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Sent: Friday, January 20, 2012 4:29 PM
To: Jay Chen; Charles Tupac; Thomas Liebel
Cc: Marco Polo; Mopas, Ed
Subject: Exide 1420-1 Compliance Plan - 01/20/2012
Attachments: Exide 1420-1 Compliance Plan-012012.pdf

Dear Jay:

I appreciate the effort of you and your team for continuing to work with Exide on coming to a mutual agreement and finalizing the Compliance Plan. We are making significant progress in reducing emissions to NAAQS/1420.1 levels and anticipate additional improvement as we aggressively complete the projects in progress. I've attached the most up-to-date revision of the Compliance Plan combining the December 15, 2011 Compliance Plan submission with the Final 1420.1 conditions letter we received from Tom on January 18, 2012. Due to the short turnaround time requested of this document, we will be submitting a hardcopy and fees on Monday. We confirmed with Charlie this would be acceptable.

Regards,

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JAN 20 2012

JAY CHEN
SR. MANAGER



Compliance Plan
SCAQMD Rule 1420.1

Prepared for:
Exide Technologies
Vernon, California

Prepared by:
ENVIRON International Corporation
Irvine and Los Angeles, California

Date:
January 2012

Project Number:
07-26544A

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1 Executive Summary

Exide Technologies, Inc.'s (Exide) Rule 1420.1(g) Compliance Plan describes additional lead emission reduction and control measures to assure compliance with the National Ambient Air Quality Standard of $0.15 \mu\text{g}/\text{m}^3$ on a three-month rolling average and Rule 1420.1(d)(2) averaged over 30 consecutive days after January 1, 2012, if Exide does not demonstrate compliance with those standards.

Exide submitted its initial Compliance Plan in August 2011. On December 15, 2011, Exide submitted a revised Compliance Plan in order address the South Coast Air Quality Management District's December 1, 2011 correspondence (correspondence attached hereto as Appendix B). Exide and the District thereafter engaged in further communication regarding measures to be implemented, and Exide now submits this second revised Compliance Plan at the District's request. Exide has worked in good faith with the District throughout this process.

Exide has diligently undertaken lead emission reduction measures that fall into two general categories: (a) measures required by South Coast Air Quality Management District Rule 1420.1 ("Rule-Required Measures"), and (b) Rule 1420.1(g) Compliance Plan additional lead emission reduction Measures ("Rule Compliance Plan Additional Lead Emission Reduction Measures").

The Rule Compliance Plan Additional Lead Emission Reduction Measures can be further divided into two sub-categories: (i) additional lead emission reduction measures that Exide has already proactively implemented ("Compliance Plan Early Action Measures" or "Early Action Measures"), and (ii) additional lead emission reduction measures that Exide will implement if it does not satisfy the ambient standards beginning with and after January 2012 ("Compliance Plan Contingent Measures" or "Contingent Measures").

Though many of these Rule-Required Measures and Compliance Plan Early Action Measures are complete (and have greatly reduced ambient air lead concentrations), several have only recently been implemented or are still in progress. Therefore, the full emissions-reduction impact of these measures is yet to come, and Exide is reasonably assured that it will comply with the ambient standards after January 1, 2012. Indeed, Exide is satisfying emissions standards as of the date of this January 2012 Compliance Plan submittal. If Exide does not satisfy the NAAQS standard in the future, Exide is prepared to implement the additional Compliance Plan Contingent measures to achieve compliance.

1.1 Rule Required Measures

Exide has worked diligently to implement all measures required by Rule 1420.1. These Rule-Required Measures include:

- Exide has completed construction of total enclosures of the battery breaking areas, the materials and storage and handling areas, the dryer and dryer areas, the smelting furnaces and furnace areas, the agglomerating furnace, and the refining and casting areas. [Rule 1420.1(e)]
- Exide has completed work to vent its lead point sources, such as the reverb and blast furnace and lead refining kettles, to baghouses and other air pollution emissions controls. [Rule 1420.1(f)(1)]

- Exide has succeeded in reducing total facility mass lead emissions from all lead point sources to below 0.045 pounds of lead per hour. [Rule 1420.1(f)(2)]
- Exide has installed secondary emissions controls (a HEPA after-filter) on its existing rotary kiln dryer to reduce point source lead emissions. [Rule 1420.1(f)(3)]
- Exide has installed secondary HEPA after-filters between the North and South Torit baghouses outlet and the existing fan inlet. [Rule 1420.1(f)(4)]
- Exide has installed PTFE filter bags in the MAC baghouse. [Rule 1420.1(f)(5)].

These completed Rule-Required Measures have allowed Exide to significantly reduce ambient air concentrations to levels approaching the NAAQS standard. Because certain of the Rule-Required Measures have only just been completed, the full positive impact of these measures has yet to appear in Exide's ambient monitoring results.

1.2 Compliance Plan Early Action Measures

In addition to 1420.1 Rule-Required Measures, Exide has voluntarily implemented several additional Compliance Plan Early Action Measures designed to achieve the NAAQS. Exide voluntarily undertook these Compliance Plan Early Action Measures (not all of which are complete, with the full positive impact still to come) in an abundance of caution even before it submitted the initial Compliance Plan in August 2011. Exide has diligently continued to work on these Compliance Plan Early Action Measures throughout 2011 and 2012, even as the Compliance Plan was being reviewed by the District. In other words, many of these Compliance Plan Early Action Measures have or already are being implemented proactively as "additional lead emission reduction measures" under Rule 1420.1(g).

These additional Compliance Plan Early Action Measures include:

- Exide has obtained the necessary permits and approvals to fully enclose its "Baghouse Row" (an area of nine baghouses between the furnace and feed prep building) which will be ventilated so as to provide the necessary in-draft velocity and negative pressure for the new enclosure. The design of this enclosure has been completed and the construction air permit received. Construction of the enclosure has commenced and is well underway. The enclosure, which is a major capital project designed to significantly reduce point-source emissions, was initially expected to be complete by the end of 2011. However, due to unexpected delays in material delivery (i.e. steel for the enclosure), Exide now expects to complete the enclosure by March 31, 2012. Exide's air modeling demonstrates that the Baghouse Row enclosure will succeed in achieving the NAAQS.
- Exide has already diligently and voluntarily undertaken and/or implemented the following Compliance Plan Early Action Measures as proactive "additional lead emissions reduction measures":
 - 1) Installed doors between the shipping and smelting building areas to enhance negative pressure in the smelting building.
 - 2) Installed an automated door on the Southeast end of the feed corridor connecting the reverb and blast feed rooms to reduce the amount of time that door is open.
 - 3) Installed a new vehicle wheel wash station in the west yard of the plant.

- 4) Completely resurfaced the west yard of the facility to enhance the effectiveness of pavement cleaning activities.
- 5) Installed MERV 15 rated cartridge filters in the North and South Torit collectors
- 6) Upgrading Dry Sweepers to a combination hybrid dry sweeper / wet scrubbing ride-on pavement cleaning unit for use on plant yard paved areas to enhance pavement cleaning efforts. [Completed by October 2011]. Placed an order for a second scrubber/sweeper in December 2011.
- 7) Install ventilated negative pressure enclosure for “Baghouse Row” [to be completed by March 2012]
- 8) Modifying the railcar dock at the south end of the smelting building to allow the direct receipt of industrial battery plates into the blast furnace feed room. [to be completed by March 31, 2012]
- 9) Replacing strip curtains with doors on north and south end of RMPS building. [completed by December 31, 2011]
- 10) Installing a new vehicle and equipment decontamination and wash area at the north end of Baghouse Row as part of the Baghouse Row enclosure construction. [completed by December 31, 2011]
- 11) Discontinued use of the mobile equipment wash area at the south end of the plant in December. Closure to be completed pending DTSC Permitted Unit closure requirements.
- 12) Focused housekeeping on roofs and other horizontal surfaces in Baghouse Row. [ongoing during 2011-2012] A second contractor has been added to perform this service and other cleaning services related to fugitive dust control efforts.

In addition to those measures already implemented or in progress, Exide has agreed to implement the following (either by its own suggestion or at the District’s request):

- 13) Exide will be installing two backup diesel generators to supply sufficient electrical power to drive the exhaust fans for the two metallurgical furnace process off-gas baghouses and the two Torit collection systems in the event of a power outage. This will ensure that off-gases from the furnaces themselves continue to be drawn through fabric filtration during such outages. By continuing to drive the Torit fans suction can be maintained on the main smelting building enclosure during such upset events. Exide will submit any air permit applications necessary for installation of the diesel engines associated with these generators by May 2012. [voluntary work, to be completed by June 2012]
- 14) Exide will install a minimum of six (6) boot wash stations at the exits of the total containment buildings [as requested by District, to be completed by June 30, 2012]
- 15) Exide will designate one or more forklifts to be used exclusively inside of total containment buildings [as requested by District, to be completed by June 30, 2012]

Exide's diligent actions have already dramatically lowered ambient lead emission concentrations. By continuing its additional Compliance Plan Early Action Measures and completing the Baghouse Row enclosure, Exide reasonably expects to achieve and maintain the 0.15 $\mu\text{g}/\text{m}^3$ ambient lead standard.

1.3 Compliance Plan Contingent and Future Measures

Exide's diligent and aggressive voluntary Compliance Plan Early Action Measures are expected to reduce lead emissions to satisfy the NAAQS. Should it not achieve the NAAQS, Exide will be prepared to promptly implement additional compliance measures on a contingent basis to further reduce fugitive emissions. These measures include:

- Application of an elastomeric coating to the roof of the battery breaker building to enhance the maintainability of the roof and prevent the development of pinhole leaks over time.

Finally, pursuant to Rule 1420.1, Exide has considered other reduction options, including but not limited to whether process changes such as reduced throughput limits and conditional curtailments would assist in achieving NAAQS requirements. Exide has demonstrated that there is no relationship between throughput rates and ambient lead concentrations at its facility, such that reduced throughput (even on a conditional basis) would not be expected to further reduce emissions to achieve the NAAQS. [See Section 5.2.6, *infra*] Exide therefore does not believe it is appropriate to include throughput and conditional curtailments as self-implementing "additional lead emissions reductions measures" in this Compliance Plan. Nonetheless, Exide submitted a possible structure for conditional curtailments in its revised Compliance Plan (submitted December 2011), modeled to reflect the District Hearing Board's preference (stated in its 2008 order) for reasonable and proportional curtailments. Exide and the District have continued to discuss potential curtailment options in December and January, and Exide has now in good faith agreed to the curtailment structure reflected in this second revised Compliance Plan.

In summary, Exide has diligently completed Rule-Required Measures and has proactively and voluntarily undertaken other Compliance Plan Early Action Measures (some recently implemented, others not yet complete) designed to achieve the NAAQS and Rule 1420.1 (d)(2) ambient concentration limit after January 1, 2012. These actions have greatly reduced emissions (and Exide is currently in compliance with emissions standards), but their full effect is not yet known and will not be known until the end of April 2012. Exide has verified through air modeling that its completion of certain measures (especially full enclosures of all process areas) will result in ambient compliance. However, if Exide continues to exceed the ambient concentration limits in 2012, Exide is prepared to promptly implement additional Compliance Plan Contingent Measures to reduce emissions.

For ease of reference, a complete chart listing all Additional Compliance Plan Lead Emission Reduction Measures (both Early Action Measures and Contingent Measures) and their completion dates and implementation schedule can be found at Appendix A. Appendix A also includes graphics indicating the location of each activity. In addition, Appendix C sets forth the negotiated and District-approved conditions that Exide must satisfy.

2 Introduction

2.1 Facility Location

The Exide facility (SCAQMD ID # 124838) is located at 2700 South Indiana Street, Vernon, California. Exide is a secondary lead smelter that recycles lead batteries and other lead-bearing scrap materials. Figure 1 shows the facility and its vicinity. The land use in the immediate vicinity (up to 1.5 kilometers [km] radius) of the facility is industrial and the topography around the facility is primarily flat. The facility's layout showing the locations of the various buildings and the stacks are presented on Figure 2.

2.2 Process Description

Spent lead-acid batteries and other lead-bearing scrap materials are delivered to the facility by trucks, where the batteries and scraps are crushed, separated, and smelted to recover lead and propylene.

The spent lead-acid batteries and lead-bearing scrap are first broken apart and separated into the plastic, lead, and acid components. The plastic is recovered, and the acid is sent to a holding tank. The lead-containing components are transferred into one of the feed rooms, where they are then fed by conveyor to either the Reverberatory (Reverb) furnace (Device D119) or the Blast furnace (Device D128), which are each used to heat the lead until it reaches a molten state.

The lead refining kettles are used to purify the hot, molten lead that is produced during the smelting process. Each kettle sits inside a brick-lined pit, housing natural gas-fired burners. The burners heat the air between the burners and the kettle, thereby heating the kettle. The kettles are continuously heated; however, there are usually only two or three kettles that contain material at any one time. The molten lead in the kettles is repeatedly heated, agitated with a mixer, and allowed to cool, with periodic stirring and additions of refining agents.

The refined lead is then formed into ingots, which are subsequently transferred to the Finished Lead Storage Building.

2.3 Rule 1420.1 Requirements

On November 12, 2008, the United States EPA published the Final Rule in the Federal Register revising the NAAQS for lead from $1.5 \mu\text{g}/\text{m}^3$ to $0.15 \mu\text{g}/\text{m}^3$ measured on a three-month rolling average.

On November 5, 2010, the SCAQMD Governing Board adopted Rule 1420.1 (Emissions Standards for Lead from Large Lead-Acid Battery Recycling Facilities). Rule 1420.1(d)(2) prohibits a covered facility from discharging lead emissions exceeding $0.15 \mu\text{g}/\text{m}^3$ averaged over any 30 consecutive days. The Rule requires covered facilities to implement certain practices and emission control measures to attain the Lead NAAQS standard with the 30-day period starting January 1, 2012.

Pursuant to Rule 1420.1(g), starting on July 1, 2011, if the facility discharges lead emissions that exceed $0.12 \mu\text{g}/\text{m}^3$ averaged over any 30 consecutive days, the facility shall submit a

Compliance Plan that contains a description of additional lead emission reduction measures to achieve the ambient lead concentration of $0.15 \mu\text{g}/\text{m}^3$ averaged over any 30 consecutive days.

3 Rule 1420.1 Required Measures

Rule 1420.1 establishes several requirements intended to ensure compliance with the revised Lead ambient air quality standard of 0.15 µg/m³. Rule 1420.1(e) specifies the requirements for Total Enclosures. Rule 1420.1(f) specifies the requirements for Lead Point Source Emission Controls.

Exide has complied with the mandatory provisions of Rule 1420.1, as set forth below. This work has significantly reduced both fugitive and point source lead emissions to levels approaching the NAAQS.

3.1 Total Enclosures Required by Rule 1420.1

Rule 1420.1(e) requires that the following areas be enclosed within a total enclosure as defined by Rule 1420.1(c)(25):

- (A) Battery breaking areas;
- (B) Materials storage and handling areas, excluding areas where unbroken lead-acid batteries and finished lead products are stored;
- (C) Dryer and dryer areas including transition pieces, charging hoppers, chutes, and skip hoists conveying any lead-containing material;
- (D) Smelting furnaces and smelting furnace areas charging any lead-containing material;
- (E) Agglomerating furnaces and agglomerating furnace areas charging any lead-containing material; and
- (F) Refining and casting areas.

As of July 1, 2011 Exide has enclosed all required areas. Table 1 summarizes this work.

Table 1. Total Enclosures at Exide

Control Device Description	Equipment/Area Controlled
Total enclosure around RMPS area	Fugitive emissions in RMPS area
Total enclosure around dryer	Fugitive emissions from rotary dryer furnace (D115)
Total enclosure around smelting and refining processes	Fugitive emissions from smelting and refining processes
Total enclosure around South Corridor between Smelting and Refining building and Reverb Furnace Feed Room	Fugitive emissions in South Corridor
Partial enclosure/tunnel for truck washing station	Minimize lead-contaminated water from spraying outside truck washing station

3.2 Lead Point Source Emission Controls Required by Rule 1420.1

Rule 1420.1(f) requires that each lead control device meet certain requirements. Exide's compliance with these Rule requirements is summarized below.

3.2.1 Lead Point Sources Vented to Emission Controls [Rule 1420.1(f)(1)]

Exide currently employs multiple types of air pollution control (APC) equipment and other emission reduction measures in order to reduce the amount of process lead emissions. A list of the currently permitted, installed and fully operational control equipment (as of the date of this plan) is provided in Table 2.

Table 2. Currently Permitted Control Equipment at Exide

Control Device Description	Equipment/Area Controlled
Baghouses/Dust Collectors/Scrubbers	
C40 – baghouse; C41 – baghouse;	Reverb furnace (D119)
C44 – afterburner; C45 – baghouse	Blast furnace (D128)
C42 – venturi scrubber; C43 – tray scrubber; S139 – stack	APC 1 (C40, C41), APC 2 (C44, C45)
Hard Lead baghouse	Lead refining kettles and dross hoppers (D7 – D20), Blast furnace tapping ports and launders (D129 – D134), rotary dryer furnace enclosure (C177)
Soft Lead baghouse	Lead refining kettles and dross hoppers (D24 – D37), Reverb furnace feeders (D117, D118), Reverb furnace tapping ports and launders (D120 – D125), fugitive emissions from Quench Chamber cleanout door (D149)
Material Handling baghouse	Central Vacuum System A (C159, C160), Central Vacuum System B (C162, C163), Blast Furnace feed hopper (D126)
C165 – packed bed scrubber; C172 – HEPA filter; S166 – stack	Raw Material Preparation System (RMPS) building (C175), Hammermill (D1), Hammermill feed conveyor (D2), Mud holding tanks (D3 – D5)
North Torit baghouse	Fugitive emissions from the Smelting and Refining building, fugitive emissions from the pending Baghouse Row building
South Torit baghouse	Fugitive emissions from the Smelting and Refining building, fugitive emissions from the pending Baghouse Row building
C143 – cyclone; C144 – baghouse; S145 – stack	Rotary dryer furnace (D115) and screw conveyors (D114, D116)
C156, C157 – MAC baghouses; S158 - stack	RMPS building (C175), lead refining kettle burner stack emissions, rotary dryer hoppers (D109, D110) and conveyors (D111 – D113), South Corridor building (C182)
C159 – cyclone; C160 – baghouse	Fugitive emissions in Blast Furnace Feed Room
C162 – cyclone; C163 – baghouse	Fugitive emissions in Blast Furnace Feed Room

3.2.2 Facility-Wide Emission Limits [Rule 1420.1(f)(2)]

1420.1(f)(2) requires that the total facility mass lead emissions from all point sources shall not exceed 0.045 pounds of lead per hour, a level determined from District dispersion modeling at the time of promulgation of Rule 1420.1 as sufficient to maintain ambient concentration impacts from stack sources below one half the ambient limit. Exide has taken diligent actions to achieve (and even go substantially below) these limits.

As shown in Table 3, the facility-wide Pb emissions from all point sources at Exide are currently below the 0.045 lbs/hr limit.

Rule 1420.1(f)(2) also requires that no single source have lead emissions in excess of 0.01 lbs/hr. As shown in Table 3, all individual sources have a lead emission rate that is less than 0.01 lbs/hr and is in compliance with this section of the Rule.

Table 3. Current Facility-wide Pb Emission Rates

AQMD Device ID	Control Device Description	Area Served	Source Test Date	Source Test Measured (dscfm)	Pb Emissions (lbs/hr)
C38	North Torit	General Ventilation	9/2011	90,694	0.00374
C39	South Torit	General Ventilation	8/23/2011	97,118	0.00321
C156/C157	MAC BHs	GV: RMPS, Kettle Burners, Reverb Feed	8/1-9/1/2011	90,727	0.00339
C48	Material Handling BH	GV: Material Handling & Blast Feed Room	10/12/2010	95,858	0.00115
C165/C172	RMPS MAPCO Demister / HEPA	RMPS	11/10-12/2010	17,270	0.000358
C144/C143	Kiln Dryer BH / Cyclone	Kiln (Rotary Dryer)	9/2011	9,723	0.00202
C42/C43	Neptune-Venturi Scrubber	Blast & Reverb furnaces	9/8/2010	18,059	0.000175
C46	Hard Lead BH	Hard Lead	10/4,5,7/2010	101,832	0.00102
C47	Soft Lead BH	Soft Lead	10/2010	85,435	0.000851
Total				606,716	0.016
					<0.045 limit

3.2.3 Installation of Secondary Controls on Dryer [Rule 1420.1(f)(3)]

On 12/3/2010 Exide submitted a permit application (A/N 516866) to install a HEPA after-filter between the existing rotary kiln dryer baghouse (C144) outlet and the existing fan inlet. Exide completed the HEPA installation by June 30, 2011. Exide therefore reasonably expects that this unit will comply with the requirements of Rule 1420.1(d)(3)(A) and will further reduce the point source lead emissions from the facility in 2011-2012.

3.2.4 Installation of Secondary HEPA Controls [Rule 1420.1(f)(4)]

On 5/13/2011 Exide submitted a permit application (A/N 520575 & A/N 50577) to install a HEPA after-filter between the existing North and South Torit baghouses (C38 & C39) outlet and the existing fan inlet. Exide completed the duct work and HEPA installation on August 9, 2011. Exide completed a source test on this unit by the end of the month. As with the secondary controls on the dryer (Section 3.2.3 above), Exide reasonably expects that this recent addition will further reduce lead emissions in 2011-2012.

3.2.5 Installation of PTFE Filter Bags [Rule 1420.1(f)(5)]

Exide submitted Permit applications (A/N's 520478 & 520501) on 3/31/2011 to install upgraded polytetrafluoroethylene membrane-type (PTFE) filter bags on the MAC baghouses. Exide completed the upgrade and the baghouse leak tested in June 2011. Exide completed a source test on this unit in September 2011.

3.2.6 Summary: Impact of Exide's Rule-Required Measures

Exide's efforts to comply with the mandatory provisions of Rule 1420.1 have resulted in significant reductions of both fugitive and point source lead emissions, with stack emissions, for example, being reduced by approximately one half on a facility-wide basis since the promulgation of the Rule. Because Exide only recently completed several of the required measures, their full positive impact has yet to be fully realized. Thus, Exide expects to show even further emissions reductions and further improvement to ambient levels by the end of 2011 and early 2012 and is expected to demonstrate and maintain compliance once the Baghouse Enclosure is complete.

Exide's actions have significantly reduced ambient lead concentrations (see Table 4), and these reductions are expected to continue into the future. Exide reasonably expects that full compliance will be achieved once the Baghouse Row enclosure is complete.

Table 4. Ambient Air Monitoring Results (30-day Average)

Month	Rail	SE	SW	NE	OSN	MID
July 2011	0.06	0.06	0.08	0.68	0.55	0.21
August 2011	0.07	0.06	0.09	0.70	0.47	0.18
September 2011	0.03	0.06	0.08	0.23	0.25	0.14
October 2011	0.04	0.06	0.18	0.22	0.17	0.14
November 2011	0.03	0.08	0.16	0.18	0.19	0.26
December 2012	0.03	0.05	0.09	0.08	0.11	0.12
January 1-17, 2012	0.03	0.05	0.09	0.07	0.10	0.11

4 Ambient Air Quality Modeling

US EPA's AERMOD dispersion model was used to evaluate the impacts that the Pb reduction Rule-Required Measures and those Early Action Measures currently under construction would have on the ambient Pb concentrations measured at the monitors located at and around the fenceline of the Vernon facility. Inputs to AERMOD included:

- Pb emission rates (lbs/hr) from Point Sources using the rates measured from source tests conducted in late 2010 and early 2011 at the facility;
- Stack heights for the North Torit, South Torit, and MAC Baghouse were increased from 79 feet to 120 feet for and the building parameters reflect the presence of the new Baghouse Row enclosure; and
- Roadway fugitive emissions from the 2007 ATIR were included in this dispersion modeling. Emissions from all other fugitive sources were set to zero to reflect the effect of the pending construction of the "Baghouse Row" enclosure is completed.

Table 5. Source Parameters of AERMOD Runs

Source ID	UTM Coordinates (m)		Emission Rate (g/s)	Release Height (m)	Temp (K)	Velocity (m/s)	Stack Diameter (m)
	X	Y					
MAPCO	389705.7	3763538	8.05E-05	19.35	299.48	4.55	1.09
MAT_STOR	389722.7	3763488	1.18E-03	34.14	300.93	14.14	2.13
SOFTLEAD	389750.0	3763554	8.38E-04	34.14	318.15	14.10	2.03
HARDLEAD	389729.9	3763505	8.35E-04	34.14	311.76	17.17	2.03
DRYER_BH	389769.8	3763525	1.32E-03	36.60	375.22	7.47	0.91
NEPTUNE	389751.4	3763527	2.20E-05	34.14	332.89	8.27	1.16
NOR_CART	389790.5	3763550	3.60E-04	36.60	298.50	11.29	2.13
SOU_CART	389789.3	3763547	5.29E-04	36.60	298.89	15.29	2.13
MAC_BH	389740.1	3763479	2.36E-04	36.60	307.44	18.06	1.82
			0.0054	g/s			
			0.043	lbs/hr			

The modeling results are summarized in Table 6 below.

Table 6. Lead Concentrations at the Monitors Predicted by AERMOD ($\mu\text{g}/\text{m}^3$)

SW_Monitor	SE_Monitor	NE_Monitor	On-Site N	REHRIG	Railway	CP_Monitor
0.00765	0.00338	0.0437	0.02403	0.04657	0.01339	0.0071

For these modeling runs, the emission rates were based on source tests from late 2010 through early 2011. Additional source testing has been in progress as part of the update for the AB2588 HRA. The emission rates that were used in this modeling did not reflect the improvements due to the recent modifications to the air pollution control equipment. The total facility-wide emission rate for all stationary sources used in the modeling was 0.043 lbs/hr. This is greater than the 0.016 lbs/hr facility-wide rate when the most recent source tests are taken into account, but it is still less than the 0.045 lbs/hr limit set by the rule – indicating that the 0.045 lbs/hr facility-wide point source limit established in the Rule is adequate to insure compliance with the ambient standards.

Thus, the modeling results presented in this Plan reflect a worst case scenario when the Vernon plant is emitting lead at a rate just below the Rule limit. As the actual facility-wide emission rate is even less than the modeled rate, the ambient impacts would be less than what is reported here. Figure 3 shows the location of the nearest residential receptors, with the nearest receptor over 0.5 miles from the Vernon fence line.

The modeling results show that once all enclosures have been constructed and fugitive emissions become insignificant; the ambient Pb concentrations at the monitors will be well below the limit of $0.15 \mu\text{g}/\text{m}^3$ established by the Rule. In particular, the above results show that stack emission impacts are well below the $0.15 \mu\text{g}/\text{m}^3$ target concentration. Should the measures already planned and underway for completion by the end of 2011 fail to achieve the $0.15 \mu\text{g}/\text{m}^3$ lead concentration at the monitors on a 30-day average after January 1, 2012, this modeling makes it clear that the issue is not with impacts from stack emissions, but rather fugitive emissions. Any contingent measures (including curtailments) implemented in response to exceedances after January 1, 2012 should, therefore, be directed to fugitive sources.

5 Additional Compliance Plan Lead Emission Reduction Measures

Rule 1420.1(g)(2) requires that the Compliance Plan include the following elements:

- (A) A description of additional lead emission reduction measures to achieve the ambient lead concentration including, but not limited to, requirements for the following:
 - (i) Housekeeping, inspection, and maintenance activities;
 - (ii) Additional total enclosures;
 - (iii) Modifications to lead control devices;
 - (iv) Installation of multi-stage lead control devices;
 - (v) Process changes including reduced throughput limits; and
 - (vi) Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment.
- (B) The locations within the facility and method(s) of implementation for each lead reduction measure of subparagraph (g)(2)(A); and
- (C) An implementation schedule for each lead emission reduction measure of subparagraph (g)(2)(A) to be implemented if lead emissions discharged from the facility contribute to ambient air concentrations of lead that exceed $0.15 \mu\text{g}/\text{m}^3$ averaged over any 30 consecutive days measured at any monitor pursuant to subdivision (j) or at any District-installed monitor. The schedule shall also include a list of the lead reduction measures of subparagraph (g)(2)(A) that can be implemented immediately prior to plan approval.

As previously explained Exide has undertaken various Compliance Plan Early Action Measures (Section 5.1, *et. seq.*) and also proposes Compliance Plan Contingent Measures (Section 5.2, *et. seq.*) to be implemented if Exide has not satisfied the NAAQS beginning in January 2012. A complete list of all Exide's Compliance Plan Lead Emission Reduction Measures is set forth at Appendix A.

5.1 Compliance Plan Early Action Measures

In addition to the control measures required by Rule 1420.1, Exide has proactively undertaken certain additional Compliance Plan Measures that will reduce fugitive lead emissions, which are the primary source of measured concentrations. Exide diligently undertook these measures in an abundance of caution before it formally submitted this Compliance Plan. Exide's Early Action Measures are, in effect, pre-qualified and self-implemented "additional lead emission reduction measures" under Rule 1420.1(g).

Exide has not completed all of these measures, and implementation of others began recently. Exide has therefore not yet realized the full emissions-reducing impact of these voluntary measures. Thus, the exceedance of the $0.12 \mu\text{g}/\text{m}^3$ level triggering this Compliance Plan does not reflect the expected lower lead concentrations to be achieved in 2012. Exide reasonably expects that continued implementation of these Compliance Plan Early Action Measures will

result in compliance with the ambient standards upon completion of the baghouse enclosure, making implementation of any additional Compliance Plan Contingent Measures unnecessary.

5.1.1 “Baghouse Row” Permit Application and Installation

On March 31, 2011, Exide submitted several permit applications (A/Ns 520468, 520577, 520575, 520501, 520478, 520477, & 522622) to enclose the area at the facility known as “Baghouse Row”. Exide operates 9 baghouses in this area, which is between the smelting furnace building and feed prep building. Construction permits have been issued as a result of these applications, design completed, and construction of the enclosure has commenced. The enclosure was previously scheduled to be completed before the end of 2011.

Due to unanticipated material supply delays outside Exide’s control, the Baghouse enclosure will not be complete until March 31, 2012. Exide will work diligently to ensure completion by this date or sooner if possible.

Exide has established an additional budget of \$250K to fund 30 hours/week of additional OT for the next 15 weeks (from December 10, 2011 through March 31, 2012) to accelerate the completion of the Baghouse Row Enclosure and mitigate any risk from weather delays.

The nine baghouses are represented in Exide’s Title V permit as devices C40 and C41 (Reverb Furnace baghouses), C45 (Blast Furnace baghouse), C46 (Hard Lead baghouse), C47 (Soft Lead baghouse), C48 (Material Handling baghouse), C144 (Rotary Dryer baghouse), and C156 and C157 (MAC baghouses). These baghouses control emissions from various parts of Exide’s processes, such as the raw material handling, refining, and smelting processes.

The area where the baghouses are located is currently open to the atmosphere. Exide is planning on building an enclosure around the baghouses in order to reduce fugitive lead emissions. The air inside the enclosure will be vented to existing air pollution control devices which consists of Torit cartridge collectors C38 and C39, respectively. The existing ventilation capacity is expected to be adequate to provide the necessary in-draft velocity and negative pressure for the new enclosure.

The height of the new enclosure will be 79 feet. In order to conform to current building codes, the height of the stacks for C144 (Rotary Dryer), C156 and C157 (MAC Baghouses), C38 (North Torit), and C39 (South Torit) must be increased to 120 feet, which will minimize the effects of building downwash while still meeting stack height rule limits. Exide will also install a differential pressure monitoring system on the new enclosure in compliance with Rule 1420.1. Overall, the voluntary modification to enclose “Baghouse Row” is expected to significantly reduce emissions. Indeed, Section 4 outlined Exide’s ambient air modeling, demonstrating that ambient lead concentrations at all monitors will be less than 0.15 µg/m³ once all enclosures are fully-operational.

5.1.2 Additional Voluntary Fugitive Source Control Compliance Plan Early Action Measures Completed by June 2011

Exide undertook additional Compliance Plan Early Action Measures to reduce fugitive emissions from other locations at the Vernon plant, as summarized in Table 7 below. These measures were underway by July 2011 and will all be completed prior to January 1, 2012 (with the

exception of the Baghouse Row enclosure and related actions). As previously stated, these are “additional lead emissions reductions measures” under Rule 1420.1(g) that Exide has proactively and voluntarily initiated on an early action basis before submitting this formal Compliance Plan.

Table 7. Additional Early Pb Emission Reduction Measures

	Action	Completion Date
1	Install door(s) between shipping and smelting to enhances negative pressure in refining/smelting and reduce draft from shipping.	Oct 2010
2	Install an automated door on the southeast end of the corridor to reduce the amount of time that the door is open	Nov 2010
3	Install a new vehicle wheel wash station in the west yard of the plant	Jun 2011
4	Completely resurface the west yard of the facility to enhance the effectiveness of pavement cleaning activities	Jul 2011
5	Installed MERV 15 rated cartridge filters in the North and South Torit collectors	July 2011
6	Upgraded ride-on yard sweeper to a combination dry sweeper / wet scrubbing unit for cleaning of plant yard pavement. Added additional sweeper/scrubber.	Oct-Dec. 2011
7	Install ventilated negative pressure enclosure for “Baghouse Row”	March/April, 2012
8	Modify railcar dock at the south end of the smelting building to allow receiving of industrial plates and dedicated inside and outside forklifts.	Dec 2011
9	Replace strip curtains with doors at north and south end of RMPS building	Dec 2011
10	Install new vehicle and equipment decontamination and wash area at the north end of baghouse row as part of the baghouse row enclosure construction	Dec 2011
11	Discontinued use of mobile equipment wash area at south of plant. Final closure pending DTSC approval.	pending DTSC approval
12	Focused housekeeping and other horizontal surfaces in Baghouse Row, pending completion of enclosure of area. Secured services of second contractor	Nov 2010- Dec 2011

Certain of the measures were only recently implemented, and their positive effect on emissions is expected to increase as Exide continues to improve its procedures (*i.e.* improved housekeeping on roofs and horizontal surfaces). With these voluntary fugitive reduction Compliance Plan Early Action Measures, along with the required Rule-Required Measures and the pending “Baghouse Row” enclosure, Exide has seen emission reductions during the second half of 2011 and expects further reductions upon completion of these pending measures.

In addition to the items listed in Table 7, Exide has agreed to implement the following items in the near future, either of its own volition or as part of discussions with the District that took place after Exide submitted its revised Compliance Plan on December 15, 2011:

Table 7a Additional Pending Pb Emission Reduction Measures

Action	Completion Date
13. [Voluntary Measure] Exide will be installing two backup diesel generators to supply sufficient electrical power to drive the exhaust fans for the two metallurgical furnace process offgas baghouses and the two Torit collection systems in the event of a power outage. This will ensure that off-gases from the furnaces themselves continue to be drawn through fabric filtration during such outages and by continuing to drive the Torit fans suction can be maintained on the main smelting building enclosure during such upset events. Exide will submit the air permit applications necessary for the installation of the diesel engines associated with these generators by May 2012 and expects to complete installation of these systems by June 2012.	Jun 2012
14. [District-Required Measure] Exide will install a minimum of six (6) boot wash stations at the exits of the total containment buildings.	Jun 2012
15. [District-Required Measure] Exide will designate one or more forklifts to be used exclusively inside of total containment buildings. This Measure relates to and expands upon Measure No. 8 in Table 7.	Jun 2012

5.2 Compliance Plan Contingent and Future Measures

Exide reasonably believes that various measures already completed or underway will allow it to achieve the NAAQS and Rule 1420.1(d)(2) ambient limit. However, if Exide continues to exceed these standards after January 2012, it will undertake further additional “lead reduction measures” (Compliance Plan Contingent Measures) as set forth in this Section.

5.2.1 Additional Compliance Plan Contingent Measures to Achieve the Ambient Lead Concentration

Additional lead emission reduction Compliance Plan Contingent Measures evaluated and proposed to achieve the ambient lead concentration as required by Rule 1420.1(g)(2)(A) are described below.

5.2.2 Additional Compliance Plan Contingent Measures Housekeeping, Inspection, and Maintenance [Rule 1420.1(g)(2)(A)(i)]

In addition to continuing and increasing those already-implemented measures set forth in Table 7, if Exide has not satisfied the ambient standards it will perform the additional maintenance activities actions summarized in Table 8 below.

Table 8. Additional Pb Compliance Plan Contingent Measures

	Action	Completion Date	Emission Source
1	Apply elastomeric coating to the roof and sidewalls of the battery breaker building to enhance maintainability of the roof and prevent development of pinhole leaks over time.	June 2012	Fugitive

5.2.3 Additional Compliance Plan Total Enclosure Measures [Rule 1420.1(g)(2)(A)(ii)]

Once Exide installs the total enclosure for “Baghouse Row” as described in Section 5.1.1, all lead point sources at the Vernon plant will be operating inside total enclosures that will be vented to existing lead control devices.

In addition, a significant portion of the plant property will also be contained within total enclosures. Any fugitive dust generated on these operating areas will be contained and vented to existing lead control devices.

As a result, Exide does not envision that any additional total enclosures (beyond that already described for the enclosure of “Baghouse Row”) will be available to be enclosed that would reduce Pb emissions.

5.2.4 Modifications to Lead Control Devices [Rule 1420.1(g)(2)(A)(iii)]

5.2.5 Installation of Multi-Stage Lead Control Devices [Rule 1420.1(g)(2)(A)(iv)]

The secondary HEPA filters were not yet installed on the North and South Torits by July 1, 2011 so their emission reduction benefits were not being fully felt at the ambient monitors when the original Compliance Plan was submitted. The installation was completed by the end of July with subsequent source tests being performed approximately one month later.

Section 4 outlined the ambient modeling Exide performed demonstrating that ambient Pb concentrations at all monitors will be less than $0.15 \mu\text{g}/\text{m}^3$ once all enclosures are fully operational. As a result, installation of additional multi-stage lead control devices will not be needed to meet the ambient Pb concentration.

5.2.5a Negotiated Potential Contingent and Future Measures

Though Exide maintains that such measures may not be necessary or appropriate (as set forth in sections 5.2.3 – 5.2.5), after discussion with the District, Exide has nonetheless agreed to certain potential contingent measures that may be implemented in the event of a future exceedance. These potential contingent future measures are governed by Conditions 8-11 in Appendix C.

5.2.6 Process Changes, including Reduced Throughput Limits [Rule 1420.1(g)(2)(A)(v)]

Upon careful consideration, Exide has not identified any issues with its basic processes or lead processing equipment and technologies that are hindering achieving the ambient standard. Fundamental process changes are not, therefore, proposed as Contingent Measures. However, as highlighted elsewhere in this Plan, Exide has proposed additional enclosures of those processes and equipment which Exide has modeled to be effective in achieving the NAAQS. With these enclosures (as well as Exide’s other required and voluntary actions under 1420.1), Exide does not expect throughput limits to be necessary.

In order to assess whether process changes or throughput reductions may be necessary or effective, Exide plotted the daily ambient air measurements since 2010 from the specified monitors against the corresponding throughput rates for that day (Figure 4). For this exercise,

throughput is taken as the sum of the reverberatory furnace and blast furnace charging rates. Figure 5 is a bar chart that shows the average daily ambient air measurement for different ranges of daily production rates (tons/day).

All graphs clearly show that, for the plant configurations that existed during the time period represented by these charts, there is no correlation between throughput rate and the measurements taken from the various ambient monitors. At relatively low production rates (< 200 tons/day), the average reading from the indicated monitors is essentially the same as the readings at higher production rates (> 200 tons/day).

As Exide has demonstrated in the past, baghouses and other mechanical filtration devices are constant outlet concentration devices, not constant control efficiency devices. Their emission rates are determined by the concentration of contaminants bleeding through the filtration media which, once the filter media is “loaded” on the inlet side, remains relatively constant and independent of variations of inlet concentrations to the collector. Thus, emissions from such collectors also do not vary with the underlying process rates giving rise to those inlet concentration loadings. Therefore, if the ventilation fan serving a given baghouse is on, emissions are relatively constant and independent of process rates.

Given the demonstrated lack of any relationship between throughput rates and ambient monitor results at this facility, and the underlying principles of operation of the lead emission control devices at this facility, we believe that reduced throughput limits will not reduce lead concentrations at ambient monitors and are not an appropriate element for inclusion as a Compliance Plan measure.

Nonetheless, in its December 2011 revised Compliance Plan Exide suggested an approach that would have reduced throughput limits on a conditional basis. Exide has since negotiated certain conditional curtailments with the District, which are set forth in Section 5.2.7.

5.2.7 Conditional Curtailments [Rule 1420.1(g)(2)(A)(vi)]

As stated in Section 3.1 and elsewhere in this Plan, once Exide completes the installation of the total enclosures, emissions from fugitive sources are not expected to be a major contributor to lead concentrations.

Installation of upgrades at the point sources will ensure compliance with the emission limit established by Rule 1420.1(f)(2). As was stated in Section 3.2.2, the facility-wide Pb emission rate from all point sources from the most recent source tests is much less than the 0.045 lbs/hr limit established by the rule.

Reductions in process throughput will not reduce the lead concentration measured at ambient monitors as was described in section 5.2.6.

Reduction in emissions will be accomplished through the significant reduction in fugitive emissions, the installation of total enclosures and upgrades to the point sources. For the same reasons that “reduced throughput limits” are not an appropriate measure for reducing ambient impacts from this facility, neither are “conditional curtailments” involving processing or

production rates or activities. Exide has demonstrated repeatedly using actual data from this facility that ambient monitor concentrations have no relationship to process throughput rates.

As stated above in Section 4, dispersion modeling indicates that stack emissions would not be the cause should 30-day ambient concentrations exceed $0.15 \mu\text{g}/\text{m}^3$ after completion of the Baghouse Row enclosure. Accordingly, should any activities at the site be conditionally curtailed in response to such an occurrence, the curtailed activities should only be those associated with the potential generation of fugitive emissions rather than process activities that are enclosed and ventilated to point sources.

However, Exide recognizes that the District has requested additional process/throughput curtailment options. Therefore, in order to address the issues raised in the District's December 1, 2011 correspondence, and in the spirit of good faith cooperation with the District, Exide proposed a structure for conditional curtailments in its December 2011 revised Compliance Plan, to be implemented in the event that ambient concentrations exceed the $0.15 \mu\text{g}/\text{m}^3$ standard measured over 30 consecutive days. Exide continues to maintain that, if implemented, a curtailment structure must be reasonable and proportional, must conform to the Hearing Board's 2008 Order (3151-18) and other Hearing Board precedent, and must allow Exide a reasonable due process opportunity to identify and correct episodic causes for potential ambient exceedances without submitting to curtailment.

After its December 2011 submittal, Exide and the District continued to engage in discussions regarding conditional curtailments. In the spirit of good faith, Exide has agreed to implement the following (set forth in Appendix C):

1. On and after January 1, 2012, beginning with the 30-day period of January 1, 2012 through January 30, 2012, if monitored ambient lead concentrations exceed $0.15 \mu\text{g}/\text{m}^3$, but no more than $0.23 \mu\text{g}/\text{m}^3$, on a rolling 30 day average at any AQMD or AQMD-approved ambient monitor, Exide shall implement the following mandatory daily process curtailments:
 - A. Reduce the amount charged to the reverberatory furnace by 15% of the daily average charged over the prior 90 days;
 - B. The mandatory curtailments contained within this condition shall begin within 48 hours of the time when Exide receives the sampling results (and in the case of an AQMD monitor, the quality assurance and O&M data for the monitor). Exide shall calculate the above-referenced averages based on the total materials charged in the relevant time period above divided by the number of days when there were materials charged and shall provide supporting documentation to the District to justify the calculated averages prior to the required time of implementation. These mandatory curtailments shall remain in effect until the monitoring results at the affected monitoring station reflect 15 consecutive 30-calendar day averages of less than $0.15 \mu\text{g}/\text{m}^3$.

2. On and after January 1, 2012, beginning with the 30-day period of January 1, 2012 through January 30, 2012, if monitored ambient lead concentrations exceed $0.23 \mu\text{g}/\text{m}^3$, but no more than $0.30 \mu\text{g}/\text{m}^3$, on a rolling 30 day average at any AQMD or AQMD-approved ambient monitor, Exide shall implement the following mandatory daily process curtailments:
 - A. Reduce the amount charged to the reverberatory furnace by 25% of the daily average charged over the prior 90 days;
 - B. The mandatory curtailments contained within this condition shall begin within 48 hours of the time when Exide receives the sampling results (and in the case of an AQMD monitor, the quality assurance and O&M data for the monitor). Exide shall calculate the above-referenced averages based on the total materials charged in the relevant time period above divided by the number of days when there were materials charged and shall provide supporting documentation to the District to justify the calculated averages prior to the required time of implementation. These mandatory curtailments shall remain in effect until the monitoring results at the affected monitoring station reflect 15 consecutive 30-calendar day averages of less than $0.15 \mu\text{g}/\text{m}^3$.
3. On and after January 1, 2012, beginning with the 30-day period of January 1, 2012 through January 30, 2012, if monitored ambient lead concentrations exceed $0.30 \mu\text{g}/\text{m}^3$ on a rolling 30 day average at any AQMD or AQMD-approved ambient monitor, Exide shall implement the following mandatory daily process curtailments:
 - A. Reduce the amount charged to the reverberatory furnace by 50% of the daily average charged over the prior 90 days;
 - B. The mandatory curtailments contained within this condition shall begin within 48 hours of the time when Exide receives the sampling results (and in the case of an AQMD monitor, the quality assurance and O&M data for the monitor). Exide shall calculate the above-referenced averages based on the total materials charged in the relevant time period above divided by the number of days when there were materials charged and shall provide supporting documentation to the District to justify the calculated averages prior to the required time of implementation. These mandatory curtailments shall remain in effect until the monitoring results at the affected monitoring station reflect 30 consecutive 30-calendar day averages of less than $0.15 \mu\text{g}/\text{m}^3$ or the monitoring results at the affected monitoring station reflect ten consecutive days below $0.12 \mu\text{g}/\text{m}^3$ and no other monitor causes a violation of Rule 1420.1.
4. Exide may avoid the mandatory curtailments set forth in Conditions 1 through 3 by seeking a waiver from the Executive Officer. Such request for waiver must be supported by substantial and credible evidence that Exide is not the cause of the exceedance or that Exide has definitely identified and corrected the cause of the exceedance. The foregoing shall not prevent Exide from seeking relief from these requirements upon application to the Hearing Board.

5.3 Implementation Schedule for All Additional Compliance Plan Lead Emission Reduction Measures (Early Action Measures and Contingent Measures)

For ease of reference, a complete chart listing all Additional Compliance Plan Lead Emission Reduction Measures (both Early Action Measures and Contingent Measures) and their completion dates and implementation schedule can be found at Appendix A. Appendix A also includes graphics indicating the location of each activity. In addition, Appendix C sets forth the negotiated and District-approved conditions that Exide must satisfy.

6 Conclusion

The Plan described herein demonstrates that the combination of measures already undertaken (both Rule Required and voluntary Compliance Plan Early Action Measures) at the Exide Vernon facility and measures for which applications have already been submitted will be sufficient to assure future compliance with the ambient standard of $0.15 \mu\text{g}/\text{m}^3$ established in Rule 1420.1. The primary elements of the Plan are the installation of secondary filtration on selected sources (the kiln dryer baghouse and the Torit cartridge collectors) and, most significantly, the construction of an additional large enclosure to house the facility's baghouse operational area. Completion of the pending enclosure will occur by the end of March 2012. Dispersion modeling indicates that with the completion of these projects, Exide will comply with the ambient standards (both federal and Rule 1420.1). If Exide continues to exceed the NAAQS in 2012, Exide is prepared to promptly implement additional voluntary Contingent Measures to reduce emissions.

Figures

Figure 4a - Charge: Reverb + Blast v. On-site N

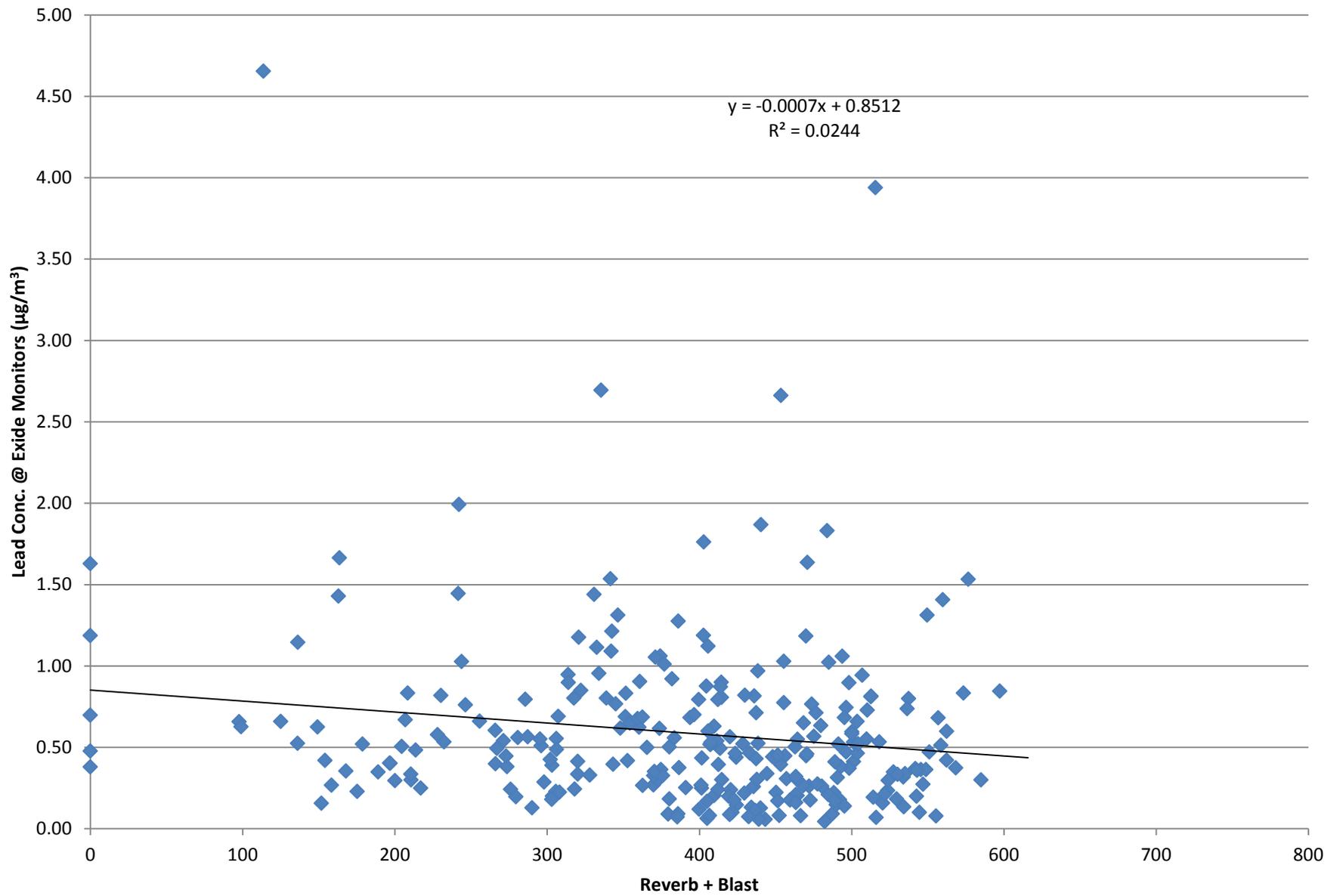


Figure 4b - Charge: Reverb + Blast v. Concentration MID

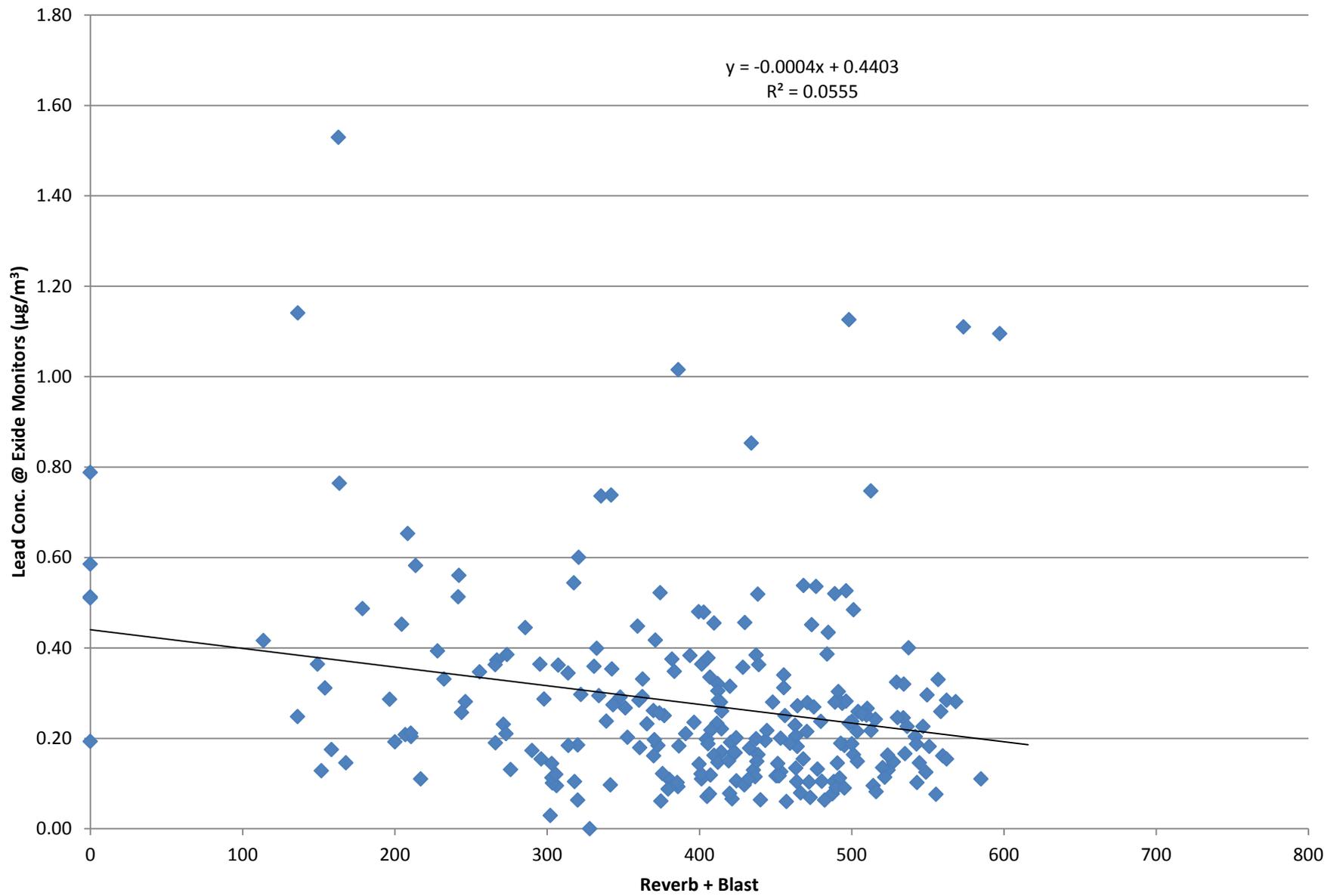


Figure 4c - Charge: Reverb + Blast v. Concentration NE

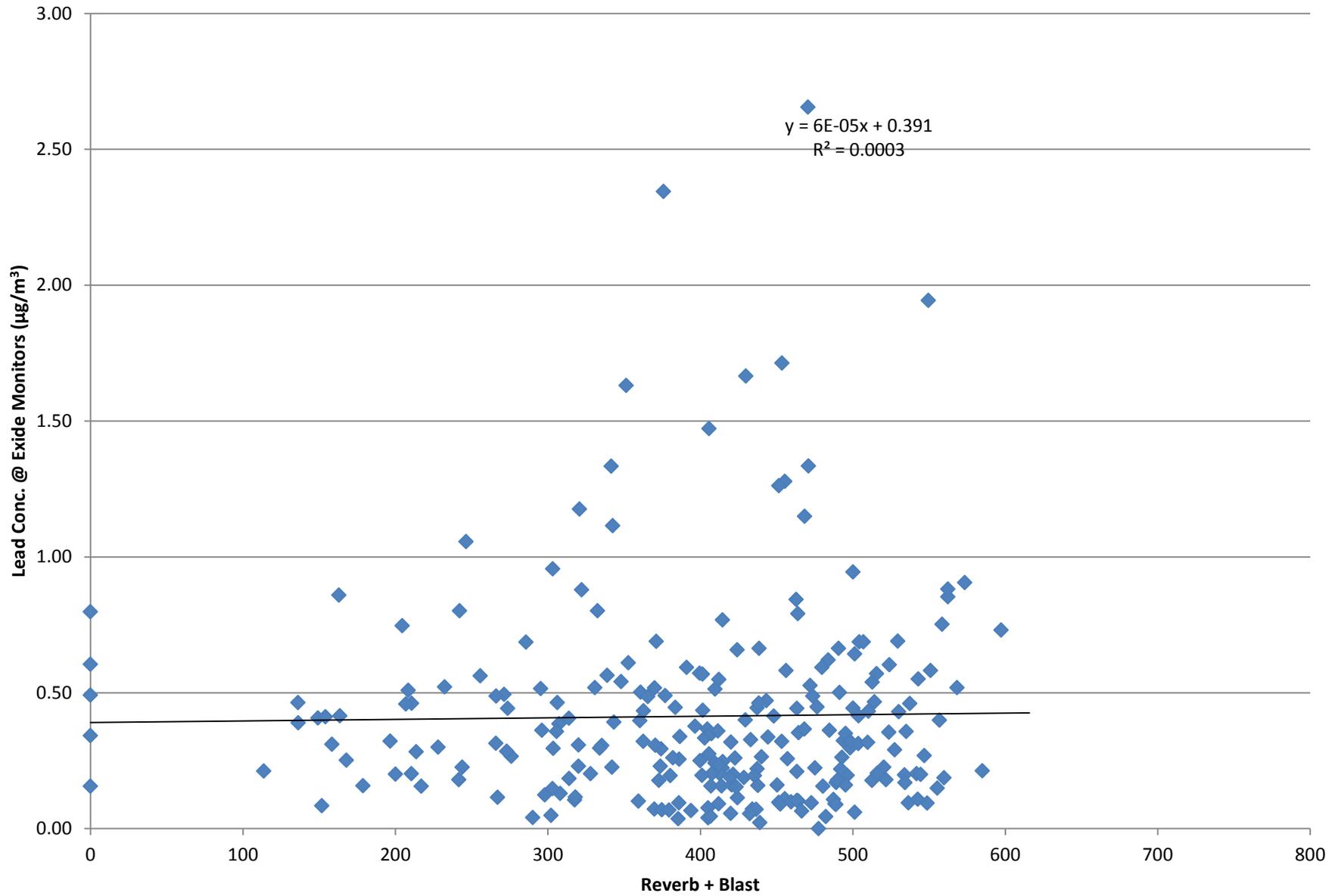


Figure 4d - Charge: Reverb + Blast v. Concentration Rehrig

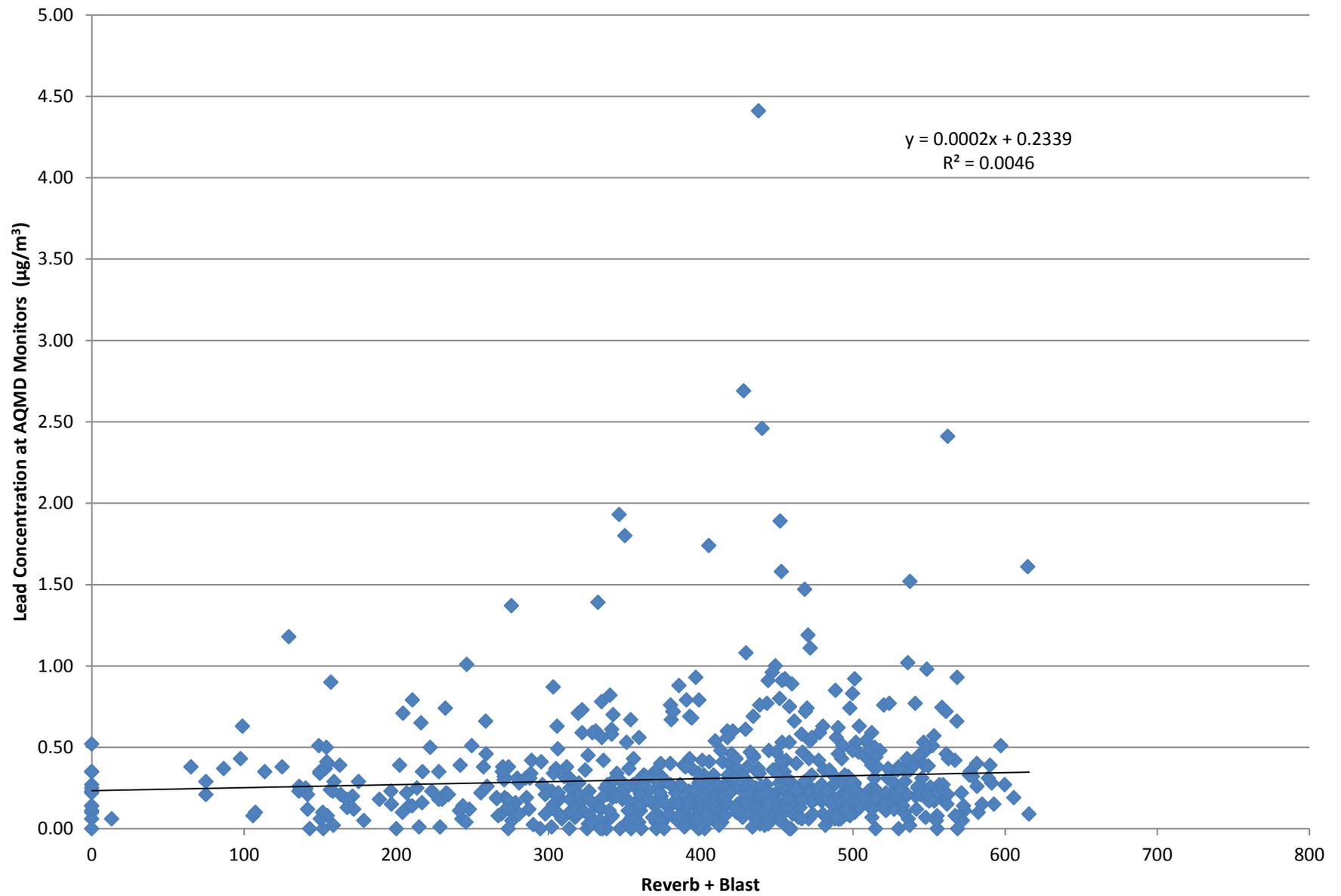


Figure 4e - Production: Reverb + Blast v. Concentration On-site N

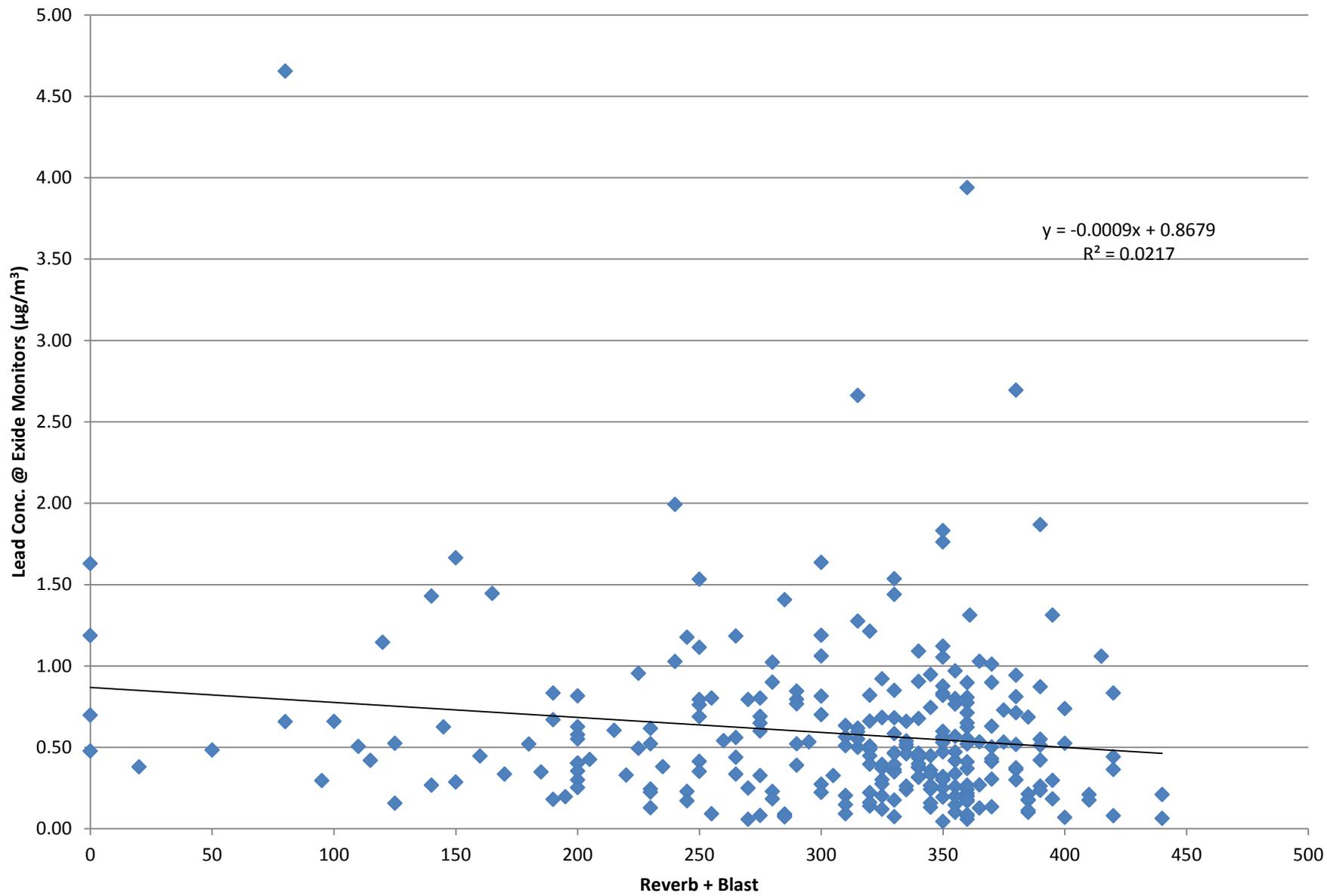


Figure 4f - Production: Reverb + Blast v. Concentration MID

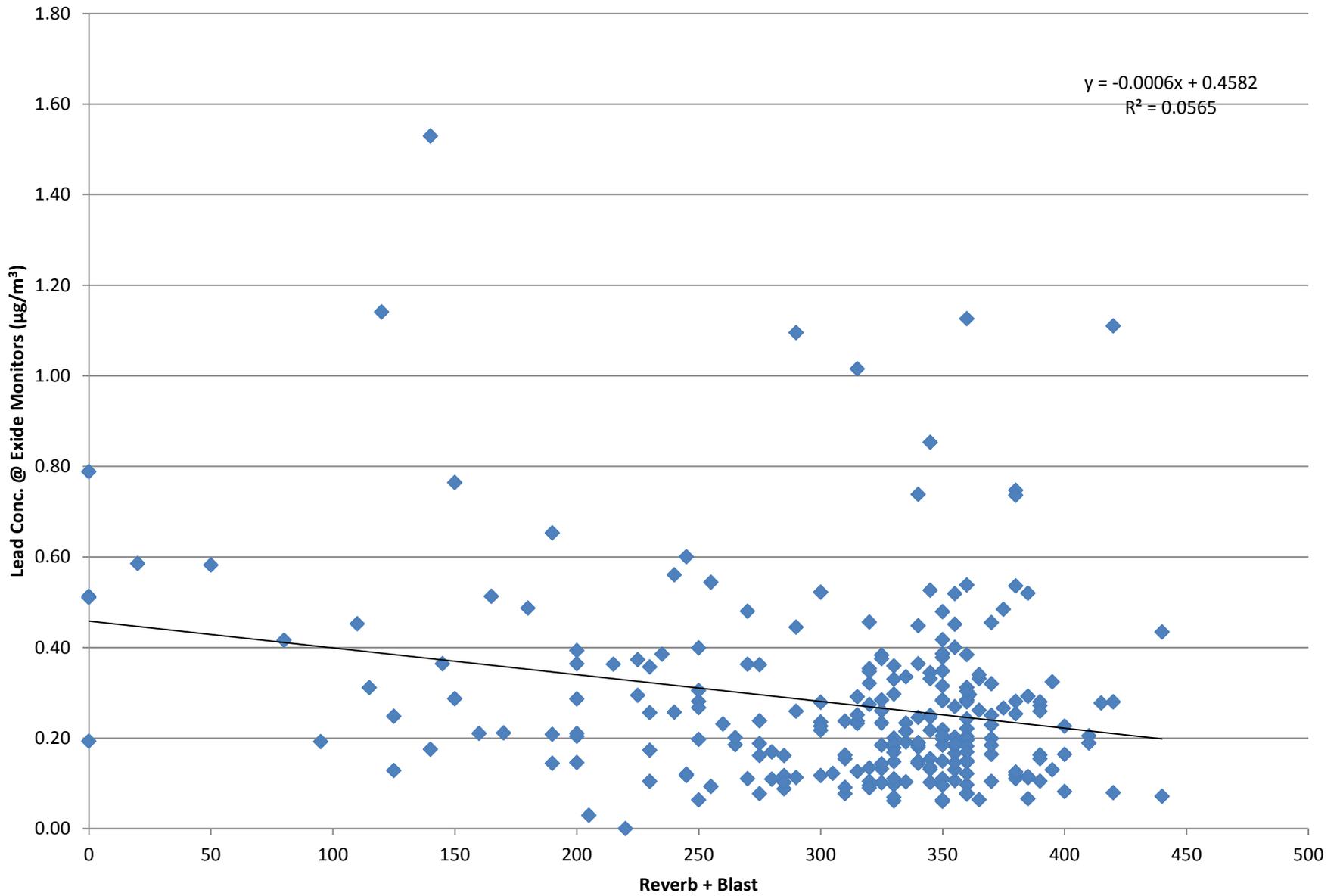


Figure 4g - Production: Reverb + Blast v. Concentration NE

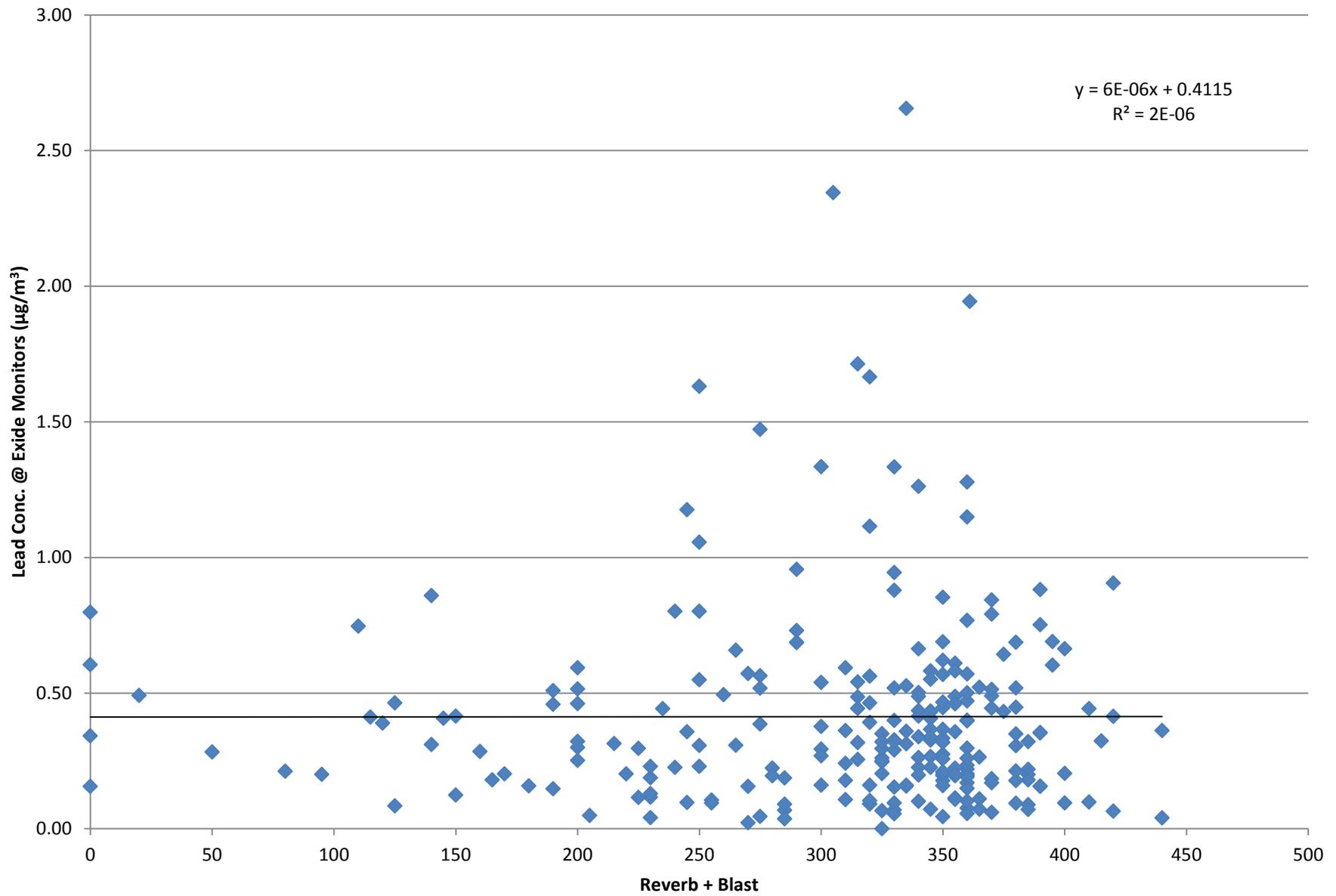


Figure 4h - Production: Reverb + Blast v. Concentration Rehrig

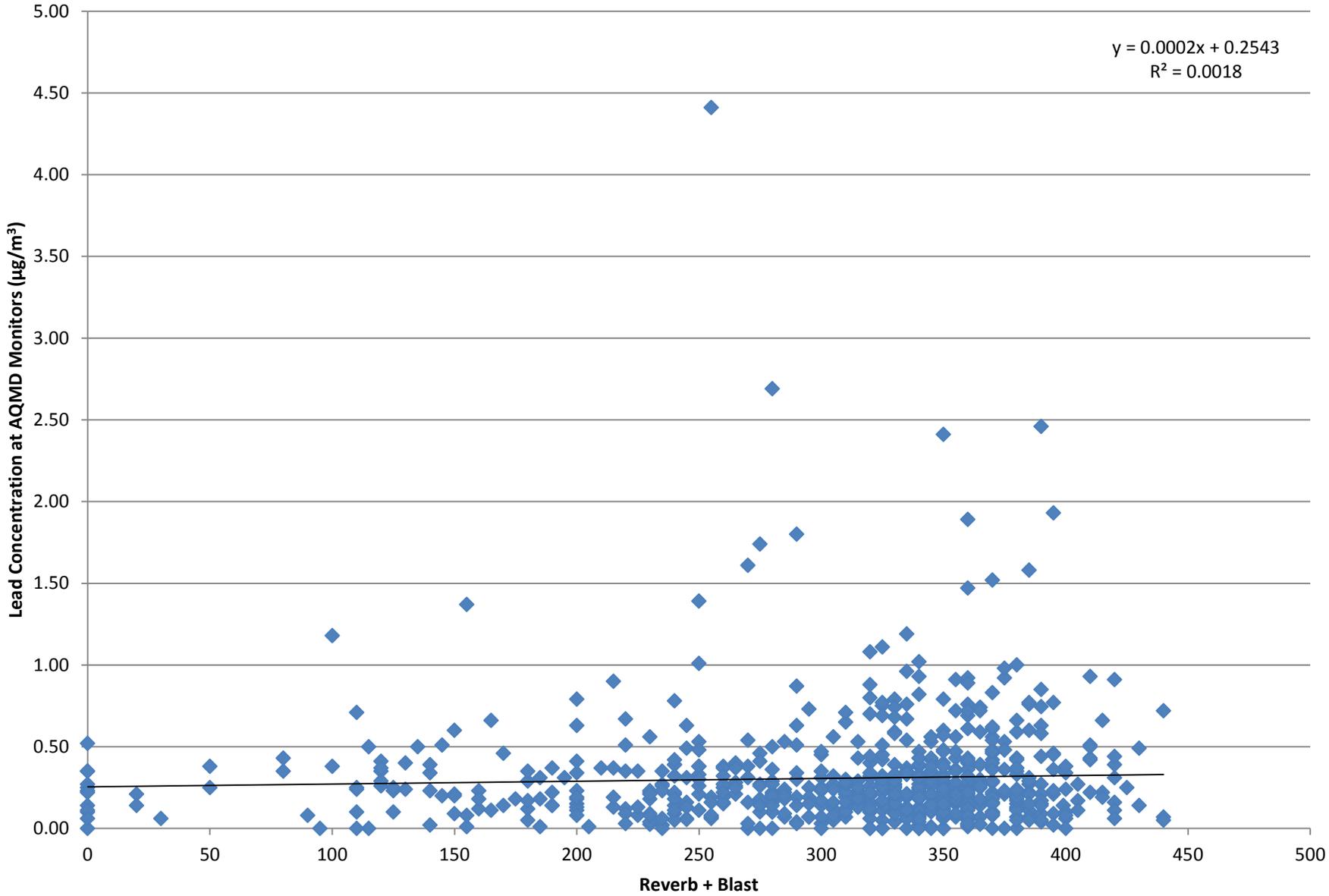
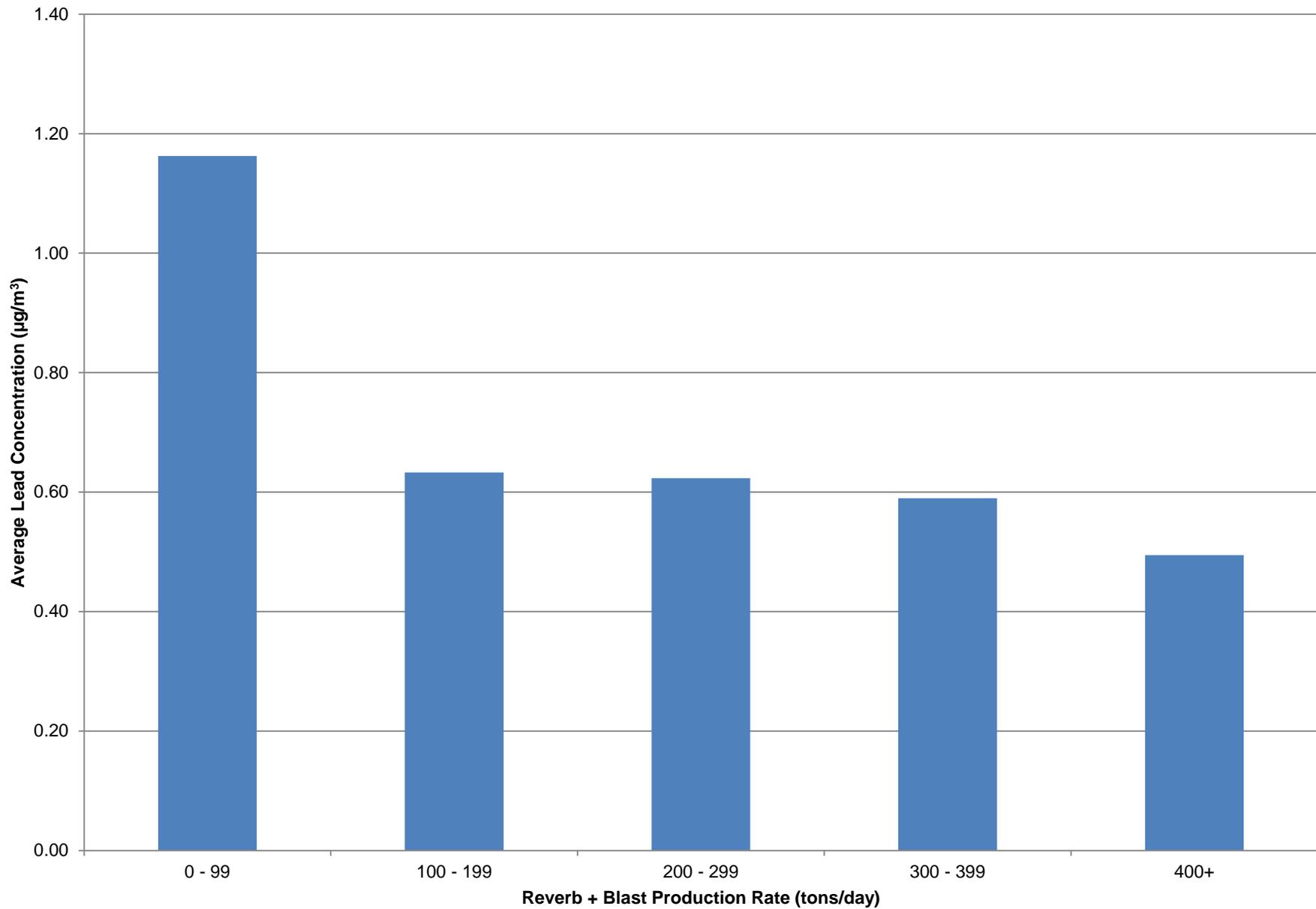


Figure 5 - Average Pb Concentration at On-Site N Monitor vs Production (Jan 2010 - Jan 2012)



Appendix A
List of Compliance Plan Measures

Appendix A – List of Compliance Plan Measures (1-20-2012)

	Action	Completion Date
1	Install door(s) between shipping and smelting to enhance negative pressure in refining/smelting and reduce draft from shipping.	Oct 2010
2	Install an automated door on the southeast end of the corridor connecting the reverb and blast feed rooms to reduce the amount of time that the door is open	Nov 2010
3	Install a new vehicle wheel wash station in the west yard of the plant	Jun 2011
4	Completely resurface the west yard of the facility to enhance the effectiveness of pavement cleaning activities	Jul 2011
5	Installed MERV 15 rated cartridge filters in the North and South Torit collectors	Jul 2011
6	Upgraded ride-on yard sweeper to a wet scrubbing unit for cleaning of plant yard pavement	Oct 2011
7	Install ventilated negative pressure enclosure for "Baghouse Row"	March/April 2012
8	Modify railcar dock at the south end of the smelting building to allow receiving of industrial plates and dedicated inside and outside forklifts.	Jun 2012
9	Replace strip curtains with doors at north and south end of RMPS building	Dec 2011
10	Install new vehicle and equipment decon and wash area at the north end of baghouse row as part of the baghouse row enclosure construction	Dec 2011
11	Eliminate and close mobile equipment wash area at south of plant	ASAP (Notify DTSC, pending DTSC approval)
12	Focused housekeeping and other horizontal surfaces in Baghouse Row, pending completion of enclosure of area	Nov 2010- Dec 2011
13	Install two backup diesel generators to supply electrical power to drive the fans serving the two process furnace exhaust baghouses and the two Torit collectors during power outages	Jun 2012
14	Install at least six (6) boot wash stations at exist of total containment buildings	June 2012
15	Designate one or more forklifts for exclusive use inside total containment buildings	June 2012
16	Apply elastomeric coating to the roof as well as vertical and horizontal surfaces of the battery breaker building to enhance the maintainability of the roof and prevent the development of pinhole leaks over time	Contingent Measure, per 5.2.2

Appendix A – List of Compliance Plan Measures (1-20-2012)

	Action	Completion Date
17	Curtailement of specific activities	Contingent. Per 5.2.7 and Appendix C Conditions 4-6
18	Potential Contingent Measures	Contingent. Per Appendix C, Conditions 8-11

Appendix B
December 1, 2011 Letter from the SCAQMD



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

December 1, 2011

Corey Vodvarka
Plant Manager
EXIDE TECHNOLOGIES
2700 South Indiana Street
Vernon, CA 90058

RE: Application No. 5267885 – Rule 1420.1 Compliance Plan

Dear Mr. Vodvarka:

The South Coast Air Quality Management District (AQMD) has received your Application No. 526785, submitted on August 30, 2011, for a Rule 1420.1 (Emission Standards for Lead-Acid Battery Recycling Facilities) Compliance Plan, for your lead-acid recycling facility located at 2700 South Indiana Street, Vernon, California 90058. The application for Rule 1420.1 Compliance Plan was submitted by Exide Technologies (Exide), as required by Rule 1420.1(g), due to exceedance of ambient air lead concentrations of 0.12 $\mu\text{g}/\text{m}^3$ averaged over 30 consecutive days on or beyond July 1, 2011 at one or more ambient monitors around the Exide facility. The AQMD staff has conducted a thorough review and evaluation of your Compliance Plan. Based on AQMD staff's detailed review and evaluation of your application, your Rule 1420.1 Compliance Plan is hereby disapproved for the following reasons:

1. Exide's Rule 1420.1 Compliance Plan states that compliance with the Rule 1420.1 (d)(2) limit of 0.15 $\mu\text{g}/\text{m}^3$ 30-day average ambient air lead concentration would be achieved by January 1, 2012, by the installation of a ventilated negative pressure total enclosure building over the "Baghouse Row" area. However, in a meeting held between Exide and AQMD staff on November 18, 2011, Exide informed AQMD that the total enclosure building over the Baghouse Row area will not be completed until March 2012. This construction completion date is inconsistent with the total enclosure building construction completion date of December 31, 2011, as specified in Exide's Rule 1420.1 Compliance Plan. Based upon the AQMD staff's ongoing review and assessment of ambient air monitoring data collected by both Exide and AQMD ambient monitors installed and operated around the Exide facility, periodic exceedance of 0.15 $\mu\text{g}/\text{m}^3$ 30-day average ambient air lead concentration limit of Rule 1420.1 are likely to continue after January 1, 2012, without the total enclosure building for the Baghouse Row area being completed and in full operation.
2. In addition, Exide's Rule 1420.1 Compliance Plan does not include sufficient information required under Rule 1420.1(g)(2)(A), describing additional lead emission reduction measures to achieve the ambient lead concentration of 0.15 $\mu\text{g}/\text{m}^3$ averaged over any consecutive days as required under Rule 1420.1 (d)(2). Specifically, Exide's Compliance

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Plan has not sufficiently considered modifications to other lead control devices and installation of multi-stage lead control devices, as required pursuant to Rule 1420.1(g)(2)(A)(iii) and (iv), and is completely inadequate in including process changes including reduced throughput and conditional curtailments, as required pursuant to Rule 1420.1(g)(2)(A)(v) and (vi). Therefore, Exide must submit additional information which is sufficient and adequate to satisfy the following subparts in Rule 1420.1 (g)(2)(A):

- iii. Modifications to lead control devices;
- iv. Installation of multi-stage lead control devices;
- v. Process changes including reduced throughput limits; and
- vi. Conditional curtailments including, at a minimum, information specifying the curtailed processes, process amounts, and length of curtailment.

Rule 1420.1(g)(3) requires that upon disapproval of a Compliance Plan, the owner or operator of a lead-acid battery recycling facility shall resubmit another Compliance Plan within 30 days following the disapproval. The resubmitted Rule 1420.1 Compliance Plan shall not be deemed acceptable unless it includes all information necessary to address deficiencies identified in this disapproval letter. Also, pursuant to Rule 1420.1(g)(3), the resubmitted Compliance Plan is subject to plan fees as specified in AQMD Rule 306.

Due to the urgency of this matter, the AQMD is requesting that Exide resubmits the required Rule 1420.1 Compliance Plan with the requested information specified above **not later than December 15, 2011**. The AQMD plans to expeditiously review the resubmitted plan by December 30, 2011.

If you have any questions concerning the disapproval of Exide's Compliance Plan application, please contact the undersigned at 909-396-2664.

Very truly yours,



Jay Chen, P.E.
Senior Engineering Manager
Engineering and Compliance

JC/CT/TGL/MAP

Cc: Mohsen Nazemi
Jill Whynot
Nancy Feldman
Ed Pupka
Application File

Appendix C

Conditions

APPENDIX C

CONDITIONS

1. Exide shall implement all lead mitigation measures described in the Compliance Plan resubmitted by Exide in January 2012 unless otherwise specified below.
2. Exide shall install a minimum of six (6) boot wash stations at the exits of the total containment buildings at this facility. The installation of the boot wash stations shall be completed not later than June 30, 2012. Written notification shall be provided to the AQMD when installation is complete.
3. Exide shall designate one or more forklifts to be exclusively used inside of the total containment buildings so that the probability of tracking lead bearing materials outside of the containment buildings is lowered when heavy moving equipment is operated at this facility. The first forklift dedicated to indoor use only shall be implemented not later than June 30, 2012. Written notification shall be provided to the AQMD when the new forklift(s) are operational. For the purpose of this condition, any forklift operated inside of a containment building shall be completely washed and decontaminated inside of a total containment building so as to be visually free of all lead contamination prior to transferring this forklift outside of the containment building for maintenance, repair, or other purposes. A written record of equipment washing/decontamination shall be kept with regards to each forklift transferred out of a total containment building for the purposes stated in this condition and this record shall be signed by supervision or management level staff and presented to AQMD personnel upon request.
4. On and after January 1, 2012, beginning with the 30-day period of January 1, 2012 through January 30, 2012, if monitored ambient lead concentrations exceed $0.15 \mu\text{g}/\text{m}^3$, but no more than $0.23 \mu\text{g}/\text{m}^3$, on a rolling 30 day average at any AQMD or AQMD-approved ambient monitor, Exide shall implement the following mandatory daily process curtailments:
 - A. Reduce the amount charged to the reverberatory furnace by 15% of the daily average charged over the prior 90 days;
 - B. The mandatory curtailments contained within this condition shall begin within 48 hours of the time when Exide receives the sampling results (and in the case of an AQMD monitor, the quality assurance and O&M data for the monitor). Exide shall calculate the above-referenced averages based on the total materials charged in the relevant time period above divided by the number of days when there were materials charged and shall provide supporting documentation to the District to justify the calculated averages prior to the required time of implementation. These mandatory curtailments shall remain in effect until the monitoring results at the affected monitoring station reflect 15 consecutive 30-calendar day averages of less than $0.15 \mu\text{g}/\text{m}^3$.

5. On and after January 1, 2012, beginning with the 30-day period of January 1, 2012 through January 30, 2012, if monitored ambient lead concentrations exceed $0.23 \mu\text{g}/\text{m}^3$, but no more than $0.30 \mu\text{g}/\text{m}^3$, on a rolling 30 day average at any AQMD or AQMD-approved ambient monitor. Exide shall implement the following mandatory daily process curtailments:
 - A. Reduce the amount charged to the reverberatory furnace by 25% of the daily average charged over the prior 90 days;
 - B. The mandatory curtailments contained within this condition shall begin within 48 hours of the time when Exide receives the sampling results (and in the case of an AQMD monitor, the quality assurance and O&M data for the monitor). Exide shall calculate the above-referenced averages based on the total materials charged in the relevant time period above divided by the number of days when there were materials charged and shall provide supporting documentation to the District to justify the calculated averages prior to the required time of implementation. These mandatory curtailments shall remain in effect until the monitoring results at the affected monitoring station reflect 15 consecutive 30-calendar day averages of less than $0.15 \mu\text{g}/\text{m}^3$.
6. On and after January 1, 2012, beginning with the 30-day period of January 1, 2012 through January 30, 2012, if monitored ambient lead concentrations exceed $0.30 \mu\text{g}/\text{m}^3$ on a rolling 30 day average at any AQMD or AQMD-approved ambient monitor, Exide shall implement the following mandatory daily process curtailments:
 - A. Reduce the amount charged to the reverberatory furnace by 50% of the daily average charged over the prior 90 days;
 - B. The mandatory curtailments contained within this condition shall begin within 48 hours of the time when Exide receives the sampling results (and in the case of an AQMD monitor, the quality assurance and O&M data for the monitor). Exide shall calculate the above-referenced averages based on the total materials charged in the relevant time period above divided by the number of days when there were materials charged and shall provide supporting documentation to the District to justify the calculated averages prior to the required time of implementation. These mandatory curtailments shall remain in effect until the monitoring results at the affected monitoring station reflect 30 consecutive 30-calendar day averages of less than $0.15 \mu\text{g}/\text{m}^3$ or the monitoring results at the affected monitoring station reflect ten consecutive days below $0.12 \mu\text{g}/\text{m}^3$ and no other monitor causes a violation of Rule 1420.1.
7. Exide shall complete construction of the baghouse area Total Containment Building no later than March 31, 2012. Exide shall notify the Executive Officer of the AQMD in writing within 48 hours of completion of the construction.

8. On or after completion of construction of the baghouse area Total Containment Building, but no later than March 31, 2012, if monitored ambient lead concentrations exceed $0.15 \mu\text{g}/\text{m}^3$ on a rolling 30 day average at any AQMD or AQMD-approved ambient monitor, Exide shall commence implementing the specific lead emission mitigation measures listed below in this condition. Each of these mitigation measures may be implemented individually or in any combination based on the specific situation and information available at the time. Within 15 days of each occurrence, Exide shall submit to the AQMD for approval the selected measure(s) to be implemented along with a description of the specific situation and available information that justifies the specific selection. An implementation timeline shall also be included and shall be established based on Exide's best effort for implementation. The selected measure(s) shall be implemented as approved by the AQMD. These specific individual mitigation measures are as follows:

- A. Install an additional room ventilation baghouse or dust collector, equipped with a second stage high efficiency particulate air (HEPA) filter, with sufficient blower capacity to move a minimum of 50,000 CFM of air from one or more of the following locations:
 - a. The battery crusher room in the north end of the RMPS building.
 - b. The truck loading and unloading dock on the south end of the RMPS building.
 - c. The furnace room in the smelter building.
 - d. The cupola feed room in the south end of the smelter building.

As an alternative to adding additional ventilation with individual baghouses or dust collectors, Exide may install a single larger air pollution control system with at least 200,000 CFM of blower capacity to cover all four of these locations.

- B. Install second stage HEPA filters on one or more of the following air pollution control systems:
 - a. The hard lead refinery baghouse (device C47).
 - b. The soft lead refinery baghouse (device C46).
 - c. The MAC baghouses venting the RMPS building (devices C156, C157).
 - d. The cupola furnace feed room baghouse (device C48).
- C. All new HEPA filter installations performed pursuant to parts A and B of this condition shall comply with the following requirements:
 - a. The HEPA filters used in this equipment shall be certified, in writing, by the manufacturer to have a minimum control efficiency of 99.97 percent on 0.3 micron particles.
 - b. Copies of the HEPA filter certifications shall be kept and maintained on file for a minimum of 5 years and shall be provided to District personnel upon request.

- D. Following completion of all required mitigation measures listed in parts A and B of this condition, Exide shall evaluate the following additional mitigation measures:

Install an additional total or partial enclosure(s) of one or more of the following locations:

- a. Reverberatory furnace A-pipe.
- b. Cupola furnace A-pipe.
- c. Additional area enclosure(s) to be determined.

- E. The mitigation measures listed in part D of this condition shall not be used to fulfill the requirements of the first paragraph of this condition unless all mitigation measures in parts A and B of this condition have first been implemented. However, Exide may voluntarily implement the measures in part D of this condition as additional voluntary measures prior to exhausting all required measures listed in parts A and B of this condition. An exception to this requirement may be made in special cases where the AQMD, upon examining all available information, has determined that an A-pipe, or other piece of equipment as applicable, is the cause for an ambient lead concentration limit exceedance. In all cases, Exide shall obtain written permission from the AQMD, and written Permits to Construct, where applicable, prior to the commencement of construction of such enclosure(s) listed in part D of this condition

9. Prior to implementing parts A and B of Condition No. 8, Exide shall first submit the required permit applications, additional information and associated fees to the AQMD and obtain the required written Permits to Construct required prior to commencement of construction.
10. For the purpose of compliance with the incremental mitigation measures in Condition No. 8, when one requirement is triggered by a violation of the $0.15 \mu\text{g}/\text{m}^3$ rolling 30 day average lead concentration limit, a second and subsequent mitigation measure may not be required for additional violations of the $0.15 \mu\text{g}/\text{m}^3$ rolling 30 day average lead concentration limit, until after the ongoing mitigation measure has been implemented. Exide shall notify the AQMD in writing within 48 hours of completion of each mitigation measure in Condition No. 8.
11. The specific selection and implementation of any required mitigation measure described in these conditions is subject to written approval from the AQMD. Written approval from the AQMD shall take into consideration the nature and location from each monitoring station of any event determined to be associated, or apparently associated (based on available data) with (an) ambient lead concentration exceedance(s) triggering the implementation of a required mitigation measure.

12. Exide retains the right to seek relief from these Conditions via application to the Hearing Board, as appropriate.