APPENDIX 11 MISCELLANEOUS ASSESSMENTS – INTERIM ACTION REPORTS

11.1 CAP INSPECTIONS 11.2 SDA REPAIRS LETTER REPORT 11.3.1 WALL SEEPAGE PROJECT REPORT 11.3.2 FLOOD WALL INSPECTION PHOTOGRAPHS TAKEN BY W&M ON MARCH 28, 2013 (AFTER INSTALLATION OF FRENCH DRAIN) 11.4 SLAG EXTENT INVESTIGATION MEMORANDUM 11.5 UTILITY LOCATION MEMORANDUM 11.6 SOUTH BERM REMOVAL REPORT 11.7 EPA FINAL ANALYTICAL REPORT 11.8 SLAG AND BATTERY CASE CHIP INTERIM ACTION REPORT

	MEMORANDUM		
Date:	May 19, 2014	Project No.:	130-2086
To:	Matt Love	Company:	Exide Technologies
From:	David E. Poe, P.E.		
cc:	File	Email:	
RE:	INSPECTION AND GEOTECHNICAL TESTI EXIDE TECHNOLGIES, FRISCO, TEXAS	NG OF DISPOS	AL AREA FINAL COVERS –

### **1.0 INTRODUCTION**

Golder Associates Inc. (Golder) has prepared this memorandum summarizing the field inspections and geotechnical testing performed on the waste disposal areas and landfills at the Exide facility in Frisco, Texas. David Poe, P.E., of Golder performed field inspections of the final covers for the North Disposal Area, South Disposal Area, Slag Landfill, and the Class 2 Landfill in December 2013. The following report summarizes the field inspection findings.

Golder understands that the North and South Disposal Areas and the Slag Landfill have been capped and closed by placement and compaction of a clay soil cover over the surface of the respective disposal areas. We further understand that that the Class 2 landfill has been partially closed, and that waste placement continues in the open (active) portion of the Class 2 landfill.

In addition to the field inspection, undisturbed samples of the soil covers at the North and South Disposal Areas and the Slag Landfill were obtained by advancing Shelby tubes into the covers. Sampling was performed on January 15, 2014. The Shelby tube samples were delivered to Golder's Houston geotechnical laboratory for permeability testing. The results of the testing for the respective covers are discussed in the following sections. Undisturbed samples were obtained by advancing a Shelby tube two feet into the cover. Recovery typically ranged from 12 to 18 inches of cover soils. The total depth of final cover could not be determined from the Shelby tube sampling.

Sampling of the cover at the Class 2 Landfill (which is comprised of compacted clay soils overlain by a high density polyethylene (HDPE) membrane) was not performed as part of this inspection.

The limits of waste/final cover limits referenced in this inspection report were obtained from a 1993 RCRA Facility Investigation Report (Lake Engineering, Inc., 1993)<sup>i</sup>. Waste limits (both lateral and vertical) or limits of final cover were not confirmed as part of this inspection.

The field inspections were limited to visual observation of the final covers, as observed by walking the covers in serpentine patterns. The inspections were sufficient that all areas of the final covers were observed. No areas of cover were inaccessible during the field inspection.



Undisturbed sampling of the final covers was conducted at the locations shown on Figures 1 through 4 (Exhibit A), noting that, due to the presence of the HDPE membrane, sampling at the Class 2 Landfill was not performed. Photographs from the field inspections are included in Exhibit B. The undisturbed soil samples were delivered to Golder's Houston geotechnical laboratory and subjected to permeability testing performed in accordance with ASTM D-5084, Method F, Constant Volume-Falling Head. The results of the permeability testing are presented in Exhibit C.

# 2.0 NORTH DISPOSAL AREA COVER INSPECTION

### 2.1 BACKGROUND

The North Disposal Area is located immediately north of the former operating plant (FOP). As described in a 1993 RCRA Facility Investigation Report, "the north disposal area lies between the main plant and the northern boundary of the plant. This landfill originally started at or just below the natural grade. Depth of the landfill is approximately eight to ten feet. A layer of natural soil caps the landfill. RFI activities ascertained the actual depth and dimensions of the landfill. This inactive unit was capped and closed in 1978 (pg. 3) (Lake Engineering, Inc., 1993)." The disposal area cover is approximately 5.6 acres in size (as delineated in the 1993 RCRA Facility Investigation Report), and the cap is comprised of compacted clayey soil approximately two feet in thickness. The disposal area is relatively flat.

Photographs (PHOTOS 1 through 5) of the North Disposal Area are included in the attached Exhibit B.

# 2.2 INSPECTION FINDINGS

### 2.2.1 Field Inspection Observations

The following summarizes the field inspection observations of the North Disposal Area:

- The cover soils appeared generally firm and well drained, even after recent snowmelt. Several small, localized areas of shallow ponded water were observed on the cover resulting from the recent snowmelt.
- No cracking, erosion, or rilling were observed on the cover.
- Minor undulations and equipment tracking were observed on the cover and in the vegetation, although neither appeared to impact the integrity of the cover.
- Vegetation is generally well established across the cover, although localized areas of sparse vegetation were observed. However, as the inspection was performed in December, the overall health of the vegetation could not be assessed as it was dormant or partially dormant at the time of inspection.

Overall, the cover was observed to be in good condition, well established, competent, with sufficient runon controls to minimize the impacts of surface water across the surface of the cover. The cover vegetation was observed to be well established, with the exception of several localized areas of sparse vegetation.





# 2.2.2 Geotechnical Sampling and Permeability Testing

Undisturbed Shelby tube samples were obtained at the three locations shown on Figure 1 (Exhibit A). Each Shelby tube was advanced to an approximate depth of 2 feet below ground surface, and the tube was then withdrawn and prepared for transport to the laboratory. The Shelby tube ends were sealed and taped to preserve the samples for delivery to Golder's Houston geotechnical laboratory.

Permeability testing results for the undisturbed cover samples ranged from  $1.0x10^{-7}$  to  $1.5x10^{-8}$  centimeters per second (cm/sec), with a geometric mean value of value of  $4.3x10^{-8}$  cm/sec for the three samples analyzed. The results of the permeability testing are presented in Exhibit C.

# 3.0 SOUTH DISPOSAL AREA COVER INSPECTION

### 3.1 BACKGROUND

The South Disposal Area is located south of the FOP, along the southern boundary of the property. As described in a 1993 RCRA Facility Investigation Report, the South Disposal Area received battery case chips and blast furnace slag. The unit was closed in 1974. A surface cap composed of native soils up to five feet thick, covers the landfill (pg. 3) (Lake Engineering, Inc., 1993).

The disposal area cover is approximately 1.05 acres in size (as delineated in the 1993 RCRA Facility Investigation Report), and comprised of compacted clayey soil. The cover is situated on a generally uniform slope (hill) that drains towards Stewart Creek. Upstream surface water runon control or diversion appears to be provided by a berm and exposed bedrock, although actual drainage patterns for both off-and on-site drainage could not be readily established from field observations.

Photographs (PHOTOS 6 through 10) of the South Disposal Area are included in the attached Exhibit B.

# 3.2 INSPECTION FINDINGS

### 3.2.1 Field Inspection Observations

The following summarizes the field inspection observations of the South Disposal Area:

- The cover soils appeared firm and well drained, even after recent snowmelt. No muddy, soft, or wet areas were observed.
- No cracking, erosion, or rilling were observed on the cover.
- Minor undulations and equipment tracking were observed on the cover and in the vegetation, although neither appeared to impact the integrity of the cover.
- Vegetation is generally well established across the cover, although localized areas of recent surficial repair were observed. As the inspection was performed in December, the overall health of the vegetation could not be assessed, as it appeared dormant or partially dormant.





Several localized areas of recent regrading, topsoil placement and re-vegetation were observed on the cover. Straw erosion control tubes were observed downslope from the repair areas, and degradable erosion blankets were observed to have been placed over the repair areas. Golder understands that these repairs were performed in June 2013 in response to a TCEQ inspection, as documented in the report included in Appendix 11 of the APAR (W&M, 2013c).

Overall, the cover was observed to be in good condition, well established, competent, with sufficient runon controls to minimize the impacts of surface water across the surface of the cover. The cover vegetation was observed to be well established, with the exception of several localized repair areas that appear to have been recently regraded with additional topsoil.

### 3.2.2 Geotechnical Sampling and Permeability Testing

Undisturbed Shelby tube samples were obtained at the three locations shown on Figure 2 (Exhibit A). Each Shelby tube was advanced to an approximate depth of 2 feet below ground surface, and the tube was then withdrawn and prepared for transport to the laboratory. The Shelby tube ends were sealed and taped to preserve the samples for delivery to Golder's Houston geotechnical laboratory.

Permeability testing results for the undisturbed cover samples ranged from  $1.3 \times 10^{-7}$  to  $4.5 \times 10^{-8}$  cm/sec, with a geometric mean value of  $9.8 \times 10^{-8}$  cm/sec for the three samples. The results of the permeability testing are presented in Exhibit C.

# 4.0 SLAG DISPOSAL AREA

### 4.1 BACKGROUND

The Slag Disposal Area is located north of the North Disposal Area. As described in a RCRA Facility Investigation Report (Lake Engineering, Inc., 1993), the slag was landfilled in excavated trenches and covered with backfill material. Trench depths were reported to be 3 to 4 feet below natural grade, and piled an estimated 6 to 10 feet or more (from site observations) above natural grade.

The disposal area cover is approximately 3.9 acres in size (as delineated in the 1993 RCRA Facility Investigation Report), and comprised of compacted clayey soil as identified during geotechnical investigations described below. The eastern portion of the disposal area is a mound rising 6 to 10 feet or more above existing grade, and the west portion of the disposal area is at or near surrounding grade. The western portion of the disposal area previously was used as an equipment and materials storage area (boneyard), and a portion of the cover is not covered with established vegetation but instead appears to have previously been covered with crushed stone, although the gravel appears to have settled into the cover soils. Drainage patterns for both off and on-site drainage could not be readily established from field observations.





Photographs (PHOTOS 11 through 14) of the Slag Disposal Area are included in the attached Exhibit B.

# 4.2 INSPECTION FINDINGS

### 4.2.1 Field Inspection Observations

The following summarizes the field inspection observations of the Slag Disposal Area:

- The cover soils appeared firm and well drained, even after recent snowmelt. No muddy, soft, or wet areas were observed on the cover.
- No cracking, erosion, or rilling was observed on the cover.
- Minor undulations and equipment tracking were observed on the cover and in the vegetation, although neither appeared to impact the integrity of the cover.
- Vegetation is generally well established across the cover. As the inspection was performed in December, the overall health of the vegetation could not be assessed, as it appeared dormant or partially dormant.
- A localized area that might be subject to ponding was observed near the center of the slag disposal area. It appears this area has been subjected to regrading in the past to promote drainage off of the cover. Ponded water was not observed during the field inspection.

Overall, the cover was observed to be in good condition, well established, competent, with sufficient runon controls to minimize the impacts of surface water across the surface of the cover. The cover vegetation was observed to be well established.

### 4.2.2 Geotechnical Sampling and Permeability Testing

Undisturbed Shelby tube samples were obtained at the three locations shown on Figure 3 (Exhibit A). Each Shelby tub was advanced to an approximate depth of 2 feet below ground surface, and the tube was then withdrawn and prepared for transport to the laboratory. The Shelby tube ends were sealed and taped to preserve the samples for delivery to Golder's Houston geotechnical laboratory.

Permeability testing results for the undisturbed cover samples ranged from  $3.5 \times 10^{-7}$  to  $2.5 \times 10^{-8}$  cm/sec, with a geometric mean value of  $1.3 \times 10^{-7}$  cm/sec for the three samples. The results of the permeability testing are presented in Exhibit C.

# 5.0 CLASS 2 LANDFILL

### 5.1 BACKGROUND

The Class 2 Landfill is a permitted non-hazardous industrial waste landfill designed for receipt of Class 2 waste from the facility. The Class 2 landfill incorporates an active area (into which waste is being disposed) as well as inactive areas over which cover soils or final cover have been placed.





The Class 2 landfill footprint is approximately 6.9 acres in size, and is divided into 15 cells, including both active and inactive areas. Drainage patterns for both off and on-site drainage could not be readily established from field observations, although it appears that runon onto the landfill is prevented by the mound configuration of the landfill (i.e., landfill is mounded above surrounding grade).

Photographs (PHOTOS 15 through 18) of the Class 2 Landfill Area are included in the attached Exhibit B.

### 5.2 INSPECTION FINDINGS

### 5.2.1 Field Inspection Observations

The following summarizes the field inspection observations of the Class 2 landfill:

- Review of project files indicated that all or most of cells 1 through 6 (the southern approximately 40 percent of the landfill) have received final cover. The final cover is comprised of 3 to 4 feet of compacted clay soils, overlain by a 40 mil HDPE membrane, overlain by approximately 1.5 feet of vegetated protective soil.
- The southernmost portion of the Class 2 Landfill (closed portion) has established vegetation, and the surface is firm and appears well drained. Localized areas of sparse vegetative cover were observed. Overall, this area of cover appeared in good condition.
- The northernmost area of cover was well graded, although the cover area is relatively flat, and localized areas of the cover had softened from the recent snow melt and the lack of established vegetation. Vegetation over this area is not well established (see PHOTO 17), although it is evident that efforts to establish vegetation are ongoing.
- No cracking, erosion, or rilling was observed on the cover.
- Minor undulations and equipment tracking were observed on the cover and in the vegetation, although neither appeared to impact the integrity of the cover.
- Vegetation on the southernmost third of the Class 2 landfill is generally well established. Vegetation in the second third of the cover is not yet established due to recent cover placement activities.

Overall, the cover was observed to be in good condition, competent, with sufficient run-on controls to minimize the impacts of surface water across the surface of the cover. The cover vegetation was observed to be well established in some areas (primarily southern portion of landfill, which has received final cover), and requiring additional efforts to complete establishment in others (northern portion of landfill at final grade).

### 5.2.2 Geotechnical Sampling and Permeability Testing

Geotechnical sampling of the cover soils was not performed at the Class 2 landfill due to presence of the HDPE membrane.





### 6.0 LIMITATIONS

Golder's inspection of the waste disposal area covers was limited to visual inspection of the surface of the covers, and limited geotechnical testing of the cover soils for permeability. The overall depth of final cover, the limits of waste, and the detailed topographic survey of the caps were not further evaluated (beyond previous investigations) for this report. Golder's conclusions regarding the integrity and suitability of existing protective vegetative cover assumes that the vegetation is maintained, and repairs made as necessary.

### **EXHIBITS**

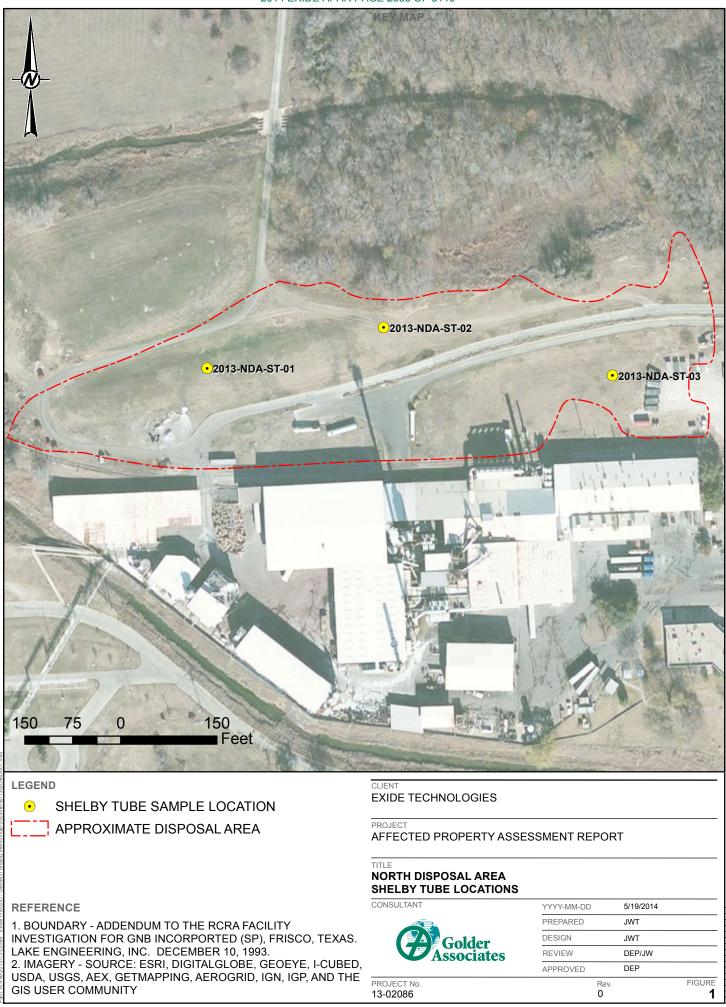
- A Site Plans
- B Photographs
- C Permeability Test Results



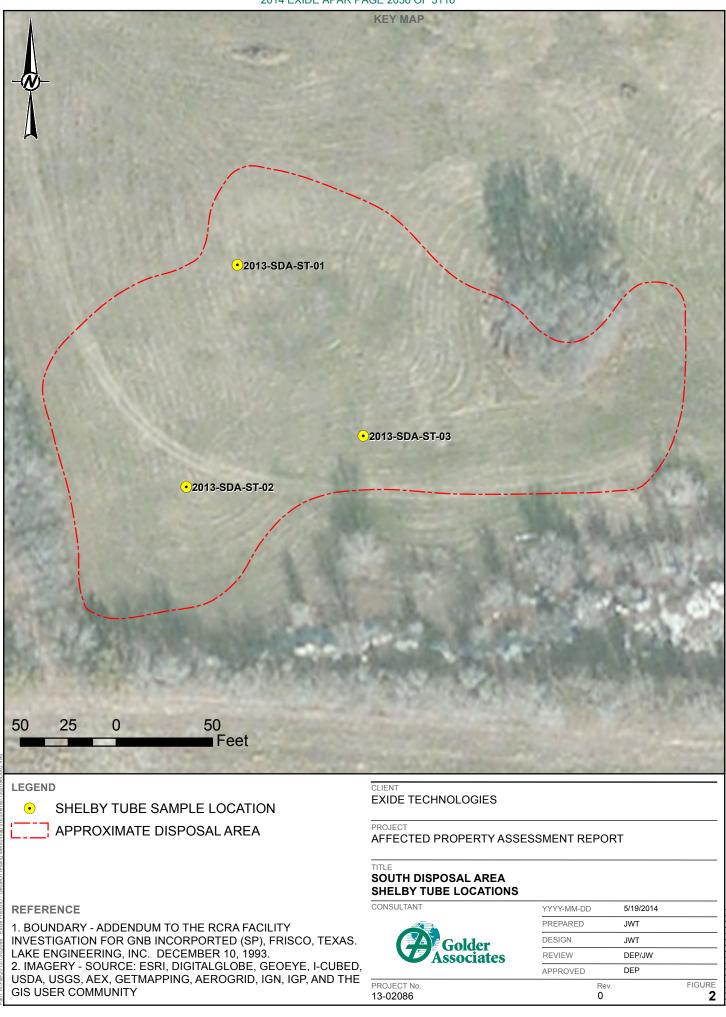
<sup>&</sup>lt;sup>i</sup> Lake Engineering, Inc. Addendum to the RCRA Facility Investigation for GNB Incorported (sp), Frisco, Texas. December 10, 1993

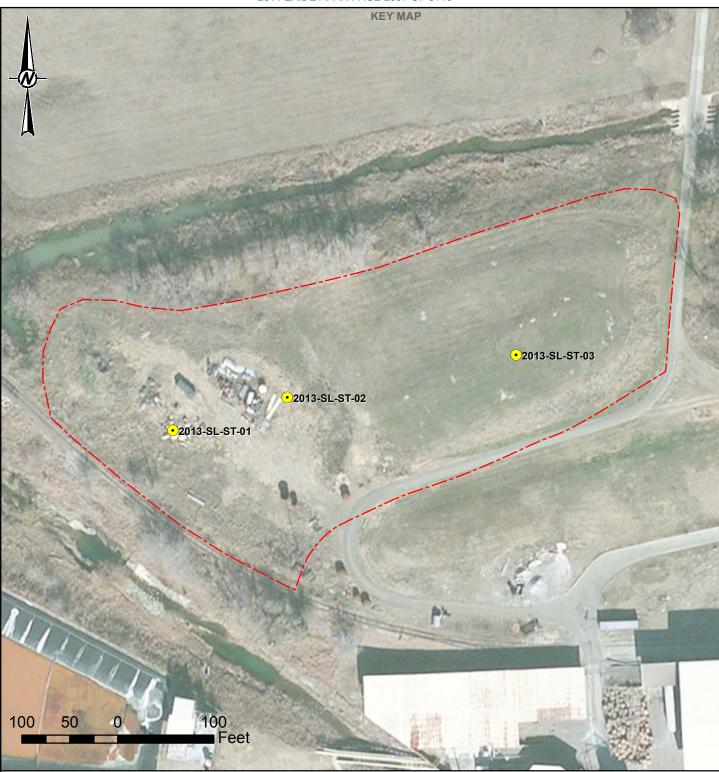
EXHIBIT A

# SITE PLANS



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#### LEGEND

#### CLIENT EXIDE TECHNOLOGIES

SLAG LANDFILL

TITLE

PROJECT No. 13-02086

AFFECTED PROPERTY ASSESSMENT REPORT

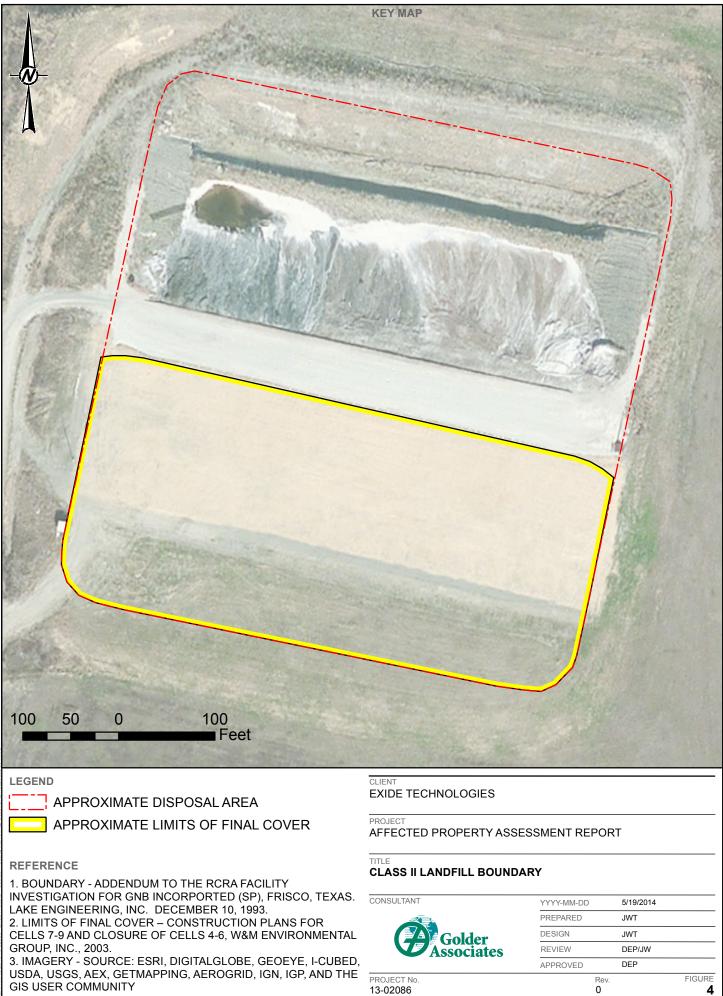
REFERENCE

1. BOUNDARY - ADDENDUM TO THE RCRA FACILITY INVESTIGATION FOR GNB INCORPORTED (SP), FRISCO, TEXAS. LAKE ENGINEERING, INC. DECEMBER 10, 1993. 2. IMAGERY - SOURCE: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, AND THE GIS USER COMMUNITY

# CONSULTANT Golder Associates

SHELBY TUBE LOCATIONS

YYYY-MM-DD	5/19/2014	
PREPARED	JWT	
DESIGN	JWT	
REVIEW	DEP/JW	
APPROVED	DEP	
F	Rev.	FIGURE
(	0	3



IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN,

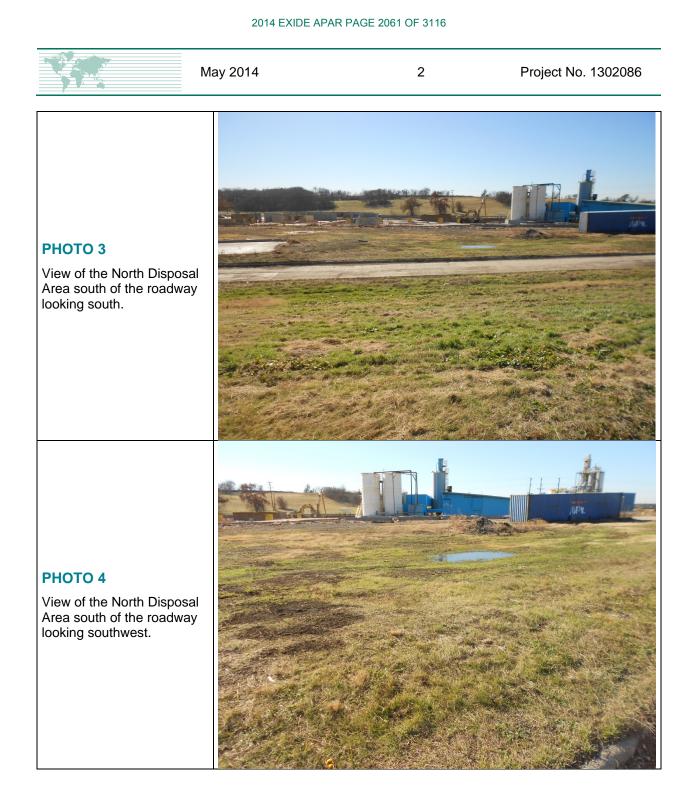
EXHIBIT B

PHOTOGRAPHS

























### **PHOTO 10**

View of South Disposal area looking southeast.



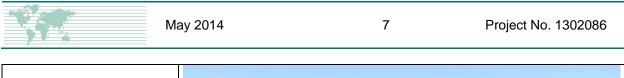




# **PHOTO 12**

View of the Slag Landfill looking east-southeast.









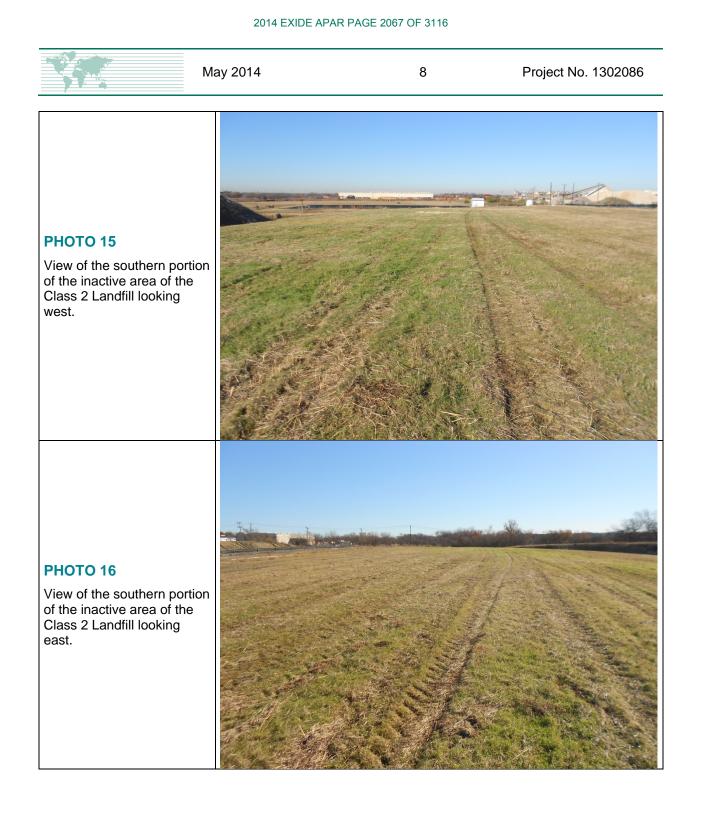








EXHIBIT C

PERMEABILITY TEST RESULTS

#### 2014 EXIDE APAR PAGE 2070 OF 3116

centimeters 10.49

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-NDA-ST-01	Run Number =	1	
LIFT NUMBER:	10"			-

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	4.097	10.41	Height, in	4.131
Top Diameter, mm	72.610		Top Diameter, mm	72.69
Middle Diameter, mm	72.530		Middle Diameter, mm	72.64
Bottom Diameter, mm	72.540		Bottom Diameter, mm	72.7
Average Diameter, cm	7.256		Average Diameter, cm	7.268
Area, cm <sup>2</sup>	41.35		Area, cm <sup>2</sup>	41.48
Volume, cm <sup>3</sup>	430.31		Volume, cm <sup>3</sup>	435.28
Wet Mass, g	845.4		Wet Mass, g	858.6
Wt. tare, gm	8.4		Wt. tare, gm	8.4
Wt. wet soil + tare, gm	193.50		Wt. wet soil + tare, gm	866.9
Wt. dry soil + tare, gm	154.12		Wt. dry soil + tare, gm	682.06
Moisture Content, %	27.0%		Moisture Content, %	27.4%
Dry Density, pcf	96.5		Dry Density, pcf	96.6
Specific Gravity	2.70	Assumed	Specific Gravity	2.7
Void Ratio	0.75		Void Ratio	0.74
Saturation, %	98%		Saturation, %	100%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712 \text{ cm}^2$  $a_{center \, pipette} = 0.03142 \text{ cm}^3$ 

### Initial Manometer Readings

Visual Classification Dark brown, CLAY

Pipette = 25.4 Annulus = 0.85

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Minutes	Seconds	Δt	Pipette	Annulus	Flowrate	Gradient (i)	Hydraulic Conductivity	Temp.	rt	Hydraulic Conductivity	
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	
0	0	0	25.4	0.85		29.63		23	0.931		
1	23	83	25.0	0.87	1.514E-04	28.64	1.27E-07	23	0.931	1.19E-07	7
3	28	125	24.6	0.88	1.005E-04	28.14	8.61E-08	23	0.931	8.02E-08	
4	50	82	24.4	0.89	7.662E-05	28.02	6.59E-08	23	0.931	6.14E-08	
6	41	111	24.1	0.90	8.491E-05	27.58	7.42E-08	23	0.931	6.91E-08	
10	23	222	23.6	0.92	7.076E-05	26.83	6.36E-08	23	0.931	5.92E-08	
12	8	105	23.4	0.93	5.984E-05	26.77	5.39E-08	23	0.931	5.02E-08	
16	36	268	22.9	0.95	5.861E-05	25.96	5.44E-08	23	0.931	5.07E-08	
20	51	255	22.4	0.97	6.160E-05	25.34	5.86E-08	23	0.931	5.46E-08	
26	15	324	21.8	1.00	5.818E-05	24.53	5.72E-08	23	0.931	5.32E-08	
30	2	227	21.4	1.01	5.536E-05	24.15	5.53E-08	23	0.931	5.14E-08	
						HYDRAULIC C	CONDUCTIVITY F	REPORTED	AS	5.25E-08	cm/

TECH:	PN	CHECKED:	JBF
DATE:	1/24/2014	DATE:	1/27/2014

#### 2014 EXIDE APAR PAGE 2071 OF 3116

centimeters 10.24

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-NDA-ST-02	Run Number =	1	
LIFT NUMBER:	10"			-

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	4.012	10.19	Height, in	4.03
Top Diameter, mm	72.260		Top Diameter, mm	72.71
Middle Diameter, mm	72.150		Middle Diameter, mm	72.28
Bottom Diameter, mm	72.170		Bottom Diameter, mm	72.34
Average Diameter, cm	7.219		Average Diameter, cm	7.244
Area, cm <sup>2</sup>	40.93		Area, cm <sup>2</sup>	41.22
Volume, cm <sup>3</sup>	417.14		Volume, cm <sup>3</sup>	421.92
Wet Mass, g	809.4		Wet Mass, g	820.3
Wt. tare, gm	8.3		Wt. tare, gm	8.2
Wt. wet soil + tare, gm	195.50		Wt. wet soil + tare, gm	828.4
Wt. dry soil + tare, gm	161.99		Wt. dry soil + tare, gm	653.07
Moisture Content, %	21.8%		Moisture Content, %	27.2%
Dry Density, pcf	99.4		Dry Density, pcf	95.4
Specific Gravity	2.65	Assumed	Specific Gravity	2.65
Void Ratio	0.66		Void Ratio	0.73
Saturation, %	87%		Saturation, %	98%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712 \text{ cm}^2$  $a_{center pipette} = 0.03142 \text{ cm}^3$ 

#### Initial Manometer Readings

Visual Classification Dark brown, CLAY

Pipette = 25.0 Annulus = 0.85

							Hydraulic			Hydraulic	
Minutes	Seconds	$\Delta t$	Pipette	Annulus	Flowrate	Gradient (i)	Conductivity	Temp.	rt	Conductivity	
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	
0	0	0	25.0	0.85		29.77		23	0.931		
3	20	200	24.5	0.87	7.854E-05	28.67	6.65E-08	23	0.931	6.19E-08	
5	52	152	24.3	0.88	4.134E-05	28.61	3.51E-08	23	0.931	3.26E-08	
8	40	168	24.1	0.89	3.740E-05	28.36	3.20E-08	23	0.931	2.98E-08	
12	53	253	23.9	0.90	2.483E-05	28.10	2.14E-08	23	0.931	2.00E-08	
16	54	241	23.7	0.90	2.607E-05	27.84	2.27E-08	23	0.931	2.12E-08	
21	15	261	23.5	0.91	2.407E-05	27.59	2.12E-08	23	0.931	1.97E-08	
26	18	303	23.3	0.92	2.074E-05	27.33	1.84E-08	23	0.931	1.71E-08	
33	27	429	23.1	0.93	1.465E-05	27.08	1.31E-08	23	0.931	1.22E-08	
39	43	376	22.9	0.94	1.671E-05	26.82	1.51E-08	23	0.931	1.41E-08	
45	21	338	22.7	0.94	1.859E-05	26.57	1.70E-08	23	0.931	1.58E-08	
						HYDRAULIC (	CONDUCTIVITY F	REPORTED	AS	1.48E-08	cm

TECH: PN CHECKED: JBF DATE: DATE: 1/27/2014 1/24/2014

#### 2014 EXIDE APAR PAGE 2072 OF 3116

centimeters 8.84

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-NDA-ST-03	Run Number =	1	
LIFT NUMBER:	5"			-

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	3.47	8.81	Height, in	3.481
Top Diameter, mm	72.030		Top Diameter, mm	72.2
Middle Diameter, mm	71.980		Middle Diameter, mm	72.15
Bottom Diameter, mm	72.010		Bottom Diameter, mm	72.34
Average Diameter, cm	7.201		Average Diameter, cm	7.223
Area, cm <sup>2</sup>	40.72		Area, cm <sup>2</sup>	40.98
Volume, cm <sup>3</sup>	358.92		Volume, cm <sup>3</sup>	362.30
Wet Mass, g	657.6		Wet Mass, g	669.3
Wt. tare, gm	8.1		Wt. tare, gm	8.4
Wt. wet soil + tare, gm	139.30		Wt. wet soil + tare, gm	677.5
Wt. dry soil + tare, gm	109.15		Wt. dry soil + tare, gm	519.19
Moisture Content, %	29.8%		Moisture Content, %	31.0%
Dry Density, pcf	88.1		Dry Density, pcf	88.0
Specific Gravity	2.60	Assumed	Specific Gravity	2.6
Void Ratio	0.84		Void Ratio	0.84
Saturation, %	92%		Saturation, %	96%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712$  cm<sup>2</sup>

a<sub>center pipette</sub> = 0.03142 cm<sup>3</sup>

#### Initial Manometer Readings

Pipette = 21.5 Annulus =

Visual Classification

0.85

Dark brown, CLAY

Minutes	Seconds	Δt	Pipette	Annulus	Flowrate	Gradient (i)	Hydraulic Conductivity	Temp.	rt	Hydraulic Conductivity	
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	
0	0	0	21.5	0.85		29.43		23	0.931		
1	24	84	20.5	0.89	3.740E-04	27.11	3.37E-07	23	0.931	3.14E-07	
2	26	62	20.0	0.91	2.534E-04	26.74	2.31E-07	23	0.931	2.15E-07	
5	1	155	19.0	0.95	2.027E-04	24.89	1.99E-07	23	0.931	1.85E-07	
6	34	93	18.5	0.97	1.689E-04	24.53	1.68E-07	23	0.931	1.56E-07	
10	4	210	17.5	1.01	1.496E-04	22.67	1.61E-07	23	0.931	1.50E-07	
12	13	129	17.0	1.03	1.218E-04	22.31	1.33E-07	23	0.931	1.24E-07	
14	30	137	16.5	1.05	1.147E-04	21.57	1.30E-07	23	0.931	1.21E-07	
16	55	145	16.0	1.08	1.083E-04	20.83	1.27E-07	23	0.931	1.18E-07	
19	32	157	15.5	1.10	1.001E-04	20.09	1.22E-07	23	0.931	1.13E-07	
22	16	164	15.0	1.12	9.578E-05	19.35	1.21E-07	23	0.931	1.12E-07	
25	11	175	14.5	1.14	8.976E-05	18.61	1.18E-07	23	0.931	1.10E-07	
28	23	192	14.0	1.16	8.181E-05	17.87	1.12E-07	23	0.931	1.04E-07	
31	51	208	13.5	1.18	7.552E-05	17.13	1.08E-07	23	0.931	1.00E-07	
35	31	220	13.0	1.20	7.140E-05	16.39	1.06E-07	23	0.931	9.90E-08	
						HYDRAULIC	CONDUCTIVITY	REPORTED	AS	1.03E-07	CI



#### 2014 EXIDE APAR PAGE 2073 OF 3116

centimeters 10.12

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-SDA-ST-01	Run Number =	1	
LIFT NUMBER:	7"			-

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	3.972	10.09	Height, in	3.985
Top Diameter, mm	72.510		Top Diameter, mm	72.64
Middle Diameter, mm	72.510		Middle Diameter, mm	72.55
Bottom Diameter, mm	72.580		Bottom Diameter, mm	72.78
Average Diameter, cm	7.253		Average Diameter, cm	7.266
Area, cm <sup>2</sup>	41.32		Area, cm <sup>2</sup>	41.46
Volume, cm <sup>3</sup>	416.88		Volume, cm <sup>3</sup>	419.66
Wet Mass, g	725.0		Wet Mass, g	740.5
Wt. tare, gm	8.5		Wt. tare, gm	8.3
Wt. wet soil + tare, gm	191.90		Wt. wet soil + tare, gm	748.7
Wt. dry soil + tare, gm	149.19		Wt. dry soil + tare, gm	545.28
Moisture Content, %	30.4%		Moisture Content, %	37.9%
Dry Density, pcf	83.2		Dry Density, pcf	79.9
Specific Gravity	2.60	Assumed	Specific Gravity	2.6
Void Ratio	0.95		Void Ratio	1.03
Saturation, %	83%		Saturation, %	95%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712$  cm<sup>2</sup> a<sub>center pipette</sub> = 0.03142 cm<sup>3</sup>

#### Initial Manometer Readings

Visual Classification Dark gray, CLAY

Pipette = 24.0 Annulus = 0.85

Minutes	Seconds	Δt	Pipette	Annulus	Flowrate	Gradient (i)	Hydraulic Conductivity	Temp.	rt	Hydraulic Conductivity	
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	
0	0	0	24.0	0.85		28.82		23	0.931		
1	5	65	23.5	0.87	2.417E-04	27.76	2.10E-07	23	0.931	1.96E-07	
2	50	105	23.0	0.89	1.496E-04	27.11	1.33E-07	23	0.931	1.24E-07	
5	26	156	22.5	0.91	1.007E-04	26.46	9.18E-08	23	0.931	8.55E-08	
8	54	208	21.9	0.94	9.062E-05	25.62	8.53E-08	23	0.931	7.94E-08	
12	2	188	21.5	0.95	6.684E-05	25.24	6.39E-08	23	0.931	5.95E-08	
16	20	258	21.0	0.97	6.088E-05	24.53	5.99E-08	23	0.931	5.57E-08	
21	14	294	20.5	0.99	5.343E-05	23.88	5.40E-08	23	0.931	5.02E-08	
24	46	212	20.2	1.01	4.446E-05	23.62	4.54E-08	23	0.931	4.23E-08	
35	47	661	19.3	1.04	4.278E-05	22.07	4.67E-08	23	0.931	4.35E-08	
39	28	221	19.0	1.05	4.265E-05	22.07	4.66E-08	23	0.931	4.34E-08	1
						HYDRAULIC C	CONDUCTIVITY F	REPORTED	AS	4.49E-08	cm/s

TECH:	PN	CHECKED:	JBF
DATE:	1/22/2014	DATE:	1/27/2014

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centimeters 10.42

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-SDA-ST-02	Run Number =	1	
LIFT NUMBER:	12.5"			-

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	4.012	10.19	Height, in	4.101
Top Diameter, mm	72.360		Top Diameter, mm	72.73
Middle Diameter, mm	72.390		Middle Diameter, mm	72.73
Bottom Diameter, mm	72.710		Bottom Diameter, mm	73.01
Average Diameter, cm	7.249		Average Diameter, cm	7.282
Area, cm <sup>2</sup>	41.27		Area, cm <sup>2</sup>	41.65
Volume, cm <sup>3</sup>	420.53		Volume, cm <sup>3</sup>	433.86
Wet Mass, g	813.5		Wet Mass, g	835.7
Wt. tare, gm	8.1		Wt. tare, gm	8.5
Wt. wet soil + tare, gm	228.20		Wt. wet soil + tare, gm	844
Wt. dry soil + tare, gm	188.13		Wt. dry soil + tare, gm	654.02
Moisture Content, %	22.3%		Moisture Content, %	29.4%
Dry Density, pcf	98.7		Dry Density, pcf	92.9
Specific Gravity	2.65	Assumed	Specific Gravity	2.65
Void Ratio	0.67		Void Ratio	0.78
Saturation, %	87%		Saturation, %	100%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712 \text{ cm}^2$  $a_{center pipette} = 0.03142 \text{ cm}^3$ 

#### Initial Manometer Readings

Visual Classification Dark brownish gray, CLAY

Pipette = 25.0 Annulus = 0.85

							Hydraulic			Hydraulic	
Minutes	Seconds	$\Delta t$	Pipette	Annulus	Flowrate	Gradient (i)	Conductivity	Temp.	rt	Conductivity	
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	
0	0	0	25.0	0.85		29.77		23	0.931		
0	53	53	24.0	0.89	5.928E-04	27.23	5.23E-07	23	0.931	4.87E-07	
2	50	117	23.0	0.93	2.685E-04	25.98	2.48E-07	23	0.931	2.31E-07	
5	32	162	22.0	0.97	1.939E-04	24.72	1.88E-07	23	0.931	1.75E-07	
8	26	174	21.0	1.01	1.806E-04	23.47	1.85E-07	23	0.931	1.72E-07	
11	41	195	20.0	1.05	1.611E-04	22.21	1.74E-07	23	0.931	1.62E-07	
15	19	218	19.0	1.10	1.441E-04	20.95	1.65E-07	23	0.931	1.54E-07	
19	4	225	18.0	1.14	1.396E-04	19.70	1.70E-07	23	0.931	1.58E-07	
23	16	252	17.0	1.18	1.247E-04	18.44	1.62E-07	23	0.931	1.51E-07	
27	37	261	16.0	1.22	1.204E-04	17.19	1.68E-07	23	0.931	1.57E-07	
35	2	445	14.5	1.28	1.059E-04	14.98	1.70E-07	23	0.931	1.58E-07	
						HYDRAULIC C	CONDUCTIVITY I	REPORTED	AS	1.56E-07	cm/s

TECH:	PN	CHECKED:	JBF
DATE:	1/22/2014	DATE:	1/27/2014

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centimeters 10.21

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-SDA-ST-03	Run Number =	1	1
LIFT NUMBER:	10"			-

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	4.012	10.19	Height, in	4.021
Top Diameter, mm	72.400		Top Diameter, mm	72.79
Middle Diameter, mm	72.390		Middle Diameter, mm	72.81
Bottom Diameter, mm	72.360		Bottom Diameter, mm	72.68
Average Diameter, cm	7.238		Average Diameter, cm	7.276
Area, cm <sup>2</sup>	41.15		Area, cm <sup>2</sup>	41.58
Volume, cm <sup>3</sup>	419.34		Volume, cm <sup>3</sup>	424.66
Wet Mass, g	757.6		Wet Mass, g	770.4
Wt. tare, gm	8.3		Wt. tare, gm	8.3
Wt. wet soil + tare, gm	132.30		Wt. wet soil + tare, gm	778.4
Wt. dry soil + tare, gm	103.90		Wt. dry soil + tare, gm	591.59
Moisture Content, %	29.7%		Moisture Content, %	32.0%
Dry Density, pcf	86.9		Dry Density, pcf	85.7
Specific Gravity	2.60	Assumed	Specific Gravity	2.6
Void Ratio	0.87		Void Ratio	0.89
Saturation, %	89%		Saturation, %	93%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712$  cm<sup>2</sup>

a<sub>center pipette</sub> = 0.03142 cm<sup>3</sup>

#### Initial Manometer Readings

Pipette = 24.5 Annulus = 0.85 Visual Classification Dark brown, CLAY

							Hydraulic			Hydraulic	
Minutes	Seconds	$\Delta t$	Pipette	Annulus	Flowrate	Gradient (i)	Conductivity	Temp.	rt	Conductivity	
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	;
0	0	0	24.5	0.85		29.15		23	0.931		
0	26	26	24.0	0.87	6.042E-04	28.12	5.17E-07	23	0.931	4.81E-07	
1	3	37	23.5	0.89	4.245E-04	27.48	3.72E-07	23	0.931	3.46E-07	
1	48	45	23.0	0.91	3.491E-04	26.84	3.13E-07	23	0.931	2.91E-07	
2	44	56	22.5	0.93	2.805E-04	26.20	2.57E-07	23	0.931	2.40E-07	
3	43	59	22.0	0.95	2.662E-04	25.56	2.50E-07	23	0.931	2.33E-07	
4	51	68	21.5	0.97	2.310E-04	24.92	2.23E-07	23	0.931	2.08E-07	
7	33	162	20.5	1.01	1.939E-04	23.32	2.00E-07	23	0.931	1.86E-07	
9	9	96	20.0	1.03	1.636E-04	23.00	1.71E-07	23	0.931	1.59E-07	
10	52	103	19.5	1.05	1.525E-04	22.36	1.64E-07	23	0.931	1.53E-07	
14	37	225	18.5	1.10	1.396E-04	20.76	1.62E-07	23	0.931	1.51E-07	
19	2	265	17.5	1.14	1.186E-04	19.48	1.46E-07	23	0.931	1.36E-07	
23	54	292	16.5	1.18	1.076E-04	18.20	1.42E-07	23	0.931	1.32E-07	
29	8	314	15.5	1.22	1.001E-04	16.91	1.42E-07	23	0.931	1.32E-07	
34	42	334	14.5	1.26	9.406E-05	15.63	1.45E-07	23	0.931	1.35E-07	
						HYDRAULIC (	CONDUCTIVITY	REPORTED	AS	1.34E-07	



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centimeters 10.68

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-SL-ST-01	Run Number =	1	
DEPTH:	8"			•

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	4.194	10.65	Height, in	4.206
Top Diameter, mm	72.450		Top Diameter, mm	73.01
Middle Diameter, mm	72.360		Middle Diameter, mm	72.76
Bottom Diameter, mm	72.220		Bottom Diameter, mm	72.51
Average Diameter, cm	7.234		Average Diameter, cm	7.276
Area, cm <sup>2</sup>	41.10		Area, cm <sup>2</sup>	41.58
Volume, cm <sup>3</sup>	437.87		Volume, cm <sup>3</sup>	444.20
Wet Mass, g	876.8		Wet Mass, g	889.5
Wt. tare, gm	8.6		Wt. tare, gm	8.3
Wt. wet soil + tare, gm	252.30		Wt. wet soil + tare, gm	897.3
Wt. dry soil + tare, gm	205.52		Wt. dry soil + tare, gm	723.08
Moisture Content, %	23.8%		Moisture Content, %	24.4%
Dry Density, pcf	101.0		Dry Density, pcf	100.5
Specific Gravity	2.65	Assumed	Specific Gravity	2.65
Void Ratio	0.64		Void Ratio	0.65
Saturation, %	99%		Saturation, %	100%
Effective Stress, psi	10			

#### Manometer Constants:

Annulus = 0.85

 $\begin{array}{rll} a_{annulus} = & 0.76712 & cm^2 \\ a_{center \, pipette} = & 0.03142 & cm^3 \end{array}$ 

Initial Manometer Readings Pipette = 25.5 Visual Classification Dark brown, CLAY

			-		-	HYDRAULIC	CONDUCTIVITY	<b>REPORTE</b>	DAS	2.61E-07	cm/s
19	34	166	15.0	1.28	1.703E-04	15.57	2.63E-07	23	0.931	2.45E-07	
16	48	188	15.9	1.24	1.838E-04	16.55	2.67E-07	23	0.931	2.49E-07	
13	40	142	17.0	1.20	2.212E-04	17.96	2.96E-07	23	0.931	2.76E-07	
11	18	133	18.0	1.16	2.362E-04	19.18	2.96E-07	23	0.931	2.76E-07	
9	5	115	19.0	1.12	2.732E-04	20.41	3.22E-07	23	0.931	3.00E-07	
7	10	102	20.0	1.08	3.080E-04	21.63	3.42E-07	23	0.931	3.19E-07	
5	28	94	21.0	1.03	3.342E-04	22.86	3.52E-07	23	0.931	3.27E-07	
3	54	82	22.0	0.99	3.831E-04	24.08	3.83E-07	23	0.931	3.56E-07	
2	32	74	23.0	0.95	4.245E-04	25.30	4.04E-07	23	0.931	3.76E-07	
1	18	57	24.0	0.91	5.512E-04	26.53	5.00E-07	23	0.931	4.65E-07	
0	21	21	25.0	0.87	7.480E-04	28.06	6.41E-07	23	0.931	5.97E-07	
0	0	0	25.5	0.85		29.06		23	0.931		
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	:
Minutes	Seconds	$\Delta t$	Pipette	Annulus	Flowrate	Gradient (i)	Conductivity	Temp.	rt	Conductivity	
							Hydraulic			Hydraulic	



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centimeters 10.40

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-SL-ST-02	Run Number =	1	
LIFT NUMBER:	7"			-

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	4.085	10.38	Height, in	4.096
Top Diameter, mm	72.560		Top Diameter, mm	72.74
Middle Diameter, mm	72.570		Middle Diameter, mm	72.69
Bottom Diameter, mm	72.710		Bottom Diameter, mm	72.88
Average Diameter, cm	7.261		Average Diameter, cm	7.277
Area, cm <sup>2</sup>	41.41		Area, cm <sup>2</sup>	41.59
Volume, cm <sup>3</sup>	429.68		Volume, cm <sup>3</sup>	432.70
Wet Mass, g	870.6		Wet Mass, g	881.4
Wt. tare, gm	8.9		Wt. tare, gm	8.3
Wt. wet soil + tare, gm	214.90		Wt. wet soil + tare, gm	889.6
Wt. dry soil + tare, gm	177.59		Wt. dry soil + tare, gm	726.46
Moisture Content, %	22.1%		Moisture Content, %	22.7%
Dry Density, pcf	103.5		Dry Density, pcf	103.6
Specific Gravity	2.66	Assumed	Specific Gravity	2.66
Void Ratio	0.60		Void Ratio	0.60
Saturation, %	98%		Saturation, %	100%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712 \text{ cm}^2$  $a_{center \, pipette} = 0.03142 \text{ cm}^3$ 

### Initial Manometer Readings

Visual Classification

Pipette = 25.5 Annulus = 0.85 Dark brown, CLAY

Minutes	Seconds	Δt	Pipette	Annulus	Flowrate	Gradient (i)	Hydraulic Conductivity	Temp.	rt	Hydraulic Conductivity	
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	
0	0	0	25.5	0.85		29.84		23	0.931		
1	23	83	25.2	0.86	1.136E-04	29.19	9.35E-08	23	0.931	8.71E-08	7
5	40	257	24.6	0.89	7.334E-05	28.25	6.24E-08	23	0.931	5.81E-08	7
9	27	227	24.3	0.90	4.152E-05	28.06	3.56E-08	23	0.931	3.31E-08	
12	40	193	24.0	0.91	4.883E-05	27.68	4.24E-08	23	0.931	3.95E-08	
15	47	187	23.8	0.92	3.360E-05	27.50	2.94E-08	23	0.931	2.74E-08	
20	38	291	23.5	0.93	3.239E-05	27.06	2.88E-08	23	0.931	2.68E-08	
24	18	220	23.3	0.94	2.856E-05	26.87	2.56E-08	23	0.931	2.38E-08	
27	30	192	23.1	0.95	3.272E-05	26.62	2.96E-08	23	0.931	2.75E-08	
31	29	239	22.9	0.96	2.629E-05	26.37	2.40E-08	23	0.931	2.23E-08	7
						HYDRAULIC C	ONDUCTIVITY F	REPORTED	AS	2.51E-08	cm/

TECH:	PN	CHECKED:	
DATE:	1/24/2014	DATE:	

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centimeters 9.89

#### FLEXIBLE WALL TRIAXIAL PERMEABILITY

ASTM D 5084 METHOD F, CONSTANT VOLUME - FALLING HEAD

PROJECT TITLE:	Exide Frisco	Cell Pressure =	80	psi
PROJECT NUMBER:	1302086	Backwater Pressure =	70	psi
SAMPLE ID:	2013-SL-ST-03	Run Number =	1	
LIFT NUMBER:	8"			

Sample Data, Initial		centimeters	Sample Data, Final	
Height, in	3.882	9.86	Height, in	3.892
Top Diameter, mm	72.610		Top Diameter, mm	73.03
Middle Diameter, mm	72.630		Middle Diameter, mm	72.76
Bottom Diameter, mm	72.470		Bottom Diameter, mm	72.64
Average Diameter, cm	7.257		Average Diameter, cm	7.281
Area, cm <sup>2</sup>	41.36		Area, cm <sup>2</sup>	41.64
Volume, cm <sup>3</sup>	407.84		Volume, cm <sup>3</sup>	411.60
Wet Mass, g	794.0		Wet Mass, g	807.4
Wt. tare, gm	8.27		Wt. tare, gm	8.4
Wt. wet soil + tare, gm	224.60		Wt. wet soil + tare, gm	815.4
Wt. dry soil + tare, gm	179.27		Wt. dry soil + tare, gm	648.71
Moisture Content, %	26.5%		Moisture Content, %	26.0%
Dry Density, pcf	96.0		Dry Density, pcf	97.1
Specific Gravity	2.65	Assumed	Specific Gravity	2.65
Void Ratio	0.72		Void Ratio	0.70
Saturation, %	97%		Saturation, %	98%
Effective Stress, psi	10			

#### Manometer Constants:

 $a_{annulus} = 0.76712 \text{ cm}^2$  $a_{center \, pipette} = 0.03142 \, \text{ cm}^3$ 

Initial Manometer Readings

Pipette =	23.5
Annulus =	0.85

Visual Classification Dark brown, CLAY

14 16	3 27	125 144	14.0 13.0	1.24	2.513E-04 2.182E-04	15.54	3.88E-07 3.69E-07	23 23	0.931	3.62E-07 3.43E-07	
10 11	1 58	111 117	16.0 15.0	1.16 1.20	2.830E-04 2.685E-04	18.19 16.87	3.74E-07 3.82E-07	23 23	0.931	3.48E-07 3.56E-07	_
8	10	96	17.0	1.12	3.273E-04	19.51	4.03E-07	23	0.931	3.75E-07	
6	34	90	18.0	1.03	3.491E-04	20.84	4.02E-07	23	0.931	3.75E-07	-
<u>3</u> 5	41 4	75 83	20.0 19.0	0.99	4.189E-04 3.785E-04	23.48 22.16	4.28E-07 4.10E-07	23 23	0.931	3.99E-07 3.82E-07	-
2	26	59	21.0	0.95	5.325E-04	24.80		23	0.931	4.80E-07	_
1	27	87	22.0	0.91	5.417E-04	25.79	5.04E-07	23	0.931	4.70E-07	
0	0	0	23.5	0.85		28.85	· · · /	23	0.931		
		(sec)	(cm)	(cm)	(cm <sup>3</sup> /s)		(cm/sec)	°C	temp. corr.	(cm/sec) @20°C	
Minutes	Seconds	Δt	Pipette	Annulus	Flowrate	Gradient (i)	Hydraulic Conductivity	Temp.	rt	Hydraulic Conductivity	





July 5, 2013

Matt Love, Director, Global Environmental Remediation Exide Technologies, Inc. P.O. Box 14205 Reading, PA 19612-4205

RE: South Disposal Area Cap Repair Report Exide Frisco Recycling Center 7471 South 5<sup>th</sup> Street - Frisco, Texas TCEQ SWR No. 30516, TCEQ Hazardous Waste Permit No. HW-50206; TCEQ Agreed Order Docket No. 2011-1712-IHW-E; EPA ID No. TXD006451090; W&M Project No. 112.072

Dear Mr. Love:

This letter summarizes the identification and repair of discrete areas of the South Disposal Area cap at Exide's Frisco Recycling Center located at 7471 South 5<sup>th</sup> Street in Frisco, Texas (refer to Location Plan, **Figure 1**).

### **BACKGROUND AND PROJECT SCOPE**

W&M completed visual inspections of the Exide facility to identify the presence of furnace slag or battery case fragments exposed at the ground surface. The results of these inspections are documented in a W&M report titled *Inspection of Facility Operating Areas* dated March 28, 2013. A grassed and lightly wooded area located south of the main operating plant and referred to as the South Disposal Area (SDA) was included in that inspection. The location of the SDA in relation to the overall facility is depicted on the Site Map attached as **Figure 2**.

Under Item 3(c)(iv) of the Ordering Provisions in a January 30, 2013 Agreed Order (Docket Number 2011-1712-IHW-E), TCEQ required the following:

"Implement proper operational changes and engineering controls to prevent the release of untreated slag and refractory brick from the Slag Treatment Building and ensure the integrity of and maintain the cover of the South Disposal Area to prevent the release of battery chips near the South Disposal Area."

This letter summarizes the inspection and repair activities to satisfy the requirements of this Ordering Provision that relate to the SDA.

### **SDA CAP INSPECTION**

In late 2011 and again in March and June 2013, W&M staff systematically walked the SDA to document evidence of disturbance to the cap such as exposed slag, battery case fragments, and penetrations of the cap or areas of erosion. The assessment consisted of visual, on the ground observations only and did not

Mr. Matt Love March 28, 2013 Page 2

include physical digging or intrusive investigations. Features and materials observed were marked with flags and locations documented using a Trimble GeoXT GPS receiver. Each feature was assigned a unique designation and number along with its geographic coordinates. Cap disturbance location coordinates are listed in **Table 1** and depicted on **Figure 3**.

### **SDA REPAIRS**

The most common type of disturbance in the cap consisted of animal burrows which occasionally resulted in small pieces of plastic or battery case fragments being brought to ground surface. Only a few areas of the SDA had experienced erosion, depressions, or areas of exposed slag. All 21 disturbances identified were targeted for repairs based upon the cap inspection.

On June 3, 2013, representatives of W&M, Pastor, Behling & Wheeler, LLC (PB&W) and Remediation Services, Inc. (RSI) met with Dorothy Lewis, an Environmental Investigator with TCEQ's Region 4 Office in Fort Worth, Texas. The SDA was walked and typical areas requiring repair were pointed out along with the proposed repair procedures. Ms. Lewis contacted Mr. Gary Beyer, the TCEQ Project Manager in Austin and Mr. Beyer indicated it was acceptable to proceed with the work in order to satisfy the requirements of the Agreed Order.

On June 5, 2013 W&M and RSI Remediation Services, Inc. (RSI) initiated SDA cap repair activities by filling each open hole or apparent cap penetration with fine gravel sized bentonite clay. Pin flags marking each disturbance were left in place for later capping with clay soil.

On June 27, 2013, RSI guided by W&M capped all 21 locations of cap disturbance with clean imported low plasticity sandy clay soil. Soil was deposited to a width of approximately 10-12 inches over each disturbance and feathered out a few feet so it would not impede future mowing activities. Additionally, straw wattles were staked into place perpendicular to the SDA dip to prevent erosion of the clay spot caps. Subsequently, RSI placed seed and straw mats across each area to promote vegetative growth and prevent erosion. Photographs of the capping activities are provided in **Attachment A**.

### CONCLUSIONS

Areas of disturbance in the soil cap in the SDA were identified and systematically repaired to reinstate cap integrity. All identified areas were repaired by filling open holes with fine bentonite pellets and/or capped using clean imported soil, and stabilized using seed, straw mats and erosion control wattles.

This report was prepared for the sole use of Exide Technologies by employing generally accepted methods and customary practices of the engineering profession. W&M appreciates the opportunity to be of service to you on this project. If you have any questions or need additional information, please contact Frank Clark, P.E. at 972-509-9611.

Very truly yours, **W&M ENVIRONMENTAL GROUP, INC.** 

ank WClark

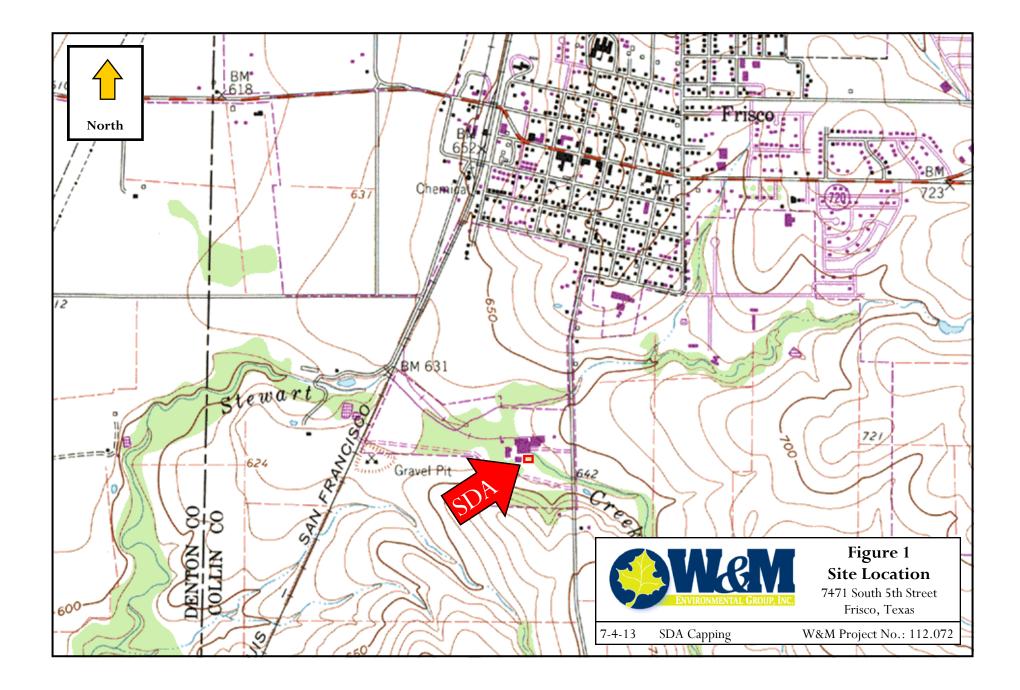
Frank W. Clark, P.E., P.G. Senior Consultant

Figures, Tables, Attachment A

Frent Vollman

Brent Vollmar Environmental Scientist

FIGURES



Operating Class 2 Non-Hazardous Waste Landfill Area

Northern Tributary to Stewart Creek

North Disposal Area

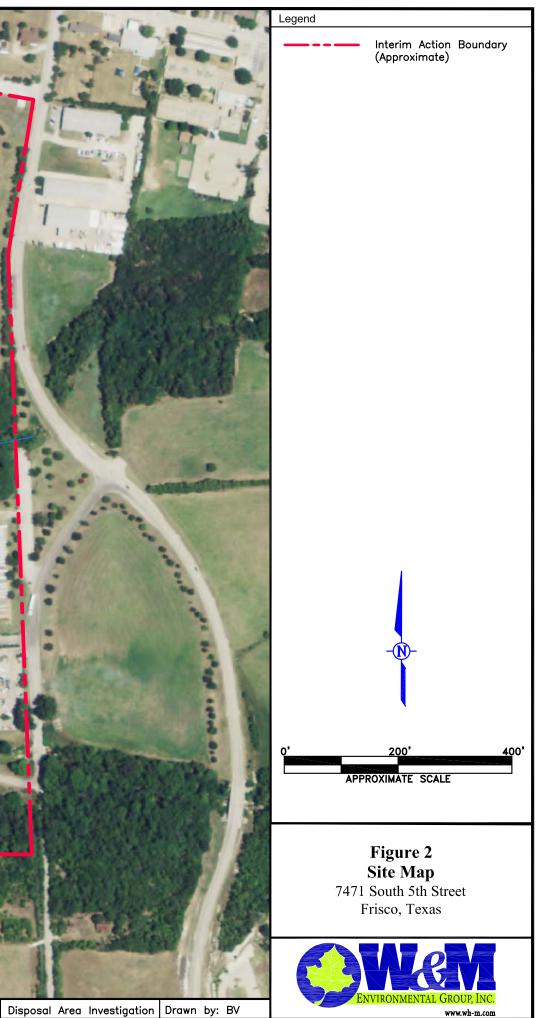
St.S

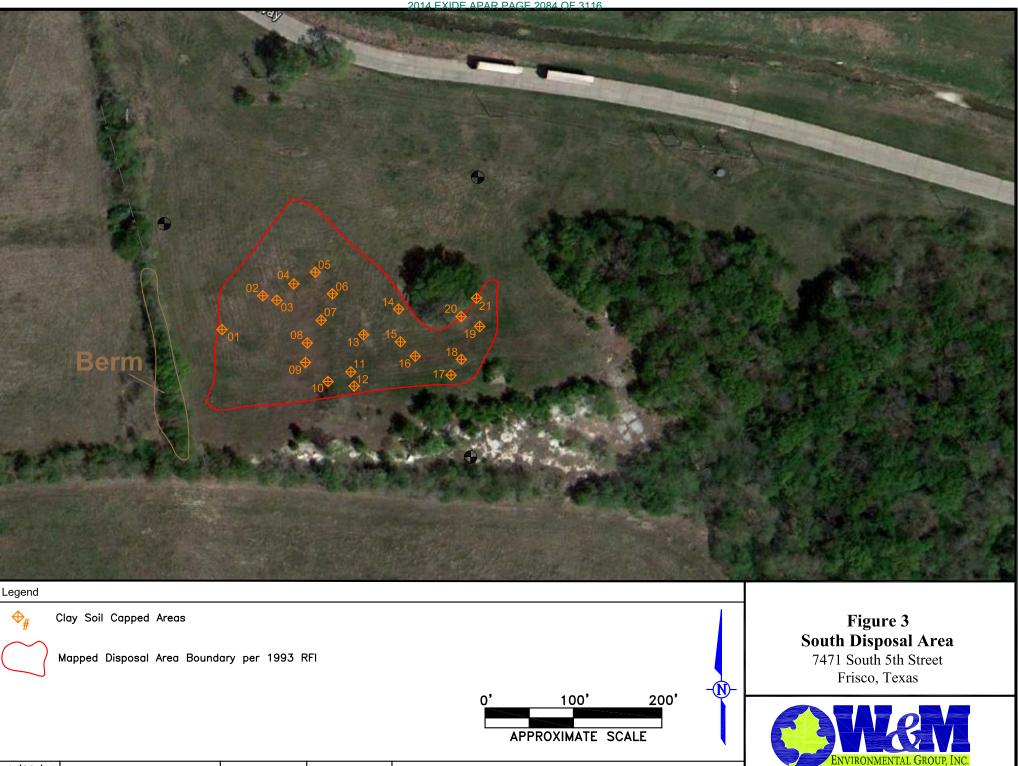
South Disposal Area

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1.001





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Drawn by: SF Revised by: BV, 7/4/13

2014 EXIDE APAR PAGE 2085 OF 3116

TABLES

# TABLE 1 Cap Repairs in the South Disposal Area Exide South Disposal Areas

#### Exide Technologies 7471 South 5th Street Frisco, Texas

	Capped Area	Latitude	Longitude	Description	How to Address	Addressed (Y/N)
	Observed Areas of South Disposal Area Cap Degradation					
South Disposal Area	cap-01 x3	33.13882292	-96.82879681	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-02	33.13891856	-96.82865777	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-03	33.13890603	-96.82860985	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-04	33.13895249	-96.82855351	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-05 x3	33.13898645	-96.82847798	Exposed Lead Buttons	Clay Cap	Y
	cap-06	33.13892506	-96.82841999	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-07	33.13884897	-96.82845894	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-08	33.1387913	-96.82850186	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-09	33.13872853	-96.82851144	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-10	33.13867361	-96.82843502	Large Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-11	33.13870179	-96.82835852	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-12	33.13866086	-96.82834671	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-13	33.13880864	-96.82831202	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-14	33.13888223	-96.82819373	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-15	33.13878791	-96.8281885	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-16	33.13874678	-96.82813857	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-17	33.13869415	-96.82801559	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-18	33.13874162	-96.82797489	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-19	33.13883102	-96.82791973	Depression	Clay Cap	Y
	cap-20	33.13886272	-96.82798407	Animal Burrow	Bentonite Fill, Clay Cap	Y
	cap-21	33.13891182	-96.82792958	Eroded Soil	Clay Cap	Y

1 - Coordinates represent the approximate center of clay cap

2- Coordinates are in the Global Lat/Long. System, WGS 1984 Datum

PHOTOGRAPHIC LOG

ATTACHMENT A



Photo 1: View of the South Disposal Area (SDA) from the western boundary facing east.



Photo 2: SDA as viewed to the north with Exide plant in the background.





Photo 3: Animal burrow with plastic chips exposed near entrance.



Photo 4: Slag material exposed by animal activity within the SDA.





Photo 5: Filling of animal burrow within the SDA with fine grained bentonite chips.



Photo 6: Bentonite filled animal burrow.



Attachment A Photographic Log South Disposal Area Capping Frisco, Texas

7-4-13

SDA Capping

W&M Project No.: 112.072



Photo 7: Capping animal burrow (cap-01) along western SDA boundary as viewed to the east.



Photo 8: Feathering out clay cap.



Attachment A Photographic Log South Disposal Area Capping Frisco, Texas

W&M Project No.: 112.072



Photo 9: View of completed spot cap.



Photo 10: Completed spot cap in eastern portion of SDA as viewed to the South.





Photo 11: View of repaired area after placement of seed and erosion mats.



Photo 12: Completed area with erosion mat and wattle.





Photo 13: Multiple areas with erosion mat and straw wattles.



Photo 14: Completed area with erosion mat in place.





May 10, 2013

Ms. Vanessa Coleman, Site Manager Exide Technologies 7471 South 5<sup>th</sup> Street Frisco, Texas 75034

RE: Wall Seepage Project Retaining Wall at Stewart Creek Exide Frisco Recycling Facility Frisco, Texas W&M Project No. 112.052

Dear Ms. Coleman:

W&M Environmental Group, Inc. (W&M) conducted an evaluation of water seepage along the concrete retaining wall located on the south boundary of the main operating portion of Exide's Frisco Recycling Center located in Frisco, Texas. A Site Location Plan depicting the principal operating areas of the Exide facility are depicted in **Figure 1**. Based upon this evaluation, recommendations were provided to improve drainage behind the wall and prevent further seepage.

This report briefly summarized the nature of the seepage, the design of the improvements, and their construction in 2012.

## BACKGROUND AND PROJECT SCOPE

A concrete retaining wall, or barrier wall, was constructed along the southern edge of the main Exide plant and adjacent to Stewart Creek in the late 1980s. The location of the barrier wall is shown on **Figure 2**. The wall was designed to retain and collect storm water and other water generated from the facility operating areas, where it is pumped into a storm water detention basin. The facility has a permit to treat the water and discharge treated water to the privately-owned treatment works (POTW), as well as a permit to treat the water and discharge treated water to Stewart Creek. Currently, the facility is discharging treated water to the POTW.

Areas of water seepage have been observed along the concrete retaining wall between the main plant and Stewart Creek over time. The area of the wall where seepage has been observed is between the Slag Treatment Building and the Battery Receiving Building. The seepage appears to occur principally at construction or expansion joints, and in some areas is more pronounced than others. In the past, a significant area of seepage was observed adjacent to a concrete sediment pit near the western end of the wall. Seepage in this area was attributed to a leak from the concrete sediment pit, and the pit was plugged and abandoned. Plugging and abandonment of the pit significantly reduced seepage in this area. Additionally, Exide completed repairs and sealed the exterior face of the wall in a number of locations. Ms. Vanessa Coleman May 10, 2013 Page 2

However, seepage continued in some areas and has resulted in spalling and deterioration of the exterior wall face, and localized areas of wet soil and/or small areas of standing water at the exterior base of the wall.

Representatives from the Texas Commission on Environmental Quality (TCEQ) collected soil and water samples during a Site inspection in May 2011 and determined that seepage from the retaining wall may be discharging water containing lead into the soil adjoining Stewart Creek. W&M visited the facility and reviewed plans provided by Exide, and noted that the retaining wall and concrete pavement was designed to convey runoff and other plant water through shallow drainage swales in the concrete pavement, where it is directed to the (now closed) sediment pit. In some areas, the surface of the concrete pavement was deteriorated, cracked or broken, allowing storm water and wash water to potentially infiltrate behind the wall.

W&M reviewed available drawings and plans, and met with facility staff to discuss relevant issues associated with the observed seepage. A subsurface investigation was completed consisting of soil borings and groundwater observation wells behind the wall to document the levels of static groundwater in relation to the elevations of observed seepage. W&M concluded that source(s) of artificial recharge were resulting in saturated fill soils directly behind the retaining wall, including storm water and wash water runoff from operating areas that infiltrates through cracks, joints and areas of deteriorated concrete; and/or leaks from subsurface drains or sumps located within the plant. The layout of the wall and the locations of W&M's observation wells are depicted in **Figure 2**.

W&M recommended that Exide implement the following repairs and upgrades to drainage in the vicinity of the wall:

- 1. Install a French drain system behind the retaining wall to collect and convey water from the saturated fill away from the wall to a sump or pit, where it can be collected and pumped into the Site's storm water treatment system.
- 2. The drain should consist of 4-inch diameter perforated pipe surrounded by pervious stone, one at the wall stem and a second at the base of the wall. The pipe and stone should be encased within a porous filter fabric to prevent clayey soils and fines from clogging the drain.
- 3. The interior face of the retaining wall should be exposed and cleaned, and lined with a heavy duty waterproofing membrane to prevent infiltrating water from reaching the wall, resulting in possible seepage.
- 4. The concrete paving in areas behind the wall that had deteriorated should be repaired or replaced.

**Figures 3 and 4** contain the wall area layout with the proposed design, including the location of the proposed footing drains, location of new drainage sump and manhole, and areas of concrete to be replaced.

### IMPLEMENTATION OF WALL DRAINAGE AND CONCRETE IMPROVEMENTS

As part of project design, a test section behind the wall was excavated in September 2011 to observe soil and water conditions and the condition of the inside face of the retaining wall. Photographs from the test section were provided to the contractor to assist with the bidding process.

In January 2012, the contract was awarded to FCS Construction of Frisco, Texas and their subcontractor, Green Scaping, Inc. A Commercial Building Permit Application and a Grading Permit Application were

Ms. Vanessa Coleman May 10, 2013 Page 3

submitted to the City in early 2012, and Commercial Building Permit B12-0977 was issued on April 30, 2012. However, due to scheduling commitments of the contractor once the authorization was received from the City, work did not begin until August 2012.

The principal tasks completed included the following:

- Removal of approximately 8,200 square feet of 6-inch thick concrete along approximately 430 feet of the barrier wall and up to the edges of adjoining structures (building walls, footers, pipe supports).
- Remove the former filled sediment pit at the west end of the project.
- Provide temporary support for power poles and pipe bridge supports during excavation activities.
- Excavation of a trench for the underdrain installation to a depth from 2.5 feet to 4 feet.
- Stockpiling and covering of excavated soil on polyethylene sheeting pending characterization and off-Site disposal.
- Transport and disposal of soils based upon manifests and waste approvals received by Exide.
- Installation of a 4-inch PVC underdrain adjacent to the retaining wall footing and surrounded by crushed stone as shown on the drawings. Where the footing steps down, a second drain was installed at the base of the stem of the retaining wall. The drain and stone were surrounded by porous filter fabric.
- The exposed interior (north) face of the retaining was cleaned by hand of dirt, and power washed, and then the vertical face and the adjoining 2 feet along the top of the footing were treated with an asphaltic waterproofing sealer.
- A 40 ml HDPE liner was placed on top of the asphaltic waterproofing sealer and across the footing. The liner was affixed to the vertical wall face in conjunction with the concrete waterstop fasteners.
- Two new collection sumps were constructed at the west end of the wall, one for the new underdrain system, and a second for surface runoff.
- Replacement of the removed concrete, including installation of chemical resistant waterstops.

## CONSTRUCTION

Work was initiated on August 20, 2012 and was completed in late November 2012. All work was performed in Level C personal protective equipment.

Delays were encountered during the conduct of the project for various reasons, principally after heavy rains which saturated the subgrade and prevented construction equipment from moving about. Extreme care was taken to control surface water and divert it to the existing collection point at the west end of the project and minimize any further infiltration in exposed areas after concrete removal.

The project was completed in four segments to allow for competent concrete working surfaces to remain while other areas were being removed for drain installation.

- The first 160-foot section was completed during weeks 1 through 3
- A second section of 115 feet in length was completed during weeks 4 through 9.
- The third section, 90 feet adjacent to an active acid tank, was completed during week 10.

• The final 60-foot section and installation of the new sumps and manhole were completed during weeks 11 and 12.

A representative of W&M was present on-site during all critical stages of the work, including drain installation, wall cleaning, asphaltic membrane and liner application and final manhole placement. Daily and weekly status reports were prepared and submitted to Exide to document the work progress and any issues that had arisen. **Figure 5** contains an overview of the progress made during each week of the project. Key photographs taken at various stages are provided in **Attachment A**.

Prior to the initiation of construction, observation wells installed as part of the engineering assessment (designated OW-1, OW-2, OW-3A, OW-3B and OW-4) were plugged and abandoned by a Texas licensed water well driller. Copies of the State of Texas Well Plugging Reports are provided in **Attachment B.** 

During certain periods of excavation a representative of Pastor, Behling & Wheeler, LLC (PBW) was onsite to recover samples of soil from the excavation sidewalls and base in accordance with a sampling regimen agreed with the US EPA. Those sampling results were not provided to W&M and are not included herein.

## SOIL CHARACTERIZATION and MANAGEMENT

Concrete removed from the drain area was broken into manageable sections and pressure washed at Exide's truck wash pit located adjacent to the work area. The concrete was then placed in an area designated by Exide and managed with other debris generated by the facility.

Excavated soil from the trench was stockpiled on polyethylene and covered each night with polyethylene, and sampled at a frequency of 1 sample per 50 cubic yards for waste characterization purposes. The stockpile waste characterizations samples, designated SP-01 through SP-07, were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals by EPA Method 6020/7470A, pH by Method 9045, and Total Petroleum Hydrocarbons (TPH) by Texas Method TX1005. Copies of the laboratory analytical reports for the stockpile samples are provided in **Attachment C.** 

Based upon the waste characterization results, the material was disposed off-Site under manifest to a hazardous or non-hazardous waste landfill. Approximately 258 cubic yards was manifested to Waste management's DFW Landfill in Lewisville, Texas (Permit No. 1025-B) as a Class 2 waste. Approximately 55 cubic yards was determined to be a characteristic waste based upon TCLP data, and was manifested to Chemical Waste Management's hazardous waste disposal facility in Sulphur, Louisiana (EPA ID No. LA0000147272). Manifests for the disposal of all soils from the drain excavation are provided in **Attachment D**.

## **POST-CONSTRUCTION OBSERVATIONS**

W&M visited the wall project on three occasions since the drain was completed to observe the condition of the wall. On each occasion, the entire perimeter of the wall was walked and observed for evidence of ongoing seepage. No evidence of recent seepage has been observed, and the drain and sumps appear to be functioning as designed.

This report was prepared for the sole use of Exide Technologies by employing generally accepted methods and customary practices of the engineering profession. W&M appreciates the opportunity to be

2014 EXIDE APAR PAGE 2099 OF 3116

Ms. Vanessa Coleman May 10, 2013 Page 5

of service to you on this project. If you have any questions or need additional information, please contact Frank Clark, P.E. at 972-509-9611.

Very truly yours, W&M ENVIRONMENTAL GROUP, INC.

Frank WClark

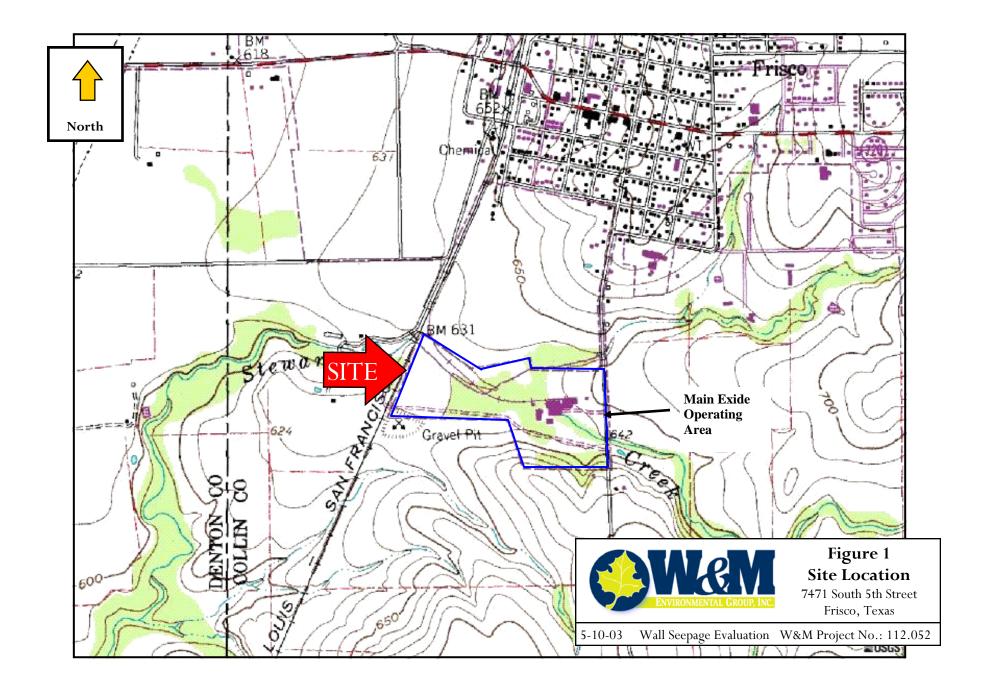
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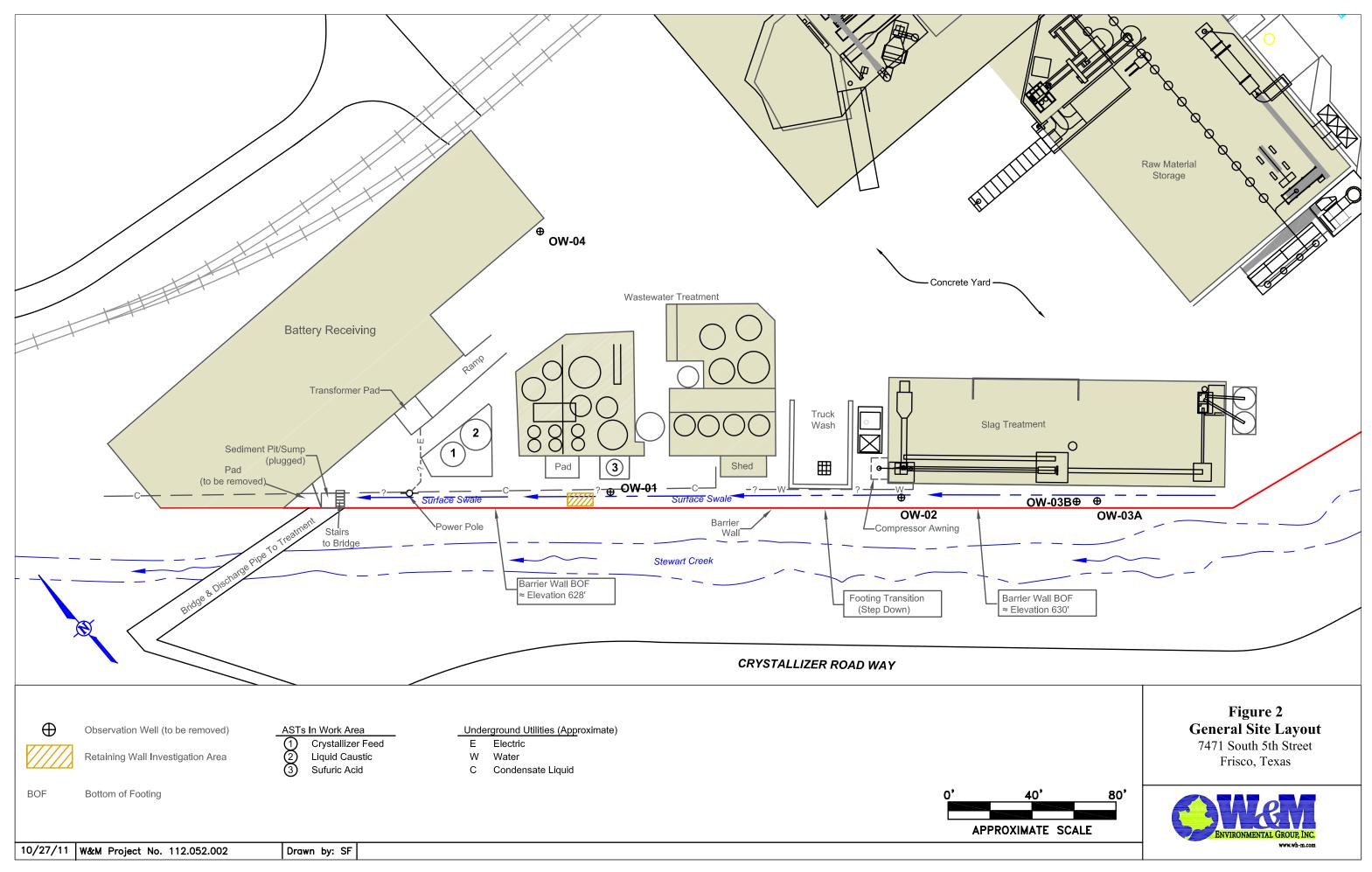
Michael Whitehead Senior Reviewer

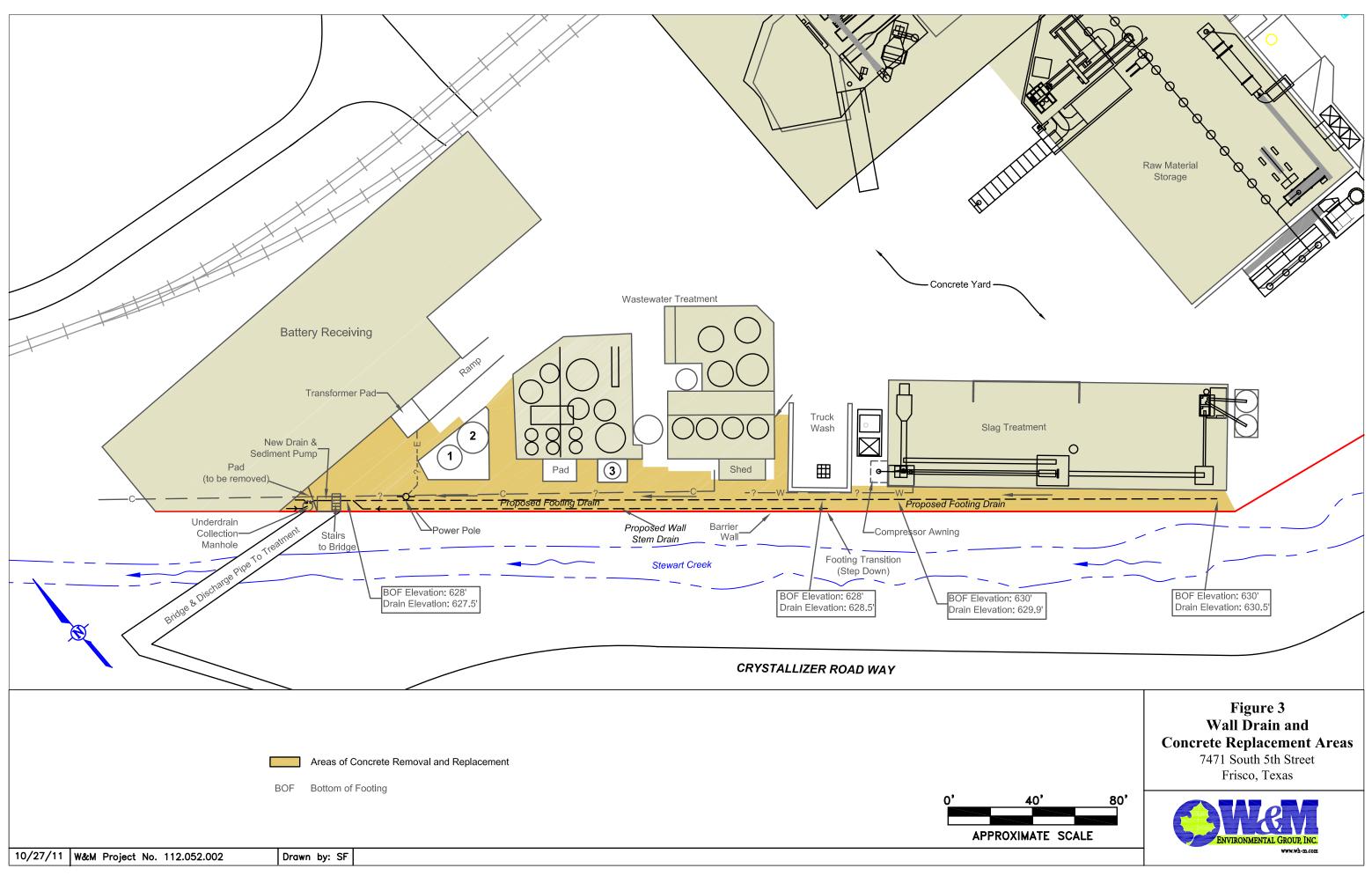
Figures, Tables, Attachments



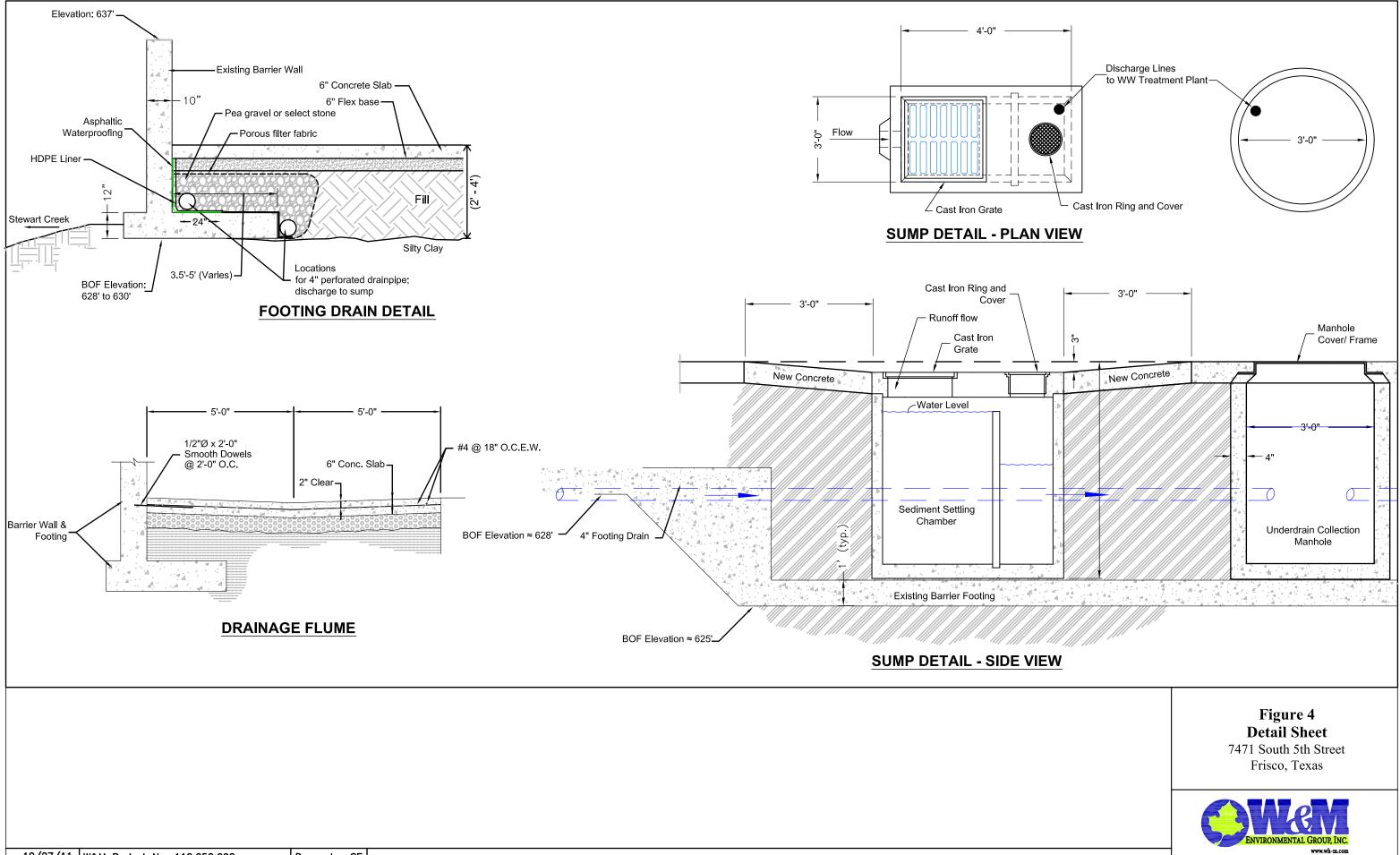


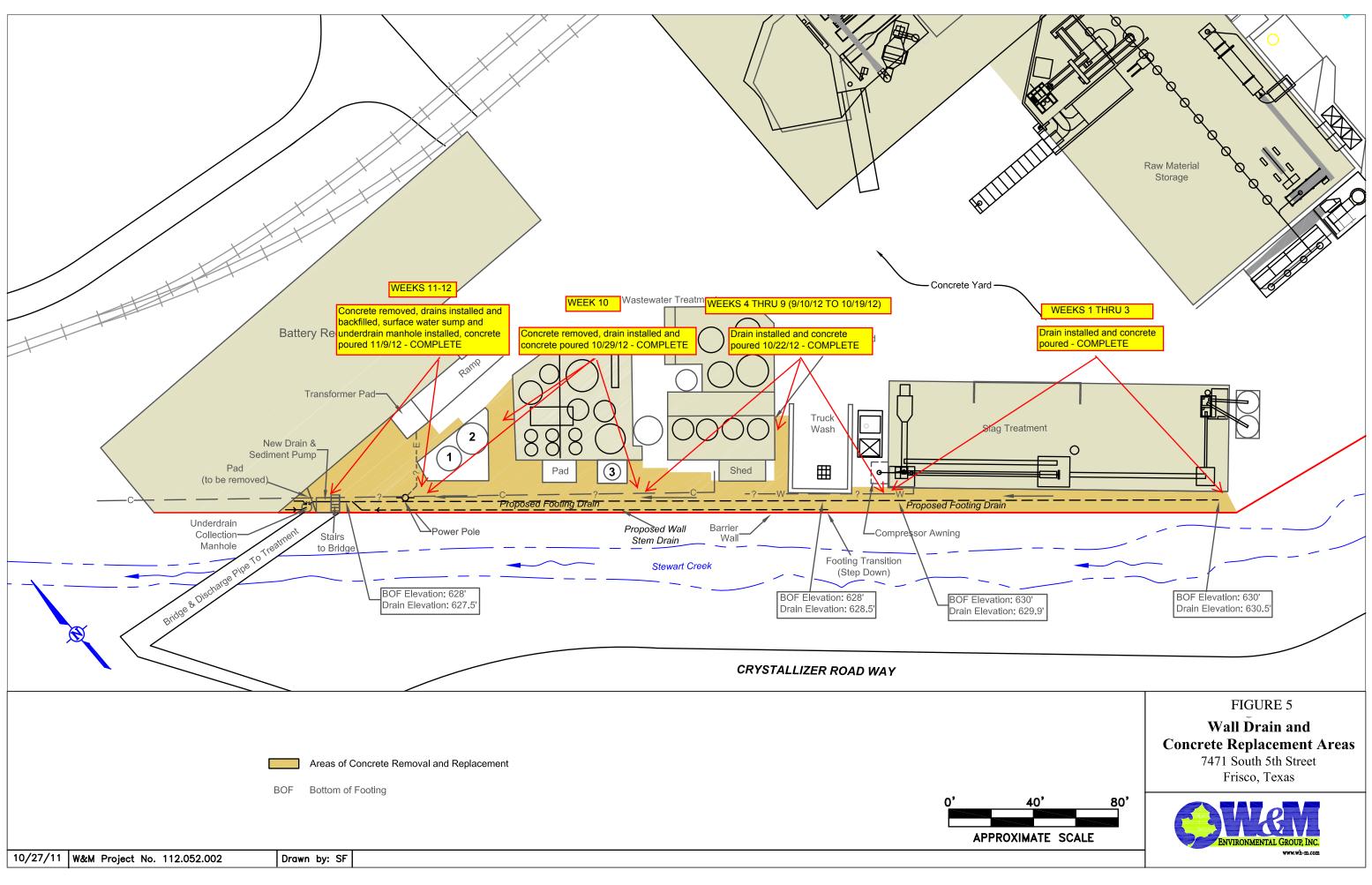
2014 EXIDE APAR PAGE 2101 OF 3116





2014 EXIDE APAR PAGE 2103 OF 3116





PHOTOGRAPHIC LOG

ATTACHMENT A



Photo 1: View of area of seepage along exterior face of retaining wall; note staining of caulking and cracks in concrete wall footing.



Photo 2: Area of moist soils near area of seep in wall.



Attachment A Photographic Log Retaining Wall Project Frisco, Texas

5/1/2013

W&M Project No.: 112.052



Photo 3: Pre-repair—deteriorated concrete pavement and standing water along retaining wall.



Photo 4: Deteriorated concrete and drainage swale that conveys water to sediment pit.





Photo 5: Breaking of concrete in first section, east end of project area..



Photo 6: Pressure washing of concrete prior to removal and disposal.





Photo 7: Exposed soil and back of retaining wall footing.



Photo 8: Trench at wall footing prior to installation of drain.





Photo 9: Applying liquid asphaltic membrane to wall and top of footing.



Photo 10: Installing filter fabric for footing drain.





Photo 11: Re-bar installed on flex base awaiting concrete.



Photo 12: Finishing new concrete paved surface and swale.





Photo 13: Broken concrete from second section .



Photo 14: Exposed footing at step-down section.





Photo 15: Exposed wall and footing near truck wash.



Photo 16: Applying liquid asphaltic membrane to wall stem and footer.





Photo 17: Heat weld of HDPE liner against wall.



Photo 18: Installed liner prior to drain pipe and anchoring to wall.





Photo 19: Detail of water stops.



Photo 20: Second section prior to placement of steel.





Photo 21: Water stop detail at corner.



Photo 22: Excavating third section of drain.





Photo 23: Exposed wall and drain trench prior to membrane and pipe.



Photo 24: Support for power pole near trench, west end of project.





Photo 25: View of stem drain and footing drain installation prior to backfilling.



Photo 26: Stockpiled excavated soil prior to off-site disposal





Photo 27: Finished concrete near acid tank.



Photo 28: Former sump area, infilled with concrete.





Photo 29: Applying liquid asphaltic membrane at far west end of project.



Photo 30: Installation of sump for surface drainage





Photo 31: Sump and underdrain manhole after backfilling



Photo 32: Finishing concrete surfacing at far west end of project.



#### WATER WELL PLUGGING REPORTS

ATTACHMENT B

	STAT	E OF TEXAS PLUGG	ING REPORT for T	racking	#79663			
Owner:	EXIDE -	<b>FECHNOLOGIES</b>	Owner W	/ell #:	OW-01,02,03B			
Address:		DUTH 5TH 9 , TX 75034	Grid #:		18-50-8			
Well Location:	7471 SC	OUTH 5TH 0 , TX 75034	Latitude:		33° 08' 29" N			
Well County:	Collin		Longitude	Ð:	096° 49' 41'' W			
			GPS Bra	nd Used:	GARMIN			
Well Type:	Monitor		· · · · · · · · · · · · · · · · · · ·					
<u>, , , , , , , , , , , , , , , , , , , </u>		HISTORICAL DATA	ON WELL TO BE PLUG	GED				
Original Well D	riller:	DARRIN S. STARK SR						
Driller's License of Original Well		54891						
Date Well Drille	ed:	6/10/2011	-					
Well Report Tra Number:	acking	258277						
Diameter of Bo	rehole:	7 inches						
Total Depth of I	Borehole:	5 feet						
Date Well Plug	ged:	1/20/2012	na podrava (u na na bil objetna filo in drok molec na ovagova podrava (u na vrajen velo u - do	97 (a contra de la c	nan de denne and al tenen den hanne a selle a ger , ange tenen an actual a se ange al den a f			
Person Actually Performing Plug Operation:		DARRIN S. STARK SR.						
License Numbe Plugging Opera		54891						
Plugging Metho	od:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.						
Plugging Variar	nce #:	No Data						
Casing Left Dat	ta:	1st Interval: <b>No Data</b> 2nd Interval: <b>No Data</b> 3rd Interval: <b>No Data</b>						
Cement/Bentonite Plugs Placed in Well:		1st Interval: From 5 ft to 2 ft 2nd Interval: From 2 ft to 0 f 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data						
Certification Da	ta:	The plug installer certified the under the plug installer's dire are true and correct. The plu will result in the log(s) being	ect supervision) and that e ug installer understood tha	ach and all It failure to o	of the statements herein complete the required items			
Company Information:		RIOMAR ENVIRONMENTAI 9213 MONTANA STREET	L DRILLING					

JOSHUA , TX 76058
54891
DARRIN S. STARK SR.
DERRICK DAMERON
57146
No Data

Please include the plugging report's tracking number (Tracking #79663) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

	STAT	E OF TEXAS PLUGGING F	REPORT for Tracking	#79664				
Owner:	EXIDE -	<b>FECHNOLOGIES</b>	Owner Well #:	OW-04				
Address:		DUTH 5TH 0 , TX 75034	Grid #:	18-50-8				
Well Location:		DUTH 5TH D , TX 75034	Latitude:	33° 08' 29" N				
Well County:	Collin		Longitude: GPS Brand Used:	096° 49' 41'' W GARMIN				
1999 - 1997 - 1999 - 1999 - 1997 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -		na na analalar na ala anna an taona na balan a na sa sa manana. Sinanana kaona kao ana ana ana ana ana ana ana	GFS Dianu Useu.	GARMIN				
Well Type:	Monitor							
		HISTORICAL DATA ON W	ELL TO BE PLUGGED					
Original Well D	riller:	DARRIN S. STARK SR						
Driller's License of Original Well		54891						
Date Well Drille	ed:	6/10/2011						
Well Report Tra Number:	acking	258279						
Diameter of Bo	rehole:	7 inches						
Total Depth of I	Borehole:	8 feet						
Date Well Plug	ged:	1/20/2012						
Person Actually Performing Plue Operation:		DARRIN S. STARK SR.						
License Numbe Plugging Opera		54891						
Plugging Metho	od:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.						
Plugging Variar	nce #:	No Data						
Casing Left Dat	ta:	1st Interval: <b>No Data</b> 2nd Interval: <b>No Data</b> 3rd Interval: <b>No Data</b>						
Cement/Bentonite Plugs Placed in Well:		1st Interval: From 8 ft to 2 ft; Sack(s)/type of cement used: 1-BENTONITE 2nd Interval: From 2 ft to 0 ft; Sack(s)/type of cement used: 1-CEMENT 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data						
Certification Data:		under the plug installer's direct super are true and correct. The plug instal	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.					
Company Information:		RIOMAR ENVIRONMENTAL DRIL 9213 MONTANA STREET	LING					

	JOSHUA, TX 76058
Plug Installer License Number:	54891
Licensed Plug Installer Signature:	DARRIN S. STARK SR.
Registered Plug Installer Apprentice Signature:	DERRICK DAMERON
Apprentice Registration Number:	57146
Plugging Method Comments:	No Data

Please include the plugging report's tracking number (Tracking #79664) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880 

A 114 AND 114 114 114 114 114 114 114 114 114 11			IG REPORT for Tracking					
Owner:	EXIDE 1	ECHNOLOGIES	Owner Well #:	OW-03A				
Address:		DUTH 5TH 9, TX 75034	Grid #:	18-50-8				
Well Location:		DUTH 5TH 9 , TX 75034	Latitude:	33° 08' 29" N				
Well County:	Collin		Longitude:	096° 49' 41" W				
NY II Walashini Kasa Kasa maka Kata Ali		anta ana ang kanang ang kanang ang kanang	GPS Brand Used:	GARMIN				
Well Type:	Monitor							
		HISTORICAL DATA C	ON WELL TO BE PLUGGED					
Original Well Dr	iller:	DARRIN S. STARK SR						
Driller's License Number of Original Well Driller:		54891						
Date Well Drille	d:	6/10/2011						
Well Report Tra Number:	cking	258282						
Diameter of Bor	ehole:	7 inches						
Total Depth of E	Borehole:	20 feet						
Date Well Plugg	jed:	1/20/2012	n h fer og sen frænske som en sen som som som som som en som en som en som en som som som som som som som som s	nannanna for ann an sin an sin a formannanna an an annanna anna				
Person Actually Performing Plug Operation:		DARRIN S. STARK SR.						
License Numbe Plugging Opera		54891						
Plugging Metho	d:	Pour in 3/8 bentonite chips v cement top 2 feet.	when standing water in well is les	s than 100 feet in depth,				
Plugging Varian	ce #:	No Data						
Casing Left Dat	a:	1st Interval: <b>No Data</b> 2nd Interval: <b>No Data</b> 3rd Interval: <b>No Data</b>						
Cement/Bentonite Plugs Placed in Well:			; Sack(s)/type of cement used: 1- Sack(s)/type of cement used: 1-(					
Certification Dat	a:	under the plug installer's direct are true and correct. The plug	the plug installer plugged this well t supervision) and that each and all installer understood that failure to sturned for completion and resubmit	of the statements herein complete the required item				
Company Information:		RIOMAR ENVIRONMENTAL	DRILLING					

JOSHUA , TX 76058
54891
DARRIN S. STARK SR.
DERRICK DAMERON
57146
No Data

Please include the plugging report's tracking number (Tracking #79665) on your written request.

Texas Department of Licensing & Regulation P.O. Box 12157 Austin, TX 78711 (512) 463-7880

LABORATORY ANALYTICAL REPORTS – STOCKPILE SAMPLES

ATTACHMENT C



# **OXIDOR Laboratory Review Checklist Cover Page**

#### Project Name: 112.052.003 Retaining Wall Project

Frisco

#### OXIDOR Job Number: 12080639 Exide Technologies

This data package consists of:

X This signature page, the laboratory review checklist, and the following reportable data:

- X R1 Field chain-of-custody documentation;
- X R2 Sample identification cross-reference;
- **X**R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with TNI Standard Module 2, Section 5.10
    - b) dilution factors,
    - c) preparation methods,
    - d) cleanup methods, and
    - e) if required for the project, tentatively identified compounds (TICs);
- X **R4** Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits;
- XR5 Test reports/summary forms for blank samples;
- **R6** Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits;
- **XR7** Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits;
- **XR8** Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates;
- X R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- X **R10** Other problems or anomalies.
- X The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.
- **Release Statement**: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Charles Brungardt

Name

NON R,	
the 12 J-	President
Signature 🔾	Official Title

September 4, 2012 Date



		Laboratory Review Check	klist: Reportable Data					
Laborat	tory Na	•	C Date: September 4, 2012		-	-		
			boratory Job Number: 12080639 Exid	e Techr	ologi	es		
-			C Batch Number(s): See Cross-reference					
# <sup>1</sup>	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	$NR^4$	ER# <sup>5</sup>
R1	OI	Chain-of-Custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sampl	e acceptability upon receipt?	Х				
		Were all departures from standard conditions described in an ex	cception report?			Х		
R2	OI	Sample Quality Control (QC) and identification						
		Are all field sample ID numbers cross-referenced to the laborate	ory ID numbers?	Х				
		Are all laboratory ID numbers cross-referenced to the correspon	ding QC data?	Х				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?	Х					
		Other than those results < MDL, were all other raw values brack	eted by calibration standards?	Х				
		Were calculations checked by a peer or supervisor?		Х				
		Were all analyte identifications checked by a peer or supervisor	?	Х				
		Were sample quantitation limits reported for all analytes not dete	Х					
		Were all results for soil and sediment samples reported on a dry	-			Х		
		Were % moisture (or solids) reported for all soil and sediment sa			X			
_		If required for the project, TICs reported?			Х			
R4	0	Surrogate recovery data						
1		Were surrogates added prior to extraction?				X		
	01	Were surrogate recoveries in all samples within the laboratory C	QC limits?			Х		
R5	OI	Test reports/summary forms for blank samples	×					
		Were appropriate type(s) of blanks analyzed?		X				
		Were blanks analyzed at the required frequency?	Х					
		Were method blanks taken through the entire analytical process applicable, cleanup procedures?	, including preparation and, if	Х				
		Were blank concentrations < MQL?		x				
R6	OI	Laboratory Control Samples (LCS)		~				
Ru	01	Were all COCs included in the LCS?		X				
		Was each LCS taken through the entire analytical procedure, in	cluding prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?		X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory (	X					
		Was the LCSD RPD within QC limits?		X				
<b>R7</b>	OI	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data						
		Were the project/method specified analytes included in the MS a	and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?		Х				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC	C limits?	Х				
		Were MS/MSD RPDs within laboratory QC limits?		Х				
<b>R8</b>	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix	?	Х				
		Were analytical duplicates analyzed at the appropriate frequence	y?	Х				
		Were RPDs or relative standard deviations within the laboratory	QC limits?	Х				
R9	OI	Method Quantitation Limits (MQLs)						
		Are the MQLs for each method analyte included in the laborator	y data package?	Х				
		Do the MQLs correspond to the concentration of the lowest non-	-zero calibration standard?	Х				
		Are unadjusted MQLs included in the laboratory data package?		Х				
		Does the detectability check sample (DCS) data document the li COCs at the MQL used to calculate the SQLs?	aboratory's capability to detect the	x				
<b>R10</b>	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in th	nis LRC and ER?	Х				
l		Is the laboratory NELAC-accredited under the Texas Laboratory analytes, matrices, and methods associated with this LRC?	Accreditation Program for all	Х				
		Was applicable and available technology used to lower the SQL effects on the sample results?	to minimize any matrix interference	X				
	L							

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified

by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked).



		Laboratory Review Checklis	t: Supportin	g Data						
Laborat	ory Na		ate: September 4, 2	0						
	-		ory Job Number:		xide Technologies					
			ch Number(s): See							
# <sup>1</sup>	A <sup>2</sup>							$NR^4$	ER#⁵	
<sup><i>m</i></sup> S1	OI	Initial calibration (ICAL)			Yes	No	NA <sup>3</sup>			
51	01	Were response factors and/or relative response factors for each anal	vte within OC limite?		x					
		Were percent RSDs or correlation coefficient criteria met?			X					
		Was the number of standards recommended in the method used for	all analytaa?		x					
			,		X					
		Were all points generated between the lowest and highest standard un Are ICAL data available for all instruments used?		cuive:	X					
		Has the initial calibration curve been verified using an appropriate se	and course stander	40	x					
S2	OI				^				_	
52	01	Initial / continuing calibration verification (ICV / CCV) and contin	uing calibration bia		v					
		Was the CCV analyzed at the method required frequency?			X X					
		Were percent differences for each analyte within the method-required	a QU IIIIIIIS?							
		Was the ICAL curve verified for each analyte?			X					
62	0	Was the absolute value of the analyte concentration in the inorganic			X					
<b>S</b> 3	0	Mass spectral tuning					v			
		Was the appropriate compound for the method used for tuning?					X			
C 4	0	Were ion abundance data within the method-required QC limits?					Х			
S4	0	Internal Standards (IS)					X			
<b>a -</b>	01	Were IS area counts and retention times within the method-required	QC limits?				Х			
<b>S</b> 5	IO	Raw data (TNI Standard Module 2, Section 5.10)								
		Were the raw data (for example, chromatograms, spectral data) revie			X					
~		Were data associated with manual integrations flagged on the raw da	ita?		Х					
<b>S6</b>	0	Dual column confirmation								
~-		Did dual column confirmation results meet the method-required QC?					Х			
S7	0	Tentatively Identified Compounds (TICs)		-						
~~~	-	If TICs were requested, were the mass spectra and TIC data subject	to appropriate check	ks?			Х			
<b>S8</b>	I	Interference Check Sample (ICS) results - Metals								
	-	Were percent recoveries within the method QC limits?			X					
<b>S9</b>	I	Serial dilutions, post digestion spikes, and method of standard a								
		Were percent differences, recoveries, and the linearity within the QC	limits specified in the	e method?	Х					
S10	OI	Method Detection Limit (MDL) studies								
		Was a MDL study performed for each reported analyte?			X					
a		Is the MDL either adjusted or supported by the analysis of DCSs?			X					
S11	OI	Proficiency test reports								
~		Was the laboratory's performance acceptable on the applicable profi	ciency tests or evaluation	ation studies?	Х					
S12	OI	Standards documentation								
~		Are all standards used in the analysis NIST-traceable or obtained fro	m other appropriate	sources?	Х					
S13	OI	Compound/analyte identification procedures								
		Are the procedures for compound/analyte identification documented?			Х					
S14	OI	Demonstration of Capability (DOC)								
		Was DOC conducted consistent with TNI Standard Module 4, Section			X					
		Is documentation of the analyst's competency up-to-date and on file?			Х					
S15	OI	Verification/validation documentation for methods (TNI Standard	•	,						
		Are all methods used to generate the data documented, verified, and	validated, where ap	plicable?	Х					
S16	OI	Laboratory Standard Operating Procedures (SOPs)								
l		Are laboratory SOPs current and on file for each method performed?			X					
	1. Ite	ms identified by the letter "R" must be included in the laboratory data package sub	mitted in the TRRP-req	uired report(s). Items	identif	ied				

by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 2.

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked).



Laboratory Review Checklist: Exception Reports								
aboratory Name: OXIDOR Laboratories, LLC LRC Date: September 4, 2012								
Project Name: 112.052.003 Retaining Wall Project	Laboratory Job Number: 12080639 Exide Technologies							
Reviewer Name: James A. Narens, III	QC Batch Number(s): See Cross-reference List							
ER# <sup>1</sup> DESCRIPTION								

1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked on the LRC)





Order ID: 12080639 Date: 9/4/2012 Page 1 of 9

Tuesday, September 04, 2012

W&M Environmental Group, Inc. Frank Clark 906 E. 18th, Suite 100 Plano, TX 75074 Tel: (972) 516-0300 Fax: (972) 516-4145

Re: Project Name: Retaining Wall Project Project Number: 112.052.003 Project Location: Frisco

Oxidor received 1 solid sample(s). The analysis performed were as follows:

<u>Sample</u>	Sample ID	<u>Matrix</u>	<u>Collected</u>	Analysis
12080639-001	SP-01	Solid	8/30/2012 08:30	TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver

Respectfully submitted,

J —

Charles Brungardt President





## **Analytical Report**

Customer Sample ID: Oxidor Sample ID: Sample Received:	12080			:30				
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
Sample Prep								
TCLP Metals Extraction								
TCLP Extraction					08/30/12 16:00	1311	T.C.	
Metals								
Digested by method 3005A on 08/31/12	at 09:20							
TCLP Antimony	0.05	0.050	0.065	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Barium	0.05	0.050	0.153	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Cadmium	0.01	0.010	0.073	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Lead	0.05	0.050	ND	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Nickel	0.05	0.050	ND	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	08/31/12 13:08	6020	K.O.	
TCLP Silver	0.01	0.010	ND	mg/L	08/31/12 13:08	6020	K.O.	
Digested by method 7470A on 08/31/12	at 09:00			-				
TCLP Mercury	0.001	0.001	ND	mg/L	08/31/12 16:33	7470A	T.C.	





## Sample Cross Reference

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-01	12080639-001	TCLP Mercury	7470A	MERC_06623_L
		TCLP Silver	6020	META_05545_L
		TCLP Selenium	6020	META_05545_L
		TCLP Nickel	6020	META_05545_L
		TCLP Lead	6020	META_05545_L
		TCLP Chromium	6020	META_05545_L
		TCLP Cadmium	6020	META_05545_L
		TCLP Berylium	6020	META_05545_L
		TCLP Barium	6020	META_05545_L
		TCLP Arsenic	6020	META_05545_L
		TCLP Antimony	6020	META_05545_L





## **QC Summary**

			Reference			Rec		RPD	
QC Type	Parameter	Result	Value	Spike Conc	Rec	Limits	RPD	Limits	Flags
QCBatch	ND MERC_06623_L								
Blank	TCLP Mercury	ND mg/L							
LCS	TCLP Mercury	0.005 mg/L		0.005 mg/L	104%	85-115%			
LCSD	TCLP Mercury	0.005 mg/L		0.005 mg/L	101%	85-115%	0.5%	0-25%	
MS	TCLP Mercury	0.020 mg/L	ND	0.02 mg/L	99%	80-120%			
MSD	TCLP Mercury	0.021 mg/L	ND	0.02 mg/L	103%	80-120%	2.6%	0-25%	
QCBatch	DID META_05545_L								
Blank	TCLP Antimony	ND mg/L							
	TCLP Arsenic	ND mg/L							
	TCLP Barium	ND mg/L							
	TCLP Berylium	ND mg/L							
	TCLP Cadmium	ND mg/L							
	TCLP Chromium	ND mg/L							
	TCLP Lead	ND mg/L							
	TCLP Nickel	ND mg/L							
	TCLP Selenium	ND mg/L							
	TCLP Silver	ND mg/L							
LCS	TCLP Antimony	0.101 mg/L		0.1 mg/L	101%	85-115%			
	TCLP Arsenic	0.103 mg/L		0.1 mg/L	103%	85-115%			
	TCLP Barium	0.102 mg/L		0.1 mg/L	102%	85-115%			
	TCLP Berylium	0.105 mg/L		0.1 mg/L	105%	85-115%			
	TCLP Cadmium	0.101 mg/L		0.1 mg/L	101%	85-115%			
	TCLP Chromium	0.102 mg/L		0.1 mg/L	102%	85-115%			
	TCLP Lead	0.099 mg/L		0.1 mg/L	99%	85-115%			
	TCLP Nickel	0.104 mg/L		0.1 mg/L	104%	85-115%			
	TCLP Selenium	0.104 mg/L		0.1 mg/L	104%	85-115%			
	TCLP Silver	0.101 mg/L		0.1 mg/L	101%	85-115%			
LCSD	TCLP Antimony	0.101 mg/L		0.1 mg/L	101%	85-115%	0.4%	0-20%	
	TCLP Arsenic	0.102 mg/L		0.1 mg/L	102%	85-115%	1.0%	0-20%	
	TCLP Barium	0.101 mg/L		0.1 mg/L	101%	85-115%	0.6%	0-20%	
	TCLP Berylium	0.104 mg/L		0.1 mg/L	104%	85-115%	0.9%	0-20%	
	TCLP Cadmium	0.101 mg/L		0.1 mg/L	101%	85-115%	0.5%	0-20%	
	TCLP Chromium	0.102 mg/L		0.1 mg/L	102%	85-115%	0.1%	0-20%	
	TCLP Lead	0.098 mg/L		0.1 mg/L	98%	85-115%	1.5%	0-20%	
	TCLP Nickel	0.103 mg/L		0.1 mg/L	103%	85-115%	1.1%	0-20%	
	TCLP Selenium	0.102 mg/L		0.1 mg/L	102%	85-115%	1.9%	0-20%	
	TCLP Silver	0.100 mg/L	0.005 "	0.1 mg/L	100%	85-115%	0.8%	0-20%	
MS	TCLP Antimony	0.572 mg/L	-	0.5 mg/L	101%	80-120%			
	TCLP Arsenic	0.515 mg/L	ND	0.5 mg/L	103%	80-120%			
	TCLP Barium	0.656 mg/L	-	0.5 mg/L	101%	80-120%			
	TCLP Berylium	0.516 mg/L	ND	0.5 mg/L	103%	80-120%			
	TCLP Cadmium	-	0.073 mg/L	0.5 mg/L	101%	80-120%			
	TCLP Chromium	0.475 mg/L	ND	0.5 mg/L	95% 96%	80-120%			
	TCLP Lead	0.479 mg/L	ND	0.5 mg/L	96%	80-120%			





## **QC Summary**

			Reference			Rec		RPD	
QC Type	Parameter	Result	Value	Spike Conc	Rec	Limits	RPD	Limits	Flags
QCBatc	hID META_05545_L								
	TCLP Nickel	0.534 mg/L	ND	0.5 mg/L	107%	80-120%			
	TCLP Selenium	0.538 mg/L	ND	0.5 mg/L	108%	80-120%			
	TCLP Silver	0.502 mg/L	ND	0.5 mg/L	101%	80-120%			
MSD	TCLP Antimony	0.568 mg/L	0.065 mg/L	0.5 mg/L	101%	80-120%	0.7%	0-20%	
	TCLP Arsenic	0.511 mg/L	ND	0.5 mg/L	102%	80-120%	0.7%	0-20%	
	TCLP Barium	0.653 mg/L	0.153 mg/L	0.5 mg/L	100%	80-120%	0.5%	0-20%	
	TCLP Berylium	0.502 mg/L	ND	0.5 mg/L	101%	80-120%	2.7%	0-20%	
	TCLP Cadmium	0.573 mg/L	0.073 mg/L	0.5 mg/L	100%	80-120%	1.1%	0-20%	
	TCLP Chromium	0.468 mg/L	ND	0.5 mg/L	94%	80-120%	1.4%	0-20%	
	TCLP Lead	0.474 mg/L	ND	0.5 mg/L	95%	80-120%	0.9%	0-20%	
	TCLP Nickel	0.536 mg/L	ND	0.5 mg/L	107%	80-120%	0.4%	0-20%	
	TCLP Selenium	0.517 mg/L	ND	0.5 mg/L	104%	80-120%	3.9%	0-20%	
	TCLP Silver	0.495 mg/L	ND	0.5 mg/L	99%	80-120%	1.4%	0-20%	





## **Case Narrative**

#### Project Name: Retaining Wall Project

ppm	Parts per million = mg/Kg or mg/L
ppb	Parts per billion = ug/Kg or ug/L
MQL	Method quantitation limit
SDL	Sample detection limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions)
SQL	Sample quantitation limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilution
ND	Analyte not detected at or above SQL
LCS/LCSD	Laboratory control spike / Laboratory control spike duplicate
MS/MSD	Matrix spike / Matrix spike duplicate
RPD	Relative percent difference
Sub	Analysis performed by subcontract laboratory
*	Refer to QC section

Solid sample results reported on a dry weight basis for all applicable analysis, unless otherwise noted. Dry weight calculations based upon % solids obtained as outlined in EPA method 5035 section 7.5

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Oxidor Laboratories, LLC certifies to the best of its knowledge that all results contained in this report are consistent with the National Environmental Laboratory Accreditation Program, except where otherwise noted.





## **Sample Preservation Verification**

#### Project Name: Retaining Wall Project

Receipt temp: <b>1.3 °C o</b> Receipt method: <b>Client</b>	n Ice	All applicable VOA's received free of headspace: N/A									
Custody seal intact: Not Present All samples / labels received intact: Yes											
Customer Sample ID: SP-01			Collected By: Nick Foreman								
Oxidor Sample ID: 120806	39-001	Collector Affiliation: W&M Environmental Group, Inc.									
Collected: 08/30/1	2 08:30		Matrix:	Solid							
<u>Bottle Type</u> 4 oz Glass Jar	<u>Count</u> 2	Collection Method Composite	Parts / Interval	Indicated <u>Preservation</u> Temp	<u>рН</u> -						

Sample conditions at time of receipt at laboratory verified in part or in whole by:

A.B.

2014 EXIDE APAR PAGE 2141 OF 3116





. **S**.

Chain of Custody Record

3 Days 2 Days <u>1 D</u>ay

PO#

Affiliation / Company

Page \_\_\_\_ of \_\_\_\_

ASAP

## **Chain of Custody**

#### PROJECT DESCRIPTION: Retaining Wall Project **OXIDOR Laboratorics**, LLC 1825 East Plano Parkway. #160 Plano, TX 75074-8570 P: 972.424.6422 F: 972.424.6508 customerservice@oxidor.com Report Information Company Name N +111 F. JULI Structure (Cycing) Project Information Circle Requested Turn Around Time (1 Day and ASAP must be verified with lab) 7-10 Days 5-7 Days 905 E 18th Project Name Bebanning Wall Araject Project Location ZIP 75074 14AS THE Frank Clork, Vanesa Coloma Project # 112.052.003 Quote # Contact Email Sampler Name the conti

Phone	Fax Fax						Sampler Signature														
Phone 972-516	<u>0300</u> <sup>12</sup> 972	516-414	5	Sampler Signature																	
	niy if Different from above)					odes		5	Special Instructions *												
Company Name <u>1</u>	-xde .			L-	Liqui	d 🖒	5.8	olia	Sportal Instructions * 200% Russin L.R.L. Ro - T.R.R.P. topur +-												
Address -7	1 South 5th Stre	i					A - A Code														
City T	1 _ 164 M 1 3 _ OT re	en		1 - None 4 - HCI 2 - HNO <sub>3</sub> 5 - NaOH					*Please confirm conditional requests prior to additional analysis												
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## Chain of Custody

#### PROJECT DESCRIPTION: Retaining Wall Project

## **Ashley Bishop** 12080639 Nick Foreman [nforeman@wh-m.com] Thursday, August 30, 2012 12:12 PM CustomerService From: -Sent: To: Cc: Charles Brungardt Subject: Exide Sample It appears I forgot to actually "x" the box for analysis but please analyze the sample collected 8/30/12 (today) for TCLP Metals (RCRA-8, Sb, Ni, and Be). Thanks. Nick Foreman Environmental Scientist II W&M Environmental Group, Inc. 906 East 18th Street, Plano, Texas 75074 (o) 972.509.9609 (f) 972.516.4145 (c) 817.680.1417 Please don't print this e-mail unless you really need to.

www.OXIDOR.com • 1825 E. Plano Parkway #160 • Plano, TX 75074 • Tel: (972) 424-6422 • Fax: (972) 424-6508

1



# **OXIDOR Laboratory Review Checklist Cover Page**

## Project Name: 112.052.003 Retaining Wall

7174 South Fifth Street, Frisco, TX

#### OXIDOR Job Number: 12090435 W&M Environmental Group, Inc.

This data package consists of:

X This signature page, the laboratory review checklist, and the following reportable data:

- X R1 Field chain-of-custody documentation;
- X R2 Sample identification cross-reference;
- **X**R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with TNI Standard Module 2, Section 5.10
    - b) dilution factors,
    - c) preparation methods,
    - d) cleanup methods, and
    - e) if required for the project, tentatively identified compounds (TICs);
- **XR4** Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits;
- XR5 Test reports/summary forms for blank samples;
- **XR6** Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits;
- **XR7** Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits;
- **XR8** Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates;
- X R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- X **R10** Other problems or anomalies.
- X The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.
- **Release Statement**: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Charles Brungardt

Name

NON R,	
Cat 12 J-	President
Signature 🔾	Official Title

September 24, 2012 Date



		2			_	_	_		
		Laboratory Review Checklis	t: Reportab	le Data					
Laborat	tory Na	me: OXIDOR Laboratories, LLC LRC Da	te: September 24,	2012					
Project	Name:	112.052.003 Retaining Wall Laborat	ory Job Number:	12090435 W&M I	Envirc	onmer	ntal G	roup,	Inc.
	-	e: James A. Narens, III QC Bat	ch Number(s): See	Cross-reference Lis	st				
# <sup>1</sup>	A <sup>2</sup>	Description			Yes	No	NA <sup>3</sup>	$NR^4$	ER#⁵
<b>R1</b>	OI	Chain-of-Custody (C-O-C)							
		Did samples meet the laboratory's standard conditions of sample acc	eptability upon rece	ipt?	Х				
		Were all departures from standard conditions described in an excepti	on report?				Х		
R2	OI	Sample Quality Control (QC) and identification							
		Are all field sample ID numbers cross-referenced to the laboratory ID	numbers?		Х				
		Are all laboratory ID numbers cross-referenced to the corresponding	QC data?		Х				
R3	OI	Test reports							
		Were all samples prepared and analyzed within holding times?			Х				
		Other than those results < MDL, were all other raw values bracketed	by calibration stand	ards?	Х				
		Were calculations checked by a peer or supervisor?			Х				
		Were all analyte identifications checked by a peer or supervisor?			Х				
		Were sample quantitation limits reported for all analytes not detected	2		Х				
		Were all results for soil and sediment samples reported on a dry weig			Х				
		Were % moisture (or solids) reported for all soil and sediment sample			Х				
		If required for the project, TICs reported?			1		Х		
<b>R4</b>	0	Surrogate recovery data							
		Were surrogates added prior to extraction?			х				
		Were surrogate recoveries in all samples within the laboratory QC lim	its?		X				
R5	OI	Test reports/summary forms for blank samples							
<b>R</b>	01	Were appropriate type(s) of blanks analyzed?			x				
		Were blanks analyzed at the required frequency?			X				
		Were method blanks taken through the entire analytical process, inclu	iding proparation or	vd if					
		applicable, cleanup procedures?	iung preparation ar	iu, ii	Х				
		Were blank concentrations < MQL?			х				
R6	OI	Laboratory Control Samples (LCS)			<u> </u>				
110	01	Were all COCs included in the LCS?			х				
		Was each LCS taken through the entire analytical procedure, includir	a prep and cleanup	stens?	X				
		Were LCSs analyzed at the required frequency?	g prop and oleanap	otopo.	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC lir	nite?		X				
		Was the LCSD RPD within QC limits?	110:		X				
<b>R</b> 7	OI	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data			<b>^</b>				
κ/	01		202		X				
		Were the project/method specified analytes included in the MS and M	30?						
		Were MS/MSD analyzed at the appropriate frequency?	-2		X X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limit	5 !		X				
R8	OI	Were MS/MSD RPDs within laboratory QC limits?			<b>^</b>				
Кð	01	Analytical duplicate data			v				
		Were appropriate analytical duplicates analyzed for each matrix?			X			┝──┤	
		Were analytical duplicates analyzed at the appropriate frequency?			X			┝──┤	
DO	01	Were RPDs or relative standard deviations within the laboratory QC I	mits?		Х				
<b>R9</b>	OI	Method Quantitation Limits (MQLs)							
		Are the MQLs for each method analyte included in the laboratory data		2	X				
		Do the MQLs correspond to the concentration of the lowest non-zero	calibration standard	?	X				
		Are unadjusted MQLs included in the laboratory data package?			Х			┝──┤	
		Does the detectability check sample (DCS) data document the labora	tory's capability to d	etect the	х				
R10	OI	COCs at the MQL used to calculate the SQLs?							
KIU	01	Other problems/anomalies			v			<b>FD</b> #1	
	Are all known problems/anomalies/special conditions noted in this LRC and ER?					Х		┝──┤	ER#1
		Is the laboratory NELAC-accredited under the Texas Laboratory Accr analytes, matrices, and methods associated with this LRC?			X				
		Was applicable and available technology used to lower the SQL to m effects on the sample results?	nimize any matrix ir	nterference	x				L
					_		_		

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified

by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

NA = Not applicable;3.

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked).



#### Laboratory Review Checklist: Supporting Data Laboratory Name: OXIDOR Laboratories, LLC LRC Date: September 24, 2012 Project Name: 112.052.003 Retaining Wall Laboratory Job Number: 12090435 W&M Environmental Group, Inc. Reviewer Name: James A. Narens, III QC Batch Number(s): See Cross-reference List #1 A<sup>2</sup> Description No NA<sup>3</sup> NR<sup>4</sup> ER#<sup>5</sup> Yes **S1** OI Initial calibration (ICAL) Х Were response factors and/or relative response factors for each analyte within QC limits? X Were percent RSDs or correlation coefficient criteria met? Was the number of standards recommended in the method used for all analytes? Х Х Were all points generated between the lowest and highest standard used to calculate the curve? Х Are ICAL data available for all instruments used? Has the initial calibration curve been verified using an appropriate second source standard? Х **S2** OI Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB) Х Nas the CCV analyzed at the method required frequency? Х Were percent differences for each analyte within the method-required QC limits? Х Was the ICAL curve verified for each analyte? Х Was the absolute value of the analyte concentration in the inorganic CCB < MDL? 0 **S3** Mass spectral tuning Was the appropriate compound for the method used for tuning? Х Х Were ion abundance data within the method-required QC limits? **S4** 0 Internal Standards (IS) Were IS area counts and retention times within the method-required QC limits? Х **S5** OI Raw data (TNI Standard Module 2, Section 5.10) Х Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst? Were data associated with manual integrations flagged on the raw data? Х **S6** 0 Dual column confirmation Did dual column confirmation results meet the method-required QC? X **S7** 0 **Tentatively Identified Compounds (TICs)** If TICs were requested, were the mass spectra and TIC data subject to appropriate checks? Х **S8** Ι Interference Check Sample (ICS) results - Metals Were percent recoveries within the method QC limits? Х **S9** Ι Serial dilutions, post digestion spikes, and method of standard additions - Metals Х Were percent differences, recoveries, and the linearity within the QC limits specified in the method? S10 OI Method Detection Limit (MDL) studies Was a MDL study performed for each reported analyte? Х Is the MDL either adjusted or supported by the analysis of DCSs? Х S11 OI **Proficiency test reports** Х Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies? S12 OI Standards documentation Х Are all standards used in the analysis NIST-traceable or obtained from other appropriate sources? S13 OI Compound/analyte identification procedures Are the procedures for compound/analyte identification documented? Х **S14** OI Demonstration of Capability (DOC) Was DOC conducted consistent with TNI Standard Module 4, Section 1.6? Х Х Is documentation of the analyst's competency up-to-date and on file? S15 OI Verification/validation documentation for methods (TNI Standard Module 4, Section 1.5) Are all methods used to generate the data documented, verified, and validated, where applicable? Х OI S16 Laboratory Standard Operating Procedures (SOPs) Are laboratory SOPs current and on file for each method performed? Х

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified

by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable:

1.

4. NR = Not reviewed:

ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked). 5.



	Laboratory Review Checklist: Exception Reports												
Laborato	ry Name: OXIDOR Laboratories, LLC	LRC Date: September 24, 2012											
Project N	lame: 112.052.003 Retaining Wall	Laboratory Job Number: 12090435 W&M Environmental Group, Inc.											
Reviewer	r Name: James A. Narens, III	QC Batch Number(s): See Cross-reference List											
ER# <sup>1</sup>	DESCRIPTION												
ER#1	For pH, samples should be analyzed as soon as possible a 12090435-001 and -002.	and preferably at the time of collection for Oxidor Sample ID's											

1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked on the LRC)





Order ID: 12090435 Date: 9/24/2012 Page 1 of 11

Monday, September 24, 2012

W&M Environmental Group, Inc. Frank Clark 906 E. 18th, Suite 100 Plano, TX 75074 Tel: (972) 516-0300 Fax: (972) 516-4145

Re: Project Name: Retaining Wall Project Number: 112.052.003 Project Location: 7174 South Fifth Street, Frisco, TX

Oxidor received 2 solid sample(s). The analysis performed were as follows:

<u>Sample</u>	Sample ID	<u>Matrix</u>	<u>Collected</u>	Analysis
12090435-001	SP-02	Solid	9/21/2012 10:45	Dry Weight, pH, TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver, Total Petroleum Hydrocarbons
12090435-002	SP-03	Solid	9/21/2012 10:52	Dry Weight, pH, TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver, Total Petroleum Hydrocarbons

Respectfully submitted,

Charles Brungardt President





## **Analytical Report**

Customer Sampl	e ID: SP-02	2						
Oxidor Sampl	e ID: 12090	0435-001			Matrix: S	olid		
Sample Rece	ived: 9/21/2	2012		Samp	ole Collected: 9	/21/2012 1	0:45	
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
% Solids	0.1	0.1	76.0	%	09/24/12 09:00	Dry Weight	L.J.	
рH	0.1	0.1	7.6	pH Units	09/21/12 16:21	9045	E.R.	S-12
Metals								
Digested by method 3005A on 0	9/24/12 at 09:50							
TCLP Antimony	0.05	0.050	ND	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Barium	0.05	0.050	0.113	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Cadmium	0.01	0.010	0.011	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Lead	0.05	0.050	ND	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Nickel	0.05	0.050	ND	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	09/24/12 13:51	6020	K.O.	
TCLP Silver	0.01	0.010	ND	mg/L	09/24/12 13:51	6020	K.O.	
Digested by method 7470A on 0	9/24/12 at 09:30			•				
TCLP Mercury	0.001	0.001	ND	mg/L	09/24/12 15:01	7470A	T.C.	
Total Petroleum Hy	drocarbons							
Prepared by method TX 1005 or								
TPH (C 6 to C12)	25	32.9	ND	mg/Kg	09/21/12 22:14	TX 1005	K.J.	
TPH (C12 to C28)	25	32.9	ND	mg/Kg	09/21/12 22:14	TX 1005	K.J.	
TPH (C28 to C35)	25	32.9	ND	mg/Kg	09/21/12 22:14	TX 1005	K.J.	
TPH (C6 to C35)	25	32.9	ND	mg/Kg	09/21/12 22:14	TX 1005	K.J.	
Surrogate			Result	Units	Spike Conc	Recovery	Rec Limits	
1-chlorooctane			100	mg/Kg	100 mg/Kg	100%	70-130%	
o-Terphenyl			107	mg/Kg	100 mg/Kg	107%	70-130%	
Sample Prep				0 0				
TCLP Metals Extrac	tion							
TCLP Extraction	,0011				09/23/12 15:30	1311	T.C.	
					00/20/12 10.00	1011	1.0.	





## **Analytical Report**

Customer Sample I Oxidor Sample I					Matrix: S	alid		
Sample Receive				Samr	ble Collected: 9		0-52	
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry	· · ·							
% Solids	0.1	0.1	81.0	%	09/24/12 09:00	Dry Weight	L.J.	
pH	0.1	0.1		pH Units	09/21/12 16:21	9045	E.R.	S-12
Metals	0.1	0.1			00/21/12 10:21	0010	<b>L</b>	0.12
Digested by method 3005A on 09/24	1/12 at 09:50							
TCLP Antimony	0.05	0.050	0.131	ma/l	09/24/12 13:57	6020	K.O.	
TCLP Arsenic	0.05	0.050		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Barium	0.05	0.050		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Berylium	0.05	0.050		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Cadmium	0.01	0.010		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Chromium	0.05	0.050		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Lead	0.05	0.050		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Nickel	0.05	0.050		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Selenium	0.05	0.050		mg/L	09/24/12 13:57	6020	K.O.	
TCLP Silver	0.01	0.010		mg/L	09/24/12 13:57	6020	K.O.	
Digested by method 7470A on 09/24		01010		g/ =	00/2 // 12 10/01	0020		
TCLP Mercury	0.001	0.001	ND	mg/L	09/24/12 15:02	7470A	T.C.	
Total Petroleum Hydro	ocarbons							
Prepared by method TX 1005 on 09/								
TPH (C 6 to C12)	25	30.9	ND	mg/Kg	09/21/12 23:02	TX 1005	K.J.	
TPH (C12 to C28)	25	30.9	ND	mg/Kg	09/21/12 23:02	TX 1005	K.J.	
TPH (C28 to C35)	25	30.9	ND	mg/Kg	09/21/12 23:02	TX 1005	K.J.	
TPH (C6 to C35)	25	30.9	ND	mg/Kg	09/21/12 23:02	TX 1005	K.J.	
Surrogate			Result	Units	Spike Conc	Recovery	Rec Limits	
1-chlorooctane			100	mg/Kg	100 mg/Kg	100%	70-130%	
o-Terphenyl			109	mg/Kg	100 mg/Kg	109%	70-130%	
Sample Prep								
TCLP Metals Extraction	on							
TCLP Extraction					09/23/12 15:30	1311	T.C.	





## Sample Cross Reference

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-02	12090435-001	Total Petroleum Hydrocarbons	TX 1005	1005_03629AS
		Dry Weight	Dry Weight	DW05226_S
		TCLP Mercury	7470A	MERC_08123_L
		TCLP Antimony	6020	META_09445_L
		TCLP Arsenic	6020	META_09445_L
		TCLP Barium	TX 1005         1005_03629A           Dry Weight         DW05226           7470A         MERC_08123           6020         META_09445           6020	META_09445_L
		TCLP Berylium	6020	META_09445_L
		TCLP Cadmium	6020	META_09445_L
		TCLP Chromium	6020	META_09445_L
		TCLP Lead	6020	META_09445_L
		TCLP Nickel	6020	META_09445_L
		TCLP Selenium	6020	META_09445_L
		TCLP Silver	6020	META_09445_L
		рН	9045	PH03115_S
SP-03	12090435-002	Total Petroleum Hydrocarbons	TX 1005	1005_03629AS
		Dry Weight	Dry Weight	DW05226_S
		TCLP Mercury	7470A	MERC_08123_L
		TCLP Antimony	6020	META_09445_L
		TCLP Arsenic	6020	META_09445_L
		TCLP Barium	6020	META_09445_L
		TCLP Berylium	6020	META_09445_L
		TCLP Cadmium	6020	META_09445_L
		TCLP Chromium	6020	META_09445_L
		TCLP Lead	6020	META_09445_L
		TCLP Nickel	6020	META_09445_L
		TCLP Selenium	6020	META_09445_L
		TCLP Silver	6020	META_09445_L
		рН	9045	PH03115_S





## **QC Summary**

OCBatchID         DW05226_S           Replicate         % Solids         78.2 %         76.0 %         2.9 %         0.20 %           OCBatchID         PH03115_S	QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
OCBatchID         PH03115_S           LCS         pH         7.0 pH Units         7 pH Units         100%         99-102%         0.6%         0.25%           LCSD         pH         7.0 pH Units         7.0 pH Units         7 PH Units         101%         99-102%         0.6%         0.25%           Replicate         pH         7.0 pH Units         7.0 pH Units         7 PH Units         101%         99-102%         0.42%         0.10%           GCBatchID         MERC_08123_L         ND mgL         0.005 mgL         0.005 mgL         96%         85-115%         L           LCS         TCLP Mercury         0.005 mgL         0.00 mgL         101%         80-120%         0.25%           MSD         TCLP Mercury         0.019 mgL         ND         0.02 mg/L         103%         80-120%         9.5%         0-25%           GCBatchID         META_09445_L         ND         0.02 mg/L         103%         80-120%         9.5%         0-25%           GCBatchID         META_09445_L         ND mg/L         TCLP Assenic         ND mg/L         TCLP Assenic <td< th=""><th>QCBatch</th><th>nID DW05226_S</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	QCBatch	nID DW05226_S								
LCS         pH         7.0 pH Units         7 pH Units         7 pH Units         99-102%         99-102%           LCSD         pH         7.3 pH Units         7.0 pH Units         101%         99-102%         0.6%         0-25%           QCBatchID         MERC_08123 L         4.2%         0-10%         4.2%         0-10%           Blank         TCLP Mercury         0.005 mg/L         0.005 mg/L         0.005 mg/L         96%         85-115%         1.4%         0-25%           LCSD         TCLP Mercury         0.005 mg/L         0.005 mg/L         101%         85-115%         1.4%         0-25%           LCSD         TCLP Mercury         0.005 mg/L         0.005 mg/L         103%         80-120%         9.5%         0-25%           QCBatchID         META_09445_L         Blank         TCLP Antimony         ND mg/L         TCLP Artimony         ND mg/L         TCLP Parium         ND mg/L         TCLP Parium         ND mg/L         TCLP CLP Catmium         ND mg/L         TCLP Parium         ND mg/L         TCLP Parium         ND mg/L         TCLP Artimony         0.101 mg/L         0.1 mg/L         101%         85-115%         TCLP Artimony         0.101 mg/L         0.1 mg/L         103%         85-115%         TCLP Artimony         0	Replicate	% Solids	78.2 %	76.0 %				2.9%	0-20%	
LCS         pH         7.0 pH Units         7 pH Units         7 pH Units         99-102%         99-102%           LCSD         pH         7.3 pH Units         7.0 pH Units         101%         99-102%         0.6%         0-25%           QCBatchID         MERC_08123 L         4.2%         0-10%         4.2%         0-10%           Blank         TCLP Mercury         0.005 mg/L         0.005 mg/L         0.005 mg/L         96%         85-115%         1.4%         0-25%           LCSD         TCLP Mercury         0.005 mg/L         0.005 mg/L         101%         85-115%         1.4%         0-25%           LCSD         TCLP Mercury         0.005 mg/L         0.005 mg/L         103%         80-120%         9.5%         0-25%           QCBatchID         META_09445_L         Blank         TCLP Antimony         ND mg/L         TCLP Artimony         ND mg/L         TCLP Parium         ND mg/L         TCLP Parium         ND mg/L         TCLP CLP Catmium         ND mg/L         TCLP Parium         ND mg/L         TCLP Parium         ND mg/L         TCLP Artimony         0.101 mg/L         0.1 mg/L         101%         85-115%         TCLP Artimony         0.101 mg/L         0.1 mg/L         103%         85-115%         TCLP Artimony         0	QCBatch	nID PH 03115 S								
LCSD         pH         7.0 pH Units         7 pH Units         101%         99-102%         0.6%         0-28%           Replicate         pH         7.3 pH Units         7.0 pH Units         101%         42.8%         0.10%           CGBatch/D         MERC_08123_L          8.2%         0.10%         4.2%         0.10%           LCS         TCLP Mercury         0.005 mg/L         0.005 mg/L         0.005 mg/L         101%         85-115%         1.4%         0-25%           LCSD         TCLP Mercury         0.021 mg/L         ND         0.02 mg/L         103%         80-120%         9.5%         0-25%           GCBatch/D         META_09445_L         ND         0.02 mg/L         103%         80-120%         9.5%         0-25%           GCBatch/D         META_09445_L         ND mg/L         101%         85-115%         1.4%         0-25%           GCLP Antimony         ND mg/L         TCLP Aratimony         ND mg/L         102         1.4%         0-25%           TCLP Aratimony         ND mg/L         TCLP Aratimony         ND mg/L         102         1.4%         1.4%         1.4%           TCLP Aratimony         ND mg/L         TCLP Aratimony         ND mg/L         1.1%	LCS		7.0 pH Units		7 pH Units	100%	99-102%			
Replicate         pH         7.3 pH Units         7.0 pH Units         0.10%           CCBatchID         MERC_08123_L         0.005 mgL         0.02 mgL         0.02 mgL         0.02 mgL         0.02 mgL         0.03         0.25 mgL         0.25 mgL           CBBatchID         META_09445_L         ND mgL         0.02 mgL         0.03 mgL         0.25 mgL         0.02 mgL         0.03 mgL         0.25 mgL           CLP Mercury         ND mgL         ND mgL         ND mgL         0.27 mgL         0.87 mgL         0.25 mgL           CLP Atsentio         ND mgL         TCLP Atsentio         ND mgL         0.17 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL         0.11 mgL		pH			•		99-102%	0.6%	0-25%	
Blank         TCLP Mercury         ND mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.02 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.11 mg/L         0.10 mg/L         0.10 mg/L         0.10 m		pH		7.0 pH Units				4.2%	0-10%	
LCS         TCLP Mercury         0.005 mg/L         0.005 mg/L         01%         85-115%         1.4%         0.25%           LCSD         TCLP Mercury         0.011 mg/L         ND         0.02 mg/L         101%         85-115%         1.4%         0.25%           MSD         TCLP Mercury         0.011 mg/L         ND         0.02 mg/L         96%         80-120%         9.5%         0.25%           CCBate-ID META_09445_L           Blank         TCLP Antimony         ND mg/L         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%	QCBatch	nID MERC_08123_L								
LCS         TCLP Mercury         0.005 mg/L         0.005 mg/L         01%         85-115%         1.4%         0.25%           LCSD         TCLP Mercury         0.011 mg/L         ND         0.02 mg/L         101%         85-115%         1.4%         0.25%           MSD         TCLP Mercury         0.011 mg/L         ND         0.02 mg/L         96%         80-120%         9.5%         0.25%           CCBate-ID META_09445_L           Blank         TCLP Antimony         ND mg/L         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%         5.5%			ND mg/L							
LCSD         TCLP Mercury         0.005 mg/L         0.002 mg/L         101%         85-115%         1.4%         0-25%           MSD         TCLP Mercury         0.019 mg/L         ND         0.02 mg/L         103%         80-120%         9.5%         0-25%           OCBatc/// TCLP Mercury         0.019 mg/L         ND         0.02 mg/L         103%         80-120%         9.5%         0-25%           OCBatc/// TCLP Antimony         ND mg/L         ND         0.02 mg/L         96%         80-120%         9.5%         0-25%           Blank         TCLP Antimony         ND mg/L         ND mg/L         101%         85-115%         1.4%         0.25%           TCLP Berylium         ND mg/L         TCLP Chromium         ND mg/L         1.5%         1.4%         0.25%           TCLP Selenium         ND mg/L         0.1 mg/L         101%         85-115%         1.4%         1.4%           TCLP Selenium         ND mg/L         0.1 mg/L         101%         85-115%         1.4%         1.4%           TCLP Selenium         0.103 mg/L         0.1 mg/L         103%         85-115%         1.4%         1.4%           TCLP Selenium         0.103 mg/L         0.1 mg/L         103%<	LCS	TCLP Mercury			0.005 mg/L	96%	85-115%			
MSD         TCLP Mercury         0.019 mg/L         ND         0.02 mg/L         96%         80-120%         9.5%         0-25%           CBBatc// INT MD mg/L           TCLP Antimony         ND mg/L         Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Sec	LCSD	TCLP Mercury	0.005 mg/L		0.005 mg/L	101%	85-115%	1.4%	0-25%	
MSD         TCLP Mercury         0.019 mg/L         ND         0.02 mg/L         96%         80-120%         9.5%         0-25%           CBBatch IV           Blank         TCLP Antimony         ND mg/L         5         5         5           TCLP Parium         ND mg/L         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5 <td< td=""><td>MS</td><td>TCLP Mercury</td><td>0.021 mg/L</td><td>ND</td><td>-</td><td>103%</td><td>80-120%</td><td></td><td></td><td></td></td<>	MS	TCLP Mercury	0.021 mg/L	ND	-	103%	80-120%			
Blank         TCLP Arisenic         ND mg/L           TCLP Arsenic         ND mg/L           TCLP Barium         ND mg/L           TCLP Barium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Arsenic         0.103 mg/L           0.1 mg/L         103%           TCLP Barium         0.103 mg/L           0.1 mg/L         103%           TCLP Cadmium         0.100 mg/L           0.100 mg/L         0.1 mg/L           TCLP Chromium         0.102 mg/L           TCLP Nickel         0.100 mg/L           TCLP Selenium         0.102 mg/L           TCLP Partimony         0.102 mg/L           TCLP Chromium         0.102 mg/L           TCLP Chromium         0.102 mg/L           TCLP Chromium         0.102 mg/L           TCLP Nickel         0.100 mg/L </td <td>MSD</td> <td>TCLP Mercury</td> <td>0.019 mg/L</td> <td>ND</td> <td></td> <td>96%</td> <td>80-120%</td> <td>9.5%</td> <td>0-25%</td> <td></td>	MSD	TCLP Mercury	0.019 mg/L	ND		96%	80-120%	9.5%	0-25%	
Blank         TCLP Antimony         ND mg/L           TCLP Arsenic         ND mg/L           TCLP Barium         ND mg/L           TCLP Berylium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Assenic         0.103 mg/L           0.1 mg/L         103%           TCLP Barium         0.103 mg/L           0.1 mg/L         103%           TCLP Chromium         0.102 mg/L           TCLP Chromium         0.102 mg/L           TCLP Chromium         0.102 mg/L           TCLP Nickel         0.100 mg/L           TCLP Selenium         0.102 mg/L           TCLP Nickel         0.100 mg/L           TCLP Nickel         0.100 mg/L           TCLP Nickel         0.102 mg/L           TCLP Selenium         0.102 mg/L           TCLP Nickel         0.103 mg/L     <	QCBatch	nID META_09445_L								
TCLP Arsenic       ND mg/L         TCLP Barium       ND mg/L         TCLP Cadmium       ND mg/L         TCLP Selenium       ND mg/L         TCLP Selenium       ND mg/L         TCLP Selenium       ND mg/L         TCLP Antimony       0.101 mg/L       0.11 mg/L       103%       85-115%         TCLP Antimony       0.101 mg/L       0.11 mg/L       103%       85-115%         TCLP Antimony       0.101 mg/L       0.11 mg/L       103%       85-115%         TCLP Barium       0.030 mg/L       0.1 mg/L       103%       85-115%         TCLP Cadmium       0.101 mg/L       0.11 mg/L       103%       85-115%         TCLP Barium       0.030 mg/L       0.1 mg/L       103%       85-115%         TCLP Cadmium       0.101 mg/L       0.11 mg/L       102%       85-115%         TCLP Cadmium       0.102 mg/L       0.1 mg/L       102%       85-115%         TCLP Selenium       0.102 mg/L       0.1 mg/L       102%       85-115%         TCLP Silver       0.102 mg/L	Blank		ND mg/L							
TCLP Barium       ND mg/L         TCLP Berylium       ND mg/L         TCLP Codmium       ND mg/L         TCLP Chromium       ND mg/L         TCLP Divide       ND mg/L         TCLP Selenium       0.101 mg/L       0.1 mg/L       0.3%         TCLP Arsenic       0.103 mg/L       0.1 mg/L       0.3%       55-115%         TCLP Berylium       0.097 mg/L       0.1 mg/L       103%       85-115%		•	-							
TCLP Berylium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Nickel         ND mg/L           TCLP Selenium         ND mg/L           TCLP Barium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Berylium         0.097 mg/L         0.1 mg/L         103%         85-115%           TCLP Berylium         0.010 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.102 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.102 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.102 mg/L         0.1 mg/L         100%         85-115%           TCLP Chromium         0.102 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         101%         85-115%         .2 <td></td> <td>TCLP Barium</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		TCLP Barium	-							
TCLP Chromium         ND mg/L           TCLP Lead         ND mg/L           TCLP Nickel         ND mg/L           TCLP Selenium         ND mg/L           TCLP Silver         ND mg/L           TCLP Silver         ND mg/L           TCLP Selenium         ND mg/L           TCLP Ansenic         0.103 mg/L         0.1 mg/L         103%           TCLP Barium         0.003 mg/L         0.1 mg/L         103%           TCLP Berylium         0.097 mg/L         0.1 mg/L         103%           TCLP Chromium         0.102 mg/L         0.1 mg/L         101%           TCLP Chromium         0.102 mg/L         0.1 mg/L         102%           TCLP Chromium         0.102 mg/L         0.1 mg/L         102%           TCLP Nickel         0.100 mg/L         0.1 mg/L         102%           TCLP Nickel         0.102 mg/L         0.1 mg/L         102%           TCLP Selenium         0.102 mg/L         0.1 mg/L         101%           TCL		TCLP Berylium	-							
TCLP Lead         ND mg/L           TCLP Nickel         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Antimony         0.101 mg/L           TCLP Arsenic         0.103 mg/L           TCLP Arsenic         0.103 mg/L           TCLP Barium         0.007 mg/L           TCLP Berylium         0.097 mg/L           TCLP Cadmium         0.101 mg/L           TCLP Cadmium         0.101 mg/L           TCLP Cadmium         0.102 mg/L           TCLP Cadmium         0.102 mg/L           TCLP Nickel         0.103 mg/L           TCLP Cadmium         0.102 mg/L           TCLP Nickel         0.103 mg/L           TCLP Nickel         0.103 mg/L           TCLP Nickel         0.103 mg/L           TCLP Nickel         0.102 mg/L           TCLP Nickel         0.102 mg/L           TCLP Nickel         0.102 mg/L           TCLP Selenium         0.102 mg/L           TCLP Arsenic         0.103 mg/L           TCLP Selenium         0.102 mg/L           TCLP Arsenic         0.103 mg/L           TCLP Arsenic         0.103 mg/L<		TCLP Cadmium	ND mg/L							
TCLP Nickel         ND mg/L           TCLP Selenium         ND mg/L           TCLP Silver         ND mg/L           TCLP Silver         ND mg/L           LCS         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Arsenic         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Barium         0.097 mg/L         0.1 mg/L         103%         85-115%           TCLP Cadmium         0.010 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.102 mg/L         0.1 mg/L         101%         85-115%           TCLP Nickel         0.100 mg/L         0.1 mg/L         101%         85-115%           TCLP Nickel         0.100 mg/L         0.1 mg/L         102%         85-115%           TCLP Nickel         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%		TCLP Chromium	ND mg/L							
TCLP Selenium         ND mg/L           TCLP Silver         ND mg/L           LCS         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Arsenic         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Barium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Barylium         0.097 mg/L         0.1 mg/L         103%         85-115%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.100 mg/L         0.1 mg/L         101%         85-115%           TCLP Chromium         0.102 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.102 mg/L         0.1 mg/L         104%         85-115%           LCSD         TCLP Natimony         0.101 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Astenic         0.103 mg/L         0.1 mg/L         101%         85-115%		TCLP Lead	ND mg/L							
TCLP Silver         ND mg/L           LCS         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Arsenic         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Barium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Barium         0.097 mg/L         0.1 mg/L         103%         85-115%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Chromium         0.102 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         100%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           LCSD         TCLP Arimony         0.102 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%		TCLP Nickel	ND mg/L							
LCS       TCLP Antimony       0.101 mg/L       0.1 mg/L       101%       85-115%         TCLP Arsenic       0.103 mg/L       0.1 mg/L       103%       85-115%         TCLP Barium       0.097 mg/L       0.1 mg/L       103%       85-115%         TCLP Cadmium       0.097 mg/L       0.1 mg/L       97%       85-115%         TCLP Cadmium       0.101 mg/L       0.1 mg/L       101%       85-115%         TCLP Cadmium       0.100 mg/L       0.1 mg/L       102%       85-115%         TCLP Cadmium       0.100 mg/L       0.1 mg/L       100%       85-115%         TCLP Cadmium       0.102 mg/L       0.1 mg/L       100%       85-115%         TCLP Lead       0.100 mg/L       0.1 mg/L       102%       85-115%         TCLP Nickel       0.102 mg/L       0.1 mg/L       102%       85-115%         LCSD       TCLP Antimony       0.101 mg/L       0.1 mg/L       101%       85-115%         LCSD       TCLP Arsenic       0.103 mg/L       0.1 mg/L       101%       85-115%       0.2%       0-20%         LCSD       TCLP Arsenic       0.103 mg/L       0.1 mg/L       103%       85-115%       0.2%       0-20%         TCLP Arsenic       0.102 mg/L		TCLP Selenium	ND mg/L							
TCLP Arsenic         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Barium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Berylium         0.097 mg/L         0.1 mg/L         97%         85-115%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.100 mg/L         0.1 mg/L         102%         85-115%           TCLP Chromium         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Lead         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Silver         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Antimony         0.101 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Arsenic         0.103 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Arsenic         0.103 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%           TCLP Barylium         0.099 mg/L         0.1 mg/L         103%         85-115		TCLP Silver	ND mg/L							
TCLP Barium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Berylium         0.097 mg/L         0.1 mg/L         97%         85-115%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Chromium         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         100%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         104%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Barium         0.102 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%           TCLP Cadmium         0.102 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%           TCLP Barylium         0.099 mg/L<	LCS	TCLP Antimony	0.101 mg/L		0.1 mg/L	101%	85-115%			
TCLP Berylium         0.097 mg/L         0.1 mg/L         97%         85-115%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Chromium         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Lead         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%           LCSD         TCLP Arsenic         0.103 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Barium         0.102 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%           TCLP Cadmium         0.102 mg/L         0.1 mg/L         103%         85-115%         0.2%         0-20%           TCLP Barium         0.102 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TC		TCLP Arsenic	0.103 mg/L		0.1 mg/L	103%	85-115%			
TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Chromium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Lead         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         104%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Silver         0.102 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%           LCSD         TCLP Assenic         0.103 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Barium         0.102 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%           TCLP Berylium         0.099 mg/L         0.1 mg/L         102%         85-115%         0.4%         0-20%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         102%         85-115%         0.2%         0-20%           TCLP Chromium         0.102 mg/L         0.1 mg/L         101%         85-115%         0.5%         <		TCLP Barium	0.103 mg/L		0.1 mg/L	103%	85-115%			
TCLP Chromium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Lead         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         104%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Nickel         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%           TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Barium         0.102 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%           TCLP Berylium         0.099 mg/L         0.1 mg/L         102%         85-115%         0.2%         0-20%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Chromium         0.102 mg/L         0.1 mg/L         101%         85-115%         0.5%         0-20%           <		TCLP Berylium	0.097 mg/L		0.1 mg/L	97%	85-115%			
TCLP Lead0.100 mg/L0.1 mg/L100%85-115%TCLP Nickel0.103 mg/L0.1 mg/L104%85-115%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%TCLP Silver0.102 mg/L0.1 mg/L102%85-115%LCSDTCLP Antimony0.101 mg/L0.1 mg/L101%85-115%TCLP Barium0.102 mg/L0.1 mg/L103%85-115%0.2%TCLP Barium0.102 mg/L0.1 mg/L103%85-115%0.4%TCLP Barium0.102 mg/L0.1 mg/L102%85-115%0.4%TCLP Cadmium0.102 mg/L0.1 mg/L102%85-115%0.2%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%0.2%TCLP Chromium0.102 mg/L0.1 mg/L101%85-115%0.2%TCLP Chromium0.102 mg/L0.1 mg/L103%85-115%0.2%TCLP Lead0.100 mg/L0.1 mg/L103%85-115%0.2%TCLP Nickel0.100 mg/L0.1 mg/L100%85-115%0.2%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.2%TCLP Selenium0.102 mg/L0.1 mg/L104%85-115%0.2%		TCLP Cadmium	0.101 mg/L		0.1 mg/L	101%	85-115%			
TCLP Nickel0.103 mg/L0.1 mg/L104%85-115%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%TCLP Silver0.102 mg/L0.1 mg/L102%85-115%LCSDTCLP Antimony0.101 mg/L0.1 mg/L101%85-115%0.2%TCLP Arsenic0.103 mg/L0.1 mg/L103%85-115%0.4%0-20%TCLP Barium0.102 mg/L0.1 mg/L102%85-115%0.4%0-20%TCLP Berylium0.099 mg/L0.1 mg/L102%85-115%0.8%0-20%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Chromium0.102 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Lead0.100 mg/L0.1 mg/L103%85-115%0.5%0-20%TCLP Nickel0.100 mg/L0.1 mg/L100%85-115%0.1%0-20%TCLP Selenium0.102 mg/L0.1 mg/L104%85-115%0.1%0-20%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%0.2%0-20%		TCLP Chromium	0.102 mg/L		0.1 mg/L	102%	85-115%			
TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%TCLP Silver0.102 mg/L0.1 mg/L102%85-115%LCSDTCLP Antimony0.101 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Arsenic0.103 mg/L0.1 mg/L103%85-115%0.4%0-20%TCLP Barium0.102 mg/L0.1 mg/L102%85-115%0.4%0-20%TCLP Berylium0.099 mg/L0.1 mg/L102%85-115%0.8%0-20%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Chromium0.102 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Lead0.100 mg/L0.1 mg/L100%85-115%0.5%0-20%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.6%0-20%TCLP Selenium0.102 mg/L0.1 mg/L104%85-115%0.6%0-20%		TCLP Lead	0.100 mg/L		0.1 mg/L	100%	85-115%			
TCLP Silver         0.102 mg/L         0.1 mg/L         102%         85-115%           LCSD         TCLP Antimony         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Arsenic         0.103 mg/L         0.1 mg/L         103%         85-115%         0.4%         0-20%           TCLP Barium         0.102 mg/L         0.1 mg/L         102%         85-115%         0.8%         0-20%           TCLP Berylium         0.099 mg/L         0.1 mg/L         102%         85-115%         0.8%         0-20%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         99%         85-115%         0.2%         0-20%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%         0.2%         0-20%           TCLP Chromium         0.102 mg/L         0.1 mg/L         101%         85-115%         0.5%         0-20%           TCLP Lead         0.100 mg/L         0.1 mg/L         100%         85-115%         0.1%         0-20%           TCLP Nickel         0.104 mg/L         0.1 mg/L         104%         85-115%         0.6%         0-20%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%		TCLP Nickel	-		0.1 mg/L	104%	85-115%			
LCSD       TCLP Antimony       0.101 mg/L       0.1 mg/L       101%       85-115%       0.2%       0-20%         TCLP Arsenic       0.103 mg/L       0.1 mg/L       103%       85-115%       0.4%       0-20%         TCLP Barium       0.102 mg/L       0.1 mg/L       102%       85-115%       0.8%       0-20%         TCLP Berylium       0.099 mg/L       0.1 mg/L       102%       85-115%       0.2%       0-20%         TCLP Cadmium       0.101 mg/L       0.1 mg/L       99%       85-115%       0.2%       0-20%         TCLP Cadmium       0.101 mg/L       0.1 mg/L       101%       85-115%       0.2%       0-20%         TCLP Chromium       0.102 mg/L       0.1 mg/L       101%       85-115%       0.2%       0-20%         TCLP Lead       0.100 mg/L       0.1 mg/L       100%       85-115%       0.1%       0-20%         TCLP Nickel       0.104 mg/L       0.1 mg/L       104%       85-115%       0.6%       0-20%         TCLP Selenium       0.102 mg/L       0.1 mg/L       104%       85-115%       0.2%       0-20%		TCLP Selenium	0.102 mg/L		0.1 mg/L	102%	85-115%			
TCLP Arsenic0.103 mg/L0.1 mg/L103%85-115%0.4%0-20%TCLP Barium0.102 mg/L0.1 mg/L102%85-115%0.8%0-20%TCLP Berylium0.099 mg/L0.1 mg/L99%85-115%2.1%0-20%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Chromium0.102 mg/L0.1 mg/L101%85-115%0.5%0-20%TCLP Lead0.100 mg/L0.1 mg/L100%85-115%0.1%0-20%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.6%0-20%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%0.2%0-20%		TCLP Silver	0		0.1 mg/L	102%	85-115%			
TCLP Barium0.102 mg/L0.1 mg/L102%85-115%0.8%0-20%TCLP Berylium0.099 mg/L0.1 mg/L99%85-115%2.1%0-20%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Chromium0.102 mg/L0.1 mg/L103%85-115%0.5%0-20%TCLP Lead0.100 mg/L0.1 mg/L100%85-115%0.1%0-20%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.6%0-20%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%0.2%0-20%	LCSD	TCLP Antimony	0.101 mg/L		0.1 mg/L	101%	85-115%	0.2%	0-20%	
TCLP Berylium0.099 mg/L0.1 mg/L99%85-115%2.1%0-20%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Chromium0.102 mg/L0.1 mg/L103%85-115%0.5%0-20%TCLP Lead0.100 mg/L0.1 mg/L100%85-115%0.1%0-20%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.6%0-20%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%0.2%0-20%			0.103 mg/L		0.1 mg/L	103%	85-115%	0.4%	0-20%	
TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%0.2%0-20%TCLP Chromium0.102 mg/L0.1 mg/L103%85-115%0.5%0-20%TCLP Lead0.100 mg/L0.1 mg/L100%85-115%0.1%0-20%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.6%0-20%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%0.2%0-20%		TCLP Barium	0.102 mg/L				85-115%	0.8%	0-20%	
TCLP Chromium0.102 mg/L0.1 mg/L103%85-115%0.5%0-20%TCLP Lead0.100 mg/L0.1 mg/L100%85-115%0.1%0-20%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.6%0-20%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%0.2%0-20%		TCLP Berylium	0.099 mg/L		-	99%	85-115%	2.1%	0-20%	
TCLP Lead0.100 mg/L0.1 mg/L100%85-115%0.1%0-20%TCLP Nickel0.104 mg/L0.1 mg/L104%85-115%0.6%0-20%TCLP Selenium0.102 mg/L0.1 mg/L102%85-115%0.2%0-20%			-		-					
TCLP Nickel         0.104 mg/L         0.1 mg/L         104%         85-115%         0.6%         0-20%           TCLP Selenium         0.102 mg/L         0.1 mg/L         102%         85-115%         0.2%         0-20%			-		-	103%		0.5%	0-20%	
TCLP Selenium 0.102 mg/L 0.1 mg/L 102% 85-115% 0.2% 0-20%		TCLP Lead	0.100 mg/L		0.1 mg/L	100%	85-115%	0.1%	0-20%	
			-		-	104%	85-115%	0.6%	0-20%	
TCLP Silver 0.102 mg/L 0.1 mg/L 102% 85-115% 0.0% 0-20%			0.102 mg/L		0.1 mg/L	102%	85-115%	0.2%	0-20%	
		TCLP Silver	0.102 mg/L		0.1 mg/L	102%	85-115%	0.0%	0-20%	





## **QC Summary**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatc	hID META_09445_L								
MS	TCLP Antimony	0.507 mg/L	ND	0.5 mg/L	101%	80-120%			
	TCLP Arsenic	0.516 mg/L	ND	0.5 mg/L	103%	80-120%			
	TCLP Barium	0.561 mg/L	0.049 mg/L	0.5 mg/L	102%	80-120%			
	TCLP Berylium	0.506 mg/L	ND	0.5 mg/L	101%	80-120%			
	TCLP Cadmium	0.496 mg/L	ND	0.5 mg/L	99%	80-120%			
	TCLP Chromium	0.509 mg/L	ND	0.5 mg/L	102%	80-120%			
	TCLP Lead	0.495 mg/L	ND	0.5 mg/L	99%	80-120%			
	TCLP Nickel	0.580 mg/L	0.052 mg/L	0.5 mg/L	106%	80-120%			
	TCLP Selenium	0.528 mg/L	ND	0.5 mg/L	106%	80-120%			
	TCLP Silver	0.508 mg/L	ND	0.5 mg/L	102%	80-120%			
MSD	TCLP Antimony	0.501 mg/L	ND	0.5 mg/L	100%	80-120%	1.2%	0-20%	
	TCLP Arsenic	0.498 mg/L	ND	0.5 mg/L	100%	80-120%	3.6%	0-20%	
	TCLP Barium	0.545 mg/L	0.049 mg/L	0.5 mg/L	99%	80-120%	2.8%	0-20%	
	TCLP Berylium	0.504 mg/L	ND	0.5 mg/L	101%	80-120%	0.3%	0-20%	
	TCLP Cadmium	0.504 mg/L	ND	0.5 mg/L	101%	80-120%	1.6%	0-20%	
	TCLP Chromium	0.499 mg/L	ND	0.5 mg/L	100%	80-120%	2.1%	0-20%	
	TCLP Lead	0.490 mg/L	ND	0.5 mg/L	98%	80-120%	1.0%	0-20%	
	TCLP Nickel	0.570 mg/L	0.052 mg/L	0.5 mg/L	104%	80-120%	1.7%	0-20%	
	TCLP Selenium	0.512 mg/L	ND	0.5 mg/L	102%	80-120%	3.1%	0-20%	
	TCLP Silver	0.508 mg/L	ND	0.5 mg/L	102%	80-120%	0.1%	0-20%	
QCBatc	hID 1005_03629AS								
Blank	TPH (C 6 to C12)	ND mg/Kg							
	TPH (C12 to C28)	ND mg/Kg							
	TPH (C28 to C35)	ND mg/Kg							
	TPH (C6 to C35)	ND mg/Kg							
Surro	gate	Result		Spike Conc	Recovery	<b>Rec Limits</b>			
	1-chlorooctane	111 mg/Kg		100 mg/Kg	111%	70-130%			
	o-Terphenyl	121 mg/Kg		100 mg/Kg	121%	70-130%			
LCS	TPH (C6 to C35)	110 mg/Kg		100 mg/Kg	110%	75-125%			
Surro	gate	Result		Spike Conc	Recovery	<b>Rec Limits</b>			
	1-chlorooctane	96.9 mg/Kg		100 mg/Kg	97%	70-130%			
	o-Terphenyl	105 mg/Kg		100 mg/Kg	105%	70-130%			
LCSD	TPH (C6 to C35)	117 mg/Kg		100 mg/Kg	117%	75-125%	6.2%	0-20%	
Surro	gate	Result		Spike Conc	Recovery	Rec Limits			
	1-chlorooctane	102 mg/Kg		100 mg/Kg	102%	70-130%			
	o-Terphenyl	112 mg/Kg		100 mg/Kg	112%	70-130%			
MS	TPH (C6 to C35)	116 mg/Kg		100 mg/Kg	116%	75-125%			
Surro	, ,	Result		Spike Conc	Recovery	Rec Limits			
	1-chlorooctane	107 mg/Kg		100 mg/Kg	107%	70-130%			
	o-Terphenyl	116 mg/Kg		100 mg/Kg	116%	70-130%			
MSD	TPH (C6 to C35)	120 mg/Kg		100 mg/Kg	120%	75-125%	3.4%	0-20%	
11100		120 mg/Ng		100 mg/rtg	12070	10-12070	0.770	0-2070	





## **QC Summary**

		Reference			Rec		RPD	
QC Type Parameter	Result	Value	Spike Conc	Rec	Limits	RPD	Limits	Flags
QCBatchID 1005_03629AS								
Surrogate	Result		Spike Conc	Recovery	Rec Limits			
1-chlorooctane	109 mg/Kg		100 mg/Kg	109%	70-130%			
o-Terphenyl	117 mg/Kg		100 mg/Kg	117%	70-130%			





## **Case Narrative**

Project Name:	Retaining Wall
S-12	Sample should be analyzed as soon as possible and preferably at the time of collection.
ppm	Parts per million = mg/Kg or mg/L
ppb	Parts per billion = ug/Kg or ug/L
MQL	Method quantitation limit
SDL	Sample detection limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions)
SQL	Sample quantitation limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilution
ND	Analyte not detected at or above SQL
LCS/LCSD	Laboratory control spike / Laboratory control spike duplicate
MS/MSD	Matrix spike / Matrix spike duplicate
RPD	Relative percent difference
Sub	Analysis performed by subcontract laboratory
*	Refer to QC section

Solid sample results reported on a dry weight basis for all applicable analysis, unless otherwise noted. Dry weight calculations based upon % solids obtained as outlined in EPA method 5035 section 7.5

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Oxidor Laboratories, LLC certifies to the best of its knowledge that all results contained in this report are consistent with the National Environmental Laboratory Accreditation Program, except where otherwise noted.





# **Sample Preservation Verification**

### Project Name: Retaining Wall

Receipt temp: 1.3 °C o	on Ice		
Receipt method: Client			
Custody seal intact: Not Pre	sent		All samples / labels received intact: Yes
Customer Sample ID: SP-02			Collected By: Brent Vollmar
Oxidor Sample ID: 120904	35-001		Collector Affiliation: W&M Environmental Group, In
Collected: 09/21/1	2 10:45		Matrix: Solid
Bottle Type	<u>Count</u>	Collection Method	Indicated Parts / Interval <u>Preservation</u> <u>pH</u>
4 oz Glass Jar	3	Composite	Temp -
Customer Sample ID: SP-03			Collected By: Brent Vollmar
Oxidor Sample ID: 120904	35-002		Collector Affiliation: W&M Environmental Group, Ir
Collected: 09/21/1	2 10:52		Matrix: Solid
			Indicated
Bottle Type	<u>Count</u>	Collection Method	Parts / Interval Preservation pH
4 oz Glass Jar	3	Composite	Temp -

Sample conditions at time of receipt at laboratory verified in part or in whole by:

A.B.

2014 EXIDE APAR PAGE 2156 OF 3116





Order ID: 12090435 Date: 9/24/2012 Page 10 of 11

# Chain of Custody

# PROJECT DESCRIPTION: Retaining Wall

	OXIDOR Laboratories,	LLC											Ch	ain	of (	Custo	ody	Re	eco	ord
	1825 East Plano Parkway. #160 Plano. TX: 75074-8570 P: 972 424.6422 F: 972.424.650 customerservice@oxidor.com				<b>n</b> e	J			· · ·						I	Page	1	_ 0	f	<u>t</u>
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Contact Name	FRANK CLARK			1		- 77	2,0	150	- 0	$\omega_{s}$										
Contact Email	clark wh-m.com			San	npler	Name	°ß.	Vo	u,	мA	ĸ		Sar	npler	Compa	<sup>any</sup>	J&I	М		
Phone (972)	509-9/ // Fax			San	npler	Signa	ature	ß	e.	-	2	L	Sai	le.	<u> </u>	_				
Send Invoice To (C	Inly if Different from above)			Mat	rix Co	odes			Spec	aal Ir	nstruc	ctions	•							
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City	State	Zip		2 - 1	-INO₃	5 -	NaC		Plea	ase c	onfin	m cor	ditional	reque	ests pric	or to add	lition	al ana	alysia	3
Contact Name					H₂SO Other		Ice						Req	ues	ted A	Analys	is			
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Order ID	Customer Sample ID	Jampi			Conta	ainer	Pres Code	(C)omp / (G)rab	/ Inte		TCLP	2		Hdr	Ĭ			fotal Solids / Dry Weight	aboratory	Tato
12090435		Date	Time	Matri	# o[ (	Container Type	Pres	0	Parts /	Hold	۴	S <sup>b</sup>		1	9			Fotal	Labo	Chro
001	1 SP-02	9/21/12	10:45	Matrix	3	Container Lype	6	6			4	X		X	X			X	X	
	2 SP-03	9/21/12		S		G	6	C			X	$\mathbf{\nabla}$		X	X			V	¥	
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Order ID: 12090435 Date: 9/24/2012 Page 11 of 11

# Chain of Custody

### PROJECT DESCRIPTION: Retaining Wall

						Page 1 of 1
Ashle	y Bishop	· · · · · · · · · · · · · · · · · · ·	1860 VEVIE	1000 Addubbarra		2090435
From: Sent: To: Subjec		21, 2012 12:08 PM		)		
Samples metals sa	dropped off at 11:53 amples are TCLP meta	9-21-12 for project  s   did not mark	#: 112.053.00 it for Sb, Ni, o	13 Just wante r Be samples	d to make sure v are ASAP TAT	you know that all
Thanks,						
Brent Vo. 972.509.9						
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Order ID: 12100625 Date: 10/24/2012 Page 1 of 11

Wednesday, October 24, 2012

W&M Environmental Group, Inc. Frank Clark 906 E. 18th, Suite 100 Plano, TX 75074 Tel: (972) 516-0300 Fax: (972) 516-4145

Re: Project Name: Retaining Wall Project Number: 112.052.003 Project Location: 7471 South Fifth Street, Frisco, TX

Oxidor received 3 solid sample(s). The analysis performed were as follows:

<u>Sample</u>	Sample ID	<u>Matrix</u>	Collected	Analysis
12100625-001	SP-04	Solid	10/22/2012 12:20	Dry Weight, pH, TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver, Total Petroleum Hydrocarbons
12100625-002	SP-05	Solid	10/22/2012 12:25	Dry Weight, pH, TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver, Total Petroleum Hydrocarbons
12100625-003	SP-06	Solid	10/22/2012 12:30	Dry Weight, pH, TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver, Total Petroleum Hydrocarbons

Respectfully submitted,

x J -

Charles Brungardt President





# **Analytical Report**

Customer Sampl	e ID: SP-04	4						
Oxidor Sampl	e ID: 1210	0625-001			Matrix: S	olid		
Sample Rece	ived: 10/22	2/2012		Sam	ole Collected: 1	<b>0/22/2012</b>	12:20	
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
<b>General Chemistry</b>								
% Solids	0.1	0.1	84.0	%	10/22/12 20:00	Dry Weight	M.B.	
рН	0.1	0.1	8.2	pH Units	10/22/12 21:00	9045	M.B.	S-12
Metals								
Digested by method 3005A on 1	0/23/12 at 10:55							
TCLP Antimony	0.05	0.050	0.116	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Barium	0.05	0.050	0.137	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Cadmium	0.01	0.010	0.267	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Lead	0.05	0.487	12.5	mg/L	10/23/12 15:21	6020	K.O.	D-1
TCLP Nickel	0.05	0.050	ND	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	10/23/12 15:15	6020	K.O.	
TCLP Silver	0.01	0.010	ND	mg/L	10/23/12 15:15	6020	K.O.	
Digested by method 7470A on 1	0/23/12 at 10:15							
TCLP Mercury	0.001	0.001	ND	mg/L	10/23/12 17:11	7470A	T.C.	
<b>Total Petroleum Hy</b>	drocarbons							
Prepared by method TX 1005 or	n 10/22/12 at 11:00							
TPH (C 6 to C12)	25	29.8	ND	mg/Kg	10/23/12 01:04	TX 1005	K.J.	
TPH (C12 to C28)	25	29.8	ND	mg/Kg	10/23/12 01:04	TX 1005	K.J.	
TPH (C28 to C35)	25	29.8	ND	mg/Kg	10/23/12 01:04	TX 1005	K.J.	
TPH (C6 to C35)	25	29.8	ND	mg/Kg	10/23/12 01:04	TX 1005	K.J.	
Surrogate			Result	Units	Spike Conc	Recovery	Rec Limits	
1-chlorooctane			115	mg/Kg	100 mg/Kg	115%	70-130%	
o-Terphenyl			107	mg/Kg	100 mg/Kg	107%	70-130%	
Sample Prep								
TCLP Metals Extrac	tion							
TCLP Extraction					10/22/12 17:40	1311	K.O.	





# **Analytical Report**

Customer Sample ID Oxidor Sample ID Sample Received	: 12100	625-002		Samr	Matrix: Sole Collected: 1		12.25	
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
% Solids	0.1	0.1	88.2	%	10/22/12 20:00	Dry Weight	M.B.	
рН	0.1	0.1	8.2	pH Units	10/22/12 21:00	9045	M.B.	S-12
Metals								
Digested by method 3005A on 10/23/12	at 10:55							
TCLP Antimony	0.05	0.050	0.082	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Barium	0.05	0.050	0.072	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Cadmium	0.01	0.010	0.039	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Lead	0.05	0.050	0.079	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Nickel	0.05	0.050	ND	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	10/23/12 15:27	6020	K.O.	
TCLP Silver	0.01	0.010	ND	mg/L	10/23/12 15:27	6020	K.O.	
Digested by method 7470A on 10/23/12	at 10:15			-				
TCLP Mercury	0.001	0.001	ND	mg/L	10/23/12 17:11	7470A	T.C.	
Total Petroleum Hydroc	arbons							
Prepared by method TX 1005 on 10/22/	12 at 11:00							
TPH (C 6 to C12)	25	28.3	ND	mg/Kg	10/23/12 02:48	TX 1005	K.J.	
TPH (C12 to C28)	25	28.3	110	mg/Kg	10/23/12 02:48	TX 1005	K.J.	
TPH (C28 to C35)	25	28.3	33.8	mg/Kg	10/23/12 02:48	TX 1005	K.J.	
TPH (C6 to C35)	25	28.3	143.8	mg/Kg	10/23/12 02:48	TX 1005	K.J.	
Surrogate			Result	Units	Spike Conc	Recovery	Rec Limits	
1-chlorooctane			119	mg/Kg	100 mg/Kg	119%	70-130%	
o-Terphenyl			121	mg/Kg	100 mg/Kg	121%	70-130%	
Sample Prep								
TCLP Metals Extraction								
TCLP Extraction					10/22/12 17:40	1311	K.O.	





# **Analytical Report**

Customer Sample	e ID: SP-0	6						
Oxidor Sample	e ID: 1210	0625-003			Matrix: S	olid		
Sample Recei	ved: 10/22	2/2012		Samp	ole Collected: 1	0/22/2012	12:30	
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
% Solids	0.1	0.1	81.7	%	10/22/12 20:00	Dry Weight	M.B.	
рН	0.1	0.1	8.3	pH Units	10/22/12 21:00	9045	M.B.	S-12
Metals								
Digested by method 3005A on 10	0/23/12 at 10:55							
TCLP Antimony	0.05	0.050	0.083	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Barium	0.05	0.050	0.083	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Cadmium	0.01	0.010	0.052	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Lead	0.05	0.050	0.287	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Nickel	0.05	0.050	ND	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	10/23/12 15:46	6020	K.O.	
TCLP Silver	0.01	0.010	ND	mg/L	10/23/12 15:46	6020	K.O.	
Digested by method 7470A on 10	0/23/12 at 10:15			-				
TCLP Mercury	0.001	0.001	ND	mg/L	10/23/12 17:12	7470A	T.C.	
<b>Total Petroleum Hyd</b>	drocarbons							
Prepared by method TX 1005 on	10/22/12 at 11:00							
TPH (C 6 to C12)	25	30.6	ND	mg/Kg	10/23/12 01:57	TX 1005	K.J.	
TPH (C12 to C28)	25	30.6	ND	mg/Kg	10/23/12 01:57	TX 1005	K.J.	
TPH (C28 to C35)	25	30.6	ND	mg/Kg	10/23/12 01:57	TX 1005	K.J.	
TPH (C6 to C35)	25	30.6	ND	mg/Kg	10/23/12 01:57	TX 1005	K.J.	
Surrogate			Result	Units	Spike Conc	Recovery	Rec Limits	
1-chlorooctane			116	mg/Kg	100 mg/Kg	116%	70-130%	
o-Terphenyl				mg/Kg	100 mg/Kg	106%	70-130%	
Sample Prep				0 0	0.0			
TCLP Metals Extract	tion							
TCLP Extraction					10/22/12 17:40	1311	K.O.	
					10/22/12 17.40	1011	N.O.	





### Sample Cross Reference

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-04	12100625-001	Total Petroleum Hydrocarbons	TX 1005	1005_05129BS
		Dry Weight	Dry Weight	DW08326_S
		TCLP Mercury	7470A	MERC_10723_L
		TCLP Silver	6020	META_01046_L
		TCLP Nickel	6020	META_01046_L
		TCLP Lead	6020	META_01046_L
		TCLP Chromium	6020	META_01046_L
		TCLP Cadmium	6020	META_01046_L
		TCLP Berylium	6020	META_01046_L
		TCLP Barium	6020	META_01046_L
		TCLP Arsenic	6020	META_01046_L
		TCLP Antimony	6020	META_01046_L
		TCLP Selenium	6020	META_01046_L
		рН	9045	PH07315_S
SP-05	12100625-002	Total Petroleum Hydrocarbons	TX 1005	1005_05129BS
		Dry Weight	Dry Weight	DW08326_S
		TCLP Mercury	7470A	MERC_10723_L
		TCLP Chromium	6020	META_01046_L
		TCLP Antimony	6020	META_01046_L
		TCLP Arsenic	6020	META_01046_L
		TCLP Barium	6020	META_01046_L
		TCLP Lead	6020	META_01046_L
		TCLP Nickel	6020	META_01046_L
		TCLP Selenium	6020	META_01046_L
		TCLP Silver	6020	META_01046_L
		TCLP Cadmium	6020	META_01046_L
		TCLP Berylium	6020	META_01046_L
		рН	9045	PH07315_S
SP-06	12100625-003	Total Petroleum Hydrocarbons	TX 1005	1005_05129BS
		Dry Weight	Dry Weight	DW08326_S
		TCLP Mercury	7470A	MERC_10723_L
		TCLP Antimony	6020	META_01046_L
		TCLP Silver	6020	META_01046_L
		TCLP Selenium	6020	META_01046_L
		TCLP Nickel	6020	META_01046_L
		TCLP Lead	6020	META_01046_L
		TCLP Chromium	6020	META_01046_L
		TCLP Cadmium	6020	META_01046_L
		TCLP Berylium	6020	META_01046_L
		TCLP Arsenic	6020	 META_01046_L
		TCLP Barium	6020	META_01046_L
		рН	9045	PH07315_S





### **QC Summary**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatch	hID DW08326_S								
Replicate	% Solids	84.8 %	84.0 %				0.9%	0-20%	
QCBatch	hID PH07315_S								
LCS	<u>рН</u>	7.0 pH Units		7 pH Units	100%	99-102%			
LCSD	pH	7.0 pH Units		7 pH Units	100%	99-102%	0.3%	0-25%	
Replicate	pH		8.2 pH Units				0.1%	0-10%	
QCBatch	hID MERC 10723 L								
Blank	TCLP Mercury	ND mg/L							
LCS	TCLP Mercury	0.005 mg/L		0.005 mg/L	98%	85-115%			
LCSD	TCLP Mercury	0.005 mg/L		0.005 mg/L	105%	85-115%	4.6%	0-25%	
MS	TCLP Mercury	0.021 mg/L	ND	0.02 mg/L	103%	80-120%			
MSD	TCLP Mercury	0.022 mg/L	ND	0.02 mg/L	109%	80-120%	4.1%	0-25%	
QCBatch	hID META_01046_L								
Blank	TCLP Antimony	ND mg/L							
	TCLP Arsenic	ND mg/L							
	TCLP Barium	ND mg/L							
	TCLP Berylium	ND mg/L							
	TCLP Cadmium	ND mg/L							
	TCLP Chromium	ND mg/L							
	TCLP Lead	ND mg/L							
	TCLP Nickel	ND mg/L							
	TCLP Selenium	ND mg/L							
	TCLP Silver	ND mg/L							
LCS	TCLP Antimony	0.098 mg/L		0.1 mg/L	98%	85-115%			
	TCLP Arsenic	0.101 mg/L		0.1 mg/L	101%	85-115%			
	TCLP Barium	0.100 mg/L		0.1 mg/L	100%	85-115%			
	TCLP Berylium	0.100 mg/L		0.1 mg/L	100%	85-115%			
	TCLP Cadmium	0.100 mg/L		0.1 mg/L	100%	85-115%			
	TCLP Chromium	0.099 mg/L		0.1 mg/L	99%	85-115%			
	TCLP Lead	0.096 mg/L		0.1 mg/L	96%	85-115%			
	TCLP Nickel	0.101 mg/L		0.1 mg/L	101%	85-115%			
	TCLP Selenium	0.100 mg/L		0.1 mg/L	100%	85-115%			
	TCLP Silver	0.099 mg/L		0.1 mg/L	99%	85-115%			
LCSD	TCLP Antimony	0.100 mg/L		0.1 mg/L	100%	85-115%	2.1%	0-20%	
	TCLP Arsenic	0.102 mg/L		0.1 mg/L	102%	85-115%	1.3%	0-20%	
	TCLP Barium	0.102 mg/L		0.1 mg/L	102%	85-115%	2.1%	0-20%	
	TCLP Berylium	0.098 mg/L		0.1 mg/L	98%	85-115%	2.5%	0-20%	
	TCLP Cadmium	0.102 mg/L		0.1 mg/L	102%	85-115%	1.5%	0-20%	
	TCLP Chromium	0.100 mg/L		0.1 mg/L	100%	85-115%	0.8%	0-20%	
	TCLP Lead	0.099 mg/L		0.1 mg/L	99%	85-115%	2.6%	0-20%	
	TCLP Nickel	0.102 mg/L		0.1 mg/L	102%	85-115%	1.2%	0-20%	
	TCLP Selenium	0.101 mg/L		0.1 mg/L	101%	85-115%	1.2%	0-20%	
	TCLP Silver	0.101 mg/L		0.1 mg/L	101%	85-115%	2.1%	0-20%	





### **QC Summary**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatch	nID META_01046_L								
MS	TCLP Antimony	0.622 mg/L	0.116 mg/L	0.5 mg/L	101%	80-120%			
	TCLP Arsenic	0.543 mg/L	ND	0.5 mg/L	109%	80-120%			
	TCLP Barium	0.652 mg/L	0.137 mg/L	0.5 mg/L	103%	80-120%			
	TCLP Berylium	0.497 mg/L	ND	0.5 mg/L	99%	80-120%			
	TCLP Cadmium	0.761 mg/L	0.267 mg/L	0.5 mg/L	99%	80-120%			
	TCLP Chromium	0.510 mg/L	ND	0.5 mg/L	102%	80-120%			
	TCLP Lead	13.1 mg/L	12.5 mg/L	0.5 mg/L	120%	80-120%			
	TCLP Nickel	0.564 mg/L	ND	0.5 mg/L	113%	80-120%			
	TCLP Selenium	0.501 mg/L	ND	0.5 mg/L	100%	80-120%			
	TCLP Silver	0.491 mg/L	ND	0.5 mg/L	98%	80-120%			
MSD	TCLP Antimony	0.615 mg/L	0.116 mg/L	0.5 mg/L	100%	80-120%	1.2%	0-20%	
	TCLP Arsenic	0.547 mg/L	ND	0.5 mg/L	109%	80-120%	0.7%	0-20%	
	TCLP Barium	0.652 mg/L	0.137 mg/L	0.5 mg/L	103%	80-120%	0.1%	0-20%	
	TCLP Berylium	0.494 mg/L	ND	0.5 mg/L	99%	80-120%	0.7%	0-20%	
	TCLP Cadmium	0.756 mg/L	0.267 mg/L	0.5 mg/L	98%	80-120%	0.6%	0-20%	
	TCLP Chromium	0.495 mg/L	ND	0.5 mg/L	99%	80-120%	2.9%	0-20%	
	TCLP Lead	13.1 mg/L	12.5 mg/L	0.5 mg/L	115%	80-120%	0.2%	0-20%	
	TCLP Nickel	0.546 mg/L	ND	0.5 mg/L	109%	80-120%	3.2%	0-20%	
	TCLP Selenium	0.509 mg/L	ND	0.5 mg/L	102%	80-120%	1.6%	0-20%	
	TCLP Silver	0.491 mg/L	ND	0.5 mg/L	98%	80-120%	0.0%	0-20%	
QCBatch	nID 1005_05129BS								
Blank	TPH (C 6 to C12)	ND mg/Kg							
	TPH (C12 to C28)	ND mg/Kg							
	TPH (C28 to C35)	ND mg/Kg							
	TPH (C6 to C35)	ND mg/Kg							
Surrog		Result		Spike Conc	Recovery	Rec Limits			
-	1-chlorooctane	123 mg/Kg		100 mg/Kg	123%	70-130%			
	o-Terphenyl	112 mg/Kg		100 mg/Kg	112%	70-130%			
LCS	TPH (C6 to C35)	115 mg/Kg		100 mg/Kg	115%	75-125%			
Surrog		Result		Spike Conc	Recovery	Rec Limits			
	1-chlorooctane	120 mg/Kg		100 mg/Kg	120%	70-130%			
	o-Terphenyl	108 mg/Kg		100 mg/Kg	108%	70-130%			
LCSD	TPH (C6 to C35)	120 mg/Kg		100 mg/Kg	120%	75-125%	4.3%	0-20%	
Surroc	( , , , , , , , , , , , , , , , , , , ,	Result		Spike Conc	Recovery		4.070	0 2070	
ounog	1-chlorooctane	122 mg/Kg		100 mg/Kg	122%	70-130%			
	o-Terphenyl	114 mg/Kg		100 mg/Kg 100 mg/Kg	122 %	70-130%			
MC									
MS	TPH (C6 to C35)	119 mg/Kg	ND	100 mg/Kg Spike Cone	119% Booovory	75-125% Boo Limito			
Surrog	•	Result		Spike Conc	Recovery	Rec Limits			
	1-chlorooctane	121 mg/Kg		100 mg/Kg	121%	70-130%			
	o-Terphenyl	115 mg/Kg		100 mg/Kg	115%	70-130%	4 70/	0.000/	
MSD	TPH (C6 to C35)	121 mg/Kg	ND	100 mg/Kg	121%	75-125%	1.7%	0-20%	





## **QC Summary**

	F	Reference			Rec		RPD	
QC Type Parameter	Result	Value	Spike Conc	Rec	Limits	RPD	Limits	Flags
QCBatchID 1005_05129BS								
Surrogate	Result		Spike Conc	Recovery	Rec Limits			
1-chlorooctane	122 mg/Kg		100 mg/Kg	122%	70-130%			
o-Terphenyl	106 mg/Kg		100 mg/Kg	106%	70-130%			





Draiget Normey Detaining Well

## **Case Narrative**

Project Name:	Retaining Wall
D-1	Elevated reporting limit(s) due to dilution. Dilution resulted from sample matrix interference, high target analyte(s), high non- target analyte(s) or a combination thereof.
S-12	Sample should be analyzed as soon as possible and preferably at the time of collection.
ppm	Parts per million = mg/Kg or mg/L
ppb	Parts per billion = ug/Kg or ug/L
MQL	Method quantitation limit
SDL	Sample detection limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions)
SQL	Sample quantitation limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilution
ND	Analyte not detected at or above SQL
LCS/LCSD	Laboratory control spike / Laboratory control spike duplicate
MS/MSD	Matrix spike / Matrix spike duplicate
RPD	Relative percent difference
Sub	Analysis performed by subcontract laboratory
*	Refer to QC section

Solid sample results reported on a dry weight basis for all applicable analysis, unless otherwise noted. Dry weight calculations based upon % solids obtained as outlined in EPA method 5035 section 7.5

This report is intended only for the use of W&M Environmental Group, Inc. and may contain information that is privileged and confidential. It may not be reproduced in full (or in part) without the expressed written permission of W&M Environmental Group, Inc. and Oxidor Laboratories, LLC.

Oxidor Laboratories, LLC certifies to the best of its knowledge that all results contained in this report are consistent with the National Environmental Laboratory Accreditation Program, except where otherwise noted.





# **Sample Preservation Verification**

### Project Name: Retaining Wall

Receipt temp: 2.	7 °C on Ice			
Receipt method: C	lient			
Custody seal intact: N	ot Present		All samples / labels received intact: Yes	5
Customer Sample ID:	SP-04		Collected By: Nick Foreman	
Oxidor Sample ID: 1	2100625-001		Collector Affiliation: W&M Environmental Group, Ir	nc.
Collected: 1	0/22/12 12:20		Matrix: Solid	
			Indicated	
Bottle Type	<u>Count</u>	Collection Method	Parts / Interval Preservation pH	
4 oz Glass Jar	3	Composite	Temp -	
Customer Sample ID:	SP-05		Collected By: Nick Foreman	
Oxidor Sample ID:	2100625-002		Collector Affiliation: W&M Environmental Group, Ir	nc.
Collected: 1	0/22/12 12:25		Matrix: Solid	
			Indicated	
Bottle Type	<u>Count</u>	Collection Method	Parts / Interval Preservation pH	
4 oz Glass Jar	3	Composite	Temp -	
Customer Sample ID:	SP-06		Collected By: Nick Foreman	
Oxidor Sample ID: 1	2100625-003		Collector Affiliation: W&M Environmental Group, Ir	nc.
Collected: 1	0/22/12 12:30		Matrix: Solid	
			Indicated	
Bottle Type	<u>Count</u>	Collection Method	Parts / Interval Preservation pH	
4 oz Glass Jar	3	Composite	Temp -	

Sample conditions at time of receipt at laboratory verified in part or in whole by:

L.J.

2014 EXIDE APAR PAGE 2168 OF 3116





Order ID: 12100625 Date: 10/24/2012 Page 11 of 11

# Chain of Custody

# PROJECT DESCRIPTION: Retaining Wall

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# **OXIDOR Laboratory Review Checklist Cover Page**

# Project Name: 112.052.003 Retaining Wall

7471 South Fifth Street, Frisco, TX

### OXIDOR Job Number: 12110104 W&M Environmental Group, Inc.

### This data package consists of:

X This signature page, the laboratory review checklist, and the following reportable data:

- X R1 Field chain-of-custody documentation;
- X R2 Sample identification cross-reference;
- **R3** Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with TNI Standard Module 2, Section 5.10
    - b) dilution factors,
    - c) preparation methods,
    - d) cleanup methods, and
    - e) if required for the project, tentatively identified compounds (TICs);
- **XR4** Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits;
- XR5 Test reports/summary forms for blank samples;
- **XR6** Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits;
- **XR7** Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits;
- **XR8** Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates;
- X R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- X **R10** Other problems or anomalies.
- X The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.
- **Release Statement**: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Charles Brungardt

Name

NON R,	
Cat 12 J-	President
Signature 🔾	Official Title

November 7, 2012 Date



#### Laboratory Review Checklist: Reportable Data Laboratory Name: OXIDOR Laboratories, LLC LRC Date: November 7, 2012 Project Name: 112.052.003 Retaining Wall 12110104 W&M Environmental Group, Inc. Laboratory Job Number: Reviewer Name: James A. Narens, III QC Batch Number(s): See Cross-reference List #1 $A^2$ Description No NA<sup>3</sup> $NR^4$ ER#<sup>5</sup> Yes **R1** OI Chain-of-Custody (C-O-C) Х Did samples meet the laboratory's standard conditions of sample acceptability upon receipt? X Were all departures from standard conditions described in an exception report? **R2** OI Sample Quality Control (QC) and identification Are all field sample ID numbers cross-referenced to the laboratory ID numbers? Х Х Are all laboratory ID numbers cross-referenced to the corresponding QC data? **R3** OI Test reports Х ER#1 Were all samples prepared and analyzed within holding times? Х Other than those results < MDL, were all other raw values bracketed by calibration standards? Х Were calculations checked by a peer or supervisor? Х Were all analyte identifications checked by a peer or supervisor? Х Were sample quantitation limits reported for all analytes not detected? Х Were all results for soil and sediment samples reported on a dry weight basis? Х Were % moisture (or solids) reported for all soil and sediment samples? Х If required for the project, TICs reported? **R4** 0 Surrogate recovery data Were surrogates added prior to extraction? Х Were surrogate recoveries in all samples within the laboratory QC limits? Х Test reports/summary forms for blank samples **R5** OI Х Were appropriate type(s) of blanks analyzed? Were blanks analyzed at the required frequency? Х Were method blanks taken through the entire analytical process, including preparation and, if Х applicable, cleanup procedures? Х Were blank concentrations < MQL? **R6** OI Laboratory Control Samples (LCS) Were all COCs included in the LCS? Х Х Was each LCS taken through the entire analytical procedure, including prep and cleanup steps? Х Were LCSs analyzed at the required frequency? Х Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Х Was the LCSD RPD within QC limits? **R7** OI Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data Х Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency? Х Were MS (and MSD, if applicable) %Rs within the laboratory QC limits? X ER#2 Х Were MS/MSD RPDs within laboratory QC limits? **R8** OI Analytical duplicate data Х Were appropriate analytical duplicates analyzed for each matrix? Were analytical duplicates analyzed at the appropriate frequency? Х Х Were RPDs or relative standard deviations within the laboratory QC limits? **R9** OI Method Quantitation Limits (MQLs) Are the MQLs for each method analyte included in the laboratory data package? Х Do the MQLs correspond to the concentration of the lowest non-zero calibration standard? Х Are unadjusted MQLs included in the laboratory data package? Х Does the detectability check sample (DCS) data document the laboratory's capability to detect the Х COCs at the MQL used to calculate the SQLs? **R10** OI Other problems/anomalies Χ Are all known problems/anomalies/special conditions noted in this LRC and ER? Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for all Х analytes, matrices, and methods associated with this LRC? Was applicable and available technology used to lower the SQL to minimize any matrix interference Х effects on the sample results?

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified 1.

by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4 NR = Not reviewed;

ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked). 5.



#### Laboratory Review Checklist: Supporting Data Laboratory Name: OXIDOR Laboratories, LLC LRC Date: November 7, 2012 Project Name: 112.052.003 Retaining Wall Laboratory Job Number: 12110104 W&M Environmental Group, Inc. Reviewer Name: James A. Narens, III QC Batch Number(s): See Cross-reference List #1 A<sup>2</sup> Description No $NA^3 NR^4$ ER#<sup>5</sup> Yes **S1** OI Initial calibration (ICAL) Х Were response factors and/or relative response factors for each analyte within QC limits? X Were percent RSDs or correlation coefficient criteria met? Was the number of standards recommended in the method used for all analytes? Х Х Were all points generated between the lowest and highest standard used to calculate the curve? Х Are ICAL data available for all instruments used? Has the initial calibration curve been verified using an appropriate second source standard? Х **S2** OI Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB) Х Nas the CCV analyzed at the method required frequency? Х Were percent differences for each analyte within the method-required QC limits? Х Was the ICAL curve verified for each analyte? Х Was the absolute value of the analyte concentration in the inorganic CCB < MDL? 0 **S3** Mass spectral tuning Was the appropriate compound for the method used for tuning? Х Х Were ion abundance data within the method-required QC limits? **S4** 0 Internal Standards (IS) Were IS area counts and retention times within the method-required QC limits? Х **S5** OI Raw data (TNI Standard Module 2, Section 5.10) Х Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst? Were data associated with manual integrations flagged on the raw data? Х **S6** 0 Dual column confirmation Did dual column confirmation results meet the method-required QC? X **S7** 0 **Tentatively Identified Compounds (TICs)** If TICs were requested, were the mass spectra and TIC data subject to appropriate checks? Х **S8** Ι Interference Check Sample (ICS) results - Metals Were percent recoveries within the method QC limits? Х **S9** T Serial dilutions, post digestion spikes, and method of standard additions - Metals Х Were percent differences, recoveries, and the linearity within the QC limits specified in the method? S10 OI Method Detection Limit (MDL) studies Was a MDL study performed for each reported analyte? Х Is the MDL either adjusted or supported by the analysis of DCSs? Х S11 OI **Proficiency test reports** Х Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies? S12 OI Standards documentation Х Are all standards used in the analysis NIST-traceable or obtained from other appropriate sources? S13 OI Compound/analyte identification procedures Are the procedures for compound/analyte identification documented? Х **S14** OI Demonstration of Capability (DOC) Was DOC conducted consistent with TNI Standard Module 4, Section 1.6? Х Х Is documentation of the analyst's competency up-to-date and on file? S15 OI Verification/validation documentation for methods (TNI Standard Module 4, Section 1.5) Are all methods used to generate the data documented, verified, and validated, where applicable? Х OI S16 Laboratory Standard Operating Procedures (SOPs)

Are laboratory SOPs current and on file for each method performed? Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified 1.

by the letter "S" should be retained and made available upon request for the appropriate retention period.

2.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable:

4. NR = Not reviewed:

ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked). 5.

Х



Laboratory Review Checklist: Exception Reports													
ry Name: OXIDOR Laboratories, LLC	LRC Date: November 7, 2012												
ame: 112.052.003 Retaining Wall	Laboratory Job Number: 12110104 W&M Environmental Group, Inc.												
Name: James A. Narens, III	QC Batch Number(s): See Cross-reference List												
ER# <sup>1</sup> DESCRIPTION													
For pH, samples should be analyzed as soon as possible and preferably at the time of collection for Oxidor Sample ID's 12110104-001 and -002.													
Metals MS and MSD percent recoveries of Selenium for QC Batch ID META_04546_L (Oxidor Sample ID 12110105-001) we below Oxidor QC limits.													
	y Name: OXIDOR Laboratories, LLC ame: 112.052.003 Retaining Wall Name: James A. Narens, III <b>DESCRIPTION</b> For pH, samples should be analyzed as soon as possible a 12110104-001 and -002. Metals MS and MSD percent recoveries of Selenium for Q0												

1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked on the LRC)





Order ID: 12110104 Date: 11/7/2012 Page 1 of 10

Wednesday, November 07, 2012

W&M Environmental Group, Inc. Frank Clark 906 E. 18th, Suite 100 Plano, TX 75074 Tel: (972) 516-0300 Fax: (972) 516-4145

Re: Project Name: Retaining Wall Project Number: 112.052.003 Project Location: 7471 South Fifth Street, Frisco, TX

Oxidor received 2 solid sample(s). The analysis performed were as follows:

<u>Sample</u>	Sample ID	<u>Matrix</u>	<u>Collected</u>	Analysis
12110104-001	SP-07	Solid	11/5/2012 09:00	Dry Weight, pH, TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver, Total Petroleum Hydrocarbons
12110104-002	SP-08	Solid	11/5/2012 09:00	Dry Weight, pH, TCLP Antimony, TCLP Arsenic, TCLP Barium, TCLP Berylium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Mercury, TCLP Metals Extraction, TCLP Nickel, TCLP Selenium, TCLP Silver, Total Petroleum Hydrocarbons

Respectfully submitted,

Charles Brungardt President





# **Analytical Report**

Customer Sample Oxidor Sample	e ID: 1211	0104-001			Matrix: S			
Sample Recei	ived: 11/5/2	2012		Samp	ole Collected: 1	1/5/2012 0	9:00	
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
% Solids	0.1	0.1	84.8	%	11/05/12 15:25	Dry Weight	J.H.	
рН	0.1	0.1	9.3	pH Units	11/05/12 18:00	9045	M.B.	S-12
Metals								
Digested by method 3005A on 1	1/06/12 at 09:45							
TCLP Antimony	0.05	0.050	0.122	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Barium	0.05	0.050	0.454	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Cadmium	0.01	0.010	0.496	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Lead	0.05	0.050	1.21	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Nickel	0.05	0.050	ND	mg/L	11/06/12 14:34	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	11/06/12 14:34	6020	K.O.	*
TCLP Silver	0.01	0.010	ND	mg/L	11/06/12 14:34	6020	K.O.	
Digested by method 7470A on 1	1/06/12 at 09:35							
TCLP Mercury	0.001	0.001	ND	mg/L	11/06/12 17:02	7470A	T.C.	
<b>Total Petroleum Hyd</b>	drocarbons							
Prepared by method TX 1005 on	11/05/12 at 10:00							
TPH (C 6 to C12)	25	29.5	ND	mg/Kg	11/05/12 14:57	TX 1005	K.J.	
TPH (C12 to C28)	25	29.5	ND	mg/Kg	11/05/12 14:57	TX 1005	K.J.	
TPH (C28 to C35)	25	29.5	ND	mg/Kg	11/05/12 14:57	TX 1005	K.J.	
TPH (C6 to C35)	25	29.5	ND	mg/Kg	11/05/12 14:57	TX 1005	K.J.	
Surrogate			Result	Units	Spike Conc	Recovery	Rec Limits	
1-chlorooctane			88.7	mg/Kg	100 mg/Kg	89%	70-130%	
o-Terphenyl			87.4	mg/Kg	100 mg/Kg	87%	70-130%	
Sample Prep								
TCLP Metals Extrac	tion							
TCLP Extraction					11/05/12 15:45	1311	H.B.	





# **Analytical Report**

Customer Sample Oxidor Sample					Matrix: S	olid		
Sample Receiv				Samp	ole Collected: 1	1/5/2012 0	9:00	
Parameter	MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
General Chemistry								
% Solids	0.1	0.1	85.0	%	11/05/12 15:25	Dry Weight	J.H.	
рН	0.1	0.1	9.3	pH Units	11/05/12 18:00	9045	M.B.	S-12
Metals								
Digested by method 3005A on 11/	/06/12 at 09:45							
TCLP Antimony	0.05	0.050	0.126	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Arsenic	0.05	0.050	ND	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Barium	0.05	0.050	0.434	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Berylium	0.05	0.050	ND	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Cadmium	0.01	0.010	0.468	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Chromium	0.05	0.050	ND	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Lead	0.05	0.050	0.635	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Nickel	0.05	0.050	ND	mg/L	11/06/12 14:40	6020	K.O.	
TCLP Selenium	0.05	0.050	ND	mg/L	11/06/12 14:40	6020	K.O.	*
TCLP Silver	0.01	0.010	ND	mg/L	11/06/12 14:40	6020	K.O.	
Digested by method 7470A on 11/	/06/12 at 09:35							
TCLP Mercury	0.001	0.001	ND	mg/L	11/06/12 17:04	7470A	T.C.	
Total Petroleum Hyd	rocarbons							
Prepared by method TX 1005 on	11/05/12 at 10:00							
TPH (C 6 to C12)	25	29.4	ND	mg/Kg	11/05/12 15:52	TX 1005	K.J.	
TPH (C12 to C28)	25	29.4	ND	mg/Kg	11/05/12 15:52	TX 1005	K.J.	
TPH (C28 to C35)	25	29.4	ND	mg/Kg	11/05/12 15:52	TX 1005	K.J.	
TPH (C6 to C35)	25	29.4	ND	mg/Kg	11/05/12 15:52	TX 1005	K.J.	
Surrogate			Result	Units	Spike Conc	Recovery	Rec Limits	
1-chlorooctane			88.3	mg/Kg	100 mg/Kg	88%	70-130%	
o-Terphenyl			87.5	mg/Kg	100 mg/Kg	88%	70-130%	
Sample Prep								
TCLP Metals Extract	ion							
TCLP Extraction					11/05/12 15:45	1311	H.B.	





### Sample Cross Reference

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-07	12110104-001	Total Petroleum Hydrocarbons	TX 1005	1005_05729AS
		Dry Weight	Dry Weight	DW09726_S
		TCLP Mercury	7470A	MERC_13023_L
		TCLP Antimony	6020	META_04546_L
		TCLP Arsenic	6020	META_04546_L
		TCLP Barium	6020	META_04546_L
		TCLP Berylium	6020	META_04546_L
		TCLP Cadmium	6020	META_04546_L
		TCLP Chromium	6020	META_04546_L
		TCLP Lead	6020	META_04546_L
		TCLP Nickel	6020	META_04546_L
		TCLP Selenium	6020	META_04546_L
		TCLP Silver	6020	META_04546_L
		рН	9045	PH08615_S
SP-08	12110104-002	Total Petroleum Hydrocarbons	TX 1005	1005_05729AS
		Dry Weight	Dry Weight	DW09726_S
		TCLP Mercury	7470A	MERC_13023_L
		TCLP Antimony	6020	META_04546_L
		TCLP Arsenic	6020	META_04546_L
		TCLP Barium	6020	META_04546_L
		TCLP Berylium	6020	META_04546_L
		TCLP Cadmium	6020	META_04546_L
		TCLP Chromium	6020	META_04546_L
		TCLP Lead	6020	META_04546_L
		TCLP Nickel	6020	META_04546_L
		TCLP Selenium	6020	META_04546_L
		TCLP Silver	6020	META_04546_L
		pН	9045	PH08615_S





### **QC Summary**

QC Type         Parameter         Result         Value         Spike Conc         Rec         Limits         RPD         Limits         Flags           QCBatchID         DW09726_S                                                                                                        <				Reference			Rec		RPD	
Replicate         % Solids         84.3 %         84.8 %         0.6 %         0.20%           CCBatchID         PH09615_S	QC Type	Parameter	Result	Value	Spike Conc	Rec	Limits	RPD	Limits	Flags
OCBatchID         PH08615_S           LCS         pH         7.0 pH Units         7 pH Units         100%         99-102%         0.0%         0.25%           LCSD         pH         7.0 pH Units         9.3 pH Units         9.3 pH Units         0.0%         0.0%         0.25%           QCBatchID         MERC_13023_L          0.005 mgL         0.002 mgL         110%         85-115%         6.2%         0.25%           UCSD         TCLP Mercury         0.022 mgL         ND         0.02 mgL         110%         80-120%         0.1%         0.25%           OCBatchID         META_04546_L         ND mgL         TCLP Arsenic         ND mgL         TCLP Arsenic         ND mgL           TCLP Arsenic         ND mgL         TCLP Arsenic         ND mgL         TCLP Arsenic         0.103 mgL         0.1 mgL         103%         85-115%         FCLP Arsenic         FCLP Arsenic         0.104 mgL         0.1 mgL         103%         85-115%         FCLP Ar	QCBatcl	hID DW09726_S								
LCS         pH         7.0 pH Units         7 pH Units         7 pH Units         99-102%         99-102%           LCSD         pH         7.0 pH Units         7 pH Units         0.0%         0.25%           QCBatchID         MERC_13023 L         0.005 mgL         0.005 mgL         0.005 mgL         0.0%         0.1%%           UCS         TCLP Mercury         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.027 mgL         103%         85-115%         6.25%           LCSD         TCLP Mercury         0.002 mgL         1007%         85-115%         6.27%         0-25%           QCBatchID         META_04546 L         D         0.022 mgL         110%         80-120%         0.1%         0-25%           QCBatchID         META_04546 L         D         D         0.02 mgL         110%         80-120%         0.1%         0-25%           QCBatchID         META_04546 L         D         D         0.02 mgL         103%         85-115%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1% </td <td>Replicate</td> <td>% Solids</td> <td>84.3 %</td> <td>84.8 %</td> <td></td> <td></td> <td></td> <td>0.6%</td> <td>0-20%</td> <td></td>	Replicate	% Solids	84.3 %	84.8 %				0.6%	0-20%	
LCS         pH         7.0 pH Units         7 pH Units         7 pH Units         99-102%         99-102%           LCSD         pH         7.0 pH Units         7 pH Units         0.0%         0-25%           QCBatchID         MERC_13023 L         0.005 mgL         0.005 mgL         0.005 mgL         0.0%         0-10%           LCSD         TCLP Mercury         0.005 mgL         0.005 mgL         103%         85-115%         6.2%         0-25%           LCSD         TCLP Mercury         0.005 mgL         0.005 mgL         103%         85-115%         6.2%         0-25%           MSD         TCLP Mercury         0.022 mgL         ND         0.02 mgL         110%         80-120%         0.1%         0-25%           CCBatchID         META_04546_L         D         D         0.02 mgL         110%         80-120%         0.1%         0-25%           CCLP Aratimony         ND mgL         TCLP Aratimony         ND mgL         TCLP Paratim         ND mgL         TCLP Paratim <td>QCBatcl</td> <td>hID PH 08615 S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	QCBatcl	hID PH 08615 S								
LCSD         pH         7.0 pH Units         9.3 pH Units         9.9 HUIts         100%         99-102%         0.0%         0-25%           Replicate         pH         9.3 pH Units         9.3 pH Units         9.0 0.0%         0.0%         0.0%         0.0%           CCBatch/D         MERC_13023_L         U         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.005 mg/L         0.00%         85-115%         6.2%         0-25%           LCSD         TCLP Mercury         0.002 mg/L         ND         0.02 mg/L         110%         80-120%         0.25%           LCSD         TCLP Mercury         0.022 mg/L         ND         0.02 mg/L         110%         80-120%         0.1%         0-25%           CCBatch/D         META_04546_L         ND         ND mg/L         110%         80-120%         0.1%         0-25%           GCBatch/D         META_04546_L         ND mg/L         110%         80-120%         0.1%         0-25%           GCLP Antimony         ND mg/L         TCLP Artimony         ND mg/L         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%         0.1%			7.0 pH Units		7 pH Units	100%	99-102%			
Replicate         pH         9.3 pH Units         9.3 pH Units         0.0%         0-10%           CCB         TCLP Mercury         ND mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.005 mgL         0.020 mgL         100%         85-115%         6.2%         0-25%           MSD         TCLP Mercury         0.002 mgL         ND         0.02 mgL         110%         80-120%         0.1%         0-25%           CEBatc/L           Blank         TCLP Mercury         ND mgL         110%         80-120%         0.1%         0-25%           CLP Ansenic         ND mgL         TCLP Ansenic         ND mgL         TCLP Cadmium         ND mgL         TCLP Cadmium         ND mgL         TCLP Cadmium         ND mgL         TCLP Cadmium         ND mgL         TCLP CLP Saire         ND mgL         TCLP CLP Saire         ND mgL         TCLP CLP Saire         ND mgL         TCLP Ansenic         ND mgL         ND mgL         ND mgL         ND mgL								0.0%	0-25%	
Blank         TCLP Mercury         ND mg/L           LCS         TCLP Mercury         0.005 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.10%         80-120%         0.1%         0.25%           QCBatchID META_04546_L           Blank         TCLP Antimony         ND mg/L         TCLP Antimony         ND mg/L           TCLP Assenic         ND mg/L         TCLP Cadmium         ND mg/L         TCLP Cadmium         ND mg/L           TCLP P lead         ND mg/L         0.1 mg/L         103%         85-115%         TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L         0.1 mg/L         0.1 mg/L         103%         85-115%         TCLP Selenium         ND mg/L           TCLP Selenium         0.100 mg/L         0.1 mg/L         1014%         85-115%         TCLP				9.3 pH Units	·			0.0%		
Blank         TCLP Mercury         ND mg/L           LCS         TCLP Mercury         0.005 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.027 mg/L         0.1%         0.25%           QCBatchID META_04546_L           Blank         TCLP Antimony         ND mg/L         TCLP Antimony         ND mg/L           TCLP Assenic         ND mg/L         TCLP Cadmium         ND mg/L         TCLP Cadmium         ND mg/L           TCLP P Isiver         ND mg/L         TCLP Selenium         ND mg/L         TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L         0.1 mg/L         104%         85-115%         TCLP Gatmium         0.100 mg/L         0.1 mg/L         104%         85-115%           TCLP Selenium         0.100 mg/L         0.1 mg/L         101%         85-115%         TCLP Cadmium	QCBatcl	hID MERC 13023 L								
LCS         TCLP Mercury         0.005 mg/L         0.005 mg/L         103%         85-115%         6.2%         0.25 m/L           LCSD         TCLP Mercury         0.022 mg/L         ND         0.02 mg/L         106%         80-120%         -           MSD         TCLP Mercury         0.022 mg/L         ND         0.02 mg/L         110%         80-120%         0.1%         0-25%           CBBatch         META_04546_L           TCLP Mercury         0.02 mg/L         110%         80-120%         0.1%         0-25%           CCBatch/// CLP Mercury         ND mg/L         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - </td <td></td> <td></td> <td>ND mg/L</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			ND mg/L							
LCSD         TCLP Mercury         0.005 mg/L         ND         0.005 mg/L         10%         85-115%         6.2%         0-25%           MSD         TCLP Mercury         0.022 mg/L         ND         0.02 mg/L         110%         80-120%         0.1%         0-25%           CCBatcing         ND         0.02 mg/L         110%         80-120%         0.1%         0-25%           CCBatcing         ND mg/L         110%         80-120%         0.1%         0-25%           CCBatcing         ND mg/L         110%         80-120%         0.1%         0-25%           CCBatcing         ND mg/L         100%         86-115%         1         1         0-25%           TCLP Astenic         ND mg/L         1         100%         86-115%         1         1         0-25%           TCLP Codmium         ND mg/L         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <t< td=""><td></td><td></td><td>-</td><td></td><td>0.005 mg/L</td><td>103%</td><td>85-115%</td><td></td><td></td><td></td></t<>			-		0.005 mg/L	103%	85-115%			
MSD         TCLP Mercury         0.022 mg/L         ND         0.02 mg/L         110%         80-120%         0.1%         0-25%           CCBatch// TCLP Antimony         ND mg/L	LCSD	TCLP Mercury	-		0.005 mg/L		85-115%	6.2%	0-25%	
OCBatchID         META_04546_L           Blank         TCLP Ansenic         ND mg/L           TCLP Arsenic         ND mg/L           TCLP Barium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Silver         ND mg/L           TCLP Silver         ND mg/L           TCLP Astenic         0.103 mg/L           TCLP Astenic         0.104 mg/L           TCLP Barium         0.100 mg/L           TCLP Barium         0.101 mg/L           TCLP Cadmium         0.101 mg/L           TCLP Barium         0.101 mg/L           TCLP Cadmium         0.103 mg/L           TCLP Cadmium         0.103 mg/L           TCLP Cadmium         0.103 mg/L           TCLP Silver         0.104 mg/L           TCLP Silver         0.103 mg/L           TCLP Chromium         0.103 mg/L           TCLP Silver         0.104 mg/L           TCLP Silver         0.104 mg/L           TCLP Silver         0.104 mg/L           TCLP Silver         0.104 mg/	MS	TCLP Mercury	0.022 mg/L	ND	0.02 mg/L	110%	80-120%			
Blank         TCLP Antimony TCLP Arsenic         ND mg/L           TCLP Barium         ND mg/L           TCLP Barium         ND mg/L           TCLP Barium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Arisenic         0.103 mg/L         0.1 mg/L           TCLP Barium         0.100 mg/L         0.1 mg/L         103%           TCLP Gadmium         0.100 mg/L         0.1 mg/L         101%           TCLP Barium         0.100 mg/L         0.1 mg/L         101%           TCLP Cadmium         0.106 mg/L         0.1 mg/L         103%           TCLP Chromium         0.104 mg/L         0.1 mg/L         103%           TCLP Rickel         0.103 mg/L         0.1 mg/L         103%           TCLP Chromium         0.104 mg/L         0.1 mg/L         103%           TCLP Rickel         0.103 mg/L         0.1 mg/L         103%           TCLP Rickel         0.103 mg/L         0.1 mg/L </td <td>MSD</td> <td>TCLP Mercury</td> <td>0.022 mg/L</td> <td>ND</td> <td>0.02 mg/L</td> <td>110%</td> <td>80-120%</td> <td>0.1%</td> <td>0-25%</td> <td></td>	MSD	TCLP Mercury	0.022 mg/L	ND	0.02 mg/L	110%	80-120%	0.1%	0-25%	
Blank         TCLP Antimony         ND mg/L           TCLP Arsenic         ND mg/L           TCLP Barium         ND mg/L           TCLP Berylium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Arisenic         0.104 mg/L           TCLP Barium         0.100 mg/L           0.101 mg/L         0.1 mg/L           100%         85-115%           TCLP Barium         0.100 mg/L           0.101 mg/L         101%           TCLP Cadmium         0.105 mg/L           0.103 mg/L         0.1 mg/L           TCLP Chromium         0.104 mg/L           TCLP Nickel         0.103 mg/L           TCLP Parium         0.104 mg/L           TCLP Resenic         0.103 mg/L           TCLP Nickel         0.103 mg/L           TCLP Resenic         0.103 mg/L           TCLP Resenic         0.103 mg/L           TCLP Resenic         0.104 mg/L	QCBatcl	hID META_04546_L								
TCLP Arsenic       ND mg/L         TCLP Barium       ND mg/L         TCLP Berylium       ND mg/L         TCLP Cadmium       ND mg/L         TCLP Cadmium       ND mg/L         TCLP Cadmium       ND mg/L         TCLP Cadmium       ND mg/L         TCLP Lead       ND mg/L         TCLP Selenium       ND mg/L         TCLP Selenium       ND mg/L         TCLP Antimony       0.103 mg/L         OI.1 mg/L       103%       85-115%         TCLP Assenic       0.104 mg/L       0.1 mg/L       104%       85-115%         TCLP Barium       0.100 mg/L       0.1 mg/L       101%       85-115%         TCLP Barium       0.101 mg/L       0.1 mg/L       101%       85-115%         TCLP Cadmium       0.105 mg/L       0.1 mg/L       101%       85-115%         TCLP Cadmium       0.105 mg/L       0.1 mg/L       104%       85-115%         TCLP Cadmium       0.103 mg/L       0.1 mg/L       103%       85-115%         TCLP Cadmium       0.103 mg/L       0.1 mg/L       103%       85-115%       1.4%       0.20%         TCLP Cadmium       0.104 mg/L       0.1 mg/L       104%       85-115%       1.4%			ND mg/L							
TCLP Barium         ND mg/L           TCLP Berylum         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Cadmium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Nickel         ND mg/L           TCLP Silver         ND mg/L           TCLP Silver         ND mg/L           TCLP Silver         ND mg/L           TCLP Antimony         0.103 mg/L         0.1 mg/L         103%           TCLP Assenic         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Berylium         0.101 mg/L         0.1 mg/L         104%         85-115%           TCLP Berylium         0.101 mg/L         0.1 mg/L         104%         85-115%           TCLP Berylium         0.101 mg/L         0.1 mg/L         104%         85-115%           TCLP Chromium         0.103 mg/L         0.1 mg/L         104%         85-115%           TCLP Chromium         0.104 mg/L         0.1 mg/L         104%         85-115%		•	•							
TCLP Berylium       ND mg/L         TCLP Cadmium       ND mg/L         TCLP Chronium       ND mg/L         TCLP Lead       ND mg/L         TCLP Nickel       ND mg/L         TCLP Selenium       ND mg/L         TCLP Arsenic       0.103 mg/L         TCLP Arsenic       0.100 mg/L         TCLP Berylium       0.100 mg/L         TCLP Chronium       0.100 mg/L         TCLP Chronium       0.101 mg/L         TCLP Chronium       0.103 mg/L         TCLP Chronium       0.104 mg/L         TCLP Chronium       0.103 mg/L         TCLP Chronium       0.104 mg/L         TCLP Selenium       0.103 mg/L         TCLP Selenium       0.104 mg/L         TCLP Selenium       0.103 mg/L         TCLP Selenium       0.104 mg/L         TCLP Selenium       0.104 mg/L         TCLP Selenium       0.104 mg/L         TCLP Selenium       0.104 mg/L         TCLP Selenium       0.104 mg/L         TCLP Selenium       0.104 mg/L		TCLP Barium	-							
TCLP Chromium         ND mg/L           TCLP Chromium         ND mg/L           TCLP Lead         ND mg/L           TCLP Nickel         ND mg/L           TCLP Selenium         ND mg/L           TCLP Silver         ND mg/L           TCLP Silver         ND mg/L           LCS         TCLP Antimony         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Arsenic         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Baryium         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Cadmium         0.105 mg/L         0.1 mg/L         101%         85-115%           TCLP Chromium         0.105 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%         85-115%           LCSD         TCLP Antimony         0.099 mg/L         0.1 mg/L         104%         85		TCLP Berylium	-							
TCLP Lead         ND mg/L           TCLP Nickel         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selenium         ND mg/L           TCLP Selver         ND mg/L           TCLP Antimony         0.103 mg/L           TCLP Arsenic         0.104 mg/L           TCLP Barium         0.100 mg/L           TCLP Cadmium         0.101 mg/L           TCLP Berylium         0.101 mg/L           TCLP Cadmium         0.105 mg/L           TCLP Cadmium         0.103 mg/L           TCLP Cadmium         0.103 mg/L           TCLP P Kerel         0.103 mg/L           TCLP Cadmium         0.103 mg/L           TCLP P Kerel         0.103 mg/L           TCLP P Kerel         0.103 mg/L           TCLP P Kerel         0.103 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium         0.104 mg/L           TCLP Selenium <td< td=""><td></td><td>TCLP Cadmium</td><td>ND mg/L</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		TCLP Cadmium	ND mg/L							
TCLP Nickel         ND mg/L           TCLP Selenium         ND mg/L           TCLP Silver         ND mg/L           TCLP Silver         ND mg/L           LCS         TCLP Arsenic         0.103 mg/L           TCLP Barium         0.100 mg/L         0.1 mg/L         104%           TCLP Barium         0.100 mg/L         0.1 mg/L         100%           TCLP Barium         0.100 mg/L         0.1 mg/L         101%           TCLP Cadmium         0.105 mg/L         0.1 mg/L         105%           TCLP Cadmium         0.103 mg/L         0.1 mg/L         105%           TCLP Nickel         0.103 mg/L         0.1 mg/L         105%           TCLP Portonium         0.103 mg/L         0.1 mg/L         103%           TCLP Nickel         0.103 mg/L         0.1 mg/L         103%           TCLP Nickel         0.103 mg/L         0.1 mg/L         104%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%           TCLP Selenium         0.099 mg/L         0.1 mg/L         104%           TCLP P		TCLP Chromium	ND mg/L							
TCLP Selenium TCLP Silver         ND mg/L           LCS         TCLP Antimony         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Antimony         0.103 mg/L         0.1 mg/L         104%         85-115%           TCLP Arsenic         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Berylium         0.100 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         104%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%         85-115%           LCSD         TCLP Antimony         0.099 mg/L         0.1 mg/L         104%         85-115%         4.1%         0-20%           LCSD         TCLP Antimony         0.096 mg/L         0.1 mg/L         104%         85-115%         4.1%         0-20% <td></td> <td>TCLP Lead</td> <td>ND mg/L</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		TCLP Lead	ND mg/L							
TCLP Silver         ND mg/L           LCS         TCLP Antimony         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Arsenic         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Barium         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Barium         0.101 mg/L         0.1 mg/L         100%         85-115%           TCLP Cadmium         0.105 mg/L         0.1 mg/L         105%         85-115%           TCLP Cadmium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%         85-115%           LCSD         TCLP Arsenic         0.102 mg/L         0.1 mg/L         104%         85-115%           LCSD         TCLP Arsenic         0.102 mg/L         0.1 mg/L         102%         85-115%         4.1%         0-20%           TCLP Barium         0.096 mg		TCLP Nickel	ND mg/L							
LCS         TCLP Antimony         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Arsenic         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Barium         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Berylium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.105 mg/L         0.1 mg/L         105%         85-115%           TCLP Cadmium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Nickel         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%         85-115%           LCSD         TCLP Antimony         0.099 mg/L         0.1 mg/L         104%         85-115%           LCSD         TCLP Antimony         0.096 mg/L         0.1 mg/L         102%         85-115%         4.1%         0-20%           TCLP Barium         0.096 mg/L         0.1 mg/L         102%         85-11		TCLP Selenium	ND mg/L							
TCLP Arsenic         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Barium         0.100 mg/L         0.1 mg/L         100%         85-115%           TCLP Berylium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Berylium         0.105 mg/L         0.1 mg/L         105%         85-115%           TCLP Cadmium         0.105 mg/L         0.1 mg/L         105%         85-115%           TCLP Chromium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Chromium         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Selver         0.104 mg/L         0.1 mg/L         104%         85-115%         L           LCSD         TCLP Ansenic         0.104 mg/L         0.1 mg/L         104%         85-115%         2.1%         0-20%           TCLP Arsenic         0.102 mg/L         0.1 mg/L         102%         85-115%         3.7%         0-20%           TCLP Barylium         0.096 mg/L         0.1 mg/L         0.10		TCLP Silver	ND mg/L							
TCLP Barium         0.100 m/L         0.1 m/L         100%         85-115%           TCLP Berylium         0.101 m/L         0.1 m/L         101%         85-115%           TCLP Cadmium         0.105 m/L         0.1 m/L         105%         85-115%           TCLP Cadmium         0.104 m/L         0.1 m/L         104%         85-115%           TCLP Chromium         0.103 m/L         0.1 m/L         103%         85-115%           TCLP Lead         0.103 m/L         0.1 m/L         103%         85-115%           TCLP Nickel         0.103 m/L         0.1 m/L         103%         85-115%           TCLP Selenium         0.104 m/L         0.1 m/L         103%         85-115%           TCLP Silver         0.104 m/L         0.1 m/L         104%         85-115%           LCSD         TCLP Antimony         0.099 m/L         0.1 m/L         104%         85-115%           TCLP Barium         0.096 m/L         0.1 m/L         102%         85-115%         2.1%         0-20%           TCLP Barium         0.096 m/L         0.1 m/L         102%         85-115%         3.4%         0-20%           TCLP Cadmium         0.101 m/L         0.1 m/L         101%         85-115%         3.4%	LCS	TCLP Antimony	0.103 mg/L		0.1 mg/L	103%	85-115%			
TCLP Berylium         0.101 mg/L         0.1 mg/L         101%         85-115%           TCLP Cadmium         0.105 mg/L         0.1 mg/L         105%         85-115%           TCLP Chromium         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Lead         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Nickel         0.103 mg/L         0.1 mg/L         103%         85-115%           TCLP Selenium         0.104 mg/L         0.1 mg/L         103%         85-115%           TCLP Silver         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Silver         0.104 mg/L         0.1 mg/L         104%         85-115%           TCLP Silver         0.102 mg/L         0.1 mg/L         99%         85-115%		TCLP Arsenic	0.104 mg/L		0.1 mg/L	104%	85-115%			
TCLP Cadmium0.105 mg/L0.1 mg/L105%85-115%TCLP Chromium0.104 mg/L0.1 mg/L104%85-115%TCLP Lead0.103 mg/L0.1 mg/L103%85-115%TCLP Nickel0.103 mg/L0.1 mg/L103%85-115%TCLP Selenium0.104 mg/L0.1 mg/L104%85-115%TCLP Silver0.104 mg/L0.1 mg/L104%85-115%LCSDTCLP Antimony0.099 mg/L0.1 mg/L104%85-115%LCSDTCLP Asenic0.102 mg/L0.1 mg/L102%85-115%2.1%TCLP Barium0.096 mg/L0.1 mg/L102%85-115%3.7%0-20%TCLP Berylium0.098 mg/L0.1 mg/L98%85-115%3.4%0-20%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%4.0%0-20%TCLP Cadmium0.100 mg/L0.1 mg/L101%85-115%4.3%0-20%TCLP Chromium0.100 mg/L0.1 mg/L100%85-115%4.3%0-20%TCLP Lead0.099 mg/L0.1 mg/L101%85-115%4.3%0-20%TCLP Nickel0.101 mg/L0.1 mg/L101%85-115%4.3%0-20%TCLP Nickel0.101 mg/L0.1 mg/L101%85-115%4.3%0-20%TCLP Selenium0.101 mg/L0.1 mg/L101%85-115%4.3%0-20%TCLP Selenium0.101 mg/L0.1 mg/L101%85-115%4.3%0-20%TCLP Selenium <td></td> <td>TCLP Barium</td> <td>0.100 mg/L</td> <td></td> <td>0.1 mg/L</td> <td>100%</td> <td>85-115%</td> <td></td> <td></td> <td></td>		TCLP Barium	0.100 mg/L		0.1 mg/L	100%	85-115%			
TCLP Chromium       0.104 mg/L       0.1 mg/L       104%       85-115%         TCLP Lead       0.103 mg/L       0.1 mg/L       103%       85-115%         TCLP Nickel       0.103 mg/L       0.1 mg/L       103%       85-115%         TCLP Selenium       0.104 mg/L       0.1 mg/L       104%       85-115%         TCLP Selenium       0.104 mg/L       0.1 mg/L       104%       85-115%         TCLP Silver       0.104 mg/L       0.1 mg/L       104%       85-115%         LCSD       TCLP Antimony       0.099 mg/L       0.1 mg/L       99%       85-115%       4.1%       0-20%         TCLP Arsenic       0.102 mg/L       0.1 mg/L       102%       85-115%       2.1%       0-20%         TCLP Barium       0.096 mg/L       0.1 mg/L       96%       85-115%       3.7%       0-20%         TCLP Cadmium       0.098 mg/L       0.1 mg/L       98%       85-115%       3.4%       0-20%         TCLP Chromium       0.100 mg/L       0.1 mg/L       101%       85-115%       4.2%       0-20%         TCLP Cadmium       0.100 mg/L       0.1 mg/L       101%       85-115%       4.3%       0-20%         TCLP Chromium       0.100 mg/L       0.1 mg/L		TCLP Berylium	0.101 mg/L		0.1 mg/L	101%	85-115%			
TCLP Lead       0.103 mg/L       0.1 mg/L       103%       85-115%         TCLP Nickel       0.103 mg/L       0.1 mg/L       103%       85-115%         TCLP Selenium       0.104 mg/L       0.1 mg/L       104%       85-115%         TCLP Silver       0.104 mg/L       0.1 mg/L       104%       85-115%         LCSD       TCLP Antimony       0.099 mg/L       0.1 mg/L       104%       85-115%         LCSD       TCLP Arsenic       0.102 mg/L       0.1 mg/L       102%       85-115%       4.1%       0-20%         TCLP Barium       0.096 mg/L       0.1 mg/L       102%       85-115%       2.1%       0-20%         TCLP Berylium       0.098 mg/L       0.1 mg/L       102%       85-115%       3.7%       0-20%         TCLP Cadmium       0.098 mg/L       0.1 mg/L       98%       85-115%       3.4%       0-20%         TCLP Chromium       0.100 mg/L       0.1 mg/L       101%       85-115%       4.0%       0-20%         TCLP Chromium       0.100 mg/L       0.1 mg/L       101%       85-115%       4.0%       0-20%         TCLP Chromium       0.100 mg/L       0.1 mg/L       100%       85-115%       4.3%       0-20%         TCLP Lead		TCLP Cadmium	0.105 mg/L		0.1 mg/L	105%	85-115%			
TCLP Nickel       0.103 mg/L       0.1 mg/L       103%       85-115%         TCLP Selenium       0.104 mg/L       0.1 mg/L       104%       85-115%         TCLP Silver       0.104 mg/L       0.1 mg/L       104%       85-115%         LCSD       TCLP Antimony       0.099 mg/L       0.1 mg/L       99%       85-115%       4.1%       0-20%         TCLP Arsenic       0.102 mg/L       0.1 mg/L       102%       85-115%       2.1%       0-20%         TCLP Barium       0.096 mg/L       0.1 mg/L       96%       85-115%       3.7%       0-20%         TCLP Berylium       0.098 mg/L       0.1 mg/L       96%       85-115%       3.4%       0-20%         TCLP Cadmium       0.101 mg/L       0.1 mg/L       101%       85-115%       4.2%       0-20%         TCLP Chromium       0.101 mg/L       0.1 mg/L       101%       85-115%       4.2%       0-20%         TCLP Chromium       0.100 mg/L       0.1 mg/L       101%       85-115%       4.3%       0-20%         TCLP Lead       0.099 mg/L       0.1 mg/L       100%       85-115%       4.3%       0-20%         TCLP Nickel       0.101 mg/L       0.1 mg/L       101%       85-115%       4.3%		TCLP Chromium	0.104 mg/L		0.1 mg/L	104%	85-115%			
TCLP Selenium0.104 mg/L0.1 mg/L104%85-115%TCLP Silver0.104 mg/L0.1 mg/L104%85-115%LCSDTCLP Antimony0.099 mg/L0.1 mg/L99%85-115%4.1%0-20%TCLP Arsenic0.102 mg/L0.1 mg/L102%85-115%2.1%0-20%TCLP Barium0.096 mg/L0.1 mg/L96%85-115%3.7%0-20%TCLP Berylium0.098 mg/L0.1 mg/L98%85-115%3.4%0-20%TCLP Cadmium0.101 mg/L0.1 mg/L101%85-115%4.2%0-20%TCLP Chromium0.100 mg/L0.1 mg/L100%85-115%4.3%0-20%TCLP Lead0.099 mg/L0.1 mg/L100%85-115%4.3%0-20%TCLP Nickel0.101 mg/L0.1 mg/L101%85-115%4.3%0-20%TCLP Selenium0.101 mg/L0.1 mg/L101%85-115%4.3%0-20%		TCLP Lead	0.103 mg/L		0.1 mg/L	103%	85-115%			
TCLP Silver       0.104 mg/L       0.1 mg/L       104%       85-115%         LCSD       TCLP Antimony       0.099 mg/L       0.1 mg/L       99%       85-115%       4.1%       0-20%         TCLP Arsenic       0.102 mg/L       0.1 mg/L       102%       85-115%       2.1%       0-20%         TCLP Barium       0.096 mg/L       0.1 mg/L       102%       85-115%       3.7%       0-20%         TCLP Berylium       0.098 mg/L       0.1 mg/L       96%       85-115%       3.4%       0-20%         TCLP Cadmium       0.101 mg/L       0.1 mg/L       101%       85-115%       3.4%       0-20%         TCLP Chromium       0.101 mg/L       0.1 mg/L       101%       85-115%       4.2%       0-20%         TCLP Chromium       0.100 mg/L       0.1 mg/L       100%       85-115%       4.0%       0-20%         TCLP Lead       0.099 mg/L       0.1 mg/L       100%       85-115%       4.3%       0-20%         TCLP Nickel       0.101 mg/L       0.1 mg/L       101%       85-115%       4.3%       0-20%         TCLP Nickel       0.101 mg/L       0.1 mg/L       101%       85-115%       1.8%       0-20%         TCLP Selenium       0.101 mg/L		TCLP Nickel	0.103 mg/L		0.1 mg/L	103%	85-115%			
LCSD       TCLP Antimony       0.099 mg/L       0.1 mg/L       99%       85-115%       4.1%       0-20%         TCLP Arsenic       0.102 mg/L       0.1 mg/L       102%       85-115%       2.1%       0-20%         TCLP Barium       0.096 mg/L       0.1 mg/L       96%       85-115%       3.7%       0-20%         TCLP Berylium       0.098 mg/L       0.1 mg/L       96%       85-115%       3.4%       0-20%         TCLP Cadmium       0.101 mg/L       0.1 mg/L       101%       85-115%       3.4%       0-20%         TCLP Chromium       0.101 mg/L       0.1 mg/L       101%       85-115%       4.2%       0-20%         TCLP Lead       0.099 mg/L       0.1 mg/L       100%       85-115%       4.3%       0-20%         TCLP Nickel       0.101 mg/L       0.1 mg/L       100%       85-115%       4.3%       0-20%         TCLP Nickel       0.101 mg/L       0.1 mg/L       101%       85-115%       4.3%       0-20%         TCLP Selenium       0.101 mg/L       0.1 mg/L       101%       85-115%       4.3%       0-20%         TCLP Selenium       0.101 mg/L       0.1 mg/L       101%       85-115%       2.5%       0-20%			0.104 mg/L		0.1 mg/L	104%	85-115%			
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TCLP Selenium 0.101 mg/L 0.1 mg/L 101% 85-115% 2.5% 0-20%			-		-					
			-		-					
TCLP Silver 0.100 mg/L 0.1 mg/L 100% 85-115% 3.5% 0-20%			-		•					
		I CLP Silver	0.100 mg/L		0.1 mg/L	100%	85-115%	3.5%	0-20%	





### **QC Summary**

QC Type	Parameter	Result	Reference Value	Spike Conc	Rec	Rec Limits	RPD	RPD Limits	Flags
QCBatch	DID META_04546_L								
MS	TCLP Antimony	0.530 mg/L	ND	0.5 mg/L	106%	80-120%			
	TCLP Arsenic	0.527 mg/L	ND	0.5 mg/L	106%	80-120%			
	TCLP Barium	0.848 mg/L	0.368 mg/L	0.5 mg/L	96%	80-120%			
	TCLP Berylium	0.487 mg/L	ND	0.5 mg/L	98%	80-120%			
	TCLP Cadmium	0.506 mg/L	ND	0.5 mg/L	101%	80-120%			
	TCLP Chromium	0.496 mg/L	ND	0.5 mg/L	99%	80-120%			
	TCLP Lead	0.480 mg/L	ND	0.5 mg/L	96%	80-120%			
	TCLP Nickel	0.540 mg/L	ND	0.5 mg/L	108%	80-120%			
	TCLP Selenium	0.347 mg/L	0.078 mg/L	0.5 mg/L	54%	80-120%			Q-7
	TCLP Silver	0.495 mg/L	ND	0.5 mg/L	99%	80-120%			
MSD	TCLP Antimony	0.521 mg/L	ND	0.5 mg/L	104%	80-120%	1.6%	0-20%	
	TCLP Arsenic	0.526 mg/L	ND	0.5 mg/L	105%	80-120%	0.2%	0-20%	
	TCLP Barium	0.845 mg/L	0.368 mg/L	0.5 mg/L	95%	80-120%	0.4%	0-20%	
	TCLP Berylium	0.480 mg/L	ND	0.5 mg/L	96%	80-120%	1.4%	0-20%	
	TCLP Cadmium	0.500 mg/L	ND	0.5 mg/L	100%	80-120%	1.1%	0-20%	
	TCLP Chromium	0.480 mg/L	ND	0.5 mg/L	96%	80-120%	3.4%	0-20%	
	TCLP Lead	0.480 mg/L	ND	0.5 mg/L	96%	80-120%	0.0%	0-20%	
	TCLP Nickel	0.538 mg/L	ND	0.5 mg/L	108%	80-120%	0.3%	0-20%	
	TCLP Selenium	0.316 mg/L	0.078 mg/L	0.5 mg/L	48%	80-120%	9.4%	0-20%	Q-7
	TCLP Silver	0.492 mg/L	ND	0.5 mg/L	98%	80-120%	0.7%	0-20%	
QCBatch	ID 1005_05729AS								
Blank	TPH (C 6 to C12)	ND mg/Kg							
	TPH (C12 to C28)	ND mg/Kg							
	TPH (C28 to C35)	ND mg/Kg							
	TPH (C6 to C35)	ND mg/Kg							
Surrog	ate	Result		Spike Conc	Recovery	<b>Rec Limits</b>			
	1-chlorooctane	90.6 mg/Kg		100 mg/Kg	91%	70-130%			
	o-Terphenyl	89.1 mg/Kg		100 mg/Kg	89%	70-130%			
LCS	TPH (C6 to C35)	89.9 mg/Kg		100 mg/Kg	90%	75-125%			
Surrog		Result		Spike Conc	Recovery	Rec Limits			
	1-chlorooctane	89.2 mg/Kg		100 mg/Kg	89%	70-130%			
	o-Terphenyl	88.3 mg/Kg		100 mg/Kg	88%	70-130%			
LCSD	TPH (C6 to C35)	92.9 mg/Kg		100 mg/Kg	93%	75-125%	3.3%	0-20%	
Surrog	( )	Result		Spike Conc	Recovery		0.070	0 2070	
••••••	1-chlorooctane	89.6 mg/Kg		100 mg/Kg	90%	70-130%			
	o-Terphenyl	88.2 mg/Kg		100 mg/Kg	88%	70-130%			
MS	TPH (C6 to C35)	98.6 mg/Kg	ND	100 mg/Kg	99%	75-125%			
Surrog		Result		Spike Conc	Recovery	Rec Limits			
Surroy	1-chlorooctane			-	-				
		92.3 mg/Kg		100 mg/Kg	92%	70-130%			
MOD	o-Terphenyl	90.8 mg/Kg		100 mg/Kg	91%	70-130%	0.40/	0.000/	
MSD	TPH (C6 to C35)	99.0 mg/Kg	ND	100 mg/Kg	99%	75-125%	0.4%	0-20%	





### **QC Summary**

		Reference			Rec		RPD	
QC Type Parameter	Result	Value	Spike Conc	Rec	Limits	RPD	Limits	Flags
QCBatchID 1005_05729AS								
Surrogate	Result		Spike Conc	Recovery	Rec Limits			
1-chlorooctane	93.4 mg/Kg		100 mg/Kg	93%	70-130%			
o-Terphenyl	93.7 mg/Kg		100 mg/Kg	94%	70-130%			





Draiget Normey Detaining Well

## **Case Narrative**

Project Name:	Retaining Wall
Q-7	Recovery and/or RPD outside desirable limits.
S-12	Sample should be analyzed as soon as possible and preferably at the time of collection.
ppm	Parts per million = mg/Kg or mg/L
ppb	Parts per billion = ug/Kg or ug/L
MQL	Method quantitation limit
SDL	Sample detection limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions)
SQL	Sample quantitation limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilution
ND	Analyte not detected at or above SQL
LCS/LCSD	Laboratory control spike / Laboratory control spike duplicate
MS/MSD	Matrix spike / Matrix spike duplicate
RPD	Relative percent difference
Sub	Analysis performed by subcontract laboratory
*	Refer to QC section and / or Case Narrative

Solid sample results reported on a dry weight basis for all applicable analysis, unless otherwise noted. Dry weight calculations based upon % solids obtained as outlined in EPA method 5035 section 7.5

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Oxidor Laboratories, LLC certifies to the best of its knowledge that all results contained in this report are consistent with the National Environmental Laboratory Accreditation Program, except where otherwise noted.





# **Sample Preservation Verification**

### Project Name: Retaining Wall

Receipt temp: 3.8 °C o	n Ice				
Receipt method: Client					
Custody seal intact: Not Pres	sent		All sample	es / labels rec	eived intact: Yes
Customer Sample ID: SP-07			Collected By:	Nick Forema	n
Oxidor Sample ID: 121101	04-001		Collector Affiliation:	W&M Enviror	nmental Group, Inc.
Collected: 11/05/1	2 09:00		Matrix:	Solid	
Bottle Type	<u>Count</u>	Collection Method	Parts / Interval	Indicated Preservation	рH
4 oz Glass Jar	3	Composite		Temp	-
Customer Sample ID: SP-08			Collected By:	Nick Forema	n
Oxidor Sample ID: 121101	04-002		Collector Affiliation:	W&M Enviror	nmental Group, Inc.
Collected: 11/05/1	2 09:00		Matrix:	Solid	
Bottle Type	Count	Collection Method	Parts / Interval	Indicated Preservation	<u>pH</u>
4 oz Glass Jar	3	Composite		Temp	-

Sample conditions at time of receipt at laboratory verified in part or in whole by:

A.B.

2014 EXIDE APAR PAGE 2182 OF 3116





# Chain of Custody

# PROJECT DESCRIPTION: Retaining Wall

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# **OXIDOR Laboratory Review Checklist Cover Page**

# Project Name: 112.052.003 Retaining Wall

7471 South Fifth Street, Frisco, TX

### OXIDOR Job Number: 12110274 W&M Environmental Group, Inc.

This data package consists of:

X This signature page, the laboratory review checklist, and the following reportable data:

- X R1 Field chain-of-custody documentation;
- X R2 Sample identification cross-reference;
- **R3** Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with TNI Standard Module 2, Section 5.10
    - b) dilution factors,
    - c) preparation methods,
    - d) cleanup methods, and
    - e) if required for the project, tentatively identified compounds (TICs);
- **XR4** Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits;
- XR5 Test reports/summary forms for blank samples;
- **XR6** Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits;
- **XR7** Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits;
- **XR8** Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates;
- X R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- X **R10** Other problems or anomalies.
- X The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.
- **Release Statement**: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Charles Brungardt

Name

NON R.	
at 12 J-	President
Signature 🔾	Official Title

November 12, 2012 Date



#### Laboratory Review Checklist: Reportable Data Laboratory Name: OXIDOR Laboratories, LLC LRC Date: November 12, 2012 Project Name: 112.052.003 Retaining Wall 12110274 W&M Environmental Group, Inc. Laboratory Job Number: Reviewer Name: James A. Narens, III QC Batch Number(s): See Cross-reference List #1 $A^2$ Description No NA<sup>3</sup> $NR^4$ ER#<sup>5</sup> Yes **R1** OI Chain-of-Custody (C-O-C) Х Did samples meet the laboratory's standard conditions of sample acceptability upon receipt? X Were all departures from standard conditions described in an exception report? **R2** OI Sample Quality Control (QC) and identification Are all field sample ID numbers cross-referenced to the laboratory ID numbers? Х Х Are all laboratory ID numbers cross-referenced to the corresponding QC data? **R3** OI Test reports Х Were all samples prepared and analyzed within holding times? Х Other than those results < MDL, were all other raw values bracketed by calibration standards? Х Were calculations checked by a peer or supervisor? Х Were all analyte identifications checked by a peer or supervisor? Х Were sample quantitation limits reported for all analytes not detected? Were all results for soil and sediment samples reported on a dry weight basis? Х Х Were % moisture (or solids) reported for all soil and sediment samples? Х If required for the project, TICs reported? **R4** 0 Surrogate recovery data Were surrogates added prior to extraction? Х Were surrogate recoveries in all samples within the laboratory QC limits? Х Test reports/summary forms for blank samples **R5** OI Х Were appropriate type(s) of blanks analyzed? Were blanks analyzed at the required frequency? Х Were method blanks taken through the entire analytical process, including preparation and, if Х applicable, cleanup procedures? Х Were blank concentrations < MQL? **R6** OI Laboratory Control Samples (LCS) Were all COCs included in the LCS? Х Х Was each LCS taken through the entire analytical procedure, including prep and cleanup steps? Х Were LCSs analyzed at the required frequency? Х Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Х Was the LCSD RPD within QC limits? **R7** OI Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data Х Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency? Х Were MS (and MSD, if applicable) %Rs within the laboratory QC limits? Х Х Were MS/MSD RPDs within laboratory QC limits? **R8** OI Analytical duplicate data Х Were appropriate analytical duplicates analyzed for each matrix? Were analytical duplicates analyzed at the appropriate frequency? Х Were RPDs or relative standard deviations within the laboratory QC limits? Х **R9** OI Method Quantitation Limits (MQLs) Are the MQLs for each method analyte included in the laboratory data package? Х Do the MQLs correspond to the concentration of the lowest non-zero calibration standard? Х Are unadjusted MQLs included in the laboratory data package? Х Does the detectability check sample (DCS) data document the laboratory's capability to detect the Х COCs at the MQL used to calculate the SQLs? **R10** OI Other problems/anomalies Χ Are all known problems/anomalies/special conditions noted in this LRC and ER? Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for all Х analytes, matrices, and methods associated with this LRC? Was applicable and available technology used to lower the SQL to minimize any matrix interference Х effects on the sample results?

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified 1.

by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4 NR = Not reviewed;

ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked). 5.



#<sup>1</sup>

A<sup>2</sup>

#### Laboratory Review Checklist: Supporting Data Laboratory Name: OXIDOR Laboratories, LLC LRC Date: November 12, 2012 Project Name: 112.052.003 Retaining Wall Laboratory Job Number: 12110274 W&M Environmental Group, Inc. Reviewer Name: James A. Narens, III QC Batch Number(s): See Cross-reference List Description No NA<sup>3</sup> NR<sup>4</sup> Yes

S3 53 54	0	Were response factors and/or relative response factors for each analyte within QC limits? Were percent RSDs or correlation coefficient criteria met? Was the number of standards recommended in the method used for all analytes? Were all points generated between the lowest and highest standard used to calculate the curve? Are ICAL data available for all instruments used? Has the initial calibration curve been verified using an appropriate second source standard? <b>Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB)</b> Was the CCV analyzed at the method required frequency? Were percent differences for each analyte within the method-required QC limits? Was the ICAL curve verified for each analyte? Was the absolute value of the analyte concentration in the inorganic CCB < MDL? <b>Mass spectral tuning</b> Was the appropriate compound for the method used for tuning? Were ion abundance data within the method-required QC limits?	X X X X X X X X X X X X X X			
S3 54	0	Was the number of standards recommended in the method used for all analytes? Were all points generated between the lowest and highest standard used to calculate the curve? Are ICAL data available for all instruments used? Has the initial calibration curve been verified using an appropriate second source standard? Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB) Was the CCV analyzed at the method required frequency? Were percent differences for each analyte within the method-required QC limits? Was the ICAL curve verified for each analyte? Was the absolute value of the analyte concentration in the inorganic CCB < MDL? Mass spectral tuning Was the appropriate compound for the method required QC limits?	X X X X X X X X X X			
S3 54	0	Were all points generated between the lowest and highest standard used to calculate the curve?         Are ICAL data available for all instruments used?         Has the initial calibration curve been verified using an appropriate second source standard?         Initial / continuing calibration verification (ICV / CCV) and continuing calibration blanks (CCB)         Was the CCV analyzed at the method required frequency?         Were percent differences for each analyte within the method-required QC limits?         Was the ICAL curve verified for each analyte?         Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X X X X X X X X			
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S4		Were percent differences for each analyte within the method-required QC limits?         Was the ICAL curve verified for each analyte?         Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X X			
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S4		Was the appropriate compound for the method used for tuning? Were ion abundance data within the method-required QC limits?				
	0	Were ion abundance data within the method-required QC limits?				
	0				X	
	0	Internal Standards (IS)			Х	
S5 (		Internal Standards (IS)				
S5 (		Were IS area counts and retention times within the method-required QC limits?			Х	
	OI	Raw data (TNI Standard Module 2, Section 5.10)				
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X			
		Were data associated with manual integrations flagged on the raw data?	Х			
<b>S6</b>	0	Dual column confirmation				
		Did dual column confirmation results meet the method-required QC?			х	
S7	0	Tentatively Identified Compounds (TICs)				
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			x	
<b>S8</b>	Ι	Interference Check Sample (ICS) results - Metals				
		Were percent recoveries within the method QC limits?	X			
<b>S9</b>	Ι	Serial dilutions, post digestion spikes, and method of standard additions - Metals				
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	Х			
S10 (	OI	Method Detection Limit (MDL) studies				
		Was a MDL study performed for each reported analyte?	Х			
		Is the MDL either adjusted or supported by the analysis of DCSs?	Х			
S11 (	OI	Proficiency test reports				
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X			
S12 (	OI	Standards documentation				
		Are all standards used in the analysis NIST-traceable or obtained from other appropriate sources?	X			
S13 (	OI	Compound/analyte identification procedures				
		Are the procedures for compound/analyte identification documented?	X			
S14 (		Demonstration of Capability (DOC)				
		Was DOC conducted consistent with TNI Standard Module 4, Section 1.6?	X			<u> </u>
~	0.7	Is documentation of the analyst's competency up-to-date and on file?	Х			
S15 (	OI	Verification/validation documentation for methods (TNI Standard Module 4, Section 1.5)				
	-	Are all methods used to generate the data documented, verified, and validated, where applicable?	X			
S16 (	OI	Laboratory Standard Operating Procedures (SOPs)				
1.		Are laboratory SOPs current and on file for each method performed?	X			

by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked). 5.

ER#<sup>\$</sup>



Laboratory Review Checklist: Exception Reports										
Laboratory Name: OXIDOR Laboratories, LLC	LRC Date: November 12, 2012									
Project Name: 112.052.003 Retaining Wall	Laboratory Job Number: 12110274 W&M Environmental Group, Inc.									
Reviewer Name: James A. Narens, III	QC Batch Number(s): See Cross-reference List									
ER# <sup>1</sup> DESCRIPTION										

1. ER# = Exception Report identification number (an Exception Report should be completed for an item if "No" or "NR" is checked on the LRC)





Order ID: 12110274 Date: 11/12/2012 Page 1 of 8

Monday, November 12, 2012

W&M Environmental Group, Inc. Frank Clark 906 E. 18th, Suite 100 Plano, TX 75074 Tel: (972) 516-0300 Fax: (972) 516-4145

Re: Project Name: Retaining Wall Project Number: 112.052.003 Project Location: 7471 South Fifth Street, Frisco, TX

Oxidor received 1 solid sample(s). The analysis performed were as follows:

<u>Sample</u>	Sample ID	<u>Matrix</u>	<u>Collected</u>	<u>Analysis</u>
12110274-001	SP-07	Solid	11/5/2012 09:00	TCLP Cadmium, TCLP Metals Extraction

Respectfully submitted,

Charles Brungardt President





# **Analytical Report**

ID: 1211	0274-001		Samp	•		0:00	
MQL	SQL	Result	Units	Date Analyzed	Method	Analyst	Flags
on				11/08/12 16:40	1311	H.B.	
09/12 at 09:40	0.010	0 335 r	ng/l	11/00/12 16:17	6020	КO	
	ID: 1211( red: 11/8/2 MQL	<b>ON</b> 19/12 at 09:40	ID: 12110274-001 red: 11/8/2012 MQL SQL Result on	ID: 12110274-001 red: 11/8/2012 Samp MQL SQL Result Units on	ID:       12110274-001       Matrix:       Set         red:       11/8/2012       Sample Collected:       11         MQL       SQL       Result       Units       Date Analyzed         on       11/08/12 16:40         19/12 at 09:40       11/08/12 16:40	ID:       12110274-001       Matrix:       Solid         red:       11/8/2012       Sample Collected:       11/5/2012       09         MQL       SQL       Result       Units       Date Analyzed       Method         on       11/08/12       16:40       1311	ID: 12110274-001       Matrix: Solid         red: 11/8/2012       Sample Collected: 11/5/2012 09:00         MQL       SQL       Result       Units       Date Analyzed       Method       Analyst         on       11/08/12 16:40       1311       H.B.





## Sample Cross Reference

Customer ID:	Lab ID:	Test	Method	QCBatchID:
SP-07	12110274-001	TCLP Cadmium	6020	META_06046_L





W&M Environmental Group, Inc. Frank Clark

#### **QC Summary**

#### Project Name: Retaining Wall

			Reference			Rec		RPD	
QC Туре	e Parameter	Result	Value	Spike Conc	Rec	Limits	RPD	Limits	Flags
QCBatc	hID META_06046_L								
Blank	TCLP Cadmium	ND mg/L							
LCS	TCLP Cadmium	0.103 mg/L		0.1 mg/L	103%	85-115%			
LCSD	TCLP Cadmium	0.102 mg/L		0.1 mg/L	102%	85-115%	1.1%	0-20%	
MS	TCLP Cadmium	0.850 mg/L	0.335 mg/L	0.5 mg/L	103%	80-120%			
MSD	TCLP Cadmium	0.833 mg/L	0.335 mg/L	0.5 mg/L	100%	80-120%	2.0%	0-20%	





W&M Environmental Group, Inc. Frank Clark

#### **Case Narrative**

#### Project Name: Retaining Wall

ppm	Parts per million = mg/Kg or mg/L
ppb	Parts per billion = ug/Kg or ug/L
MQL	Method quantitation limit
SDL	Sample detection limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilutions)
SQL	Sample quantitation limit (reflects any laboratory adjustments made to the sample during analysis such as dry weight or dilution
ND	Analyte not detected at or above SQL
LCS/LCSD	Laboratory control spike / Laboratory control spike duplicate
MS/MSD	Matrix spike / Matrix spike duplicate
RPD	Relative percent difference
Sub	Analysis performed by subcontract laboratory
*	Refer to QC section and / or Case Narrative

Solid sample results reported on a dry weight basis for all applicable analysis, unless otherwise noted. Dry weight calculations based upon % solids obtained as outlined in EPA method 5035 section 7.5

This report is intended only for the use of W&M Environmental Group, Inc. and may contain information that is privileged and confidential. It may not be reproduced in full (or in part) without the expressed written permission of W&M Environmental Group, Inc. and Oxidor Laboratories, LLC.

Oxidor Laboratories, LLC certifies to the best of its knowledge that all results contained in this report are consistent with the National Environmental Laboratory Accreditation Program, except where otherwise noted.





W&M Environmental Group, Inc. Frank Clark

#### **Sample Preservation Verification**

#### Project Name: Retaining Wall

Receipt temp: 3.8 °C o	on Ice				
Receipt method: Additio	nal Analysis	i			
Custody seal intact: Not Pre	esent		All sample	s / labels rec	eived intact: Yes
Customer Sample ID: SP-07			Collected By:	Nick Forema	n
Oxidor Sample ID: 121102	274-001		Collector Affiliation:	W&M Enviror	nmental Group, Inc.
Collected: 11/05/	2 09:00		Matrix:	Solid	
Bottle Type	<u>Count</u>	Collection Method	Parts / Interval	Indicated Preservation	рH
4 oz Glass Jar	3	Composite		Temp	-

Sample conditions at time of receipt at laboratory verified in part or in whole by:

A.B.

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Order ID: 12110274 Date: 11/12/2012 Page 7 of 8

#### Chain of Custody

#### PROJECT DESCRIPTION: Retaining Wall

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<sup>Phone</sup> 972-3	855-2121 972	- 577-2	707	0-0				 			T	<b>₹</b>				5		· Weight	w Checkl	
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	1825 East Plano Parkway, #16	Ó			- 1N	AG	00													





#### Chain of Custody

PROJECT DESCRIPTION: Retaining Wall

From: Sent: To: Cc: Subject:	Nick Foreman [nforeman Thursday, November 08 Homer Youngblood; Cha Frank Clark; COLEMAN Exide sample SP-07 (12	, 2012 2:45 PM arles Brungardt; Custom , Vanessa (Frisco, TX) (	erService Vanessa.Coleman@	⊉na.exide.com)
Hi Charles and Home	r,			
Can you please re-r naving issues with	un the SP-07 sample the 0.496 being so c	collected on 11/5 close to the 0.5 c	/12 for TCLP Ca ut-off.	dmium. We are
	SAP and Exide should			
Thanks.				
Nick Foreman Environmental Scien	tist II			
	roup, Inc. t, Plano, Texas 7507 (f) 972.516.4145	4		
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#### WASTE DISPOSAL MANIFESTS – STOCKPILED SOILS FROM TRENCH EXCAVATION

ATTACHMENT D

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	5. Ge		HNOLOGIES		Gen	erator's Site Addres	ss (if different th	an mailing addre	ss)	0.101 0	VIL
		7471 S 5TH FRISCO TX	ST 75034-0005 (872)335-2121								
		erator's Phone: ansporter 1 Company Name	(972)335-2121								
		SET E,	Junomment	I Jac						12 98195	1236
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DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Date	11/15/	Chemical Waste Management		Page
Time	11/15/	Data Error/Discrepancy Report		Program name
	WASTE MANAGEMENT		CHEMICAL WASTI	MANAGEMENT, INC.
	Report Initiation Date: 11/15/12		17179 debalagennon F	
	Five Day Resolution Period Begin Date	e: 11/16/12	Sulphur, LA 70665 (337) 583-2169	
	Receiving Ticket: 000643915 Line # 3	1	Manifest :	009996407JJK
	Profile Number : 956103LA			
	Generator Name : EXIDE TECHNOLOGIES		Federal EPA ID#:	TXD006451090
	City : FRISCO	State: TX	Zip Code :	75034-0005
		TYPE OF DISCREPANCY		

Manifest*	:	Weight*	:	Analytical* :
Drum Count*	<ul> <li>A state op</li> </ul>	LDR Form*	:	Physical St* : X
		• • • • • • • • • • • • • • • • • • •		

Problem (be specific): Physical State SD

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BULK WASTE MANIFESTED AS PROFILE 956103LA, SOIL FROM RETAINING WALL PROJECT FOR TREATMENT AT STABILIZATION. THE LOAD RECEIVED CONTAINS LARGE PIECES OF CUT UP THICK PLASTIC. WE CANNOT TREAT DEBRIS. WE CAN MACRO DEBRIS. \* IS THIS THE RIGHT PROFILE FOR THIS WASTE?

Efforts to resolve discrepancy: PER VANESSA COLEMAN/RICK CONNOR THE CORRECT PROFILE NUMBER IS LB5576. CHANGE THE PAPERWORK TO REFLECT THE CORRECTION.

Resolved: X Tipe Înµ : 0:08:36 Authorized Signature

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Time Out : 0:11:33

Unresolved:

Date Resolved: 11/15/12

\*\* END OF REPORT \*\*

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Date Time	10:56: WASTE MANAGEMENT	Chemical Waste Management Data Error/Discrepancy Report	CHEMICAL	Page : Program name VASTE MANAGEMENT, INC.
	Report Initiation Date: 11/15/12 Five Day Resolution Period Begin Date	e: 11/16/12	7,170 John Bra Sulphur, LA 70 (337) 583-21	0000 Road 0348DR1
	Receiving Ticket: 000643915 Line # : Profile Number : LB5576 Generator Name : EXIDE TECHNOLOGIES	1	Manifest	: 009996407JJK
	City : FRISCO	State: TX		ID#: TXD006451090 : 75034-0005
		TYPE OF DISCREPANCY		
	Manifest* : Drum Count* :	Weight* : X		Analytical* : Physical St* :
	Problem (be specific): Total Quantity			
	PTHERE IS A GR MANIFESTED FOR 25 YARDS.	EATER THAN 10% VOLUME DISCREPANCY. 20 YARDS; CWM'S VOLUME IS		
	25 YA	ANESSA COLEMAN OK TO USE CWM'S VOLUME O RDS AND CHANGE THE PAPERWORK TO REFLECT CTION.	F THE	
/	Resolved: X Time In : 0:16:40	Unresolved: Time Out : 0:08:40		
	Authorized Signature	Date Resolved: 11/16/12		

#### 2014 EXIDE APAR PAGE 2199 OF 3116

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DESIGNATED FACHITY TO DESTINATION STATE (IF REQUIRED)

2014 EXIDE APAR PAGE 2200 OF 3116

↑ UNIFORM HAZARDOUS 1. Generator ID Number	44(	161		R# 993510			CWA
WASTE MANIFEST TX D006451090	2. Page 1 of 3. E			4. Manife	st Tracking	Number	OMB No. 2050-00
5. Generator's Name and Mailing Address EXIDE TECHNOLOGIES	1 Gene	(800) rator's Site Addre	424-93	DO U(	199	<u>9682</u>	6 JJK
			ee In criseron	r man mailing addr	ess)		
FRISCO TX 75034-0005 Generator's Phone: (972)335-2121	ł						
a riterisponer i company Name	I						
Transporter 2 Company Name Manage Must Inc	3			U.S. EPAID	Number	مر وسر در در	
				U.S. EPAID	Number	14/2	12
8. Designated Facility Name and Site Address							
CHEMICAL WASTE 7170 JOHN BRANN	MANAGEMEN	T٧		U.S. EPA ID	Number		
Facility's Phone (337) 583-2169 SULPHUR LA 70865	<u>08 RD.</u> 5				LAD	0007772	01
9a 9b. U.S. DOT Description (including Proper Spinning March 19		·					•••
		10. Conta No.	iners Type	11. Total	12. Unit	13 Wa	asie Codes
X 1 RQ,NA3077,HAZARDOUS WASTE,SOLID,NO	S,9,III,(D008)		1 1940	Quantity	Wt./Vol.		
X RQ,NA3077,HAZARDOUS WASTE,SOLID,NO	956103LA	1	DT	26.660	P	D008	
2.	COULOULY		<u> ~</u>				
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14. Special Handling Instructions and Additional Information						1	
IN CASE OF EMERGENCY CONTACT CHEMTRE	C 200 404 001						
DISCREPANCIES CONTACT CIFULEU	JC-C≫_24D-C-D ⊃ \	CTN V		ACT#:CCN	4557)		
marked and labeled/placarded and are in all in the reby declare that the contents of this	consignment are fully an	d accurately doc	ribed above	- <u>- 4441</u>	2		
marked and labeled/placarded, and are in all respects in proper condition for transport accord Exporter, I certify that the contents of this consignment conform to the terms of the ettached I certify that the waste minimization statement identified in 40 CFR 262 37(a) (II on a local	ording to applicable intern i EPA Acknowledgment o	ational and natio. f Consent	nal governme	intal regulations, if a	ing name, a export shipi	and are classified ment and I am th	<sup>3</sup> , packaged, e Primary
enerator's/Offeror's Printed/Typerl Name	e quantity generator) or (i	) (if I em a small	quantity gene	vator) is true.			
CANTLE WENEUL,	Signature			alit	/	Month	Day Year
	Export from U.S.	Part of entry		ann	<u>e</u>	11	2912
7. Transporter Acknowledgment of Receipt of Materials		Date leaving					
apeporter 1 Printed/Diped Name	Signature						
ansporter Printed Nyped Name		3 B	4			Month	Day Q. Year
	Signature		1			Month	Day Year
Discrepancy	I		·····				
a. Discrepancy Indication Space Quantity Type							
· L_ type		Residue	L	Partial Rejection	n	- Ful	Rejection
p. Alternate Facility (or Generator)		est Reference NL					
	,			U.S. EPA ID Numb	er		
ility's Phone: . Signature of Allernate Facility (or Generator)			1				
					******	Month	Day Year
Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatme	Int disposed and						
H132 2.	3.	g systems)		14			
Designated Fecility Owner or Orthogram		۸		4.			
Designated Ficility Owner or Operator: Certification of receipt of hazafious materials covered b led/TypeoName	y the manifest except as	ncted witem 18a	)			·····	
ELSVITIVEL Vih	Signature	$\checkmark$	T	1-	·····	Month A	av Year
n 8700-22 (Rev. 3-05) Previous editions are obsolete.	DESIGNA		$\underline{\mathcal{N}}$	$\leq$		1112	4112-

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)



#### FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

#### GENERATOR

## WMI 1250879

Name Ealde Technologies		Generating Location	_Exide Teci	anologia	
Address PO Box 280					
Erisco TX 75034	۰	State Gen. ID No3			
Phone No972 335-2121		Gen. US EPA ID No.		1090	
WASTE CODE PROFILE NUMBER	WASTE	DESCRIPTION		QUANTITY	UNITS
1991999999	ਦਿਤਜੋਂ, ਦੇਸ਼ਮਹਾਜ਼ਦ & ਲੋਹ			1	\
1010P15131910121 - 9578297	*				
10101217131012121 958041 TX	SOIL FROM RE	TAINTHE WAL		Ninte	
CODES: D = DRUM	; B = BAG; C = CAR	TON; P = POUND		OS; 0 = OTHEI	<i>y</i> e R
I hereby certify that the above listed material(s) each waste has been properly described, class	, is (are) not a hazardous waste as ified and packaged, and is in prope	defined by 40 CFR Part 261 or condition for transportation	or any applicable	state law. That	
CARLELA DELLE	NAME (PRINT)	1/11/12 C		Icable regulations.	4
GREEN SC Transporter's Name	APINIS	PORTER		/>\ <->	37 99
Address 240	HANGLEY EVENDER	RI. Driver's name		1	211
-BENY: TX 75102 FORT WOR	TH. TX 76118	Vehicle No 87/	1. 1810	-	
I hereby certify that the above listed material wa	S Dicked up at the Generator site lie		4/003		
9-11-12 SHIPMENT DATE		DELIVERY DATE		e disposal facility listed	
	DISPOSAL	FACILITY			
Site Name DFW RDF Address 1800 \$ Rairond Street Permit No.		Phone No. (972)400 i ewidville T		<u> </u>	*****
hereby certify that the above listed material has	been accepted and that informatio			rate. SIGNATURE	2



FOR OFFICE USE ONLY

Customer Acc. No. \_\_\_\_\_ Ticket No. \_\_\_\_\_

#### GENERATOR

Name	Generating Location	ide Technologies
Address P.O. Box 250	7471 South 5th St. F	
Frisco TX 77003	State Gen. ID No	
Phone No. 072 038-2121	Gen. US EPA ID No	
WASTE CODE PROFILE W	VASTE DESCRIPTION	QUANTITY UNITS
विजयम्बद्धने निर्देशमा स्टल्स् अन्य	<del>oneie G. Belefa</del>	Y
121213131910181 -95782977K	-	
1010121713101212 9580417X SOTL FR	tom RETAINING W	ALL Debots Y
<b>CODES:</b> $D = DRUM$ ; $B = BAG$ ; ( I hereby certify that the above listed material(s), is (are) not a hazard each waste has been properly described, classified and packaged, a CARLE, DEMEGU AUTHORIZED AGENT'S NAME (PF		= YARDS; 0 = OTHER
Transporter's Name <u>GREEN SCAPENG</u> Address <u>GREEN SCAPENG</u> Address <u>GREEN SCAPENG</u> Address <u>GREEN SCAPENG</u> Address <u>GREEN SCAPENG</u> Address <u>GREEN SCAPENG</u> <u>Address GREEN </u> <u>Address GREEN SCAPENG</u> <u>Address Manuel</u> <u>Address >	Phone No. (CC) (SEC) E FOR THE REAL Driver's name //2 I'B Vehicle No. 8510 enerator site listed above and delivered without in	$\frac{(817) 577 - 9299}{CAM}$
SHIPMENT DATE DRIVER'S SIGNATURE	<u>9-11-12</u> E DELIVERY DATE	MALLA OG DRIVER'S SIGNATURE
DIS	SPOSAL FACILITY	
Site Name 	Phone No. (0770)469 10	; ?
Permit No.	Time	2090-
I hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material has been accepted and hereby certify that the above listed material hereby certify that the above listed material hereby certify that the above listed material hereby certify that the above listed material hereby certify that the above listed material hereby certify that the above listed material hereby certify that the above listed material hereby certify that the above listed material hereby certify that the above listed materia	that information presented on this documents to	SIGNATURE



FOR OFFICE USE ONLY
Customer Acc. No. \_\_\_\_\_
Ticket No. \_\_\_\_\_

## GENERATOR

# WMI 1250880

Name_ Svide Techno				Generating Location	Exide Tec	nnoisgies	
Address PC Box 200				7471 South Sth	St; Frisco, T	X 75034	
Erisco T/ 7903				State Gen. ID No3	0016		
Phone No. 972 335-	212			Gen. US EPA ID No.		1090	
WASTE CODE	PROFILE NUMBER		WASTE	DESCRIPTION		QUANTITY	UNITS
	Kesser	- <del>894.</del> -	Same & De	- the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec		1,	Y
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001217131012121	95804IT)	SOIL	FROM R	ETAINING WA	LL	20 ve/s	V
CODES:	D = DRUN	A: B = BA(		TON; P = POUNE			
each waste has been proper <u>CARLT, LE L</u> AUTHO	y acconoca, cias	Sincu anu packa	ged, and is in prop (PRINT)	s defined by 40 CFR Part 261 er condition for transportation	or any applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to applicable according to	e state law. That Dicable regulations. Uhr Canton SIGNATURE	1
	GREEN SC	APING	TRANS	PORTER			
Transporter's Name		<u> </u>		Phone No	<u> </u>	17)577-92	99
Address	24	OI HAMLE	> ESENTUR	Abriver's name	Zauis (	2M	
Enry TV 78400	FORTW	arth, tx	76118	Vehicle No. <u>84</u>	le		
I hereby certify that the above 		as picked up at i	the Generator site	listed above and delivered wit	hout incident to t	he disposal facility liste	d below.
			DISPOSA	L FACILITY		an ann an ann ann ann ann ann ann ann a	(1-12-12-12-12-12-12-12-12-12-12-12-12-12
Site Name LTW EL				Phone No. ((72)4)	55 1210 Th 76/107		·
- O2L C			·····				
Permit No.	histori matarial b			Time	>1/W		
I hereby certify that the above	NAME	us peen accepte	(PRINT)	DATE	ent is true and ae	SIGNATURE	

White - Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator



FOR OFFICE USE ONLY
Customer Acc. No. \_\_\_\_\_\_
Ticket No. \_\_\_\_\_

#### GENERATOR

Name			Generating Location	EXIDE T	CENOLONIES	
Address	10		-		T. FRISCO TX 7	Enra
FRICCO TX DEX		·······	State Gen. ID No			· · ·
Phone No972 035-			Gen. US EPA ID No	TXEODER	1000	
WASTE CODE	PROFILE NUMBER	WAST	E DESCRIPTION		QUANTITY	UNITS
					Chi da	7
199217131912121 11111111111	958041TX	SOIL FROM	m RRTAING U	JALL	<u>X_</u>	
CODES:	D = DRUM	; B = BAG; C = C	ARTON; P = POUNI	D' V - VA DI		
I Referry certify that the about	(e listed material/c)	is (aro) pot a base-dation				R
· ·	• • • • • • • • •	padraged, and is in p	roper condition for transportation	according to app	plicable regulations.	
UNKLILE, L	MIZED AGENT'S	NAME (PRINT)	10-1-12 L	lend	Wy. car	tila
		(PAINT)	DATE		SIGNATURE	
E	Greens		ISPORTER	200	and and a set of a set of a set of a set of a set of a set of a set of a set of a set of a set of a set of a set	
Transporter's Name			Phone No.	5-1-	1-577-6	766
Address	<u> </u>	401 Handley Ede	Luilly Driver's name	Lavis OK	'A	œ.F.J
	Ft. Nor	101 11000 144 Ele	Vehicle No		<u> </u>	
I hereby certify that the above	e listed material wa	is picked up at the Generator s	ite listed above and delivered wi	- C		
M-1-12 SHIPMENT DATE	Travis	OM VER'S SIGNATURE	10-1-12 DELIVERY DATE			d below.
		DISPOS	AL FACILITY			
	<b>2</b>			Mar the second		
Site Name		· ····	Phone No.			
		· · · · · · · · · · · · · · · · · · ·	2 4 2 5 1 4 			
Permit No.	·· <del>···································</del>		Time	4:05	3pm	
I hereby certify that the above	e listed material ha	s been accepted and that infor	mation presented on this docum	ent is true and acc	curate;	
K		TY (E)	10-1-12_ DATE	K	1000	207-
						U

2014 EXIDE APAR PAGE 2205 OF 3116
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FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

## GENERATOR

WMI 1252655

Vales will be a state of the

Name_EXIDE TECHERCHORIE	Generating Location _	EXIDE TECHNOLOGIES
Address PO BOX 255	7471 SOUTH FI	TH STREET; FRISCO, TA 7593#
FRISCO TX 75024	State Gen. ID No	
Phone No. 072 235-2121	Gen. US EPA ID No.	TXDD06451090
WASTE CODE PROFILE WAS	TE DESCRIPTION	QUANTITY UNITS
		- providence / St. de
60273022 9580417X SOTL FROM	RETAING WALL	
CODES: D = DRUM; B = BAG; C = I hereby certify that the above listed material(s), is (are) not a hazardous w each waste has been properly described, classified and packaged, and is CARLIC, DRURL I. AUTHORIZED AGENT'S NAME (PRINT)	vaste as defined by 40 CFR Part 261 c in proper condition for transportation a 10-1-10	
Transporter's Name	Cull'r RyDriver's name	L
10-1-12 SHIPMENT DATE	10 - 1 - 10	BALLER'S SIGNATURE
DISPC	DSAL FACILITY	99999999999999999999999999999999999999
Site Name	Phone No. (972)45 EWIEVILL Time 2.26P information presented on this documen DOD DATE	M

	NON-HAZARDOUS WASTE MANIFEST	FOR OFFICE USE ONLY Customer Acc. No
	GENERATOR	WMT 1252656
NameEXIDE TECHNOLOGRES AddressPO BOX 250		nEXIDE TECHNOLOGIES FIFTH STREET; FRISCO, DX 75034
FRISCO TX 75034 Phone No. 972 325/2121	Gen. US EPA ID No.	30516 p
WASTE CODE PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY UNITS
		8 with
10101217131012121 958041 72	oth From RETRINIAL	MALL
CODES: D = DRUM; B =	BAG; C = CARTON; P = POUN	ID; Y = YARDS; 0 = OTHER
I hereby certify that the above listed material(s), is (are) each waste has been properly described, classified and	not a hazardous waste as defined by 40 CER Part 20	61 or any opplicable state to a must
CARLIE WENKELL		
	TRANSPORTER	and a final second design of the second design of the second second second second second second second second s
Transporter's Name	Phone No.	7 817-577-9239 Trainis (Jul 844
I hereby certify that the above listed material was picked ) C- 2-13 SHIPMENT DATE DRIVERS		without incident to the disposal facility listed below.
Eroff und I and the designed were a construction of the address of the design of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of the address of	DISPOSAL FACILITY	
Site Name	Phone No. (4)7.23	1409-12113 1409-12113
AUGIESS	Phone No. (672) 	ILLE TX 75067
Address	Time 9.17	

White - Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator

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FOR OFFICE USE ONLY Customer Acc. No.

## GENERATOR

WMI 1252657

Name_EXIDE TECHNE			Generating Location		CUNCE ADDRA	
Address PO BOX 250			7471 SOUTH F			CHENCE IN
FRISCO TX 75034		······································	State Gen. ID No3		<u>, , , , , , , , , , , , , , , , , , , </u>	
Phone No. 972 325 21	21		Gen. US EPA ID No.		1090	
WASTE CODE	PROFILE	WASTE	DESCRIPTION	· · · · · · · · · · · · · · · · · · ·	QUANTITY	UNITS
						UNITO V
<u>00273022</u> 8		SOIL Fron	RETATIONS L	Mu_		·
CODES: [ I hereby certify that the above like each waste has been properly of CARLT LE LE AUTHORIZ	escribed, classifie	(are) not a hazardous waste a d and packaged, and is in prop	RTON; $P = POUND$ is defined by 40 CFR Part 261 per condition for transportation AO - O - AD = AD DATE			R
Transporter's Name	reen Scap 20101 · Ft. Nort		PORTER Phone No Driver's name Vehicle No	aus Onn	7-577-9	.299
I hereby certify that the above lis	ted matèrial was p TAQUU DRIVE	icked up at the Generator site	listed above and delivered with		,	d below. IRE
		DISPOSA	L FACILITY			
Site Name <u>DEWESS</u> Address <u>TOURS</u> PARENC Permit No.	ed material has be	En accepted and that informat	Phone No. (972)493 Time	10m	A	
	NAME UN	(PRINT)	HATE	4 V	SIGNATURE	

White - Original • Canary - Transporter • Pink - Disposal Facility • Goldenrod - Generator



FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

## GENERATOR

	NOLCARE		Generating Location	EXIDE TE	CHNOLOGIES	
Address PO BOX 25	C				T' FRISCO, TX 7	5034
FRISCO TX 7503	)		State Gen. ID No3			
Phone No. 972 335-	2121		Gen. US EPA ID No.	TXD00645	1080	·····
WASTE CODE	PROFILE NUMBER	WASTE	DESCRIPTION		QUANTITY	UNITS
					S. Ja	<u> </u>
0012171310122	95804172	SOIL FROM	RETAINING	wall		
			· · · · · · · · · · · · · · · · · · ·		<del></del>	
CODES:	D = DRUM;	B = BAG: C = CAI	RTON; P = POUND			
I hereby certify that the above	e listed material(s), is	(are) not a hazardous waste	as defined by 40 CED Bast 061			К
coch masic has been proper	ly described, diasanied	anu packageo, ano is in pro	per condition for transportation	according to app	blicable regulations.	
CARLELE JU	RIZED AGENT'S NA	ME (PRINT)	10-2-12 L	Jewell	18. car	lile
					SIGNATURE	
		TRANS	SPORTER			-0
	Greins	CS Pine				
Transporter's Name		- crug	Phone No.	8	7-577-9	255
Address	2410	HEndley Ecterui)	Phone No.	TRUK	TAA	//
	F. L	504 Tro. 7611	Vehicle No	46		
I hereby certify that the abov	e listed material was p	licked up at the Generator site	e listed above and delivered with		be disposal facility listo	d bolow
16-2-12	2 ABAN	is Com	le e .	A		u beluw.
SHIPMENT DATE	DRIVE	R'S SIGNATURE	DELIVERY DATE		DRIVER'S SIGNATL	JRE
		DISPOSA	L FACILITY			
Site Nome	)r		(97.2).45	£ 1216		
Site Name 1602 S RAY	INCAC STREET		Phone No.	8 77 7 5957		
Permit No.	ΛΛ		Time D'ILPR	1	1 0	·
	e listed material has b	een accepted and that inform	Time <u>X-III</u> nation presented on this docume		+	
· •	XX	PPA	N1117			
	/NAME	(PRINT) -	DATE	<u>Å</u> -	SIGNATI DE	4
	v					

2014 EXIDE APAR PAGE 2209 OF 311	2014 I	EXIDE	APAR	PAGE	2209	OF	311	6
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FOR OFFICE USE ONLY Customer Acc. No. \_\_\_\_\_\_ Ticket No. \_\_\_\_\_

## GENERATOR

WMI 1252659

Name_EXDE TECHNOLOGIES	Ge	nerating Location	EXIDE TECHNOLOGIE	Q
Address PO 80% 250			TH STREET, FRISCO, T	
IRECO XA 76004		ite Gen. ID No3[		
Phone No 335 2121		n. US EPA ID No.	TXD006451090	
WASTE CODE PROFILE NUMBER	WASTE DES	CRIPTION	QUANTI	TYUNITS
	committee or a constants	Reality Colorester		
0101217 30 1212 95804174	SOIL FROM RETA	ENTRI MAL	L SINS	<b>x</b>
CODES: D = DRUM;	B = BAG; C = CARTON	; P = POUND	Y = YARDS; 0 = OT	HER
I hereby certify that the above listed material(s), is each waste has been properly described, classifier	(are) not a hazardeur weeks			
CARLELIE JELLEUL AUTHORIZED AGENT'S NA		_		
AUTHORIZED AGENT'S NA	ME (PRINT) DA	2-12 M	SIGNATURE	Ule
ĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸ	TRANSPOR	ITER		
Transportario Nome	Le D'hu			
Transporter's Name	Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo Photo	one No.	2817-577	- 9290
Address 24/ii	Handley Edenville Driv	ver's name	TRUS OM	
- Phi Wor	H 1k 76118 Ver	nicle No	e le	
I hereby certify that the above listed material was p	icked up at the Generator site listed ab	ove and delivered with	out incident to the disposal facility	listed below.
IDIA-12 TARY		10-2-12	Marin C.	c 1 .2
	H S SIGNALUHE	DELIVERY DATE	DRIVER'S SIGN	IATURE
	DISPOSAL FA	CILITY	and the second second second second second second second second second second second second second second second	
the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	L			
Site Name	Pho	one No		
Address			ETX 75967	
Permit No:	Tim		TAM	
I hereby certify that the above listed material has b	een accepted and that information pres	ented on this documer	it is true and accordate	
	1000	T/O		
	(PRINT)	TĘ /	SIGNATURE	

White - Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator



FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

### GENERATOR

NameEXIDE TECHNOLOGIES	Generating Location	DE TECHNOLOGIES
Address PO ECX 250		STREET; PRISCO. TX 75034
FRISCO TX 75034	State Gen. ID No. 30516	
Phone No972 335-2121	Gen. US EPA ID No	006451090
WASTE CODE PROFILE WASTE CODE NUMBER WASTE	ASTE DESCRIPTION	QUANTITY UNITS
		Cr. K
01020131022 958041TX SOIL F.	Ron RETAINSING M	<u>bu</u> <u><u> </u></u>
CODES: D = DRUM; B = BAG; C	= CARTON; P = POUND; Y =	YARDS 0 - OTHER
I hereby certify that the above listed material(s) is (are) not a hazardo	is worth on defined by 40 OED Due box	
	io is in proper condition for transportation accordir	ig to applicable regulations.
CARLTIC KNIKL J. AUTHORIZED AGENT'S NAME (PRI	10-2-12 Cles	All calle
	UT) DATE	SIGNATURE
	RANSPORTER	
Green Scaping		
Transporter's Name		CLA Ette CAR
Address 2401 Hanilie	Phone No	81-1-577-9399
Ft. Wath The 7/11	COT WhyDriver's name	u's GRA
		۱۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰
I hereby certify that the above listed material was picked up at the Ger	nerator site listed above and delivered without inci	dent to the disposal facility listed below.
SHIPMENT DATE		TAnny Ler
Shiren Sidik roke	DELIVERY DATE /	DRIVER'S SIGNATURE
DISI	POSAL FACILITY	
DEW PDF	(972)459 121	S
Address 1000 S PAR POAD STREET	Phone No. EVWOVILLETX	
Address	1 CIPAT	
Permit No.	Time(0111)	
I hereby certify that the above listed material has been accepted and t	that information presented on this document is true $1 - 1 - 1$	and accurate.
	10 02 11C	A. A eed
	IDAIE.	SIGNATORE



FOR OFFICE USE ONLY Customer Acc. No. \_\_\_\_\_ Ticket No. \_\_\_\_\_

### GENERATOR

Name_EXIDE TECHNO	R CATA			Generating Lo	cation EXIDE:	TECHNOLOGIES	
Address PC BOX 250	·····					ET, FRISCO, D. 7.	
FRIEDO DX 75024				State Gen. ID			er ser se fill Hereiter en en en en en en en en en en en en en
Phone No. 972 335-2	2				ID No. TXIXOOS	451090	
WASTE CODE	PROFILE NUMBER	WA	STE D	ESCRIPT	ION	QUANTITY	UNITS
						Cinta	Y
002730223	158041TX	SOJL FR	om R	ETAININ	6 Mu		
CODES: I hereby certify that the above I each waste has been properly CARLEW, J, AUTHORI	isted material(s), described, classif	is (are) not a hazardous ied and packaged, and	s waste as de Is in proper c	*		RDS; 0 = OTHE ble state law. That pplicable regulations. SIGNATURE	R
Address	Ft. W(	Pins it Handry East	<u>kerill</u> a Ke 118	Vehicle No.	864	17-577-9 OM	
I hereby certify that the above li		Picked up at the Gener Line Course ER'S SIGNATURE		d above and deliv		Universisted University listed	
		DISP	OSAL	FACILITY			
Site Name		*: *		Phone No	-723459 (213 -723459 (213 -7246 (217, 1766	27	
Permit No		/	r	Time	guin	-0	
I hereby certify that the above li	NAME	been accepted and tha			document of true and	SIGNATURE	



FOR OFFICE USE ONLY Customer Acc. No. \_\_\_\_\_\_ Ticket No. \_\_\_\_\_

### GENERATOR

# WMI 1252662

Name EXIDE TECH	NOLOGIES		Generating Location	EXIDE TI	ECHNOLOGIES	
Address PO BOX 25	50				ET, FRISCO, TX 7	0034
FRIECO TX 750	<u>34</u>		State Gen. ID No.			
Phone No	2121		Gen. US EPA ID No.		51090	
WASTE CODE	PROFILE NUMBER	WASTE	DESCRIPTION		QUANTITY	UNITS
		Commence of Contract	ᡩ᠖ᡊᢧᢎᡨᠬ᠈ᢦᠴ᠋᠈ᠵᡡ᠂ᡞᠥᡇ᠄ᢗᡊᠵᡃᡡ			1
121210121718101010	951041TX	SOIL FROM	RETAINING U	JALL	<i>F</i>	Ĵ
CODES:	D = DRUM; B	= BAG; C = CA	rton; P = Poune	Y = YAR		
I hereby certify that the above	ve listed material(s), is (a	re) not a hazardous waste	as defined by 40 CED Red 004			.n
eden masie nas been prope		ano packageo, ano is in pro	per condition for transportation	according to ap	plicable regulations.	
CHRCUCK UN AUTHO	DRIZED AGENT'S NAM	E (PRINT)	10-3-12 LA	Jenfel	s. carl	le
Lagging and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the	and the second second second second second second second second second second second second second second second			All and the second second second second second second second second second second second second second second s	SIGNAT UME	
			SPORTER			
	Gerten Sca	Pine				
Transporter's Name			Phone No.			
Address	34011	ardby Ederville	Driver's name	Truis O.	ЛК	
<u>Contractions</u>	Et. Worth	9x: 74118	Phone No.	44		
I hereby certify that the abov			e listed above and delivered wi			d below.
16-3-12 SHIPMENTDATE	TANK	2 TH	10-3-12 DELIVERY DATE			
SHIPMENTDATE	DRIVER	\$.81GNATURE	DELIVERY DATE	- 64.	DRIVER'S SIGNATI	JRE
	n an an an an an an an an an an an an an	nienoeu	E FOR ASIE PONE			
		DISPUSA	AL FACILITY			
	_\			59 1210		
Site Name COS D P2	- ROVE & TELET		Phone No. (972)4	LE 77.7060	j.	<u></u>
Permit No			Time	7.01	Dw	
I hereby certify that the abov	ve listed material has bee	en accepted and that infom	nation presented orythis docum	ent is true and a		
	Ort	un	M3/D		AL	
	( Mahap	(PRINT)	( DATE 1/1 -		SIGNATURE	
	<u>v (</u>		,		(	

White Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator

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FOR OFFICE USE ONLY Customer Acc. No. \_\_\_\_\_ Ticket No. \_\_\_\_\_

## GENERATOR

## WMT 1252663

Name_EXERTECHNOLOGIET	Generating Location
Address PO BOX 200	747) SOUTH FRITH STREET, PRISCO, TX 78034
RIECO TX 70034	- State Gen. ID No
Phone No. 972 335 212	Gen. US EPA ID No
WASTE CODE PROFILE WAST	E DESCRIPTION QUANTITY UNITS
0021713101212 9580417X SOIL FRON	RETAINTING WALL
<b>CODES:</b> D = DRUM; B = BAG; C = C I hereby certify that the above listed material(s), is (are) not a hazardous wast each waste has been property described, classified and packaged, and is in p CARUE (K, MEMEL)  AUTHORIZED AGENT'S NAME (PRINT)	soper condition for transportation according to applicable regulations.
Transporter's Name Z461 Handley Edery Address Z461 Handley Edery Ft. hbrth Tx. 76,118	ISPORTER  Phone No. Phone No. SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE
16-5-12 Main OM SHIPMENT DATE DRIVER'S SIGNATURE	DELIVERY DATE DRIVER'S SIGNATURE
DISPOS	AL FACILITY
Site Name DEA FISC Address	Phone No. 2779255 115
Permit No.	Time 12:2 PM
-A-REC (PRINT)	10 SIZ

	NON-HAZARDOUS WASTE MANIFEST	FOR OFFICE USE ONLY Customer Acc. No Ticket No
	GENERATOR	NMT 1252664
NameNEETECHIDLOG_EL AddressPC_ECX_250	7471 COTH	n <u>EXIDE TECHNOLONIUS</u> DETHISTROET, DEISCO TO 25/07
78/80.0 34 75074 Phone No	Gen. US EPA ID No.	305*6 0X500245:095
WASTE CODE PROFILE NUMBER	WASTE DESCRIPTION	N QUANTITY UNITS
000-173022 95804172 50	IL FROM RETAINING (	Mu
CODES: D = DRUM; B = I hereby certify that the above listed material(s), is (are) each waste has been properly described, classified and CARLEY WEMEN A. AVTHORIZED AGENT'S NAME	packaged, and is in proper condition for transportati	61 of any applicable state law. That
AUTHORIZED AGENT'S NAME	(PRINT) 24 047 2012 C	
Transporter's Name Address <u>ALAN HEAVILY</u> Ed. Address <u>ALAN HEAVILY</u> Ed. H. World The I hereby certify that the above listed material was picked 10-24-D SHIPMENT DATE DRIVERS	Vehicle No.	without incident to the disposal facility listed below.
	DISPOSAL FACILITY	neg man de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra La contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra
Site Name	Phone No.	NGATUR NGATUR
Permit No	Time accepted and that information presented on this doc	ument is trugand accurate.

White - Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator

Austination

2014 EXIDE APAR PAGE 2215 OF 3116
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FOR OFFICE USE ONLY Customer Acc. No. \_\_\_\_\_ Ticket No. \_\_\_\_\_

## GENERATOR

# WMI 1252670

Participation of the

Name_EXIDE TECH			Generating Location			- Mi
Address <u>PO ECN 2</u> : CENSCO TX 1622			7471 SOUTH FIF		<u>2800, 77 7</u>	C(1)4
Phone No	·····		State Gen. ID No. 30			
A	·····	······································	Gen. US EPA ID No	17.03030.4031086		······
WASTE CODE	PROFILE NUMBER	WASTE	DESCRIPTION	QL	ANTITY	UNITS
	<u> </u>			2. p215.51	8.06	Y.
0101217131012121	958041TX	SOIL FROM A	ETATIVENG	ALL	0.405	·····
						······································
CODES:	D = DRUM; E	B = BAG; C = CAR	TON; P = POUND;			<u> </u>
I hereby certify that the above	e listed material(s), is (a	are) not a hazardous wasto os	defined by 40 CED Days ons			n
	ny 000011000, 012031100	and packaged, and is in prope	ir condition for transportation ac	cording to applicable	regulations.	
AUTHO	NEM EL	AE (PRINT)	0-31-12 CA	Jer All	. Carl	like
				DIC	VALURE	
		£ 1	PORTER			
G	-reen Sca	ling				~
Transporter's Name			Phone No.	2 817	577-	9294
Address		Here by Edenille	Driver's name	ravis Oc	И	
	- Ft. Loch	h 7p 76/18	Vehicle No	6	·····	
I hereby certify that the abov	ve listed material was pic	cked up at the Generator site li	sted above and delivered witho	out incident to the disp	osal facility liste	d below.
10-31-12 SHIPMENT DATE	TAque	y Un	- 10-31-12	Than	is Och	
OF MENT DATE	2 DAIVER	15 SIGINALUHE	DELIVERY DATE	ORIV	ER'S SIGNATU	IRE
	angenengenengenengenengenengenengenenge	DISDOSAL	FACILITY			a de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la companya de la companya de la companya de la companya de la companya de la companya de la comp
		DIOROGAI				
Site Name			(\$72)a\$9			
Site Name <del> OKEEEA</del> Address	TROAD STREET		Phone No. (972)355 1. FWIGVILL	TX 75003		
Permit No			Time	171	00	
	e listed material has be	en accepted and that Informati	on presented on this document	is true and and	(pr=	
	*	11			· · · · · · · · · · · · · · · · · · ·	-
	Tur	In I	0/21/12			



FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

### GENERATOR

NameNOE TECHNOLOGIED	······································	Generating Location	EXIDE TECHNOL	OGIES	
Address <u>PC EOX 250</u>	······································	7471 SOUTH1	TH STREET, FRISC		
TRIECO TX 75034		State Gen. ID No	3(-5) (6		
Phone No		Gen. US EPA ID No	. TX D090451036		
WASTE CODE PROFILE NUMBER	WAST	TE DESCRIPTION	QUAI	NTITY UI	VITS
				Tint	
0101217131012121 9580417x	SOIL FROM	n RETAINING			
CODES: D = DRUM; B =	= BAG; C = C	ARTON: P = POUN			
I hereby certify that the above listed material(s), is (are	) not a hazardoue was	eto se defined by 40 CED D. 4 oc			
and the over property decembed, dessined an	u packageo, anu is in	proper condition for transportatio	n according to applicable regi	ulations.	
CARLELE, WEMELL AUTHORIZED AGENT'S NAME	PRINT)	10-31-12 C	entells.	Cachil URE	1 <u>L</u>
	an and a subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of t		SIGNAT	JRE	
Gereen Scal	itiz	NSPORTER	allinguages Mr. ~		0.0
Transporter's Name	He alles Int	Phone No.	817-5	77-92	19
	The All	CLV/IK Driver's name		and the second second second second second second second second second second second second second second second	
	h to 76118			- <u></u>	
	ed up at the Generator	r site listed above and delivered w		facility listed belo	₩.
on men one on one	SIGNATURE	BELIVERY DATE	DRIVER	5 SIGNATURE	
En de la martine de la constance de la constance de la constance de la constance de la constance de la constanc	DISPOS	SAL FACILITY			
	L				
Site Name OFW PDF		Phone No(97.2)-	59 1243		
Address		↓ F\$4,8531	LE 77 76007		
Permit No,		Time	3:050	m	
I hereby certify that the above listed material has been	accepted and that info	ormation presented on this docun	nent is true and accurate.	·····	
K Boyle	(PRINT)	10-31-12	K BE	ACODE	



FOR OFFICE USE ONLY Customer Acc. No. \_\_\_\_\_ Ticket No.

GENERATOR

WMI 1252672

77576787

Name_EXICE TECHNOLOGIES		Generating Location		~~~~	
Address PO BOX 255		7471 SOUTH Fil	TH STREE	T, FRISCO, TX 78	5094
FRISCO TX 75074		State Gen. ID No. 30		****	
Phone No 972 368 2121		Gen. US EPA ID No.	TXD00645	10940	
WASTE CODE PROFILE NUMBER	WASTE D	ESCRIPTION		QUANTITY	UNITS
				e de	Y
001217012121 <u>95804172</u>	SOIL FROM	RETAINING	MU	<u> </u>	
CODES: D = DRUM: B	= BAG; C = CART			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
I hereby certify that the above listed material(s), is (ar each waste has been properly described, classified a <u>CARLTUE</u> , <u>WEWFUE</u> AUTHORIZED AGENT'S NAME	re) not a hazardous waste as d ind packaged, and is in proper		or any applicable according to appl		
Transporter's Name Address 2401 +	tand ley Edequille	Phone No.	Evis (	7- <u>577-</u> MA	929
I hereby certify that the above listed material was pick <u>11-1-12</u> SHIPMENT DATE SHIPMENT DATE	Red up at the Generator site list			e disposal facility listed	d below. , RE
	DISPOSAL	FACILITY			
Site Name DEWEDE	<b>New York (1997)</b>	Phone No. (\$72)45	9 32*3 6 TX 75067		
Permit No.		Time	1144	CAr-	-
I hereby certify that the above listed material has beer	n accepted and that information	DATE		SIGNATURE	

GENERATOR



NON-HAZARDOUS WASTE MANIFEST FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

## WMI 1252673

TT DESCRIPTION OF

				te te te teste <sub>subm</sub> busu	02010
Name_EXIDE TECHNOLOGIES		Generating Location	n <u>EXIDE TE</u>	CHIVOLOGIES	
Address PO BCX 250		7471 SOUTH	FIFTH STREE	T; FPISCO, TX 7	5034
PRISCO TX 75034		State Gen. ID No	30516		······································
Phone No. 072 035-2321	·····	Gen. US EPA ID No	. <u>TXD00345</u>	1090	
WASTE CODE PROFILE NUMBER	WASTE D	ESCRIPTION		QUANTITY	UNITS
				Side	Y
OIDDIZZOLARI 95804174 SOTO	c FRon R	FTATATAL-		04/5	
					<u></u>
CODES: D = DRUM; B = BA	AG; C = CART	ON; P = POUN	D: Y = YARI	)S' 0 - OTHE	
I hereby certify that the above listed material(s), is (are) not a each waste has been properly described, classified and pack	hazardouo westo en d				.11
CARLELE, JENDELL MA	(PRINT) 11-	-1-12 L	Seule	Up. Car	Liele
ETTALLISE TRADER CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF			and the second second second second	SIGNATURE	
Transporter's Name	TRANSP	Phone No.	Travis I	17-5-77-' INA	7299
FFil both Tre.	20118	Vehicle No.	40		
I hereby certify that the above listed material was picked up at	t the Generator site list	ed above and delivered w	vithout incident to th	ne disposal facility liste	d below.
H-1-12	4 ATURE		and Blowman	unsay	
			-	URIVER'S SIGNATU	JRE
	DISPOSAL	FACILITY			
Site Name TEWEDS Address TEES FALSAL STREET		Phone No. (972)	159 12 13 11 E TX 15007		
Permit No.		Time	ZNIDA		
I hereby certify that the above listed material has been accept	ted and that information		nent is true and acc	lette.	
- Name ( UW	(PRINT)	CIII AND		SIGNATURE	
Construction of the second second second second second second second second second second second second second		122221222			

2014 EXIDE APAR PAGE 2219 OF 3116
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FOR OFFICE USE ONLY
Customer Acc. No. \_\_\_\_\_\_
Ticket No. \_\_\_\_\_

## GENERATOR

WMI 1252674

13035----

		NGCOGIE?			Generating Location					
	PO POX 25				7471 SOUTH FIFTH STREET, FRISCO, TX 78034					
·	<u>20 TX 750</u>				State Gen. ID No	30516				
Phone No.	972 335				Gen. US EPA ID N	o. <u>TXD0064</u>	£1090			
WASTE	e code	PROFILE NUMBER	······································	WASTE	DESCRIPTIO	V	QUANTITY	UNITS		
							8.05	Y Y		
0027	3022	958011Te	SOIL	FROM	RETAINTAL,	-HU	- <u> </u>			
								<u></u>		
(	CODES:	D = DRUM	1: B = BAG	C = CAP	rton; P = Pour					
I hereby certif	y that the above	ve listed material(s	), is (are) not a ha	azardous waste a	as defined by 40 CEB Dow 1			:R		
CACIT WASIE IN	as been prope	iny described, class	sineo ano packag	ed, and is in prop	per condition for transportat	ion according to a	pplicable regulations.			
CARL	ILE, C AUTHO	DENIES	NAME	(PRINT)	11-1-12 C	Sull	Uls. carl	il.		
tanen and a substantia and a substantia and a substantia and a substantia and a substantia and a substantia and				() THEY )			SIGNATURE			
		$\sim$		TRANS	PORTER			an an an an an an an an an an an an an a		
	(	Freen	Scol							
Transporter	's Name	and here the	- Cally	8	Phone No.	$\sim$	21	ano		
Address			WAI Ha	Antick	Phone No.	10.3	A = S = A	-logg		
		FI.I.	Joth Tr	Tule	Vehicle No.	ar h	URA			
l boroby cortifi	without the above	in Poted meterial in				860				
1 1 1		re insteu materiar u		ne Generator site	listed above and delivered		1.0	ed below.		
11-1- SHIPMEN	IT DATE	_//Q	IVER'S SIGNAT	URE		TE TI	amon			
							DRIVERSSIGNAL	UNE		
				DISPOSA	L FACILITY	and the local second second second	72/10/01/01/01/02/01/02/02/02/02/02/02/02/02/02/02/02/02/02/	and a start of the second		
			L		·····					
Site Name	UEW BO				Phone No	)450 (21)				
Address		RRGAR STRE	200 200		(EV.SC)	ALLE TO 7500	· /			
Permit No			/		Time	100	1 Am			
I hereby certify	y that the abov	e listed material h	as been accepted	d and that inform	ation presented on this doc	Jment is true and	accurate			
	~	Tunne.	Λ		11/12		110-			
<u></u>		VAMET	1 m	(PRINT)			SIGNATURE			
			С-		, I	(	<b>-</b>			

GENERATOR



NON-HAZARDOUS WASTE MANIFEST FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

Name		Generating Loc	ation <u>EXIDE</u> T		
Address <u>SOBON 050</u>				IT, FFISCO, TX 7	
		State Gen. ID N			1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -
Phone No. 972 325 2313			No	51090	
WASTE CODE PROFILE NUMBER	WASTE D	ESCRIPTIC	ON	QUANTITY	UNITS
				S rate	<u> </u>
00273022 95804172 50JL	FRon RA	THINTH	WALL		
<b>CODES:</b> $D = DRUM$ ; $B = BA($ I hereby certify that the above listed material(s), is (are) not a the each waste has been properly described, classified and packa <u>CARLILE, HENNELL</u> , AUTHORIZED AGENT'S NAME	hose was a second second second second second second second second second second second second second second se				R 
I hereby certify that the above listed material was picked up at t	76118	Phone No.	66	he disposal facility lister	
II-G-IZ SHIPMENT DATE DRIVER'S STGNA	YURE	U-G-/	ATE The	BHIVER'S SIGNATU	RE
	DISPOSAL	FACILITY			
Site Name OF ALE FOR		Phone No.			
Permit No.		Time		······································	
hereby certify that the above listed material has been accepte	ed and that information	presented on this do $-9-12$	ocument is true and ac		y

2014 EXIDE APAR PAGE 2221 OF 311	2014 E	XIDE A	APAR	PAGE	2221	OF	311
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FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

### GENERATOR

Name_EXICE TECHSOLOGIES		Generating Location	EXIDE TE:	CHNOLOGES	
Address PO BOU 250				I, FRIECO, TX 7:	1034 
FRISCO TX 75054		State Gen. ID No. 3			
Phone No		Gen. US EPA ID No.		1090	
WASTE CODE PROFILE NUMBER	WASTE	DESCRIPTION		QUANTITY	UNITS
				2 at	Y
0021713012121 95804172	SOIL FROM N	STAINING C	ALL	SYUS	
CODES: D = DRU	M; B = BAG; C = CAI	RTON: P = POUND	) <sup>.</sup> Y - YABC		
I hereby certify that the above listed material each waste has been properly described, cla	(s), is (are) not a hazardous waste :	as defined by 40 CED Bart Det	v · · ·		n
CARLELE, JENIFILL AUTHORIZED AGENT		Il-G-D Ca	1	·	l
Transporter's Name	Scalling 401 Handley Hiters bith TX. TUNE	Phone No.	Rais O	17-577-4 U	255
I hereby certify that the above listed material	was picked up at the Generator site	e listed above and delivered wit	and the second second	' /	d below. RE
augustatististatistatistatistatistatistatis	DISPOSA	L FACILITY			unearaista ta ta ta ta ta ta ta ta ta ta ta ta t
Site NameSOVERSE AddressSOUR AAA A DAC DITS		Phone No. (97.2)st EVGCVR	59 (20) 10 70 76(27		
Permit No.		Time	1:5	3 PM	
I hereby certify that the above listed material NAME	has been accepted and that inform	ation presented on this docum LL_9_L2_ DATE	ent is true and acc	SIGNATURE	-J-

2014 EXIDE APAR PAGE 2222 OF
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NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY Customer Acc. No.

Ticket No.

GENERATOR

# WMI 1252677

084.0astes1627

Name <u>EXISE TEC</u>	NALCOISS		Generating Location		Auto and	
Address <u>POROX C</u>	FÇ				T; FRISCO, TX 78	
FRISCO TX 750	54				1, 1942 <b>4. (</b> ), 18.70	
Phone No972 335	2121		State Gen. ID No. <u>31</u> Gen. US EPA ID No.		1090	
WASTE CODE	PROFILE NUMBER	WASTE	DESCRIPTION	· · · · · · · · · · · · · · · · · · ·	QUANTITY	UNITS
DIDAD BIDAR	95804172	SOTL FROM R	GTOTUTI		- typs	i 
			CTHERDAG (	4 CC		
CODES:	D = DRUM	; B = BAG; C = CAR				
						R
		i and the most of the prope	er condition for transportation a	iccording to app	state law. That licable regulations.	
CARLELE,L	JEHOELL		1-g-12 Cus	Jendel.	1. Can	lily,
			DATE		SIGNATURE	
Transporter's Name	reen Scq		Phone The	8		979/3
	EH L ha	1 Handley Ederville		haves	OLL	- 1 <i>d</i> 19
1 horoby codify that the state		μ·· υ	Vehicle No	ale		
Thereby centry that the above	e listed materiał wa	s picked up at the Generator site i	sted above and delivered with	out incident to th	disposal facility listed	below.
SHIPMENT DATE	=1agg	US COM	11-9-12 DELIVERY DATE			,
	21,1	CHO DIGINALORE	DELIVERY DATE	7.00	DAIVER'S SIGNATUR	₹E
Contraction of the second second second second second second second second second second second second second s	2005-01-01-01-0-0-0-0-0-0-0-0-0-0-0-0-0-0	DICDOCAL	and a feath the second of		21.51.51.51.51.51.51.51.51.51.51.51.51.51	
		DISPUSAL	FACILITY			
Site Name	E Entrationale E		(972):459 Phone No.	1212		
Address			EW/EV/CIE	ens proez	······································	
Permit No	<u> </u>		Time	2:45	5 pm	
I hereby certify that the above	Histed material has	been accepted and that informatic	on presented on this document	t is true and accu	urate.	
-4	NAME	LEEL (PRINT)	-9-12 DATE	K	BOX	ly
						V

White - Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator

2014 EXIDE APAR PAGE 2223 OF 311	2014	EXIDE	APAR	PAGE	2223	OF	311
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FOR OFFICE USE ONLY
Customer Acc. No. \_\_\_\_\_\_
Ticket No. \_\_\_\_\_

GENERATOR

WMI 1252678

Name_EXIDE TECH	CLOGHES		Generating Location	EXIDE TE	CHNOLOCIES				
Address PO BOX 25			7471 SOUTH FIFTH STREET, FRISCO, TX 75034						
FRISCO 7X 7503	· · · · · · · · · · · · · · · · · · ·		State Gen. ID No30	0516					
Phone No. 972 335.	2121			Gen. US EPA ID No					
WASTE CODE	PROFILE NUMBER	WAST	<b>TE DESCRIPTION</b>		QUANTITY	UNITS			
<u></u>					I Sink	Y			
0012171301212	9 <u>58 041 TX</u>	SOTL FROM	RETATNERS WAL	<u>ل</u>					
CODES: I hereby certify that the abov each waste has been proper CARLTLELL AUTHO	e listed material(s). ly described, class	is (are) not a hazardous was fied and packaged, and is in	CARTON; $P = POUND$ ste as defined by 40 CFR Part 261 of proper condition for transportation a 16-31-12	or any applicable	state low That	R lile			
Transporter's Name	-reen Sc 	401 Handley	Phone No.	· [/	·····				
I hereby certify that the abov	e listed materialywa	as picked up at the Generator	r site listed above and delivered with	hout incident to t	ne disposal facility liste	d below. JRE			
		DISPO	SAL FACILITY		anna maraola na faora ann ann ann ann ann ann ann ann ann a	and a subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the subsection of the			
Site Name DEVEC Address 1956 CEEA	- LRCAL CTRF		Phone No. (572)45 	59-12-(3) E-TX-760-07					
Permit No.			Time	100%	4m				
I hereby certify that the abov	e listed material ha	is been accepted and that inf	formation presented on this docume	ent is true and ac	SIGNATURE				

White - Original • Canary - Transporter • Pink - Disposal Facility • Goldenrod - Generator

WASTE MANAGEMENT	NON-HAZARDOUS WASTE MANIFEST	FOR OFFICE USE ONLY Customer Acc. No
	GENERATOR	MMI 1252679
Name_ <u>TYDE TECHNICLOPES</u> Address <u>PO BON 250</u> TERSCOTX 2505.4	7.17) COUTH	EXIDE TECHNOLOGIES
Phone No972 238 2501	State Gen. ID No Gen. US EPA ID No	<u>30515</u> 7D906451096
WASTE CODE PROFILE NUMBER	WASTE DESCRIPTION	QUANTITY UNITS
00211301201 95804172 50	DEL FROM RETAINING W	Au -845
	= BAG; C = CARTON; P = POUNI a) not a hazardous waste as defined by 40 CFR Part 26 id packaged, and is in proper condition for transportation $\frac{10-31-12}{DATE}$	
Transporter's Name Green Schf Address 2401 Ho Ff. Lbd	Phone No.	2 8/17-577-5299 Zuis ONA Zuis
I hereby certify that the above listed material was picke $16-31-12$		thout incident to the disposal facility listed below.
	DISPOSAL FACILITY	and we can be a subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of the subscription of
Site Name DEMART T Address 0000 F FAN DIOAD STREET	Phone No. (720) 45	G INTS G TX 2007
Permit No	Time	4SAn_
I hereby certify that the above listed material has been a	(PRINT)	SIGNATURE



FOR OFFICE USE ONLY
Customer Acc. No. \_\_\_\_\_
Ticket No. \_\_\_\_\_

## GENERATOR

WMI 1252681

Name_EXIDE TECH	<u>ACLOCIES</u>		Generating Location	<u>5XIGE 11</u>	ECHNOLOGIES			
Address PO BOX 25			7471 SOUTH FIFTH STREET, FRISCO, TX 75054					
ERISOQ TX 750	34		State Gen. ID No					
Phone No. <u>972 535</u>	-2121		Gen. US EPA ID No.	TX D0064	61090			
WASTE CODE	PROFILE NUMBER	WAS	TE DESCRIPTION		QUANTITY	UNITS		
tririner			and a star a de Densie L (an aidh-		Sude			
00121713101212	958041Th	Sott From	~ MRTATIVITALS	uple		Y		
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White - Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator



NON-HAZARDOUS WASTE MANIFEST

FOR OFFICE USE ONLY Customer Acc. No. \_\_\_\_\_\_ Ticket No.

# GENERATOR

# WMI 1252682

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NON-HAZARDOUS WASTE MANIFEST FOR OFFICE USE ONLY Customer Acc. No.

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## GENERATOR

WMI 1252683

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White - Original · Canary - Transporter · Pink - Disposal Facility · Goldenrod - Generator

Flood Wall Inspection Photographs Taken by W&M on March 28, 2013 (After Installation of French Drain)











Date:	May 22, 2014	Project No.:	130-2086			
To:	Matt Love	Company:	Exide Technologies			
From:	Justin White (Golder)					
cc:	File	Email:				
RE:	SLAG EXTENT INVESTIGATION – EXIDE TECHNOLOGIES, FRISCO, TEXAS					

Golder Associates Inc. (Golder) is pleased to submit this memorandum summarizing additional slag extent investigation at the Exide facility in Frisco, Texas. Golder understands that the Texas Commission on Environmental Quality (TCEQ) submitted comments on the Affected Property Assessment Report (APAR) which stated:

12. TCEQ Comment: Page 4-2. Section 4.2.1. Battery Receiving/Storage Building. The soils in the shallow fill (0.9-2 ft.) from soil boring for MW-31, immediately beneath the building slab indicate that a release of COCs from activities inside the building has occurred. Also, the existence of high levels of contamination documented in soil boring 2013-WMU14-1(some of the highest levels of lead measured in the entire site, 95,000 mg/kg) appear to be associated with operations in the loading dock area, an integral part of the Battery Receiving/Storage Building. Therefore, contamination documented in this area is considered to be a release from the Battery Receiving/Storage Building and therefore subject to RCRA Corrective Action requirements.

Also, the vertical and lateral extent of contamination in soil which exceeds the residential assessment level should continue to be assessed, such as in the vicinity of soil borings 2013-BSB-2 and 2013-BSB-9, where the vertical extent has not been determined. The discussion regarding the location of slag beneath the building does not state which soil boring samples documented the presence of slag.

Section 4.2.1 discusses the presence of "fill zones" beneath the site. The presence of any slag is indicative of either pre-RCRA or post-RCRA waste disposal (depending on the date of disposal) and that area should be included as part of the PCLE zone. The PCLE Zone Map, Figure 11A should be updated to reflect this for the whole Battery Receiving/Storage Building. This will also hold true to any other areas containing fill which includes slag and/or battery casings, including the area around the Maintenance Building. Although aerial photographs were provided in Appendix 20 to the APAR and a reference to a June 6, 2013 email from Billy King of Exide were provided in this section of the APAR, clear documentation of the timing of disposal of the fill material was not made. Please provide a copy of the referenced email and detailed analyses of the aerial photographs to support the assertion that placement was made in the mid-1970's. This

should include a discussion and documentation of the timing of construction of the former buildings and pavement in the former operating area. In addition, the lower fill zone containing slag and battery chips should be identified as a waste disposal unit on the facility's notice of registration and should be discussed in Section 1.2-4.3 of the revised APAR regarding Notice of Registration Waste Management Units.

The following discusses Golder's data collection methodology and the results of the slag extent investigation conducted in response to the comments above.

### 1.0 DATA COLLECTION METHODS

Golder performed an evaluation of existing Site data for the notation of slag and fill on boring longs, well completion logs and previous investigation drawings. Based on the locations of fill observed during previous investigations, additional borings were placed around the Battery Receiving/Storage Building to further delineate slag extent during the January 2014 investigation. Additionally, all other boring logs and monitoring well logs completed during the January 2014 investigation were screened for the notation of fill containing slag. Table 1 is a summary of borings observed to contain slag.

### 2.0 INVESTIGATION OBSERVATIONS

#### 2.1 Battery Storage Building Area Slag Extent

In the vicinity of the BSB, borings 2013-FWCS-12A, 2013-RRS-2A, 2013-BSB-8A, 2013-WMU14-1A, were advanced primarily to delineate the lateral and vertical extent of fill containing slag around the Battery Storage Building (BSB). Slag was noted on boring logs from 2013-FWCS-12A and 2013-RRS-2A. Based on previous boring log information, PBW slag extent maps and 2014 investigation information mentioned above, the Slag Extent Map has been updated (see figure 3A).

Concerning the nature and timing of fill placement, a signed affidavit was submitted by current Exide employee Billy J. King attesting to the nature and timing of fill placement at the BSB. Based on the affidavit, from November 16, 1980 to present, hazardous waste was not used as fill on-site or used in the construction of the BSB building.

### 2.2 North Disposal Area Slag Extent

In the vicinity of the North Disposal Area (NDA), the lateral extent had previously been delineated in the *Addendum to the RCRA Facility Investigation for GNB Incorporated*, December 10, 1993 by Lake Engineering, Inc. (Lake 1993). A series of 54 borings were used to delineate the lateral boundary of the disposal area. The vertical extent of slag in the NDA was delineated using the results of several test pits noted in the December 10, 1993 report mentioned above, geotechnical boring logs from the *Geotechnical* 

*Engineering Report (Final)*, October 2011, by Rone Engineering, the 2013 APAR investigation borings and January 2014 borings. Based on observations from borings and test pits, the NDA lateral extent is approximately 5.5 acres and extends to a maximum vertical depth of approximately 15 to 10 feet below ground surface before tapering at the lateral limits. The Slag Extent Map has been updated with updated with the previously mentioned information.

### 2.3 Slag Landfill Area

Based (Lake 1993), the Slag Landfill was developed as an excavated trench as well as having slag containing fill piled above the native land surface. Overall, the slag is pile approximately 8 to 10 above natural grade and approximately three to four feet below grade. The vertical and horizontal extent of slag in the Slag Landfill was adapted from (Lake 1993) and included in Figure 3A.

### 2.4 South Landfill Slag Extent

In the vicinity of the South Disposal Area (SDA), the lateral extent had previously been delineated in the A series of 27 borings were used to delineate the lateral boundary of the disposal area which has an extent of approximately one acre. The veritical extent of slag in the SDA was delineated using test pit observations from the (Lake 1993) report which noted blast furnace slag and rubber chips at a depth of approximately 8 feet below ground surface.

Boring ID	Observed Slag Depth (ft BGS)	Observed Slag Thickness (ft)	Comments
2013-FWCS-12A	6.75	0.75	No details noted
2013-RRS-2A	0	1	Battery chips near surface
MW-30	28	0.5	No details noted
MW-31	5.8	2.2	slag as well as battery chips
2013-BSB-1	6.3	1.4	No details noted
2013-BSB-2	5.7	0.9	Large Battery chip(~1.5 inch diameter)
2013-BSB-5	5.6	2.4	No details noted
2013-BSB-6	7.2	1.5	No details noted
2013-BSB-7	7.1	0.1	No details noted
2013-BSB-8	8	1.3	No details noted
2013-BSB-10	5.5	2.4	No details noted
MW-31(R)	6.7	1.3	No details noted
2012-FWFS-8	1.8	0.2	No details noted
2013-WMU14-1	0.9	2.1	slag fragments and battery chips
2012-BY-4	1.5	0.5	No details noted
2012-NDA-1	1.6	0.1	1 inch diameter slag fragment
2012-SL-1	3	3	No details noted
2012-FWCS-1	1.8	0.1	No details noted
2012-FWCS-1A	2	0.1	slag/battery fragments

#### Table 1: Boreholes with Fill Containing Slag

2012-BY-3	1.9	0.1	No details noted
2012-BY-4	1.9	0.1	No details noted
2012-SL-1	2	0.5	No details noted
2012-NDA-1	2	0.5	No details noted
2012-NDA-2	3	1	No details noted
2012-NDA-5	0.5	0.2	slag fragment blocked sample barrel
B 3-25	0	7	No details noted
B 3-35	0	13	No details noted
B 6-10	0	8	No details noted
B 6-25	5	5	No details noted
B 7-25	0	13	No details noted
B 8-10	0	8	No details noted
B 11-25	0	15	No details noted
N1 /			

Notes:

Table 1 does not contain delineation borings from the 1993 Lake Engineering Report
 BGS – Below Ground Surface

3. Ft – feet

	MEMORANDUM		
Date:	May 22, 2014	Project No.:	130-2086
To:	Matt Love	Company:	Exide Technologies
From:	Justin White (Golder)		
cc:	File	Email:	
RE:	UTILITY LOCATION AND PREFERENTIAL I TECHNOLOGIES, FRISCO, TEXAS	PATHWAY INVI	ESTIGATION - EXIDE

Golder Associates Inc. (Golder) is pleased to submit this memorandum summarizing an investigation of underground utilities and preferential pathways at the Exide facility in Frisco, Texas. Golder understands that the U.S. Environmental Protection Agency (USEPA) submitted comments on the Affected Property Assessment Report (APAR) which stated:

Page 3-7. Section 3.2.5 - Utilities/Preferential Pathways: Please add a narrative on the current/past conditions of preferential pathways under the concrete structures/pavements and within fill material (higher K values than the in-situ soils). As it is known, these affected areas/pathways cause concern when it comes to the contaminated areas in and around Stewart Creek, and possible other areas (e.g. future exposures to construction workers).

The following discusses Golder's data collection methods and the results of the investigation conducted in response to the comment above.

### 1.0 UTILITY DATA COLLECTION

Golder used existing maps and performed a visual survey of the facility grounds to identify subsurface utility areas.

### 1.1 Facility Document Review

Golder conducted a document review of facility plans to determine locations of existing and former utilities. Facility plans dating back to 1974 were referenced for utility locations within the process area.

### 1.2 Facility Site Walk

A site walk of the process area was conducted in which the locations of visible utilities were collected with a GPS for spatial comparison to utilities found during the document review.

### **1.3 Interview Former Facility Personnel**

Golder interviewed former facility personnel for first-hand accounts of underground utility locations.

### 2.0 UTILITY LOCATION DISCUSSION

See Figure 1 for locations of utilities found during the investigation.





### 2.1 Storm Sewers

Five storm sewer lines were identified in the process area during the utility investigation:

- Sewer running east to west along the northern half of the Blast Furnace Building, Battery Breaker and Battery Storage and Receiving Building (BSB) (#1). The sewer is described as a 12-inch pipe on facility drawings with a termination point near existing French drain sump. The depth of the sewer was not indicated on facility drawings. The discharge pipe for this sewer was found to be plugged at its downstream end in the flood wall, and is believed to be inactive. The upstream end of the sewer is believed to be plugged with concrete outside of the building foundations, based on facility drawings.
- Sewer running along the south and east sides of the BSB and continuing north to the private drive (#2). The sewer is described as a 12-inch pipe on facility drawings and originates at a sump near the existing French drain sump and terminates near the private drive to the north of the process area. The depth of the sewer was not indicated on facility drawings. One manhole associated with the sewer was observed near the base of the ramp between the BSB and Battery Breaker. However, the sewer is believed to be inactive as the associated sump near the French drain sump was not observed to be present. The upstream end of the sewer is believed to be plugged with concrete outside of the building foundations, based on facility drawings.
- Sewer running east to west along the approximate center of the Battery Breaker before turning to the south and terminating near the existing floodwall (#3). The sewer is described as a 15-inch pipe on facility drawings. The depth of the sewer was not indicated on facility drawings. The sewer was not observed to be present during the site walk and is believed to be inactive as it predates the floodwall based on facility drawings.
- Sewer running east to west along the south side of the Oxide Building before turning south and running through Maintenance Building (#4). The sewer is described as a 12-inch pipe on facility drawings and is shown to terminate near the existing floodwall. The depth of the sewer was not indicated on facility drawings. The sewer was not observed during the site walk and is believed to be inactive. The upstream end of the sewer is believed to be plugged with concrete outside of the building foundations, based on facility drawings.

### 2.2 Sanitary Sewers

Ten sanitary sewer lines were identified in the vicinity of the process area during the utility investigation:

- Sewer running north-northeast to south-southwest from the Breaker Building to the Slag Treatment Building, where it appears to form a junction with the 15-inch sewer main that runs along Stewart Creek (#1). The sewer is described as an 8-inch pipe on facility drawings. Additionally, the sewer was not observed to be present during the site walk and is believed to be inactive. The upstream end of the sewer is believed to be plugged with concrete outside of the building foundations, based on facility drawings.
- Sewer running north to south from the Oxide Building Addition to the 15-inch sewer main along Stewart Creek (#2). The sewer is described as a 4-inch pipe on facility drawings. The sewer was not observed to be present during the site walk and is believed to be inactive. The upstream end of the sewer is believed to be plugged with concrete outside of the building foundations, based on facility drawings.
- Sewer running north to south from the Oxide Building to the 15-inch sewer main along Stewart Creek, where it appears to form a junction at an existing manhole (#3). The





sewer is described as a 6-inch pipe on facility drawings. The sewer was identified at the sewer manhole to the south of the Administrative Building. The sewer is believed to be inactive and the upstream end is believed to be plugged with concrete outside of the building foundations, based on facility drawings.

- Sewer runs along Stewart Creek (#4). This sewer is a sanitary main based on facility drawings and based on discussions with facility personnel. The sewer is described as a 15-inch pipe on facility drawings, with a depth of approximately 14 feet based on visual observations in adjacent manholes. The sewer was active at the time of writing this document.
- Sewers exiting the Administration Building and intersecting the 15-inch sanitary sewer running adjacent to Stewart Creek (#5 & #6). The sewers are described as 6-inch pipe on facility drawings and intersect the 15-inch sanitary sewer at manholes to the south of the Administration Building. The sewers are believed to be active.
- Sewer running from South to North out of the Crystallizer Plant (#7) where it intersects a city sanitary sewer (#8). Both of these sewers are believed to be active and servicing the Crystallizer Plant.
- Sewer running from northeast to southwest between the Oxide Building and Administration building (#9) and sewer (#10) running from the former smelter to the southeast where it intersects sanitary sewer (#9). Both of these sewers are believed to be inactive with the upstream ends believed to be plugged with concrete outside of the building foundations, based on facility drawings.

### 2.3 Facility Processes

#### 2.3.1 Battery Receiving & Storage Building

Former process utilities were observed at the BSB. Two sumps with grated inlets were observed on the BSB floor. Based on facility drawings, the sumps were connected to a 6-inch diameter acid drain pipe which terminated at the southeast end of the wastewater treatment plant.

#### 2.3.2 Battery Breaker

Three surface trenches were observed in the Battery Breaker. The longest of the three surface trenches, which runs north to south through the middle of the building, appears to have conveyed battery fluid via a utility trench to the waste water treatment plant (see Figure 1). The depth of the trenches within the Battery Breaker building were approximately two feet and the trenches were constructed of concrete and brick. The depth of the utility trench was not indicated on facility drawings. Three pits were also observed within the Battery Breaker. The pits were approximately five feet wide with a depth of approximately two feet. The pits were constructed of concrete. There was no piping observed to be associated with the pits based on facility drawings.

#### 2.3.3 Blast Furnace

Several former utilities were observed in the Blast Furnace area. Two manholes were observed which may have been associated with a former heat exchanger and cooling water trench. Additionally, a trench was observed which ran to the location of the former cooling tower. Based on the accounts of facility





personnel, the depth of the trench is approximately one foot. Finally, the smelter building gallery basement was observed to have been filled with gravel.

### 2.3.4 Oxide Building

Within the Oxide Building, a series of process hoppers was observed during the site walk. However, remnants of underground utilities were not observed during the site walk or in facility drawings other than the sanitary and storm sewers mentioned in the sections above.

#### 2.3.5 Slag Treatment Building

One sump with a grated inlet was observed on the Slag Treatment Building floor. Based on discussions with facility personnel, the sump was connected to a drain pipe which flowed to the waste water treatment plant.

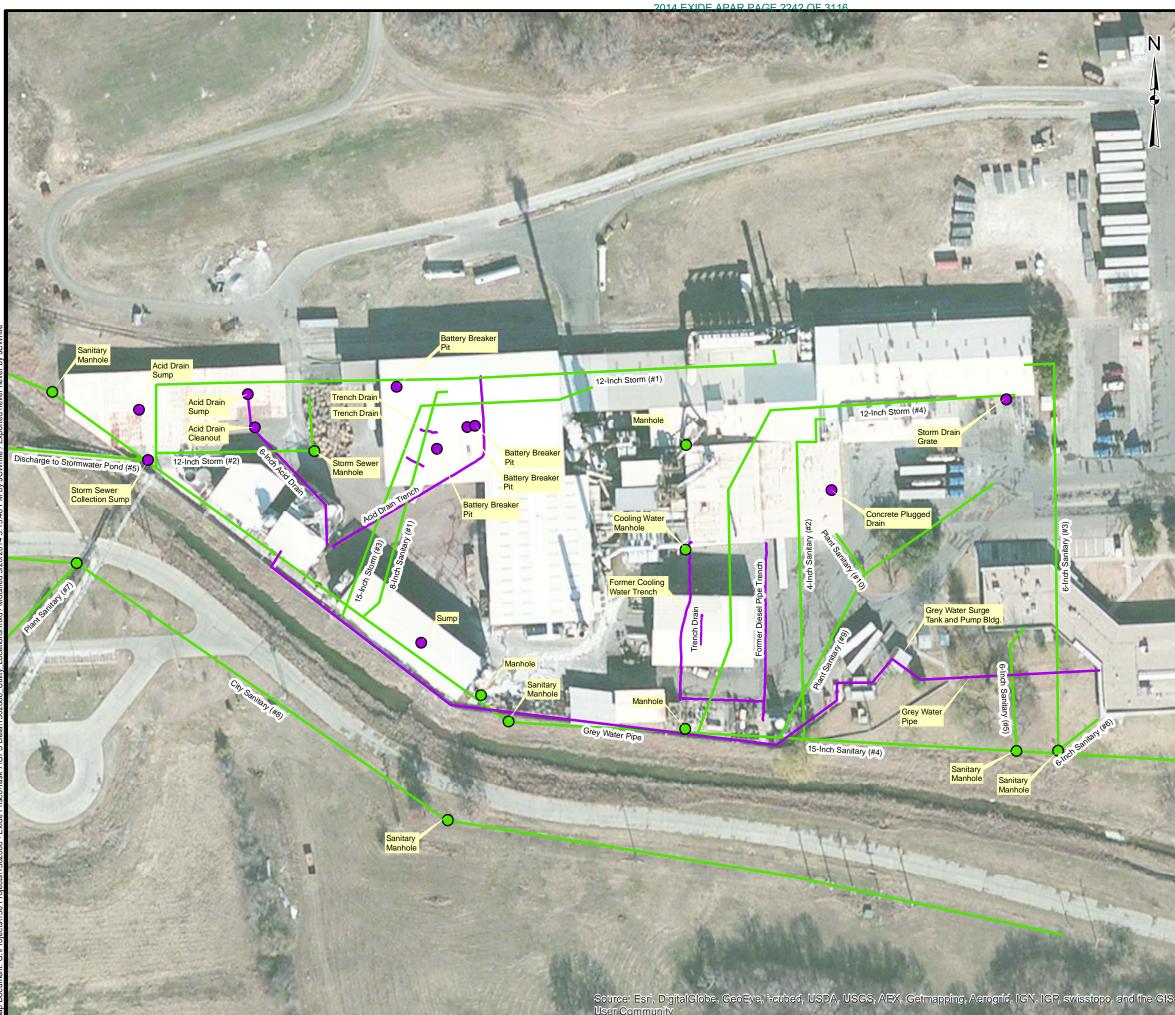
#### 2.3.6 Maintenance Building

The Maintenance Building appears to have a trench drain running north to south in the middle of the building. A conveyance pipe associated with the trench drain was not observed in facility drawings or during the site walk. In addition, a utility trench associated with the former diesel storage tank was observed during the site walk and on facility drawings. The trench runs from the former diesel tank to the former smelter area. Based on facility drawings, the trench is approximately two feet deep.

### 2.3.7 Administration Building

In addition to the sanitary sewer lines mentioned above, the grey water pipeline is shown on facility drawings to exit the building on the southwest side where it is underground until it reaches the grey water surge tank and pump building. From the surge & pump building to the waste water treatment plant, the grey water pipeline is above ground, running parallel to the floodwall.





# LEGEND

### Nodes

Ν

• Process Feature

Manhole/Cleanout

### Linear Features

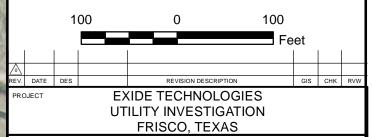
- ---- Process Drain

# NOTES

Utility locations from Site observations and facility drawings.
 Utility locations are approximate.

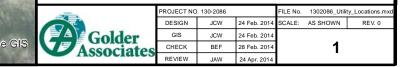
# REFERENCES

Basemap from ESRI DigitalGlobe Database.
 COORDINATE SYSTEM: NAD 1983 StatePlane Texas North Central FIPS 4202 Feet



TITLE

### UTILITY LOCATIONS





Consulting Engineers and Scientists PASTOR, BEHLING & WHEELER, LLC 2201 Double Creek Drive, Suite 4004 Round Rock, TX 78664

> Tel (512) 671-3434 Fax (512) 671-3446

July 9, 2013 PBW Project No. 1755

Ms. Vanessa Coleman Site Manager Exide Technologies 7471 S. 5<sup>th</sup> Street Frisco, TX,

#### Subject: FRC Former Shooting Range Berm Removal Action

Dear Ms. Coleman:

The purpose of this letter is to document the removal and disposal of the Former Shooting Range Berm (SRB) as required by Ordering Provision 3.c.iii of the TCEQ Agreed Order effective February 10, 2013 (Docket No. 2011-1712-IHW-IHW-E). Although not explicitly required by the Agreed Order, the TCEQ also required the removal of berm material near the south side of the South Disposal Area (the South Berm). Removal actions for the SRB and South Berm were performed separately and are described separately below.

#### FORMER SHOOTING RANGE BERM REMOVAL ACTION

The removal of the SRB was performed in multiple phases as prescribed by the Shooting Range Berm Waste Characterization Sampling and Analysis Plan (SAP) dated March 29, 2013. The SAP called for the removal, segregation, characterization and disposal of the east face of the berm, composite characterization sampling of the remainder of the berm, then removal and disposal of the remainder of the berm. Following removal of the SRB, a TCEQ representative inspected the SRB and did not indicate that additional excavation was required to fulfill the requirements of the Agreed Order. The following summarizes activities associated with the removal of the SRB.

#### East Face of SRB

The SRB removal action began on April 11, 2013 with the excavation of the east face of the berm. The top of the berm was also excavated at this time. Prior to beginning the removal action, all trees and underbrush were removed at ground level and stockpiled on-site. Loose slag observed on the ground surface of the SRB was removed by hand and staged on-site prior to characterization sampling and disposal.

The east face of the berm was excavated to a nominal depth of approximately 1 foot below existing ground surface. The excavated material, including soil and root balls, was loaded into a haul truck using a track hoe and transferred to 20-cubic yard capacity hazardous waste roll-off boxes staged on the concrete Crystallizer access road within the Former Operating Plant boundary. Excavation of the east face of the berm was completed on April 13, 2013. Eighteen roll-off boxes were used to store the removed material. One 5-point composite sample was collected from each roll-off boxes tested hazardous. Exide elected to transport all of the roll-off boxes containing east face SRB material to EQ in Tulsa, Oklahoma under hazardous waste manifests for treatment to meet land disposal restrictions and for disposal.

Exide Technologies July 9, 2013 Page 2 of 2

#### Remainder of SRB

The portion of the SRB remaining after the east face and top had been removed was sampled for disposal characterization at the rate of one 7-point composite sample for every approximate 200 cubic yards of in-place soil, as described in the SAP. These composite samples were collected on April 16, 2013. All of the composite sample results were below Class 2 criteria and were classified for disposal as Class 2 non-hazardous.

Excavation of the remainder of the SRB was performed May 7, 2013 through May 10, 2013 by direct loading with a track hoe into 12-cubic yard capacity dump trucks. The excavated soil from the remainder of the berm was transported directly to the Waste Management DFW Landfill and disposed as Class 2 non-hazardous material.

#### Post Removal Soil Sampling

Post removal soil samples were collected on May 15, 2013, May 21, 2013, and June 3, 2013 from the footprint of the former SRB to assess soils remaining in this area. The SRB post removal soil sample data are presented in the APAR for the Former Operating Plant.

### SOUTH BERM REMOVAL ACTION

The South Berm was excavated on June 3, 2013 using similar methods as those utilized in excavating the east face of the SRB. Prior to beginning the removal action, all trees and underbrush were removed at ground level and stockpiled on-site. Loose slag observed on the ground surface of the South Berm was removed by hand and staged on-site pending characterization sampling and disposal.

The area referred to as the South Berm is a rock cut bank where soil and rock were pushed up against an outcrop of the Austin Chalk. The South Berm was excavated to a nominal depth of approximately 1 foot below existing ground surface to bedrock exposure of the Austin Chalk. The excavated material, including soil and root balls, was loaded directly into 20-cubic yard capacity hazardous waste roll-off boxes using a track hoe, then transferred and staged on the concrete Crystallizer access road within the Former Operating Plant boundary. One 5-point composite sample was collected from each roll-off box for disposal characterization purposes. A total of 2 roll-off boxes were used to store the South Berm material pending results of disposal characterization. One of the two composite samples tested hazardous. Exide elected to transfer both roll-off boxes containing South Berm material to EQ in Tulsa, Oklahoma under hazardous waste manifests for treatment to meet land disposal restrictions and for disposal.

#### Post Removal Soil Sampling

Post removal soil samples were collected on June 3, 2013 from the footprint of the former South Berm to assess soils remaining in this area. The SRB post removal soil sample data are presented in the APAR for the Former Operating Plant.

Sincerely,

Pastor, Behling & Wheeler, LLC

WillVi

For Tim Jennings, P.G.

2014 EXIDE APAR PAGE 2245 OF 3116



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**Region 6 Laboratory** 

Environmental Services Branch 10625 Fallstone Road, Houston, TX 77099 Phone: (281)983-2100 Fax: (281)983-2248

### **Final Analytical Report**

Site Name -----Exide Sample Collection Date(s)-- 01/11/12 - 01/18/12 Contact----- Paul James (6EN-HC) Report Date----- 03/13/12 Project #----- 12RCRA047 Work Order(s)----- 1201012 1201020

Analyses included in this report:

Metals ICP (RCRA 8) 6010B Metals TCLP Hg 1311/7470A Solids, Dry Weight TCLP 1311 Metals Prep Metals Mercury 7470A/7471A Metals TCLP ICP 1311/6010B TCLP 1311 Hg Prep

### **Report Narrative**

Metals ICP (RCRA8) 6010B:

Batch: B2B0203:

MS1/MSD1: Spike recoveries are outside the acceptance limits for barium, cadmium, selenium, and lead; the corresponding sample results are qualified as estimated. RPD's are high for cadmium and lead.

MS2/MSD2: Spike recoveries are outside acceptance limits for barium and selenium; the corresponding sample results are qualified as estimated. RPD is high for lead.

MS2/MSD2: Sample result concentrations for cadmium and lead exceed the spike added concentrations by a factor of four or more, thus, the spike recoveries cannot be reliably calculated.

SRM1: Selenium on this control is low; the associated sample results are qualified as low.

### **<u>Report Narrative (coll u)</u>**

Metals TCLP ICP 1311/6010B:

Batch: B2B1313:

MS1/MSD1: The sample result for lead exceeds the spike added concentration by a factor of four or more and cannot be reliably calculated.

Metals Mercury 7470A/7471A:

Batch: B2B1009:

MS2/MSD2: The spike recovery is outside the acceptance limits; the corresponding sample result is qualified as estimated. The RPD is high.

The holding time for analysis was exceeded for samples 1201012-01, -02, -03, and -04. The results are qualified and should be considered a minimum value.

Standard procedures for quality assurance and quality control were followed in the analysis and reporting of the sample results. The results apply only to the samples tested. This final report should only be reproduced in full.

Reporting limits are adjusted for sample size and matrix interference.

Report Approvals:

### UNITED STATES ENVIRONMENTAL<sup>247</sup> OF 211 CTION AGENCY

**Region 6 Environmental Services Branch Laboratory** 

10625 Fallstone Road Houston, Texas 77099

# Sample Receipt and Disposal

Project Number: 12RCRA047

Data Management Coordinator: Christy Warren /// Data Management Coordinator Signature Date
Date Transmitted: \_\_\_\_/\_\_\_\_

Please have the U.S. EPA Project Manager/Officer call the Data Management Coordinator at 3-2137 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Christy Warren Data Management Coordinator Region 6 Laboratory 6MD-HS

Received by and Date

Comments:

The laboratory routinely disposes of samples 90 days after all analyses have been completed. If you have a need to hold these samples in custody longer than 90 days, please sign below.

/ /

Signature

Date

Please provide a reason for holding:



Site Name: Exide



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### ANALYTICAL REPORT FOR SAMPLES

Station ID	Laboratory ID	Sample Type	Date Collected	Date Received
1	1201012-01	Solid	1/11/12 10:53	01/12/12 09:30
2	1201012-02	Solid	1/11/12 11:20	01/12/12 09:30
3-1	1201012-03	Solid	1/11/12 11:58	01/12/12 09:30
3-2	1201012-04	Solid	1/11/12 11:58	01/12/12 09:30
1 (Floodwall Comp-01)	1201020-01	Solid	1/18/12 10:40	01/19/12 09:45
2 (2012-FWCS-8)	1201020-02	Solid	1/18/12 12:16	01/19/12 09:45



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# Metals by EPA Method 6010B - ICP

### Lab ID: 1201012-01

Batch: B2B0203 Sample Type: Solid	Date Collected: 01/11/12 Sample Weight: 3.076 g %Solids: 5.04	Sample Qualifiers:
	Targets	

	8				
Analyte (CAS Number)	Result Analyte mg/kg dry Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Arsenic (7440-38-2)	U	32.3	1	02/02/12	02/08/12
Barium (7440-39-3)	445	3.2	"	"	"
Cadmium (7440-43-9)	24.6	1.6	"	"	"
Chromium (7440-47-3)	39.1	3.2	"	"	"
Lead (7439-92-1)	97.3	9.7	"	"	"
Selenium (7782-49-2)	U L	32.3	"	"	"
Silver (7440-22-4)	U	3.2	"	"	"
					ts

# Metals by EPA Method 7470A/7471A - CVAAS

#### Lab ID: 1201012-01 Station ID: 1 Batch: B2B1009 Date Collected: 01/11/12 Sample Type: Solid Sample Weight: 0.108 g Sample Qualifiers: %Solids: 5.04 **Targets** Analyte Reporting Result Analyte (CAS Number) mg/kg dry Qualifiers Limit Dilution Prepared Analyzed U 1.5 02/07/12 02/09/12 1 Mercury (7439-97-6) cj

Station ID: 1



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# Metals by EPA Method 6010B - ICP

#### Lab ID: 1201012-02

Batch: B2B0203 Sample Type: Solid Date Collected: 01/11/12 Sample Weight: 3.271 g %Solids: 66.55

Sample Qualifiers:

**Targets** 

Analyte (CAS Number)	Result Analyte mg/kg dry Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Arsenic (7440-38-2)	U	2.3	1	02/02/12	02/08/12
Barium (7440-39-3)	41.4	0.2	"	"	"
Cadmium (7440-43-9)	0.6	0.1	"	"	"
Chromium (7440-47-3)	1.3	0.2	"	"	"
Lead (7439-92-1)	9.5	0.7	"	"	"
Selenium (7782-49-2)	2.3 L	2.3	"	"	"
Silver (7440-22-4)	U	0.2	"	"	"
					ts

# Metals by EPA Method 7470A/7471A - CVAAS

### Lab ID: 1201012-02

#### Batch: B2B1009 Date Collected: 01/11/12 Sample Qualifiers: Sample Type: Solid Sample Weight: 0.1 g %Solids: 66.55 Targets Analyte Reporting Result mg/kg dry Qualifiers Analyte (CAS Number) Limit Prepared Analyzed Dilution 02/07/12 02/09/12 U 0.1 Mercury (7439-97-6) 1 cj

Station ID: 2

ts

Station ID: 2



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# Metals by EPA Method 6010B - ICP

### Lab ID: 1201012-03

Batch: B2B0203 Sample Type: Solid Date Collected: 01/11/12 Sample Weight: 1.564 g %Solids: 67.54 Station ID: 3-1

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/kg dr	~ ~ ~ ~	Reporting Limit	Dilution	Prepared	Analyzed
Arsenic (7440-38-2)	U		9.5	2	02/02/12	02/08/12
Barium (7440-39-3)	254	J	0.9	"	"	"
Cadmium (7440-43-9)	1.3	J	0.5	"	"	"
Chromium (7440-47-3)	4.3		0.9	"	"	"
Lead (7439-92-1)	43.7	J	2.8	"	"	"
Selenium (7782-49-2)	U	J, L	9.5	"	"	"
Silver (7440-22-4)	U		0.9	"	"	"
						ts

# Metals by EPA Method 7470A/7471A - CVAAS

### Lab ID: 1201012-03

### Station ID: 3-1

Batch: B2B1009 Sample Type: Solid	Date Collected: 01/1 Sample Weight: 3.6 %Solids: 67.54 <b>Targets</b>		Sample Qualifiers:	
Analyte (CAS Number)	Result Analyte mg/kg dry Qualifiers	Reporting Limit	Dilution	Prepared Analyzed
Mercury (7439-97-6)	U	0.003	1	02/07/12 02/09/12 cj



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# Metals by EPA Method 6010B - ICP

### Lab ID: 1201012-04

Batch: B2B0203 Sample Type: Solid Date Collected: 01/11/12 Sample Weight: 2.739 g %Solids: 65.22

Sample Qualifiers:

**Targets** 

Analyte (CAS Number)	Result Analyte mg/kg dry Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Arsenic (7440-38-2)	U	5.6	2	02/02/12	02/08/12
Barium (7440-39-3)	<b>99.4</b>	0.6	"	"	"
Cadmium (7440-43-9)	0.9	0.3	"	"	"
Chromium (7440-47-3)	3.1	0.6	"	"	"
Lead (7439-92-1)	16.2	1.7	"	"	"
Selenium (7782-49-2)	U L	5.6	"	"	"
Silver (7440-22-4)	U	0.6	"	"	"
					ts

# Metals by EPA Method 7470A/7471A - CVAAS

### Lab ID: 1201012-04

### Station ID: 3-2

Batch: B2B1009 Sample Type: Solid	Date Collected: 01/11/12 Sample Weight: 1.647 g %Solids: 65.22 <b>Targets</b>			Sample Qualifiers:
	Result Analyte	Reporting		
Analyte (CAS Number)	mg/kg dry Qualifiers	Limit	Dilution	Prepared Analyzed
Mercury (7439-97-6)	0.01	0.007	1	02/07/12 02/09/12 cj

Station ID: 3-2



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# TCLP Metals by EPA Method 1311/6010B-ICP

### Lab ID: 1201020-01

Batch: B2B1313 Sample Type: Solid Batch Matrix: Solid Date Collected: 01/18/12 Sample Volume: 50 ml TCLP Prepared: 2/3/12

**Targets** 

Sample Qualifiers:

Station ID: 1 (Floodwall Comp-01)

		8				
Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Arsenic (7440-38-2)	U		1.00	10	02/13/12	02/23/12
Barium (7440-39-3)	0.44		0.10	"	"	"
Cadmium (7440-43-9)	0.10		0.05	"	"	"
Chromium (7440-47-3)	U		0.10		"	"
Lead (7439-92-1)	10.5		0.30		"	"
Selenium (7782-49-2)	U		1.00		"	"
Silver (7440-22-4)	U		0.10	"	"	"
						ts

## TCLP Metals by EPA Method 1311/7470A-CVAAS

Lab ID: 1201020-01		Station	n ID: 1 (F	loodwall Comp-01)
Batch: B2B1006 Sample Type: Solid Batch Matrix: Solid	Date Collected: 01/ Sample Volume: 2 TCLP Prepared: 2/ <b>Targets</b>	5 ml		Sample Qualifiers:
Analyte (CAS Number)	Result Analyte mg/L Qualifiers	Reporting Limit	Dilution	Prepared Analyzed
Mercury (7439-97-6)	2.02E-4	2.00E-4	1	02/08/12 02/09/12 cj



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# Metals by EPA Method 6010B - ICP

### Lab ID: 1201020-02

Batch: B2B0203 Sample Type: Solid Date Collected: 01/18/12 Sample Weight: 0.897 g %Solids: 47.16 Station ID: 2 (2012-FWCS-8)

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/kg dry	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Arsenic (7440-38-2)	U		23.6	2	02/02/12	02/08/12
Barium (7440-39-3)	225	J	2.4	"	"	"
Cadmium (7440-43-9)	799		1.2	"	"	"
Chromium (7440-47-3)	15.5		2.4	"	"	"
Lead (7439-92-1)	1,060		7.1	"	"	"
Selenium (7782-49-2)	U	J, L	23.6	"	"	"
Silver (7440-22-4)	U		2.4	"	"	"
						ts

# Metals by EPA Method 7470A/7471A - CVAAS

### Lab ID: 1201020-02

### Station ID: 2 (2012-FWCS-8)

Batch: B2B1009 Sample Type: Solid	Date Collected: 01/18/12 Sample Weight: 1.341 g %Solids: 47.16 <b>Targets</b>			Sample Qualifiers:
Analyte (CAS Number)	Result Analyte mg/kg dry Qualifiers	Reporting Limit	Dilution	Prepared Analyzed
Mercury (7439-97-6)	0.08	0.01	1	02/07/12 02/09/12 cj



Source: 1201012-03

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# **Region 6 Laboratory**

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# **Percent Solids - Quality Control**

### Duplicate (B2A3101-DUP1)

Prepared: 1/31/2012 Analyzed: 2/2/2012

### Targets

		8		
ANALYTE	Result %	Analyte Reporting Spike Qualifiers Limit Level	Source Result	RPD RPD Limit
% Solids	69.92		67.54	3.47 20



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# Metals by EPA Method 6010B - ICP - Quality Control

Batch: B2B0203

Sample Type: Solid

### Blank (B2B0203-BLK1)

Prepared: 2/2/2012 Analyzed: 2/8/2012

	Targets					
ResultAnalyte Reporting mg/kg wet QualifiersANALYTEmg/kg wet Qualifiers						
Arsenic	U	10.0				
Barium	U	1.0				
Cadmium	U	0.5				
Chromium	U	1.0				
Lead	U	3.0				
Selenium	U	10.0				
Silver	U	1.0				

### LCS (B2B0203-BS1)

Prepared: 2/2/2012 Analyzed: 2/8/2012

Targets						
ANALYTE	Result Ana mg/kg wet Qual	lyte Reporting ifiers Limit	Spike Level	%REC	%REC Limits	
Arsenic	210	10.0	200	105	75-125	
Barium	192	1.0	200	96.0	75-125	
Cadmium	4.5	0.5	5.00	90.9	75-125	
Chromium	41.5	1.0	40.0	104	75-125	
Lead	38.5	3.0	40.0	96.1	75-125	
Selenium	103	10.0	100	103	75-125	
Silver	4.2	1.0	5.00	84.4	75-125	

### Matrix Spike (B2B0203-MS1)

Source: 1201012-03

Prepared: 2/2/2012 Analyzed: 2/8/2012

Targets							
ANALYTE	Result mg/kg dry	Analyte Reporting Qualifiers Limit	g Spike Level	Source Result	%REC	%REC Limits	
Arsenic	102	12.9	129	1.5	77.7	75-125	



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## Metals by EPA Method 6010B - ICP - Quality Control

Batch: B2B0203

Sample Type: Solid

### Matrix Spike (B2B0203-MS1)

Source: 1201012-03

Prepared: 2/2/2012 Analyzed: 2/8/2012

Targets	(Continu	ed)
---------	----------	-----

ANALYTE	Result Analyte mg/kg dry Qualifie	<sup>e</sup> Reporting rs Limit	g Spike Level	Source Result	%REC %REC Limits	
Barium	163	1.3	129	254	NR #75-125	
Cadmium	3.2	0.6	3.22	1.3	59.6 # 75-125	
Chromium	30.7	1.3	25.8	4.3	102 75-125	
Lead	70.7	3.9	25.8	43.7	105 75-125	
Selenium	30.7	12.9	64.4		47.7 # 75-125	
Silver	2.6	1.3	3.22	0.06	78.3 75-125	

### Matrix Spike (B2B0203-MS2)

Source: 1201020-02

Prepared: 2/2/2012 Analyzed: 2/8/2012

### **Targets**

		0				
ANALYTE	Result Analyte mg/kg dry Qualifiers	Reporting Limit	Spike Level	Source Result	%REC %REC Limits	
Arsenic	230	24.3	243	2.0	94.2 75-125	
Barium	396	2.4	243	225	70.3 # 75-125	
Cadmium	746	1.2	6.06	799	NR #75-125	
Chromium	66.0	2.4	48.5	15.5	104 75-125	
Lead	953	7.3	48.5	1,060	NR #75-125	
Selenium	80.6	24.3	121	1.1	65.6 # 75-125	
Silver	5.1	2.4	6.06	0.09	83.4 75-125	

### Matrix Spike Dup (B2B0203-MSD1)

Source: 1201012-03

Prepared: 2/2/2012 Analyzed: 2/8/2012

Targets							
	Result	Analyte Reporting	Spike	Source	%REC		RPD
ANALYTE	mg/kg dry	Qualifiers Limit	Level	Result	%REC Limit	8 RPD	Limit
Arsenic	89.2	11.1	111	1.5	79.0 75-12	5 13.0	20
Barium	182	1.1	111	254	NR #75-12	5 11.0	20



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## Metals by EPA Method 6010B - ICP - Quality Control

Batch: B2B0203

Sample Type: Solid

### Matrix Spike Dup (B2B0203-MSD1)

Source: 1201012-03

Prepared: 2/2/2012 Analyzed: 2/8/2012

### **Targets (Continued)**

ANALYTE	Result Analy mg/kg dry Qualif	/teReporting iers Limit	g Spike Level	Source Result	%REC %REC Limits	RPD RPD Limit
Cadmium	2.5	0.6	2.77	1.3	41.2 # 75-125	27.3 # 20
Chromium	26.1	1.1	22.2	4.3	98.3 75-125	16.2 20
Lead	41.6	3.3	22.2	43.7	NR <b>#</b> 75-125	51.8 # 20
Selenium	34.5	11.1	55.5		62.3 # 75-125	11.6 20
Silver	2.4	1.1	2.77	0.06	84.6 75-125	7.06 20

### Matrix Spike Dup (B2B0203-MSD2)

Source: 1201020-02

Prepared: 2/2/2012 Analyzed: 2/8/2012

Targets
---------

		8.12						
ANALYTE	Result Analyte mg/kg dry Qualifie				%REC	%REC Limits	RPD	RPD Limit
Arsenic	231	24.2	242	2.0	94.6	75-125	0.10	20
Barium	415	2.4	242	225	78.6	75-125	4.80	20
Cadmium	647	1.2	6.04	799	NR <sup>‡</sup>	# 75-125	14.3	20
Chromium	66.3	2.4	48.4	15.5	105	75-125	0.48	20
Lead	723	7.3	48.4	1,060	NR <sup>†</sup>	# 75-125	27.4 #	ŧ 20
Selenium	71.5	24.2	121	1.1	58.3	# 75-125	12.0	20
Silver	5.3	2.4	6.04	0.09	86.1	75-125	2.82	20

### Reference (B2B0203-SRM1)

Prepared: 2/2/2012 Analyzed: 2/8/2012

	Tε	argets						
ANALYTE	Result Analyte mg/kg wet Qualifier	Reporting 8 Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	155	10.4	253		61.3	60.8-139	9	
Barium	1.3	1.0	1.60		82.1	62.5-137	7	
Cadmium	10.3	0.5	10.9		94.1	70.6-128	8	



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# Metals by EPA Method 6010B - ICP - Quality Control

Batch: B2B0203

Sample Type: Solid

### Reference (B2B0203-SRM1)

Prepared: 2/2/2012 Analyzed: 2/8/2012

#### **Targets (Continued)** Result Analyte Reporting Spike Source %REC **RPD** mg/kg wet Qualifiers Limit Level Result %REC Limits RPD Limit ANALYTE 1.0 68.3-131 Chromium 29.0 27.1 107 54.7 56.9 Lead 3.1 96.2 72.7-127 Selenium 3.3 10.4 10.0 32.9 # 41-159 Silver 5.1 5.90 86.5 45.8-154 1.0



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### Metals by EPA Method 7470A/7471A - CVAAS - Quality Control

Batch: B2B1009

Sample Type: Solid

### Blank (B2B1009-BLK1)

Prepared: 2/7/2012 Analyzed: 2/9/2012

		Targets
ANALYTE	Result An mg/kg wet Qua	alifiers Limit
Mercury	U	0.08

### LCS (B2B1009-BS1)

Prepared: 2/7/2012 Analyzed: 2/9/2012

Targets
---------

ANALYTE	Result Analyte mg/kg wet Qualifiers				
Mercury	0.4	0.08	0.400	97.7 75-125	

### **Matrix Spike (B2B1009-MS1)** Prepared: 2/7/2012 Analyzed: 2/9/2012

Source: 1201012-01

Targets

	ANALYTE	Result mg/kg dry	Analyte <sub>R</sub> Qualifiers	eporting Limit	Spike Level	Source Result	%REC	%REC Limits	
]	Mercury	7.5		1.5	7.49		99.6	75-125	

### **Matrix Spike (B2B1009-MS2)** Prepared: 2/7/2012 Analyzed: 2/9/2012

Source: 1201020-02

# Targets

		1 a1	geis					
ANALYTE	Result mg/kg dry	Analyte <sub>R</sub> Qualifiers	leporting Limit	Spike Level	Source Result	%REC	%REC Limits	
Mercury	0.1		0.01	0.0665	0.08	63.4 #	75-125	



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### Metals by EPA Method 7470A/7471A - CVAAS - Quality Control

Batch: B2B1009

Sample Type: Solid

### Matrix Spike Dup (B2B1009-MSD1)

Source: 1201012-01

Prepared: 2/7/2012 Analyzed: 2/9/2012

Targets

ANALYTE	Result mg/kg dry	Analyte <sub>R</sub> Qualifiers	eporting Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Mercury	6.4		1.3	6.62		97.1	75-125	14.9	20

### Matrix Spike Dup (B2B1009-MSD2)

Source: 1201020-02

Prepared: 2/7/2012 Analyzed: 2/9/2012

### Targets

ANALYTE		Analyte <sub>R</sub> Qualifiers				%REC %REC Limits		RPD Limit
Mercury	U		0.01	0.0594	0.08	NR #75-125	#	20

### Reference (B2B1009-SRM1)

Prepared: 2/7/2012 Analyzed: 2/9/2012

Targets										
	Result Analyte <sub>R</sub>	Reporting	Spike	Source		%REC	RPD			
ANALYTE	mg/kg wet Qualifiers	Limit	Level	Result	%REC	Limits	RPD Limit			
Mercury	2.9	0.7	3.59		80.0	51.8-14	8			



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## TCLP Metals by EPA Method 1311/6010B-ICP - Quality Control

Batch: B2B1313

Sample Type: Solid

### Blank (B2B1313-BLK1)

Prepared: 2/13/2012 Analyzed: 2/23/2012

Targets					
ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit			
Arsenic	U	0.10			
Barium	U	0.01			
Cadmium	U	0.005			
Chromium	U	0.01			
Lead	U	0.03			
Selenium	U	0.10			
Silver	U	0.01			

### Blank (B2B1313-BLK2)

Prepared: 2/13/2012 Analyzed: 2/23/2012

		Targets
ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit
Arsenic	U	0.10
Barium	U	0.01
Cadmium	U	0.005
Chromium	U	0.01
Lead	U	0.03
Selenium	U	0.10
Silver	U	0.01

### LCS (B2B1313-BS1)

Prepared: 2/13/2012 Analyzed: 2/23/2012

		Targets		
ANALYTE		Analyte Reporting Qualifiers Limit		%REC %REC Limits
Arsenic	3.75	0.10	4.00	93.7 75-125



## Envillental Protection Agenicy Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

## TCLP Metals by EPA Method 1311/6010B-ICP - Quality Control

Batch: B2B1313

Sample Type: Solid

### LCS (B2B1313-BS1)

Prepared: 2/13/2012 Analyzed: 2/23/2012

Targets (Continued)								
ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit		%REC %REC Limits				
Barium	3.46	0.01	4.00	86.4 75-125				
Cadmium	0.08	0.005	0.100	79.3 75-125				
Chromium	0.71	0.01	0.800	88.2 75-125				
Lead	0.66	0.03	0.800	81.9 75-125				
Selenium	1.82	0.10	2.00	91.1 75-125				
Silver	0.08	0.01	0.100	82.5 75-125				

## Matrix Spike (B2B1313-MS1)

Source: 1201020-01

Prepared: 2/13/2012 Analyzed: 2/23/2012

Targets

Source		
Source Result	%REC	%REC Limits
	96.4	75-125
0.44	91.5	75-125
0.10	77.5	75-125
4.96E-4	93.9	75-125
10.5	47.8 #	<b>#</b> 75-125
0.08	103	75-125
8.20E-4	92.2	75-125
	Result 0.44 0.10 4.96E-4 10.5 0.08	Result       % REC         96.4       91.5         0.44       91.5         0.10       77.5         4.96E-4       93.9         10.5       47.8 *         0.08       103

## Matrix Spike Dup (B2B1313-MSD1)

Source: 1201020-01

Prepared: 2/13/2012 Analyzed: 2/23/2012

Targets								
ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	3.79	1.00	4.00		94.8	75-125	1.66	20
Barium	4.10	0.10	4.00	0.44	91.4	75-125	0.16	20



## Envitonmental Protection Agency Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

## TCLP Metals by EPA Method 1311/6010B-ICP - Quality Control

Batch: B2B1313

Sample Type: Solid

### Matrix Spike Dup (B2B1313-MSD1)

Source: 1201020-01

Prepared: 2/13/2012 Analyzed: 2/23/2012

### **Targets (Continued)**

ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit			%REC	%REC Limits	RPD	RPD Limit
Cadmium	0.17	0.05	0.100	0.10	77.3	75-125	0.07	20
Chromium	0.76	0.10	0.800	4.96E-4	94.5	75-125	0.70	20
Lead	10.7	0.30	0.800	10.5	30.2 #	75-125	1.31	20
Selenium	2.09	1.00	2.00	0.08	101	75-125	2.23	20
Silver	0.09	0.10	0.100	8.20E-4	93.1	75-125	0.96	20



## Envillental Protection Agency Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

## TCLP Metals by EPA Method 1311/7470A-CVAAS - Quality Control

Batch: B2B1006

Sample Type: Solid

### Blank (B2B1006-BLK1)

Prepared: 2/8/2012 Analyzed: 2/9/2012

		Targets
		Analyte Reporting Qualifiers Limit
Mercury	U	2.00E-4

### Blank (B2B1006-BLK2)

Prepared: 2/8/2012 Analyzed: 2/9/2012

		Targets
ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit
Mercury	U	2.00E-4

### LCS (B2B1006-BS1)

Prepared: 2/8/2012 Analyzed: 2/9/2012

Targets	
---------	--

ANALYTE	Result	Analyte Reporting Sp	oike 9	%REC
	mg/L	Qualifiers Limit Le	evel %REC 1	Limits
Mercury	9.51E-4	2.00E-4 0.00	0100 95.1	75-125

#### Matrix Spike (B2B1006-MS1) Prepared: 2/8/2012 Analyzed: 2/9/2012

Source: 1201020-01

#### **Targets**

ANALYTE		Analyte Reporting Qualifiers Limit				%REC Limits	
Mercury	0.001	2.00E-4 (	0.00100	2.02E-4	95.8	75-125	



## Envillential Protection Aglincy Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

## TCLP Metals by EPA Method 1311/7470A-CVAAS - Quality Control

Batch: B2B1006

Sample Type: Solid

### Matrix Spike Dup (B2B1006-MSD1)

Source: 1201020-01

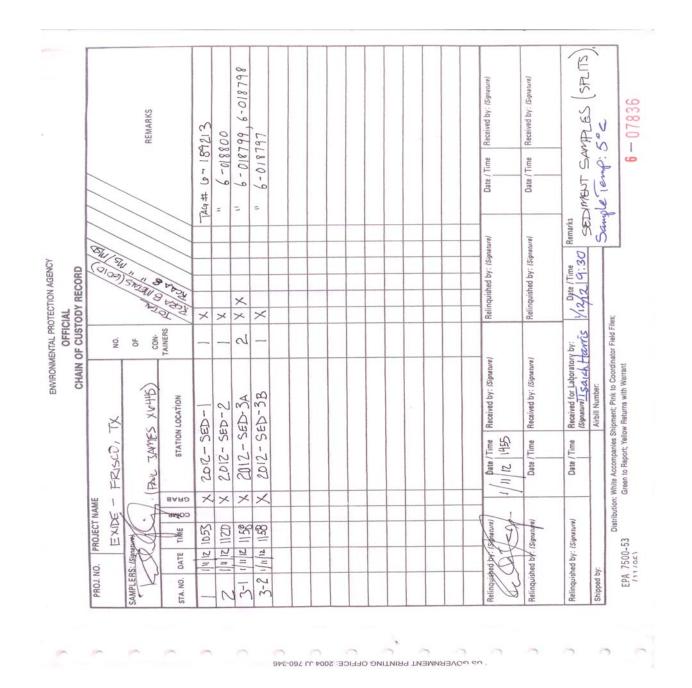
Prepared: 2/8/2012 Analyzed: 2/9/2012

ANALYTE		Analyte Reporting Qualifiers Limit			%REC	%REC Limits	RPD	RPD Limit
Mercury	0.001	2.00E-4	0.00100	2.02E-4	102	75-125	5.04	20



## Envîltonmental Protection Agency Region 6 Laboratory

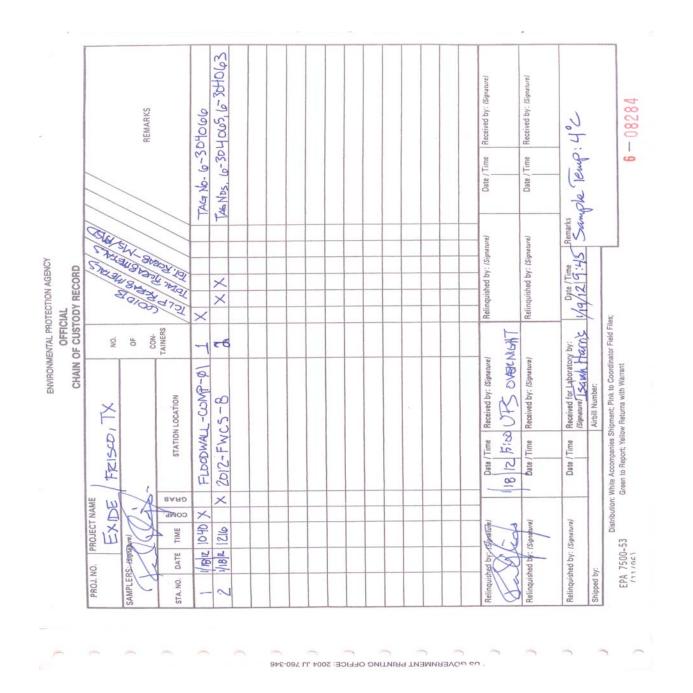
10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248





## Envîltonmental Protection Agency Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248





## Enviliantental Protection Agenicy Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

## **Notes and Definitions**

- L The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- A This sample was extracted at a single acid pH.
- HTS Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
- AES Atomic Emission Spectrometer
- CVAA Cold Vapor Atomic Absorption
- ECD Electron Capture Detector
- GC Gas Chromatograph
- GFAA Graphite Furnace Atomic Absorption
- ICP Inductively Coupled Plasma
- MS Mass Spectrometer
- NA Not Applicable
- NPD Nitrogen Phosphorous Detector
- NR Not Reported
- TCLP Toxicity Characteristic Leaching Procedure
- U Undetected
- # Out of QC limits

Initial pressure in air analyses is the pressure at which the canister was received in psia (pounds *per* square inch absolute pressure).

The pH reported for Volatile liquid samples was tested using a 0-14 pH indicator strip for the purpose of verifying chemical preservation.



## Envîltonmental Protection Agency Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

The statistical software used for the reporting of toxicity data is ToxCalc 5.0.32, Environmental Toxicity Data Analysis System 1994-2007 Tidepool Scientific Software.

Bryan W. Shaw, Ph.D., P.E., *Chairman* Toby Baker, *Commissioner* Zak Covar, *Executive Director* 



### TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 10, 2014

Mr. Matt Love, Director Global Environmental Remediation Exide Technologies P.O. Box 14294 Reading, PA 19612-4294

Re: Implementation of Interim Actions, Battery Chip and Slag Removal and Disposal dated October 14, 2013
Exide Frisco Recycling Facility, 7471 5<sup>th</sup> St., Frisco, TX 75034-5047
TCEQ SWR No. 30516
TCEQ Hazardous Waste Permit No. HW-50206
TCEQ Agreed Order Docket No. 2011-1712-IHW-E
EPA ID No. TXD006451090
Customer No. CN600129779; Regulated Entity No. RN100218643

Dear Mr. Love:

The Texas Commission on Environmental Quality (TCEQ) approves the above mentioned report, dated October 14, 2013. The report detailed the activities performed under the work plan approved by our letter dated July 1, 2013. Please ensure that a copy of the report is placed on the Exide Frisco Recycling Center Closure website within 10 days of the date of this letter.

Please include all areas where XRF indicated the presence of lead contamination in soil in the Protective Concentration Limit Exceedance (PCLE) zone maps in the revised Affected Property Assessment Report unless additional data is collected to verify that soil is not impacted. Areas where slag and battery casings have been documented and were not been removed and any areas where data collected as part of the Interim Action indicates PCLs were exceeded should also be included in the PCLE zone in the revised APAR as well.

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

Mr. Love Page 2 January 10, 2014 TCEQ SWR No. 30516

Any questions concerning this letter should be directed to me at (512) 239-2361.

Sincerely,

1

Gary Beyer, Project Manager Team 1, VCP-CA Section Remediation Division Texas Commission on Environmental Quality

GB/mdh

cc: Frank Clark, W&M Environmental Group, Inc., 906 E. 18<sup>th</sup> Street, Plano, Texas 75074

Eric Pastor, Pastor, Behling, & Wheeler, LLC., 2201 Double Creek Drive, Suite 4004, Round Rock, Texas 78664

Sam Barrett, Waste Section Manager, TCEQ Region 4 Office, Dallas/Ft. Worth

Bill Shafford, Technical Specialist, Office of Waste, TCEQ

Paul James, EPA Region 6, Dallas, Texas



## Implementation of Interim Actions Slag and Battery Case Fragment Removal and Disposal

## Exide Frisco Recycling Facility Frisco, Texas

October 14, 2013





## REPORT ON INTERIM ACTIONS SLAG AND BATTERY CASE FRAGMENT REMOVAL AND DISPOSAL

## EXIDE FRISCO RECYCLING FACILITY 7471 SOUTH 5<sup>TH</sup> STREET, FRISCO, TEXAS 75034-5047 TCEQ SWR No. 30516 TCEQ HAZARDOUS WASTE PERMIT NO. HW-50206 TCEQ AGREED ORDER DOCKET NO. 2011-1712-IHW-E EPA ID NO. TXD006451090 CUSTOMER NO. CN600129779 REGULATED ENTITY NO. RN100218643

October 14, 2013

**Prepared For:** 

EXIDE TECHNOLOGIES, INC. 7471 SOUTH 5<sup>TH</sup> STREET FRISCO, TEXAS 75034

**Prepared By:** 

W&M ENVIRONMENTAL GROUP, INC. 906 E. 18<sup>TH</sup> STREET PLANO, TEXAS 75074 Tel: 972-516-0300 Fax: 972-516-4145

W&M Project No. 112.072.002



Texas Registered Engineering Firm No. F-8240

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#### **1.0 INTRODUCTION**

W&M Environmental Group, Inc. (W&M) has prepared this Report describing interim actions completed at the Exide Technologies, Inc. (Exide) facility located at 7471 South 5<sup>th</sup> Street in Frisco, Texas (Site, **Figure 1**). The interim actions are related to areas containing furnace slag fragments (slag) and battery case fragments exposed on the ground surface within the former facility operating area, former disposal areas, around the operating Class 2 non-hazardous waste landfill in the northern portion of the Site, and in a wooded area between the two. The boundaries of the areas subject to the interim action are depicted on **Figure 2**.

The goal of the interim action was to identify and remove smaller concentrations of exposed slag and battery case fragments from the ground surface using hand shoveling and other manual methods and collect information regarding lead concentrations in areas where these materials are removed to determine if future larger scale remediation is warranted. Removal of impacted soil that has no slag or battery case fragments was not part of the interim actions. A detailed description of the work is provided in the *Interim Action Work Plan* (IAWP) prepared by W&M dated April 29, 2013 and approved by TCEQ in correspondence dated July 1, 2013.

This Summary Report details the interim actions, including the methodology used to identify the areas requiring removal, specific material handling procedures, dust suppression and control, air monitoring, post removal sampling, waste management, and laboratory quality assurance procedures.

#### 1.1 Site Background

Exide's predecessors reportedly placed treated and untreated slag and battery case fragments from crushed lead-acid batteries in three disposal areas located on the north and south portions of the facility. The disposal areas no longer receive waste materials and are capped. In addition to these three disposal areas, small and localized areas containing slag and battery casing fragments have been observed on the ground surface in other areas of the property beyond the limits of the disposal areas and in certain areas along Stewart Creek.

In 2011, Exide engaged W&M to identify and sample suspect slag in Stewart Creek; assess the condition of the soil cap in the north disposal area (NDA), south disposal area (SDA), and in the slag landfill area; note areas of soil erosion and/or exposed waste materials in these areas; and, note any waste materials located outside of the documented disposal areas. The results of that survey are summarized in a letter report *North and South Disposal Areas Evaluation* dated December 28, 2011.

In March 2013, W&M completed additional inspections on the remaining Exide facility operating areas. The boundaries of the areas subject to this interim action are depicted on **Figure 2**, and the locations of the NDA, SDA and slag landfill are depicted on **Figure 3**. The inspections included recording the Global Positioning System (GPS) coordinates of any such material identified documenting observations regarding each location, and determining the extent of erosion in the disposal areas, if present. The results of these inspections are documented in a W&M report titled *Inspection of Facility Operating Areas* dated March 28, 2013.

Locations of slag and battery case fragments identified by W&M in 2011 and 2013 are presented in **Figures 4 through 7**.

#### 1.2 Overview of Removal Operations by Area

Overall, W&M's inspection identified minimal areas of exposed slag or battery case fragments within the boundaries of the SDA, with some localized areas where material appeared to have been brought to the surface by animal burrowing. Some exposed slag and battery case fragments were observed south and east of the designated SDA and on a former shooting range berm located immediately to the west. Intermittent and isolated observations of battery case fragments and small slag fragments were noted in areas to the north of the SDA, and within wooded and overgrown areas east of the SDA.

Areas of slag fragments were observed on the surface of the NDA, particularly near materials storage areas and within area of heavy vehicular traffic in the southern portions of the NDA. Slag fragments were also noted south and southeast of the NDA boundary and along the adjoining rail line in the vicinity of the NDA. A small number of individual slag pieces or battery case fragments were also observed within the tree line north of the NDA, and in the vicinity of the former Fire Training Area northeast of the former main plant structures.

Larger slag fragments, including what appeared to be "buttons" of slag material (approximately 12 inches to 18 inches in diameter) from kettle bottoms, were observed along the banks of Stewart Creek. Where possible, these were removed by hand. Some buttons could not be removed by the manual means specified by the TCEQ.

Finally, a few locations of suspected slag fragments located around the periphery of the Operating Class 2 Non-Hazardous Waste Landfill were assessed; only one of these appeared to be slag, and the remaining fragments were native rock that had a slag-like appearance.

The interim action removal included all of the locations within the facility operating area, former disposal areas, the operating Class 2 Non-Hazardous Waste Landfill and the wooded area between the two. However, the former shooting range berm was addressed separately under an agreed Administrative Order with TCEQ.

#### 2.0 INTERIM ACTIONS

#### 2.1 Interim Actions

The interim actions at the Site consisted of the following steps.

- Using high resolution GPS equipment, mobilize to the documented locations of slag and battery case fragments identified in the March 2013 Inspection Report.
- Discretely remove the slag and battery case fragments with hand equipment only. A small amount of soil in direct contact and immediately surrounding the excavated fragments was also removed.
- Analyze soils beneath the removed slag and battery case fragments for lead contamination with an X-ray fluorescence system (XRF) equipment. Collect confirmation samples from 10% of the XRF scanned soil.
- Store excavated materials in less than 90-day containers (55-gallon drums) within the confines of the former operating area.
- Characterize the excavated materials for disposal purposes.
- Properly dispose of 55-gallon drums containing slag and battery case fragments at off-Site disposal facilities.

#### 2.2 Removal Activities

Slag and battery case fragment removal and sampling activities started on July 30, 2013 and finished on August 15, 2013; however, activities were halted from July 31, 2013 to August 8, 2013 and resumed on August 9, 2013. Exact locations where slag and/or battery case fragments were observed were recorded using a Trimble® GeoXT GPS handheld receiver during the previous inspections. Each feature was post processed with Trimble® GPS Pathfinder® to verify accuracy, assigned a unique designation and number along with its geographic coordinates, and summarized in a spreadsheet table (refer to first four columns on **Table 1**). The coordinate system used was global latitude/longitude, World Geodetic System 1984 (WGS-84) datum. Brief visual observations at each location identified were also recorded. Using the previously collected coordinates, W&M was able to navigate back to the previously identified exposed slag and/or battery case fragments and mark the location with a labeled pin flag.

Removal of slag and battery case fragments was completed by Remediation Services, Inc. (RSI) with hand tools such as shovels, trowels, and garden rakes. The hand tools consisted of stainless steel blades and other inert material to reduce cross contamination between individual interim action areas. The soil in direct contact and immediately surrounding the slag or battery casing fragments was also removed. No machinery was used for excavation purposes during this interim action; therefore, areas of slag and battery case fragments extending past a depth of 6 inches or sufficiently large to require the use of mechanical excavation equipment were noted so they could be addressed at a later date.

Removal activities in the following areas were limited for specific reasons.

• Some locations around the SDA were found to contain slag and/or battery case fragments extending deeper than 6 inches below grade.

- An area containing clusters of small battery case fragments and slag approximately 40 feet long and 15 feet wide was located approximately 150 east of the SDA in dense vegetation. Surface material was removed from this area along with some underlying soils, however the material appeared to extend beyond a 6-inch depth and therefore removal activities ceased.
- Stewart Creek contained areas of buttons too large to remove by hand in the creek bank. When areas of large slag fragments were encountered, the smaller fragments, if present, were removed. At TCEQ's request, pieces of slag requiring mechanical equipment for removal were left in place for later removal.
- The southern portion of the NDA appeared to be one continuous area of exposed slag or battery case fragments especially along the railroad tracks. During slag and battery case fragment removal in this area, more slag and battery case fragments appeared after removing the top half inch of soil. W&M and RSI determined that any further disturbances such as vehicle traffic or erosion due to rainfall in this area would result in the exposure of additional slag and battery case fragments becoming visible, and removal activities ceased after one half inch of soil was removed.
- A previously marked area that contained numerous fragments of battery casings and slag in the southeastern portion of the NDA (designated NDA DF-2 in Figure 5) contained overgrown dense vegetation; therefore, no debris could be located and removed.
- Also, some material was incorrectly marked as slag or battery case fragments due to poor visibility, and very similar visual appearance to slag or battery case fragments. Some of these similar features include some native rock with high iron content, and clay pigeon targets from the former gun range. If the previously marked location was observed without slag or battery case fragments, the soil was not sampled because no removal activities took place at that location.

Each of the areas addressed are summarized on **Table 1** with appropriate notations as to whether the material was removed, was determined not to require action, or could not be removed.

The removed slag and battery case fragments were loaded into steel 55-gallon drums. When a drum was completely filled, a composite sample was retained for waste characterization purposes, and the drum was sealed, labeled, and transferred to the drum staging location located south of the former Frisco Fire training building by RSI. A total of 14 drums were filled during removal activities.

Because removal activities were limited to hand removal of slag and battery case fragments, the potential for appreciable dust generation was minimal. Dust suppression was available at all times and implemented during removal activities to minimize emissions associated with removal activities. Dust suppression consisted of 5-gallon portable pressurized sprayers used to wet the areas prior to and during removal of slag and battery case fragments. During the wetting of an area care was taken to not overwater and cause runoff.

Thirteen slag and battery case fragments previously marked in the field could not be located during the removal activities. All of these previously marked locations that could not be found were small individual slag or battery case fragments. All locations where slag or battery case fragments were not removed are indicated on **Table 1**.

#### 2.3 Post Removal Sampling

After slag or battery case fragments and soil in direct contact was removed and placed into a drum, the soil beneath the removed material was then collected in a small plastic bag. Soil in the

bag was homogenized and then a small portion of the soil was removed and inserted into plastic containers specifically designed for scanning with the Bruker Model S1 Titan Handheld XRF. Only trained W&M personnel wearing a dosimeter ring and badge used the XRF equipment. Additionally, only the XRF operator was allowed within 5 feet of the XRF equipment during use.

For very small areas (individual slag or battery case fragments), two XRF readings were made and recorded. For larger areas, field judgment by W&M was used in determining where and how many samples were collected. Duplicate confirmation samples were taken at a frequency of 10% and analyzed by XRF. Photographs of the interim action activities are provided in **Appendix A**.

The IAWP stated that the XRF soil analysis would be completed in the field; however, extreme heat, due to typical seasonal weather, prevented the XRF from functioning properly out-of-doors. Therefore, samples were scanned indoors at a later time. W&M verified with the instrument supplier that equipment shutdown due to heat or power loss does not affect the instrument's calibration or proper functioning.

Split samples were collected from at least 10% of the XRF analyzed soil locations and were analyzed for total lead and cadmium using EPA Method 6010/6020 at ALS Laboratories in Houston, Texas. Lab reports and analysis data are provided in **Appendix B**.

XRF results were recorded and entered into Table 1.

#### 2.4 XRF and Laboratory Results

A total of 126 XRF samples were analyzed during the removal operations. Each sample was scanned twice and the two XRF scans were averaged. Individual and average XRF results are included in **Table 1.** 

The results from the XRF duplicate analyses and the split sample analytical results by the outside laboratory are also contained on **Table 1** and discussed in Section 3.0

#### 2.5 Dust Control and Air Monitoring

Because removal activities were limited to hand removal of slag and battery case fragments, the potential for appreciable dust generation was minimal. Dust suppression was available at all times and implemented during removal activities to minimize emissions associated with removal activities. Dust suppression consisted of 5-gallon portable pressurized sprayers used to wet the areas prior to and during removal of slag and battery case fragments. During the wetting of an area care was taken to not overwater and cause runoff.

#### Perimeter Air Monitoring

Ambient air monitoring was completed in accordance with the ongoing monitoring for overall Site activities in accordance with the *Perimeter Air Monitoring Plan*, including the Stop Work and Take Action Levels being used during the Site demolition and landfill response action activities.

The particulate monitoring incorporated E-BAM Particulate Monitors equipped with " $PM_{10}$ " impactor heads situated in downwind positions from the Site and work areas based upon wind direction measurements at the Exide weather station. The E-BAM equipment is also employed to monitor dust during facility demolition and landfill remediation activities. Real-time data from

the downwind particulate monitors was monitored remotely and evaluated in 30-minute and 60minute averaged blocks to provide immediate comparison to Take Action and Stop Work Level criteria established for the Site.

Air samples for metals analyses (lead and cadmium) were collected daily for the duration of each working shift (typically eight – 10 hours) using a Gilian Model GilAir5 air sampling pump, or equal. Air samples were collected by attaching laboratory-provided air sample filter cartridges (0.8- micrometer mixed cellulose ester membrane filter cartridge) to the pump, and setting the air inlet at a height of 4 to 5 feet above grade. The air sample pumps were set at a flow rate of approximately 3 to 4 liters per minute.

Following air sample collection, the air sample cartridges were capped, labeled, and delivered with chain of custody documentation to ALS Laboratory Group, in Salt Lake City, Utah for analysis of lead and cadmium. ALS is accredited by the TCEQ for analysis of environmental samples and is accredited by the American Industrial Hygiene Association (AIHA) for analysis of air samples and lead in soil, dust, paint and air. Laboratory analyses were requested on an expedited 24-hour turnaround basis. Metals were analyzed using NIOSH Method 7303, a method specifically accredited by the AIHA.

The results of the perimeter air monitoring are summarized in the daily Quality Assurance Reports prepared by W&M for the overall Site demolition/remediation project. The reports generated for the work days that included surface slag and battery case fragment removal are provided in **Appendix C.** No air samples exceeded the Take Action Levels for lead or cadmium established in the *Perimeter Air Monitoring Plan* established for Site demolition or remediation activities.

#### Personal Air Monitoring

Monitoring and protection of workers performing the response actions included use of personal protective equipment (PPE), such as filtering face piece respirators and collection of full-shift personal air samples from one worker during each working shift. The air sample pumps were set at a flow rate of approximately three liters per minute with the media placed in the worker's breathing zone. Personal air samples were analyzed for cadmium and lead by ALS Environmental Laboratory in accordance with modified National Institute of Occupational Safety and Health (NIOSH) Method 7300.

Personal air sample results were used to verify that the proper respiratory protection is being employed during field activities and to document worker exposures are below applicable occupational exposure limits. Samples were taken on each day of field work, and the results indicate workers were not exposed to airborne concentrations of lead or cadmium at levels above Occupational Safety and Health Administration (OSHA) criteria. The Permissible Exposure Limits were adjusted for work periods exceeding 8 hours in any work day, and sampling results indicate that workers were not exposed to airborne concentrations of lead at levels above the adjusted PEL during any of the extended work shifts.

#### 2.6 Waste Characterization and Disposal

A total of 14 drums of waste material were collected during the project. A composite sample from the drums was submitted for analysis by ALS, and the waste was classified as hazardous based upon TCLP analysis. On August 28, 2013, the 14 drums were transported and disposed at EQ Oklahoma, Inc., a RCRA licensed hazardous waste disposal facility located in Tulsa, Oklahoma.

A copy of the waste characterization analysis and waste disposal manifest is provided in **Appendix D.** 

#### 3.0 QUALITY ASSURANCE/QUALITY CONTROL

Primary quality assurance/quality control (QA/QC) procedures adopted for the interim action are outlined in the IAWP and summarized below.

- Follow procedures outlined in the IAWP for all sampling, sample handling and preservation.
- Recording all sampling and other field activities conducted at the Site in a field logbook.
- Collecting duplicate XRF samples and split (outside lab) confirmation samples, each at a frequency of 10%.
- Completing chain-of-custody documentation for all samples collected.
- Ensure that all laboratory sampling procedures and chemical analyses are performed in accordance with the latest versions of SW-846 "*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*".
- Reviewing QA/QC data package from the analytical laboratory.

Field XRF procedures were completed in accordance with the manufacturer's instructions and equipment operating manual.

#### XRF Duplicate Samples

Each XRF sample was scanned twice as part of the normal operating procedures. In addition, duplicate samples were recovered at a rate of 10%, resulting in 13 duplicates.

An evaluation of duplicate XRF samples was made by calculating the Relative Percent Difference (RPD) between the original results and the duplicate analyses using the following equation:

RPD results for the XRF duplicates are depicted in **Table 2**. For purposes of this project, RPDs of 40% were considered acceptable given the nature of the XRF screening methodology. The calculated RPDs varied from 1.2% to 22.9%, with all XRF duplicate results being considered acceptable.

RPD results for the split samples analyzed by an accredited laboratory were also calculated, with RPDs varying from 11.3% to 152% (refer to **Table 2**). Ten of the 13 duplicates exceeded the project RPD criteria of 40%. It was noted that for seven of the 10 samples where the project RPD was exceeded, the laboratory analytical results were lower than the field XRF data.

Because of the high variability between field XRF samples and laboratory analytical results, the XRF should be used in future with caution, and all analytical data that will be used for decision making or to attain cleanup goals should be verified by accredited laboratory analysis.

#### 4.0 CONCLUSIONS

W&M oversaw the implementation of Interim Response Actions at the Exide facility in Frisco, Texas in accordance with the IAWP reviewed and approved by TCEQ.

During this interim action, discrete areas containing exposed slag and/or battery case fragments were removed from the ground surface using hand equipment and placed into 55-gallon drums for disposal. Field screening of the subsoils below areas of removal was performed using field XRF equipment, with laboratory verification at a frequency of 10%.

The removal action successfully addressed all visible material that could be removed by hand. In some areas, full removal could not be attained due to the presence of larger slag fragments or the exposure of underlying material that appeared to contain additional waste materials. A few small discrete materials identified during previous surveys could not be located. At some locations, material previously identified as slag or battery case fragments was determined to be native rock fragments or clay shooting pigeon fragments, and no removal activities were required.

The use of XRF as a screening tool should be used with caution since RPD values were relatively high, and samples used in decision making should be verified by accredited laboratory analyses.

Very truly yours, W&M ENVIRONMENTAL GROUP, INC.

rank WClark

Frank W. Clark, P.E., P.G. Senior Consultant

pri Liegelman

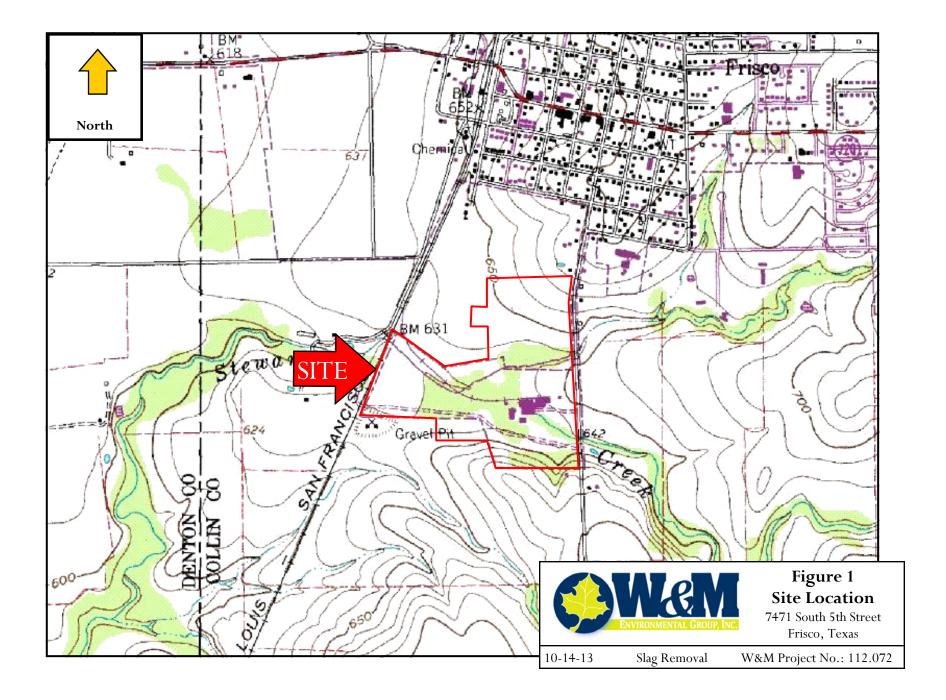
Lori Siegelman, CIH Senior Consultant

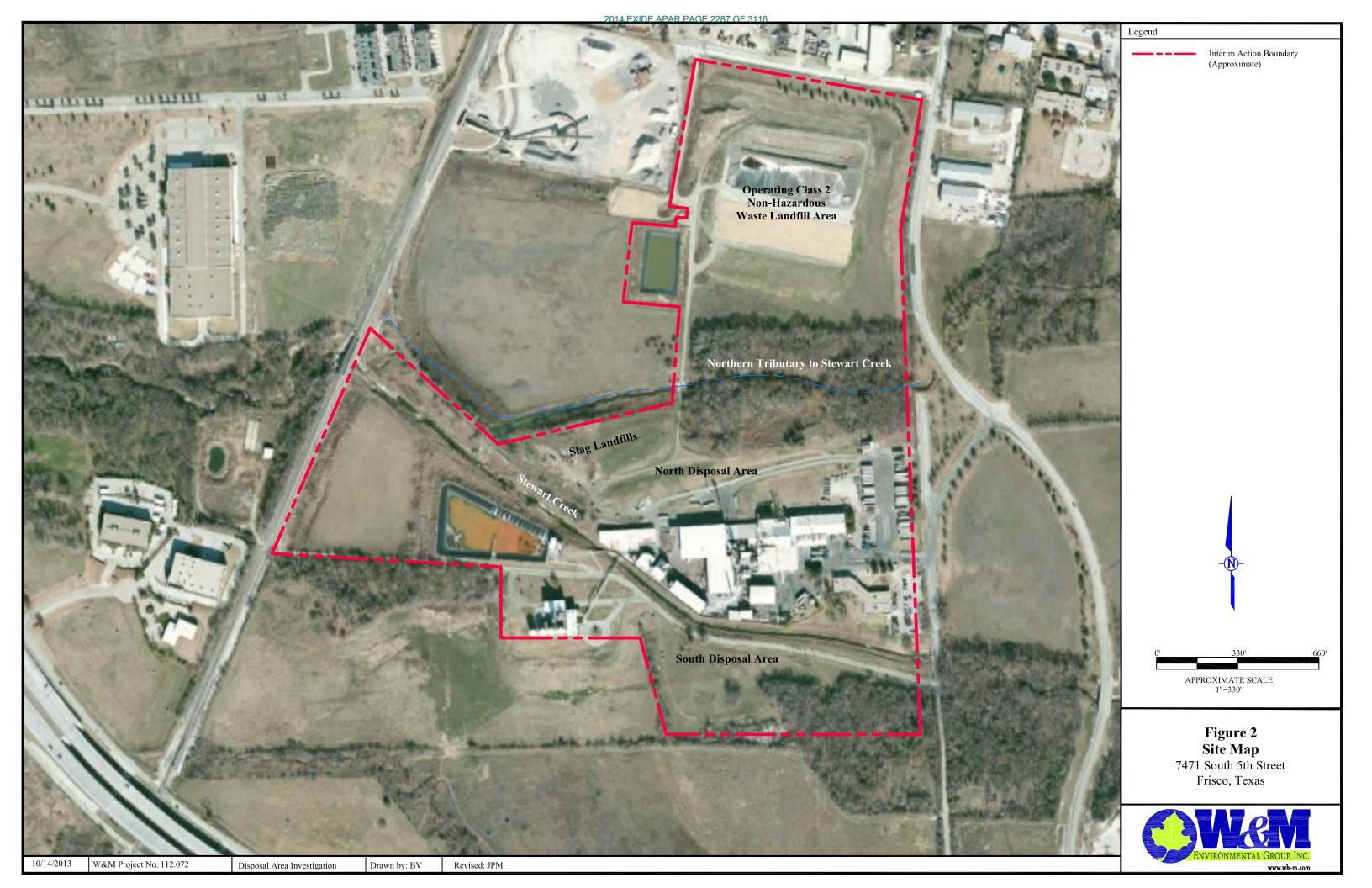
Attachments

Michael Whitehead **Project Reviewer** 

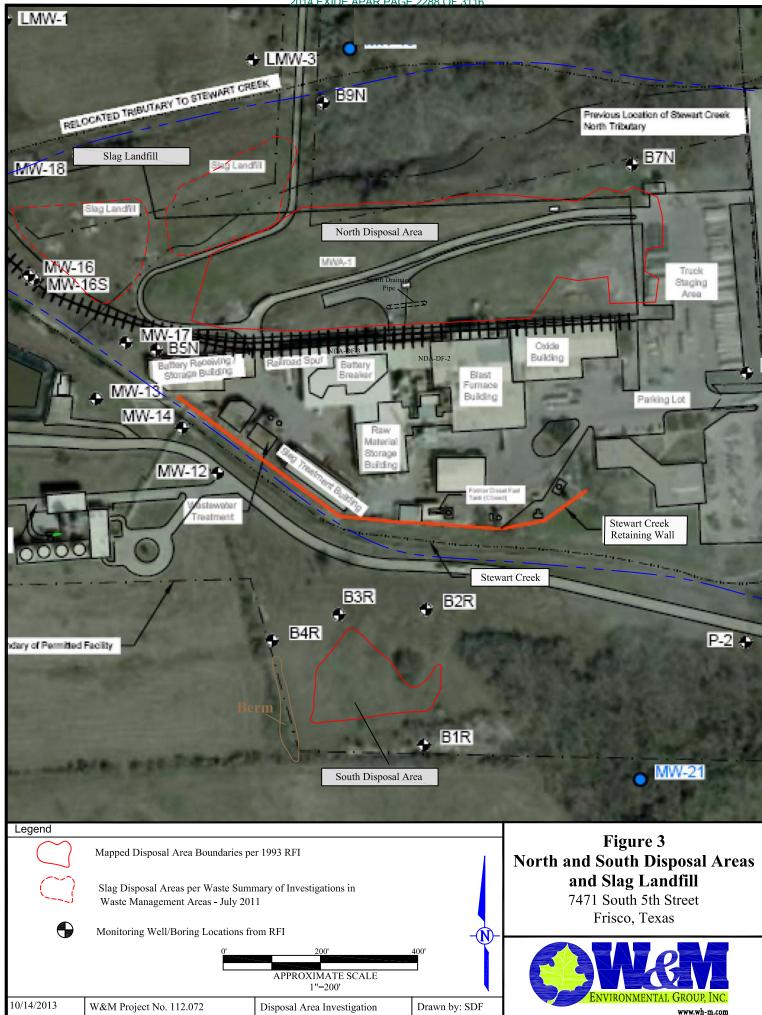
FIGURES

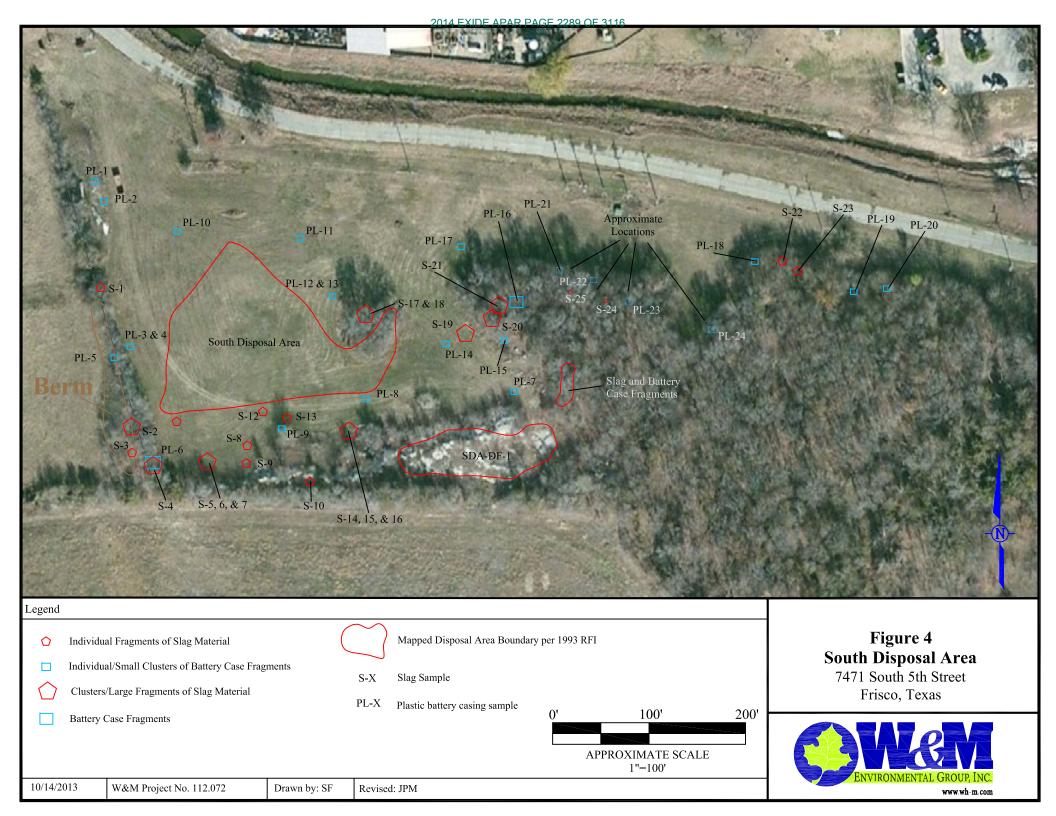
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Clusters/Large Fragments of Slag Material

Battery Case Fragments

0' 125' 250' APPROXIMATE SCALE

Frisco, Texas



3/22/13 W&M Project No. 112.072

Drawn by: BV

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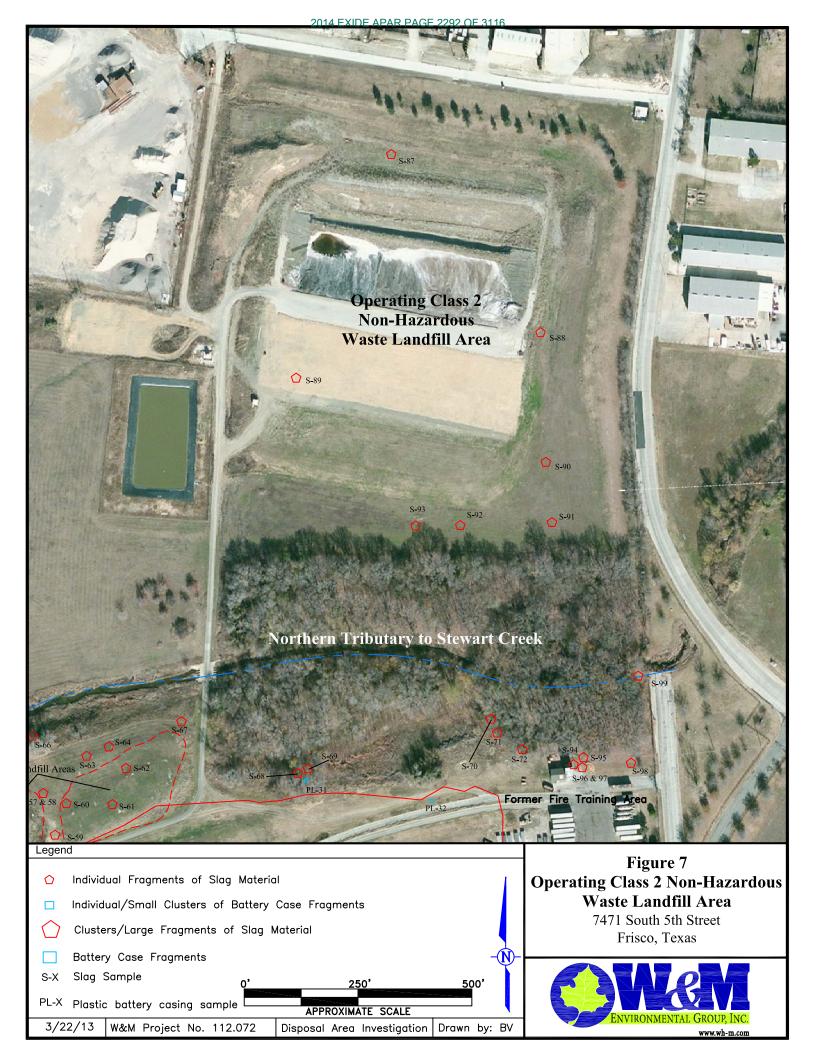


APPROXIMATE SCALE

1"=115'

- S-X Slag Sample
- PL-X Plastic battery casing sample 10/14/2013 W&M Project No. 112.072
- Drawn by: SF Revised: JPM

GROUP, INC. www.wh-m.com



TABLES

#### 2014 EXIDE APAR PAGE 2294 OF 3116

# TABLE 1 Surface Slag & Battery Case Fragment Removal Exide Operating Areas

#### Exide Technologies 7471 South 5th Street

Frisco, Texas

Site Location	Material Designation	Latitude <sup>1</sup>	Longitude <sup>1</sup>	Description	How Addressed	XRF Scan 1 Lead (mg/kg)	XRF Scan 2 Lead (mg/kg)	XRF Scan Average (mg/kg)	Duplicate XRF Samples (mg/kg)	RPD for XRF Data (%)	Split Samples by ALS* (mg/kg)	RPD - Field to Lab Results (%)	
	Areas of Observed Surface Slag												
	Slag-1	33.139033°	-96.829056°	Individual surface slag	Removed	1,727	1,702	1,715					
	Slag-2	33.138589°	-96.828904°	Individual surface slag	Removed	405	412	409					
	Slag-3	33.138511°	-96.828881°	Individual surface slag	Removed	2,170	3,727	2,949					
	Slag-4	33.138499°	-96.828851°	Individual surface slag	Removed	84	85	85					
	Slag-5	33.138475°	-96.828783°	Individual surface slag	Removed	159	245	202	230	13.0			
	Slag-6	33.138481°	-96.828743°	Individual surface slag	Removed	20,000	21,000	20,500			40,400	65.4	
	Slag-7	33.138488°	-96.828612°	Individual surface slag	Removed	701	709	705					
	Slag-8	33.138526°	-96.828473°	Individual surface slag	Removed	2,479	1,905	2,192					
South Disposal Area	Slag-9	33.138499°	-96.828468°	Individual surface slag fragment	Slag picked up directly on chalk outcrop (no soil to sample)								
4	Slag-10	33.138431°	-96.828235°	Individual surface slag	Removed	5,903	5,258	5,581	5,648	1.2			
g	Slag-11	33.138611°	-96.828736°	Individual surface slag	Removed	1,166	1,225	1,196					
ő	Slag-12	33.138656°	-96.828420°	Individual surface slag	Removed	71	73	72					
d	Slag-13	33.138618°	-96.828328°	Individual surface slag	Removed	2,180	2,530	2,355					
ŝ	Slag-14	33.138595°	-96.828208°	Individual surface slag	Removed	17,000	17,000	17,000					
	Slag-15	33.138580°	-96.828116°	Individual surface slag	Removed	11,000	12,000	11,500					
눈	Slag-16	33.138585°	-96.828041°	Individual surface slag	Removed	6,494	6,583	6,539					
D D	Slag-17	33.138940°	-96.828070°	Individual surface slag	Not found								
Š	Slag-18	33.138961°	-96.828002°	Individual surface slag	Removed	7,530	8,161	7,846					
	Slag-19	33.138882°	-96.827664°	Individual surface slag	Removed	3,184	3,024	3,104			1,550	66.8	
	Slag-20	33.138936°	-96.827553°	Individual surface slag	Removed	9,421	8,383	8,902					
	Slag-21	33.138971°	-96.827526°	Individual surface slag	Removed	3,803	3,403	3,603					
	Slag-22	33.139102°	-96.826434°	Individual surface slag	Brick fragment not slag								
	Slag-23	33.139065°	-96.826381°	Individual surface slag	Removed	8,329	9,095	8,712					
	Slag-24-1	33.138985°	-96.827132°	Individual surface slag	Removed	128,000	126,000	127,000		22.9			
	Slag-24-2 Slag-25-1			fragment Individual surface slag		60,000 383,000	81,000 390,000	70,500 386,500	56,000 365,000	5.7			
	Slag-25-1 Slag-25-2	33.139022°	-96.827278°	fragment	Removed	4,703	5,128	4,916	5,428	9.9			
	Slag-26	33.141034°	-96.826827°	Individual surface slag	Removed	23,000	18,000	20,500					
	Slag-27	33.141085°	-96.826856°	Individual surface slag	Removed	17,000	15,000	16,000					
	Slag-28	33.141084°	-96.827085°	Individual surface slag	Removed	28,000	28,000	28,000					
	Slag-29	33.141092°	-96.827148°	Individual surface slag	Removed	17,000	14,000	15,500	17,000	9.2	19,900	24.9	
	Slag-30	33.141075°	-96.827229°	Individual surface slag	Removed	36,000	35,000	35,500					
	Slag-31	33.141065°	-96.827259°	Individual surface slag	Removed	22,000	28,000	25,000					
	Slag-32	33.141055°	-96.827296°	Individual surface slag	Removed	33,000	40,000	36,500					
e a	Slag-33	33.141016°	-96.827307°	Individual surface slag	Concrete Not Slag								
Ne Ne	Slag-34	33.141063°	-96.827364°	Individual surface slag	Removed	22,000	23,000	22,500					
4	Slag-35	33.141001°	-96.827809°	Individual surface slag	Removed	50,000	42,000	46,000	41,000	11.5	15,600	98.7	
g	Slag-36	33.140974°	-96.827894°	Individual surface slag	Removed	39,000	37,000	38,000					
ő	Slag-37	33.141050°	-96.827946°	Individual surface slag	Removed	31,000	23,000	27,000					
d	Slag-38	33.141109°	-96.827876°	Individual surface slag	Removed	26,000	14,000	20,000					
i	Slag-39	33.141066°	-96.828216°	Individual surface slag	Removed	47,000	43,000	45,000					
	Slag-40	33.141107°	-96.828224°	Individual surface slag	Removed	26,000	24,000	25,000					
<u></u> <u></u>	Slag-41	33.141120°	-96.828371°	Individual surface slag	Removed	58,000	42,000	50,000					
North Disposal Area	Slag-42	33.141217°	-96.828494°	Individual surface slag	Concrete Not Slag								
Z	Slag-43	33.141180°	-96.828714°	Individual surface slag	Removed	19,000	27,000	23,000					
1	Slag-44	33.141103°	-96.828698°	Individual surface slag	Large slag button in ground								
1	Slag-45	33.141067°	-96.828925°	Individual surface slag	Removed	46,000	42,000	44,000					
1	Slag-46	33.140940°	-96.829377°	Individual surface slag	Not found								
	Slag-47	33.140933°	-96.829856°	Individual surface slag	Removed	8,910	9,894	9,402					
1	Slag-48	33.141026°	-96.829806°	Individual surface slag	Removed	21,000	15,000	18,000					
1	Slag-49	33.141111°	-96.829881°	Individual surface slag	Removed	7,187	6,480	6,834					
	Slag-50	33.141100°	-96.830062°	Individual surface slag	Removed	5,316	4,747	5,032					

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# TABLE 1 Surface Slag & Battery Case Fragment Removal Exide Operating Areas

#### Exide Technologies 7471 South 5th Street

Frisco, Texas

Site	Material Designation	Latitude <sup>1</sup>	Longitude <sup>1</sup>	Description	How Addressed	XRF Scan 1 Lead (mg/kg)	XRF Scan 2 Lead (mg/kg)	XRF Scan Average (mg/kg)	Duplicate XRF Samples (mg/kg)	RPD for XRF Data (%)	Split Samples by ALS* (mg/kg)	RPD - Field to Lab Results (%)
					Areas of Observed Surf	ace Slag (c	ont'd)					
	Slag-51	33.141191°	-96.830258°	Individual surface slag	Removed	36,000	39,000	37,500				
	Slag-52	33.141300°	-96.830455°	Individual surface slag	Removed	11,000	11,000	11,000				
	Slag-53	33.141436°	-96.830510°	Individual surface slag	Removed	978	871	925	774	17.7	313	98.8
	Slag-54	33.141960°	-96.830603°	Individual surface slag	Large slag fragment, picked up	1,755	2,252	2,004				
d.	Slag-55	33.141943°	-96.830564°	Individual surface slag	Large slag fragment cound not							
Ľ,	Slag-56	33.141785°	-96.829957°	Individual surface slag	Not found							
2	Slag-57	33.141710°	-96.829914°	Individual surface slag	Removed	3,799	3,731	3,765				
Ŭ,	Slag-58	33.141715°	-96.829803°	Individual surface slag	Not found	10.1						
σ	Slag-59	33.141473°	-96.829704° -96.829637°	Individual surface slag	Removed	434	399	417	451	8.0	372	11.3
North Disposal Area (cont'd.)	Slag-60 Slag-61	33.141654° 33.141644°	-96.829637 -96.829306°	Individual surface slag Individual surface slag	Not found Not found							
∢	Slag-61	33.141044 33.141865°	-96.829207°	Individual surface slag	Removed	16,000	16,000	16,000				
a	Slag-63	33.141984°	-96.829207	Individual surface slag	Railroad Ballast, Not Slag			10,000				
os	Slag-64	33.142030°	-96.829328°	Individual surface slag	Not found							
ă	Slag-65	33.142055°	-96.829960°	Individual surface slag	Removed	4,065	4,309	4,187				
Sic	Slag-66	33.142055°	-96.829866°	Individual surface slag	Removed	3,167	3,384	3,276				
	Slag-67	33.142146°	-96.828804°	Individual surface slag	Removed	2,664	1,709	2,187				
<del>, i</del>	Slag-68	33.141728°	-96.828037°	Individual surface slag	Removed	21,000	19,000	20,000				
ō	Slag-69	33.141752°	-96.827980°	Individual surface slag	Removed	17,000	19,000	18,000				
z	Slag-70	33.142038°	-96.826681°	Individual surface slag	Removed	8,002	7,229	7,616				
	Slag-71	33.141967°	-96.826643°	Individual surface slag	Removed	7,996	8,193	8,095				
	Slag-72	33.141874°	-96.826465°	Individual surface slag	Not found							
	Slag-73-1	33.141208°	-96.829222°	small slag cluster	Removed	28,000	25,000	26,500				
	Slag-73-2					18,000	18,000	18,000			9,770	59.3
	Slag-74	33.141087°	-96.826952°	Individual surface slag	Removed	14,000	16,000	15,000				
	Slag-75	33.139851	-96.830809	Large Fragments in Bank	Native Rock, Not slag			399				
	Slag-76-1 Slag-76-2	33.140198	-96.829193	Small Fragments in Bank Small Fragments in Bank	Removed Removed	319 402	478	408				
	Slag-70-2 Slag-77-1			Large Fragments in Bank	Large slag buttons in ground	402	413	408				
	Slag-77-2	33.140858	-96.830196	Large Fragments in Bank	Large slag buttons in ground	4,923	5,745	5,334				
	Slag-78-1			Large Fragments in Bank	Large slag buttons in ground	3,406	8,183	5,795				
	Slag-78-2	33.140865	-96.830209	Large Fragments in Bank	Large slag buttons in ground	471	493	482				
Stewart Creek	Slag-79	33.141295	-96.830845	Large Fragments in Bank	Large slag buttons in ground	152	189	171				
ē	Slag-80-1			Large Fragments in Bank	Large slag buttons in ground	BDL	BDL	49	BDL		266	137.8
Ū	Slag-80-2	33.141386	-96.830926	Large Fragments in Bank	Large slag buttons in ground	97	BDL	97				
ť	Slag-80-3			Large Fragments in Bank	Large slag buttons in ground	102	BDL	102				
/a	Slag-81-1	33.141509	-96.831117	Large Fragments in Bank	Large slag buttons in ground	304	304	304			2,250	152.4
S 0	Slag-81-2			Large Fragments in Bank	Large slag buttons in ground	620	398	509				
Ste	Slag-82	33.141570	-96.831099	Small Fragments in Bank	Removed	BDL	72	72				
0,	Slag-83	33.142439	-96.832506	Large Fragments in Bank	Large fragments remaining	BDL	BDL	BDL				
	Slag-84-1	33.142457	-96.832538	Large Fragments in Bank	Large Buttons in ground, Removed	125	94	110				
	Slag-84-2				smaller fragments	103	107	105				
	Slag-85	33.142500	-96.832602	Small slag fragment	Removed	105	109	107				
÷	Slag-86	33.142911	-96.832945	Small slag Fragment	Not Found							
Crystal- lizer Plant Rd	Plastic-33	33.140698	-96.833515	Single Fragment	Removed	351	344	348				
	Slag-87	33.145460	-96.827074	Small Fragment	Native Rock, Not slag							
lii	Slag-88	33.144404	-96.826258	Small Fragment	Native Rock, Not slag							
North Landfill Area	Slag-89	33.144156	-96.827996	Small Fragment	Removed	177	199	188				
Га	Slag-90	33.143626	-96.826234	Small Fragment	Native Rock, Not slag							
<sup>교</sup>	Slag-91	33.143270	-96.826199	Small Fragment	Native Rock, Not Slag							
Nortl Area	Slag-92	33.143257	-96.826849	Small Fragment	Native Rock, Not slag							
ZA	Slag-93	33.143260	-96.827165	Small Fragment	Native Rock, Not slag							
e	Slag-94	33.141828	-96.826013	Small Fragment	Not found							
Ë.	Slag-95	33.141850	-96.826067	Small Fragment	Removed	5,031	7,476	6,254				
er ing	Slag-96	33.141836	-96.826031	Large Fragment	Large Button in ground			C 202				
Former Fire Training Area	Slag-97 Slag-98	33.141893 33.141853	-96.825990 -96.825660	Small Fragment	Removed Native Rock, Not slag	6,935	5,668	6,302				
Form Train Area	Slag-98 Slag-99	33.141853	-96.825660	Small Fragment Small Fragment	Native Rock, Not slag			-				
	Jug-33	55.142550	30.023000	Sman nagment	Hutter Hock, Not slag							

#### 2014 EXIDE APAR PAGE 2296 OF 3116

#### TABLE 1 Surface Slag & Battery Case Fragment Removal Exide Operating Areas

#### Exide Technologies 7471 South 5th Street

Frisco, Texas

Site Location	Material Designation	Latitude <sup>1</sup>	Longitude <sup>1</sup>	Description	How Addressed	XRF Scan 1 Lead (mg/kg)	XRF Scan 2 Lead (mg/kg)	XRF Scan Average (mg/kg)	Duplicate XRF Samples (mg/kg)	RPD for XRF Data (%)	Split Samples by ALS* (mg/kg)	RPD - Field to Lab Results (%)
					Areas of Observed Plastic Ba	ttery Case	Fragments					
	Plastic-1	33.139373°	-96.829089°	Small Fragment	Not Found							
	Plastic-2	33.139306°	-96.829051°	Small Fragment	Not Found							
	Plastic-3	33.138887°	-96.828926°	Small Fragment	Removed	11,000	14,000	12,500				
	Plastic-4	33.138840°	-96.828927°	Small Fragment	Removed	5,656	5,750	5,703				
	Plastic-5	33.138807°	-96.828985°	Small Fragment	Removed	28,000 20,000	26,000	27,000				
	Plastic-6 Plastic-7	33.138484° 33.138675°	-96.828728° -96.827496°	Small Fragment Small Fragment	Removed Removed	9,422	21,000 9,429	20,500 9,426				
ea	Plastic-8	33.138678°	-96.828028°	Small Fragment	Previously Capped portion of SDA							
South Disposal Area	Plastic-9	33.138584°	-96.828346°	Small Fragment	Clay pigeon fragment, Not battery casing							
SS	Plastic-10	33.139215°	-96.828764°	Small Fragment	Removed	8,436	11,000	9,718				
ð	Plastic-11	33.139185°	-96.828297°	Small Fragment	Removed	9,471	8,857	9,164				
is	Plastic-12	33.138998°	-96.828163°	Small Fragment	Not Found							
	Plastic-13	33.138934°	-96.828041°	Small Fragment	Removed	7,530	8,161	7,846				
다	Plastic-14	33.138856°	-96.827732°	Small Fragment	Removed	3,184	3,024	3,104				
r,	Plastic-15 Plastic-16	33.138850° 33.138982°	-96.827504° -96.827482°	Small Fragment	Removed	65,000 3,803	56,000 3,404	60,500 3,604				
So	Plastic-16 Plastic-17	33.138982 33.139159°	-96.827482 -96.827685°	Small Fragment Small Fragment	Removed Removed	9,125	7,339	8,232				
• •	Plastic-17 Plastic-18	33.139124°	-96.826543°	Small Fragment	Removed	5,859	6,277	6,068				
	Plastic-19	33.139016°	-96.826155°	Small Fragment	Removed	6,135	5,778	5,957				
	Plastic-20	33.139023°	-96.826020°	Small Fragment	Removed	5,914	6,275	6,095				
	Plastic-21	33.139110°	-96.827351°	Small Fragment	Removed	6,965	6,355	6,660				
	Plastic-22	33.139031°	-96.827184°	Small Fragment	Removed	3,488	3,534	3,511				
	Plastic-23	33.138985°	-96.827040°	Small Fragment	Removed	3,060	3,773	3,417				
	Plastic-24	33.138903°	-96.826752°	Small Fragment	Removed	1,098	1,277	1,188				
	Plastic-25-1				Removed	39,000	41,000	40,000				
	Plastic-25-2	33.141027°	-96.827761°	3 to 6-inch Slag fragments		199,000	130,000	164,500				
g	Plastic-25-3					42,000	45,000	43,500	41,000		14,000	102.6
North Disposal Area	Plastic-26-1	33.141035°	-96.828216°	3 to 6-inch Slag fragments	Removed	57,000 29,000	55,000 23,000	56,000				
< <	Plastic-26-2 Plastic-27-1			3 to 6-inch Slag fragments 3 to 6-inch Slag fragments		29,000	23,000	26,000 28,500				
g	Plastic-27-1 Plastic-27-2	33.141066°	-96.828816°	3 to 6-inch Slag fragments	Removed	6,526	7,219	6,873				
ö	Plastic-27-2			3 to 6-inch Slag fragments		27.000	23.000	25.000	23,500		14.600	52.5
sp	Plastic-28-2	33.140931°	-96.829423°	3 to 6-inch Slag fragments	Removed	51,000	52,000	51,500				
Ö	Plastic-29-1			3 to 6-inch Slag fragments	-	5,878	7,243	6,561	6,150		5,090	25.2
	Plastic-29-2	33.140961°	-96.829566°	3 to 6-inch Slag fragments	Removed	29,000	34,000	31,500				
t	Plastic-30-1	33.141560°	-96.830382°	3 to 6-inch Slag fragments	Removed	8,600	8,646	8,623				
9	Plastic-30-2	55.141500	-50.850582	3 to 6-inch Slag fragments	Kenioved	9,607	9,646	9,627				
~	Plastic-31-1	33.141689°	-96.827991°	3 to 6-inch Slag fragments	Removed	2,540	2,305	2,423	2,150		969	85.7
	Plastic-31-2			3 to 6-inch Slag fragments		4,100	3,425	3,763				
	Plastic-32	33.141656°	-96.827126°	3 to 6-inch Slag fragments	Removed	19,000	21,000	20,000				
					Debris Clusters Containing S	lag and Ba	ttery Chips					
	SDA DF-1-1					490	486	488				
<b>⊢</b>	SDA DF-1-2					2,129	2,120	2,125				
su	SDA DF-1-3	33.138506* DA DF-1-4	-96.827612°	Clusters of small chips and slag	Removed	3,568	3,404	3,486				
ste	SDA DF-1-4		55.52,512	crusters of sman chips dilu sidg		678	634	656				
n	SDA DF-1-5					4,887	5,000	4,944				
Ū	SDA DF-1-6					2,267	2,315	2,291				
Debris Clusters <sup>1</sup>	NDA DF-2	33.141048°	-96.827420°	Densely vegetated area	No slag or plastic visible due to dense vegetation							
ŭ	NDA DF-3-1					35,000	33,000	34,000				
	NDA DF-3-1	33.141024°	-96.828512°	Clusters of small chips and slag	Removed	26,000	31,000	28,500				
	NDA DF-3-2					65,000	61,000	63,000				

1 - Coordinates for debris field represent the approximate center of field.

2 - XRF results obtained using a Bruker Model S1 Titan Handheld X-ray fluorescence system (XRF). RPD = Relative Percent Difference, =(Absolute Value (Avg XRF - Lab Split Result) / Average(Avg XRF + Lab Split Result))\*100

\* Split samples collected by W&M and analyzed by ALS Laboratories, LLC

---' Not sampled or Not Applicable

BDL = Below Detection Limits

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#### TABLE 2

#### Quality Assurance Calculations - Surface Slag & Battery Case Removal Project Exide Operating Areas

#### Exide Technologies 7471 South 5th Street Frisco, Texas

Material Designation	Latitude	Longitude	Description	XRF Scan 1 Lead (mg/kg)	XRF Scan 2 Lead (mg/kg)	XRF Scan Average (mg/kg)	Duplicate Samples (mg/kg)	RPD for XRF Data (%)	Split Samples by ALS* (mg/kg)	RPD - Field to Lab Results (%)			
Slag or Battery Case Fragment Removal Samples with Duplicates or Split QA Samples													
Slag-5         33.138475°         -96.828783°         Individual surface slag         159         245         202         230         13.0													
Slag-6	33.138481°	-96.828743°	Individual surface slag	20,000	21,000	20,500			40,400	65.4			
Slag-10	33.138431°	-96.828235°	Individual surface slag	5,903	5,258	5,581	5,648	1.2					
Slag-19	33.138882°	-96.827664°	Individual surface slag	3,184	3,024	3,104			1,550	66.8			
Slag-24-2				60,000	81,000	70,500	56,000	22.9					
Slag-25-1	33.139022°	-96.827278°	Individual surface slag	383,000	390,000	386,500	365,000	5.7					
Slag-25-2	55.159022	-90.827278	fragment	4,703	5,128	4,916	5,428	9.9					
Slag-29	33.141092°	-96.827148°	Individual surface slag fragment	17,000	14,000	15,500	17,000	9.2	19,900	24.9			
Slag-35	33.141001°	-96.827809°	Individual surface slag	50,000	42,000	46,000	41,000	11.5	15,600	98.7			
Slag-53	33.141436°	-96.830510°	Individual surface slag	978	871	925	774	17.7	313	98.8			
Slag-59	33.141473°	-96.829704°	Individual surface slag	434	399	417	451	8.0	372	11.3			
Slag-73-2	33.141208	-96.829222	Small slag cluster	18,000	18,000	18,000			9,770	59.3			
Slag-80-1	33.141386	-96.830926	Large Fragments in Bank	BDL	BDL	49	BDL		266	137.8			
Slag-81-1	33.141509	-96.831117	Large Fragments in Bank	304	304	304			2,250	152.4			
Plastic-25-3	33.141027	-96.827761	3 to 6-inch Slag fragments	42,000	45,000	43,500	41,000	5.9	14,000	102.6			
Plastic-28-1	33.140931°	-96.829423°	3 to 6-inch Slag fragments	27,000	23,000	25,000	23,500	6.2	14,600	52.5			
Plastic-29-1	33.140961°	-96.829566°	3 to 6-inch Slag fragments	5,878	7,243	6,561	6,150	6.5	5,090	25.2			
Plastic-31-1	33.141689°	-96.827991°	3 to 6-inch Slag fragments	2,540	2,305	2,423	2,150	11.9	969	85.7			

PHOTOGRAPH LOG

APPENDIX A



Photo 1: View of the South Disposal Area (SDA) from the western boundary facing east.



Photo 2: Removal of plastic battery chips near the southern boundary of the SDA.





Photo 3: Removal of furnace slag fragments (slag) and plastic battery case fragments (BCFs) from vegetated area south of the SDA.



Photo 4: Debris field of BCFs in densely vegetated area east of the SDA.





Photo 5: Removal of slag and BCFs in the eastern portion of the north disposal area (NDA).



Photo 6: Raking up debris field of BCFs and slag in central portion of the NDA.



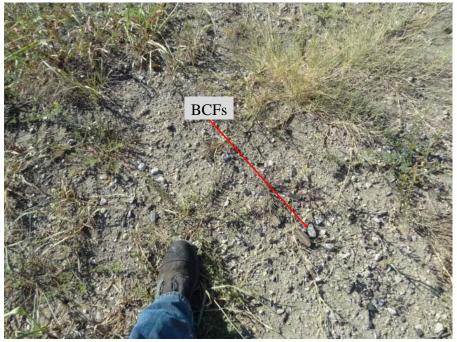


Photo 7: Typical BCFs scattered across exposed soil in the NDA.



Photo 8: Picking up exposed slag and BCFs in NDA.





Photo 9: Slag removal along the north bank of Stewart Creek.



Photo 10: Excavation bucket being used only for transportation of slag hand removed slag.





Photo 11: Placement of slag and BCFs into 55-gallon drum.



Photo 12: Water misting soil in removal area to eliminate airborne particulates.





Photo 13: Clean up of large debris field in the central portion of the NDA



Photo 14: Cleanup of slag and BCFs along the railroad spur in the NDA.





Photo 15: Clean up of large debris field south of the SDA boundary.



Photo 16: Scanning samples with an X-ray fluorescence system (XRF).



#### **APPENDIX B**

LABORATORY ANALYTICAL REPORTS – SPLIT SAMPLES



09-Aug-2013

Vanessa Coleman Exide Technologies 7471 South Fifth Street Frisco, TX 75034

Tel: (972) 335-2121 Fax:

Re: Exide Slag Removal-112.072.002

Work Order: 1308122

Dear Vanessa,

ALS Environmental received 2 samples on 02-Aug-2013 08:45 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 11.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

emadette Fini

Electronically approved by: Dayna.Fisher

Bernadette A. Fini Project Manager



Certificate No: TX: T104704231-13-12

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887 ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

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Client:	Exide Technologies
Project:	Exide Slag Removal-112.072.002
Work Order:	1308122

# Work Order Sample Summary

Lab Samp ID	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<b>Collection Date</b>	Date Received	<u>Hold</u>
1308122-01	S-6	Soil		7/30/2013 11:01	8/2/2013 08:45	
1308122-02	S-19	Soil		7/30/2013 16:06	8/2/2013 08:45	

Date: 09-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	Case Narrative
Work Order:	1308122	

Batch 72052, Total Metals Method 6020, Sample 1308141-01: MS/MSD and DUP is for an unrelated sample.

**Date:** 09-Aug-13

		Report	Dilution	
Collection Date:	7/30/2013 11:01 AM		Matrix: SOIL	
Sample ID:	S-6		Lab ID: 1308122-01	
Project:	Exide Slag Removal-112.072.002	Wo	<b>rk Order:</b> 1308122	
Client:	Exide Technologies			

Analyses	Result	Qual MDL	Limit	Units	Factor	Date Analyzed
METALS		Method:SW602	0	Prep: SW30	50A / 8/5/13	Analyst: ALR
Cadmium	17.0	0.0507	0.507	mg/Kg-dry	1	8/6/2013 01:19
Lead	40,400	50.7	507	mg/Kg-dry	1000	8/6/2013 15:10
MOISTURE		Method: SW355	0			Analyst: KAH
Percent Moisture	9.18	0.010	0.0100	wt%	1	8/8/2013 16:05

**Date:** 09-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308122
Sample ID:	S-19	Lab ID: 1308122-02
<b>Collection Date:</b>	7/30/2013 04:06 PM	Matrix: SOIL

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020		Prep: SW30	50A / 8/5/13	Analyst: ALR
Cadmium	6.47	0.0526	0.526	mg/Kg-dry	1	8/6/2013 01:24
Lead	1,550	5.26	52.6	mg/Kg-dry	100	8/6/2013 16:58
MOISTURE		Method: SW3550				Analyst: KAH
Percent Moisture	12.0	0.010	0.0100	wt%	1	8/8/2013 16:05

Work Order:1308122Client:Exide Technologies

# **DATES REPORT**

Project: Exide Slag Removal-112.072.002

Sample ID Clier	t Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date	
Batch ID 72052	<u>Test Name:</u> <u>Me</u>	tals					
1308122-01A S-6		Soil	7/30/2013 11:01:00 AM		8/5/2013 10:00 AM	8/6/2013 01:19 AM	
					8/5/2013 10:00 AM	8/6/2013 03:10 PM	
1308122-02A S-19			7/30/2013 4:06:00 PM		8/5/2013 10:00 AM	8/6/2013 01:24 AM	
					8/5/2013 10:00 AM	8/6/2013 04:58 PM	
Batch ID R1519	03 <b>Test Name:</b> Mo	<u>visture</u>					
1308122-01A S-6		Soil	7/30/2013 11:01:00 AM			8/8/2013 04:05 PM	
1308122-02A S-19			7/30/2013 4:06:00 PM			8/8/2013 04:05 PM	

# **QC BATCH REPORT**

Client:	Exide Technologies
Work Order:	1308122
Project:	Exide Slag Removal-112.072.002

Batch ID: 72	2052 Instrument ID ICPMS03		Method	: SW602	:0						
MBLK	Sample ID: MBLKS1-080513-72052				Uni	ts: <b>mg/</b>	Kg	Analysi	s Date: <b>8/</b>	5/2013 11	:40 PM
Client ID:	Run I	D: ICPMS	03_130805A	L Contraction of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se	SeqN	lo: <b>331</b> 2	2751	Prep Date: 8/5/2	2013	DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	9	6REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	U	0.500									
Lead	U	0.500									
LCS	Sample ID: MLCSS1-080513-72052				Uni	ts: <b>mg/</b>	Kg	Analysi	s Date: <b>8/</b>	5/2013 11	:46 PM
Client ID:	Run I	D: ICPMS	03_130805A	L .	SeqN	lo: <b>331</b> 2	2752	Prep Date: 8/5/2	2013	DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	9	6REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	9.096	0.500	10		0	91	80-120				
Lead	9.06	0.500	10		0	90.6	80-120				
MS	Sample ID: 1308141-01AMS				Uni	ts: <b>mg/</b>	Kg	Analysi	s Date: <b>8/</b>	6/2013 12	:07 AM
Client ID:	Run	D: ICPMS	03_130805A	L .	SeqN	lo: <b>331</b> 2	2756	Prep Date: 8/5/2	2013	DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	9	6REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	8.505	0.484	9.678	0.279		85	75-125				
Lead	17.99	0.484	9.678	10.6		76	75-125				
MSD	Sample ID: 1308141-01AMSD				Uni	ts: <b>mg/</b>	Kg	Analysi	s Date: <b>8/</b>	6/2013 12	:12 AM
Client ID:	Run I	D: ICPMS	03_130805A	L .	SeqN	lo: <b>331</b> 2	2757	Prep Date: 8/5/2	2013	DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	9	6REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	8.041	0.474	9.477	0.279	92	81.9	75-125	8.505	5.6	25	
Lead	17.48	0.474	9.477	10.6	63	72.2	75-125	17.99	2.91	25	S
DUP	Sample ID: 1308141-01ADUP				Uni	ts: <b>mg/</b>	Kg	Analysi	s Date: 8/	5/2013 11	:56 PM
Client ID:	Run I	D: ICPMS	03_130805A	L	SeqN	lo: <b>331</b> 2	2754	Prep Date: 8/5/2	2013	DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	9	6REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	0.2692	0.418						0.2792	0	25	J
Lead	10.42	0.418						10.63	2.07	25	
The followi	ng samples were analyzed in this batch:	1:	308122-01A	13	08122	-02A					

#### 2014 EXIDE APAR PAGE 2315 OF 3116

Client:	Exide Technologies			OC BAT	<b>CH REPORT</b>
Work Order:	1308122			<b>C</b>	
Project:	Exide Slag Removal-112.072.	002			
Batch ID: R151903	Instrument ID Balance1	Method:	SW3550 (Dissolv	e)	
DUP Samp	ble ID: 1308335-06ADUP		Units: wt%	Analysis Date:	8/8/2013 04:05 PM
Client ID:	Run I	D: BALANCE1_130808E	SeqNo: 3316645	Prep Date:	DF: 1
Analyte	Result		PK Ref Control Value %REC Limit	RPD Ref Value %RPI	RPD D <sup>Limit</sup> Qual
Percent Moisture	8.751	0.0100		8.023 8.	.68 20
The following sam	ples were analyzed in this batch:	1308122-01A	1308122-02A		

Client: Project:	Exide Technologies Exide Slag Removal-112.072.002	QUALIFIERS, ACRONYMS, UNITS			
WorkOrder:	1308122				
Qualifier	Description				
*	Value exceeds Regulatory Limit				
а	Not accredited				
В	Analyte detected in the associated Method Blank above the R	Reporting Limit			
Е	Value above quantitation range				
Н	Analyzed outside of Holding Time				
J	Analyte detected below quantitation limit				
М	Manually integrated, see raw data for justification				
n	Not offered for accreditation				
ND	Not Detected at the Reporting Limit				
0	Sample amount is > 4 times amount spiked				
Р	Dual Column results percent difference $> 40\%$				
R	RPD above laboratory control limit				
S	Spike Recovery outside laboratory control limits				
U	Analyzed but not detected above the MDL				
Acronym	Description_				
DCS	Detectability Check Study				
DUP	Method Duplicate				
LCS	Laboratory Control Sample				
LCSD	Laboratory Control Sample Duplicate				
MBLK	Method Blank				
MDL	Method Detection Limit				
MQL	Method Quantitation Limit				
MS	Matrix Spike				
MSD	Matrix Spike Duplicate				
PDS	Post Digestion Spike				
PQL	Practical Quantitation Limit				
SD	Serial Dilution				
SDL	Sample Detection Limit				
TRRP	Texas Risk Reduction Program				
<b>Units Reported</b>	Description				
mg/Kg-d					

wt%

#### Sample Receipt Checklist

Client Name: EXIDE TECHNOLOGIES		Date/Time F	Received:	02-Aug-13	<u>3 08:45</u>
Work Order: <u>1308122</u>		Received by	/:	<u>WTJ</u>	
Checklist completed by William Linkins eSignature	02-Aug-13 Date	Reviewed by:	Bernadette / eSignature	J. Fini	05-Aug-13 Date
Matrices:WATERCarrier name:FedEx					
Shipping container/cooler in good condition?	Yes 🖌	No 🗌	Not Prese	nt 🗌	
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Prese	nt 🗌	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌	Not Prese	nt 🗸	
Chain of custody present?	Yes 🔽	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗸	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗸	No 🗌			
Samples in proper container/bottle?	Yes 🗸	No 🗌			
Sample containers intact?	Yes 🗸	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗸	No 🗌			
All samples received within holding time?	Yes 🗹	No 🗌			
Container/Temp Blank temperature in compliance?	Yes 🗸	No 🗌			
Temperature(s)/Thermometer(s):	3.9C/3.9C (	<u>C/U</u>	IR1		
Cooler(s)/Kit(s):	SM/RED				
Date/Time sample(s) sent to storage:	8/2/13 17:5	5			
Water - VOA vials have zero headspace?	Yes	No	No VOA vials	submitted	
Water - pH acceptable upon receipt?	Yes 🔳	No 📃	N/A		
pH adjusted? pH adjusted by:	Yes 🗌	No 🗌	N/A 🗹		

\_\_\_\_\_\_

Login Notes:

Client Contacted:	Date Contacted:	Person Contacted:
Contacted By:	Regarding:	
Comments:		
CorrectiveAction:		

1308122	EXIDE TECHNOLOGIES: Exide Technologies Project: Exide Landfill			ToTAL PB& Cd 6010/6020									B C D E F G H H											ox)     Cother     Results Due Date:       C 2 Wk Days     24 Hour	tind	Cooler Temp CC Package: (Check One Box Be	2.7 Level III sid OC Level III sid OCRaw Date TRPP Level IV	0 Other	Copyright 2008 by ALS Laboratory Group.
Chain of Custody For	Page / of /	ALS Project Manager:	Project Information	EXIDE SLAG REMONAL A	m	Early Technolowics C	Unress Coleman D	7471 Santa Sta St. E	Frisce, TX 75034 G	( <i>912</i> ) 335-2121 H		e-Mail Address ficlandal whom.com	Time Matrix Pres. # Bottles A	N 1 BT 334 10	06 SS ILee 1 X									A Required Turnaround Time: (Check Box)	Notes:	d by (Lathoratory): $g _{\sigma}//2$ (2205 10	7	6-NaHSO4 7-Other 8-4°C 9-5035	<ol> <li>Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.</li> <li>Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.</li> <li>The Chain of Custody is a legal document. All information must be commleted accurately.</li> </ol>
tory Group lie 210				Project Name	Project Number	ELHN OL DE LES Bill To Company	Invoice Attn	Address	City/State/Zip	Phone	List	e-Mail Address	Date Tir	7/30/13 11:01	7/30/13 16:06									Shipment Method FedEX	3:00	Time: Received by	Time:	4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-1	and COC Form have been sul ss provided by ALS Laborato nation must be commleted acr
ALS Laboratory Group 10450 Standliff Rd., Suite 210	Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887		Customer Information			EXIDE TELHNOLD			FRISCO, TX 75034			Felarkel wh-m.com	Sample Description	- 6	- 19			79, AP 14, 14, 17, 19, 19, 19, 19, 19, 19, 19, 19, 19, 19			د			int & Sign Que VIlle	1 Jullen Date: /13	Date:		2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub>	s must be made in writing once samples wise agreed in a formal contract, service f Custody is a legal document. All inform
	ALS		J	Purchase Order	Work Order	Company Name	Send Report To	Address	City/State/Zip	enone	Fax	e-Mail Address	No.	S T	2 S	e	4	01	Q	7	ß	ō	10	Sampler(s) Please Print & Sign B. Volumer	Relinguished by:	Relinquished by:	Logged by (Laboratory):	Preservative Key: 1-HCI	Note: 1. Any changes 2. Unless other 3. The Chain o



23-Aug-2013

Vanessa Coleman Exide Technologies 7471 South Fifth Street Frisco, TX 75034

Tel: (972) 335-2121 Fax:

Re: Exide Slag Removal-112.072.002

Work Order: 1308600

Dear Vanessa,

ALS Environmental received 11 samples on 15-Aug-2013 09:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is GF.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

ernadette Fini

Electronically approved by: Bernadette A. Fini

Bernadette A. Fini Project Manager



Certificate No: TX: T104704231-13-12

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887 ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

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Client:	Exide Technologies
Project:	Exide Slag Removal-112.072.002
Work Order:	1308600

# Work Order Sample Summary

Lab Samp II	<u>Client Sample ID</u>	<u>Matrix</u>	Tag Number	<b>Collection Date</b>	Date Received	<u>Hold</u>
1308600-01	S-59	Soil		8/10/2013 10:02	8/15/2013 09:20	
1308600-02	S-53	Soil		8/10/2013 09:30	8/15/2013 09:20	
1308600-03	S-73-2	Soil		8/10/2013 13:16	8/15/2013 09:20	
1308600-04	S-35	Soil		8/12/2013 08:18	8/15/2013 09:20	
1308600-05	S-80-1	Soil		8/13/2013 11:35	8/15/2013 09:20	
1308600-06	S-81-1	Soil		8/13/2013 11:55	8/15/2013 09:20	
1308600-07	PL-25-3	Soil		8/13/2013 12:58	8/15/2013 09:20	
1308600-08	S-29	Soil		8/13/2013 13:03	8/15/2013 09:20	
1308600-09	PL-31-1	Soil		8/13/2013 13:08	8/15/2013 09:20	
1308600-10	PL-28-1	Soil		8/13/2013 13:40	8/15/2013 09:20	
1308600-11	PL-29-1	Soil		8/13/2013 13:49	8/15/2013 09:20	

*Date: 23-Aug-13* 

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Case Narrative</b>
Work Order:	1308600	

Batch 72355, Total Metals Method 6020, Sample ID "S-35" (1308600-04): MS/MSD recoveries were outside quality control limits for Cadmium and Lead, due to high concentration to the background sample. Results are flagged with an O. The associated LCS recoveries and MS/MSD RPD were within the control limits.

**Date:** 23-Aug-13

Client:	Exide Technologies		
Project:	Exide Slag Removal-112.072.002	Work Order:	1308600
Sample ID:	S-59	Lab ID:	1308600-01
<b>Collection Date:</b>	8/10/2013 10:02 AM	Matrix:	SOIL

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020		Prep: SW308	50A / 8/19/13	Analyst: SKS
Cadmium	2.26	0.0466	0.466	mg/Kg-dry	1	8/19/2013 15:59
Lead	372	0.466	4.66	mg/Kg-dry	10	8/21/2013 13:06
MOISTURE		Method: SW3550				Analyst: KAH
Percent Moisture	6.10	0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	S-53	Lab ID: 1308600-02
<b>Collection Date:</b>	8/10/2013 09:30 AM	Matrix: SOIL

Analyses	Result	Qual MD	Report L Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6	)20	Prep: SW30	50A / 8/19/13	Analyst: SKS
Cadmium	3.25	0.04	0.414	mg/Kg-dry	1	8/19/2013 16:03
Lead	313	0.4	14 4.14	mg/Kg-dry	10	8/21/2013 13:21
MOISTURE		Method: SW3	550			Analyst: KAH
Percent Moisture	4.57	0.0	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	S-73-2	Lab ID: 1308600-03
<b>Collection Date:</b>	8/10/2013 01:16 PM	Matrix: SOIL

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020	1	Prep: SW308	50A / 8/19/13	Analyst: SKS
Cadmium	47.0	0.0466	0.466	mg/Kg-dry	1	8/19/2013 16:08
Lead	9,770	46.6	466	mg/Kg-dry	1000	8/21/2013 13:25
MOISTURE		Method: SW3550	I			Analyst: KAH
Percent Moisture	2.39	0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	Work Order: 1308600
Sample ID:	S-35	Lab ID: 1308600-04
<b>Collection Date:</b>	8/12/2013 08:18 AM	Matrix: SOIL
•		

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020		Prep: SW308	50A / 8/19/13	Analyst: SKS
Cadmium	217	9.28	92.8	mg/Kg-dry	200	8/21/2013 12:47
Lead	15,600	9.28	92.8	mg/Kg-dry	200	8/21/2013 12:47
MOISTURE		Method: SW3550				Analyst: KAH
Percent Moisture	2.30	0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	Work Order: 1308600
Sample ID:	S-80-1	Lab ID: 1308600-05
<b>Collection Date:</b>	8/13/2013 11:35 AM	Matrix: SOIL

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020		Prep: SW308	50A / 8/19/13	Analyst: SKS
Cadmium	0.623	0.0478	0.478	mg/Kg-dry	1	8/19/2013 17:08
Lead	266	0.478	4.78	mg/Kg-dry	10	8/21/2013 13:30
MOISTURE		Method: SW3550				Analyst: KAH
Percent Moisture	5.32	0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	S-81-1	Lab ID: 1308600-06
<b>Collection Date:</b>	8/13/2013 11:55 AM	Matrix: SOIL

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020		Prep: SW308	50A / 8/19/13	Analyst: SKS
Cadmium	1.88	0.0388	0.388	mg/Kg-dry	1	8/19/2013 17:12
Lead	2,250	3.88	38.8	mg/Kg-dry	100	8/21/2013 13:35
MOISTURE		Method: SW3550				Analyst: KAH
Percent Moisture	4.76	0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	PL-25-3	Lab ID: 1308600-07
<b>Collection Date:</b>	8/13/2013 12:58 PM	Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method	: SW6020		Prep: SW305	50A / 8/19/13	Analyst: SKS
Cadmium	249		3.72	37.2	mg/Kg-dry	100	8/21/2013 16:08
Lead	14,000		37.2	372	mg/Kg-dry	1000	8/21/2013 13:40
MOISTURE		Method	: SW3550				Analyst: KAH
Percent Moisture	2.30		0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	S-29	Lab ID: 1308600-08
<b>Collection Date:</b>	8/13/2013 01:03 PM	Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Meth	od: SW6020		Prep: SW305	50A / 8/19/13	Analyst: SKS
Cadmium	78.3		0.0519	0.519	mg/Kg-dry	1	8/19/2013 18:42
Lead	19,900		51.9	519	mg/Kg-dry	1000	8/21/2013 13:44
MOISTURE		Meth	od: SW3550				Analyst: KAH
Percent Moisture	4.43		0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	PL-31-1	Lab ID: 1308600-09
<b>Collection Date:</b>	8/13/2013 01:08 PM	Matrix: SOIL

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020		Prep: SW305	50A / 8/19/13	Analyst: SKS
Cadmium	6.63	0.0395	0.395	mg/Kg-dry	1	8/19/2013 18:47
Lead	969	3.95	39.5	mg/Kg-dry	100	8/21/2013 13:49
MOISTURE		Method: SW3550				Analyst: KAH
Percent Moisture	3.19	0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	PL-28-1	Lab ID: 1308600-10
<b>Collection Date:</b>	8/13/2013 01:40 PM	Matrix: SOIL

Analyses	Result	Qual MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: SW6020		Prep: SW308	50A / 8/19/13	Analyst: SKS
Cadmium	55.0	0.0351	0.351	mg/Kg-dry	1	8/19/2013 18:51
Lead	14,600	35.1	351	mg/Kg-dry	1000	8/21/2013 13:54
MOISTURE		Method: SW3550				Analyst: KAH
Percent Moisture	0.917	0.010	0.0100	wt%	1	8/21/2013 12:25

**Date:** 23-Aug-13

Client:	Exide Technologies	
Project:	Exide Slag Removal-112.072.002	<b>Work Order:</b> 1308600
Sample ID:	PL-29-1	Lab ID: 1308600-11
<b>Collection Date:</b>	8/13/2013 01:49 PM	Matrix: SOIL

Analyses	Result	Qual N	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS		Method: S	W6020		Prep: SW308	50A / 8/19/13	Analyst: SKS
Cadmium	35.6	(	0.0357	0.357	mg/Kg-dry	1	8/19/2013 18:56
Lead	5,090		3.57	35.7	mg/Kg-dry	100	8/21/2013 13:59
MOISTURE		Method: S	W3550				Analyst: KAH
Percent Moisture	0.188		0.010	0.0100	wt%	1	8/21/2013 12:25

Client:	Exide Technologies
Work Order:	1308600
Project:	Exide Slag Removal-112.072.002

# **QC BATCH REPORT**

Batch ID: 72	355	Instrument ID ICPMS04		Method	SW602	0					
MBLK	LK Sample ID: MBLKS1-081913-72355					Units: <b>mg/Kg</b>		Analysi	s Date: <b>8/</b>	3/19/2013 03:34 PM	
Client ID:		Run ID: ICPMS04_130819A			SeqNo: 3325968		Prep Date: 8/19	/2013	DF: <b>1</b>		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium		U	0.500								
Lead		U	0.500								
LCS	Sample ID:	MLCSS1-081913-72355			Units: mg/Kg			Analysis Date: 8/19/2013 03:39 F			
Client ID:		Run I	D: ICPMS	04_130819A		SeqNo: 332	5969	Prep Date: 8/19	/2013	DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium		9.741	0.500	10		0 97.4	80-120				
Lead		9.849	0.500	10		0 98.5	80-120				
MS	Sample ID:	1308600-04AMS				Units: <b>mg</b> /	′Kg	Analysi	s Date: 8/	/19/2013 0	4:50 PM
		D: ICPMS	D: ICPMS04_130819A		SeqNo: 3326944		Prep Date: 8/19/2013		DF: 1		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium		240.3	0.467	9.34	249	.1 -94.4	75-125				SEO
Lead		16480	0.467	9.34	1592	20 6000	75-125				SEO
MSD	Sample ID:	1308600-04AMSD				Units: <b>mg</b> /	′Kg	Analysi	s Date: <b>8/</b>	/19/2013 0	4:55 PM
Client ID: S-:	35	Run I	D: ICPMS	04_130819A		SeqNo: 332	6945	Prep Date: 8/19	/2013	DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium		243.2	0.415	8.296	249	.1 -71.6	75-125	240.3	1.19	25	SEO
Lead		14540	0.415	8.296	1592	-16600	75-125	16480	12.5	25	SEO
DUP	Sample ID:	1308600-04ADUP				Units: <b>mg/</b>	′Kg	Analysi	s Date: <b>8/</b>	21/2013 1	2:52 PM
Client ID: S-:	35	Run I	D: ICPMS	04_130821A		SeqNo: 332	8173	Prep Date: 8/19	/2013	DF: <b>20</b>	0
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium		267.6	85.4					211.6	23.4	25	
Lead		13200	85.4					15230	14.3	25	
The followin	ng samples v	were analyzed in this batch:	1; 1;	308600-01A 308600-04A 308600-07A 308600-10A	13 13	08600-02A 08600-05A 08600-08A 08600-11A	13	08600-03A 08600-06A 08600-09A			

Client:		Exide Technologies					
Work Or	der:	1308600					
Project:		Exide Slag Removal-11	12.072.002				
Batch ID: R	152600	Instrument ID Bala	nce1	Method:	SW3550	(Disso	lve)
DUP	Samp	le ID: 1308635-02ADUP				Units: <b>wt%</b>	
Client ID:			Run ID: BALANCE1	130821A		SeaNo: <b>3329176</b>	Pre

Client ID:	Run II	D: BALAN	ICE1_13082	21A	SeqNo: 332	9176	Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	16.75	0.0100					17.19	2.61	20	
The following samples were analy	zed in this batch:	1; 1;	308600-01A 308600-04A 308600-07A 308600-10A	13	308600-02A 308600-05A 308600-08A 308600-11A	13	08600-03A 08600-06A 08600-09A			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Analysis Date: 8/21/2013 12:25 PM

# **ALS Environmental**

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Client: Project: WorkOrder:	Exide Technologies Exide Slag Removal-112.072.002 <b>1308600</b>	QUALIFIERS, ACRONYMS, UNITS					
Qualifier	Description						
*	Value exceeds Regulatory Limit						
а	Not accredited						
В	Analyte detected in the associated Method Blank above the Reporting	g Limit					
E	Value above quantitation range						
Н	Analyzed outside of Holding Time						
J	Analyte detected below quantitation limit						
Μ	Manually integrated, see raw data for justification						
n	Not offered for accreditation						
ND	Not Detected at the Reporting Limit						
0	Sample amount is > 4 times amount spiked						
Р	Dual Column results percent difference > 40%						
R	RPD above laboratory control limit						
S	Spike Recovery outside laboratory control limits						
U	Analyzed but not detected above the MDL						
Acronym	Description						
DCS	Detectability Check Study						
DUP	Method Duplicate						
LCS	Laboratory Control Sample						
LCSD	Laboratory Control Sample Duplicate						
MBLK	Method Blank						
MDL	Method Detection Limit						
MQL	Method Quantitation Limit						
MS	Matrix Spike						
MSD	Matrix Spike Duplicate						
PDS	Post Digestion Spike						
PQL	Practical Quantitation Limit						
SD	Serial Dilution						
SDL	Sample Detection Limit						
TRRP	Texas Risk Reduction Program						
Units Reported	l Description						
mg/Kg-c	Iry Milligrams per Kilogram - Dry weight corrected						

wt%

# ALS Environmental

### Sample Receipt Checklist

Client Name: EXIDE TECHNOLOGIES		Date/Time F	Received:	15-Aug-13	<u>3 09:20</u>			
Work Order: 1308600		Received by	y:	<u>WTJ</u>				
Checklist completed by Makenzie L. Anderson 1 eSignature	5-Aug-13 Date	Reviewed by:	Bernadette ) eSignature	D. Fini	16-Aug-13 Date			
Matrices:SoilCarrier name:FedEx								
Shipping container/cooler in good condition?	Yes 🗸	No 🗌	Not Prese	nt 🗌				
Custody seals intact on shipping container/cooler?	Yes	No	Not Prese	nt 🗹				
Custody seals intact on sample bottles?	Yes	No 🗌	Not Prese	nt 🗹				
Chain of custody present?	Yes 🗸	No						
Chain of custody signed when relinquished and received?	Yes 🗸	No 🗌						
Chain of custody agrees with sample labels?	Yes 🖌	No						
Samples in proper container/bottle?	Yes 🖌	No						
Sample containers intact?	Yes 🗸	No						
Sufficient sample volume for indicated test?	Yes 🖌	No						
All samples received within holding time?	Yes 🗸	No						
Container/Temp Blank temperature in compliance?	Yes 🗸	No						
Temperature(s)/Thermometer(s):	<u>1.7c/1.7c C</u>	:/U	IR1					
Cooler(s)/Kit(s):	<u>3109</u>							
Date/Time sample(s) sent to storage:	8/15/13 11:				_			
Water - VOA vials have zero headspace?	Yes	No 🗔	No VOA vials	submitted	$\checkmark$			
Water - pH acceptable upon receipt?	Yes 🗸	No 🗌	N/A					
pH adjusted? pH adjusted by:	Yes	No 🗹	N/A					
	ι							

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Login Notes:

Client Contacted:	Date Contacted:	Person Contacted:
Contacted By:	Regarding:	
Comments:		
CorrectiveAction:		
		SF

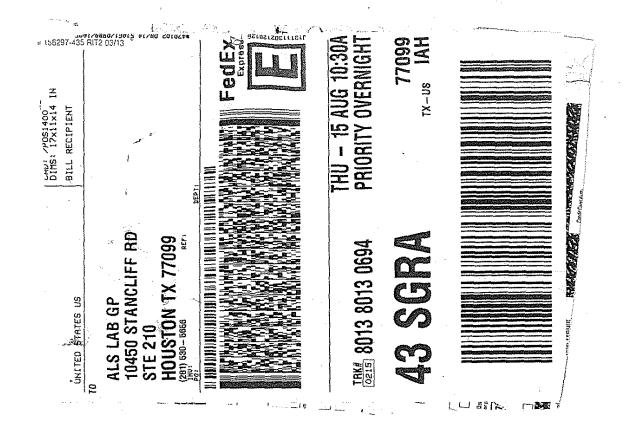
Houston, Texas 7709       Tex. +1 281 530 5665       Fax. +1 281 530 5665       Fax. +1 281 530 5665       Fax. +1 281 530 5665       Functionantion       Proplect Information       Proplect Number       More Code       Mone Code       Fax       Address       7471       Send Report to       Vareasca       Company Name       EX.2DE       Technal Number       It. Ort2.       Company Name       EX.2DE       Send Report to       Vareasca       Company Name       EX.2DE       Proplect Number       It. Ort2.       Address       7471       Send Report to       Vareasca       Address       7471       Send Report to       Address       Address       Address       Phone       (1)       Sample Description       Date       Tex       Sample Description       Date       Time       Sample Description       Date       Time       Sample Description       Date       To       Sample Description <tr< th=""><th>П от 2</th></tr<>	П от 2
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Customer Information     Project Name       Purchase Order     Provincer Information       Purchase Order     Project Number       Work Order     Project Number       Work Order     Project Number       Send Report To     VaveSSA       Address     7471       Send Report To     Main Address       Fax     Phone       (172) 335-2121     Phone       Phone     (172) 335-2121       Phone     (172) 335-2121       Rand     Phone       Real Address     Address       Sample Description     Bate       Moi     Sample Description       Date     Time       Moi     S-73-2       S     S       S     S       S     S       S     S       S     S       S     S       S     S	
Customer Information         Project Name         Extre description           Purchase Order         EXTER         TecuvoLoGTES         Bill To Company         Extre description         Project Number         I/2, 072.           Work Order         EXTER         TecuvoLoGTES         Bill To Company         Extre description         Extr description         Extre descripti	ALS Project Manager:
Purchase Order     Project Name     Extpe       Work Order     Work Order     Project Name     Extpe       Send Report To     LawEssa Court and     Project Name     IZ. OTZ.       Send Report To     LawEssa Court and     Invoice Atth     Madress       Send Report To     LawEssa Court and     Invoice Atth     Madress       Address     7471     Sourt X TS D34     City/State/Zip     FX.20E       Phone     (972) 335 - 2121     Phone     Fax     Address       Phone     (972) 335 - 2121     Phone     Fax       Ra     Sample Description     Ball Address     Address       Address     Address     B/10/13     10:02       Sample Description     Date     III:35       I     S - 53     S / 10/13     10:05       S     S - 73 - 2     S / 10/13     11:55       S     S - 73 - 2     S / 10/13     11:55       S     S - 73 - 2     S / 10/13     13:02       S     S - 253     S / 10/13     13:02       S     S - 253     S / 10/13     13:02       S     S - 253     S / 12/13     13:02       S     S - 253     S / 10/13     13:02       S     S - 253     S / 10/13     13:02 </td <td></td>	
Work Order         Project Number         II2, 072.           Company Name         ExitPle TechNoLosites         Bill To Company         ExitDe           Send Report To         VavEssar Coust nann         Innoice Attin         ExitDe           Send Report To         VavEssar Coust nann         Innoice Attin         ExitDe           Address         7471         Sourt Name         ExitDe         ExitDe           Phone         77335-2121         Address         Address         Exit           Phone         77335-2121         Phone         Fax         Fax           Rain         Address         Address         Exit         Exit           Roman         Sample Description         e-Mail Address         Exit         Mat           1         S-553         S         S         S'IC         S'IC         S'IC           1         S-553         S         S'IC         S'I	1992
Company Name     Exister Tecuvologies     Bill To Company     Exister       Send Report To     Unvesser     Outrans     Imolice Atm     Exister       Address     7471     Sourt Name     Imolice Atm     Iddress     Sourt       Address     7471     Sourt Name     Freisco, TX     75034     City/State/Zip     Phone       Phone     972)     335-2121     Phone     Fra     Material       Rait     Fax     - Mail Address     Sourt Name     Material       Rait     Address     Address     Bill To Company     Exister       Phone     972)     335-2121     Phone     Material       Rait     Address     Address     Address     Sourt       Rait     Address     Address     Sourt     Sourt       Fax     - Mail Address     Bill     Phone     Phone       1     5-57     8:12     P:20     Sourt       2     5-57     8:12     1:3:16     P:30       3     5-73-2     8:12     1:3:16     P:30       1     5-57     8:12     1:3:3:02     P:30       2     5-57     8:12     1:1:55     P:3:02       3     5-56     8:12     1:1:55       6	N2.072.002 B
Send Report To     Vavessea     Course way     Invoice Attn     Varessea       Address     7471     Source Stet Sr.     Address     Sc.       Address     7471     Source Stet Sr.     Address     Sc.       Phone     (972)     3355-2121     Phone     Fax       Phone     (972)     3355-2121     Phone     Fax       Phone     (972)     3355-2121     Phone     Fax       No.     Sample Description     Bate     Time     Mat       1     S-59     S/10/13     10:02     S       2     S-53     S/10/13     10:07     S       3     S-73-2     S/10/13     10:07     S       3     S-73-2     S/13/13     11:35     S       3     S-73-2     S/13/13     11:35       5     S-80-1     S/13/13     11:55       6     S-80-1     S/13/13     11:55       7     PL-22-3     12:55     12:55       9     S-24     S/13/13     11:55       10     PL-22-3     12:55     12:55       9     S-24     S/13/13     12:55       9     PL-22-3     12:55     13:02       10     PL-22-1     12:55     12:55	EXIDE .
Address         7471         Sourth STM St.         Address         Address         7471         Sourth STM St.         Address         Su           Clty/State/Zip         Frasco, TX         75034         City/State/Zip         Phone         Phone         Phone         Fax         Eax         Eax         Mat         Fax	VANESSI
ID         Freesco, TX         75034         City/State/Zip           ne         (912) 335-2121         Fax         Fax           ax         - Fau         - Mail Address         Mail           ax         - Mail Address         - Mail Address         Mail           ax         - Sample Description         Date         - Time         Mail           - S3         - S12         8/10/13         10:02         S           - 53         - 73-2         8/10/13         10:02         S           - 73-2         8/10/13         11:55         13:15         15:25           - 73-2         8/12/13         11:55         12:58         26           - 8/1-1         8/12/13         11:55         26         27           - 25         - 25         - 25         27         12:58         26           - 31-1         8/12/13         11:55         12:58         26           - 25         - 31-1         13:02         26         27           - 25         - 31-1         13:02         26         26           - 31-1         - 35         12:55         26         26           - 31-1         13:02         13:02 <td< td=""><td>8 8 8</td></td<>	8 8 8
Phone         (912) 335-2121         Phone           Fax         Fax         e-Mail Address         Mail Address           Robin Address <i>ELu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu L</i>	City/State/Zip
Fax         Fax         Fax           e-Mail Address <i>f-Lum Lut - Lon</i> e-Mail Address           No.         Sample Description         Date         Time           No.         Sample Description         Date         Time           1         S-59         8/10/13         10:02         8           2         S-53         8/10/13         10:02         8           3         S-73-2         8/12/13         11:35         1           4         S-35         8/12/13         11:35         1           5         S-80-1         8/13/13         11:55         8           7         PL-2S-3         12:55         1         1:555           6         S-80-1         8/13/13         11:555         1           7         PL-2S-3         12:55         12:55         1           7         PL-2S-3         12:55         13:35         1           8         S-29         13:35         12:55         1           10         PL-2S-1         12:55         1         1         1           10         PL-2S-1         13:05         1         1         1         1 <t< td=""><td></td></t<>	
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chong frond			Project Name	Project Number	Bill To Company	Invoice Attn	Address	City/State/Ztp	Phone	Fax	e-Mail Address	Date	8/13/13 13	~									Shipment Method	8:00	1		5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	OC Form have been st vided by ALS Laborat
ALS Laboratory 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887		Customer Information			EXIDE TECHNOLOGIES	VANESSY COLEMON	7471 South STH ST.	FRESCE, TX 75034	(772) 335-2121		telackoush-m.com												rint & Sign Boot Well-	160 - 28 / 14 / 13 Tin		): Date: Time:	1-HCI 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH	ss must be made in writing once samples and C rwise agreed in a formal contract. services prov
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ί. 3. The Chain of Custody is a legal document. All information must be completed accurately.



## **APPENDIX C**

DAILY QA REPORTS -PERIMETER AIR MONITORING



August 5, 2013

Mr. Keith Sheedy Texas Commission on Environmental Quality Remediation Division P.O. Box 13087 MC-122 Austin, Texas 78711-3087

RE: Submittal of Site Monitoring and Quality Assurance Data for July 30, 2013 Exide Technologies Frisco Recycling Center Frisco, Texas IHW 50206, SWR No. 30516, RN100218643

Dear Mr. Sheedy:

With this letter, W&M Environmental Group, Inc. (W&M) is submitting a summary of air monitoring data related to Site activities at the Exide Technologies Frisco Recycling Center located in Frisco, Texas pursuant to Section 5.0 of the *Perimeter Air Monitoring Plan - Facility Demolition* dated February 20, 2013 and/or Section 5.0 of the *Perimeter Air Monitoring Plan for Response Actions at Class 2 Non-Hazardous Waste Landfill* (dated January 31, 2013, revised March 1, 2013).

This submittal is for data collected or received for work on **Tuesday**, **July 30**, **2013**. *Note that no Site activities were performed from Thursday*, **July 25**<sup>th</sup> through Monday, **July 29th**.

	Decontamination		Facility Demolition		Landfill Remediation
$\square$	<b>Interim Action - Pickup</b>	of Surf	face Slag and Plastic Batt	ery Ca	asing Fragments

The following Worksheets, Data Sheets or Reports are included within this submittal:

		Description	Details	Remarks
$\boxtimes$	А	Daily Summary Report	Real-time particulate monitoring, wind speed & direction	1
	В	Take Action/Stop Work Notifications	Response actions taken due to high wind, shift in wind direction, elevated real-time particulate readings	
	С	Field Data Sheet – E-BAMs	E-BAM particulate monitoring (PM) positions and locations	/
$\boxtimes$	D	Field Data Sheet – Low Vols	Details for low-volume samples for Pd/Cd	
$\square$	E	Analytical Report – Metals Analysis	Laboratory Data Report for Pb/Cd in air samples	2
	F	Updated Table 1	Re-calculated Action Levels based upon actual PM, Pb and Cd data	

TCEQ – Keith Sheedy August 5, 2013 Page 2

Remark No.	Comments
1	No Demolition or Landfill Remediation work was completed this day. Work started on the manual collection of surface slag and plastic battery case fragments as outlined in the approved Interim Action Work Plan (IAWP) dated April 29, 2013.
2	The laboratory reagent blank had a positive detection for lead between the Method Detection Limit (MDL) and Reporting Limit (RL). Since the value was below the laboratory's reporting limit, the laboratory control samples were not blank corrected. No lead was reported in any of the air samples collected this day.

W&M has reviewed the information in relation to the quality assurance requirements outlined in the *Perimeter Air Monitoring Plans*, and the data meets the project QA requirements.

If you have any questions or require additional information, please do not hesitate to call me at 972-509-9610.

Very truly yours, **W&M ENVIRONMENTAL GROUP, INC.** 

Frank WClark

Frank W. Clark, P.E., P.G. Senior Consultant

cc: Vanessa Coleman – Exide Technologies, Inc. Aileen Hooks, Jennifer Keane - Baker Botts LLC Grant Sherwood, Dan Roth - Remediation Services, Inc. Tim Nickels - Pastor Behling & Wheeler, LLC

DAILY SUMMARY REPORTS

ATTACHMENT A

#### 2014 EXIDE APAR PAGE 2344 OF 3116

## Daily Summary Report Real-Time Particulate Monitoring Data Exide Technologies - Frisco, Texas

O Facility Decontamination O Demolition O Landfill Remediation

### Ø Slag and Chip Removal

Date	Time Interval (30-min blocks)	E-BAM G4527 30-min avg (mg/m <sup>3</sup> )	E-BAM F5001 30-min avg (mg/m <sup>3</sup> )	E-BAM G4605 30-min avg (mg/m <sup>3</sup> )	E-BAM G4607 30-min avg (mg/m <sup>3</sup> )	E-BAM G4606 30-min avg (mg/m <sup>3</sup> )	E-BAM G4604 30-min avg (mg/m <sup>3</sup> )	E-BAM Gxxxx 30-min avg (mg/m <sup>3</sup> )	Wind Direction (30-min avg from N)	Wind Speed (30-min avg mph)
		Upwind	Downwind	Downwind	Downwind	Downwind	Downwind	Downwind		
	07:00-07:29	0.028	0.031	0.028	0.034				179	3.5
	07:30-07:59	0.053	0.025	0.024	0.027	0.020			170	6.3
	08:00-08:29	0.079	0.013	0.011	0.020	0.021			175	7.8
	08:30-08:59	0.261	0.024	0.027	0.035	0.031	0.036		179	10.2
	09:00-09:29	0.179	0.032	0.030	0.025	0.026	0.033		182	11.2
	09:30-09:59	0.088	0.017	0.014	0.021	0.020	0.021		184	13.2
	10:00-10:29	0.085	0.030	0.021	0.022	0.022	0.026		185	13.5
	10:30-10:59	0.093	0.016	0.022	0.016	0.022	0.034		194	11.7
	11:00-11:29	0.054	0.032	0.022	0.020	0.022	0.030		198	11.1
13	11:30-11:59	0.045	0.020	0.018	0.029	0.040	0.035		191	10.4
7/30/2013	12:00-12:29	0.032	0.023	0.027	0.013	0.035	0.032		194	8.9
/30	12:30-12:59	0.034	0.016	0.032	0.032	0.016	0.047		179	9.0
~	13:00-13:29	0.034	0.034	0.021	0.031	0.023	0.115		176	8.4
	13:30-13:59	0.027	0.021	0.022	0.025	0.024	0.132		173	10.2
	14:00-14:29	0.029	0.029	0.028	0.020	0.021	0.128		176	8.7
	14:30-14:59	0.032	0.023	0.022	0.019	0.019	0.053		175	9.4
	15:00-15:29	0.030	0.024	0.024	0.020	0.018	0.046		187	9.3
	15:30-15:59	0.027	0.026	0.022	0.016	0.014	0.032		189	9.6
	16:00-16:29	0.024	0.036	0.022	0.029	0.020	0.044		190	7.4
	16:30-16:59	0.027	0.030	0.025	0.029	0.027	0.045		183	7.9
	17:00-17:29	7 <mark>:29</mark> 0.026 0.021 0.021 0.020 0.019 0.058			191	8.0				
	17:30-17:59	0.036	0.020	0.024	0.021	0.028	0.055		189	6.7
Da	ily Averages>	0.060	0.025	0.023	0.024	0.023	0.053		184	9.2

#### Notes:

- Data reported below 0 mg/m<sup>3</sup> is considered to be zero concentration

- Blank data records indicate no data was transmitted for the given time interval

- Wind direction values are reported as the origin of the wind as referenced in degrees from North

## TAKE ACTION/STOP WORK NOTIFICATIONS

ATTACHMENT B

Date	Time	Condition	Status	Parameter	Notification Subject Line	Measured Value	Criterion	Comments
	10:20:26	STOP WORK	Trigger	High Wind	STOP WORK - High Wind (1-min avg) !!! Trigger Condition (Weather Station - Exide)	20.1	> 20.0	All slag/chip removal activities ceased at this time.
	13:28:48	TAKE ACTION	Trigger	PM10 - 30min Avg	TAKE ACTION LEVEL - PM10 Trigger Condition (Stn F - G4604 - Downwind)	0.115	> 0.1	Added water to main plant entrance road
	13:58:55	STOP WORK	Trigger	PM10 - 60min Avg	STOP WORK LEVEL - PM10 (60-min) Trigger Condition (Stn F - G4604 - Downwind)	0.123	> 0.1	All slag/chip removal activities ceased at this time, added additional water to main plant entrance road
_								
7/30/2013								
7/30								
	Time	Condition	Status	Parameter	Notification Subject Line	Measured Value	Criterion	Comments
	8:59:13	Upwind Monitor	Informational	PM10 - 30min Avg	TAKE ACTION LEVEL - PM10 Trigger Condition (Stn G - G4527 -Up wind)	0.261		Up wind monitor. Monitor was located down wind of the road construction work on Stonebrook Parkway
		Upwind						Up wind monitor. Monitor was located down wind of the
	8:59:13	Monitor Upwind	Informational	PM10 - 30min Avg	STOP WORK LEVEL - PM10 Trigger Condition (Stn G - G4527 -Up wind)	0.261	> 0.2	road construction work on Stonebrook Parkway Up wind monitor. Monitor was located down wind of the
	8:59:13	Monitor	Informational	PM10 - 60min Avg	STOP WORK LEVEL - PM10 (60-min) Trigger Condition (Stn G - G4527 -Up wind)	0.169	> 0.1	road construction work on Stonebrook Parkway

2014 EXIDE APAR PAGE 2347 OF 3116

FIELD DATA SHEETS – E-BAMS

ATTACHMENT C

# 2014 EXIDE APAR PAGE 2348 OF 3116

#### FIELD DATA SHEET E-Bam Particulate Monitoring Remediation Services, Inc.

**RSI Project No:** 21252/21238

Exide, Frisco TX

G4527

Ves

7:00

Project Name: Facility Demolition/Decontamination RICK Barnend Sampling Date Technician Name 7-30-13 E-BAM SN E-BAM SN G4607 G4604 E-BAM SN G4606 E-BAM SN Upwind Upwind Upwind Upwind Downwind X Downwind Downwind X Downwind GPS LOCATION GPS LOCATION GPS LOCATION GPS LOCATION Latitude Latitude 33.14451 Latitude 33.14237 33.14327 Latitude 33.13568 Longitude -96.82570 Longitude -96. 82514 Longitude -96.8322 Longitude -96.82729 EBAM PAIRED WITH EBAM PAIRED WITH EBAM PAIRED WITH LOW VOL PUMP? EBAM PAIRED WITH LOW VOL PUMP? LOW VOL PUMP? NO LOW VOL PUMP? yes Yes START TIME: START TIME: START TIME: 7:00 START TIME: 7:00 1:00 END TIME: END TIME: 7:59 END TIME: 17:59 END TIME: 17:59 12:59 E-BAM SN 64605 E-BAM SN F5001 E-BAM SN G4729 Upwind Upwind Upwind Downwind X Downwind Downwind GPS LOCATION GPS LOCATION GPS LOCATION Latitude Latitude 3314460 33.14580 Latitude Longitude -96.83119 Longitude -96.82820 Longitude EBAM PAIRED WITH EBAM PAIRED WITH EBAM PAIRED WITH LOW VOL PUMP? LOW VOL PUMP? Ves LOW VOL PUMP? Ves START TIME: START TIME: START TIME: 7:00 7:00 END TIME: END TIME:

17:59

17:59

END TIME:

Daily Working Times Summary Exide Technologies Frisco Texas

Date Work Performed: \_\_\_\_\_\_\_\_

Building Denulition Address Slag | chip Removal

Start Time	08:30	Stop Time	
Start Time	10:31	Stop Time	
Start Time	12115		1.100
Start Time	14200		13:58
	17:08	Stop Time	17:00

Landfill Waste Stabilization Activities

Start Time		
	Stop Time	
Start Time	Stop Time	
Start Time		
Start Time	Stop Time	
Start Time	Stop Time	

## ATTACHMENT D

FIELD DATA SHEETS – LOW VOLUME SAMPLERS

#### 2014 EXIDE APAR PAGE 2351 OF 3116

Pump No. 3013	1	11
Upwind	X	2
Downwind		i k
Sample ID #	Expensi307304W5	h
E-Bam Number	64527	14
Flow Rate: Start		
(L/min)	3.712	
Flow Rate: Stop		
(L/min)	3,426	Ĺ
Avg Flow (L/min)	3.572	1
Start time	6:55	S E
End Time	17:00	E
Duration in minutes	595	Ē
Sample Volume		s
(Liters)	21246	a

	TA SHEET
Low Volume	Air Monitoring

Company:       RSI         Project:       Exide, Frisco TX         Project Number       21252/21238         Project Name (Demo, Landfill Stab, etc)       Decen/Demo         Technician Name:       Rick Barnar L         Pump No. 3015       2         Upwind       Downwind         Sample ID #       Et DemolSon300W 60         E-Bam Number       G 460L         Flow Rate: Start       3-79L         I//min)       3.61L         Avg Flow (L/min)       3.73L         Start time       7:20         Duration in minutee       16:50	10	Low Volum
Project Number     21252/21238       Project Name (Demo, Landfill Stab, etc)     Decen / Demo,       Technician Name:     Ric X Barnar L       Pump No. 30   5     2       Upwind     Downwind       Dample ID #     E: DemoilSo7300 w Go       E-Bam Number     G 4 GoL       Flow Rate: Start     3 - 7 9 L       I//min)     3 - 7 3 L       Avg Flow (L/min)     3 - 7 3 L       Start time     7: 20       Duration in minutes     16:5 0		RSI
Project Number       21252/21238         Project Name (Demo, Landfill Stab, etc)       Decen / Demo, Decen / Demo, Landfill Stab, etc)         Technician Name:       Rick Barner L         Pump No. 30   5       2         Upwind       2         Downwind       2         Sample ID #       E: DemolSor300w Go         E-Bam Number       G 4 6 0 L         Flow Rate: Start       3 - 7 9 L         I/min)       3 - 7 9 L         Start time       7:3 c         Start time       7:3 c         End Time       1:4 c	1 -	Exide, Frisco TX
Landfill Stab, etc) Technician Name: Ruck Barnar L Pump No. 3015 2 Upwind Downwind Sample ID # E-Bam Number E-Bam Number Flow Rate: Start (L/min) Flow Rate: Stop (L/min) Avg Flow (L/min) Sangle Start time 7:20 End Time 7:20 Decen / Demo 2 2 2 2 2 2 2 2 2 2 2 2 2	Project Number	
Landfill Stab, etc) Technician Name: Ruck Barnar L Pump No. 3015 2 Upwind Downwind Sample ID # E-Bam Number E-Bam Number Flow Rate: Start (L/min) Flow Rate: Stop (L/min) Avg Flow (L/min) Sangle Start time 7:20 End Time 7:20 Decen / Demo 2 2 2 2 2 2 2 2 2 2 2 2 2	Project Name (Demo	D.
Technician Name:       Rick Barnar L         Pump No. 3015       2         Upwind       2         Downwind       2         Sample ID #       Ex periol807300w 60         E-Bam Number       64606         Flow Rate: Start       3-795         I/min)       3-795         Avg Flow (L/min)       3-735         Start time       7:30         End Time       7:30	Landfill Stab, etc)	
Pump No. 3015         2           Upwind         X           Downwind         X           Sample ID #         Ei Demois mao Bon So Dw Go           E-Bam Number         G 4 6 0 G           Flow Rate: Start         3 - 7 9 G           I/Imin)         3 - 7 9 G           Flow Rate: Stop         3 - 7 3 G           I/Imin)         3 - 7 3 G           Avg Flow (L/min)         3 - 7 3 G           Start time         7 : 200           End Time         7 : 200           Duration in minutes		
Downwind     X       Sample ID #     E: Demo13 0300 (0)       E-Bam Number     G 4 60 (0)       Flow Rate: Start     3 - 7 9 (0)       Flow Rate: Stop     3.6 7 (0)       (L/min)     3 - 7 3 (0)       Avg Flow (L/min)     3 - 7 3 (0)       Start time     7:3 (0)       End Time     7:3 (0)	Pump No. 3015	2
Sample ID # Ex Demoils or 300 W 60 E-Bam Number 64606 Flow Rate: Start (L/min) 3.795 Flow Rate: Stop (L/min) 3.6725 Avg Flow (L/min) 3.735 Start time 7:20 End Time /6:50		
E-Bam Number     G 460L       Flow Rate: Start     3.79 L       Flow Rate: Stop     3.61 L       Avg Flow (L/min)     3.73 L       Start time     7.20       End Time     1.650	Downwind	X
E-Bam Number     G 460L       Flow Rate: Start     3.79 L       Flow Rate: Stop     3.61 L       Avg Flow (L/min)     3.73 L       Start time     7.20       End Time     1.650	Sample ID #	Ex DemoisorBODW Look
Flow Rate: Start     3-79 L       (L/min)     3.67 L       Flow Rate: Stop     3.67 L       Avg Flow (L/min)     3.73 L       Start time     7:20       End Time     7:20	E-Bam Number	64606
Flow Rate: Stop     3.61 L,       (Umin)     3.73 L       Avg Flow (L/min)     3.73 L       Start time     7:20       End Time     16:50	Flow Rate: Start	
Flow Rate: Stop     3.61 L,       (Umin)     3.73 L       Avg Flow (L/min)     3.73 L       Start time     7:20       End Time     16:50	(L/min)	1 3.79 4
Avg Flow (L/min)         3.73 L           Start time         7:30           End Time         7:30           Duration in minutes         7.30	Flow Rate: Stop	
Start time         3:13 L           Start time         7:20           End Time         16:50           Duration in minutes         7	(L/min)	3.674
End Time /6:50	Avg Flow (L/min)	3.734
End Time 16:50	Start time	7:20
Duration in minutes	End Time	
570	Duration in minutes	570
Sample Volume	Sample Volume	
(Liters) 2126L	(Liters)	21266

	Formulas
Average Flow (	L/min) = (Start + Stop) / 2
Sample Volume(Liters) =	Avg Flow (L/min) X Duration (min)
Analysis	NIOSH 7303
	Lead/Cadmium
Date Samples Collect	ted: 7-30-13
Pump No. 3018	5
Upwind	1
Downwind	
Sample ID #	Ex00013073000001
E-Bam Number	FSOUL
Flow Rate: Start	
(L/min)	3.782
Flow Rate: Stop	
(L/min)	3566
Avg Flow (L/min)	3.612
Start time	
	7:30
End Time	16:45
Duration in minutes	555
Sample Volume	
(Liters)	20046

the second second second second second second second second second second second second second second second s	
Pump No.	7
Upwind	
Downwind	
Sample ID #	
E-Bam Number	
Flow Rate: Start	
(L/min)	
Flow Rate: Stop	
(L/min)	
Avg Flow (L/min)	
Start time	
End Time	
Duration in minutes	
Sample Volume	1
(Liters)	

Pump No. 3014	3
Upwind	
Downwind	X
Sample ID #	Pr Demoison 30 DW604
E-Bam Number	64604
Flow Rate: Start (L/min)	3.696
Flow Rate: Stop (L/min)	3.554
Avg Flow (L/min)	3.626
Start time	7:15
End Time	16:55
Duration in minutes	580
Sample Volume (Liters)	21002

Pump No. 3017	4
Upwind	1
Downwind	X
Sample ID #	EY DOMO130730DW605
E-Bam Number	64605
Flow Rate: Start (L/min)	3.622
Flow Rate: Stop (L/min)	3,44L 3,53L
Avg Flow (L/min)	3531
Start time	7:22
End Time	16:48
Duration in minutes	566
Sample Volume Liters)	19982

Pump No.	6
Upwind	
Downwind	
Sample ID #	
E-Bam Number	
Flow Rate: Start	
(L/min)	
Flow Rate: Stop	
(L/min)	
Avg Flow (L/min)	
Start time	
End Time	
Duration in minutes	
Sample Volume	
(Liters)	

## Field Blank (if collected) 1 - Per Week Required

Upwind	NA
Downwind	NA
Flow Rate	0
Sample ID #	

## ANALYTICAL DATA REPORTS – METALS ANALYSIS

ATTACHMENT E



## ANALYTICAL REPORT

Report Date: August 01, 2013

Phone: (620) 331-1200 Fax: (620) 331-6216 E-mail: gsherwood@rsi-ks.com

Workorder: **34-1321211** Client Project ID: 21252/Exide Frisco 073113 Purchase Order: 21252 Project Manager: Paul Pope

### **Analytical Results**

Grant Sherwood

P.O. Box 587

Remediation Services, Inc.

2735 South 10th Street Independence, KS 67301

Sample ID: EXDEMO130730 UW527	,	Media: MCE Filter		Collecte	d: 07/30/2013
Lab ID: 1321211001	Sampling L	Receive	d: 07/31/2013		
Method: NIOSH 7300 Mod.	San	npling Parameter: Ai	Volume 2124 L		d: 07/31/2013 d: 07/31/2013
Analyte	ug/sample	ug/m³	LOD (ug/sample)	RL (ug/sample)	
Cadmium	<0.023	<0.011	0.023	0.075	
Lead	<0.38	<0.18	0.38	1.3	

Sample ID: EXDEMO130730 D	N604 Mec	lia: MCE Filter		Collecte	d: 07/30/2013	
Lab ID: 1321211002	Sampling Location: Exide Frisco Received: 07/31/2013					
Method: NIOSH 7300 Mod.	Sampling	J Parameter: Ai	r Volume 2100 L		d: 07/31/2013 d: 07/31/2013	
Analyte	ug/sample	ug/m³	LOD (ug/sample)	RL (ug/sample)		
Cadmium	<0.023	<0.011	0.023	0.075		
Lead	<0.38	<0.18	0.38	1.3		

Sample ID: EXDEMO130730 DW600	DW606         Media: MCE Filter         Collected: 07/30/2013					
Lab ID: 1321211003	Sampling Location: Exide Frisco Received: 07/31/2013					
Method: NIOSH 7300 Mod.	Sai	mpling Parameter: Ai	Prepared: 07/31/201 Analyzed: 07/31/201			
Analyte	ug/sample	ug/m³	LOD (ug/sample)	RL (ug/sample)		
Cadmium	<0.023	<0.011	0.023	0.075		
Lead	<0.38	<0.18	0.38	1.3		

Sample ID: EXDEMO130730 DW6	05 Me	dia: MCE Filter	Collected: 07/30/201	13	
Lab ID: 1321211004	Sampling Locat	tion: Exide Frisc	Received: 07/31/201	13	
Method: NIOSH 7300 Mod.	Samplin	g Parameter: Ai	Prepared: 07/31/2013 Analyzed: 07/31/2013		
Analyte	ug/sample	ug/m³	LOD (ug/sample)	RL (ug/sample)	
Cadmium	<0.023	<0.011	0.023	0.075	

#### **Results Continued on Next Page**

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, 84123 USA | PHONE +1 801 266 7700 | FAX +1 801 268 9992 ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Environmental 🐊

www.alsglobal.com

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Thu, 08/01/13 12:12 PM



## ANALYTICAL REPORT

Workorder: **34-1321211** Client Project ID: 21252/Exide Frisco 073113 Purchase Order: 21252 Project Manager: Paul Pope

### **Analytical Results**

Sample ID: EXDEMO130730 DW	Media: MCE Filter			Collected: 07/30/2013
Lab ID: 1321211004	Sampling Location	on: Exide Frisc	Received: 07/31/2013	
Method: NIOSH 7300 Mod.	Sampling	Parameter: Ai	Prepared: 07/31/2013 Analyzed: 07/31/2013	
Analyte	ug/sample	ug/m³	LOD (ug/sample)	RL (ug/sample)
Lead	<0.38	<0.19	0.38	1.3

Sample ID: <u>EXDEMO130730 DW001</u> Lab ID: 1321211005		_ Media: MCE Filter Location: Exide Frisc	Collected: 07/30/2013 Received: 07/31/2013	
Method: NIOSH 7300 Mod.	Sa	mpling Parameter: Air	Prepared: 07/31/2013 Analyzed: 07/31/2013	
Analyte	ug/sample	ug/m³	LOD (ug/sample)	RL (ug/sample)
Cadmium	<0.023	<0.011	0.023	0.075
Lead	<0.38	<0.19	0.38	1.3

Sample ID: EXDEMO130730 FB		Media: MCE Filter		Collected: 07/30/2013
Lab ID: 1321211006	Sampling L	ocation: Exide Frisc	0	Received: 07/31/2013
Method: NIOSH 7300 Mod.	San	npling Parameter: Ai	r Volume Not Applic	able Prepared: 07/31/2013 Analyzed: 07/31/2013
Analyte	ug/sample	ug/m³	LOD (ug/sample)	RL (ug/sample)
Cadmium	<0.023	NA	0.023	0.075
Lead	<0.38	NA	0.38	1.3

### **Report Authorization**

Method	Analyst	Peer Review
NIOSH 7300 Mod.	Penny A. Foote	Whitney Redd

### Laboratory Contact Information

ALS EnvironmentalPhone: (801) 266-7700960 W Levoy DriveEmail: alslt.lab@ALSGlobal.comSalt Lake City, Utah 84123Web: www.alsslc.com



## ANALYTICAL REPORT

Workorder: **34-1321211** Client Project ID: 21252/Exide Frisco 073113 Purchase Order: 21252 Project Manager: Paul Pope

### **General Lab Comments**

The results provided in this report relate only to the items tested. Samples were received in acceptable condition unless otherwise noted. Samples have not been blank corrected unless otherwise noted. This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ACLASS (DoD ELAP)	ADE-1420	http://www.aclasscorp.com
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Florida (TNI)	E871067	http://www.dep.state.fl.us/labs/bars/sas/qa/
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Lead Testing:			
CPSC	ACLASS (ISO 17025, CPSC)	ADE-1420	http://www.aclasscorp.com
Soil, Dust, Paint ,Air	AIHA (ISO 17025, AIHA ELLAP and NLLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aclasscorp.com

### Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

\*\* No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

() This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.



### 2014 EXIDE APAR PAGE 2356 OF 3116 Quality Control Sample Batch Report

## Workorder: 1321211

Limits: Historical/Performance Basis: ALS Laboratory Group

Preparation: IH Metals, MCE Prep Batch: IIPX/12754 (HBN: 111158) Prepared By: Brittney Austin Analysis: IH Metals QC Batch: IICP/8474 (HBN: 111202) Analyzed By: Penny A. Foote

### Blank

LRB: 345997 Analyzed: 07/31/2013 14:59

## Units: ug/sample

Analyte	Result	MDL	RL
Cadmium	ND	0.0225	0.0750
Lead	0.454	0.375	1.25

LMB:	345998			
Analyzed:	07/31/2013 15:02			
Units:	ug/sample			
Analuta		Deput	MDI	ы
Analyte		Result	MDL	RL
Analyte Cadmium		Result ND	MDL 0.0225	RL 0.0750

#### Laboratory Control Sample - Laboratory Control Sample Duplicate

LCS: 345999 Analyzed: 07/31/2013 15:17 Dilution: 1 Units: ug/sample						LCSD: 3 Analyzed: 0 Dilution: 1 Units: 0	7/31/201			
Analyte	Result	Target	% Rec	c QC Limits		Result	% Rec	RPD	QC Lin	nits
Cadmium	10.3	10.0	103	89.8	112.5	10.2	102	0.966	0.0	15.0
Lead	99.2	100	99.2	88.0	115.0	98.2	98.2	1.04	0.0	15.0

### QC Data Approved and Reviewed by

Penny A. Foote	Whitney Redd	8/1/2013
Analyst	Peer Review	Date

#### Symbols and Definitions

- \* Analyte above reporting limit or outside of control limits
- ▲ Sample result is greater than 4 times the spike added
- Sample and Matrix Duplicate less than 5 times the reporting limit
- RPD Relative % Difference (Spike / Spike Duplicate)
- ND Not Detected (U Qualifier also flags analyte as not detected) QC results are not adjusted for moisture correction, where applicable

Labor	ratory	Review Checklist: Reportable Data							
		Name: ALS Environmental Laboratory	LRC Date: 08/01/201						
Project Name: Exide, Frisco			Laboratory Job Number: 1321211						
Reviewer Name: Paul Pope			Prep Batch Number(s		1	1 2			
# <sup>1</sup>	$A^2$	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
R1	OI	Chain-of-custody (C-O-C) Did samples meet the laboratory's standard conditions of s.	ample eccentability						
		upon receipt?		Х					
		Were all departures from standard conditions described in a		21		X			
R2	OI	Sample and quality control (QC) identification							
		Are all field sample ID numbers cross-referenced to the lab	oratory ID numbers?	X X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?							
R3	OI	Test reports							
		Were all samples prepared and analyzed within holding tim		Х					
		Other than those results $<$ MQL, were all other raw values		37					
		calibration standards?		X X					
		Were calculations checked by a peer or supervisor? Were all analyte identifications checked by a peer or super		X X					
		Were sample detection limits reported for all analytes not d		л Х				+	
		Were all results for soil and sediment samples reported on a		1		X			
		Were % moisture (or solids) reported for all soil and sedim	, ,			X	+		
		Were bulk soils/solids samples for volatile analysis extractor						1	
		SW-846 Method 5035?	per per			Х		1	
		If required for the project, TICs reported?				X		1	
R4	0	Surrogate recovery data							
		Were surrogates added prior to extraction?				Х			
		Were surrogate percent recoveries in all samples within the	a laboratory QC						
		limits?				Х			
R5	OI								
		Were appropriate type(s) of blanks analyzed?				_		_	
		Were blanks analyzed at the appropriate frequency?							
		Were method blanks taken through the entire analytical pro-	-	v					
		preparation and, if applicable, cleanup procedures? Were blank concentrations < MQL?		X X					
R6	OI	Laboratory control samples (LCS):		Λ					
RU	01	Were all COCs included in the LCS?		Х					
		Was each LCS taken through the entire analytical procedur							
		cleanup steps?		Х					
		Were LCSs analyzed at the required frequency?		Х					
		Were LCS (and LCSD, if applicable) % Rs within the labor		Х					
		Does the detectability data document the laboratory's capal							
		COCs at the MDL used to calculate the SQLs?		Х					
	6-	Was the LCSD RPD within QC limits?		Х					
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) d				N			
		Were the project/method specified analytes included in the MS and MSD?				X		+	
		Were MS/MSD analyzed at the appropriate frequency? Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X X			
		Were MS/MSD RPDs within laboratory QC limits?				X		+	
<b>R8</b>	OI	Analytical duplicate data							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate freq				X		1	
		Were RPDs or relative standard deviations within the labor				X		1	
R9	OI	Method quantitation limits (MQLs):	•						
		Are the MQLs for each method analyte included in the laboratory data package?							
		Do the MQLs correspond to the concentration of the lowes							
		standard?		Х					
		Are unadjusted MQLs and DCSs included in the laboratory	data package?		Х				
R10	OI	Other problems/anomalies	11 11 150 1						
		Are all known problems/anomalies/special conditions noted in this LRC and				v		1	
		ER?	contrad data?			X X			
		Were all necessary corrective actions performed for the rep Was applicable and available technology used to lower the				Λ			
		Was applicable and available technology used to lower the matrix interference affects on the sample results?		Х				1	
		Is the laboratory NELAC-accredited under the Texas Labor		1					
	1		oratory data package?		1	Х	1	1	

•

			C Date: 08/01/20 boratory Job Numb		321211			
			viewer Name: Pau					
$\frac{1}{\#^1}$	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER#
S1	OI	Initial calibration (ICAL)		1 05	110		1 122	
		Were response factors and/or relative response factors for each	analyte within QC					
		limits?				Х		
		Were percent RSDs or correlation coefficient criteria met?		X X				
		Was the number of standards recommended in the method used for all analytes?						
		Were all points generated between the lowest and highest stand	ard used to					
		calculate the curve?		X				
		Are ICAL data available for all instruments used?	. 1	Х				
		Has the initial calibration curve been verified using an appropri- standard?	ate second source	Х				
		Initial and continuing calibration verification (ICCV and C	n (ICCV and CCV) and					
S2	OI	continuing calibration blank (CCB)						
52	01	Was the CCV analyzed at the method-required frequency?	Х					
		Were percent differences for each analyte within the method-rea	uired OC limits?	X				
		Was the ICAL curve verified for each analyte?	1	X				
		Was the absolute value of the analyte concentration in the inorg	anic CCB < MDL?	Х				
<b>S</b> 3	0	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?	ppropriate compound for the method used for tuning?					
		Were ion abundance data within the method-required QC limits				Х		
S4	0	Internal standards (IS):						
		Were IS area counts and retention times within the method-requ				Х		
		Raw data (NELAC section 1 appendix A glossary, and section	5.12 or ISO/IEC					
S5	OI	17025 section						
		Were the raw data (for example, chromatograms, spectral data)	reviewed by an	v				
		analyst?	data 9	Х		X		
<b>S</b> 6	0	Were data associated with manual integrations flagged on the ra <b>Dual column confirmation</b>			Λ			
50	0	Did dual column confirmation results meet the method-required			X			
<b>S7</b>	0	Tentatively identified compounds (TICs):				Λ		
57	0	If TICs were requested, were the mass spectra and TIC data sub						
		checks?	jeet to appropriate			Х		
<b>S8</b>	Ι	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?	Х					
S9	Ι	Serial dilutions, post digestion spikes, and method of standa						
		Were percent differences, recoveries, and the linearity within the	ne QC limits					
		specified in the method?				Х		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		Х				
<u></u>		Is the MDL either adjusted or supported by the analysis of DCS	s?	Х				
S11	OI	Proficiency test reports:	<b>C1</b>					
		Was the laboratory's performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable on the applicable performance acceptable performance acceptable performance acceptable on the applicable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acceptable performance acc	proficiency tests or	Х				
S12	OI	Standards documentation		Λ				
514		Are all standards used in the analyses NIST-traceable or obtained	ed from other					
		appropriate sources?		Х				1
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docume	ented?	Х				
S14	OI	Demonstration of analyst competency (DOC)						
	İ	Was DOC conducted consistent with NELAC Chapter 5C or IS	O/IEC 4?	Х				
		Is documentation of the analyst's competency up-to-date and or		Х				
		Verification/validation documentation for methods (NELAC						
S15	OI	ISO/IEC 17025 Section 5)						
		Are all the methods used to generate the data documented, verif	ied, and validated,					
		where applicable?		Х				
S16	OI	Laboratory standard operating procedures (SOPs):	- 10					
	L	Are laboratory SOPs current and on file for each method perfor		X	<u> </u>			
1.		s identified by the letter "R" must be included in the laboratory data package and be retained and made available upon request for the appropriate retention		equired	report(s).	Items identi	tied by the le	etter "S"
2.	O = 0	Organic Analyses; I = Inorganic Analyses (and general chemistry, when appl						
3.	NIA -	Not Applicable;						

Laboratory Re	eview Checklist: Reportable Data					
tory Name: ALS Environmental Laboratory	LRC Date: 08/01/2013					
Name: Exide, Frisco	Laboratory Job Number: 1321211					
ver Name: Paul Pope	Prep Batch Number(s):					
5 Description						
Reagent blank 345997 had a positive hit for lead between the MDL and RL. Since the value was						
below our reporting limit, the laboratory control samples were not blank corrected.						
	tory Name: ALS Environmental Laboratory Name: Exide, Frisco ver Name: Paul Pope <b>Description</b> Reagent blank 345997 had a positive hit for lead betwo	Name: Exide, Frisco       Laboratory Job Number: 1321211         ver Name: Paul Pope       Prep Batch Number(s):         Description       Reagent blank 345997 had a positive hit for lead between the MDL and RL. Since the value was				

2014 EXIDE APAR PAGE 2360 OF 3116

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	21211			EGULAR Status 3771	
				USH Status Requested - ADDITIONAL CHARGE	ti kana ang ang ang ang ang ang ang ang ang
	LS)		1		
2. Date <u>7-30-13</u>	Purchase Order No. 21252	1		ONTACT ALS SALT LAKE PRIOR TO SENDING SAN	<b>IPLES</b>
3. Company Name Rem		ji -	والمستعود المراجع المراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع وال	4. Quote No	
Address PO Box 587			والمتكومين المراجع والمراجع المراجع  Project Manager Paul Pope		
Independence, KS 67301			and a second second second second second second second second second second second second second second second	5. Sample Collection	
Person to Contact: Gn				Sampling Site: Exide Frisco	
Telephone (620) 331				Industrial Process: Decontamination and Demo	
Fax Telephone (620) 3				Date of Collection <u>2-30-13</u>	وساو سن منطق وماري بالكر
E-mail Address <u>gsherv</u>				Time Collected <u>7:00-17:00</u>	
Billing Address (if differ	rent from above)			Date of Shipment <u>7-30-13</u>	
Send Results to: asherw	<u>/ood@rsi-ks.com, jrgillman@rs</u>	I-ks.com, vane:	ssa.coleman(	Dna.exide.com, droth@rsi-ks.com	-
<u>Send Invoice to : street</u>					
7. REQUEST FOR ANAL	YSES	W 07-31-1=	2 hA		
Laboratory Use Only	Client Sample Number	Matrix*	Sample	ANALYSES DEGUL	
	Expensi 13073000627,	37 um MCE	Volume	ANALYSES REQUESTED - Use method number if known	Units**
	RYDemo1307300W604"		21246	NIOSH 7303 - Lead and Cadmium	ug/m <sup>3</sup>
	EXDEMO 130730DW606"		21264	NIOSH 7303 - Lead and Cadmium	ug/m <sup>3</sup>
	Ex Demo 180780 DW6051	37 um MCE	19984	NIOSH 7303 - Lead and Cadmium	ug/m <sup>3</sup>
	EXDemo 1307800 W 00 11	37 um MCE	20041	NIOSH 7303 - Lead and Cadmium	ug/m <sup>3</sup>
	Expense 130780 FB 1	37 um MCE		NIOSH 7303 - Lead and Cadmium NIOSH 7303 - Lead and Cadmium	ug/m <sup>3</sup>
				Lead and Cadmium	ug/m <sup>3</sup>
EX-DEMO = I	Project (Exide-Demolition)				
	Sampling date (e.g., 11/01/2	2010 1011			
LOC = S	Sample Location (e.g. UW)	2012 = 12110	1)		
XXX = E	E-BAM Monitor Sample As	Sociation I	W = Downw	vind)	
QQ = (	Optional QA sample flag (I Possible Desert	$\mathbf{B} = \operatorname{trip} \mathbf{b} \operatorname{tan}$	ast 3 digits	of Serial Number,	
Comments EAST	POSSIBLE DETECTION	ON L-r m-	$\mathbf{K}, \mathbf{FB} = \mathbf{field}$	d blank, SC = duplicate)	
. Man	ord 70# 110 527	to ILING	27- (-	Natch casselle 07-31-13 th	
Possible Contamination and/	or Chemical Hazards: Lead ar	<u>10 UW 30</u>	TTO I	Natch Casslife	<u> </u>
7. Chain of Custody (Optio	on onemical hazaros: Lead ar	nd cadmium	ورو المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع ا	07-31-13 ·ftA	
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