirements

22. Good Air Pollution Control Practices

- A. ASARCO shall operate and maintain each fugitive dust source covered by the Dust Plan, including all associated air pollution control equipment and monitoring equipment, in a manner consistent good air pollution control practices for minimizing emissions to the greatest extent practicable at all times.

23. Drop Heights for Material Transfers

- A. For all material conveyors or material transfer equipment with adjustable or variable operations, ASARCO shall minimize drop heights to the greatest extent practicable at all times that dust producing material is being conveyed, transferred or deposited.

24. Corrective Action

- A. Except as provided otherwise in this Dust Plan, at any time that visible emissions appear to exceed 15% opacity from dust sources covered by this Dust Plan, or there is measurable opacity greater than the level established pursuant to Paragraph B.30.E for the long-path optical density/opacity monitors over a six (6) minute period, ASARCO shall take prompt corrective action to identify the source of the emissions and abate such emissions, with the corrective action starting within thirty (30) minutes after discovery.
 - i. For any dust source that produces visible emissions that appear to exceed 15% opacity or in the event that there is measurable opacity greater than the level established pursuant to Paragraph B.30.E for the long-path optical density/opacity monitors over a six (6) minute period on a recurring basis (i.e. more than once a week), ASARCO shall perform an analysis of the root cause, and implement a strategy designed to prevent,

to the extent feasible, the ongoing recurrence of the source of visible emissions. Within fourteen (14) days of completion of its analysis, if appropriate, ASARCO shall submit a request for a modification to the Dust Plan for approval by EPA for any changes identified under this Paragraph differing from the current provisions of the Dust Plan.

- B. At any time that ASARCO becomes aware that provisions of the Dust Plan are not being met, ASARCO shall take prompt action to return to compliance, which may include modifications to monitoring, recordkeeping, and/or reporting requirements in the Dust Plan. This includes, but is not limited to, the following actions:
- i. Return Sprayers to full operational status;
 - ii. Repair damaged conveyor hoodings or other enclosures;
 - iii. Apply additional water to ensure that all materials required to be wetted are meeting the objective of a nominal 10% moisture surface content;
 - iv. Clean any trackout or spillage of dust producing material at the Facility, including dropoff of dust producing material from conveyors, using a street sweeper, vacuum, or wet broom with sufficient water and at the speed recommended by the manufacturer;
 - v. For dust sources that require application of a chemical dust suppressant, reapply suppressant in areas where the coating has broken down;
 - vi. Reapply DG where the level is no longer meeting the minimum thickness requirements;
 - vii. For areas to be vegetated where the vegetation measures are not succeeding or the vegetation has died, follow the steps approved as part of the Closure and Vegetation Plan to recover the vegetation; and
 - viii. Revisions to the Dust Plan to undertake improved monitoring (including inspections), recordkeeping, and/or reporting requirements necessary to ensure that the controls contained in the Dust Plan are being implemented as contemplated by the Dust Plan.

25. **Wind Fences**

- A. As part of the Dust Plan, ASARCO shall submit design specifications for approval by EPA for each Wind Fence to be installed pursuant to this Appendix.

The design specifications shall be targeted to meet an objective of reducing emissions from the enclosed source by at least 75%.

- B. Wind Fence design plans and specifications, among other things, shall require full encircling of the source to be controlled, with reasonable and sufficient openings for ingress and egress, and shall consider the orientation of the Wind Fence to the prevailing winds, the strength of the winds in the area where the fence will be located, the porosity of the material to be used (not to exceed 50%), and the height of the fence relative to the height of the material being stored.
- C. The Dust Plan shall contain height limits for material piles stored in each Wind Fence, consistent with the approved design plans and specifications for that particular Wind Fence. The allowed height shall be posted in a readily visible location at each Wind Fence location.

26. Sprayer Operations

- A. As part of the Dust Plan and based upon the findings of the third party audit performed pursuant to Paragraph B.33, ASARCO shall propose for approval by EPA the number, type and location of new Sprayers and modifications to existing Sprayers targeted to meet the objective of maintaining a nominal 10% surface moisture content for all dust producing materials to be wetted by Sprayers pursuant to this Appendix. This submittal shall also include design plans and specifications for each new or modified Sprayer system.
- B. As part of the Dust Plan, for each existing Sprayer and for each proposed new Sprayer, ASARCO shall identify and propose a fixed watering schedule, a watering intensity, and such other operational parameters, such as pressure drop or minimal flow rate, targeted to maintain a nominal 10% surface moisture content for dust producing materials. Included in this proposal shall be appropriate and continuous monitoring, such as a pressure gauge and water flow meter or totalizer, to ensure that the requirements are being met, as well as a schedule for calibration based upon the manufacturers recommended calibration schedule. The proposal shall also include a preventative maintenance schedule, to include inspections of header pressure. The proposed schedule may include a variance for periods of times when operational constraints dictate that such spraying should not occur and/or conditions do not otherwise require spraying in order to meet the standards set forth in this Dust Plan.
- C. Within ninety (90) days of approval by EPA pursuant to Paragraph B.26.B, ASARCO shall comply with the watering intensity and schedule requirements for each existing Sprayer and, if applicable, the minimum flow rates and/or pressure drop.

- D. ASARCO may include in the Dust Plan an exemption to the watering requirements at times when the material is sufficiently moist and/or it is raining and thus there is no need for additional wetting until the next scheduled watering to meet the 10% surface moisture content objective.

27. Non-Sprayer Material Wetting Procedures

- A. As part of the Dust Plan and based upon the third party audit performed pursuant to Paragraph B.33, ASARCO shall propose for approval by EPA procedures reasonably necessary to meet the objective of maintaining a nominal 10% surface moisture content (or to meet such other moisture content requirements set forth elsewhere in this Appendix) for all dust producing materials at the Facility to be manually wetted pursuant to this Appendix, including watering intensity and a fixed watering schedule. The proposed schedule shall also take into account whether operational requirements reasonably dictate that such wetting not occur and/or conditions do not require wetting in order to meet the standards set forth in this Dust Plan.
- B. Upon approval by EPA pursuant to Paragraph B.27.A, ASARCO shall comply with the watering intensity and schedule requirements for manually wetting each relevant dust producing material at the Facility.
- C. ASARCO may include in the Dust Plan an exemption to the watering requirements at times when the material is sufficiently moist and/or it is raining and thus there is no need for wetting until the next scheduled watering to meet the 10% surface moisture content objective.

28. Physical inspections

- A. As part of the Dust Plan, as a standard operating procedure, ASARCO shall propose and include sample inspection sheets and/or checklists to be used for each of the type of inspections required below. These inspection sheets or checklists will be kept as one of the required records pursuant to Paragraph B.35. These inspection sheets or checklists shall include (i) specific descriptions of the equipment being inspected and the specific functions being evaluated (i.e. inspection of the operation of each Sprayers at the track hopper, or, if not gathered electronically, a reading of the pertinent operational parameter such as water flow or pressure drop), (ii) the findings of the inspection, (iii) the date, time and location of inspections, and (iv) an identification of who performed the inspection and/or logged the results.
- B. One or more properly trained ASARCO employees shall conduct the physical inspections required by the Dust Plan as follows:

- i. Daily inspections of all Sprayers to make sure they are functioning in accordance with the requirements of the Dust Plan;
- ii. Weekly inspections of each control device or control equipment, including fans and scrubbers/baghouses, to ensure the equipment is functioning in accordance with the requirements of the Dust Plan;
- iii. Visual inspections every two weeks of all enclosures and conveyor hooding to make sure they are intact and do not need repairs;
- iv. Daily visual inspections of all material piles to make sure they are maintained within areas protected by a Wind Fence or Total Enclosures, that they are not higher than allowed for the Wind Fence, and to verify that moisture content requirements are met;
- v. Weekly inspections of Wind Fences for material integrity (i.e. holes) and structural stability (i.e. are they bent, did a vehicle run into it, etc.);
- vi. Spot inspections of vehicles carrying dust producing material to occur no less frequently than daily when the vehicle is in use to make sure that the material is not overloaded, is properly covered, and meets any applicable moisture content requirements;
- vii. Daily inspections of the converter dust bins to ensure that all material is maintained within the bins;
- viii. Daily inspections of all paved roads or materials handling areas to identify and clean up track out or spills of materials;
- ix. Daily inspections of all unpaved Roads to identify areas where chemical dust suppressant coverage has broken down;
- x. Inspections twice a week (to be separated by at least 48 hours) of the ramps and roadways associated with the tailing facilities to identify any areas where visible emissions are observable and/or where the DG cover is no longer performing as designed;
- xi. Inspections once every two weeks of the tailings facility tops to identify which areas are actively being deposited and that moisture content requirements are being met, and identify areas of non-active deposition where visible emissions are observable and/or the dust suppressant has broken down;

- xii. Inspections once every two weeks of the areas subject to the vegetation requirements of the Closure and Vegetation Plan to ensure that the vegetation measures and strategies are working and once vegetated, that the vegetation cover is maintained; and
- xiii. Daily inspections of all areas under conveyor systems to identify areas of material dropoff from the belts.

29. Opacity Limit and Method 9 Monitoring

- A. Opacity from dust emissions shall not exceed 20% from any part of the Facility at any time, as determined using Method 9.
- B. In the event that an employee observes ongoing visible emissions at a source covered by the Dust Plan, that employee shall promptly contact a Method 9 certified observer, who shall promptly evaluate the emissions and conduct a Method 9 reading, if possible.
- C. In addition to the requirements of Paragraph B.29.B, a Method 9 certified observer shall conduct a weekly visible emissions survey of all sources covered by the Dust Plan and perform a Method 9 reading for any plumes that on an instantaneous basis appear to exceed 15% opacity.

30. Optical Density/Opacity Monitors

- A. Within one hundred twenty (120) of days of approval by EPA pursuant to Paragraph B.30.B, and based upon the recommendations of the third party audit performed pursuant to Paragraph B.33 and the monitoring equipment vendor, ASARCO shall install and operate two or more long-path optical density/opacity monitors, as warranted, to detect dust emissions at major openings, for each of the following operations: secondary and tertiary crushing and fine ore storage.
- B. As part of the Dust Plan, ASARCO shall submit the design plans and specifications for approval by EPA for installation of the optical density/opacity monitors (designed to maximally cover areas where fugitive emissions may exit each building from major openings).
- C. Each optical density/opacity monitor shall be calibrated, and such calibration shall be maintained pursuant to the manufacturer's recommended schedule to measure opacity from approximately 0 to 10% (to the extent the instruments are capable of measuring opacity at those percentages and of being calibrated) over the full range of the instrument. ASARCO shall operate the optical density/opacity monitors at all times material handling activities are occurring within the building, including storage of material.

- D. ASARCO shall propose a minimum measurable detectible opacity level from the monitors based upon vendor specification for the equipment and/or a level established during the shakedown or testing phase for the new equipment. For a level based upon a vendor specification, ASARCO shall propose the opacity level as part of the initial Dust Plan. If ASARCO relies upon a level established during the shakedown or testing phase for the monitor, ASARCO shall propose to EPA for approval into the Dust Plan the level within fifteen (15) days of after the end of the shakedown or testing phase ends, but not to exceed one hundred twenty (120) days after initial operation of the monitors.

31. **Ambient Monitoring Network**

- A. Upon the conclusion of use of the ambient air monitors pursuant to the Administrative Settlement Agreement and Order on Consent for the ASARCO Hayden Plant Site, Docket No. CERCLA 2008-12 (“AOC”), ASARCO shall continue to maintain and operate the ambient air monitors located at ST-14 (the smelter parking lot), ST-23 (Hillcrest area), ST-26 (post office), ST-18 (next to the concentrate handling area), and ST-16 (Terrace Street - next to secondary crusher) and shall have installed at ST-18 (consistent with 40 C.F.R. Part 58 Appendix E) the same type of total suspended particulate (“TSP”) monitor installed at ST-14, ST-23 and ST-26. ASARCO shall continuously monitor for and record the ambient concentration levels of PM10 (at all five monitoring locations), PM2.5 (at ST-14, ST-23 and ST-26), lead (with the TSP monitors at ST-14, ST-23, ST-26 and ST-18), and cadmium and arsenic (with the PM10 monitors at all five monitoring locations). ASARCO shall continue to follow the quality assurance project plan (“QAPP”) (as modified to reflect the requirements of this Appendix and the Consent Decree) applicable to these monitors under the AOC and otherwise operate them consistent with 40 C.F.R. Part 58 Appendix A. For the purposes of this provision, “continuous” means that 24-hour filters are placed and collected, at a minimum (but it may be more frequent consistent with the requirements of 40 C.F.R. §58.12), every 6 days for the TSP and PM10 monitors and every 3 days for the PM2.5 monitors. ASARCO must provide each filter removed from a monitoring station to a certified laboratory for analysis consistent with the timeframes set forth in the QAPP, but no later than 18 days after the filter’s removal. ASARCO shall also ensure that the laboratory performs its analysis and submits the results to ASARCO as quickly as feasible, but not to exceed 21 days from the lab’s receipt of the filter.
- B. Effective upon Asarco’s takeover of the ambient monitoring stations pursuant to Paragraph B.31.A, Asarco shall calculate, update and maintain as a record the following data within 14 days of receipt of any results pertaining to the monitor filters received from a certified lab: The total pollutants on the filters collected and analyzed according to the QAPP; calculations of PM10 and PM2.5 ambient

levels per twenty-four (24) hour period expressed as ug/m³; calculations of thirty (30)-day rolling average ambient levels of cadmium, arsenic and lead expressed as ug/m³; and calculations of sixty (60)-day rolling average ambient levels of lead as expressed as ug/m³ for the ST-14 monitoring station only. Effective December 1, 2018, if any of the calculated ambient levels exceed the trigger levels identified in Paragraph B.31.E, ASARCO shall undertake the following actions for the particular pollutant triggered:

- i. Attempt to identify the potential source(s) of the emissions causing the trigger level to be exceeded using all applicable tools and information;
- ii. Within seventy-two (72) hours provide notice to EPA of the readings that exceeded the trigger level(s); and
- iii. Within sixty (60) days after providing the notice to EPA, ASARCO shall submit to EPA for review and approval pursuant to Section VI (Review and Approval of Submittals) an action plan that includes the following: (i) an identification of the date, times, and values of all recorded ambient concentration data that exceeded a trigger level; (ii) an analysis, considering and describing all applicable tools and information, identifying the source(s) with reasonable certainty for the trigger level being exceeded; (iii) to the extent that ASARCO is unable to identify the source(s) with reasonable certainty based upon existing tools and information, a proposal for additional expedited data gathering necessary to reasonably identify the source(s) along with a schedule for submittal of the data and the source analysis described herein or an explanation of the reasons such data gathering is not feasible and/or is not reasonably likely to provide information to enable ASARCO to identify the source(s) with reasonable certainty; and (iv) to the extent ASARCO has been able to identify the source(s) with reasonable certainty, a proposal for modifications to the Dust Plan that include enforceable new terms, conditions and practicable new control(s) that ensure that ambient levels will continuously be maintained at or below the trigger level along with an analysis of why this proposal meets this requirement (in the case that additional data is being gathered, these proposed modifications shall be submitted to EPA for review and approval at such time that the source analysis is submitted). ASARCO is not required to include in its proposed modification to the Dust Plan any additional controls for the process emissions not covered under the Dust Plan at the Facility.
- iv. In any Dispute Resolution arising out of the ASARCO's submittal of an action plan to EPA under this Paragraph, the standard of review set forth in Paragraph 89.a of the Consent Decree (Standard of Review) shall not apply; rather Asarco shall bear the burden of demonstrating by a preponderance of

the evidence that either 1) it has not been able to identify the source(s) with reasonable certainty; 2) its proposed modifications, or lack thereof, will ensure that ambient levels are continuously maintained at or below the trigger levels; 3) that despite best efforts, ASARCO has been unable to identify any modification that would better ensure that ambient levels are continuously maintained at or below the trigger level; or 4) that any particular potential control(s) and/or its associated potential reduction in emissions are not practicable.

- C. At any point after April 1, 2018, ASARCO may request that EPA revise the trigger levels for one or more of the non-NAAQS pollutants. Any such request shall propose new trigger level(s) with supporting technical documentation and analysis. EPA shall approve, approve in part with revisions (such as establishing a different trigger level) or deny the request within ninety (90) days of its receipt of the request. Upon a denial or approval in part of a request for a modification to the trigger level(s), ASARCO may either invoke Dispute Resolution or resubmit its request addressing any deficiencies identified in the denial of the request. In any Dispute Resolution regarding whether trigger levels for one or more on the non-NAAQS pollutants should be revised under this Paragraph, Paragraph 89.a of the Consent Decree (Standard of Review) shall not apply; rather, ASARCO shall bear the burden of demonstrating by a preponderance of the evidence that its proposed trigger levels are protective of human health and the environment.
- D. At any point after April 1, 2018, EPA may request that ASARCO agree to revise the trigger levels for one or more of the non-NAAQS pollutants. Any such request shall propose new trigger level(s) with supporting technical documentation and analysis. ASARCO shall provide notice to EPA that it agrees or disagrees with EPA's request within ninety (90) days of its receipt of the request. Upon receipt of notice from ASARCO that it disagrees with EPA's request, EPA may invoke Dispute Resolution. In any Dispute Resolution regarding whether trigger levels for one or more on the non-NAAQS pollutants should be revised under this Paragraph, Paragraph 89.a of the Consent Decree (Standard of Review) shall not apply; rather, EPA shall bear the burden of demonstrating by a preponderance of the evidence that its proposed trigger levels are protective of human health and the environment.
- E. Trigger Levels:
- i. For all ambient monitoring stations other than ST-14, ambient trigger levels for NAAQS pollutants for purposes of this Paragraph are:

1. 125 ug/m³ for PM₁₀ per twenty-four (24) hours.
2. 35 ug/m³ for PM_{2.5} per twenty-four (24) hours.

3. 0.15 ug/m³ for lead per thirty (30)-day rolling average.
- ii. For all ambient monitoring stations other than ST-14, ambient trigger levels for non-NAAQS pollutants for purposes of this Paragraph are:
 1. 0.016 ug/m³ for arsenic per thirty (30)-day rolling average.
 2. 0.01 ug/m³ for cadmium per thirty (30)-day rolling average.
 - iii. For ambient monitoring station ST-14, ambient trigger levels for NAAQS pollutants for purposes of this Paragraph are:
 1. 150 ug/m³ for PM₁₀ per twenty-four (24) hours.
 2. 35 ug/m³ for PM_{2.5} per twenty-four (24) hours.
 3. 0.15 ug/m³ for lead per sixty (60)-day rolling average.
 - iv. For ambient monitoring station ST-14, ambient trigger levels for non-NAAQS pollutants for purposes of this Paragraph are:
 1. 0.029 ug/m³ for arsenic per thirty (30)-day rolling average.
 2. 0.018 ug/m³ for cadmium per thirty (30)-day rolling average.
- F. The monitoring obligations in this Paragraph B.31 (but not the trigger levels) shall be incorporated into the Air Quality Permit for the Hayden Facility in accordance with Section XIV (Permits). Provided that ASARCO has complied with the monitoring requirements of this Paragraph B.31, that trigger levels have not been exceeded in the three years prior to a request or motion for Termination, and that any prior instances of trigger levels being exceeded have been addressed in accordance with the requirements of Paragraph B.31.B, above, the monitoring results under this Paragraph B.31 shall not be included in the Paragraph 121 evaluation of whether ASARCO has otherwise complied with all other requirements of this Consent Decree for a period of five years.

32. **Meteorological Stations**

- A. ASARCO shall maintain equipment at the Camera Hill ambient monitoring location and the five ambient air monitor locations identified in Paragraph B.31 that, on a continuous basis, measure and record wind speed and wind direction, including calculation of the average wind speed (in miles per hour) at each location over fifteen (15) minutes, rolled each minute.

- B. As part of the Dust Plan, ASARCO shall include additional controls and measures for sources subject to increased dust emissions during High Wind events. These additional controls, which shall include curtailment or other alteration of the activity when appropriate, must be implemented at these sources during all periods of High Wind.

33. **Third Party Audits**

- A. Within thirty (30) days of the Date of Lodging of the Consent Decree, ASARCO shall employ one or more third party contractors to complete the following audits, which shall be documented in an audit report and considered as part of the proposed Dust Plan:
- i. Existing Sprayers: Review current practices in regard to the existing Sprayers, including the location and number of Sprayers, the type of Sprayers, and the operational requirements for the Sprayers, and provide recommendations regarding modification to existing Sprayers and additional practices and measures needed to meet the nominal 10% surface moisture content objective of the Dust Plan and minimize fugitive emissions to the greatest extent practicable. Recommend operational requirements for these Sprayers, such as a fixed watering schedule and intensity, along with the associated monitoring requirements (including, as appropriate, use of pressure gauges, flow meters and/or totalizers), necessary to meet the Dust Plan objectives.
 - ii. New Sprayers: Identify the location for and type and number of new Sprayers necessary for each fugitive dust source to meet the nominal 10% surface moisture content objective of the Dust Plan and minimize fugitive emissions to the greatest extent practicable. Recommend operational requirements for these Sprayers, such as fixed watering schedule and intensity, along with the associated monitoring requirements (including, as appropriate, use of pressure gauges, flow meters and/or totalizers), necessary to meet the Dust Plan objectives.
 - iii. Manual Watering of Loose Materials: Identify and recommend modifications in regard to the manual watering of loose materials piles and other sources to be manually wetted under the Dust Plan, including a proposed fixed watering schedule and intensity, necessary to meet the 10% surface moisture content objective of the Dust Plan and minimize fugitive emissions to the greatest extent practicable.
 - iv. Dust Suppressant Application to Unpaved Roads: Evaluate traffic patterns on all unpaved Roads and recommend chemical dust suppressant

application intensity and fixed schedules targeted to meet a 90% control efficiency for all unpaved Roads.

- v. Emissions Controls for Conveyor Systems: Review current practices and configurations of conveyors at the Facility, and provide recommendations for improvements to the conveyor systems to minimize fugitive dust emissions to the maximum extent practicable, including but not limited to: whether transfer points should be hooded; whether additional Sprayers should be installed; and whether scrapers, brushes or cleaning systems should be upgraded or added where belts loop around themselves to catch and contain material before it falls to the ground.
 - vi. Ventilation Systems: Review the control systems for the crusher and fine ore storage buildings, and make recommendations for improvements to the systems to minimize fugitive dust emission to the maximum extent practicable. The review shall include whether each baghouse/scrubber/PM control is properly sized given the predicted maximum potential air flow from each ventilated process unit; the structure and design of all enclosures to ensure that the containment of dust producing material is optimized; operational requirements to ensure that the fans and control devices are properly working at all times; necessary amperage levels for fans that ensure optimal ventilation (i.e. negative pressure) at all times; and identification of monitoring requirements that ensure that the ventilation-based control systems are properly functioning at all times. Provide recommendations regarding the use of long-path optical density/opacity monitors to detect any dust emissions at major openings for each ventilated unit, including the number and placement of the monitors and the appropriate trigger level for corrective action.
- B. As part of the Dust Plan, ASARCO shall either accept the recommendations of the third party contractor(s), and incorporate the provisions into the Dust Plan, or explain why it rejected or modified the recommendation.
- C. ASARCO shall provide copies of all draft and final findings, reports and recommendations by the contractor(s) to EPA within three (3) business days of the time they are provided to ASARCO.
- D. Any third party contractor employed by ASARCO under this Appendix must have at least a post-secondary degree in engineering or an equivalent discipline and 5 years of experience in the relevant area of expertise, and be identified to EPA for approval prior to use as a third party auditor.

34. **Training**

- A. On an annual basis, employees and/or contractors responsible for compliance with the Dust Plan shall take a training focused on understanding and complying with the control measures required by the Dust Plan.
- B. The employee(s) responsible for taking Method 9 measurements shall be Method 9 certified.

35. **Recordkeeping**

- A. All records maintained for purposes of the Dust Plan shall be maintained in a recordkeeping log or recordkeeping system.
- B. At a minimum, ASARCO shall maintain the following records, including the dates and times for each observation/activity, the name and/or initial of the employee documenting each activity, and the nature and location of each observation/activity:
 - i. Each instance of observed visible emissions of 15% opacity or greater, along with a description of any corrective action undertaken and its success.
 - ii. Each instance where the optical density/opacity monitors indicates opacity above the level set pursuant to Paragraph B.30.D, along with the following information: (i) the date, time, level, and duration of any measurable opacity event greater than the established opacity over a six (6) minute period or greater; (ii) the location of the optical density/opacity monitor that recorded such data; and (iii) a description of the nature and timing of any corrective action taken.
 - iii. Sprayer operations, including timing and intensity of watering (i.e. flow rate, pressure, totalizer readings) to be captured in the DCS.
 - iv. Timing, location and amount of chemical suppressant and water applied to unpaved Roads (in the case of chemical suppressant, identification of the type of suppressant), and a description of the nature and timing of any additional corrective action taken, as necessary, to minimize emissions to the greatest extent practicable.
 - v. Timing and location of all sweeping and cleaning of trackout or spillage material.
 - vi. Timing and location of all washdown of concrete areas.

- vii. Timing and location of all sump cleanouts.
 - viii. Results of all visible emissions surveys and Method 9 readings.
 - ix. Continuous DCS records of ventilation rates and scrubber operating parameters, including ore processing times.
 - x. Continuous DCS records of refractory crushing operations and the associated baghouse parameters.
 - xi. Appropriate DCS records for operating conditions for the newly designed acid plant scrubber blowdown system.
 - xii. Records of quantity generated and ultimate fate of dust from new converter spray chambers and converter electrostatic precipitator.
 - xiii. DCS records of building pressure for the fine ore storage building and scrubber operating parameters.
 - xiv. Records of application of dust suppressant and/or decomposed granite and quantity applied in areas associated with the tailings facilities.
 - xv. Calibration records for all measurement devices (i.e. flow monitors, pressure gauges, opacity monitors), including maintenance of manufacture's manuals or other documentation for suggested calibration schedules and accuracy levels for each measurement device.
 - xvi. Continuous DCS and/or other continuous records of wind data from the meteorological station(s).
 - xvii. Raw monitoring data and calculated ambient levels from the ambient monitoring stations maintained pursuant to Paragraph B.31.
- C. For each inspection required by Paragraph B.28.B, ASARCO shall maintain in the log the completed inspection sheet or checklist required by Paragraph B.28.A.
- D. ASARCO shall maintain in the log which employees took the Dust Plan training or Method 9 certification course, the date of the training and/or certification, and the nature of the material included in the Dust Plan training.

36. **Reporting**

- A. On a quarterly basis, ASARCO shall submit a report to EPA covering the prior quarter that includes the following information and data:

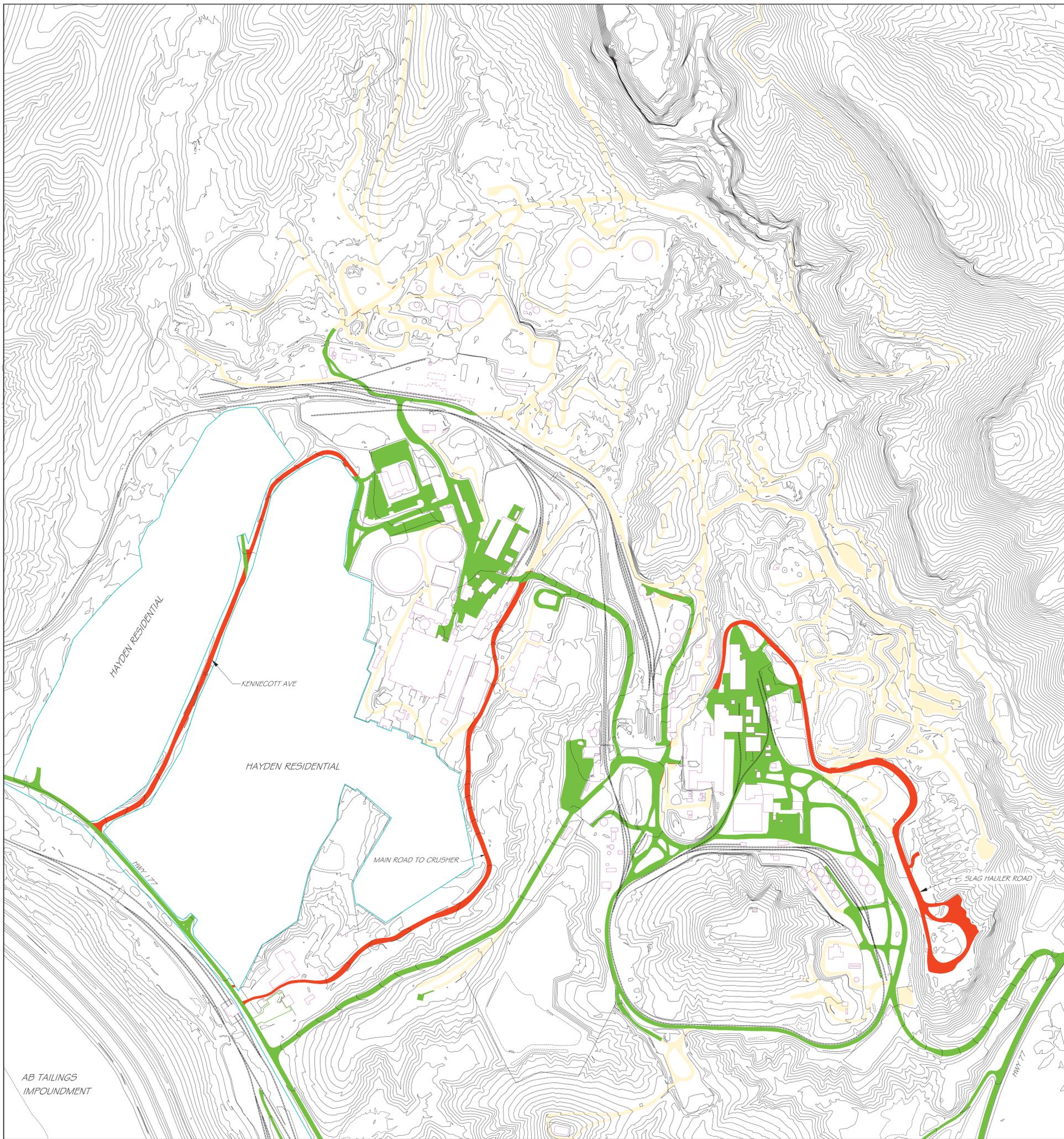
- i. All instances where observed fugitive emissions coming from areas other than the building housing the copper converter department was 15 percent or greater.
 - ii. All instances where corrective action was required pursuant to the Dust Plan, with identification of the emission source involved, what triggered the corrective action, what action ASARCO undertook to abate or mitigate the problem, and whether the corrective action achieved the intended results.
 - iii. A summary of activities undertaken pursuant to the Closure and Vegetation Plan, including (as appropriate) studies performed, measures put into place, and monitoring of progress of vegetation.
 - iv. A summary of the progress of all new construction, installation, upgrades or modifications to equipment or structures at the Facility pursuant to the Dust Plan, including (as appropriate) dates of commencement and completion of construction, dates of operations of new or modified equipment or structures, and dates old or outdated equipment or structures were permanently retired.
 - v. Raw monitoring data and calculated ambient levels (24-hour concentrations and rolling averages) from the ambient monitoring stations maintained pursuant to Paragraph B.31, to the extent that ASARCO has begun ambient monitoring pursuant to the Dust Plan.
 - vi. The date of all High Wind events, with an identification of the location of the reading, wind speed and duration of the event, and a description of actions taken as a result of the event on a source-by-source basis.
 - vii. A summary of all times when the DCS system was not recording data, and a summary and indication of the period when recorded data was outside of established operating parameters.
- B. ASARCO may submit these quarterly reports electronically to the email address identified by EPA.

APPENDIX C
SWITCH LOCOMOTIVE SUPPLEMENTAL ENVIRONMENTAL PROJECT

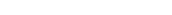
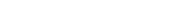
ASARCO shall perform the Switch Locomotive Supplemental Environmental Project (“SEP”) required by Section VIII in accordance with that Section and the following requirements:

- A. The Switch Locomotive SEP is designed to reduce emissions of NO_x, which is also a precursor to PM_{2.5}, in diesel vehicle exhaust from train switch locomotives moving ore and/or copper concentrate at the Facility. Further, the replacement locomotive will have a diesel-electric engine and so will also reduce emissions of greenhouse gases.
- B. No later than three (3) years after the Effective Date of this Consent Decree, ASARCO shall purchase and have operational at the Facility one new diesel-electric switch locomotive, described in paragraph E below, to replace one of the current diesel switch locomotives moving ore and/or copper concentrate at the Facility.
- C. ASARCO shall ensure, contractually or otherwise, that (i) the new switch locomotive is used, on an ongoing basis, as one of the primary switch locomotives moving ore and/or copper concentrate at the Hayden Facility; and (ii) the replaced switch locomotive is rendered permanently inoperable and properly disposed of within 90 days of operation of the new switch locomotive.
- D. ASARCO may utilize contractors or consultants to assist in the implementation of the Switch Locomotive SEP.
- E. The switch locomotive purchased for purposes of this SEP shall meet all applicable engine standards, certifications, and/or verifications. At a minimum, the new switch locomotive shall be diesel-electric and shall be powered by engines meeting Tier 3 or cleaner nonroad engine standards or be certified to meet Tier 3 or cleaner locomotive standards and shall comply with all applicable engine or locomotive requirements, as appropriate, while in service. The replaced switch locomotive shall utilize emission control technologies of an unregulated, Tier 0, or Tier 1 locomotive.
- F. In addition to the information specified in Paragraph 45 of the Consent Decree, ASARCO shall provide in the SEP Completion Report a copy of the invoice(s) for the purchase of the new switch locomotive, description of how the replaced switch locomotive was rendered inoperable and disposed of, and certificates of completion of all work.

APPENDIX D
FACILITY ROAD MAP



LEGEND:

-  HAYDEN RESIDENTIAL BOUNDARY
-  PAVED ROAD
-  UNPAVED ROAD- MODERATE TRAFFIC
-  UNPAVED ROAD- LOW TRAFFIC / PRIMITIVE
-  TOPO CONTOUR BOUNDARY
-  FENCE
-  BUILDING OR STRUCTURE
-  RAILROAD

DRAWN BY: D. DAY II

DATE: 27 MAY 2014

REV: 0

SCALE:



ASARCO HAYDEN OPERATIONS ROAD SURVEY



APPENDIX E
INACTIVE TAILINGS FACILITIES AND CALCIUM SULFATE POND MAP



APPENDIX F
CLOSED SLAG DUMP AREA MAP

