PETITION FOR VARIANCE
BEFORE THE HEARING BOARD OF THE
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PETITIONER: EXIDE TECHNOLOGIES, INC.

CASE NO: 3151-33

FACILITY ID: 124838

FACILITY ADDRESS: 2700 South Indiana Street [and equipment located at 2717 South Indiana Street]

[location of equipment/site of violation; specify business/corporate address, if different, under Item 2, below]

City, State, Zip: Vernon, CA 90058

1. TYPE OF VARIANCE REQUESTED (more than one box may be checked; see Attachment A before selecting)

☐ INTERIM ☐ SHORT ☒ REGULAR ☐ EMERGENCY ☐ *EX PARTE* EMERGENCY

2. CONTACT: Name, title, company (if different than Petitioner), address, and phone number of persons authorized to receive notices regarding this Petition (no more than two authorized persons).

Olivier F. Theard, Esq.	John Hogarth, Plant Manager
Sheppard, Mullin, Richter & Hampton LLP	Exide Technologies
333 S. Hope Street, 43rd Floor	2700 S. Indiana Avenue
Los Angeles, CA 90071	Vernon, CA 90058
☎ (213) 617-5427 *Ext.*	☎ (323) 262-1101 *Ext.* 275
Fax (213) 620-1398	*Fax* (323) 262-0642
E-mail otheard@sheppardmullin.com	*E-mail* john.hogarth@na.exide.com

3. RECLAIM Permit ☒ Yes ☐ No Title V Permit ☒ Yes ☐ No

4. **GOOD CAUSE:** Explain why your petition was not filed in sufficient time to issue the required public notice. (Required only for Emergency and Interim Variances; see Attachment A)

N/A

5. Briefly describe the type of business and processes at your facility.

Exide's Vernon plant recycles both the lead and the plastic portions of spent automotive batteries. Exide utilizes two types of furnaces to smelt the lead in these spent batteries (a cupola or "blast" furnace and a reverberatory furnace), producing lead ingot for use in manufacturing new batteries and for various other applications.

As presently configured, furnace operations take place in enclosed structures, with emissions from the furnaces passing through an afterburner (in the case of the blast furnace) before moving through a bag house (filtering device) and then a wet scrubber, and exiting to the atmosphere via an approved stack. The building emissions are also collected and filtered in a bag house. Other recycling operations use ventilation through bag houses and wetting of materials to reduce emissions. Exide controls fugitive dust outside the building by utilizing water wash downs, sweepers, and mobile pavement scrubbers incorporating particle capture (HEPA systems). Ambient lead emissions are monitored by way of AQMD-approved air monitors placed on and off the property.

Pursuant to the terms of two Stipulated Orders for Abatement in Case Numbers 3151-29 and 3151-32, Exide is currently not operating while it implements projects designed to modify its air pollution control system and reduce emissions. Exide will be allowed to resume operations once these projects are complete.

6. List the equipment and/or activity(s) that are the subject of this petition (see Attachment A, Example #1). **Attach copies of the Permit(s) to Construct and/or Permit(s) to Operate for the subject equipment. For RECLAIM or Title V facilities, attach *only* the relevant sections of the Facility Permit showing the equipment or process and conditions that are subject to this petition. You must bring the entire Facility Permit to the hearing.**

Equipment/Activity	Application/ Permit No.	RECLAIM Device No.	Date Application/ Plan Denied (if relevant)*
Total enclosures per District Rule 1420.1: - North Torit - South Torit - Material Handling Baghouse - MAC Baghouses - RMPS Scrubber	124838	- North Torit (C38/S187) - South Torit (C39/S189) - Material Handling Baghouse (C48/S142) - MAC Baghouses (C156/C157/S158) - RMPS Scrubber (C165/C172/S166)	N/A

*Attach copy of denial letter

7. Briefly describe the activity or equipment, and why it is necessary to the operation of your business. A schematic or diagram may be attached, in addition to the descriptive text.

Description of Units Subject to 1420.1(k)(13)(B) Testing

District Rule 1420.1(k)(13) requires source testing on "total enclosures." The term is defined as follows:

TOTAL ENCLOSURE means a permanent containment building/structure, completely enclosed with a floor, walls, and a roof to prevent exposure to the elements (e.g. precipitation, wind, run-off), with limited openings to allow access and egress for people and vehicles, that is free of cracks, gaps, corrosion, or other deterioration that could cause or result in fugitive lead-dust.

Exide has several units that qualify as total enclosures under the rule:

(1) The North and South Torit Units: These units filter air extracted from the main smelting and refining building to maintain that building under negative pressure. The main smelting and refining building houses the facility's blast furnace, reverberatory furnace, and refining kettles.
(2) The Material Handling Baghouse and the MAC Baghouses: These baghouses filter air extracted primarily from various facility feed room enclosures to maintain those enclosures under negative pressure.
(3) The RMPS Scrubber: This scrubber cleans air extracted from the facility's battery breaking operation enclosure to maintain that enclosure under negative pressure.

Attached as Exhibit A is a Diagram of Facility operations.

Testing Requirement on Units

On January 10, 2014, the District adopted amended Rule 1420.1. Amended Rule 1420.1 includes a requirement that large lead-acid battery recycling facilities conduct two source tests for benzene and 1,3-butadiene emissions "from all emission control devices on total enclosures." The first source test deadline was March 1, 2014, which Exide satisfied. The second source test deadline is September 1, 2014. Exide requests a variance to extend this deadline because Exide cannot perform a representative source test until it resumes operations.

Exide notes that it is seeking limited variance relief. Specifically, Exide respectfully requests an extension until March 31, 2015 to complete the source test, which allows Exide a reasonable period of time to achieve acceptable conditions to conduct a source test after anticipated resumption of operations. Importantly, the source testing required by 1420.1(k)(13) is for information-gathering purposes only and does not establish compliance with any existing emissions limits. Exide will comply with all emissions limits required by Rule 1420.1.

8. Is there a regular maintenance and/or inspection schedule for this equipment? Yes ☒ No ☐

If yes, how often: When operating, Exide performs regular maintenance on all units to be source tested. Date of last maintenance and/or inspection: Daily

Describe the maintenance and/or inspection that was performed.

Exide inspects its operations and maintains its equipment daily. This includes the equipment and systems subject to 1420.1(k)(13) source testing. Inspections include visual inspections, engineering tests, pressure checks, and numerous other inspections and maintenance activities in order to comply with District rules and permit conditions.

9. List all District rules, and/or permit conditions from which you are seeking variance relief (if requesting variance from Rule 401 or permit condition, see Attachment A). Briefly explain how you are or will be in violation of each rule or condition (see Attachment A, Example #2).

Rule	Explanation
District Rule 1420.1(k)(13)(B)	The owner or operator of a large lead-acid battery recycling facility shall conduct a source test for benzene and 1,3-butadiene emissions from all emission control devices on total enclosures no later than September 1, 2014.

Permit Condition K.8	By this condition, Exide must comply with "all regulatory requirements, and all permit terms and Conditions." Exide is seeking a variance from one District regulatory requirement in 1420.1(k)(13)(B), and thus Exide requests a variance from this Condition.
Permit Condition E.8	This permit condition requires compliance with "all provisions of AQMD Rules and Regulations." Exide is seeking a variance from one provision in Rule 1420.1(k)(13)(B), and thus Exide requests a variance from this Condition.
District Rule 3002(c)	This Rule requires compliance with a Title V permit. Because Exide seeks a variance from certain permit provisions, Exide also requests a variance from this Rule.
District Rule 2004(f)(1)	This Rule requires compliance with a RECLAIM permit. Because Exide seeks a variance from certain permit provisions, Exide also requests a variance from this Rule.

10. Are the equipment or activities subject to this request currently under variance coverage? Yes ☐ No ☒

Case No.	Date of Action	Final Compliance Date	Explanation

11. Are any other equipment or activities at this location currently (or within the last six months) under variance coverage? Yes ☐ No ☒

Case No.	Date of Action	Final Compliance Date	Explanation

12. Were you issued any Notice(s) of Violation or Notice(s) to Comply concerning this equipment or activity within the past year? Yes ☐ No ☒

If yes, you must attach a copy of each notice.

Exide has received Notices of Violation (NOV) and/or Notices to Comply (NTC) related to furnace operations,

alleged emissions, maintenance, notifications and administrative violations. However, Exide has not received any NOVs or NTCs specific to source testing requirements related to the total enclosures defined in 1420.1(k)(13). Exide has therefore not received any NOVs or NTCs "concerning this equipment or activity" in the past year. If requested by the District, however, Exide will in good faith provide copies of NOVs issued in the past year.

13. Have you received any complaints from the public regarding the operation of the subject equipment or activity within the last six months? Yes ☐ No ☒

If yes, you should be prepared to present details at the hearing.

The public has proffered testimony in hearings for Case Numbers 3151-29 and 3151-32. However, Exide has not received complaints from the public specific to source testing requirements on the total enclosures defined in 1420.1(k)(13).

14. Explain why it is beyond your reasonable control to comply with the rule(s) and/or permit condition(s):

Request for Variance

Exide requests a variance until March 31, 2015 to perform a source test for benzene and 1,3-butadiene "from all emission control devices on total enclosures" as required by Rule 1420.1(k)(13).

Pursuant to the terms of two Stipulated Orders for Abatement entered by this Board on July 10, 2014, Exide is currently shut down and will not resume operations until it completes various risk reduction projects. Exide therefore cannot conduct a representative source test by September 1 as required by rule. Exide files this variance petition in order to avoid non-compliance with Rule 1420.1(k)(13)(B) during the shutdown period.

Narrative Summary of Events

On January 10, 2014, the District Governing Board approved amendments to Rule 1420.1. The amendments included subd. (k)(13), which requires Exide to conduct two source tests for benzene and 1,3-butadiene from all emission control devices on total enclosures. The amended rule requires that the first source test be completed by March 1, 2014, and the second source test be completed by September 1, 2014. In the Staff Report on the amendments to Rule 1420.1, the District stated that this requirement is "based on source test results from one of the large lead-acid battery recycling facilities that showed measurable benzene and 1,3-butadiene emissions from room ventilators. Additional source test data from both facilities is needed to better assess the organic emissions from these sources. The SCAQMD staff will include in the adoption resolution a commitment to return to the Stationary Source Committee in 12 months to report the results of the March and September 2014 source test and make recommendations if additional requirements are needed." [Staff Report, p. 2-12.]

Exide completed the first round of source testing on February 26, 27, and 28, satisfying the March 1 deadline. (*See* Exhibit B – Rule 1420.1(k)(13) Source Test Report).

On March 14, Exide temporarily ceased operations for maintenance. Exide has remained shut down since that date, pending resolution of two Petitions for Order for Abatement that impacted the facility (Case numbers 3151-29 and 3151-32). On July 10, this Hearing Board entered Stipulated Orders for Abatement in the two administrative actions. As the District and the Hearing Board are aware, the essential terms of the Stipulated Orders are as follows:

- Exide will install District-approved risk reduction measures to achieve compliance with applicable rules;
- Exide will comply with a District-approved mitigation plan to avoid fugitive emissions during construction and maintenance; and
- Exide may resume operations following completion of risk reduction measures, subject to various operational and testing conditions.

In close communication with the District, Exide is developing a schedule for installing the remaining risk reduction measures. The final schedule will be based, in part, on when the District issues permits to

construct for the various projects (Exide has submitted all permit applications and has worked diligently to respond to District questions regarding the applications over the last several months). Currently, Exide expects to receive permits to construct in August 2014, and Exide reasonably expects to complete the installation of all risk reduction measures by December 2014. Pursuant to the Stipulated Orders, Exide will then be allowed to resume operations.

Variance Request on Rule 1420.1(k)(13)(B): Exide requests an extension of the September 1, 2014 source testing deadline for total enclosures under Rule 1420.1(k)(13)(B). Exide remains shut down and will not re-open in time to perform source testing before September 1. Source tests require facility operations at "normal" conditions, with process rates and operating temperatures maintained at specific levels. [See Ex. C, 1420.1(k)(13) Protocol, section 3]. Thus, there is no way to run a representative, District-approved source test while operations are idle. Exide therefore requests a variance from the rule until March 31, 2015, which is a reasonable time after Exide has installed all risk reduction measures and safely resumed operations.

There are no excess emissions associated with this requested variance. Source testing under Rule 1420.1(k)(13) is for the District's informational purposes, not to establish compliance with emissions limits. Exide expects to continue to maintain compliance with all emissions limits during the variance period.

Exhibits to this Petition
A: Facility Diagram
B: Rule 1420.1(k)(13) Source Test Report
C: Rule 1420.1(k)(13) Protocol
D: Relevant Permit Pages

15. When and how did you first become aware that you would not be in compliance with the rule(s) and/or permit condition(s)?

Exide first became aware of potential non-compliance with Rule 1420.1(k)(13)(B) while the two Order for Abatement proceedings were pending, and became certain that it could not comply once the Hearing Board approved the two Stipulated Orders on July 10, 2014.

16. What actions have you taken since that time to achieve compliance?

In order to commence operations as quickly as possible and eventually conduct the source test, Exide resolved the Orders for Abatement and is working to develop a schedule to implement risk reduction measures, subject to District permitting. Exide is in compliance with the terms of both Stipulated Orders.

17. What would be the harm to your business during and/or after the period of the variance if the variance were not granted?

Economic losses: $ Without a variance, Exide risks enforcement action by the District. Such enforcement may lead to an administrative penalty that is not justified under the circumstances.

Provide detailed information regarding economic losses, if any, (anticipated business closure, breach of contracts, hardship on customers, layoffs, and/or similar impacts).

Exide is currently not operating so the impact to its business is occurring regardless of the variance. However, without a variance, Exide risks enforcement action by the District. Such enforcement may lead to an administrative penalty that is not justified under the circumstances. The parties agreed to the terms of the Stipulated Orders, and Exide does not expect District opposition to this variance petition.

18. Can you curtail or terminate operations in lieu of, or in addition to, obtaining a variance? Please explain.

Rule 1420.1(k)(13)(B) only establishes a source testing deadline. Curtailing operations will not impact the need for a variance because Exide is currently not operating.

19. Estimate excess emissions, if any, on a daily basis, including, if applicable, excess opacity (the percentage of total opacity above 20% during the variance period). If the variance will result in no excess emissions, skip to No. 20.

Pollutant	(A) Total Estimated Excess Emissions (lbs/day)	(B) Reduction Due to Mitigation (lbs/day)	(C)* Net Emissions After Mitigation (lbs/day)
Not applicable			

* Column A minus Column B = Column C

Excess Opacity:_____%

20. Show calculations used to estimate quantities in No. 19, **or** explain why there will be no excess emissions.

There are no excess emissions associated with this requested variance. Source testing under Rule 1420.1(k)(13) is for the District's informational purposes, not to establish compliance with emissions limits. Exide expects to continue to maintain compliance with all emissions limits during the variance period.

21. Explain how you plan to reduce (mitigate) excess emissions during the variance period to the maximum extent feasible, or why reductions are not feasible.

Excess emissions are not anticipated, as explained in response to Question 20.

22. How do you plan to monitor or quantify emission levels from the equipment or activity(s) during the variance period, and to make such records available to the District? **Any proposed monitoring does not relieve RECLAIM facilities from applicable missing data requirements.**

Exide will continue to monitor arsenic and lead emissions via its network of ambient air monitors. Exide reports the results to the District approximately every three days. Exide will also comply with the terms of Stipulated Order 3151-32, which sets forth monitoring and reporting requirements for various facility activities.

23. How do you intend to achieve compliance with the rule(s) and/or permit condition(s)? Include a detailed description of any equipment to be installed, modifications or process changes to be made, permit conditions to be amended, etc., dates by which the actions will be completed, and an estimate of total costs.

First, Exide currently intends to construct all approved risk reduction measures by December 2014, following the terms specified in the Stipulated Orders and their attachments (*i.e.* Risk Reduction Plan and Dust Mitigation Plan)

Second, Exide intends to resume operations upon completion of the projects, subject to certain operational and testing conditions, including a commissioning period described in Stipulated Order 3151-31.

Third, once Exide resumes normal operations, likely in early 2015, Exide will develop a protocol and schedule an appropriate source test, coordinating this process with the District.

24. State the date by which you expect to achieve final compliance: March 31, 2015.

If the regular variance is to extend beyond one year, you **must** include a **Schedule of Increments of Progress**, specifying dates or time increments for steps needed to achieve compliance. See District Rule 102 for definition of Increments of Progress (see Attachment A, Example #3).

N/A

25. List the names of any District personnel with whom facility representatives have had contact concerning this variance petition or any related Notice of Violation or Notice to Comply.

Mohsen Nazemi, Nancy Feldman

The undersigned, under penalty of perjury, states that the above petition, including attachments and the items therein set forth, is true and correct.

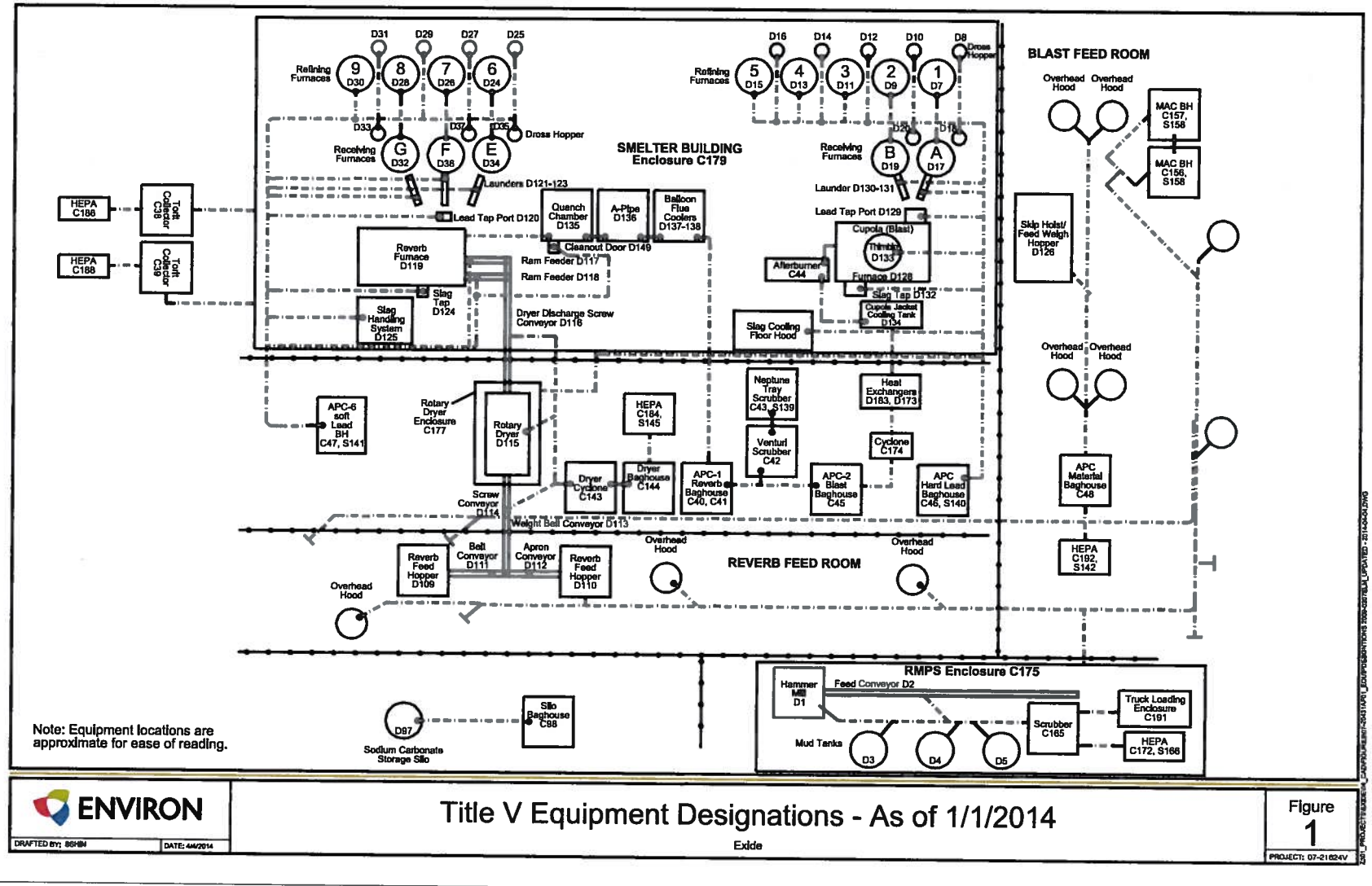
Executed on July 24, 2014, at Vernon, California.

Thomas H. Strang
Signature

THOMAS H. STRANG
Print Name

V.P. EHS - AMERICAS
Title

Exhibit A



ENVIRON

DRAFTED BY: SSHIN | DATE: 4/4/2014

Title V Equipment Designations - As of 1/1/2014

Exide

Figure 1

PROJECT: 07-21624V

Exhibit B

Almega
ENVIRONMENTAL

April 28, 2014

Mr. Ed Mopas
Exide Technologies, Inc.
2700 S. Indiana Street
Vernon, CA 90058

Sub: Rule 1420.1(k)(13) emissions testing

Dear Mr. Mopas:

Please find enclosed an electronic copy of the subject source test report. Testing was conducted at your facility to provide emissions data for Benzene and 1,3-Butadiene according to Rule 1420.1(k)(13) using a test protocol approved by the SCAQMD. Testing was conducted on February 26, 27, and 28, 2014.

If you have any questions or comments regarding the enclosed package, please contact Mr. Charles Figueroa or myself at 714-889-4000.

Sincerely,

Surya Adhikari
Project Manager

Almega
ENVIRONMENTAL

SOURCE TEST REPORT

Rule 1420.1 (k)(13) Benzene and 1,3-Butadiene Emissions Testing from Multiple Stacks at the Exide Technologies, Vernon Facility

Prepared for:

Exide Technologies
2700 S. Indiana Street
Vernon, CA 90058

For Submittal to:

South Coast Air Quality Management District (SCAQMD)
21865 East Copley Drive
Diamond Bar, CA 91765

Test Date(s): February 26, 27, and 28, 2014

Issue Date: April 28, 2014

Project No.: 9574

Tested by:

Almega Environmental & Technical Services
10602 Walker Street
Cypress, CA 90630

Prepared By: _____
Surya Adhikari, Project Manager

Reviewed By: _____
Charles Figueroa, Sr. Project Manager

ACKNOWLEDGEMENTS

The project manager was Mr. Charles Figueroa with Almega Environmental. The sampling team consisted of Almega Environmental testing personnel which included Scott Burn, Robert Leyva, Tim Ta, and Gregory Rubin. CalScience Environmental Laboratories provided analyses for Benzene and H&P Mobile Geochemistry provided analysis for 1,3-Butadiene.

This report presents results based on samples collected by Almega Environmental and analyzed by CalScience Environmental Laboratories and H&P Mobile Geochemistry using CARB, EPA and SCAQMD test methods. The results have been reviewed and are believed to be accurate within the limits of the methods.

Arrangements for the source testing were made through Mr. Ed Mopas of Exide Technologies, Inc., Vernon, California.

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ATTACHMENTS

1.0 EXECUTIVE SUMMARY

Key project information is provided in the summary below. Test results are summarized in Table 1-1 through Table 1-2 respectively.

Customer	Exide Technologies, Inc. 2700 S. Indiana Street Vernon, CA 90058 Mr. Ed Mopas, tel. (323) 262-1101 ext.259
Equipment Location	(Same)
Facility ID	124838
Equipment (s)	(1) North Torit (C38/S187) (2) South Torit (C39/S189) (3) Material Handling Baghouse (C48/S142) (4) MAC Baghouse (C156/C157/S158) (5) RMPS Scrubber (C165/C172/S166)
Test Objective	To determine benzene and 1,3-butadiene emissions from multiple stacks to comply with the requirement of recently amended Rule 1420.1(k)(13).
Test Requested by	Mr. Ed Mopas of Exide Technologies, Inc.
Test Date(s)	February 26, 27, and 28, 2014
Testing Firm	Almega Environmental & Technical Services 10602 Walker Street Cypress, CA 90630 Contact: Mr. Charles Figueroa, tel (714) 889-4000
Test Personnel	Scott Burn, Tim Ta, Robert Leyva, and Gregory Rubin of Almega Environmental & Technical Services
Regulatory Agency	South Coast Air Quality Management District (SCAQMD) 21865 East Copley Drive Diamond Bar, CA 91765-4182 Contact: Mr. Peter Ko, tel (909) 396-2545

TABLE 1-1 SUMMARY OF RESULTS - Rule 1420.1 (k) (13)
Exide Technologies
Vernon Facility - Multiple Stacks
February 26-28, 2014

Sampling Location	Test Date	Stack Flow Rate	Benzene Emissions		1,3-Butadiene Emissions	
			Concentration	Mass Rate	Concentration	Mass Rate
		dscfm	ppbv	lb/hr x10^{-3}	ppbv	lb/hr x 10^{-3}
South Torit	2/26/2014	103,643	2.03	2.57	1.25	1.10
North Torit	2/26/2014	100,171	4.17	5.08	1.33	1.12
MAC Baghouse	2/27/2014	69,613	44.4	37.7	22.3	13.1
MH Baghouse	2/27/2014	94,572	0.97	1.12	J 0.74	J 0.588
RMPS Scrubber	2/28/2014	14,106	0.78	0.134	0.56	0.0659

J- reported value is less than RL but greater than MDL.
All emissions are reported in accordance with AB2588 criteria.

TABLE 1-2. PROCESS DATA SUMMARY

Test Date	PARAMETERS	Operating Conditions				Feed Dryer Material				RMPS Material	
		Kiln Inlet	Kiln B.H Exit	Afterburner	Oxygen Enrichment	Reverb Furnace		Blast Furnace		Battery Breaker	
	Location	Temp. (°F)	Temp. (°F)	Temp. (°F)	(%)	Tons/day	Tons/hr	Tons/day	Tons/hr	Tons/day	Tons/hr
2/26/2014	South Torit	1436	282	2147	5.0	386	16.1	129	5.38	462	19.3
2/26/2014	North Torit	1466	267	2064	5.0	386	16.1	123	5.11	462	19.3
2/27/2014	MAC Baghouse	1438	270	2118	4.0	377	15.7	127	5.27	0.00	0.00
2/27/2014	Material Handling	1423	270	2080	4.2	377	15.7	91	3.79	0.00	0.00
2/28/2014	RMPS Scrubber	1385	256	2074	4.0	389	16.2	142	5.93	357	14.9

Process data in detail can be found in Appendix E.

2.0 INTRODUCTION

Almega Environmental & Technical Services (Almega) was contracted by Exide Technologies to perform the stationary source emissions testing from multiple stacks located at its facility in Vernon, California. The purpose of the test was to conduct emission testing to quantify the benzene and 1,3 butadiene emissions from selected locations at the Exide facility to comply with the recently amended Rule 1420.1 (K)(13) testing requirement.

Per this requirement, beginning January 10, 2014, the owner or operator of a large lead-acid battery recycling facility shall conduct two source tests for benzene and 1,3-butadiene emissions from all emission control devices on total enclosures as follows:

(A) First source test conducted no later than March 1, 2014.
(B) Second source test conducted no later than September 1, 2014
(C) Source tests on all emission control devices on total enclosures must be completed within a time period of 72 hours or less.

This testing was conducted on five emission sources (North Torit, South Torit, Material Handling (MH) Baghouse, MAC Baghouse, and RMPS Scrubber) from February 26 to 28, 2014 to comply with Condition A within a time period of 72 hours specified in Condition C above. Arrangements for the source testing were made through Mr. Ed Mopas of Exide Technologies, Vernon Facility. The test program was designed such that stack sampling was conducted to determine emission of the following pollutants or parameters:

TEST MATRIX

Pollutants or Parameter	Reference Methods	Test Runs and Duration	Reported Units of Measure
Flow rate	SCAQMD Methods 2 through 4	Simultaneous with each pollutant test run	dscfm
Moisture Content	SCAQMD Method 4	Simultaneous with each pollutant test run	volume percent
Benzene/1,3-Butadiene	EPA Method TO-15	Three 1-hr runs	ppbv and lb/hr
1,3 - Butadiene	Sampling: CARB Method 422.102 Analysis: EPA Method TO-15-Onsite GC	3-samples (injections) collected within a 1-hr period. Three 1-hr runs	ppbv and lb/hr

Additionally, the samples collected and analyzed for benzene in summa canisters were also analyzed for 1,3 butadiene. These 1,3 butadiene results will be compared to the CARB Method 422.102 results to show possible future acceptability of using TO-15 for 1,3 butadiene compliance or risk assessment. This comparative data will be provided in a separate report.

Each test included a minimum of three test runs. Testing was performed for the identified pollutants on a one-time basis after the last control device (i.e., stack or other point representing the composition of the gases at the exit to the atmosphere). All testing were performed on the outlet of North Torit, South Torit, Material Handling Baghouse, MAC Baghouse, and RMPS Scrubber during typical process unit and control operating conditions. Testing was conducted as specified in the reference methods and approved test protocol dated February 21, 2014.

In addition to the stack emissions test data, a report of the applicable process information was also collected by the facility personnel at the time of the emissions test and was provided to Almega for the documentation of the process conditions during testing. The process data as outlined in the test protocol are summarized and included in the report.

2.1 DOCUMENT OUTLINE

This report is organized as follows. Section 1.0 is a summary of the project and test results. Section 2.0 describes the project, its objectives and approach. Section 3.0 describes the equipment tested, operating condition, and applicable sampling locations. Section 4.0 describes the sampling and analysis procedures used to conduct the source test. Section 5.0 describes Quality Assurance and Quality Control activities performed. And Section 6.0 discusses test results. The Appendices contain test results, calculated data, raw field data, analytical data, facility process data, calibration records, and certification documents. Detailed analytical report and data packages including QA/QC for the applicable tests are included in attachments and provided in electronic format on CD ROM.

3.0 EQUIPMENT AND PROCESS DESCRIPTION

Exide Technologies, Inc., recycles spent batteries by recovering the lead content and producing lead ingots, which are then used in the production of new batteries. The process and equipment tested is described below.

3.1 PROCESS DESCRIPTION

The Exide Technologies facility in Vernon is a lead recovery plant. Old batteries, e.g. from automobiles and boats, are sent to this plant for recycling. At the plant, the batteries are drained of any fluids, crushed and/or pulverized, and then separated by material type. Plastics and other non-metals are collected and sent to another facility for recycling and disposal. The lead battery cores are melted, treated to remove impurities and cast into lead ingots. All activities are performed under positive emissions controls, e.g. inside enclosures or enclosed systems to limit emissions of lead, particulates, and other pollutants.

A generalized process diagram is presented in Figure 3-1.

3.2 OPERATING CONDITIONS DURING TEST

All five units were operated at normal conditions during testing. Operating conditions including feed material charge rate and operating temperatures are summarized and included in the report. Process data was collected by the facility and provided to Almega for the documentation of the process conditions during the test. Detailed process data can be found in Appendix F.

3.3 SAMPLING LOCATIONS

The reference method sampling locations are located on the exhaust of North Torit, South Torit, Material Handling Baghouse, MAC Baghouse, and RMPS Scrubber stacks respectively. A schematic of the stack with sampling locations are shown in Figure 3-2 through 3-5 respectively. The reference method sampling locations meet the following specifications:

Sampling Location Configuration for RM Probe-North & South Torits:	
Upstream	672 in.(8.0 duct diameter)
Downstream	>420 in.(>5.0 duct diameter)
Port Length	3 in. (measured from outside wall)
Port Inside Diameter	6 in.
Number of Sampling ports	2 (located at 90° intervals)
Stack Diameter	84 in.(internal diameter)

Sampling Location Configuration for RM Probe-MH Baghouse:	
Upstream	720 in.(8.57 duct diameter)
Downstream	420 in.(5.00 duct diameter)
Port Length	3 in. (measured from outside wall)
Port Inside Diameter	6 in.
Number of Sampling ports	2 (located at 90° intervals)
Stack Diameter	84 in.(internal diameter)

Sampling Location Configuration for RM Probe-MAC Baghouse	
Upstream	360 in.(5.02 duct diameter)
Downstream	>468 in.(>6.52 duct diameter)
Port Length	6.25 in. (measured from outside wall)
Port Inside Diameter	3in.
Number of Sampling ports	2 (located at 90° intervals)
Stack Diameter	71.75 in.(internal diameter)

Sampling Location Configuration for RM Probe-RMPS Scrubber	
Upstream	206 in.(4.74 duct diameter)
Downstream	148 in.(3.40 duct diameter)
Port Length	5.25 in. (measured from outside wall)
Port Inside Diameter	4 in.
Number of Sampling ports	2 (located at 90° intervals)
Stack Diameter	43.5 in.(internal diameter)

All five sampling location complies with the requirements of SCAQMD Method 1.1.

Figure 3-1. Process Schematic

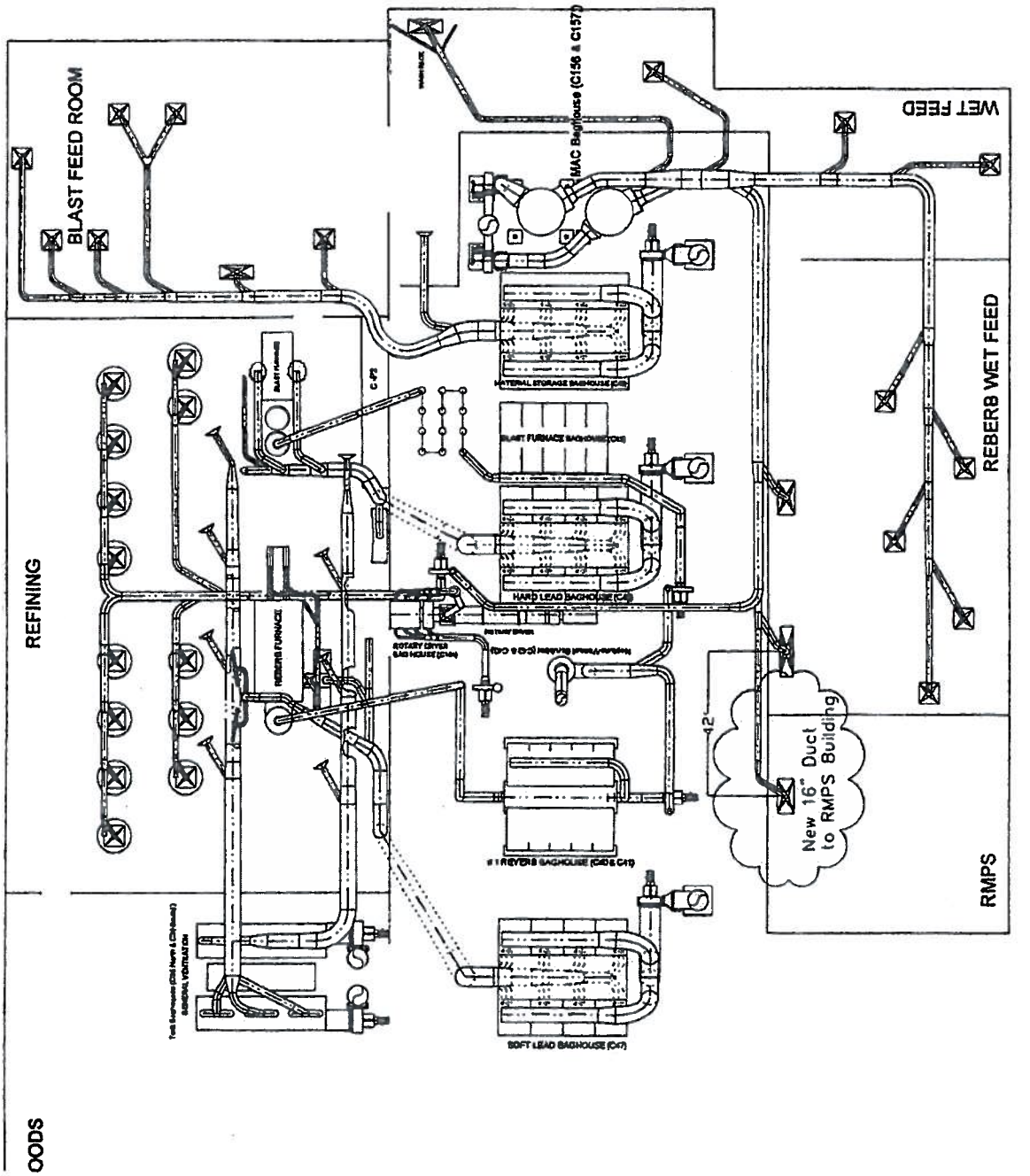
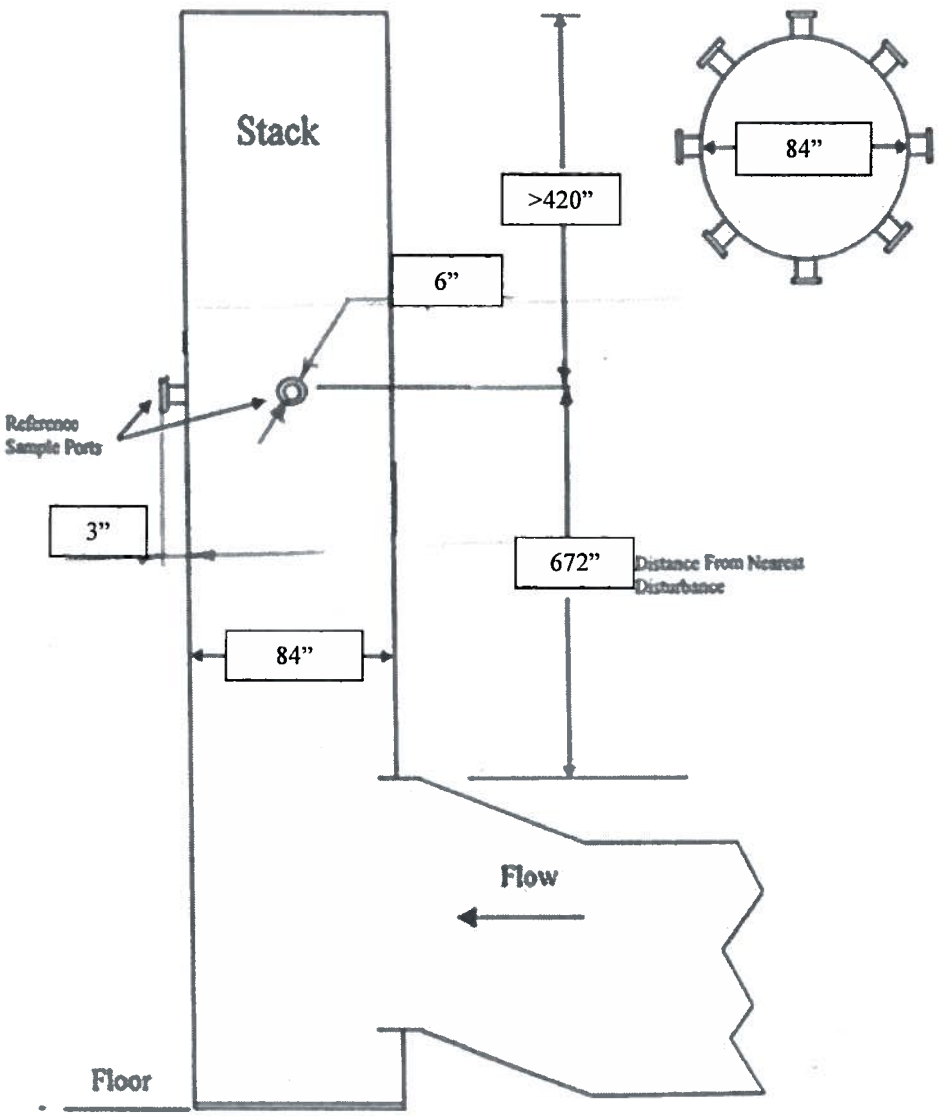


Figure 3-2. Stack Schematic-North and South Torits



Note: North and South Torits stacks are identical.

Figure 3-3. Stack Schematic- MH Baghouse

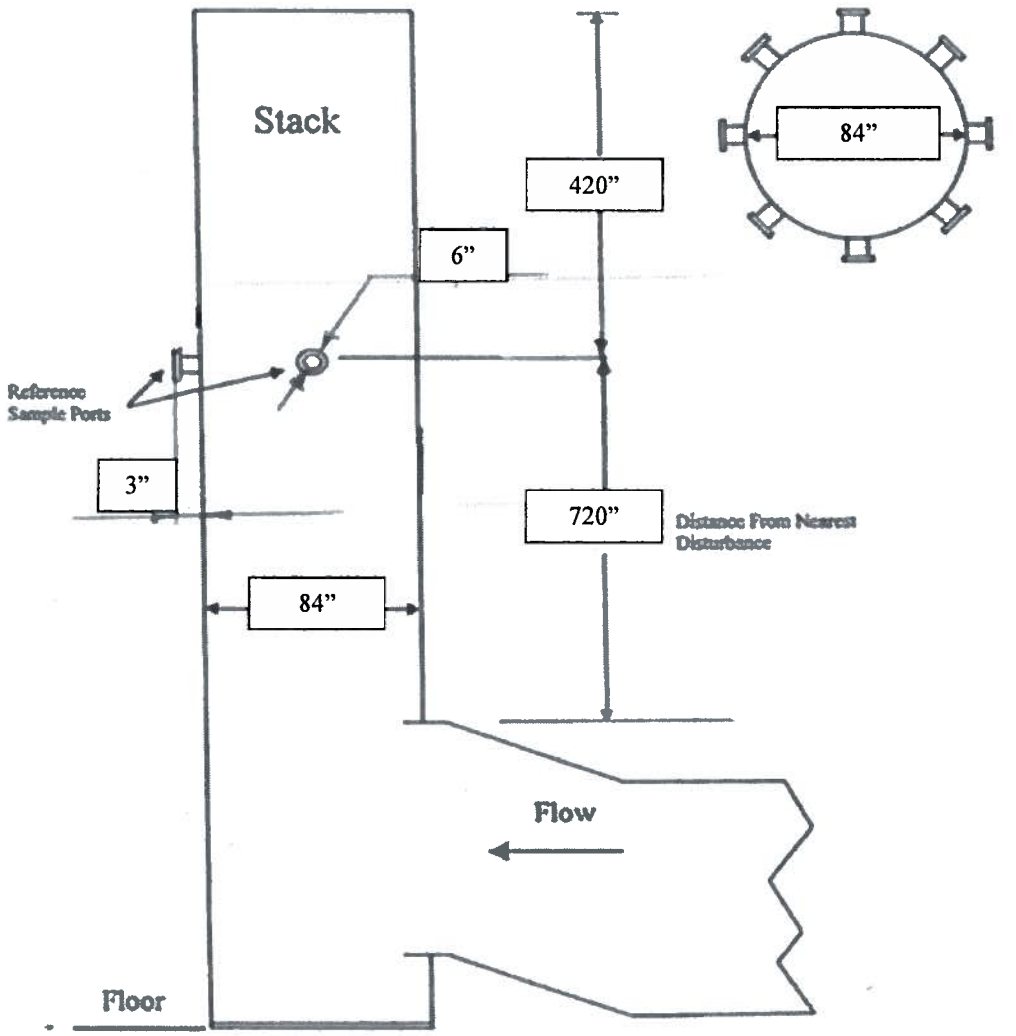


Figure 3-4. Stack Schematic- MAC Baghouse

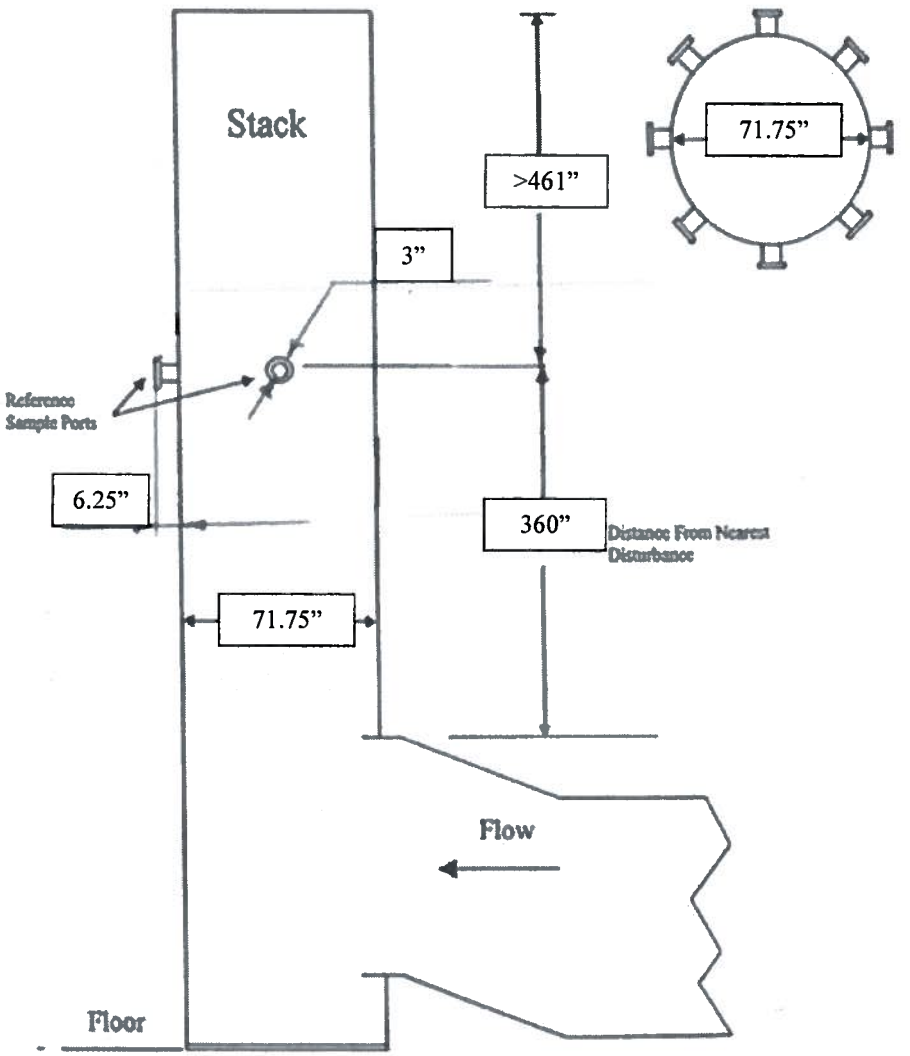
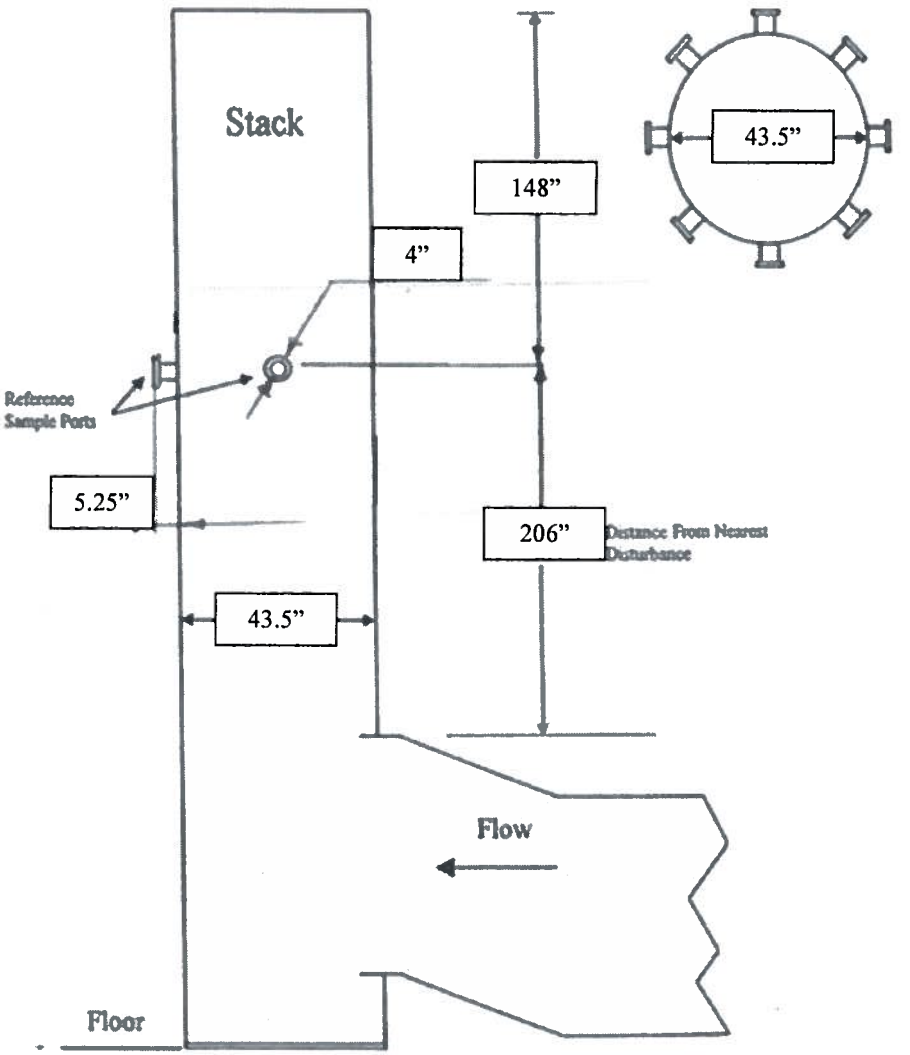


Figure 3-5. Stack Schematic- RMPS Scrubber



4.0 SAMPLING AND ANALYTICAL PROCEDURES

Test measurements were performed according to sampling and analysis procedures promulgated by the South Coast Air Quality Management District (SCAQMD), California Air Resources Board (CARB), or US Environmental Protection Agency (EPA). The sampling and analysis procedures used for this test program are summarized below. Any modifications or deviations not addressed herein are discussed in Section 6 of this report. The following table summarizes the sampling and analysis procedures used for this test program.

Pollutants/ Parameters	Stack Flow	Moisture Content	1,3-Butadiene	Benzene/1,3-Butadiene
Test Methods	SCAQMD 1.1 and 2.1	SCAQMD 4.1	CARB 422.102	EPA TO-15
Principle Sampling	Pitot/TC	Impinger	Direct Injection	Summa
Isokinetic	N/A	N/A	No	No
Sampling Period	Varies	≥ 30 min.	1 hr	1 hr
Estimated Sample Volume	N/A	--	N/A	6 liter
No of Runs	3	3	3 injections/run x 3 runs	3 runs
QA/QC - Leak checks	pre/post	pre/post	pre/post	pre/post
QA/QC - Field Blanks	N/A	N/A	Yes	No
QA/QC - Reagent Blanks	N/A	N/A	N/A	N/A

4.1 SCAQMD METHODS 1-4 – DETERMINATION OF STACK GAS VOLUMETRIC FLOW RATE, MOLECULAR WEIGHT, AND MOISTURE CONTENT

The flue gas flow characteristics (i.e. flow rate, molecular weight, and moisture content) were determined according to SCAQMD Methods 1 through 4. These methods are integrated into isokinetic sampling; therefore, separate measurements are not required if an isokinetic test is performed. The testing was conducted as follows:

4.1.1 SAMPLING AND VELOCITY TRAVERSE POINTS

The number and location of traverse points are determined according to SCAQMD Method 1 based on the physical dimensions of the sampling location and process parameters. In principle, the stack cross-section is divided into equal areas, each of which is represented by a "traverse point". Generally, the number of traverse points diminishes as the flow profile at the sampling location becomes uniform. In most cases, the maximum number of sampling points is 24 for particulate testing and 16 for velocity traverses. Fewer traverse points are permitted as described in the Method.

4.1.2 STACK GAS VELOCITY AND FLOW RATE

The velocity and volumetric flow rate of the stack gas was determined according to SCAQMD Method 2. In this method, the velocity head (differential pressure) and temperature are measured at the required traverse points. The stack gas differential pressure head was determined using an "S" type pitot tube and inclined manometer as a pressure gauge. The temperature was measured using a type "K" thermocouple and digital temperature readout.

Prior to testing, the measurement system was set-up and leak-checked. Then the velocity head and temperature were recorded at predetermined traverse points. After the last traverse was completed, the system was again leak-checked. After completion of the traverse, the static pressure in the stack was determined in the centroid of the stack. The stack gas velocity was calculated using the velocity head, and stack gas temperature, pressure and molecular weight.

QA/QC for the method included field performance checks, and periodic calibrations of test equipment including the pitot tube, differential pressure gauge, TC and TC-readout. A swirl check was also performed to assess cyclonic flow.

4.1.3 STACK GAS MOLECULAR WEIGHT

Combustion products at all these locations were expected to be at a minimum and the standard stack gas molecular weight was calculated based on ambient air. The O_2/CO_2 were not measured.

The stack gas molecular weight (MW) was calculated based on the fraction of its major constituents including: oxygen (O_2), carbon dioxide, (CO_2), nitrogen (N_2), carbon monoxide (CO), and water (H_2O). The dry MW was calculated based on the partial fractions of O_2, CO_2, N_2, and CO. The wet MW was calculated based on the fractions of dry gas and water vapor. The dry and wet MW were calculated according to the following equations:

$$MW_{DRY} = 0.32 \times \%O_2 + 0.44 \times \%CO_2 + 0.28 \times (\%N_2 + \%CO)$$

$$MW_{WET} = 0.18 \times \%H_2O + MW_{DRY} \times (1 - \%H_2O/100)$$

where:
- MW_{DRY} = stack gas molecular weight, dry-basis
- MW_{WET} = stack gas molecular weight, wet-basis
- 0.32 = molecular weight fraction for O_2
- 0.44 = molecular weight fraction for CO_2
- 0.28 = molecular weight fraction for N_2 and CO
- 0.18 = molecular weight fraction for H_2O (water vapor)
- %X = fraction of X in stack gas, dry basis, where X = O_2, CO_2, N_2, CO
- $\%H_2O$ = fraction of water vapor in stack gas, wet-basis

4.1.4 SCAQMD METHOD 4.1- STACK GAS MOISTURE CONTENT

The stack gas moisture content was determined according to SCAQMD Method 4.1. In this method, water vapor is collected in a condenser while the dry stack gas volume is measured using a dry gas meter. The volume of water vapor was calculated from the amount of water condensed and the total gas volume is the sum of water vapor plus dry stack gas. The moisture content was determined as a fraction of the total wet stack gas volume. The following calculations were used.

$$B_{WS} = \frac{V_{W,Std}}{V_{M,Std} + V_{W,Std}}$$

$$V_{W,Std} = K_1 \times V_{H2O}$$

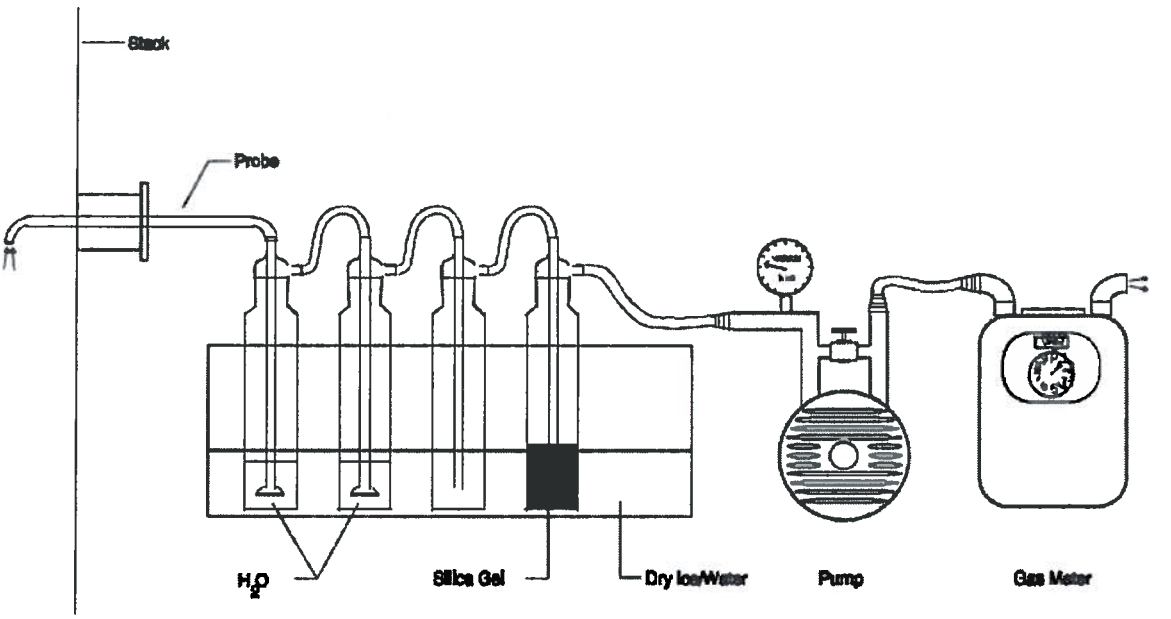
$$V_{M,Std} = T_{Std}/P_{Std} \times Y_M \times V_M \times P_M/T_M$$

where:
- B_{WS} = Fraction of water vapor in stack gas
- $V_{W,Std}$ = Volume of water vapor (scf)
- $V_{M,Std}$ = Volume of stack gas sampled (dscf)
- K_1 = Unit volume of water vapor (0.04707 scf @68°F or 0.0464 scf @60°F)
- T_{Std} = Standard Temperature (528°R or 520°R)
- P_{Std} = Standard Pressure, 29.92 in. Hg
- Y_M = Dry gas meter calibration factor
- V_M = Measured volume of stack gas sampled
- P_M = Dry gas meter pressure (in. Hg)
- T_M = Dry gas meter temperature (°R)

The moisture content was simultaneously determined if sampling was performed isokinetically otherwise performed as follows:

Moisture was collected in a sampling train consisting of a probe, TFE line, four impingers in an ice bath, a leak-free pump, a vacuum gauge and a dry gas meter. Figure 4-1 is a schematic of a typical moisture train. Initially, impingers #1 and #2 contained 100 ml of water, impinger #3 was empty, and impinger #4 contained a known amount (approximately 300 g) of desiccant (e.g. Silica Gel). Prior to sampling, a leak check of the sampling train was performed. Then, the sampling probe was inserted into the centroid of the stack, the initial meter readings (volume, temperatures, etc.) were recorded, the sample pump is started and the sampling rate is adjusted to the desired sampling rate (typically 0.75 dry cfm). Sampling was conducted until at least 22 dry cubic feet were collected. After sampling, the final meter readings were recorded and the impinger train was recovered. The change in volume and/or weight of the impinger train components was used to determine the amount of moisture condensed. The volume of water vapor and the corrected volume of dry gas sampled were used to calculate the moisture fraction as described above.

Figure 4-1. Moisture Train



4.2 CARB METHOD 422.102 – 1, 3-BUTADIENE EMISSIONS

In this method, a flue gas sample is extracted from the stack and analyzed by gas chromatography. The sample was transported directly to a gas chromatograph for analysis via a TFE sample line maintained at a temperature above the dew point (i.e. "direct interface").

The sampling system ("Direct Interface") was developed in accordance with the requirements of CARB Method 422.102. When using this system, the flue gas was extracted from the stack through a stainless steel probe and transported to the on-site laboratory via a TFE sample line maintained at a temperature above the dew point.

Three samples were collected approximately every 15 to 20 minutes and analyzed during each one hour run. The average of three samples comprised the results of one run. A total of three 1-hour runs were conducted at each exhaust stack.

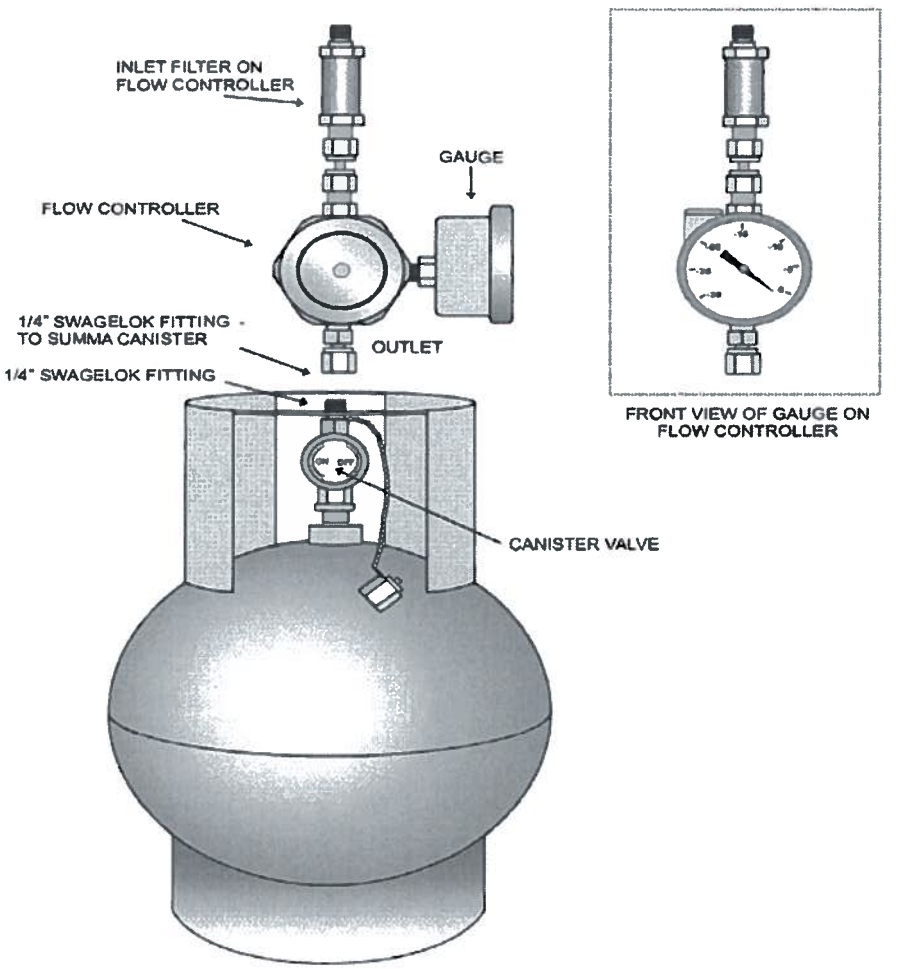
The exhaust sample was continuously being transported to the on-site GC where the sample was periodically injected directly into the GC sample loop. Quality assurance and quality control included a pretest blank of the entire sampling system (using hydrocarbon-free air) before each test to ensure that no contamination was present. Zero air blanks was analyzed (from the sample line) each day of sampling. Single point calibration was performed at the end of each test runs.

The samples were analyzed on-site by H&P Mobile Geochemistry, Inc., Carlsbad, California.

4.3 EPA METHOD TO-15 – SPECIATED TOXIC ORGANIC EMISSIONS

EPA Method TO-15 was used to measure concentrations of both benzene and 1,3-butadiene. In this method, an integrated gas sample is collected in a Summa-passivated canister and analyzed by gas chromatography/mass spectroscopy (GC/MS). The samples are collected through pre-calibrated flow controllers which collects an integrated sample over a 60 minute period. Figure 4-2 is a schematic of the typical sampling system. Each sample was analyzed for selected VOCs by Method TO-15 (or alternatively per EPA SW-846 Method 8260B). Samples were analyzed by Calscience Environmental Laboratories in Garden Grove, California.

Figure 4-2. Typical TO-15 Sampling Apparatus



5.0 QUALITY ASSURANCE / QUALITY CONTROL

The overall objective of quality assurance is to ensure that sampling and analytical procedures produce data that are accurate, precise, and complete. Acceptable quality assurance and quality control (QA/QC) ensure that test measurements are representative of actual emissions.

5.1 QUALITY ASSURANCE PROGRAM – OVERVIEW

A strict quality assurance program (QAP) was adhered to throughout the source sampling and analytical phases of the program. The QAP incorporated reference test methods, performance standards, and internal standard operating procedures to ensure that all measurements are valid, representative, and scientifically defensible. The QAP incorporates the activities and QC checks described below.

5.1.1 TEST METHODOLOGY

All testing were performed following the approved test protocol for this test program. The test protocol describes, in detail, test objectives, sampling and analysis measurements, process operating conditions, QA/QC checks and other parameters necessary to ensure successful completion of the test program. For example, the test protocol addresses the following issues:

- Sampling locations
- Number of samples to be collected
- Duration and frequency of sampling activities
- Sampling and Analysis Test Methods and Procedures
- Sample handling requirements (preservation and chain-of-custody)
- Data Reduction and Reporting procedures
- Internal and external QA/QC activities (e.g. technical systems audits, etc.).

5.1.2 SAMPLING AND ANALYSIS

Test planning, preparation, sampling, and analysis activities were performed by qualified engineers and technicians. Internal audits were conducted to ensure that test personnel were qualified and knowledgeable regarding the measurements performed.

Sample collection and analysis were conducted as specified in the reference methods and approved test protocol dated February 21, 2014. Field test data were recorded on field data forms and field observations regarding process operation, sampling conditions or other information are recorded. Conditions that may affect test results were flagged for further review during data reduction and reporting.

Sampling was performed using equipment that meets the accuracy and calibration requirements of the applicable test method or standard. Generally, the equipment is calibrated and maintained

in accordance with Chapter III of the SCAQMD's *Source Test Manual* and the Volume III of the EPA's *Quality Assurance Handbook for Air Pollution Measurement Systems.*

Sampling and analysis included appropriate QC and audit samples defined in the test protocol or prescribed by the applicable Test Method. The test program incorporated field blanks, reagent blanks, method blanks, field spikes, method spikes, laboratory control samples, replicate analysis, surrogate analysis and/or internal standards analysis. Any of these contribute to the overall assessment of data quality. Performance and acceptance criteria are proposed, typically in the applicable Test Method, and data that do not meet such criteria are flagged for further study.

5.1.3 DATA REDUCTION AND REPORTING

All data generated by test programs were subject to review for accuracy and representativeness. Particular care is taken to ensure that data reduction and reporting activities do not bias test results. Data received from the field was reviewed for completeness and accuracy. Field data and laboratory data were reduced to determine emissions results. These results were reviewed for accuracy and consistency. Data calculations, especially spreadsheet-based calculations were reviewed for accuracy before approving test results. Overall values for test averages and other results were calculated according to methodology that is consistent with the test program objectives.

5.1.4 QA/QC ACTIVITIES

Quality assurance and quality control (QA/QC) activities were implemented at each step of the test program to ensure the accuracy and representativeness of test data. The following are examples of specific QA/QC checks:

- Use of approved test methods
- Process operation at planned and expected operating conditions
- Equipment is properly operating and calibrated
- Reagents have passed QC checks
- Leak checks are performed before and after testing, as applicable
- Control samples (audits) are used when required
- Records of all data are maintained.

5.2 PROJECT-SPECIFIC QA/QC

All necessary QA/QC checks were followed according to each reference method and as outlined in the test protocol.

6.0 TEST RESULTS AND DISCUSSION

The field sampling was conducted over a three day period (February 26, 27, and 28, 2014). The sampling locations and equipment were prepared prior to initiating the sampling activities. Testing was conducted after the arrival of Almega's test personnel and set-up of test equipment.

The results are summarized in Section 1. Test-specific results for the five emissions sources are presented in Tables 6-1. Process operating conditions during the test periods are shown in Table 6-2. Supporting data including calculations, field test data, laboratory analysis reports, and QA/QC data are found in the Appendices. Detailed analytical report and data packages including QA/QC for the applicable tests are included in the attachments.

6.1 RESULTS

The scope of work included a minimum of three runs for each test at each of the five emission source stacks. During each test, the process and equipment system were operated on a continuous basis at normal operating conditions. Testing was performed according to the test methods referenced in Section 4 and the approved test protocol. No additional sampling or analysis modifications were necessary. The stack gas flow rate and moisture content were determined at each test. Test calculations are corrected to 68°F which is the standard temperature under CARB/EPA.

6.1.1 TEST RESULTS – Benzene

The South and North Torits reported 2.03 and 4.17 ppbv benzene respectively while the Material Handling baghouse and RMPS Scrubber reported 0.97 and 0.78 ppbv respectively. The RMPS average included one value at 0.42 ppbv which is actually less than the reporting limit and reported with a "J" flag meaning that the compound was detected but below the reporting limit of analysis. J-vale data was used, as reported, to calculate average concentrations. The MAC Baghouse reported the highest emissions at 44.4 ppbv.

6.1.2 TEST RESULTS – 1,3 Butadiene

The South and North Torits reported 1.25 and 1.33 ppbv 1,3-butadiene respectively while the Material Handling baghouse and RMPS Scrubber reported 0.74 and 0.56 ppbv respectively. The Material Handling Baghouse average included all three values reported at less than the reporting limit. This average RMPS value is therefore reported with a "J flag" to reflect that the values less than reporting limit but above the detection limit is used in the averages. The MAC Baghouse reported the highest emissions at 22.3 ppbv for 1, 3 butadiene as well. Analysis results that were below the limit of detection (i.e. not detected or ND) were substituted for one-half of detection limit in calculating three run averages.

6.2 DISCUSSION

- For Material Handling baghouse, all three runs were reported as "J-flagged".

- Due to duct configuration change downstream of the blower and upstream of the exhaust stack the RMPS Scrubber indicated cyclonic flow. In order to quantify the flow rate from the stack the delta P values were measured at their maximum inclination and the corresponding angles were measured. The equivalent velocity was calculated based on the angle and pressure.

- Moisture content in the exhausts stacks and transfer line was not an issue in the 1,3 butadiene sampling and analysis. For all the stacks except the RMPS scrubber, a non-heated Teflon line was used to transport the stack gas to the collection pump and to the H&P GC. No visible condensate was visible in the transfer lines and was noted appropriately on the field data sheets.

  For the RMPS scrubber which has more moisture, a heated line was used to bring the stack gas down to the Almega pump and then a non-heated line to transfer from the Almega pump to the H&P GC.

  It should be noted that a small amount of visible condensate was observed in the transfer line to the GC at the conclusion of Run 1 at the RMPS scrubber. Additional dry nitrogen was used to purge the line prior to starting the second and third test runs, and no visible moisture was observed again.

- During most of the testing program the ambient conditions included light to heavy rain. Both the Almega truck and the H&P truck were located inside the baghouse enclosure for the first 4 stack tests, and then positioned outside for testing on the 5th stack, the RMPS scrubber. Approximately 100 to 200 feet of transfer line was needed to transfer the samples down to the Almega and H&P trucks.

- Leak checks were conducted and documented before and at the end of each stack sampling program. Leak checks were conducted at ~75 kPa. No leaks were detected except prior to the testing at the RMPS scrubber. At the RMPS, the leak was fixed and the line held a -74 kPa vacuum for five minutes before testing commenced.

- 1,3 butadiene QA procedures included leak check and field blank checks prior to testing at each test location. Additionally, a 1-point direct calibration was conducted between each run (after every 3 samples).

- The results for the 1,3-butadiene at the MAC were significantly higher than the other four locations. The test runs reported 38.0, 1.14 and 27.7 ppbv respectively for Runs 1 through 3. These three values were the product of three point-value concentrations collected in 15 minute increments. The individual values were reported as:

		Average	Sample 1	Sample 2	Sample 3
Run 1	ppbv	38.0	48	35	31
Run 2	ppbv	1.14	1.3	0.72	1.4
Run 3	ppbv	27.7	26	29	28

As can be seen there is consistency within each 1 hour period with elevated concentrations reported in Runs 1 and 3. Additional investigation may be appropriate to determine what occurred during those periods (1 and 3) to provide these elevated levels.

6.3 PROCESS DATA

Process data was collected by the facility and provided to Almega for the documentation of the process conditions during the test. Process data including the feed material charge rates and operating temperatures for each test event is presented in Table 6-2. Testing was performed as specified in the reference methods and approved test protocol. No modifications to proposed sampling and analysis procedures other than those noted above were required.

6.4 BLANK- CORRECTED DATA

The data reported in Sections 1 and 6 of this report are "blank-corrected" where available. Typically, the blank values are determined by parallel analysis of reagent blanks or method blanks. If a measurable "background" level of the target constituent is found in the reagent blanks or method blanks, then a correction for the background level is allowed and applied.

Field blanks are performed to evaluate potential contamination or bias resulting from sampling and handling activities. Generally, Field blanks provide an assessment of test performance but cannot be used to correct test results.

6.5 CALCULATION OF TEST AVERAGES – AB 2588 CRITERIA

The data reported in Sections 1 and 6 of this report are based on the reporting guidelines outlined in AB2588 as follows:

Under California's AB2588, the average values for test results are calculated according to the following conditions that provide reasonable results and retain a conservative bias to the data. In the following discussion "ND" refers to a test result where the target constituent was not detected (or below the method-reporting limit).

Under California's AB2588, the average values for test results are calculated according to the following conditions that provide reasonable results and retain a conservative bias to the data. In the following discussion "ND" refers to a test result where the target constituent was not detected (or below the method-reporting limit).

A. Blank-Corrected Data

A.1 Blank correction is applied if the blank value was positive (not ND).

A.2 If the blank-corrected value is less than the detection limit, the data is flagged "NDb" and the detection limit is reported.

B. Individual Test Runs

B.1 If no fractions are ND or NDb, the data is reported as measured.

B.2 If all fractions are ND or NDb, the data is flagged "ND" and the maximum value equal to the sum of the fractions is reported.

B.3 If some but not all fractions are ND or NDb, the reported value is equal to the sum of the individual fractions where zero is substituted for ND or NDb fractions.

C. Test Average Values

C.1 If no test results are ND, the reported value is the average of all test results.

C.2 If all test results are ND or NDb, the data is flagged "ND" (or "NDb" if appropriate) and the reported value is the average of all test results. Then, subsequent data calculations (e.g. multiple-constituent averages) substitute zero for ND results.

C.3 If some but not all fractions are ND or NDb, the reported value is the average of all test results, where one-half the detection limit is substituted for ND or NDb results.

This approach is consistent with the guidelines for source test reporting under California's AB2588 Air Toxics "Hot Spots" Regulations and complies with the general requirements of the South Coast Air Quality Management District (SCAQMD).

6.6 TEST CHRONOLOGY

All testing was conducted during the periods listed below:

Parameter Measurement	Test Location	Test Date	Run No.	Test Time
1,3 Butadiene and Benzene	South Torit	2/26/14	1	8:13-9:13
		2/26/14	2	9:33-10:33
		2/26/14	3	10:54-11:54
	North Torit	2/26/14	1	12:37-13:37
		2/26/14	2	13:56-14:56
		2/26/14	3	15:27-16:27
	MAC Baghouse	2/27/14	1	10:03-11:03
		2/27/14	2	11:16-12:16
		2/27/14	3	12:31-13:31
	Material Handling	2/27/14	1	14:21-15:21
		2/27/14	2	15:44-16:44
		2/27/14	3	16:50-17:50
	RMPS Scrubber	2/28/14	1	12:10-13:10
		2/28/14	2	14:05-15:05
		2/28/14	3	15:36-16:36

TABLE 6-1 TEST RESULTS - Rule 1420.1 (k) (13)
Exide Technologies
Vernon Facility - Multiple Stacks
February 26-28, 2014

Exide K13 Concentration results		1,3 Butadiene				Benzene			
		ppbv			Avg	ppbv			avg
Location	Date	R1	R2	R3		R1	R2	R3	
South Torit	2/26/2014	J 0.9	J 1.12	1.73	1.25	2.10	1.90	2.10	2.03
North Torit	2/26/2014	J 1.55	J 1.08	1.37	1.33	2.30	8.60	1.60	4.17
MH Baghouse	2/27/2014	J 0.60	J 0.78	J 0.83	J 0.74	0.89	0.82	1.20	0.97
MAC Baghouse	2/27/2014	38.0	J 1.14	27.7	22.3	ND 0.5	3.0	130	44.4
RMPS Scrubber	2/28/2014	J 0.66	ND 1.0	J 0.51	0.56	1.2	J 0.42	0.73	0.78
		Each Run is the average of three distinct samples collected within a 1-hour period. On-site GC.				Each Run is the results of a single 60-minute integrated sample collected during a 1-hr period. Collected in Summa cans.			

Exide K13 Emission Results		Stack Flows				1,3 Butadiene				Benzene			
		dscfm				lbs/hr				lbs/hr			
Location	Date	R1	R2	R3	avg	R1	R2	R3	avg	R1	R2	R3	avg
South Torit	2/26/2014	103,022	103,076	104,831	103,643	J 0.000782	J 0.000976	0.00153	1.10E-03	0.00263	0.00238	0.00268	2.57E-03
North Torit	2/26/2014	99,920	100,218	100,376	100,171	J 0.00131	J 0.00091	0.00116	1.12E-03	0.00280	0.0105	0.00196	5.08E-03
MH Baghouse	2/27/2014	93,217	95,038	95,460	94,572	J 0.000471	J 0.000622	J 0.000671	J 5.88E-04	0.00101	0.000949	0.00139	1.12E-03
MAC Baghouse	2/27/2014	69,494	69,602	69,741	69,613	0.0223	J 0.000669	0.0163	1.31E-02	ND 0.000423	0.00254	0.110	3.77E-02
RMPS Scrubber	2/28/2014	13,786	14,376	14,157	14,106	J 0.0000763	ND 0.000121	J 0.0000609	6.59E-05	0.000201	J 0.0000735	0.000126	1.34E-04

J- reported value is less than RL but greater than MDL.

ND- Not detected, 1/2 of the reporting limit is reported in calculating run avarage in accordance with AB2588 criteria.

TABLE 6-2. PROCESS DATA SUMMARY

Test Date/Time	PARAMETERS	Operating Conditions				Feed Dryer Material				RMPS Material	
		Kiln Inlet	Kiln B.H Exit	Afterburner	Oxygen Enrichment	Reverb Furnace		Blast Furnace		Battery Breaker	
	Location	Temp. (°F)	Temp. (°F)	Temp. (°F)	(%)	Tons/day	Tons/hr	Tons/day	Tons/hr	Tons/day	Tons/hr
02/26/14 (8:13 - 11:54)	South Torit 3-Run Average	1436	282	2147	5.0	386	16.1	129	5.38	462	19.3
02/26/14 (12:37 - 16:27)	North Torit 3-Run Average	1466	267	2064	5.0	386	16.1	123	5.11	462	19.3
02/27/14 (10:03 - 13:31)	MAC Baghouse 3-Run Average	1438	270	2118	4.0	377	15.7	127	5.27	0.00	0.00
02/27/14 (14:21 - 17:50)	Material Handling 3-Run Average	1423	270	2080	4.2	377	15.7	91	3.79	0.00	0.00
02/28/14 (12:10 - 16:36)	RMPS Scrubber 3-Run Average	1385	256	2074	4.0	389	16.2	142	5.93	357	14.9

Process data in detail can be found in Appendix E.

Exhibit C

Almega
ENVIRONMENTAL

SOURCE TEST PROTOCOL

Testing from Multiple Sources at the Exide Facility Located in Los Angeles, CA

Prepared For:
Exide Technologies
2700 S. Indiana Street
Los Angeles, CA 90023

Submitted To:
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Prepared By:
Almega Environmental & Technical Services
10602 Walker Street
Cypress, California 90630

Date: February 19, 2014

Protocol No: 9574

Prepared by: _____
Charles M. Figueroa, Senior Project Manager

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APPENDICES

1.0 EXECUTIVE SUMMARY

Facility:	Exide Technologies
Equipment Location:	2700 S. Indiana Street Los Angeles, CA 90023
Mailing Address:	2700 S. Indiana Street Los Angeles, CA 90023
Facility ID:	124838
Source(S):	(1) North Torit, (2) South Torit, (3) Material Handling Baghouse, (4) MAC Baghouse, and the (5) RMPS Scrubber
Test Objective:	Rule 1402.1 (K) (13) Testing requirement for Benzene and 1,3 Butadiene.
Test Date(s):	February 26, 2014 – February 29, 2014
Test To Be Performed By:	Almega Environmental & Technical Services
Facility Contact:	Mr. Ed Mopas (323) 262-1101 Ext. 259
Testing Firm Contact:	Charles M. Figueroa (714) 899-4000
Air Pollution Control District	South Coast Air Quality Management District Mr. Scott Wilson (909) 396-2257

2.0 TESTING PROGRAM

This protocol presents a plan to quantify the emissions from multiple stacks at the Exide Technologies facility located in Los Angeles, California.

The purpose of the test is to conduct emission testing to quantify the benzene and 1,3 butadiene emissions from select locations at the Exide facility to comply with the amended Rule 1420.1 (K)(13) test requirement.

The five emission sources to be tested are detailed below in Table 2-1:

Table 2-1
Sources to be Tested

Control Device	Device ID
North Torit	C38
South Torit	C39
Material Handling Baghouse	C48
Mac Baghouse	C156/C157
RMPS Scrubber	C165/C172

Each of the exhaust locations would be measured for benzene and 1.3 butadiene using the following methods:

TABLE 2-2. TEST MATRIX

PARAMETER	LOCATION	TEST METHOD	# OF TEST RUNS	TEST TIME	PROPOSED TEST CONDITION
Stack flows and moisture	Exhaust	SCAQMD Methods 1-4	1 per load	~ 30 min.	80% to 100% equipment capacity
Benzene/ 1.3 Butadiene	Exhaust	TO-15	3	30 minutes	
1,3 Butadiene	Exhaust	CARB Method 422.102	3 (w/ 3 injections per run)	60 minutes	

3.0 PROCESS AND EQUIPMENT DESCRIPTION

3.1 Process Description

The Exide Technologies facility in Vernon is a lead recovery plant. Old batteries, e.g. from automobiles and boats, are sent to this plant for recycling. At the plant, the batteries are drained of any fluids, crushed and/or pulverized, and then separated by material type. Plastics and other non-metals are collected and sent to another facility for recycling and disposal. The lead battery cores are melted, treated to remove impurities and cast into lead ingots. All activities are performed under positive emissions controls, e.g. inside enclosures or enclosed systems to limit emissions of lead, particulates, and other pollutants.

3.2 Equipment Description

A brief description of each pollutant source along with the sources controlled and brief stack description are detailed below in Table 3-1.

Table 3-1

Control Device	Sources Controlled	Stack height, ft	Typical Temp., Deg F	Typical Stack Flow DSCFM	Stack Diameter, inches	Upstream / downstream, inches (duct diameters)	Stack Description
Material Handling Baghouse	Reverb Furnace Feed Room Blast Furnace Feed Room	112	88	101,000	84	720/420 (8.5/5.3)	6" dia ports x 2
Soft Lead Baghouse	Refinery Kettles Dross Dump Hoppers Reverb Furnace Fugitive Emissions	112	103	92,000	80	720/420 (9/5 3)	6" dia ports x 2
Hard Lead Baghouse	Refinery Kettles Dross Dump Hoppers Reverb Furnace Fugitive Emissions	112	96	96,000	80	720/420 (9/5.3)	6" dia ports x 2
Feed Dryer Baghouse/Cyclone	Reverb Dryer	69	221	11,000	36	840/84 (23/2 3)	4" dia ports x 4
Neptune Scrubber / North & South Reverb Baghouse	Reverb Furnace Blast Furnace Venturi Scrubber Afterburner	112	137	22,000	45.5	672/420 (15/9)	4" dia. ports x 2
North Baghouse (Torit)	Refinery Kettles Dross Dump Hoppers Furnace Fugitive Emissions	-	108	90,000	84	672/420 (8/5)	6" dia. ports x 2
South Baghouse (Torit)	Refinery Kettles Dross Dump Hoppers Furnace Fugitive Emissions	-	72	115,000	84	300/300 (3 6/3.6)	6" dia. ports x 2
MAC Baghouses	Additional Support to Material Baghouse Corridor between Reverb and Blast Furnace Feed Rooms	80	70	100,000	71.75	360/360 (5/6 5)	3" dia ports x 2

3.3 Sampling Locations

The sample locations are briefly characterized in Table 3-1s above. Additionally, Method 1 data sheets which include detailed stack and sampling port descriptions are included in the Appendix.

3.4 Operating Conditions during Testing

The equipment will be operated at normal to high conditions during testing. Operating conditions will be documented during test and included in source test report.

Process data will be collected by Exide personnel, and will be provided to Almega for documentation of the process conditions during testing. The operating data expected to be collected during each test will include, but are not limited to, the following:

i. Process rates
ii. Material produced
iii. Critical operating temperature

4.0 REPORT FORMAT

I. Executive Summary
II. Summary of Results
III. Introduction
IV. Equipment Description
V. Sampling and Analytical Procedures
V. Test Result and Discussion
VI. Quality Assurance / Quality Control

Appendices

A - General Calculation Formulae
B - Approvals and Certifications
C - SCAQMD Methods 1-4 – Stack Gas Flow Rate
D - EPA Method 12.1 – Lead
F - Quality Assurance and Quality Control (QA/QC)
G - Facility Data

5.0 SAMPLING AND ANALYTICAL PROCEDURES

The testing will be performed according to test methods promulgated by the U.S. EPA, California Air Resources Board (CARB), USEPA and the South Coast Air Quality Management District (SCAQMD). The sampling and analysis procedures for this test program are summarized below.

5.1 SCAQMD Methods 1-4 – Determination of Stack Gas Volumetric Flow Rate, Molecular Weight, and Moisture Content

The flue gas flow characteristics (i.e. flow rate, molecular weight, and moisture content) will be determined according to SCAQMD Methods 1 through 4. These methods are integrated into isokinetic sampling; therefore, separate measurements are not required if an isokinetic test is performed. The testing is conducted as follows:

5.1.1 SAMPLING AND VELOCITY TRAVERSE POINTS

The number and location of traverse points will be determined according to SCAQMD Method 1 based on the physical dimensions of the sampling location and process parameters. In principle, the stack cross-section is divided into equal areas, each of which is represented by a "traverse point". Generally, the number of traverse points diminishes as the flow profile at the sampling location becomes uniform. In most cases, the maximum number of sampling points is 24 for particulate testing and 16 for velocity traverses. Fewer traverse points are permitted as described in the method.

5.1.2 STACK GAS VELOCITY AND FLOW RATE

The velocity and volumetric flow rate of the stack gas will be determined according to SCAQMD Method 2. In this method, the velocity head (differential pressure) and temperature are measured at the required traverse points. The stack gas differential pressure head is determined using an "S" type pitot tube (or Standard type) and a differential pressure gauge. The temperature is measured using a type "K" thermocouple and a digital temperature readout. Prior to testing, the measurement system is set-up and leak-checked. Then the velocity head and temperature are recorded at predetermined traverse points. After the last traverse is completed, the system is again leak-checked. After completion of the traverse, the static pressure in the stack is determined in the centroid of the stack. The stack gas velocity is calculated using the velocity head, and stack gas temperature, pressure and molecular weight.

QA/QC for the method includes field performance checks, and periodic calibrations of test equipment including the pitot tube, differential pressure gauge, TC and TC-readout. If the sampling location is new or process conditions have changed significantly, then a swirl check is also performed to assess cyclonic flow.

5.1.3 STACK GAS MOLECULAR WEIGHT

Combustion products at all these locations are expected to be at a minimum and the standard stack gas molecular weight will be based on ambient air. The procedures below Will not be applicable

The stack gas molecular weight (MW) will be calculated based on the fraction of its major constituents including: oxygen (O_2), carbon dioxide, (CO_2), nitrogen (N_2), carbon monoxide (CO), and water (H_2O). The dry MW is calculated based on the partial fractions of O_2, CO_2, N_2, and CO. Specifically, the O_2 and CO_2 fractions are determined by CEMS, integrated sampling, or grab sampling, and the balance is assumed to be N_2 and CO. The wet MW is calculated based on the fractions of dry gas and water vapor. The dry and wet MW are calculated according to the following equations:

$$MW_{DRY} = 0.32 \times \%O_2 + 0.44 \times \%CO_2 + 0.28 \times (\%N_2 + \%CO)$$

$$MW_{WET} = 0.18 \times \%H_2O + MW_{DRY} \times (1 - \%H_2O/100)$$

where: MW_{DRY} = stack gas molecular weight, dry-basis

MW_{WET} = stack gas molecular weight, wet-basis

0.32 = molecular weight fraction for O_2

0.44 = molecular weight fraction for CO_2

0.28 = molecular weight fraction for N_2 and CO

0.18 = molecular weight fraction for H_2O (water vapor)

%X = fraction of X in stack gas, dry basis, where X = O_2, CO_2, N_2, CO

$\%H_2O$ = fraction of water vapor in stack gas, wet-basis

5.1.4 SCAQMD METHOD 4.1- STACK GAS MOISTURE CONTENT

The stack gas moisture content will be determined according to SCAQMD Method 4.1. In this method, water vapor is collected in a condenser while the dry stack gas volume is measured using a dry gas meter. The volume of water vapor is calculated from the amount of water condensed and the total gas volume is the sum of water vapor plus dry stack gas. The moisture content is determined as a fraction of the total wet stack gas volume. The following calculations are used.

$$B_{WS} = \frac{V_{W,Std}}{V_{M,Std} + V_{W,Std}}$$

$$V_{W,Std} = K_1 \times V_{H2O}$$

$$V_{M,Std} = T_{Std}/P_{Std} \times Y_M \times V_M \times P_M/T_M$$

where:
B_{WS} = Fraction of water vapor in stack gas
$V_{W,Std}$ = Volume of water vapor (scf)
$V_{M,Std}$ = Volume of stack gas sampled (dscf)
K_1 = Unit volume of water vapor (0.04707 scf @68°F or 0.0464 scf @60°F)
T_{Std} = Standard Temperature (528°R or 520°R)
P_{Std} = Standard Pressure, 29.92 in. Hg
Y_M = Dry gas meter calibration factor
V_M = Measured volume of stack gas sampled
P_M = Dry gas meter pressure (in. Hg)
T_M = Dry gas meter temperature (°R)

5.7 1,3, Butadiene & 1,4 Dioxane (CARB 422)

The extraction and conditioning system will consist of a stainless steel sampling line connected to a TFE sample line maintained at a temperature above the dew point. The sample line will be connected directly to a three way valve located in the H&P Laboratories mobile system. Downstream of the valve will be a sampling pump and flow controller.

The estimated sampling flow rate will be 10 liters a minute, minimizing response time.

This sampling system ("Direct Interface") was developed in accordance with the requirements of CARB Method 422.102. When using this system, the flue gas is extracted from the stack through a stainless steel probe and transported to the on-site laboratory via a heated TFE sample line. CARB Method 422 requires use of a caustic "scrubber" (i.e. impinger) if the stack gas was acidic. The scrubber will be omitted.

Three samples will be collected each hour approximately every 15 to 20 minutes. The average of The three samples will constitute a "run". Three runs will constitute the test.

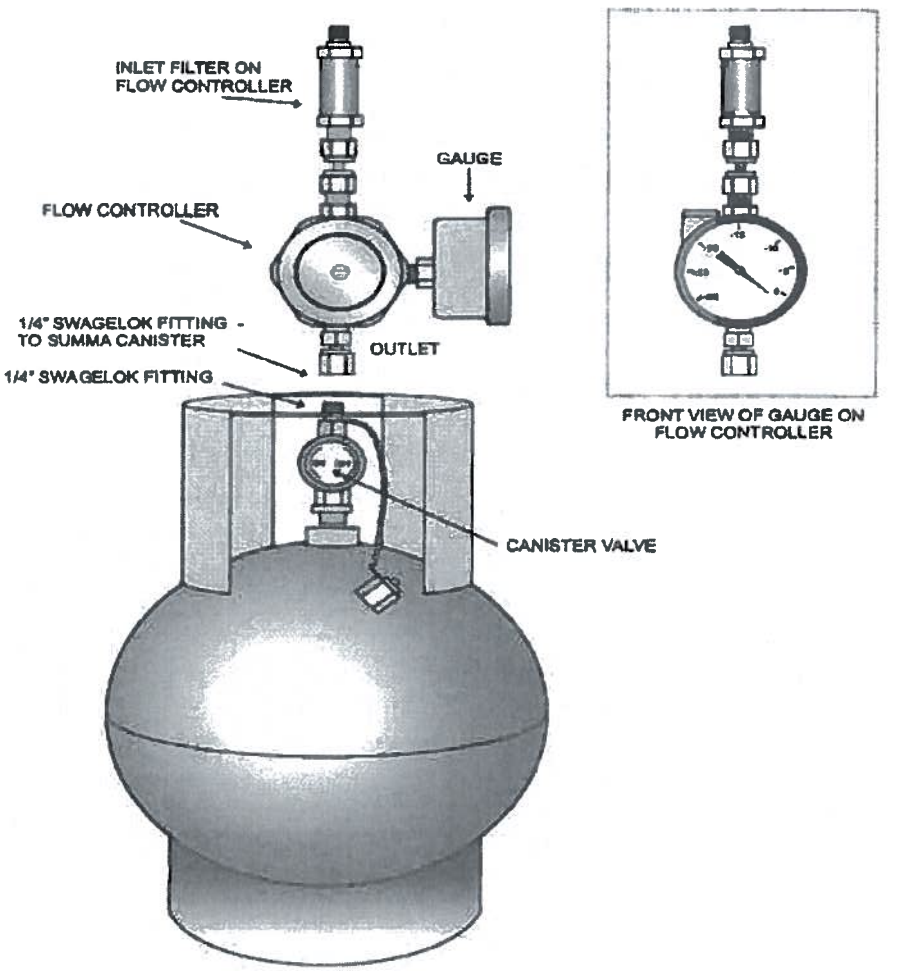
Equipment calibration will be conducted in the morning and single point calibration checks will be conducted at the end of each three run test. Zero air blanks will be analyzed (from the sample line) between each run.

The samples will be analyzed on-site by H&P Mobile Geochemistry, Inc., Carlsbad, California.

5.8 Speciated Toxic Organics (TO-15)

EPA Method TO-15 will be used to measure concentrations of specific volatile organic compounds (VOCs). In this method, an integrated gas sample will be collected in a Summa-passivated canister and analyzed by gas chromatography/mass spectroscopy (GC/MS). Figure 5-5 is a schematic of the typical sampling system. Each sample will be analyzed for Benzene and 1,30 butadiene by Method TO-15 (or alternatively per EPA SW-846 Method 8260B). Samples will be analyzed by CalScience in Garden Grove, California.

Figure 5-4. Typical TO-15 Sampling Apparatus



6.0 QUALITY ASSURANCE AND QUALITY CONTROL

The overall objective of the quality assurance procedures is to collect a representative sample and accurately analyze components in the gas streams and hence obtain valid measurement of emission concentrations.

To assure the integrity of the field data, proper sampling locations, test durations, frequencies and test methods will be followed. Following sampling the appropriate sample preservation, chain-of-custody, and analytical techniques will be adhered to. For this test program a strict quality assurance program for sampling and analysis will be used. The quality assurance program entails the calibration of all sampling and analytical apparatus where applicable and use of control samples when required.

The sampling equipments will be calibrated according the South Coast Air Quality Management District's Source Testing Manual, Chapter III, procedures and manufacturer's specifications.

The field test data will be recorded and calculated using data and calculation summary sheets. The Lead concentration will be determined using the calculation and laboratory analysis sheets.

Supervisory and QC personnel will use validation methods and criteria appropriate to the types of data and the purpose of the measurement. Records of all data will be maintained. The following criteria will be used to evaluate sampling data:

a. Use of approved test methods
b. Steady-state operation of the process being tested
c. Use of properly operating and calibrated equipment
d. Use of reagents that have passed QC checks
e. Performance of leak checks before and after tests

The following criteria will be used to validate laboratory data:

a. Use of approved analytical methods
b. Use of properly operating and calibrated equipment
c. Precision and accuracy achieved comparable to that achieved in similar analytical programs

All procedures will be followed according to each reference method.

APPENDICES

APPENDIX A

APPROVALS AND CERTIFICATIONS

State of California

Air Resources Board

Approved Independent Contractor

Almega Environmental & Technical Services, Incorporated

This is to certify that the company listed above has been approved by the Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, title 17, section 91207, until June 30, 2014 for those test methods listed below:

ARB Source Test Methods:

1, 2, 3, 4, 5, 8

100 (CO, CO_2, NO_x, O_2, SO_2)

Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

June 5, 2013

Mr. John W. Phillips
Almega Environmental
10602 Walker Street
Cypress, CA 90630

Subject: LAP Approval Notice
Reference # 93LA0827

Dear Mr. Phillips:

We completed our review of the renewal application you submitted for approval under the South Coast Air Quality Management District's Laboratory Approval Program (AQMD LAP). We are pleased to inform you that your firm is approved for the period beginning June 30, 2013, and ending June 30, 2014 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

SCAQMD Methods 1-4	SCAQMD Method 7.1
SCAQMD Method 10.1	SCAQMD Rule 1121/ 1146.2 Protocols
SCAQMD Method 100.1	SCAQMD Rule 1420 – (Lead) Source Sampling
SCAQMD Method 25.1 (Sampling)	SCAQMD Rule 1420 – (Lead) Ambient Sampling
SCAQMD Method 25.1 (Analysis)	SCAQMD Rule 462 Testing
SCAQMD Method 25.3 (Analysis)	ASTM D6522-00/ USEPA CTM-030
SCAQMD Methods 5.1 and 6.1	

Thank you for participating in the SCAQMD LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Glenn Kasai. He may be reached by telephone at (909) 396-2271, by facsimilie at (909) 396-2099, or via e-mail at gkasai@aqmd.gov.

Sincerely,

Rudy Eden, Senior Manager
Laboratory Services &
Source Test Engineering

RE:GK/gk

cc: Mike Garibay

130605 LapRenewal.doc

ATTACHMENT

Conditions For Almega Environmental's LAP Approval

1) Almega shall adhere to the following requirements when conducting portable analyzer tests using CTM-030 or ASTM D6522:

   a) Deviations to CTM-030 or ASTM D6522 shall be documented in the Test Critique section of the test report;

   b) The test report shall be formatted and organized in a manner consistent with the example portable analyzer test report, dated September 24, 2011, and the District Source Test Manual, Chapter II; and,

   c) NO_2 measurements may be quantified to 10% of the NO_2 span under the following conditions:

      - Calibrations shall be conducted per Sections 7.3 and 7.6 of CTM-030 at the span, mid-span (40-60% of span), low-span (10% of span), and zero level. The low-span calibration shall satisfy the requirements in Section 4.2 of CTM-030;
      - A linearity check shall be conducted once every five days using the low-span calibration gas; and,
      - If the measured NO_2 emission is less than 10% of the NO_2 span, it shall be reported as less than 10% of the span, and added to the NO emission to determine the total NOx concentration.

2) Prior to September 30, 2013, Almega shall analyze audit samples provided by the District. These audit samples may include (but not be limited to) analyses for SCAQMD Methods 5.1, 6.1, 10.1, and 25.3. Joan Niertit of the District Laboratory must be contacted to schedule a time to receive the audit samples. Ms. Niertit may be reached by telephone at (909) 396-2174, or by e-mail at jniertit@aqmd.gov. Failure to conduct an audit by this date may lead to suspension of Almega's LAP for laboratory analyses. However, if through no fault of Almega, unavoidable delays require an extension of the audit period, Almega shall provide documentation that all reasonable efforts were expended in order to justify an extension of the audit period.

APPENDIX B

SAMPLING PORT CONFRIGURATIONS

(Method 1 sheets)

SAMPLING AND VELOCITY TRAVERSE POINT DETERMINATION
SCAQMD METHOD 1.1

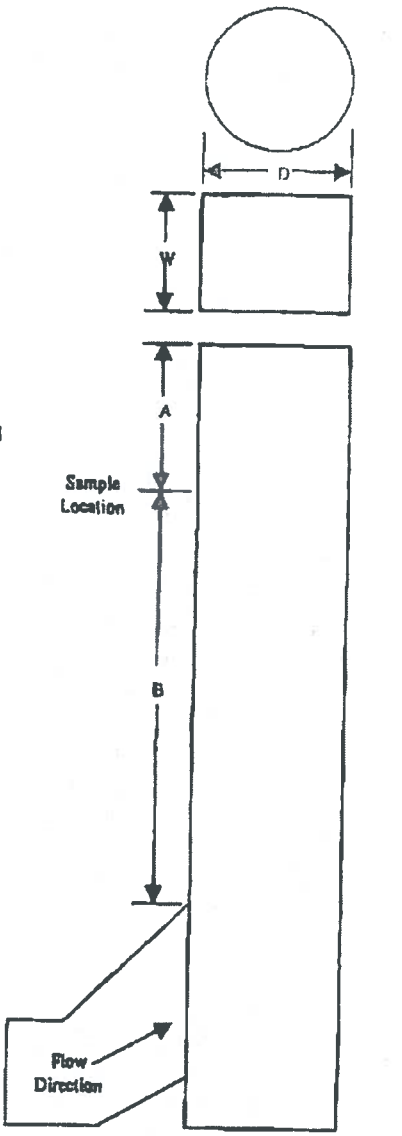
CLIENT:	Exide Technologies, Inc.
PLANT NAME:	Vernon plant
CITY, STATE:	Los Angeles, CA
SAMPLING LOCATION:	RMPS Scrubber -outlet
TYPE OF TESTING:	CARB Method 436

NO. OF PORTS AVAILABLE:	2		
NO. OF PORTS TO BE USED:	2		
PORT INSIDE DIAMETER:	4 inches		
DISTANCE FROM FAR WALL TO OUTSIDE OF PORT:		48.75	inches
NIPPLE LENGTH AND/OR WALL THICKNESS:		5.25	inches
DEPTH OF STACK OR DUCT, D:		43.50	inches
STACK OR DUCT WIDTH (IF RECTANGULAR), W:		#N/A	inches
EQUIVALENT DIAMETER De = 2*(DEPTH)*(WIDTH)/(DEPTH+WIDTH) =		43.50	inches
STACK/DUCT AREA =	10.32 sq.feet	1486.2	sq.inches

DISTANCE FROM PORT TO FLOW DISTURBANCES	UPSTREAM B	DOWNSTREAM A
# OF INCHES	206	148
# OF DIAMETERS	4.74	3.40

MINIMUM NUMBER OF TRAVERSE POINTS: 24

POINT NO.	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL (in.)	DISTANCE FROM OUTSIDE OF PORT (in.)
1	2.1	1.00	6 1/4
2	6.7	2.91	8 1/8
3	11.8	5.13	10 3/8
4	17.7	7.70	13
5	25.0	10.88	16 1/8
6	35.6	15.49	20 3/4
7	64.4	28.01	33 1/4
8	75.0	32.63	37 7/8
9	82.3	35.80	41
10	88.2	38.37	43 5/8
11	93.3	40.59	45 7/8
12	97.9	42.50	47 3/4



DRAWING NOT TO SCALE

SAMPLING AND VELOCITY TRAVERSE POINT DETERMINATION
SCAQMD METHOD 1.1

CLIENT: Exide Technologies
PLANT NAME: Exide Technologies
CITY, STATE: Los Angeles, CA
SAMPLING LOCATION: Material Handling
TYPE OF TESTING: Lead

NO. OF PORTS AVAILABLE: 2
NO. OF PORTS TO BE USED: 2
PORT INSIDE DIAMETER: 6 inches

DISTANCE FROM FAR WALL TO OUTSIDE OF PORT: 87.00 inches
NIPPLE LENGTH AND/OR WALL THICKNESS: 3.00 inches
DEPTH OF STACK OR DUCT, D: 84.00 inches
STACK OR DUCT WIDTH (IF RECTANGULAR), W: #N/A inches

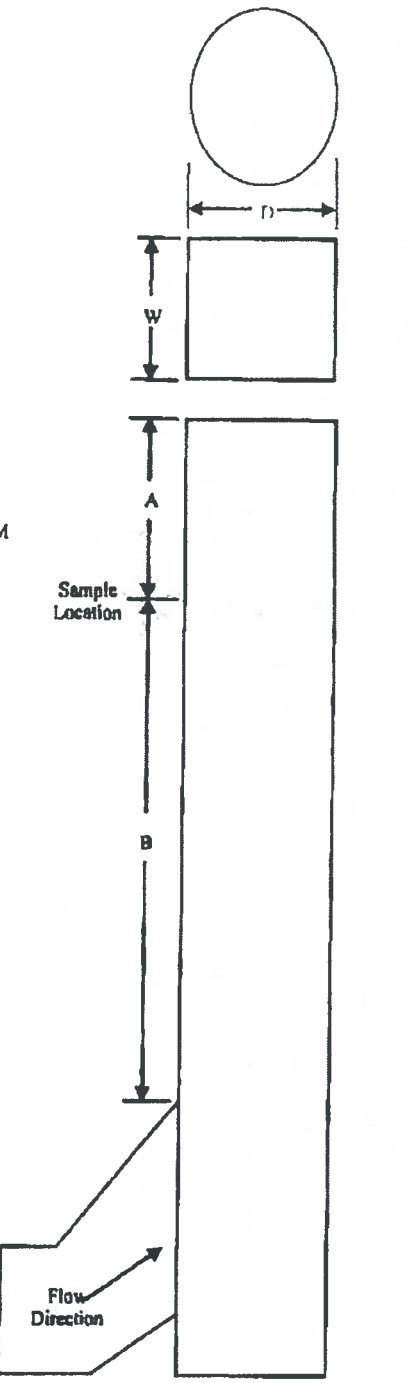
EQUIVALENT DIAMETER
De = 2*(DEPTH)*(WIDTH)/(DEPTH+WIDTH) = 84.00 inches

STACK/DUCT AREA = 38.48 sq.feet 5541.8 sq.inches

DISTANCE FROM PORT TO FLOW DISTURBANCES	UPSTREAM B	DOWNSTREAM A
# OF INCHES	720.00	420.00
# OF DIAMETERS	8.57	5.00

MINIMUM NUMBER OF TRAVERSE POINTS: 24

POINT NO	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL (in.)	DISTANCE FROM OUTSIDE OF PORT (in.)
1	2.1	1.76	4 3/4
2	6.7	5.63	8 5/8
3	11.8	9.91	12 7/8
4	17.7	14.87	17 7/8
5	25.0	21.00	24
6	35.6	29.90	32 7/8
7	64.4	54.10	57 1/8
8	75.0	63.00	66
9	82.3	69.13	72 1/8
10	88.2	74.09	77 1/8
11	93.3	78.37	81 3/8
12	97.9	82.24	85 1/4



DRAWING NOT TO SCALE

SAMPLING AND VELOCITY TRAVERSE POINT DETERMINATION
SCAQMD METHOD 1.1

CLIENT: Exide Technologies
PLANT NAME: Exide Technologies
CITY, STATE Los Angeles, CA
SAMPLING LOCATION North Torit
TYPE OF TESTING: Lead

NO. OF PORTS AVAILABLE: 2
NO. OF PORTS TO BE USED: 2
PORT INSIDE DIAMETER: 6 Inches

DISTANCE FROM FAR WALL TO OUTSIDE OF PORT 87.00 inches
NIPPLE LENGTH AND/OR WALL THICKNESS 3.00 inches
DEPTH OF STACK OR DUCT, D: 84.00 inches
STACK OR DUCT WIDTH (IF RECTANGULAR), W: #N/A inches

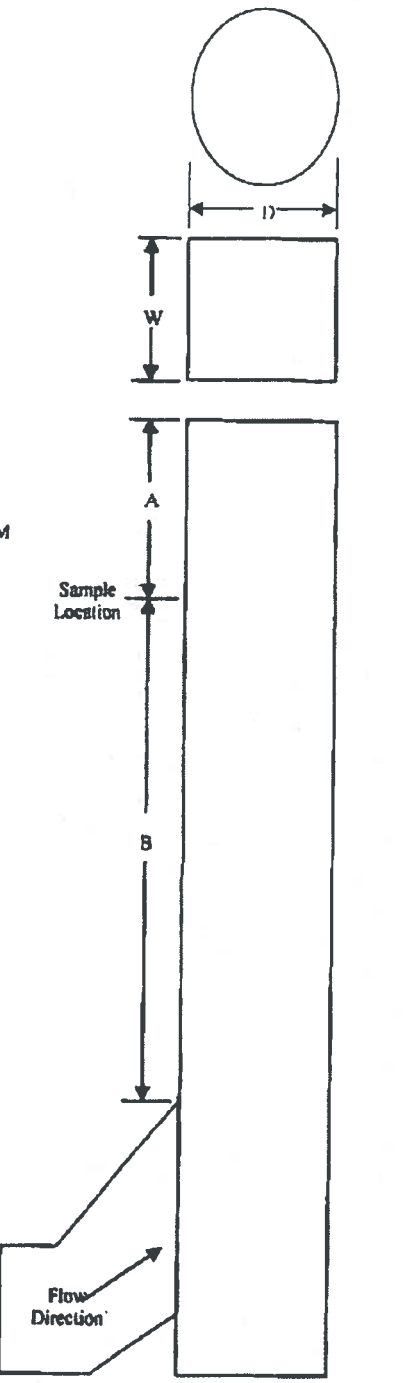
EQUIVALENT DIAMETER
De = 2*(DEPTH)*(WIDTH)/(DEPTH+WIDTH) = 84.00 inches

STACK/DUCT AREA = 38.48 sq.feet 5541.8 sq.inches

DISTANCE FROM PORT TO FLOW DISTURBANCES	UPSTREAM B	DOWNSTREAM A
# OF INCHES	672.00	420.00
# OF DIAMETERS	8.00	5.00

MINIMUM NUMBER OF TRAVERSE POINTS: 24

POINT NO.	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL (in.)	DISTANCE FROM OUTSIDE OF PORT (in.)
1	2.1	1.76	4 3/4
2	6.7	5.63	8 5/8
3	11.8	9.91	12 7/8
4	17.7	14.87	17 7/8
5	25.0	21.00	24
6	35.6	29.90	32 7/8
7	64.4	54.10	57 1/8
8	75.0	63.00	66
9	82.3	69.13	72 1/8
10	88.2	74.09	77 1/8
11	93.3	78.37	81 3/8
12	97.9	82.24	85 1/4



DRAWING NOT TO SCALE

SAMPLING AND VELOCITY TRAVERSE POINT DETERMINATION
SCAQMD METHOD 1.1

CLIENT: Exide Technologies, Inc.
PLANT NAME: Vernon plant
CITY, STATE: Los Angeles, CA
SAMPLING LOCATION South Torit-Outlet
TYPE OF TESTING: Lead Compliance

NO. OF PORTS AVAILABLE: 2
NO. OF PORTS TO BE USED: 2
PORT INSIDE DIAMETER: 6 inches

DISTANCE FROM FAR WALL TO OUTSIDE OF PORT: 87.00 inches
NIPPLE LENGTH AND/OR WALL THICKNESS: 3.00 inches
DEPTH OF STACK OR DUCT, D: 84.00 inches
STACK OR DUCT WIDTH (IF RECTANGULAR), W: #N/A inches

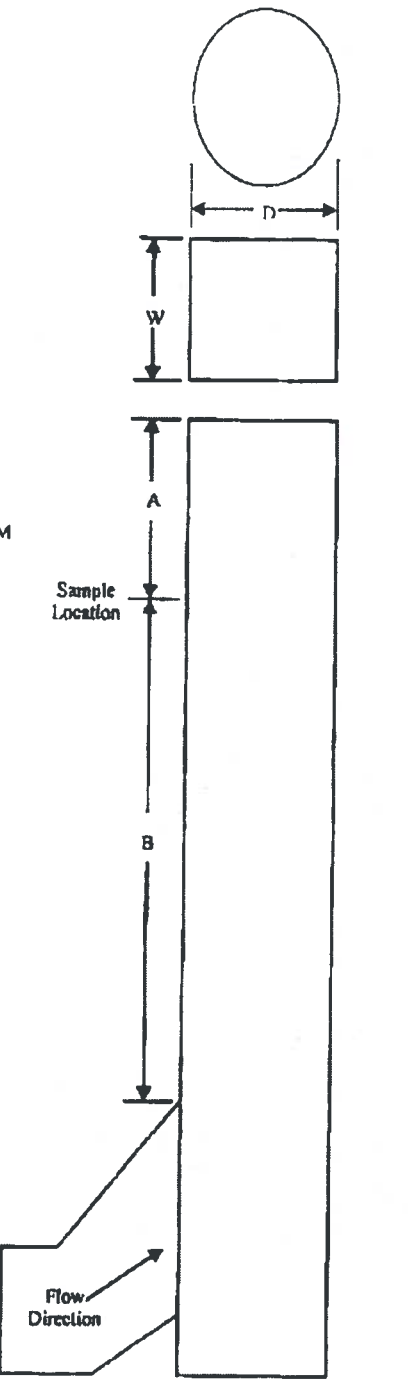
EQUIVALENT DIAMETER
De = 2*(DEPTH)*(WIDTH)/(DEPTH+WIDTH) = 84.00 inches

STACK/DUCT AREA = 38.48 sq.feet 5541.8 sq.inches

DISTANCE FROM PORT TO FLOW DISTURBANCES	UPSTREAM B	DOWNSTREAM A
# OF INCHES	300	300
# OF DIAMETERS	3.57	3.57

MINIMUM NUMBER OF TRAVERSE POINTS: 24

POINT NO.	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL (in.)	DISTANCE FROM OUTSIDE OF PORT (in.)
1	2.1	1.00	4
2	6.7	5.63	8 5/8
3	11.8	9.91	12 7/8
4	17.7	14.87	17 7/8
5	25.0	21.00	24
6	33.6	29.90	32 7/8
7	64.4	54.10	57 1/8
8	75.0	63.00	66
9	82.3	69.13	72 1/8
10	88.2	74.09	77 1/8
11	93.3	78.37	81 3/8
12	97.9	83.00	86



DRAWING NOT TO SCALE

SAMPLING AND VELOCITY TRAVERSE POINT DETERMINATION
SCAQMD METHOD 1.1

CLIENT: Exide Technologies, Inc.
PLANT NAME: Vernon plant
CITY, STATE: Los Angeles, CA
SAMPLING LOCATION: MAC Baghouse-Outlet
TYPE OF TESTING: Lead Compliance

NO. OF PORTS AVAILABLE: 2
NO. OF PORTS TO BE USED: 2
PORT INSIDE DIAMETER: 3 inches

DISTANCE FROM FAR WALL TO OUTSIDE OF PORT: 78.00 inches
NIPPLE LENGTH AND/OR WALL THICKNESS: 6.25 inches
DEPTH OF STACK OR DUCT, D: 71.75 inches
STACK OR DUCT WIDTH (IF RECTANGULAR), W: #N/A inches

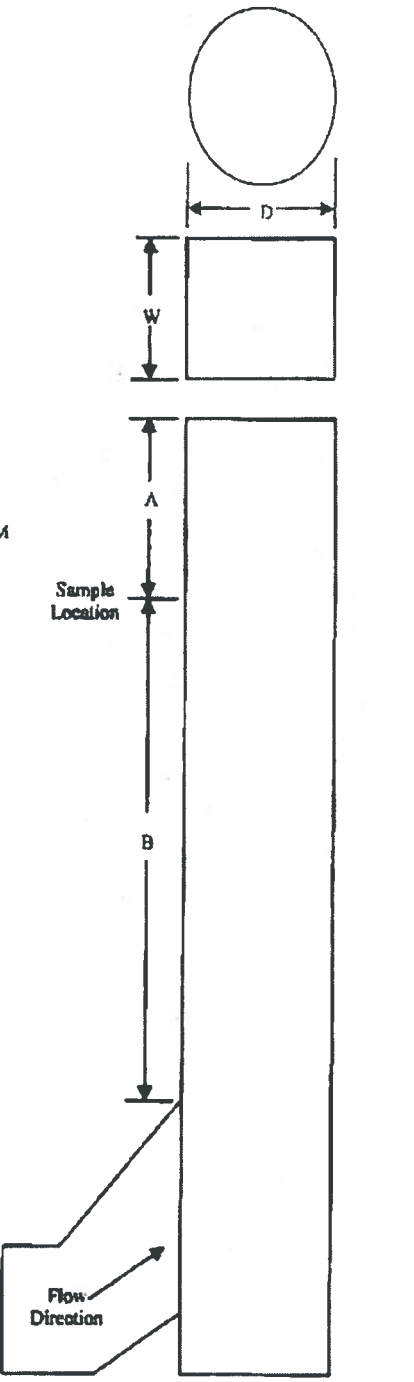
EQUIVALENT DIAMETER
De = 2*(DEPTH)*(WIDTH)/(DEPTH+WIDTH) = 71.75 inches

STACK/DUCT AREA = 28.08 sq.feet 4043.3 sq inches

DISTANCE FROM PORT TO FLOW DISTURBANCES	UPSTREAM B	DOWNSTREAM A
# OF INCHES	360	468
# OF DIAMETERS	5.02	6.52

MINIMUM NUMBER OF TRAVERSE POINTS: 24

POINT NO.	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL (in.)	DISTANCE FROM OUTSIDE OF PORT (in.)
1	2.1	1.00	7 1/4
2	6.7	4.81	11
3	11.8	8.47	14 3/4
4	17.7	12.70	19
5	25.0	17.94	24 1/4
6	35.6	25.54	31 3/4
7	64.4	46.21	52 1/2
8	75.0	53.81	60 1/8
9	82.3	59.05	65 1/4
10	88.2	63.28	69 1/2
11	93.3	66.94	73 1/4
12	97.9	70.75	77



DRAWING NOT TO SCALE

APENDIX C

Conflict Interest Statement

Certification of No Conflict-of-Interest

Almega Environmental & Technical Services
10602 Walker Street
Cypress, CA 90630

I certify that I am responsible for the testing operations of Almega and am authorized to sign this certificate on the Company's behalf.

Almega may conduct tests as an independent tester pursuant to SCAQMD Rule 304(k). I further certify that Almega has no conflict-of-interests, and is not related or owned in any way to the company being tested.

Company being tested:	Exide Technologies, Inc.
Facility ID:	124838
Device ID:	C38, 39, 48, 156, 157,165 and 172
Signature:	
Name (printed or typed):	Surya Adhikari
Title:	Project Manager
Date:	February 20, 2014

APPENDIX D

Pre-Test Calculations

Summary of Source Tests for Exide Technologies - Vernon

Estimated emission rates based on estimated stack flows and reporting limits

1,3 Butadiene

Control Device	Stack Flow DSCFM	ppbv	lbs/hr
RMPS MAPCO Scrubber/HEPA Filter	11,500	1.0	0.00010
Material Handling Baghouse	101,000	1.0	0.00086
North Baghouse (Torit)	90,000	1.0	0.00077
South Baghouse (Torit)	115,000	1.0	0.00098
MAC Baghouses	100,000	1.0	0.00086
Total			**0.0036**
Target			**0.0034**

Benzene

Control Device	Stack Flow DSCFM	ppbv	lbs/hr
RMPS MAPCO Scrubber/HEPA Filter	11,500	0.5	0.000
Material Handling Baghouse	101,000	0.5	0.001
North Baghouse (Torit)	90,000	0.5	0.001
South Baghouse (Torit)	115,000	0.5	0.001
MAC Baghouses	100,000	0.5	0.001
Total			**0.0026**
Target			**0.051**

Exhibit D

FACILITY PERMIT TO OPERATE
EXIDE TECHNOLOGIES

SECTION K: TITLE V Administration

Reopening for Cause

7. The Executive Officer will reopen and revise this permit if any of the following circumstances occur:

   (A) Additional regulatory requirements become applicable with a remaining permit term of three or more years. Reopening is not required if the effective date of the requirement is later than the expiration date of this permit, unless the permit or any of its terms and conditions has been extended pursuant to paragraph (f)(4) of Rule 3004.

   (B) The Executive Officer or EPA Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

   (C) The Executive Officer or EPA Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements. [3005(g)(1)]

COMPLIANCE PROVISIONS

8. The operator shall comply with all regulatory requirements, and all permit terms and conditions, except:

   (A) As provided for by the emergency provisions of condition no. 17 or condition no. 18, or

   (B) As provided by an alternative operating condition granted pursuant to a federally approved (SIP-approved) Rule 518.2.

   Any non-compliance with any federally enforceable permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or denial of a permit renewal application. Non-compliance may also be grounds for civil or criminal penalties under the California State Health and Safety Code. [3004(a)(7)(A)]

FACILITY PERMIT TO OPERATE
EXIDE TECHNOLOGIES

SECTION E: ADMINISTRATIVE CONDITIONS

e. For the purpose of determining compliance with Rule 407, carbon monoxide (CO) shall be measured on a dry basis and be averaged over 15 consecutive minutes, and sulfur compounds which would exist as liquid or gas at standard conditions shall be calculated as sulfur dioxide (SO2) and be averaged over 15 consecutive minutes; [407]

f. For the purpose of determining compliance with Rule 409, combustion contaminant emission measurements shall be corrected to 12 percent of carbon dioxide (CO2) at standard conditions and averaged over 15 consecutive minutes. [409]

g. For the purpose of determining compliance with Rule 475, combustion contaminant emission measurements shall be corrected to 3 percent of oxygen (O2) at standard conditions and averaged over 15 consecutive minutes or any other averaging time specified by the Executive Officer. [475]

8. All equipment operating under the RECLAIM program shall comply concurrently with all provisions of AQMD Rules and Regulations, except those listed in Table 1 of Rule 2001 for NOx RECLAIM sources and Table 2 of Rule 2001 for SOx RECLAIM sources. Those provisions listed in Tables 1 or 2 shall not apply to NOx or SOx emissions after the date the facility has demonstrated compliance with all monitoring and reporting requirements of Rules 2011 or 2012, as applicable. Provisions of the listed AQMD rules in Tables 1 or 2 which have initial implementation dates in 1994 shall not apply to a RECLAIM NOx or SOx source, respectively. [2001]

9. The operator shall, when a source test is required by AQMD, provide a source test protocol to AQMD no later than 60 days before the proposed test date. The test shall not commence until the protocol is approved by AQMD. The test protocol shall contain the following information: [204, 304]

a. Brief description of the equipment tested.

FACILITY PERMIT TO OPERATE
EXIDE TECHNOLOGIES

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
DUST COLLECTOR, WITH 208 CARTRIDGE FILTERS, EACH 1 FT.-2 IN. DIA. X 2 FT.-2IN. L., NORTH TORIT, MODEL DFT-4-208, WITH A 250 HP BLOWER AND A TRIBOELECTRIC-TYPE BROKEN FILTER DETECTOR A/N: 520575	C38	D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D24 D25 D26 D27 D28 D29 D30 D31 D32 D33 D34 D35 D36 D37 D117 D118 D119 D120 D121 D122 D123 D124 D125 D128 D129 D130 D131 D132 D133 C179 C186 C190		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D12.1, D12.17, D381.1, E71.2, E71.3, E102.1, E193.1, H116.2, H116.4, K67.1
DUST COLLECTOR, HEPA, 4 SECTIONS, WITH 60 PRE-FILTERS TOTAL, EACH 2 FT W. X 2 FT L. X 2 INCHES THICK, WITH 60 HEPA FILTERS TOTAL, EACH 2 FT W. X 2 FT L. X 11.5 INCHES THICK A/N: 520575	C186	C38 S187		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D12.19, D323.1, E102.1, E448.1, H116.1
STACK, HEIGHT: 120 FT ; DIAMETER: 7 FT A/N: 520575	S187	C186		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D182.5, D381.1, K171.5

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

FACILITY PERMIT TO OPERATE
EXIDE TECHNOLOGIES

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID. No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
DUST COLLECTOR, WITH 208 CARTRIDGE FILTERS, EACH 1 FT.-2 IN. DIA. X 2 FT.-2IN. L., SOUTH TORIT, MODEL DFT-4-208, WITH A 250 HP BLOWER AND A TRIBOELECTRIC-TYPE BROKEN FILTER DETECTOR A/N: 520577	C39	D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D24 D25 D26 D27 D28 D29 D30 D31 D32 D33 D34 D35 D36 D37 D117 D118 D119 D120 D121 D122 D123 D124 D125 D128 D129 D130 D131 D132 D133 C179 C188 C190		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D12.1, D12.17, D381.1, E71.2, E71.3, E102.1, E193.1, H116.2, H116.4, K67.1
DUST COLLECTOR, HEPA, 4 SECTIONS, WITH 60 PRE-FILTERS TOTAL, EACH 2 FT W. X 2 FT L. X 2 INCHES THICK, WITH 60 HEPA FILTERS TOTAL, EACH 2 FT W. X 2 FT L. X 11.5 INCHES THICK A/N: 520577	C188	C39 S189		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D12.19, D323.1, E102.1, E448.1, H116.1
STACK, HEIGHT: 120 FT; DIAMETER: 7 FT A/N: 520577	S189	C188		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D182.5, D381.1, K171.5
ENCLOSURE, BUILDING, SMELTING AND REFINING, 140 FT W. X 500 FT L. X 25 FT H., APPROXIMATE DIMENSIONS A/N: 501056	C179	C38 C39		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 405, 2-7-1986]	E448.2

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

FACILITY PERMIT TO OPERATE
EXIDE TECHNOLOGIES

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
STACK, HEIGHT: 112 FT; DIAMETER: 6 FT 11 IN A/N: 374234	S141	C47			D381.1
System 10: REVERB FURNACE FEED ROOM APCS					
BAGHOUSE, NO. 1, WITH 494 BAGS, EACH 5 INCHES DIAMETER X 12 FEET LONG, PTFE MEMBRANE, MAC, MODEL 144MCF494, WITH A 150 HP BLOWER AND A BROKEN BAG DETECTOR, PULSE JET CLEANED A/N: 520478	C156	D7 D9 D11 D13 D15 D17 D19 D24 D26 D28 D30 D32 D34 D36 D109 D110 D111 D112 D113 D151 S158 C175 C182 C190		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	C[illegible] D12.[illegible], D12.10, D12.16, D381.1, E102.1, H116.1, H116.4
BAGHOUSE, NO. 2, WITH 494 BAGS, EACH 5 INCHES DIAMETER X 12 FEET LONG, PTFE MEMBRANE, MAC, MODEL 144MCF494, WITH A 150 HP BLOWER AND A BROKEN BAG DETECTOR, PULSE JET CLEANED A/N: 520478	C157	D7 D9 D11 D13 D15 D17 D19 D24 D26 D28 D30 D32 D34 D36 D109 D110 D111 D112 D113 D151 S158 C175 C182 C190		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	C6.4, D12.6, D12.7, D12.10, D12.16, D381.1, E102.1, H116.1, H116.4
STACK, HEIGHT: 120 FT; DIAMETER: 6 FT A/N: 520478	S158	C156 C157		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D182.5, D381.1, K171.5
System 11: CUPOLA FURNACE FEED ROOM APCS					
CYCLONE, SPENCER, MODEL CH950CB-MOD, HEIGHT: 7 FT; DIAMETER: 4 FT 2 IN A/N: 496418	C159	C160 D161		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D323.1, E102.1, H116.3

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

FACILITY PERMIT TO OPERATE
EXIDE TECHNOLOGIES

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
BAGHOUSE, CENTRAL VACUUM SYSTEM A, SPENCER, MODEL JH9600B8-M, WITH 75 HP BLOWER, 468 SQ.FT. A/N: 496418	C160	C48 C159		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D381.2, E102.1, H116.3
FLOOR SWEEP, 50 TOTAL A/N: 496418	D161	C159		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D323.1
CYCLONE, SPENCER, MODEL CH942CB-MOD, HEIGHT: 6 FT ; DIAMETER: 3 FT 6 IN A/N: 496419	C162	C163 D164		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D323.1, E102.1, H116.3
BAGHOUSE, CENTRAL VACUUM SYSTEM B, SPENCER, MODEL JH9600B8-M, WITH 50 HP BLOWER, 468 SQ.FT. A/N: 496419	C163	C48 C162		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D381.2, E102.1, H116.3
FLOOR SWEEP, 48 TOTAL A/N: 496419	D164	C162		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D323.1
BAGHOUSE, WITH 300 HP BLOWER, 64000 SQ.FT. A/N: 496418	C48	D126 S142 C160 C163		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D12.6, D12.10, D381.1, E102.1, H116.1, H116.2, H116.3
STACK, HEIGHT: 112 FT ; DIAMETER: 7 FT A/N: 496418	S142	C48			D182.5, D381.1, K171.5
Process 3: WASTE HANDLING					
System 1: REVERBERATORY FURNACE DUST CONVEYING SYSTEM					

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

FACILITY PERMIT TO OPERATE
EXIDE TECHNOLOGIES

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 1: RAW MATERIAL PREPARATION SYSTEM (RMPS)					
SCRUBBER, PACKED BED, MAPCO, MODEL MW-100-24, WITH 2 FT PACKING,4 IN THICK MESH PAD,CHEVRON TYPE MIST ELIMINATOR,100 HP BLOWER, WIDTH: 11 FT ; HEIGHT: 8 FT 8 IN; LENGTH: 20 FT 2 IN A/N: 546551 Permit to Construct Issued: 07/19/13	C165	D1 D2 D3 D4 D5 C172 C175		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	C8.4, D12.12, D182.8, D323.1, E448.10, H116.3, K171.8
MIST ELIMINATOR, HEPA, WITH 16 PREFILTERS, EACH 2 FT. W. X 2 FT. L. X 2 INCHES THICK, MAPCO, MODEL MW-100-24, WITH 16 HEPA FILTERS, EACH 2 FT. W. X 2 FT. L. X 11.5 INCHES THICK A/N: 546551 Permit to Construct Issued: 07/19/13	C172	C165 S166		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D12.14, D182.8, D323.1, E448.1, E448.10, H116.3, K171.8
STACK, HEIGHT: 65 FT ; DIAMETER: 3 FT 8 IN A/N: 546551 Permit to Construct Issued: 07/19/13	S166	C172		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]	D182.8, D381.2, K171.8
ENCLOSURE, BUILDING, RAW MATERIAL PREPARATION SYSTEM, 125 FT W. X 329 FT L. X 75 FT H., APPROXIMATE DIMENSIONS WITH A/N: 533202 Permit to Construct Issued: 07/20/12	C175	C156 C157 C165 C191		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 405, 2-7-1986]	E448.2
ENCLOSURE, BUILDING, TRUCK LOADING AND UNLOADING, 21 FT W. X 41 FT L. X 17 FT H., APPROXIMATE DIMENSIONS	C191	C165 C175		LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 405, 2-7-1986]	E448.2

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.